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June 1963



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VOLUME XXXIX, NO. 6

JUNE 1963

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BPA

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Editor's Page

Some Journal Shop Talk

Note: Having recovered from an operation, followed immediately by a busy week at the AIA Convention, the Editor this month passes on to the Associate Editor the job of writing this page.

In her pointed discussion at Miami, Ada Louise Huxtable began by saying, "Since this conference is devoted to the quest for quality in architecture—what it is and how we get it—I assume we don't have it. If we did, we wouldn't be discussing it." In other words, one's architecture, or whatever it is he produces, should speak for itself. Yet the success of the professional sessions demonstrated the merit of architects' taking a close look at themselves and their work from time to time.

I suppose the same idea applies to a publication. Readers are primarily interested in the magazine's content, not the behind-the-scene activities of the editorial staff. But here again, it may be fitting to discuss internal matters once in a while, and several current developments seem to make a bit of shop talk particularly appropriate now.

Item 1 As announced in this and previous issues, the *Journal* has found it necessary to raise its non-member subscription rates beginning with July to help offset ever-rising production and postal costs. We are painfully aware what even moderate increases mean to certain categories of subscribers, especially the students. But if we are to conduct the *Journal's* affairs on a businesslike basis, such action becomes imperative.

A subscription *per se* is never a profit-making item in any publisher's book—ie, the annual rate does not cover the cost of producing twelve copies per year; and in the case of the *Journal* where we allow several categories to subscribe at reduced rates, the situation puts us even further from the black on this phase of our operation.

Item 2 The *Journal* had the pleasure in May of becoming a founding member of the Society of National Association Publications—an indication that we too promote professionalism in our own field of endeavor. Purpose of the organization is to provide a means for the several hundred publications in this group to improve their service to their readers and advertisers and contribute more effectively to the development of the business and technical press.

In its official statement, the Society said: "Professional societies and trade associations play an extremely important role in the operation and perfection of the free enterprise system in Amer-

ica, providing as they do the means of sharing technical and commercial knowledge. Their official publications offer in most instances the primary communication with their members and are a source of information for the public. As such they have a deep understanding of the problems of the industry they serve and the needs of their individual association members."

While some of you, upon seeing the Society symbol in an early issue of the *Journal*, might feel the term "SNAP" a little flippant, we don't think you can quarrel with its objective, and we are happy and proud to be in on the ground floor.

Item 3 Speaking of symbols, some of you may have wondered about the "BPA" logo which appears on our masthead each month. It stands for Business Publications Audit, and as I write this column, one of its staffers from the New York headquarters is temporarily sharing my office. He is auditing our "qualified" circulation—circulation that is restricted and directed to a specific audience, in our case, architectural.

The publisher must define his audience in clear, non-promotional, non-ambiguous language in a semi-yearly statement, and then BPA measures the recipients of the publication to be sure they fit the publisher's definition. This measure of "qualification" is of particular importance to the advertiser in the business and professional press, where the quality of circulation is almost always a greater consideration than quantity.

Our BPA audit is one reason why we must insist on pursuing certain procedures and requiring certain information in regard to *Journal* subscriptions, and as a by-product our own record-keeping is on a sounder basis.

Item 4 The press has its conventions too, and in April I took the opportunity to participate in a regional conference of Sigma Delta Chi, professional journalism society, held in Washington. This is a particularly worthwhile organization, as far as I'm concerned, because it is the only one which embraces the full scope of media: newspapers, magazines, television and radio. Furthermore, it's been interesting to note the architectural comments and questions which arise from some of my colleagues when they learn of my affiliation with the AIA.

During the day-long program, attended by both undergraduates and professionals, such personalities as TV's newsmen Richard Harkness discussed career opportunities, and journalism schools and their curriculums became the topic of heated debate. And President-elect Ted Koop, CBS vice president, in outlining the challenges of SDX, used such terms as "influence," "image" and "public acceptability." For a while I thought I was attending an AIA convention! REK

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Letters

American in Finland

EDITOR, *Journal of the AIA*:

As an American working in the Finnish office of Alvar Aalto,* I would like to dispel any doubts architect Revell may have left about the quality of competition designs in the March issue. As he says, one can spot them because of their *excellence*. Also, I would emphasize the good effect competitions *seem* to have on the over-all picture.

From my own experience in office and individual competition entries, I have gained a renewed acuteness in design that comes from bearing down on the essential idea and the freedom from many inconveniences of business contingencies. By seeing my design against the prize winners, I benefit from the substantial criticism of a better alternative and gain new insight into a new familiar problem. When this same experience is repeated by twenty to sixty architects, as is common here, the elevated standard of design and freshness of ideas can be the only results.

I believe the general picture of Finnish architecture shows that quite clearly. Furthermore, those projects which are really superior are surprisingly frequent in a country of four million people. And finally, the young talent is quickly recognized (and rewarded).

The AIA should follow the example of SAFA so that the announcement of awards will serve to arouse interest in and educate the public in good design. This leads to a *demand* for excellence in design by the public—something the US sorely lacks just now.

T. WILLIAM BOOTH
Helsinki, Finland

* Editor's Note: For photographs of Aalto and his office, see Frederick Gutheim's article in the May *AIA Journal*, pp 55-57

Education for the Architect

EDITOR, *Journal of the AIA*:

The Report by the Special Committee on Education AIA makes for every stimulating thought.

I recall many conversations with practitioners all over the country concerning this subject, and I believe the financial difficulties encountered by architects everywhere in the USA and subsequent slighting of services offered to clients are a direct result of our tutoring. Neither restrictions by law nor punitive damages by the AIA will help as long as the majority of practitioners lack in knowledge the scope of *practice* of the profession.

I, myself, am a product of this laxity and confusion in the post-World War II conduct of the architectural fraternity.

I believe that in order to upgrade our profession in the eyes of our clients, we must show *maturity* in our conduct. Maturity is gained through age and experience begotten therefrom. Most of us post-World War II architects became practitioners by default! Much too soon to be effective as ambassadors

of good will; in fact, through rashness and imprudence, we tore down much that had been built up in the way of a public image by our predecessors.

It is my opinion the remedy lies primarily in a more intensive educational program for all of us:

1 *To begin with the fledgling, intent upon becoming one of us:* He should not be asked to solve age-old problems of design while as yet it is not able to wield a pencil correctly. He should be made aware of his calling with only a two-year college course (required minimum) and be permitted to enroll only upon assurance of a nationwide survey that an opening will be available to all enrollees upon graduating.

2 *The senior education shall begin at this point:* Each year for the following six to ten years every senior student shall attend two months of summer school paid for by an assessment of all practitioners. The practitioners themselves shall be the mentors for a three-week increment each.

3 *The subject matter to be taught:* This, of course, is a matter of paramount importance. Such items as having full participation of industry, having its representatives present their wares at this time.

4 *Finally, education for the mature mind:* It should encompass a bit of language (poetry, letter-writing), a lot of history and a liberal amount of philosophy.

Perhaps the most important ingredient to assure any degree of success to any program undertaken is a gradual increase of authority and greater financial reward to the future architect rather than the present "overnight draftsman to practitioner" transformation.

JEROME M. VRLA AIA
Highland, Calif

EDITOR, *Journal of the AIA*:

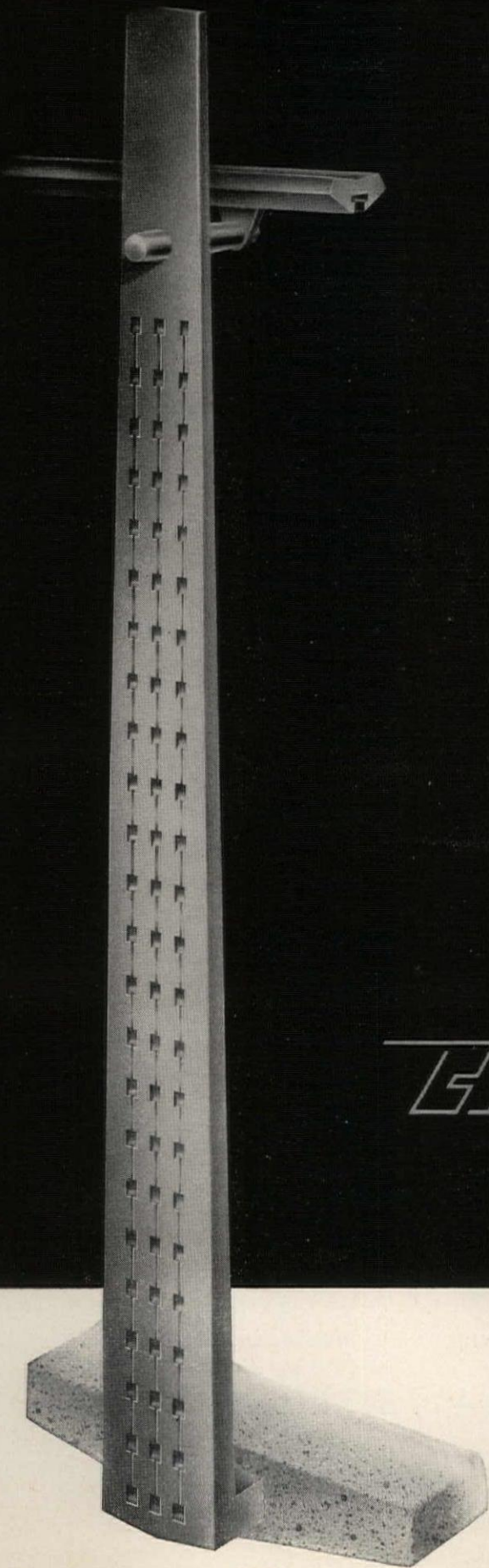
Many articles have appeared recently in architectural journals adversely critical or patronizingly tolerant of education for the profession. The proposals usually offered for ameliorating the situation rarely go beyond suggesting the addition of a few more courses or a change in their sequence.

An approach entirely different from that used for education in the sciences and engineering seems necessary for architecture. Where students are preparing for a career in a creative activity, educational processes must be adapted to the dynamics of individual growth rather than to the achievement of goals in technological competence. Originality and creative efforts depend on the vital evolution of the individual's integrity. Education for an art is not a matter of merely acquiring skills; it is much more a *tendency* with variable parameters. It should not be tampered with for the sake of administrative expediency by substituting a lifeless surrogate called an "average" student.

The emphasis in architectural education must be shifted to the individual if the schools are to produce other than aseptic stereotypes. Instead of a rationale of grades in catalogued subjects selected to meet hypothetical needs brewed from statistical concoctions, the schools should return to the situation they were intended to meet: development of the student possessed of highly individual creative faculties which he must learn to apply uniquely to a problem.

Alteration of the rationale does not involve drastic changes in the dynamics of teaching. The student's

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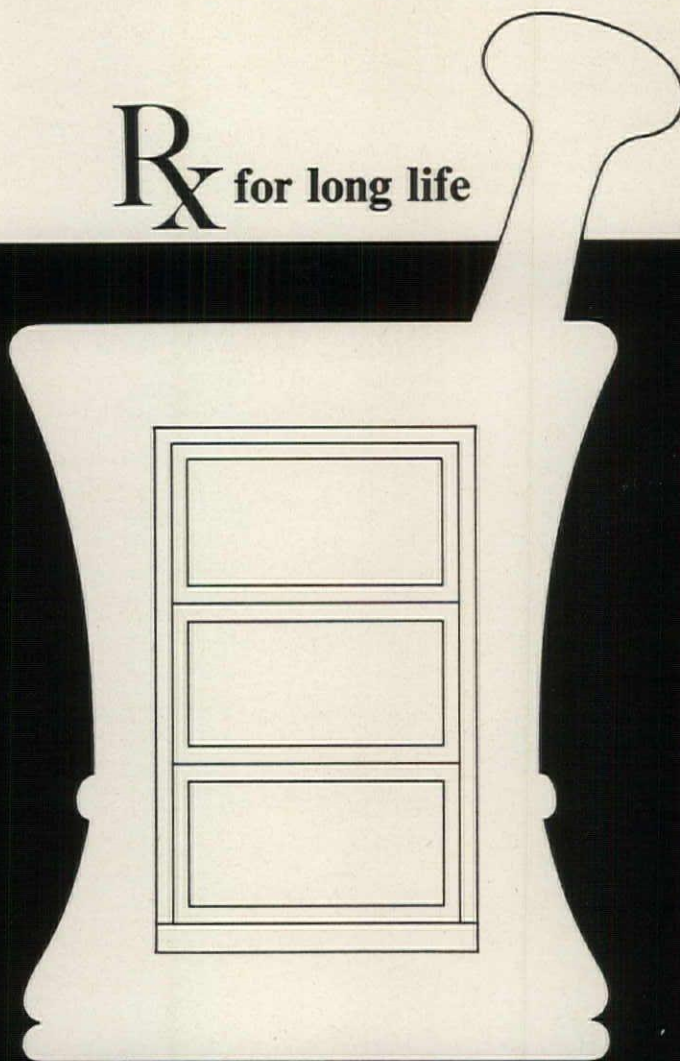
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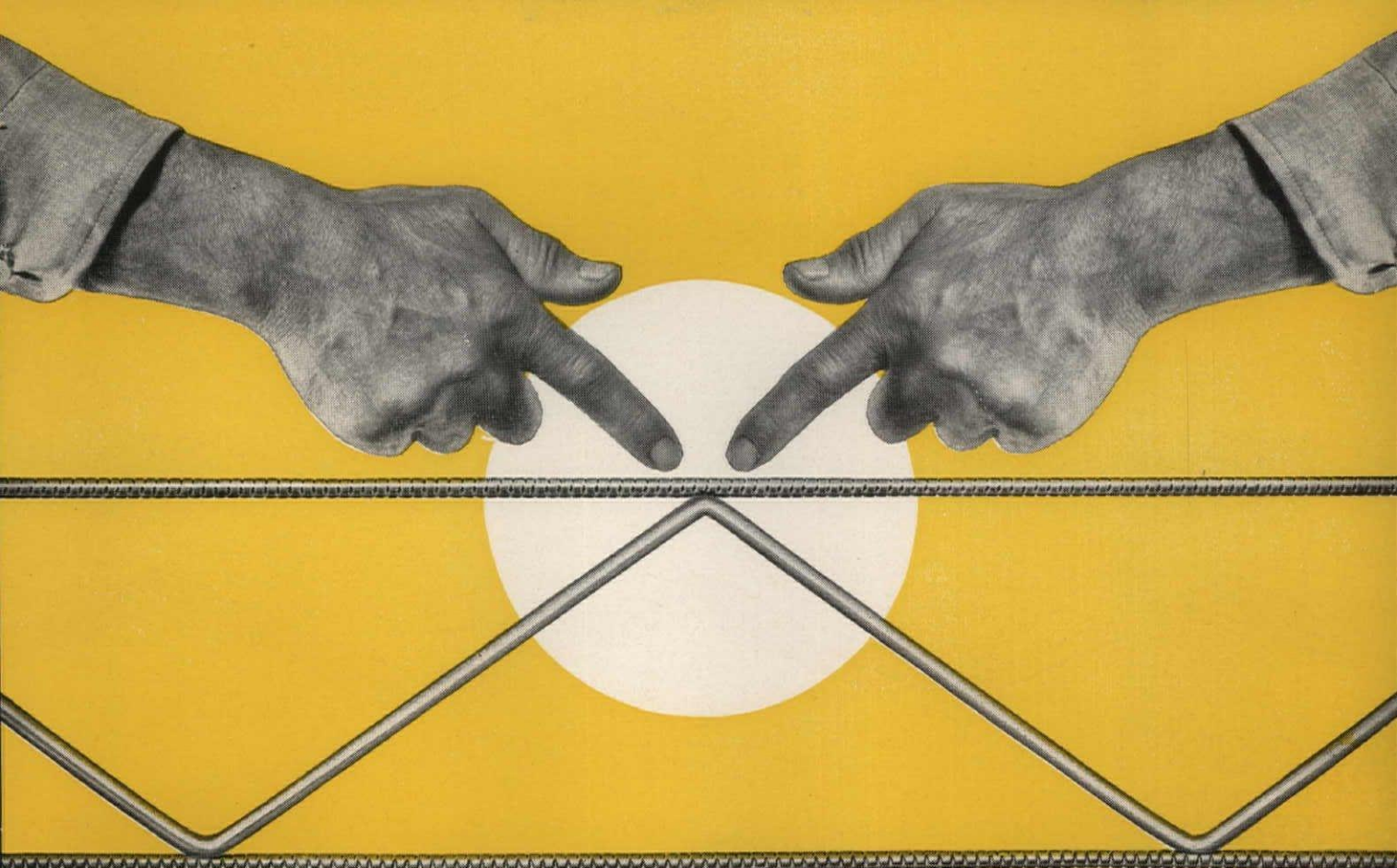
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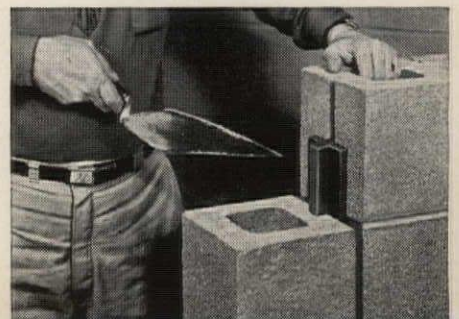
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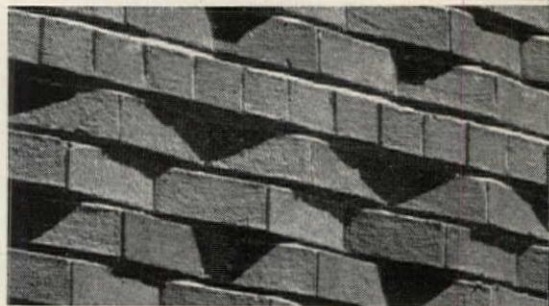
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URBANISMS

A regular column by our specialist on Urban Programs, Robert J. Piper AIA

Single-Family Densities

Optimum densities for single-family residential units have been discussed for years. This has not been an academic exercise—Radburn, Broadacres, Harlow and many other planned projects have been designed upon one or more researched densities. However, in privately rebuilding built-up urban areas, or filling open, previously by-passed, land with new single family units, the question of optimum density may be largely academic. The density is inevitably going to be that which brings together buyer and seller within the limits of the zoning restrictions obtaining at the moment.

This doesn't necessarily mean overcrowding, for "desirable" densities are relative and what may have been distasteful yesterday may be desirable tomorrow—witness the trend from rural to urban, from suburb to city. Many of us seem to want to live urban and coincidentally accept more intensified land-uses. Land prices and construction costs increase; fewer of us want the job of maintaining detached houses on large yards. The single-family outlook is modified; row, patio and atrium houses become acceptable, perhaps even favored by families with children; the three to six family/acre density index, the American Standard of 1950's suburbia, is being exchanged for something greater—perhaps to eventually approach the eighteen to twenty family/acre index found in medium density row-house areas.

There are, of course, other factors that will contribute to the acceptance of higher single-family densities: the journey to work, reacceptance of mass transportation, reawakening of central city shopping and cultural interests, growth in popularity of private and parochial schools, town house status, etc. Admittedly, these are glossed-over citations in support of densified urban residential land-uses, but the factors are there, they are real, they operate upon the housing market, and residential densities, including single-family, are due to increase as a result.

The problem thus presented is familiar to the architect—maximum livability versus maximum density, optimum space consistent with minimum investment—and it begins and ends with architectural design, both urban and residential. One answer is the party-wall complex. A few observations are offered.

The patio, row or atrium house—or whatever name one wishes to attach to the single-family party-wall unit—lends itself to very neat architectural solutions. Its essentially modular character, imposed design discipline and neatly detailed spaces are most attractive in design contemplation. Yet monotony is inherent in the whole scheme. It is easy to run such building types off by the yard. One wonders over the contrast between the diversity shown in typical schemes for remodeling existing row-house fronts in renewal areas and the repetition displayed in design for front elevations on a block of new row houses.

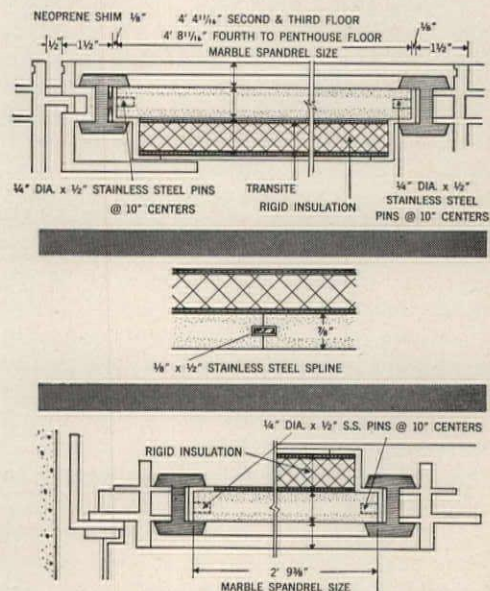
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See our color insert showing the Blair Building, Chicago, on page 1.

Urbanisms Cont'd

Orientation is particularly important in party-wall complexes. Limited to two exposures, and perhaps to only one, the well-designed unit's success rests in no small part upon its orientation. Where orientation is predetermined by street patterns, the architect may have to rely on principles of microclimatology to achieve satisfactory results.

A party-wall complex is often reduced to its absolute plan essentials in the belief that well designed "common areas" and "service courts" will satisfy all the requirements normally associated with the garages, carports and large yards provided in detached-unit schemes. But this sort of thing can get out of hand. The once-a-week supermarket trip results in four or five tightly-packed grocery bags for the two- to three-child family. One shouldn't have to carry these over 80 to 100 feet between car and kitchen. Further, the simplest two-or-more-bedroom unit must provide street-side storage space for baby carriages, tricycles, wagons, bicycles, garbage cans and other family paraphernalia. Children will play on the public sidewalk regardless of the attractiveness of patios or enclosed row yards.

In fact, the whole row house family does a great deal of "living on the sidewalk"—more than is suspected—and the portion of the plot favoring the public street deserves real attention in plan. The parkway, or strip between curb and lot line is intensively used—the family being restricted to 18' to 24' frontage in contrast to the 50'-and-up found in detached single-family areas. The parkway should be paved and planted accordingly.

Lacking side yards, one cannot go around the unit; you must go through, and access from front yard to back yard, and to basement must be simple and unrestricted. Hauling a wet hose through the living room will illustrate this point.

Children require control. A great drawback to the party-wall unit that presents an unwindowed elevation to the street, either building wall or garden wall, is its disregard of family street-control requirements. Unpierced street walls mean family privacy, which adults may seek, but children could not care less. They are gregarious and hurtful, and every yelp requires some degree of mother's attention.

This concern for privacy might well receive attention on the units' interior, however. The one-story patio or atrium unit's attraction is partly due to your inability to see into the neighbor's yard, and he into yours. However, there is no denying the value of the two-story unit for internal privacy, affording a place for family members to retire to work off the strains of togetherness.

These are simple observations and are by no means exhaustive; but they take note of design factors that may be overlooked. Suitable solutions will be forthcoming provided the architect understands the rationale of family living at these higher densities. This, of course, is the rationale of the city and of all urban design.

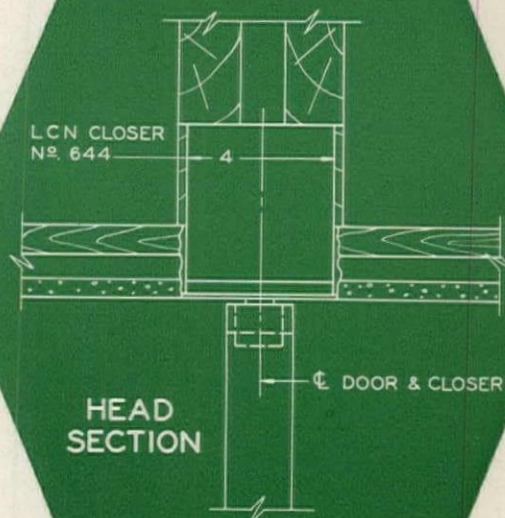
The interested reader will want to review two recent publications in this field: "New Approaches to Residential Land Development" and "The Patio House," by William K. Wattausch, both available from the Urban Land Institute, 1200 18th St, NW, Washington 6, DC, at \$6.00 and \$5.00 per copy, respectively.

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When Hillyard "Maintainers" went to Germany to demonstrate Hillyard methods of floor finishing and maintenance, they fully expected to prove Hillyard products thoroughly before German maintenance engineers, architects, and craftsmen would accept them. This attitude, Hillyard has long understood and recommended—so our floor treatment specialists were eager to accept the challenge . . . to prove Hillyard quality!

During the rapidly expanding economy in Western Germany, thousands of acres of new floors were seeking the highly skilled treatment recommendations of the Hillyard "Maintainer." Despite the fact that Hillyard products had to be shipped several thousand miles, with an obvious increase in cost, the demand for controlled performance and long-term economy created an immediate preference for Hillyard floor treatments over competitive brands available on the continent.

They discovered in Germany what is true all over the world—that Hillyard quality speaks a readily understandable international language. It convincingly proved Hillyard care saves time and money, maintains floors better, longer! The benefits derived from Hillyard quality, service, and methods are recognized everywhere. May we help you by demonstrating these benefits?



Fritz Dreier, a personable young Swiss, spent many hours training in St. Joseph. After his schooling, Fritz went to Germany for further work with the Hillyard Representatives there. He will serve Hillyard customers in France, Italy, and Spain. All overseas "Maintainers" have attended this floor treatment school under the direction of A. A. McNeiley (left), Director Special Service Division. H. F. Bayer, Hillyard Sales Manager is at the right.



Hillyard Super Hil-Tone Takes the wear—saves the surface

This West Germany floor, an artful work of parquetry, is finished with Hillyard Trophy Gym Finish and dressed daily with Super Hil-Tone to keep it sparkling.

A thin, non-slippery Super Hil-Tone film controls dust and creates a guardian cushion against surface wear. It makes the finish last longer—cleans as it forms its protective coat. Super Hil-Tone is fire-safe in storage and in use and bears the U/L label "relating to fire hazard." Safest on the floor, too!

Whether you're specifying treatment for gymnasium floors or any functional floor, there is a Hillyard product that will give superior surface performance. The Hillyard "Maintainer" is a floor treatment specialist trained to know the physical properties of each type floor in order to recommend proper treatment—and to recognize the dangers of improper treatment. At your request, he will "job captain" your floor finishing.

Write or call collect. There's a Hillyard "Maintainer" near you to be "On your staff—not your payroll." His service and knowledge are yours without obligation.

**PROPRIETARY
CHEMISTS
SINCE 1907**



**HILLYARD
FLOOR
TREATMENTS**

St. Joseph,
Missouri,
U.S.A.
Passaic, New Jersey
San Jose, California

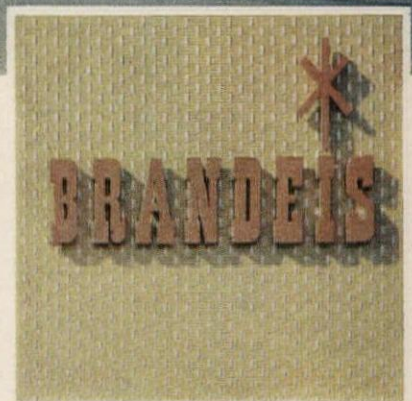
Functional **COLOR**
with **GLAZED PROVINCIALS**



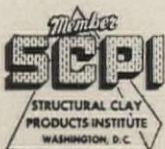
The suburban Brandeis Shopping Center in Omaha is built of Burnished Gold and Antique White Glazed Provincials —two of the twelve vivid colors in the line.

other face brick members of the
Designer Selections
Line

- Van Dyck Brown
- Cinnamon Pink
- Orleans Antique White
- Fall Festival
- Fire Dance
- Redfield Red Romans
- Cameo Blend
- Grey Velours
- Red and Buff Pavers



Leo A. Daly Company, architects, designed the entire exterior as a series of bays of alternating patterns. The building faces South so that the slanting rays of sun produce interesting and varying highlights and shadows. At night, carefully placed floodlights illuminate the entire structure and help to enrich the depth and brilliance of the Glazed Provincials.



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DES MOINES CLAY COMPANY
MASON CITY BRICK AND TILE COMPANY
OSKALOOSA CLAY PRODUCTS COMPANY
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REDFIELD BRICK AND TILE COMPANY

**614 CENTRAL
NATIONAL BLDG**
DES MOINES, IOWA



Section of stained glass window entitled "The Orchard" from executive offices of Svenska Handelsbanken—Stockholm, Sweden.

BEAUTY THAT ENDURES

All Lo-Tone products have excellent resistance to noise transfer; Lo-Tone AF (high attenuation factor) tile and ceiling board are now also available.

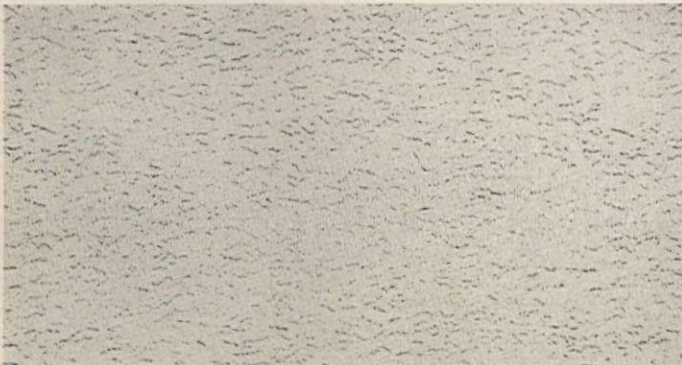
The increased use of ceiling-height partitions (movable and stationary) has created a problem of noise transmission over the partitions — this noise being reflected into adjoining areas. The problem is simply one of keeping private offices private and preventing outside noise from disturbing other areas. In many installations, this unwanted sound transmission can be most objectionable — if not intolerable.

Lo-Tone ceiling tile and board reduces this room-to-room sound transfer. A special sound barrier is built into the products which resist sound waves.

For those areas where sound transmission is a real problem, specify Lo-Tone AF ceiling tile and board. AF products match standard Lo-Tone patterns.

See AIA File No. 39-B in Sweet's Catalog. For samples, literature, or technical data — find your local Lo-Tone Acoustical Contractor in the Yellow Pages, or write us: Wood Conversion Co., St. Paul 1, Minnesota.

LO-TONE®
mineral acoustical ceiling tile and board



Fissura AF board (Also available in tile)



Constellation AF board (Also available in tile)



TERRAZZO FLOORS

are best for many residential areas

IT'S A WONDERFUL FLOOR!
 Beautiful as only colorful marble chips can be when set in a white cement matrix.

Here is a floor that can take abuse from shoes twisting and grinding through a game of table tennis . . . a floor for dancing . . . a floor where food can spill . . . a floor that says no—*positively no*—to termites. It is the best of all floors for work

rooms . . . bathrooms . . . for porch or terrace . . . for patios . . . for poolsides.

The first cost of terrazzo is reasonable and according to the National Terrazzo and Mosaic Association the cost per year of life is usually by far the lowest of all floors.

The extreme whiteness of Trinity White emphasizes the true beauty of the marble chips and gives true color effects when the matrix is tinted.

*Trinity
 White*

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*a story
worth
remembering
by bradley
washfountain*

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The House*

Duos are far more sanitary, because they are foot-operated. Hands touch only clean, tempered water, never germ-laden faucets or taps. And the water spray rinses the bowl *clean*. Space-saving Duos serve two people, yet require no more space than single lavatories. Of course, they are available in a full spectrum of colors to complement the most elegant decor. Bradley Duos are the last word in beauty and sanitation. And the last word of a guest leaving a Duo can well be "How thoughtful!"

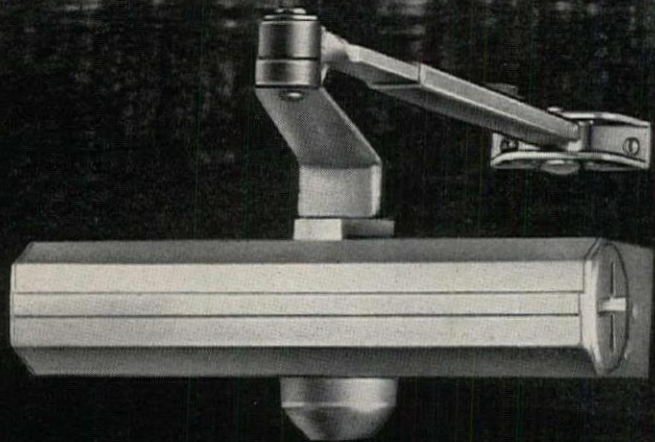
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Norton Series 1600 offers the ultimate in clean, modern styling. Designed specifically to compliment the clear crisp lines of modern architecture. You also have a choice of three distinct mountings: standard mounting, back mounting and invisible mounting.

Norton Tri-Style closers are non-handed in both hold-open and non-hold-open arms. Soffit plate included in package

allows regular or parallel arm application. The exclusive adjust-a-power shoe permits a 15% on-the-spot power adjustment without removing closer, arm or shoe.

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PUT IT A MILE AHEAD

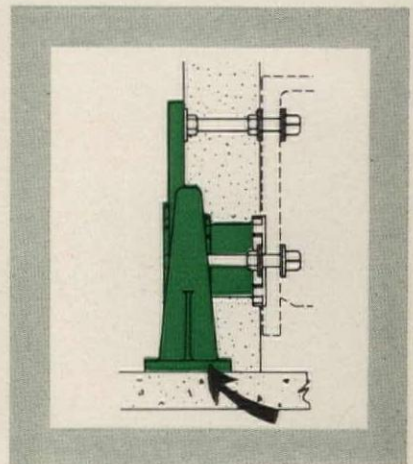
NO FOOT INTERFERENCE IN ANY TYPE OF FINISHED FLOOR

Josam's great development — the two buttress feet save important inches in installation. Result: important savings in time, labor and material. The foot is only 4½" long and is interchangeable for left or right positions.

There is no foot interference in finished floor area. Slots on outside base of feet make it easy to insert foot securing bolts . . . providing positive, rigid support of fixtures.

Select the Bulldog Carrier for all off-the-floor closet installations . . . for all types of construction • monolithic floors • minimum floor fills • maximum floor fills • thin walls • conventional walls • high roughings • low roughings.

Use it to mount the maximum number of closets in batteries with minimum floor fill. Regardless of your requirements . . . it's the greatest!



Only 2½" of the foot extends beyond the face of the carrier — easily encased in or under wall.

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Installation: Sts. Philip and James School-Church-Auditorium, St. James, New York. Architect: John O'Malley and Associates. General Contractor: Schumacher & Forelle, Inc. Roofing: John Schneider Roofing Contractors, Inc.

Drains nothing but rain

This gleaming Nickel Stainless Steel gutter keeps maintenance money in the treasury

Few people will ever see the gleaming inside of this trough. Few people will have to, because maintenance is virtually eliminated with a Nickel Stainless Steel gutter.

The standard finish you see will stay bright for the life of the building. Corrosion-resistant all the way through, Nickel Stainless Steel can stand up against chemicals much more aggressive than plain rain water.

Designed to last for generations, this

gutter is on the roof of a church. For lasting value, the architect specified Type 302 Nickel Stainless Steel not only for gutters, but for all downspouts and flashings as well. Even the nails are Nickel Stainless.

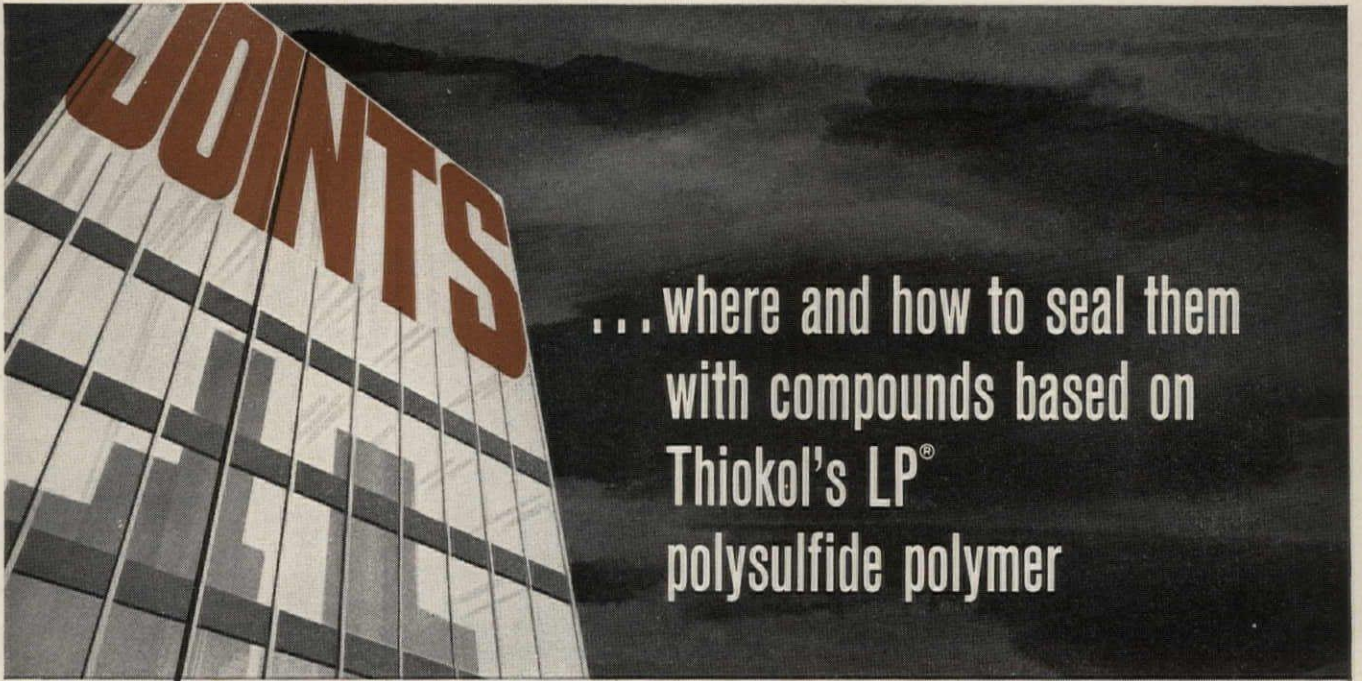
Strong enough for light, economical gauges, Nickel Stainless Steel delivers value right from the start. This gutter is only .018" thick, but its great strength-weight ratio will withstand all expected wind stresses and snow loads. Why not specify the prac-

tical advantages—and lifetime beauty—of Nickel Stainless Steel for all your sheet metal work? There's helpful information in the 26-page *Architect's Guide to Nickel Stainless Steel Flashings*. A postcard will bring it to you.

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with compounds based on
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polysulfide polymer

PERMANENT WEATHERPROOFING WITH A LIFETIME RUBBER-WELD

Proper application of polysulfide base sealant is like welding with rubber. The compound does more than fill gaps, it joins materials—any and all building materials in any combination—with a bond that is virtually indestructible. Fully cured, sealant based on LP[®] polysulfide polymer becomes a working building component—adding a structural strength of its own. It will expand to better than twice its original width and shape—and recover—over and over again without tearing, cracking or diminishing in its leakproof serviceability.

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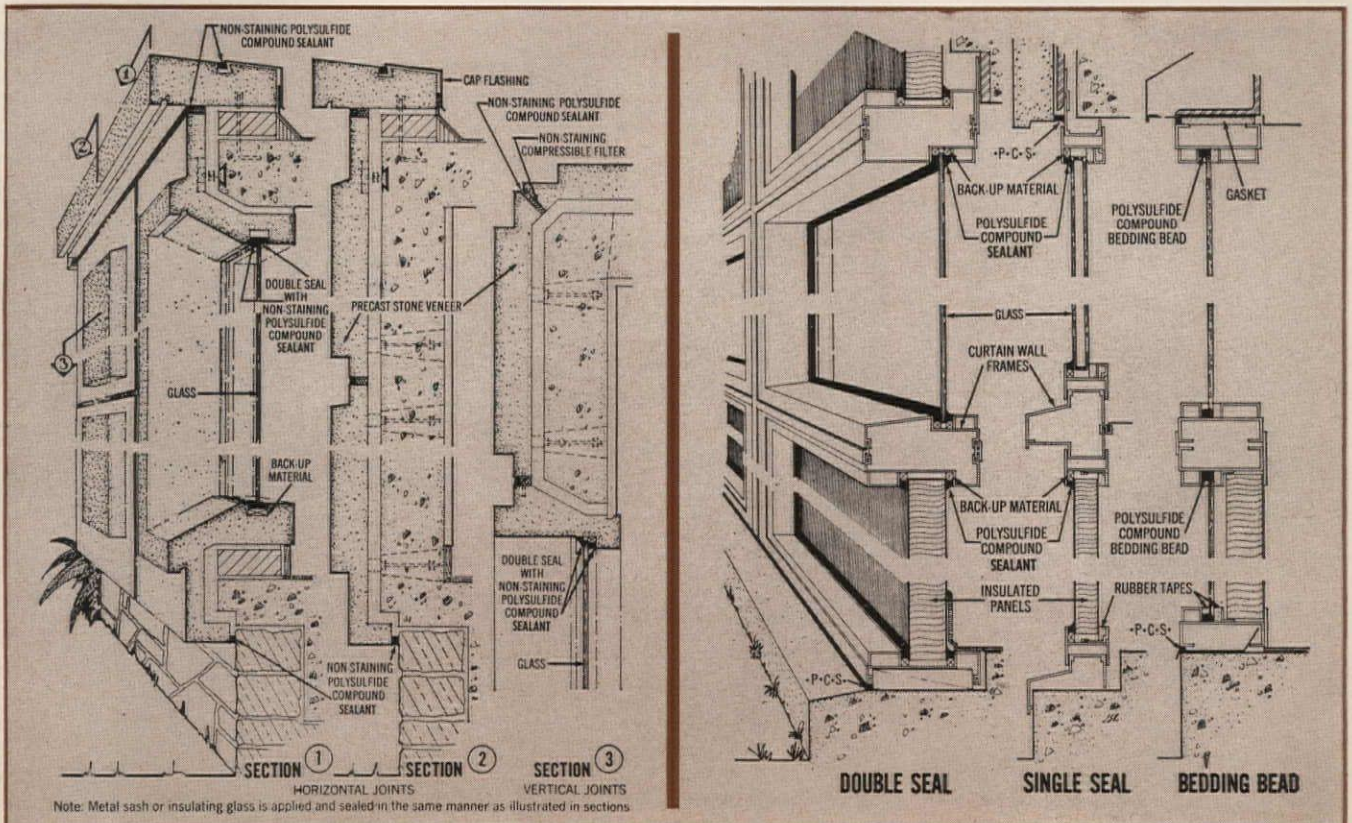
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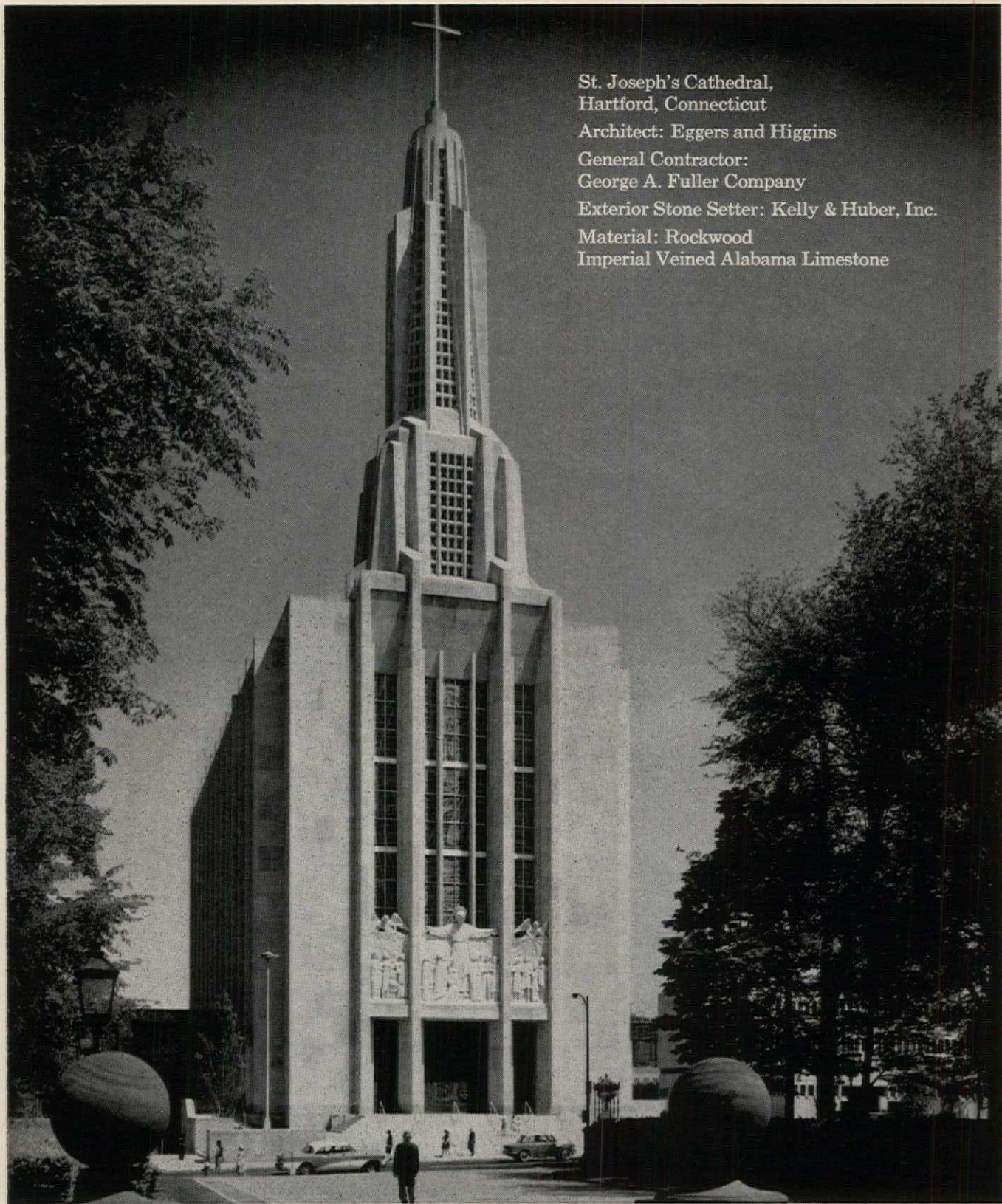
Techniques for sealing curtain wall and other structural joints, for proper joints preparation and sealant handling are shown in Thiokol's new "Joints Sealing Handbook." This is your key to permanent weatherproofing. Write for a free copy.

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St. Joseph's Cathedral,
Hartford, Connecticut
Architect: Eggers and Higgins
General Contractor:
George A. Fuller Company
Exterior Stone Setter: Kelly & Huber, Inc.
Material: Rockwood
Imperial Veined Alabama Limestone

Certainly, prayers will be heard wherever they are offered. It does not matter what kind of house one worships in, but the kind of heart that prays. Yet the searching soul may sometimes find a sanctuary that exalts its purpose and glorifies its hope. Here is such a home.

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Journal

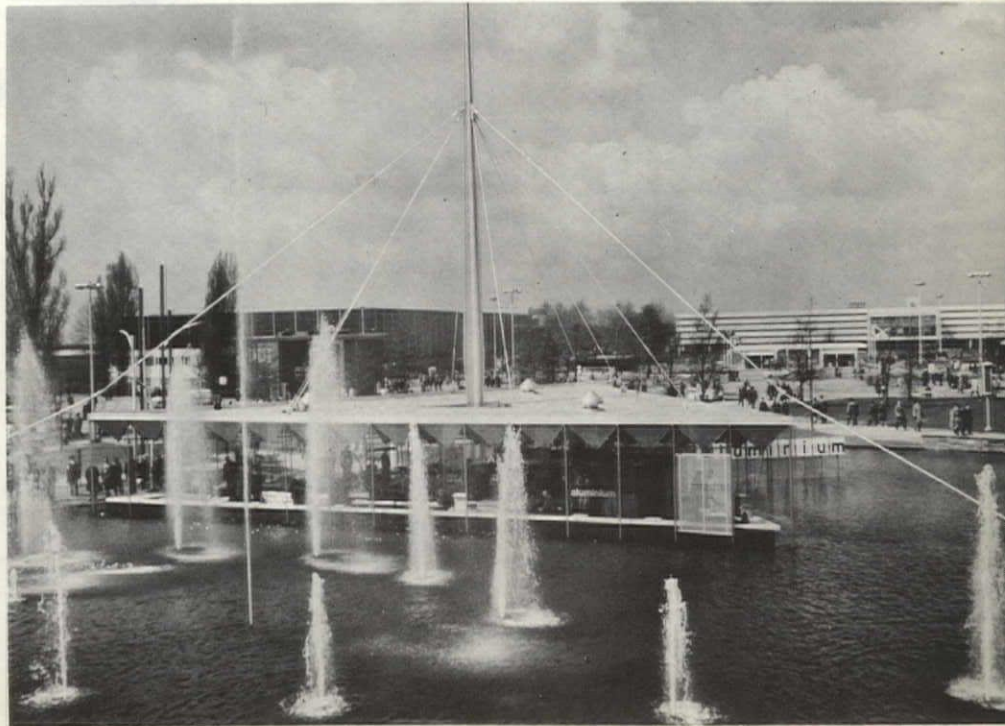
Aluminum Center Pavilion | 1963

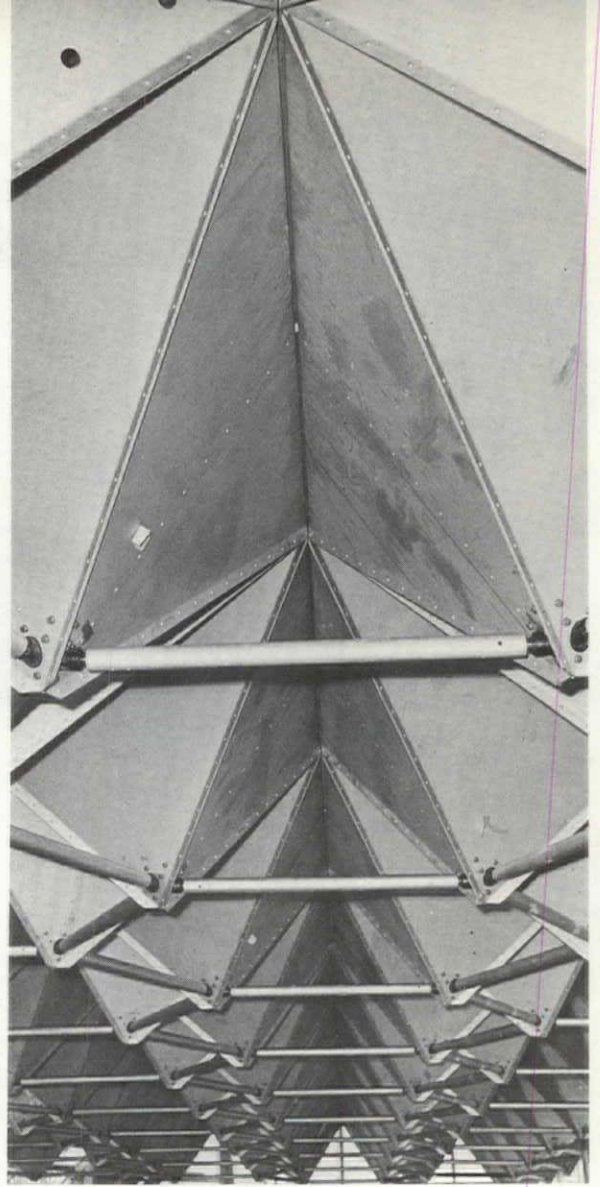
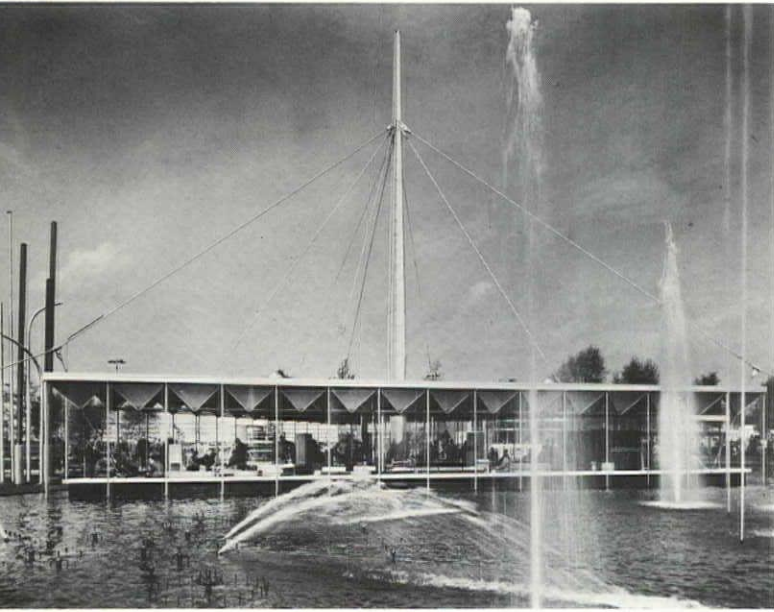
A TRIANGULAR-SHAPED ALUMINUM BUILDING suspended by cables from an aluminum mast has won the 1963 R. S. Reynolds Memorial Award for its designer, architect Hans Maurer of Munich.

The structure is an exhibition pavilion at Hannover, owned by Aluminium-Zentrale e v of Düsseldorf, an association formed by German aluminum firms to provide technical and other services on behalf of the industry. The Aluminum Center Pavilion was constructed over a small lake at the Hannover Fair last year.

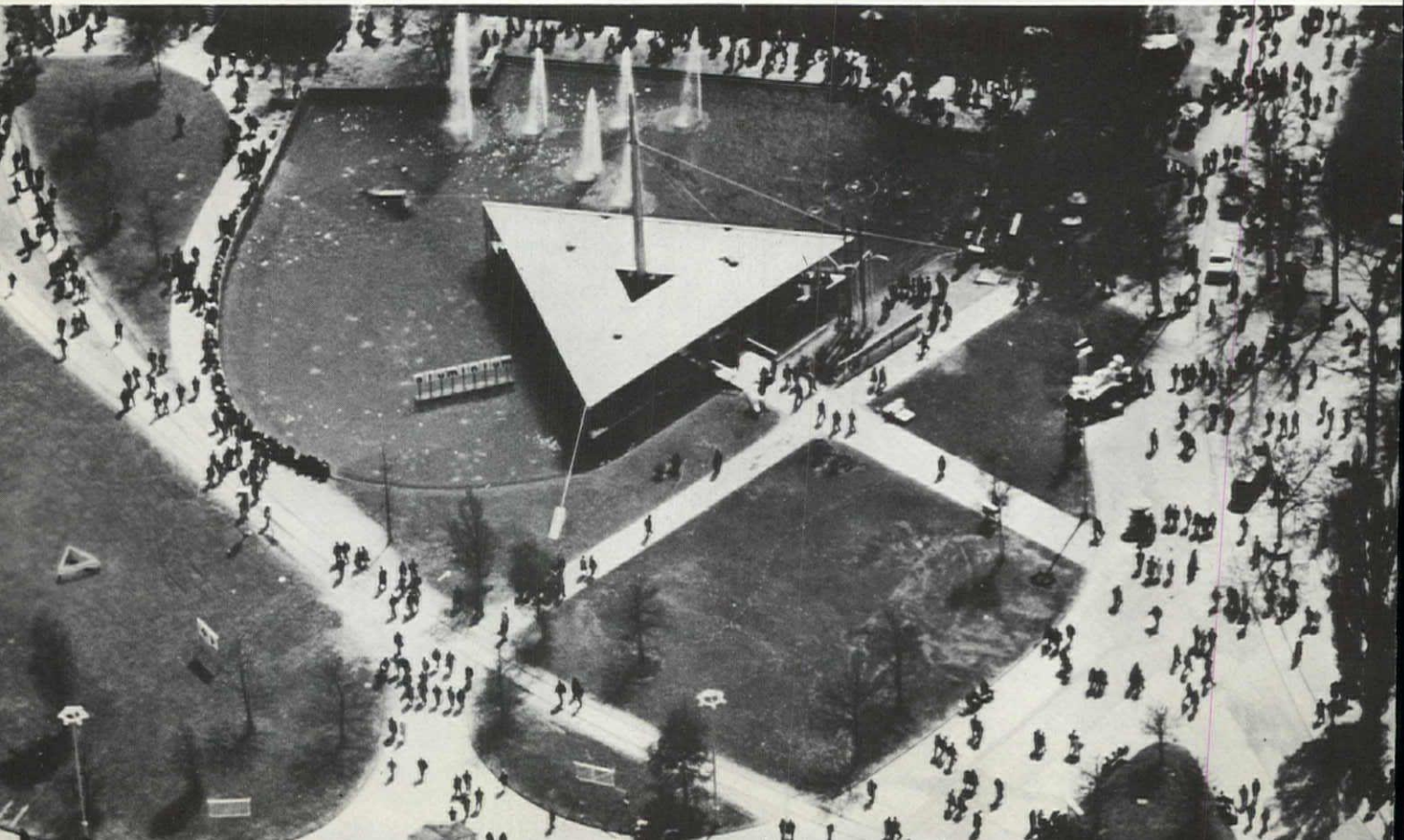
Presentation of the seventh annual international award was made during the annual AIA Convention at Miami Beach last month by Institute President Henry L. Wright and A. H. Williams Jr, vice president of Reynolds Metals Company. In addition to the \$25,000 honorarium, architect Maurer received an aluminum sculpture created by Dimitri Hadzi, an American-born artist now living in Rome, to symbolize the award.

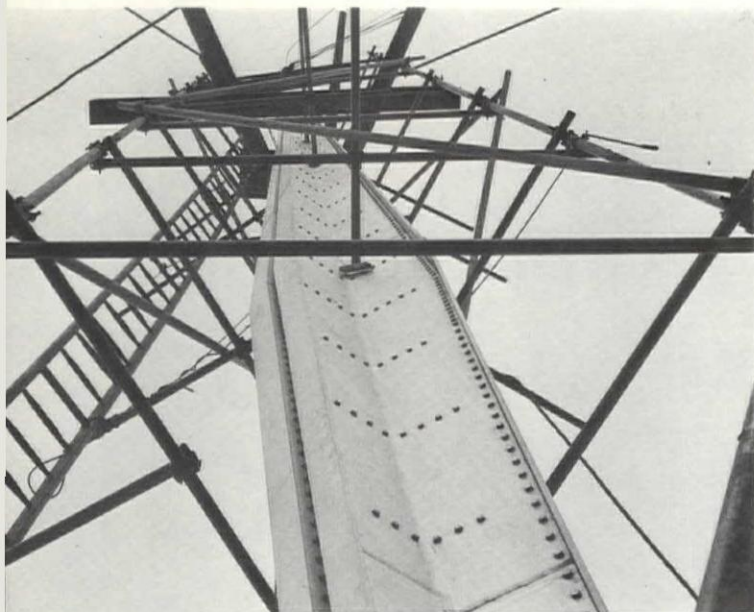
*Exhibition project
wins seventh R. S. Reynolds
Memorial Award
for German architect*





Pavilion is basically an aluminum space frame with each side $88\frac{1}{2}$ feet, suspended by cables from a $65\frac{1}{2}$ -foot aluminum mast which passes through a triangular opening in the center of the pavilion. Aluminum and glass sides of the enclosed area hang from the roof and extend into the water below the deck, providing a seal for the interior. Roof consists of a series of aluminum tetrahedrons, connected by tension members, also made of aluminum. Roof assembly is supported entirely from above by a series of tension cables radiating from the top of the mast, secured to its base by a ball joint





JURY REPORT: Set out as a triangular platform in a basin of water on the exhibition ground, the design for the Pavilion was recognized as an interesting statement, appropriate to its use and consistently developed to a satisfying conclusion.

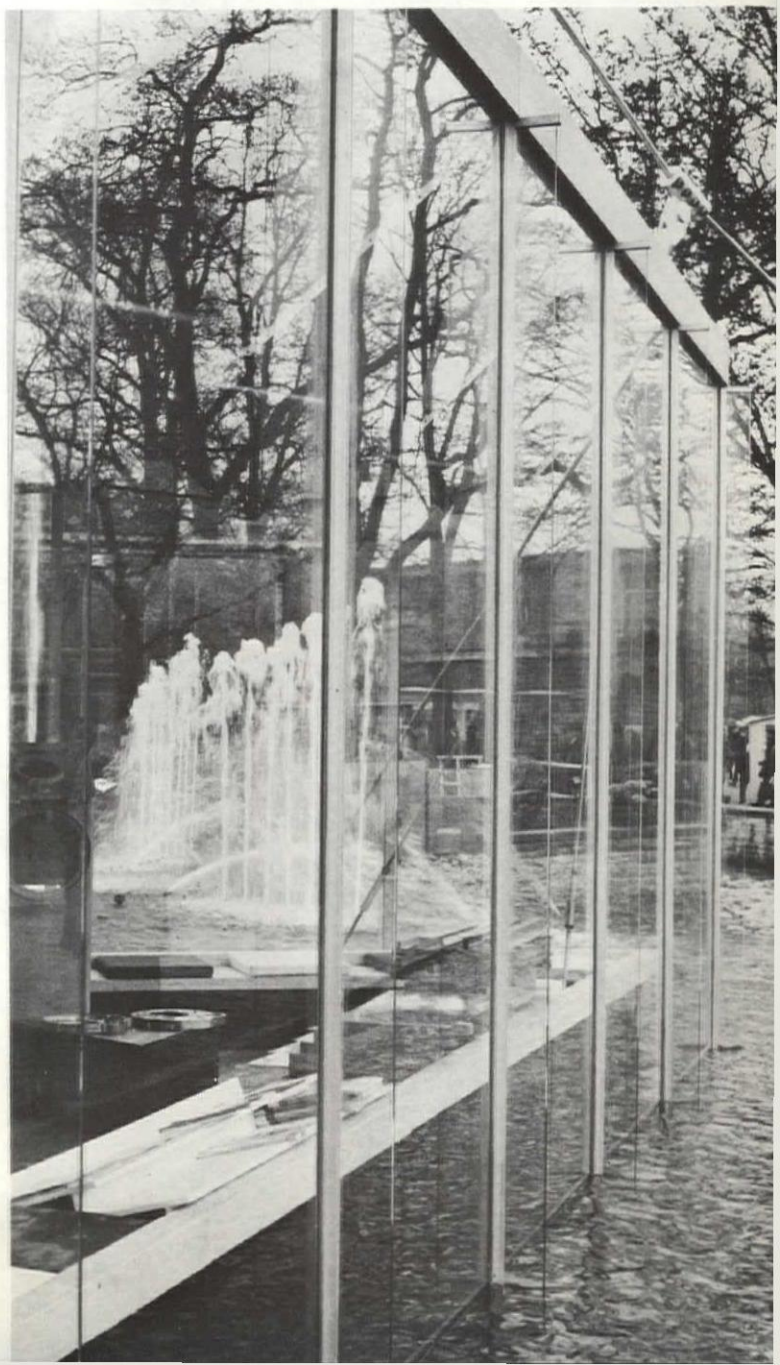
Impressive side-wall effects are achieved by the suspension of enclosing walls of glass from an aluminum triangular structural frame; these walls are allowed to enter the water on all sides—the whole, in turn, cable-suspended from a central mast stabilized at three pier-points.

A somewhat unreal but delightful experience is imaginable by the way the designer allows the surrounding water to become part of the Pavilion floor. At the center of the Pavilion a triangular opening is left free for the dramatic expression of the central mast.

The design of the structural system, metal work, connections and the detailing of the glass wall suspension have exploited the principle of maximum work with minimum means.

The Jury was unanimous in its selection of this design as the best of those submitted.

EUGENE J. MACKEY AIA, CHAIRMAN
MAX ABRAMOVITZ FAIA
R. MAX BROOKS FAIA
JOHN B. PARKIN, HON FAIA
JOHN LYON REID FAIA



Associate Justice of the United States Supreme Court, Formerly Secretary of Labor,
THE HONORABLE ARTHUR J. GOLDBERG

I would like to talk very briefly about a subject which is common to you and to me, and to all of those who, like ourselves, believe very much in the beauty, the function, the particular role that the nation's capital has in our national life. Many people were surprised when, as Secretary of Labor in the President's Cabinet, I evinced an interest in the architecture of our government buildings and in the architecture, both in terms of buildings and in terms of space, of our great ceremonial Avenue, Pennsylvania Avenue. I have pondered, myself, as to why anyone should have been surprised about this, and I have come to a variety of conclusions as to why this surprise was present.

There is a rather snobbish feeling on the part of certain elements of the American public, and that is a feeling that architecture, like culture, of which architecture is a part, is something reserved for people who have means, the well-to-do philanthropists who unfortunately for too many years in this country carried the sole burden of being patrons of the arts and of architecture, of literature and of opera. I think part of the surprise was that someone who is Secretary of Labor and associated with that aspect of American life should have an interest in what is regarded to be the more esoteric aspects of American society. Permit me to say that that notion, however well founded it may have been at some point in our distant past, has no relevance to our present state of affairs. In a democratic society the arts—architecture, literature and music, form an indispensable part of the total culture. I thought many times before I came to the Cabinet, when I was representing the labor movement, how important it is to the whole life of the American people, and indeed how important it is to industry from a very practical standpoint, that our nation's workshops, for example, are well built, well designed, have light and air and beauty, not only because this is an important aspect of our country, as distinguished from the drab, humdrum society which characterized the industrial revolution, but also as businessmen began to discover, as you know from your own practice, that it is a practical thing. Workingmen work better when they are in a better environment, and when I came to the government I realized very soon after I came that the sad state of our government architecture, in terms of the availability of space and the type of space, the type of design of the government buildings, was having a very substantial adverse impact upon the operation of the government. When we made our recommenda-

Continued on page 32

THE NEW FEDERAL ARCHITECTURE

Will the New Frontier Bring Forth a New Look?

President, Washington Center for Metropolitan Studies, author, critic and lecturer,
FREDERICK GUTHEIM

The topic that I have been asked to introduce is Federal architecture. I hope we can accept to begin with that this is part of the larger question of public buildings. It is only this idea that public building is architecture's highest service that allows us the expectations of Federal architecture which we have.

When we think about Federal architecture we get tangled up in big philosophical conceptions about the state, or we think of the great public buildings that we learned about in architectural history, or we think of ideals of public service. It is these rather lofty conceptions that we have in mind when we look at the aberrations of Federal architecture—and they seem so odd. I am afraid that, like love and parenthood, public architecture will always fail because of the high expectations and the high ideals that we have for its performance. And yet, in a democracy, if you don't like public architecture, you don't like the civilization and the people that have produced it.

Here, if anywhere, architecture is a mirror. It does have within it the ability not only to mirror what we are, what we think, what we attempt, but also to go beyond that and to try to lead us forward. It is this expectation that I would think is so important.

As we compare what we do in this country, with our levels of public service and our levels of affluence, to public architecture in other countries, we have to recognize that, like those famous ladies in Boston who don't have to go out and buy their hats because

Continued on page 33

EDITOR'S NOTE: On March 12, Justice Arthur J. Goldberg addressed the Washington-Metropolitan Chapter AIA on the topic of Federal architecture, and of Pennsylvania Avenue in particular.

On March 14, the Architectural League of New York staged a symposium on Federal architecture. Moderator Douglas Haskell FAIA, Editor of *Architectural Forum*, assisted by Jeanne Davern, Senior Editor of *Architectural Record*, introduced Frederick Gutheim, well-known as an author and critic; Leonard L. Hunter, until recently top architect of the GSA; and Karel Yasko, Hunter's successor.

These four addresses are of considerable interest and value to the profession, and we reproduce them herewith as a symposium

Formerly Assistant Commissioner for Design and Construction, Public Buildings Service, General Services Administration, now a partner of John Carl Warnecke Associates,
LEONARD L. HUNTER AIA

This occasion is somewhat of a milestone in my life. It is the first time I ever appeared before a professional audience as an architect in private practice. Heretofore my utterances have been made as a government official. This is quite a change. I feel that a barrier had been dropped. The relationship has changed from architect-to-architect to architect-to-client. And there is a difference.

Because of my long years in the government you might think I am coming here tonight loaded with advice and facts that would explain the present state of Federal architecture and magic formulas that will tell you how to improve it overnight, particularly in Washington. If so, then I am afraid you are in for a dull evening.

First and foremost, most important for that improvement, I think, is the positive attitude of the present administration toward architecture and the arts as indicated particularly by President Kennedy's

Continued on page 36

Current Assistant Commissioner for Design and Construction, Public Buildings Service, General Services Administration, formerly State Architect for the State of Wisconsin,

KAREL YASKO AIA

I'm going to make only a simple statement—a promissory note for the future. To quote Calvin Coolidge would indeed take care of everything: "Architecture, I'm for it."

And I am—with a capital "A," upper case, bold—but who is going to cut the type and reset it? You and the architects of the fifty states. When? When you get down to the business of being creative architects, historians of our culture and showing more concern for man, and less for yourselves and your ego. When you get over spotlightitis, Forumitis, P/Aitis, Recorditis and trying to overwhelm the little man (a six-foot man is a small guy in one of our states) with the big, bold dramatic job. Modesty is a precious word and a modest architectural statement is so precious you can rarely find it. I found one recently and it has me bowing my head in profound admiration for the architect who made it.

He's not here tonite so I won't blush—but come to Washington, my colleagues, when the Lafayette Square project is completed. Make it a pilgrimage and you'll see what I mean. It will be a rare experience, as rare as the pro in architecture.

Also, when you sit down on a hard stool to face up to a design project, don't flip a single picture page of an architectural magazine for inspiration or ideas (with due respect to my learned friends of the periodicals), have a go as creators. Think.

One of my observant friends made a superficial study of the effect of such "research" and found that it took two years after publication for an idea to find itself repeated—and usually only half as well.

Now where does Federal architecture fit into this scheme? It is tailor-made for such a fitting.

But let's examine a few facts of life. Man, a gregarious animal, needs society. So he got together and formed one—and it became a big one, a State, concerning itself with the problems it generated for itself. But since most of this society wanted to fatten at the marketplace, its members persuaded their more idealistic fellows to handle the problem. They set to work to do "the greatest good for the greatest number."

But man, as a rule, has other characteristics, and one is to indulge in citizen athletics—known as passing-the-buck—and then he looks around for the easiest victim to do the State chores. This game of klobber is played very avidly at all levels of every unit of society: city, state and national, and it's always open season on the ogres—known fondly as bureaucrats.

Continued on page 38

“And Pennsylvania Avenue, it seemed to me as I rode on that inauguration day, was a sad testimonial to our country, consisting as it does of broken-down shacks and old antiquated buildings without much vitality, even when they were built; and I suppose there was nothing new in that feeling, because when I read the literature of Pennsylvania Avenue, this has been a recurring problem in our nation’s history.”

tions to the Cabinet Committee, of which I was a part, with the able assistance of Secretary Moynihan, who was associated with me in this enterprise, we found that there was a merger between the utilitarian and what was worthwhile in terms of design, in terms of form. Form and substance were united in our recommendation.

Now when we come to Pennsylvania Avenue, we have a particularized aspect of what is characteristic of Washington in general. Washington, the Capital City, is a unique city, and we have recognized its uniqueness in our national tradition in terms of the political life of our country, and originally we recognized its uniqueness in terms of the design. L’Enfant’s design was a great conception of a capital that would be a beautiful city. It is a beautiful capital, despite what we have done to it—and we have not done very well by our capital. It is amazing that it has remained as beautiful as it is. Visitors from abroad are always pleasantly surprised by Washington, because they have a picture of American life and of the appearance of the American scene, reinforced by travel through our country, that we have not been overly conscious of esthetic values in our society. But Washington has gone to pot. It has gone to pot in two or three ways. One is the result of lack of attention paid to the capital. It has many distressed areas, many run-down properties. Much of the original plan has been, in many ways, frustrated by lack of adherence to it, and the government has not been notably a leader, it has been a lagger in advancing the great conceptions which underlay the creation of this Capital City.

There is another aspect of the decay of Washington in which you and I as individuals are intimately involved. The fault does not lie entirely with the government. Private enterprise has not done well by Washington. They have not done well by Washington because I am sure in large degree they have disregarded the profession of architecture. As I read the literature, one of the things it has been asserting for a long time is that it is possible to build and build economically and still build beautiful, well-designed buildings. We believe, as we do in this country, about the great and significant role of private enterprise. Without it we would not be the nation we are, but increasingly we realize that private enterprise in all of its aspects, as I learned when I was with the labor movement, and in the Department of Labor, is saddled with some public responsibilities. Certainly one of the public responsibilities of builders is to do

their building in light of the total requirement of the community.

I would not want a concentration on Pennsylvania Avenue to detract from the obligation which the government has as it builds outside of this area, to be more conscious than it has been up until now of its obligations to this Capital City. Suburbs are as important to Washington as Washington is to the suburbs. Government workers who live in the suburbs are conditioned by their environment there just as much as they are by the government buildings in which they work. We would fail if we succeeded in revitalizing the center of Washington and at the same time surrounded it by suburbs with houses of dreadful uniformity, with planning projects for housing which destroy the beautiful landscape characterizing this area and which do not homogeneously fit in with the over-all plan for the development of the community. As a private professional man, which I was until I entered the government—in other words from 1929 to 1961, a long span—I know the difficulties of professional men imbued with ideals who have to cope with people of affairs, and I am duly sympathetic—and I have had clients tell me when I offered what was good advice: “Thank you very much, but this is the way I would like my matters to be handled.” I know the problems. Yet, I urge you, and I know you don’t need this admonition, nevertheless I urge you to keep working at the task that makes an architect’s life, like a lawyer’s life, worthwhile. That is something broader than doing what a client wants, a role which encompasses the reason why you entered the profession you have entered, which is to contribute something worthwhile to the life of the country, to the beautifying of the natural scene, because, as I say, we will fail if we do what is needed in the governmental sector and not in the private sector as well.

Now, I would like to say a word about Pennsylvania Avenue. The interest which the Administration is taking in Pennsylvania Avenue is, I think, a symbol of its broader interest in the cultural and artistic life of the country. But it is a very practical interest as well. If the great ceremonial avenue of our government, symbolizing the Congress of the United States as a coordinate branch of the government, and the Executive as a coordinate branch of the government, is permitted to go to pot as it has, then in a very real sense the fifteen million visitors that come to Washington from every part of the country annually—and they are increasing—will themselves feel something is wrong with the government. It is an

inevitable reaction. We live by many symbols and rightly so, and one of the symbols by which we live is the majesty of the government. And Pennsylvania Avenue, it seemed to me as I rode on that inauguration day, was a sad testimonial to our country, consisting as it does of broken-down shacks and old antiquated buildings without much vitality, even when they were built; and I suppose there was nothing new in that feeling, because when I read the literature of Pennsylvania Avenue, this has been a recurring problem in our nation's history.

But I think there *is* something the architects contributed: We were well advised by the profession that it would be a mistake to proceed as Andrew Mellon conceived the Federal Triangle by building a solid phalanx of government buildings, even of a contemporary design. We can achieve on the north side what is lacking on the south side of the Avenue, and that is a partnership of structures that will bring beauty and life to the Avenue. This is the conception which I think is new. This has not been done before in addressing the problem—the government in relation to Washington and the problem of the Avenue as such.

How is it going? Well, I resigned all of my outside commitments when I went on the Court, as not being compatible with the new role I have been called to perform. I was asked by the Committee whether I still retained an interest in the Avenue. I said I did, and recently I have had an opportunity to talk with the distinguished Advisory Committee. I am encouraged by what they told me. The Avenue project is still very, very much alive. It has not been relegated to the realm of good ideas which are put on the shelf, but I think the critical part of the program will come very shortly, when the Committee comes to making its recommendations; then we will see whether or not there is enough support in this community, and outside of this community, to really revitalize and rebuild this great street so that it may become what it ought to be, the connecting link between the Congress and the White House.

A lot will depend upon you architects, because your task is to support this project, not only because you believe in it as men dedicated to a great profession, but also because you will be looked to throughout the country for a critical appreciation of what goes on. I hope that before this Administration finishes office we will see a new Pennsylvania Avenue, and I hope that from the Avenue the whole nation will derive enjoyment and new strength, and that it will contribute to a revitalization of Washington as such.

I would think that if we are successful in rebuilding Pennsylvania Avenue, if we are successful in stimulating the interest of the government in contemporary architecture so that our buildings can reflect at home what our American embassies reflect abroad, and that is a happy synthesis of tradition and modern life, in keeping with the American character—if we can bring some greater beauty in design and form to the houses and office buildings which are growing apace all through this area, so that when the history of the times is written, in addition to all of the great social legislation and economic legislation (which command the attention of any administration so greatly), that not the least of the achievements will be the fact that Washington itself physically has been restored to the grand design of its creators. ◀

GUTHEIM

Continued from page 30

they already have them, most of the architecture in other countries already exists. The architecture of England and France, for example, has been provided by the past centuries, and in other countries like Germany, which in modern times have been obliged to produce it, it is nothing of particular interest.

We have a rather difficult condition, in a large and rapidly growing country, of having been obliged to produce a great deal of contemporary public architecture—not architecture of the nineteenth century, but architecture of today.

Even when we consider the historical aspects of public architecture, it seems to me it is with a sense of embarrassment. We don't think of the difficulties of a small and struggling country; we think of the eighteenth century gentlemen like Jefferson, for example, who were able to make a contribution culturally out of the background and education which they had, and that placed the architecture of the United States considerably in advance of where our nation was culturally. Most of us today would agree that the architecture of public buildings is behind culturally and we are trying to bring it up.

I would hope, also, if we are not going to talk about Washington, if we are not going to talk about New York, that in talking about Federal buildings throughout the United States—and I would think overseas as well because there is where some of the most interesting Federal architecture has been done—we would also not talk about it in terms of the Public Building Service of the General Services Administration, but also remember a very large number of other government agencies that do building—some of them, I might say, thinking perhaps of the Dulles Airport built by the Federal Aviation Agency—rather good building, too.

Let us try to start then on a broad basis.

Not all building, of course, is architecture, and the same is true of Federal building. Eliminating the many utilitarian buildings and of the possibility they contain of being raised to architectural significance, we ought to commence by recognizing that those buildings of that type are hardly different from private architecture. A Federal garage is not a great deal different from a private garage, for example.

Perhaps it is that more people are concerned in the creation of Federal buildings than in the case of private buildings, that is the most distinguishing thing. But Federal architecture is in other ways a more complicated process in a democracy. Many of the projects also are of a very large scale. But most of all, these individual buildings are parts of a very large building program. The individual buildings are in a context of accumulated experience; they are in

a stream of continuity, and from this lessons about building are steadily learned. They are not isolated building decisions as most private architecture is.

This seems to me much more important than that the Federal buildings are of different types. There are things like mints and post offices and buildings of that kind, but I don't think of them as being as decisive and distinguishing elements.

One could also say that Federal architecture responds to other factors. It responds to its historical period, often pretty strongly, as well as to changes of administration. Certainly it responds to politics. It responds also to personalities, not only the personalities of the architects and of the people who are quite specifically concerned with the production of building designs, but also to the personalities of Presidents and Cabinet Secretaries, members of Congress, even members of the Supreme Court.

If you reflect for a moment on the Kennedy Administration, the architecture of which has hardly begun to show its image, I think you will agree that architecturally it is going to be one of boldness, youthfulness and, I would expect, advancing technical competence. I suspect, however, that it is going to be the image, let us say, of bold bureaucracy rather than of boldness *per se* because nothing is likely to change very much within the Federal establishment from one administration to another.

But there are these distinctions and I think there will be a marked contrast between this Administration and the Eisenhower Administration which preceded it and which I would say was inclined to be more stodgy—although, after all, the Dulles Airport is its work and named after one of its principal officials.

The irrepressible Harry Truman certainly had a distinctive style of his own and had to be repressed rather firmly when he proposed that our foreign embassy program take the form of a chain of White Houses located in different capitals where our embassies would be found.

The President whom I recall who has had the most architectural interest as well as the worst architectural taste was Franklin D. Roosevelt. He is remembered by such things as the Jefferson Memorial which, after having been scaled down and moved a few hundred yards out of the Tidal Basin, was still built because of his determination to see it built there; or his decisions about the architecture in the two World's Fairs, almost all of which was decided in the White House office and accompanied by those little chits that said at the top: "Stolen from the desk of Franklin D. Roosevelt." But here was a man who, whether it was a cottage in Warm Springs or the Washington National Airport or the skyscraper hospital of the Naval Medical Center, was directly and personally involved.

I could continue the historical parts of this a great deal further. Certainly we would not have had a Federal Triangle if Andrew Mellon had not previously been our Ambassador in London and had become an enthusiast for Whitehall Georgian, and certainly we would not have the city of Washington as we know it today if it had not been for the greatest of all Presidents as far as urbanist interest was concerned, Theodore Roosevelt.

Members of Congress also exercise a major influence on Federal architecture. It is a very interesting thing that as the Senate moved to being directly elected from having been elected by the legislatures of their respective states, the character of the Senate changed markedly and with it came a more popular taste. Certainly the question of Congress in relation to the Capitol itself can hardly be overlooked. Here is a case where the authority of the Speaker of the House was of such strength that it swept everything before it. We got the architecture of autocracy, of personal favoritism, and of extravagance; all the characteristics of grotesque monumentalism and bizarre functional buildings built during that period.

Certainly as compared to an historical past when architects like Thornton, Latrobe, Bulfinch, or even Thomas U. Walter, were the Architects of the Capitol, we are today in a very sorry state, unable even to provide proper parking spaces for automobiles.

Justice Goldberg recently told me an anecdote which I rather liked.

The Supreme Court consists of nine men who always take votes on small matters of Court administration as well as large matters of Constitutional determination, and at the time when the Supreme Court building was designed by Cass Gilbert, when the designs were finally brought before the members of the Court for approval, they were voted for by everyone except Justice Brandeis. When the building was completed Justice Brandeis refused to occupy the offices that had been provided for him which he regarded as too ornate and too unsuitable for the work of a Justice. He continued to work in his home where he had his own law library and where his clerk assisted him. He would come to the Court a couple of minutes before twelve and be robed and go into the Courtroom and depart immediately afterward and never during the entire period of his service on the Court did he ever use the rooms. This seems to be a very unique example of individual protest on esthetic matters.

The AIA has been publishing for some years a list of Federal agencies that are contracting for building designs. This has been running between sixty and eighty pages. It contains the names of the officials who are involved, and they are constantly changing the types of work that they do, and the circumstances under which architects are engaged.

I mention this primarily because there are a very large number of agencies involved. The most important certainly is the General Services Administration. But larger still I believe is the Corps of Engineers—a different kind of organization altogether. The Foreign Buildings Office is totally separate and does its own work. The programs in hospital building and in airport construction are highly decentralized programs of Federal grants-in-aid where the determinations of architecture are almost wholly decentralized to local public agencies or regional offices.

Occasionally you find interesting Federal architecture in organizations like the National Park Service,

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which as an agency has probably done certainly one of the best jobs of a sustained kind; or in the Atomic Energy Commission, which has one of the most unique and specialized types of architectural activity.

I don't think it is important to review these things except to illustrate that the nature of the work is enormously varied—Dulles Airport at one extreme and no architecture at the other.

There is a strong case to be made for a further unification of Federal architectural responsibilities, and I would prefer to see it unified in the General Services Administration, where the longest historical record exists and where the highest level of competence seems to have been achieved.

The criticisms that are encountered about Federal architecture are that it is not composed of masterpieces; that it looks more like the same kind of thing from building to building rather than having much individuality; that it doesn't innovate; that it has a dated look; that it lacks research; that it involves out-dated conceptions of buildings and specifications.

When you talk to architects you also get more remarks about selection procedures: They don't give jobs to small firms and you've got to associate, often with engineers; the kinds of requirements of presentations and reviews; the degree of support that you get from the agency for the design proposals that you make; complaints about fees and things of that kind; politics. These are the sorts of complaints and criticisms that are heard in discussions of the AIA and other professional bodies.

Certainly at a more popular level you hear another kind of criticism. Here the emphasis tends to be on wasteful building; the higher cost of Federal building as opposed to similar private construction; inefficiency in operation of buildings, and things of this kind. These are the sorts of things that one generally hears when listening to members of Congress.

The thing that has impressed me is that when an architect approaches a Federal building commission he encounters something that he ordinarily doesn't get,

even from large organizations that are doing a great deal of building, like IBM, for example; he encounters a tremendously competent technical building organization. He doesn't have to do a great deal of worrying about the things that bother him as an architect in much of his private work. On the other hand, he encounters a bunch of bureaucratic rabbits who are not able to take a good design and run with it. On a Federal building job the architect himself has got to whip up enthusiasm; he's got to fight his own design battles; he has to fight them through the Fine Arts Commission in Washington; he has to fight them through the planning agency; he has to fight them often through Congressional committees; he has to do something that in much private building his client does for him. I think that the situation is almost reversed in these respects from what ordinary practice provides.

I have written to a number of architects who have done Federal buildings recently in anticipation of this talk and I am impressed with the fact that every one of them has made the same observation about the high level of technical competence; on the other hand, the difficulties and deficiencies of design are still there, whether they are due to the architect, due to the agency for which he happens to be working or due to the process of review.

Again, if I might use the Dulles Airport as an example it seems to me Eero Saarinen did on that job something he never had to do on other jobs and something that other architects have not recognized needed to be done. He generated a tremendous amount of enthusiasm for the design itself. He convinced the Federal Aviation Authority that this was their great opportunity to raise the level of airport design all over the country. He was able to overcome the forces of indifference and inertia by personal appearance and by the most effective kind of selling; he was able to overcome the different processes of review by unremitting labor on his own part and by what I can only describe as a remarkable example of architectural leadership.

I mention these things because these are not activities that architects in private practice are called upon to do in most cases, but they are the most rewarding kinds of activity if our objective is the highest standard of design in Federal building.

Now, to what should we compare Federal architecture? Certainly there have been examples of successful local public architecture. The Boston competition is the most recent one that comes to my mind that indicates that other types of public buildings can also be of a high level. I think the conclusion that I would offer for proceeding in this field would involve such points as these:

First we have got to get the best architects on the job. These can be chosen by selection boards, as was the case in the Foreign Buildings Office, or we can rely on competitions—I would hope of a very improved nature.

The difficulty with the selection board technique is very well shown by the Foreign Buildings Office experience. A distinguished body of sincere and skillful architects met once a month for the purpose of selecting architects and reviewing designs. After that the architects who were selected—and I think the word is not too hard—were abandoned. They had to do it all themselves from that point on. Most of them had enormous difficulties; they lost money; they had prestige but hardly a one of the architects that I know who have done public buildings under this system look back upon the experience with a feeling of satisfaction.

This warrants a word of caution. The selection board technique may be all right, but the selection process has to be the best one we can find.

Next, we have to do far more than we have done to make the private architect understand the job.

I think the simplification and improvement of relationships is necessary but most of all we must make a stimulating encounter out of the relationship of the private architect with the public client.

It amazes me to think that what we have got today is architects working for other architects. Most of the men who do Federal buildings today are working for another architect—Mr Yasko, for example, or Mr Hunter, whose job it is to give them what they need, to receive and approve what they do. And if you want to have it an affair of a creative kind, it can only be with an individual; it can't be with a bureau or an organization. It is recognizing the need for the architect in the Federal service as the other half of the team—he is not the man who does the design but the man who comes in with the design is powerless without him.

This is a new kind of staff architecture. It is what Gurney did for New York Life, what Eliot Noyes does for IBM. This is the kind of thing alone that makes it possible to work on a large complicated organizational level and still to work with talented, creative individuals. And I am convinced if this were done properly and adequately that many of the difficulties that the General Services Administration has tried to resolve through association and things of that kind would be eliminated. ◀

“If we must have
put together the most
architect-
named by the Board
composed

recent directive on Federal architecture, establishing guidelines for the design of government buildings: “A nation's capital should embody the finest in its contemporary architectural thought. Its architectural form should reflect the dignity, enterprise, vigor and stability of our national government. In these objectives both public agencies and private builders will need the service of the nation's leading architects.”

How should this directive be implemented? What changes in the agencies of government controlling the design of Federal buildings should be made, particularly those that control the results in Washington?

It would be presumptuous of me to give you a “prescription” for achieving the best in Federal architecture. But now that I have moved far enough away from the woods to see the trees, I think the following suggestions would be a constructive part of such a program.

It seems to me that the General Services Administration should be responsible for design of all government buildings to be constructed within the Washington-Metropolitan area. Yes, this would include the work now performed by the Architect of the Capitol, who is responsible for the design, construction, maintenance and operation of buildings housing the legislative branch—the Capitol, the Senate and House Office Buildings are good examples.

But if General Services Administration is to assume this responsibility for the design of all Federal buildings, particularly in the Federal City, it should rise to this responsibility by divorcing itself *completely* from outside influence in selection of the architects who will create this design.

At present a committee within GSA, composed of staff architects and engineers, reviews the qualifications of architects on a national basis and makes recommendations to the Commissioner of Public Buildings Service, who in turn passes this on to the Administrator for final selection.

I suggest that there be added to this internal committee three architects from private practice appointed

architecture governed by committee action, then let's talented committee possible. I suggest that each member be selected by the President from a list of five architects of Directors of the AIA. This list should be of architects who are recognized for their design ability."

by the Administrator. This selection committee should be a final committee, making its recommendation to the top architect in the service, whose decision should be final.

As an adjunct to this "selection for ability" by a committee not subject to pressure, it will be necessary that appropriation for all major structures to be built in Washington be made to the General Services Administration.

All too often, when an individual agency seeks its appropriations through its own appropriation channels, these funds are transferred to GSA with strings attached, and sometimes these strings will be the selection of an architect or participation in the selection.

I would like to diverge from the Washington scene and discuss the selection of an architect for a Federal building in "X" community, which again is a GSA responsibility. It has been the policy to select architects practicing in "X" community, or at least in the state within which "X" community is located. This does not always produce the best architecture. Some states are practically devoid of architects of outstanding design ability.

I suggest that in such instances, the "selection for ability committee" be permitted to name at least three architects of design ability residing outside the community or state, one of whom *must* be used by the selected architect as a design consultant.

What else should GSA do to enable it more efficiently to carry out the President's directive? In the past, too many basic design decisions have been made resulting from the architect's first submission of very schematic designs. Any reversal of these decisions at a later date can be very costly to the government.

I suggest that the requirements for the first submission by the architect should be expanded to include presentation of more complete design studies, thus enabling the project architect as well as the government architect, to have a full picture of the proposed design before it is approved.

An area in which GSA has participated very little in the past few years has been that of the fine arts—

murals, sculpture, et cetera. A recent report of the Ad Hoc Committee on Federal Office Space said ". . . the Federal government should take advantage of the increasingly fruitful collaboration between architects and the fine arts." In the 1930's the Treasury Department, which was then responsible for the design and construction now controlled by GSA set up an elaborate organization for the handling of the arts in the construction programs of that time. Competitions were held and in most instances the architect, who was seldom called on for collaboration, was told the type of sculpture and the subject matter of the murals that he was to incorporate into his design.

I would dislike to see another such cumbersome organization. However, I believe some method should be set up in GSA whereby funds can be obtained and *retained* for sculpture and murals. Too often funds initially set up for sculpture and murals are used to relieve the bind of a tight construction budget.

Last but not least, GSA can do much to improve the quality of design emanating from architects under contract to that agency, by returning control of the design organization to the professional architect or engineer. Of the last four Commissioners only one has been a technical man, and his tenure lasted approximately three months. The position of Commissioner of Public Buildings is a very sensitive and responsible one and should be held by a top-flight architect or engineer.

Besides General Services Administration there are other agencies instrumental in determining design in Federal buildings, which must participate in implementing the President's directive. There are two commissions in Washington that have much to say about the siting and design of all Federal buildings in the city—the National Capital Planning Commission and the Fine Arts Commission.

The Planning Commission is now composed of five Presidential appointees and seven ex-officio members representing Federal agencies and the Congress. The representatives of the various Federal agencies in many instances are not qualified from a training or

experience standpoint to serve in such a capacity. Decisions by this Commission are too vital to the welfare of the city to be left to the judgment of the non-expert.

I suggest this Commission be re-constituted to be composed of seven members, four of whom would be appointed by the President and the remaining three by the District Commissioners. Of the seven, at least four should be professional planners. The present positions of the five ex-officio members representing Federal agencies should be abolished as such, with these representatives serving as consultants to the Commission.

It seems the sporting thing to do these days is to take pot shots at the Fine Arts Commission. Let me say my sympathy is with its members—they are damned if they do and damned if they don't. They, next to the project architect, exercise the greatest control over the final appearance of the Federal buildings in Washington. This is unfortunate. Many times results look like what they are: a committee compromise.

If we must have architecture governed by committee action, then let's put together the most talented committee possible. I suggest that each architect-member be selected by the President from a list of five architects named by the Board of Directors of the AIA. This list should be composed of architects who are recognized for their design ability. The sculptor, the painter and the landscape architect members should be selected in like manner. Thus, the *method of selection* of these Commission members, who have included many capable people, would be raised above criticism.

If all these suggestions could be carried out, I believe the prospects of better architecture in Federal building would be considerably more promising.

Paul Rudolph, in his article in the January issue of the *Forum*, implied that government buildings should be monumental, to remind every government worker that he serves the nation in a special way. This is a poor excuse for monumentality. Government workers have many other tangible evidences that they are working for the greatest nation in the world.

The Planning Commission in its plan for the Year 2000 said: "New public offices of an operational nature should be housed in non-monumental buildings which will satisfy all the requirements of efficiency and which will at the same time, by virtue of the highest quality of design and strategic siting, have the dignity and strength to establish their public identity."

I do not believe that we should establish policies that government building should be monumental or non-monumental. Each building should be approached as an individual project and designed to serve efficiently the branch of government for which it is being built. The environs, the site and the program should determine the character of the design. ◀

YASKO

Continued from page 31

So this ogre (the bureaucrat) takes some of the drawers out of the bureau and hands them over to the loud Mr Buck-Passer and says, "You perform this service, so that I'm not tempted to do it poorly."

So Mr Buck-Passer, architect or any other professional, scoots off to his Danish suite and performs this service—zoom, boom and he's back with some blueprints. The ogre looks over this mess and asks to see some studies, or suggests that perhaps there are other solutions. "What do you want for the tiny fee I'm getting?"—or some other thin explanation for the lightweight presentation.

Now that I've been confusingly obscure, let's get down to GSA and architecture.

How does it all come about?

After a project weaves and staggers through Congress and appropriations, GSA is assigned the task of designing and building.

A private architect is selected. How?

If it's outside of Washington, GSA looks for architects in the state area of the project. How? Every registered architect in the locale is circularized for interest—I say *every* registered architect as individuals, a pretty thorough scatter-shot. If you have two, four or six (any number can play) registered men in your office, each gets an inquiry, plus a form.

When these reports and brochures are in, an evaluation committee of professionals within GSA reviews the material and on the basis of the information contained therein prepares a list of four, five or six firms. A couple of these might be recommended, and the list goes to the Assistant Commissioner for Design and Construction. He concurs, or questions the choices, and he can suggest others for consideration. Then the whole matter goes to the Administrator, via the Commissioner for Public Buildings Service.

The architect is notified of his tentative selection and comes to Washington to negotiate the fee. An agreement is reached with the architect (complaining all the way to the bank for a loan, that it is too low).

At this point, he is given the handbooks of criteria which will guide him down the path to getting the job out for bids. Here's where you're all nodding, very knowingly, that the straitjacket is applied which prevents the genius (and we're all geniuses in our way) from producing great architecture. The bureaucrat steps in and out goes architecture. What a simple way to pass the hot potato of mediocrity.

A certain gentleman on this program, when he retired, gave a simple reply to a newspaper reporter on the quality of Federal architecture, "We get what they, the private architects, give us!"

So the jig is up, my colleagues, I can confirm that.

Back into your hot little fists goes the responsibility for designing Federal architecture, including Washington, DC. Don't go around blaming the government or the ogre bureaucrat for your incompetency or your inadequacy—or perhaps your unwillingness to give the government the very best you've got. Maybe that is the best you've got, and you know, I think that generally it is. I say that the level of architecture throughout the nation, be it private or public, reflects directly the quality of our profession. From my recently gained viewpoint of public life—I'm out of private practice only three and a half years—I've drawn some sharp, objective observations—that the

“Back into your hot little fists goes the responsibility for designing Federal architecture, including Washington, DC. Don't go around blaming the government or the ogre bureaucrat for your incompetency or your inadequacy—or perhaps your unwillingness to give the government the very best you've got.”

profession of architecture in the United States can claim only a handful of pros, another little fistful of semi-pros and the greater number are pedestrians. You know where you fit.

The reluctance to come to grips, the unwillingness to study, to think, to explore ideas—many, not just a variation on the original theme—is a common failure. Putting together portions of published clichés and boasting to a client that it is the latest, “Just like downtown,” appears to be the technique.

But where is the architect who soaks himself in the project, goes at it with both fists, knocks himself out cold over creation—where is the the agony and the ecstasy in architecture today?

I could continue to lash out on the theme, gentlemen, and unlike a certain Senator who played the numbers game, I've got plenty of evidence. You don't believe what you see on the cityscape—you're still growling about the bureaucrats.

I'm not playing Tom Sawyer, whitewashing the Feds. Many of you can cite instances where you wanted to use such things as granite-faced entrance doors and some bureaucrat said “No.” You saw the wrong man, because we have such doors designed by a private architect—and some Congressmen are growling.

So we have another handbook, one which contains all we, as architects, need to have as guidelines in the creation of Federal architecture—whether in Sweetgrass, Montana; Minocqua, Wisconsin, or New York, New York. It's a slender pamphlet, which I'm using as my charter and my banner because within its guidelines we are permitted and admonished to produce the greatest architecture in the world—if we have the talent.

For instance, this booklet of guiding principles, and every GSA-hired architect now gets one, says among several things:

“The belief that good design is optional, or in some way separate from the question of the provision of office space itself, does not bear scrutiny, and in fact invites the least efficient use of public money.

“The design of Federal buildings . . . must provide visual testimony to the dignity, enterprise, vigor and stability of the American government.

“ . . . the Federal government, no less than other public and private organizations concerned with the construction of new buildings, should take advantage of the increasingly fruitful collaboration between architecture and the fine arts.

“Major emphasis should be placed on the choice

of designs that embody the finest contemporary American architectural thought.

“The development of an official style must be avoided. *Design must flow from the architectural profession to the government and not vice versa.*”

This is all spelled out in bold print under the heading of “Guiding Principles for Federal Architecture” on page 13 of the Report to the President by the Ad Hoc Committee on Federal office space. (Also known as the Goldberg Committee), published June 1, 1962.*

President Kennedy's sensitivity to the subject of architecture was demonstrated to me personally, when going to Washington never entered my head. I believe it is significant enough to retell—especially at this meeting.

A snowy night, a few months after I became the Wisconsin State Architect, I was the master of ceremonies at the AIA Chapter convention banquet. (It was during Mr Kennedy's primary campaign and he was working very hard to win Wisconsin—everybody woos the Badgers.)

The Chairman of the event learned of Mr Kennedy's presence in the hotel, and that he would be coming past the dining room on his way to make a series of evening speeches. When the then Senator came down into the lobby, he was asked to speak to the assembled architects. This he agreed to do and came into the dining room where I invited him to the speaker's table. I then asked him to say a few words, which he agreed to do. For three minutes, without any forewarning that there was an architect in the house, he talked lucidly, sharply and knowingly about the architects' role in a growing society. It was most impressive.

His activity and support of the profession and its allied arts since he became President is consistent with the man who spoke to us in February 1960. Believe me, everyone isn't so lucky as to have the Governor of his state and President of his country solidly behind him in efforts to produce meaningful architecture.

I'll close with a quotation, third-handed from the guidelines' page: It was first stated by Pericles to the Athenians, then by President Kennedy to the Massachusetts Legislature in January 1961, and I address it to you:

“We do not imitate—for we are a model to others.” That's what we are going to be. ◀

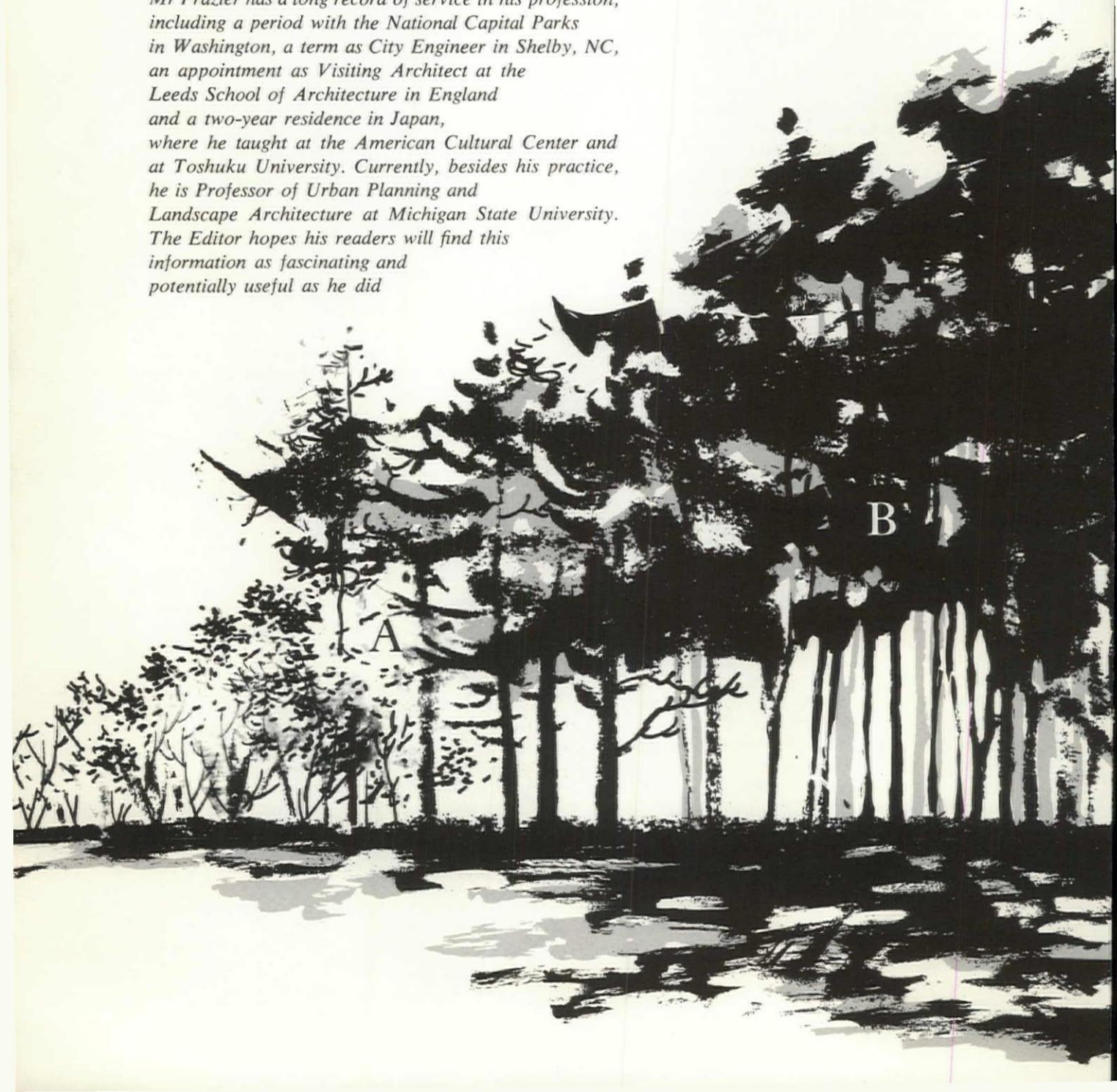
* Published on p 48 of the August 1962 *AIA Journal*

*What every
architect should know about*

TREES

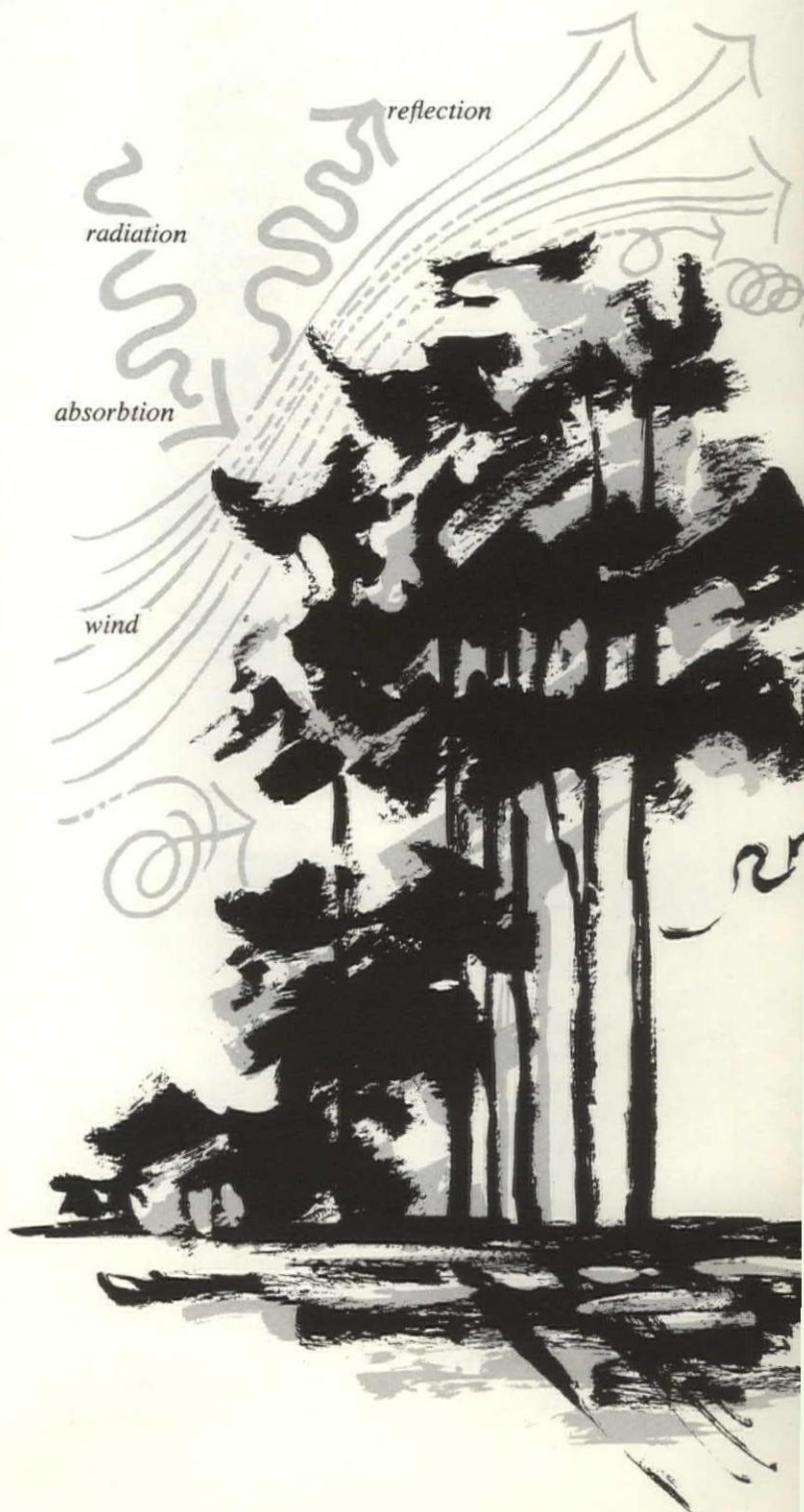
by JOHN B. FRAZIER ASLA, Landscape Architect
and Site Planning Consultant

Mr Frazier has a long record of service in his profession, including a period with the National Capital Parks in Washington, a term as City Engineer in Shelby, NC, an appointment as Visiting Architect at the Leeds School of Architecture in England and a two-year residence in Japan, where he taught at the American Cultural Center and at Toshoku University. Currently, besides his practice, he is Professor of Urban Planning and Landscape Architecture at Michigan State University. The Editor hopes his readers will find this information as fascinating and potentially useful as he did



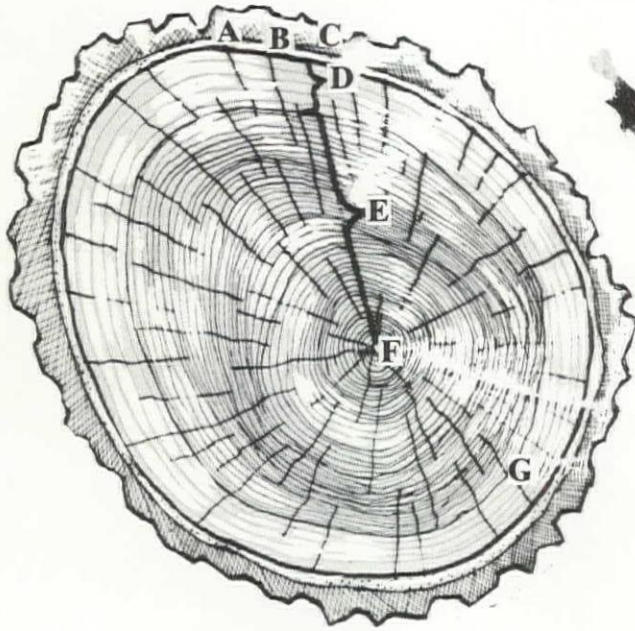
AT THE LEFT is a section through the forest, showing progressive "build-up" and multi-storied effect within the forest proper. The differences between the air above or outside of the forest (A) and inside (B) are considerable. It is just this microclimatic characteristic which distinguishes the real practical value of trees as modifying agents of weather. The light of a bright summer afternoon, measured at 100 per cent at (A), is depleted to less than one per cent at (B); however, on cloudy, overcast days about three per cent of the light falling upon (A) reaches the forest floor (B). At the floor level the difference in humidity between (A) and (B) on a hot summer day could vary from 28 per cent, measured at the tree tops, and 80 per cent on the ground; however, on a rainy day there would be practically no variation. Rain showers during the summer differ in intensity at (A) and (B) considerably, with only about one-half of the rain reaching the forest floor; (during prolonged rain spells, the difference progressively changes). However, the evaporation of water given back to the air offsets precipitation at the different levels within the forest: from each acre of woodland on a hot summer day more than 2000 gallons of water return to the atmosphere through the process known as transpiration. At night or during prolonged rain spells, there is little variation between the temperature at (A) and (B). But during the summer periods of bright sunlight the difference can be as much as 30 degrees cooler on the forest floor (B) than at the tree tops (A).

On the right, a schematic diagram showing wind turbulence and re-direction, with temperature modification through reflection. The unique layering of the leaves, horizontally cantilevered from supporting twigs so as to position themselves approximately perpendicular to the light rays, capture, absorb or reflect glare and heat from the sun. In this way trees around buildings modify climates, particularly reflection from a hot sun or glare from a snow-covered landscape. In addition to temperature and light variations caused by trees in groups, the wind direction and intensity also are modified by building up successive layers of vegetation from the ground, to shrub and tree layer. Wind intensity measured when the trees are in full bloom varies when the wind is about 50 mph at the tree tops to 4 mph at the ground; even during the winter, air velocity can be reduced by 50 per cent. As evidenced by the "Great Shelterbelt Projects" during the late 1930's, trees effectively control winds for a horizontal distance equal to twenty times their height. This means that on the lee side of a screen 50 feet high, an area 1000 feet wide enjoys protection from damaging winds. Trees not only slow down the wind speed near the ground, but prevent quick evaporation of soil moisture and cut down on wind erosion and loss of topsoil.



CROWN

- A cambial zone
- B inner bark
- C outer bark
- D sapwood
- E heartwood
- F pith
- G vascular ray



PHYSIOLOGY

Physiology of the tree: Trees are as individual when taken from the forest as people are upon separation from their particular social group, possessing characteristics uniquely peculiar to their species, yet all essentially functioning in the same way. For the preparation of "food" the tree must have quantities of both light and heat, taking in oxygen and essential nutrients from the air and soil. To get this oxygen the tree "breathes" over its entire surface, taking in oxygen and carbon dioxide from twigs, leaves, branches, trunk and roots. The tiny root hairs abstract the minerals from soil moisture and send them up as nutrient salts in the sapwood to the leaves for "food." Excessive moisture, unneeded by the tree for its physiological processes, is given back to the atmosphere through the process known as "transpiration." All of this contributes in the end to growth, which takes place at the tips of twigs and roots, and the cambial layer on the inside of the inner bark of the tree. This latter growth accounts for increases in caliber or diameter and tells its story in the annual growth rings so evident in the cross-section of a felled tree.

TRUNK

J.B.F.

← taproot

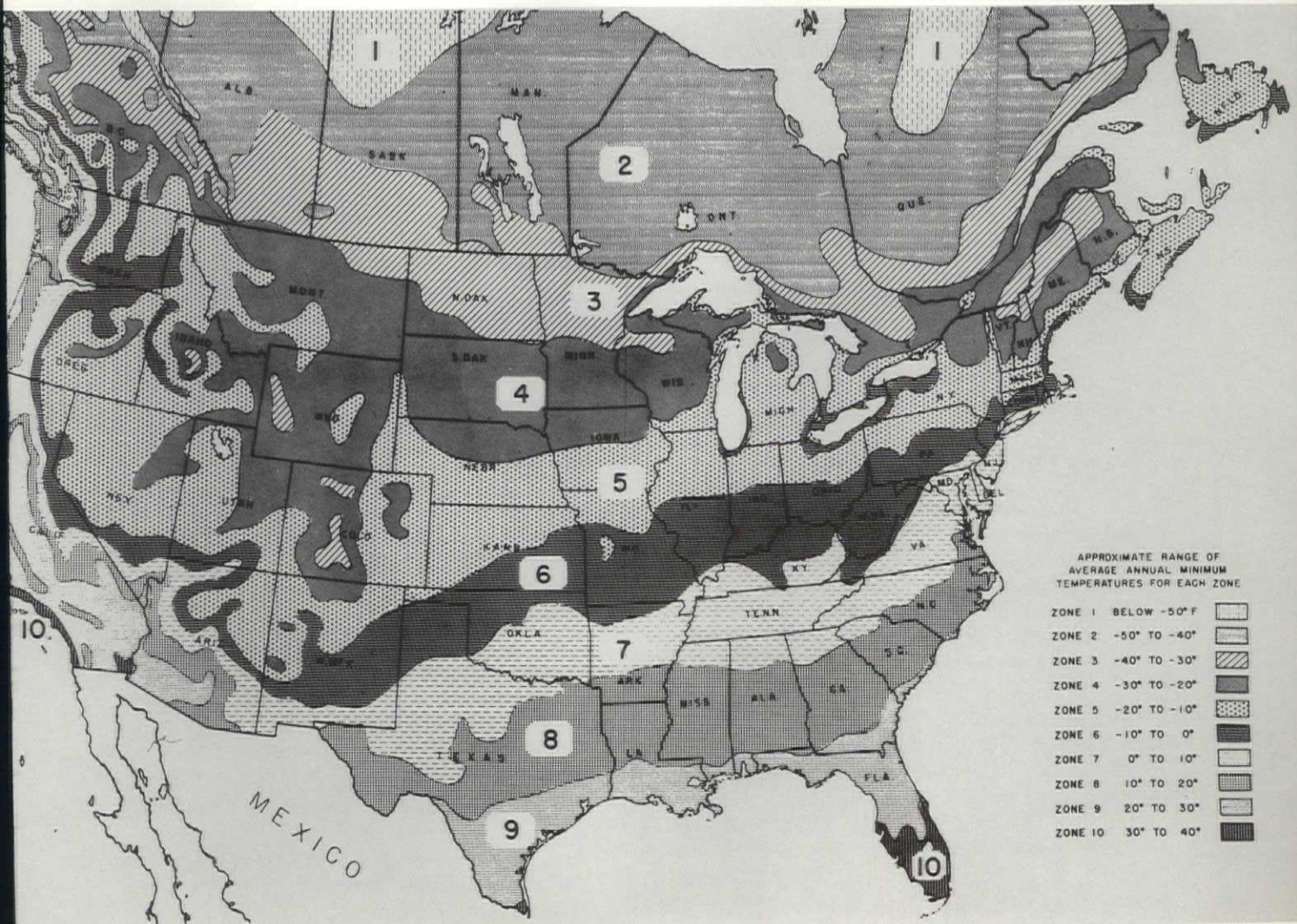
ROOTS

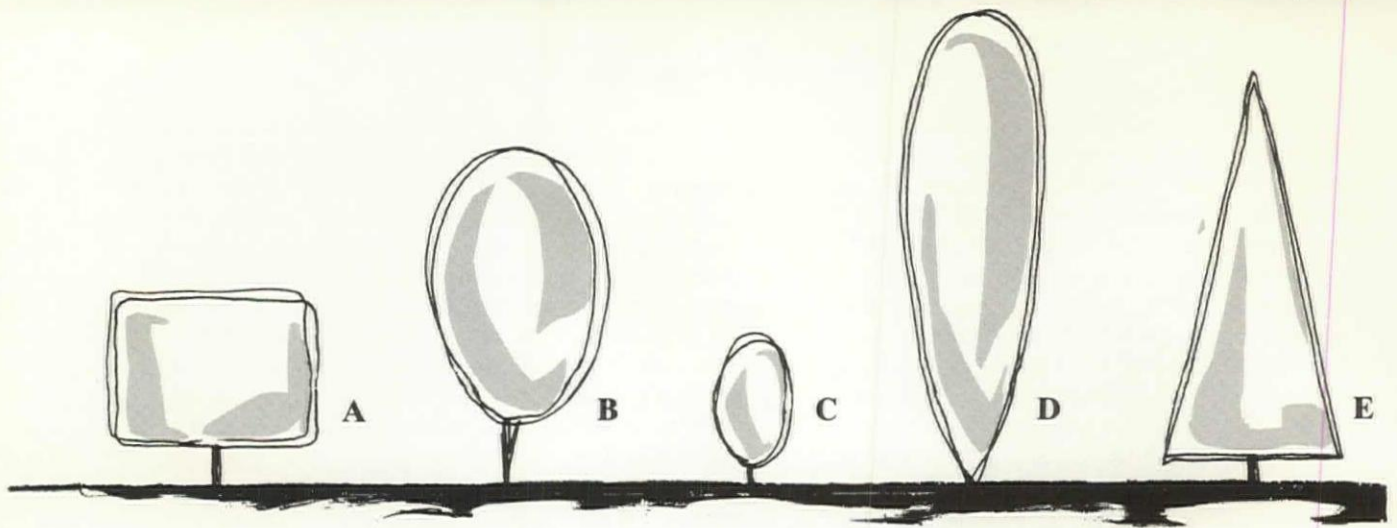
In addition to the benefits derived from climate modification which groups of trees give to man, individually the tree, through its processes of carbon dioxide-oxygen exchange, tends to purify our foul air. Pollution abatement within the atmosphere is justification enough for street trees in our cities. This unique property of vegetation, in general, led a noted chemist to recommend, based upon accurate calculations, that there should be at least one tree for each automobile and 10 trees for each truck within the city.

That trees are "therapeutic" is even less understood, much less appreciated. Through physiological experiments, it was discovered that trees tended to ionize the surrounding air, negatively charging the atmospheric particles which we breathe. This, together with other properties of trees, effected blood pressure changes, respirational fluctuations and general "mood" of patients subjected to these experiments. Also, it was found that this charged air made it easier to breathe by causing the ciliated epithelium (fine hair-like particles responsible for "sweeping" dust from the respiratory tract) to move in a smooth, unified wave motion, rather than in an erratic manner so often found in asthmatic patients.

Plant Zones: Areas throughout the US and Canada having similar temperatures are linked together, much as a topographic map ties points of the same elevation into a contour plan, giving a graphic demonstration of the various zones of temperature. Plants hardy within certain temperature ranges should survive if used in other areas of the country within the same zone. For illustrative purposes the following trees are representative of each plant temperature zone. These trees are fairly common ones and should help recall other types which you may have seen or experienced growing in the vicinity.

- Zone 1 *Populus tremuloides* (Trembling or Quaking Aspen)
- Zone 2 *Betula papyrifera* (Canoe or Paper Birch, sometimes called White Birch)
- Zone 3 *Pinus strobus* (White Pine)
- Zone 4 *Juniperus chinensis* (Chinese Juniper)
- Zone 5 *Acer palmatum* (Japanese Maple)
- Zone 6 *Pseudotsuga taxifolia* (Douglas Fir)
- Zone 7 *Magnolia grandiflora* (Bull Bay Magnolia or Evergreen Magnolia)
- Zone 8 *Melia azedarach* (Chinaberry Tree)
- Zone 9 *Quercus virginiana* (Live Oak)
- Zone 10 *Eucalyptus citriodora* (Lemon Eucalyptus)





Tree Forms. The forms which trees take in silhouette, with their leaves on, can be generalized into a few basic shapes. These immediately suggest particular trees with which we are most familiar. Representative of these forms are these trees:

Spreading Form A

- Fagus americana (F. grandifolia)—American Beech—zone 5
- Quercus virginiana—Live Oak—zone 9
- Salix nigra—Black Willow—zone 4
- Acer campestre—Hedge Maple—zone 5
- Cercidiphyllum japonicum—Katsura Tree—zone 5

Globular Form B

- Ulmus americana—American Elm—zone 4
- Quercus alba—White Oak—zone 5
- Acer saccharum—Sugar Maple—zone 4
- Fraxinus americana—White Ash—zone 4
- Platanus occidentalis—Buttonwood or Sycamore—zone 5

Small Tree Form C

- Cornus florida—Flowering Dogwood—zone 5
- Cercis canadensis—Eastern Redbud—zone 5
- Malus floribunda—Japanese Flowering Crabapple—zone 5
- Crataegus crus-galli—Cockspur Hawthorn—zone 5

- Koelreuteria paniculata—Goldenrain Tree—zone 6

Vertical or Columnar Form D

- Populus nigra italica—Italian Poplar—zone 3
- Juniperus communis suecica—Swedish Juniper—zone 3
- Taxus baccata fastigiata—Irish Yew—zone 6
- Acer platanoides columnaire—Columnar Norway Maple—zone 4
- Thuja occidentalis—American arborvitae—zone 3

Conical Form (pyramidal) E

- Juniperus excelsia stricta—Greek Juniper—zone 6
- Picea alba (also Picea glauca)—White Spruce—zone 3
- Abies concolor—White Fir—zone 4
- Chamaecyparis pissifera—Sawara Cypress—zone 4
- Thuja occidentalis d. pyramidalis—American Arborvitae pyramidal form—zone 3

Note: Varieties possessing compact, spreading, columnar or pyramidal characteristics are available from commercial nurseries of many of the commoner types of trees. As an example, the columnar form of the Norway Maple (*Acer platanoides columnaire*) is a variety, arrived at through "crossing" of columnar stock with the traditional form of the Norway Maple.

LISTING OF TREES CLASSIFIED AS TO USE

A Trees for Dry, Sandy Soil

- Ailanthus altissima—Tree of Heaven—zone 6
- Betula alba—White Birch (European)—zone 3
- Populus alba—White Poplar—zone 3
- Juniperus virginiana—Red Cedar—zone 3
- Pinus strobus—White Pine—zone 5
(and other pines)

B Trees of Rapid Growth

- Acer negundo—Boxelder—zone 5
- Catalpa speciosa—Western Catalpa—zone 5
- Plantanus acerifolia—London Plane Tree—zone 5
- Pinus sylvestris (and other species of pines)—Scotch Pine—zone 5
- Picea abies—Norway Spruce—zone 3

C Trees Free from Insect Pests and Diseases
(Usually not bothered; if so, seldom injured)

- Cercidiphyllum japonicum—Katsura tree—zone 5
- Elaeagnus augustifolia—Russian Olive—zone 5
- Ginkgo biloba—Ginkgo tree—zone 6
- Gleditsia triacanthus—Honeylocust—zone 5
- Tsuga (all species)—Hemlock—zone 4

D Trees Withstanding Strong Winds
(For the seashore)

- Acer rubrum—Red Maple—zone 5
- Carpinus betulus—European Hornbeam—zone 6
- Crataegus oxyacantha—English Hawthorn—zone 5
- Quercus borealis—Red Oak—zone 5
- Pinus nigra (and other species of pines)—Austrian Pine—zone 5

E Shade Trees for Streets (Will withstand restricted city conditions)

- Acer saccharum—Sugar Maple—zone 4 (for north)
- Celtis occidentalis—Hackberry—zone 5—
(for midwest)

Tree Skeletons. Without the leaves, the winter tree bares its "bones" so as to display its supporting structure. This skeletal framework, as with the outer form of the clothed tree, can be generalized with respect to certain branching characteristics. The way the branches of some trees separate from the main trunk is identification enough, as with the American Elm. Categorized according to the seven line patterns, these trees are representative:

A *Diospyros virginiana*—Persimmon—zone 7
Cryptomeria japonica—Temple Cedar—zone 6
Chamaecyparis pissifera plumosa—Plume Cypress—zone 4

Tsuga canadensis—Hemlock—zone 4
Fagus americana—American Beech—zone 5

B *Quercus palustris*—Pin Oak—zone 6
Platanus occidentalis—Buttonwood or Sycamore—zone 5

Ailanthus altissima—Tree of Heaven—zone 6
Carya ovata—Shagbark Hickory—zone 5
Cornus florida—Flowering Dogwood—zone 5

C *Picea abies*—Norway Spruce—zone 3
Abies concolor—White Fir—zone 4
Pinus resinosa—Red Pine—zone 5
Pinus banksiana—Jack Pine—zone 5
Pinus virginiana—Scrub Pine—zone 6

D *Populus deltoides*—Cottonwood—zone 5
Celtis occidentalis—Hackberry—zone 5
Aesculus hippocastanum—Horse Chestnut—zone 6
Amelancier canadensis—Shadbush or Serviceberry—zone 5
Tilia americana (also *Tilia glabra*)—American Linden—zone 5

E *Ginkgo biloba*—Ginkgo Tree—zone 5
Quercus alba—White Oak—zone 5
Carpinus caroliniana—American Hornbeam—zone 5
Quercus velutina—Black Oak—zone 6
Juglans nigra—Black Walnut—zone 5

F *Ulmus americana*—American Elm—zone 4
Acer palmatum—Japanese Maple—zone 6

Liquidambar styraciflua—Sweetgum—zone 7 (for south)
Crataegus phaenopyrum—Washington Hawthorn—zone 6 (for narrow streets).
Tilia cordata—Small Leaf Linden—zone 5

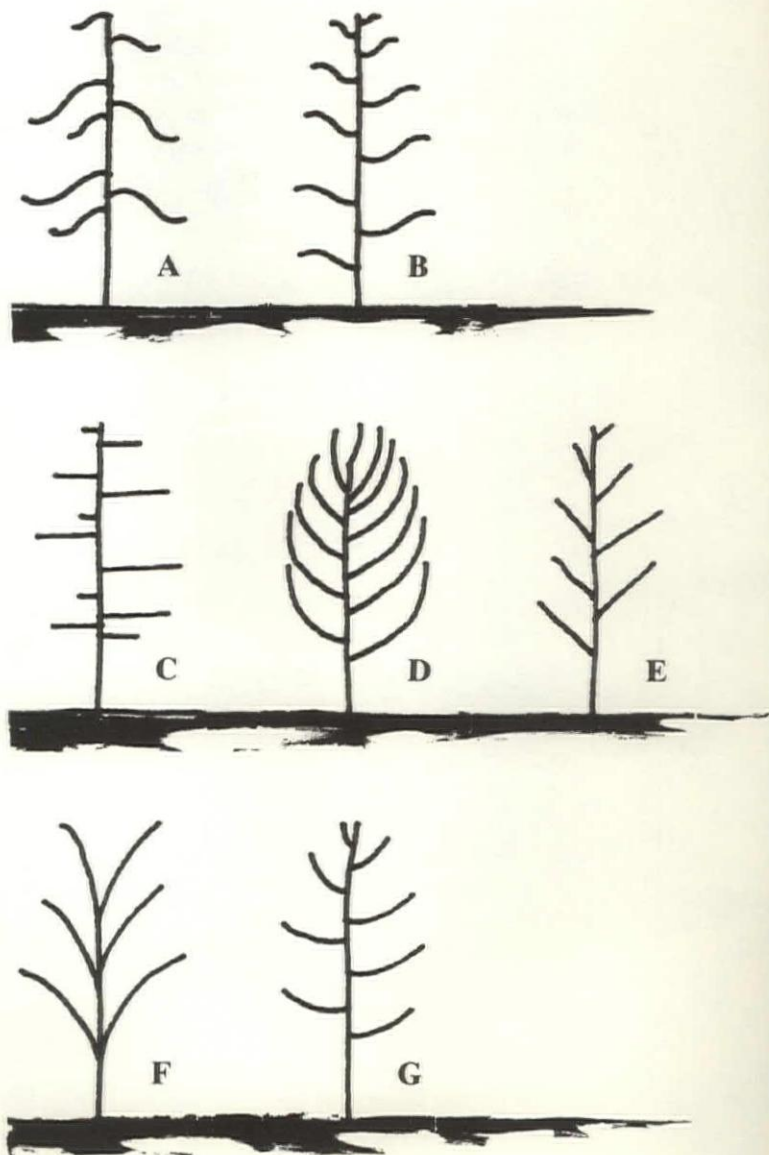
F *Trees Which Thrive in Very Wet Soils*
Nyssa sylvatica—Sourgum or Tupelo—zone 8
Salix babylonica—Weeping Willow—zone 6
Taxodium distichum—Bald Cypress—zone 8
Thuja occidentalis—American Arborvitae—zone 3
Chamaecyparis thyoides—White Cedar—zone 4

G *Trees Which Will Form Good Windbreaks*
Morus alba—White Mulberry—zone 7
Picea alba—White Spruce—zone 3
Pinus (all species)—zones 4 to 8 (pines)
Thuja occidentalis—American Arborvitae—zone 3
Quercus palustris—Pin Oak—zone 6

Acer negundo—Boxelder—zone 5
Cotinus coggygia—American Smoketree—zone 6
Quercus virginiana—Live Oak—zone 9

G *Juniperus virginiana*—Red Cedar—zone 3
Cedrus deodara—Indian Cedar—zone 7
Populus tremuloides—Trembling Aspen—zone 2 or 1
Prunus serotina—Black Cherry—zone 5
Fraxinus americana—White Ash—zone 4

Note: Almost all of these plants are interchangeable within about two plant zones north or south. The important thing is the maintenance of a correct micro-climate in and around the tree itself. With the soil type (if the original habitat is strongly acid or alkaline) prepared similarly and the tree protected against adverse climatic effects not in keeping with its original locale, almost all trees can be shifted from zone to zone, (within limits). A good example is the original plant hardiness zone for American Elm which is zone 4; however, it is found as far south as Florida.



Employment Secrets of Boards of Education

by DR CLARENCE E. HINCHEY,
Superintendent of Schools
Montclair, New Jersey

In writing the Editor, Dr Hinchey said, "I shall be delighted to write an article which I hope will be helpful to architects. It will be based on my experiences and impressions from visiting fifty to sixty architectural firms over the past fifteen years." Many firms are doubtless following some of the practices Dr Hinchey recommends; it is doubtful if any firm practices all of them. Use this article as a yardstick to measure your own effectiveness as a salesman

ON THREE OCCASIONS during the past fifteen years, the writer has helped choose architectural firms for multimillion-dollar school plant construction projects. He has visited the offices of some sixty firms and has examined more than a hundred school projects. On many occasions he was accompanied by members of a Board of Education. These experiences have developed a point of view which he believes should be shared with architects.

It is the writer's opinion that few architects understand the dominant concerns of board members and superintendents as they assume responsibility for selecting an architectural firm.

The search for architectural services is usually begun with feelings of trepidation on the part of board members and the superintendent. Because of their familiarity with the job and awareness of complete dependence upon the architect for a building for which they will be held responsible, they recognize the magnitude of the decision they must make. Hence, those seeking architectural services often determine in advance a number of questions for which they seek answers as they visit architects' offices and view building projects. They are delighted with the architect who will take the time to assist them in organizing their thinking, thereby increasing their confidence in their ability to make judgments. These are the architects who cause prospective clients to "have confidence" in them—and no board is likely to employ a firm in which it has little confidence.

The usual experience of a visiting board member and superintendent is about as follows. They arrive at the office of the architect about ten o'clock in the morning and are greeted graciously. They are served coffee and engage in "get-acquainted" conversation for a few minutes. The visitors tell something of their particular problem, and the architect assures them of his acquaintance with similar projects. He then shows pictures of some of his buildings, often using a projector which presents color and "best angle" views. The excellent artwork shown (which may include landscape projections) attests to the efforts of the architect to create "eye-appeal" for his projects. The slides are frequently shown rather rapidly and with little time for discussion of the size of instructional

and Superintendents of Schools

areas, functional relationships, multiple uses of specific areas or flexibility of the plan.

As lunch time approaches the visitors are taken on a quick tour of the offices. The staff may be at lunch so there is no opportunity to form an impression of those who will actually do the work. After lunch the architect and his guests drive to the project to be visited. During the trip the architect may describe projects he has undertaken or he may listen to one of his guests discourse on "local problems," sometimes little related to the business at hand. During the journey little time is spent clarifying phases of the client's general problem, which is the reason for the conference.

On arriving at the project to be visited, an hour or two may be spent in walking through the building. During this time casual questions are asked and too frequently unanswered—the architect and his representatives may not be prepared to answer questions! Too often pertinent questions are not suggested by the architect—he may wait for the visitors to take the lead in an area in which they may be hesitant to display their ignorance.

In the late afternoon the visit may be terminated without the architect or the visitors having arrived at a definite understanding about "follow-up" procedures. The architect usually promises to send materials which will further present his work. The visitors promise to study whatever is sent, to give careful consideration to the work of the firm and "to get-in-touch with you later." The next contact is likely to be a letter from the superintendent reporting that the board, after considerable study, has decided to employ another firm.

It is the opinion of the writer that a little greater attention to the "sales aspect" of architectural services would pay appreciable dividends to all concerned. The extra attention would increase board members' and superintendents' self-confidence and ability to meet their responsibilities to their communities. The architectural firm would benefit from additional business and the goodwill of well satisfied clients.

The following suggestions relative to procedures for presenting architectural services to prospective clients may be helpful.

An architectural firm might consider the crea-

tion of a Department of Informational Services. This department might be headed by an individual who has served with Boards of Education during school planning and building periods, who has had intimate acquaintanceship with community building problems and who knows the attitudes and concerns commonly held by Boards of Education and school superintendents. Such an individual would not be an "educational consultant" for a school district. His responsibilities would be entirely different. He would be concerned with the best possible presentation of the services rendered by the architectural firm.

The work of the Department of Informational Services should include the following five major responsibilities:

1 The Department should secure pertinent information about a prospective client and his problems before the first meeting of members of the architectural firm and representatives of the school district. To discharge this responsibility would require attention to the following things.

a) A conference with the superintendent to become well acquainted with his building experience background and his point of view relative to the project under consideration.

b) The securing of similar information about members of the board would also be helpful in preparing for the first consultation.

c) If the job involved renovation of, or an addition to a present building, the architect's representative should visit the building, gather information about it, and take pictures of the building, the site and the surrounding area.

d) From the building principal the representative should seek ideas concerning the program of instruction which might be expected to be incorporated in preliminary building planning.

e) The representative should secure information about community problems and attitudes involved in decisions which will be required, ie, type of building, site problems and socio-economic considerations.

2 The Department should prepare data and visual materials to be used at the first conference.

a) It should prepare slides which would

stimulate discussion of major decision areas relevant to the project, ie, traffic patterns, flexibility of structure, multiple use of areas, adequacy of auxiliary instructional areas, adequacy of non-instructional areas, efforts to reduce maintenance and custodial costs, etc. This procedure would assure the board and superintendent of the architect's thoroughness of preparation in his desire to be helpful to his prospective client.

b) It should select and prepare slides showing work of the firm which is related in some way to the problems of the client.

c) It should make certain the architect and his representatives are prepared to answer (from point of view of the board and the superintendent) questions on the projects shown.

d) It should refrain from showing "pet projects" which are unrelated to prospective clients' problems. Time is limited.

3 The Department should prepare a presentation of the ways in which the architectural firm can assist clients with the many problems related to building a school. This is generally overlooked. *It is very prominent in the thinking of the prospective client!*

a) It should show examples of materials prepared to assist other communities in interpreting educational needs.

b) It should provide copies of procedures used in other communities to secure public support for projects.

c) It should prepare listings of business services which the firm performs for clients. These listings should be reviewed carefully, and *then the visitors should be shown about the offices* and introduced to key persons in the firm. The less experienced the prospective clients the more grateful they will be for aid in business affairs.

d) It should prepare displays showing how the firm handles the coordination of the work of contractors, the purchase of materials and equipment, the supervision of the job, the preparation of work schedules, the availability of consultant services and any additional "special" services. Prospective clients should be encouraged to ask questions concerning the above items. With many clients discussion of these items would contribute greatly to the development of a "sense of security."

e) It should prepare brief data sheets on any building the architect's representatives will show. The data sheets should be reviewed with the visitors before arrival at the building. On arrival, attention should be centered on a few "best features" of the building. These features should be related to the interests of the visitors.

4 The Department should thoroughly prepare for the visit *all* of the firm's representatives who are to participate.

a) It is most important that the architect and his representatives answer questions with assurance. Inability to answer questions may be interpreted as lack of interest in the visitors or lack of knowledge of the project.

b) An effect should be made to have the principal of the building meet with the visitors for a *few minutes*. The tour of the building should be under the direction of representatives of the architectural firm. Thoughtless "off the record" remarks by a principal or a custodian can be most harmful.

c) Visitors should not be permitted to wander through a building. They should be directed so that they see firsthand the things of major importance which have already been brought to their attention.

d) Careful note should be made of any favorable or unfavorable reactions of the prospective clients. These reactions are the basis of the follow-up conference or conferences. Favorable reactions are to be impressed on the minds of the visitors—unfavorable reactions are to be reduced or eliminated if possible.

5 The Department should prepare data and visual materials to be used at the follow-up conference or conferences with the prospective client.

a) A follow-up conference on the client's "home ground" is most important. It enables representatives of the firm to emphasize major points, to answer questions and to discuss impressions of concern to the prospective client. It offers an opportunity for clarification on the part of both parties. It provides for involvement of key persons who may not have participated in the first visit.

b) The superintendent may wish to involve certain members of this staff in order to secure support for his point of view and for his recommendation. The use of prepared data sheets and visual aids will not only be a good review of ideas for some, but a means of winning the approval of others.

c) Timing is important. The firm must be prominently in the minds of those who make the decision for employment at the time the decision is made. Conferences should be scheduled with this thought in mind.

The decision to employ a particular architectural firm will probably not be based entirely on "cold logic," cost figures or even building configurations. It will be based on "confidence" in the architectural firm—the belief that the firm is knowledgeable, imaginative, dependable, willing to give close attention to the project and able and willing to give direction to all phases of the total complex problem. The decision will be based, to a considerable extent, on the prospective clients' judgment of human factors. ◀

New Directions for the 1963 AIA-ACSA Seminar

by BUFORD PICKENS AIA, Washington University, St. Louis

BY POPULAR REQUEST the eighth annual AIA-ACSA Teachers Seminar will concern itself, for the first time, directly with the teaching of architecture in its diverse subject areas.

The program was planned with the help of specialists in learning theory and practice. They ask: Toward what professional objectives, present and future, do you aim? By what means, if any, do you distinguish effective teaching from instruction or informing? Is there any scientific basis to show that some of the sacred practices in the schools waste from one-third to one-half of the students' and the teachers' time? Can knowledge of one's subject be substituted for competence to teach and vice versa? What role does the student himself, in all his varying mental and emotional attitudes, play in the learning process? Can creativity be induced? Does technology offer any real help? How do you evaluate the result of experimental teaching with its many critical variables? These are some of the questions which will be discussed at the Cranbrook Academy from June 9 to 19.

The decision to have the Seminar face directly the central educational problem has suggested certain changes in the program format including, among others, a return to the original meaning of *seminar* as a search for seminal ideas that relate to seed or source of first principles. The 1963 participants, working in small groups of six or eight, will attempt to formulate proposals for experimental teaching projects that could be conducted in the schools of architecture during the 1963-64 academic year.

Applying rudimentary learning theory, the Program Committee recognized that the acquisition of essential information could best be done by the participants prior to the Seminar, leaving more time for discussion, inquiry and the clarification of ideas at Cranbrook. Thus, the papers by guest specialists are being made available beforehand. This should be an improvement over the usual practice of having the participants exposed for the first time to a rapid fire barrage of speakers with the expectation that they could react spontaneously throughout a concentrated ten-day session.

As a further stimulus toward an active seminar, the teachers themselves are being scheduled on the program. Some will present current teaching projects from their own schools; others will serve as discussants to follow the guest specialist and to raise questions concerning the implication of his paper to the practical problems in the architectural schools which heretofore may not have been considered relevant. Guest speakers, in most cases, plan to come early and

stay on after their programmed appearance, giving them an opportunity to visit informally and to participate in the discussions.

Architectural education seems beset with special, if not insoluble problems, perhaps more so than other professions: the relatively fast turnover of teachers in many schools, coupled with the rapid changes in a) the architectural esthetic or the current "mode"; b) the technological problems and means available; c) the conditions of expanded professional practice. All these add to the usual perennial tasks in the encouragement of the learning process.

The Teachers Seminar cannot remove these conditions, but it can focus attention on a systematic approach to improvement. Furthermore, it is conceivable that over the years, the Seminar can provide a continuity which does not now exist either in the testing of hypotheses or in the literature on teaching architecture. This kind of literature, incidentally, might be helpful not only in the schools, but also to the practitioner who, after a few years out of school, is in danger of being left in the backwaters by the swiftness of the current mentioned above.

At the 1963 Seminar, we hope to construct a basis for analysis and criticism of current practices in architectural education. We shall be searching for ways to achieve a measurable, cumulative impact not only upon education, but eventually upon the practice of architecture.

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The Teaching of Architecture

AIA-ACSA TEACHERS SEMINAR, JUNE 9-19, 1963
CRANBROOK ACADEMY OF ART

SUNDAY, JUNE 9 REGISTRATION

MONDAY, JUNE 10 INTRODUCTION—TEACHING FOR WHAT?

Morning WILBERT J. MC KEACHIE
Teaching": a survey of recent experimental studies with implications for the future

Afternoon PHILIP WILL JR
"The Future of the Architectural Profession—For This We Teach" Panelists:
KAREL YASKO, PHILIP MEATHE

TUESDAY, JUNE 11 CAN TEACHING BE IMPROVED?

Morning EDWARD L. WALKER
"Matching Means and Ends in Teaching Architecture"

Afternoon Presentation of project "A"

WEDNESDAY, JUNE 12 THE PLIGHT OF THE STUDENT

Morning RICHARD MYRICK
"The Culture of College Students"

Afternoon Presentation of project "B"

THURSDAY, JUNE 13 CREATIVITY AND THE LEARNING PROCESS

Morning DONALD W. MAC KINNON
"The Characteristics of Creative Architects and Their Implication for Architectural Education"

Afternoon WALTER A. NETSCH JR
Presentation of a design teaching project "C"

FRIDAY, JUNE 14 THE NEW POTENTIALS OF MEDIA

Morning and Afternoon WALTER J. AMBINDER
Demonstrations of various media at Wayne Univ. State laboratories in Detroit

SATURDAY, JUNE 15 TOUR OF ARCHITECTURAL HIGHLIGHTS IN THE DETROIT AREA

MONDAY, JUNE 17 ADVANCED MEDIA AND DECISION MAKING

Morning BARCLAY G. JONES
"A Review of Advanced Media Theory and the Practical Implications for the Teaching of Architecture"

Afternoon JOSEPH ESHERICK
"Report on a Current Research Project"

TUESDAY, JUNE 18 HOW DO WE EVALUATE LEARNING?

Morning DAVID R. KRATHWOHL
"Suggestions on the Preparation of Research Proposals"

Afternoon Presentation project "D"

WEDNESDAY, JUNE 19 WORKSHOP PRESENTATIONS BY ACSA TEACHERS

Evenings will be devoted to general discussions with speakers or small group workshops.

SPEAKERS

WALTER J. AMBINDER, PhD, Associate Professor
Educational Psychology
Wayne State University

JOSEPH ESHERICK AIA, Professor
College of Environmental Design
University of California

BARCLAY G. JONES AIP, Associate Professor
College of Architecture
Cornell University

DAVID R. KRATHWOHL, PhD, Chairman
Psychological Foundations of Education
Michigan State University

DONALD W. MAC KINNON, PhD, Director
Institute of Personality Assessment and Research
University of California

WILBERT J. MC KEACHIE, PhD, Head
Department of Psychology
University of Michigan

PHILIP J. MEATHE AIA, President
Detroit Chapter AIA

RICHARD MYRICK, PhD, Research Psychologist
George Washington University
Washington, DC

WALTER A. NETSCH JR AIA
Skidmore, Owings & Merrill
Chicago, Illinois

EDWARD L. WALKER, PhD, Professor
Department of Psychology
University of Michigan

PHILIP WILL JR FAIA
Perkins & Will
Chicago, Illinois

KAREL YASKO AIA
Assistant Commissioner for Design and Construction
General Services Administration
Washington, DC



AIA COMMITTEES

Commission on Architectural Design, Morris Ketchum Jr FAIA, Chairman

Committee on Schools and Educational Facilities, Alonzo J. Harriman FAIA, Chairman

Seminar on Campus Planning

by JAMES J. MORISSEAU
Educational Facilities Laboratories, Inc.

Photos: JONATHAN KING, Educational Facilities Laboratories

Sketches: EDWIN B. CROMWELL AIA



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John McKeivitt



Charles Gibson

American colleges and universities are spending about \$1.2 billion a year on physical expansion, rehabilitation and replacement of obsolete facilities, and campus development.

That, undeniably, is a lot of activity. But government experts hold that it is not enough. The boom in enrollments, the explosion of knowledge, and the problems of obsolescence, they maintain, indicate a need for expenditures by the more than 2000 institutions of higher learning in the nation, at a rate of about \$1.9 billion annually.

And there are indications that at least some of the funds expended to date have not been used wisely. In some cases, the right kinds of facilities have not been built at the right time or in the right place. In others, instructional buildings have been thrown up without any clear idea of actual amount and type of space needed to meet enrollment and program requirements.

Finally, there is reason to believe that many campus buildings on drawing boards today will be obsolete before they are opened, because they will not be adaptable to inevitable changes in the educational process.

But the picture is not uniformly grim. There are examples of sound planning on new campuses, and of expansion programs for old ones. There are new campus buildings, up or on drawing boards, that make sense both functionally and esthetically in an era of rapid educational change.

What are some of the trends in campus planning and in design of educational buildings? What are the problems and forces behind the trends?

What meaning do these problems and trends have for the architect, both as a planner and as a designer of educational space?

These questions were examined last fall by the AIA Committee on School Buildings and Educational Facilities at a meeting held in the New York offices of Educational Facilities Laboratories.

Papers dealing with various aspects of campus planning and campus architecture were delivered by committee members F. Lamar Kelsey, Gyo Obata, and William Peña. Guest speakers included Charles Gibson, Chief, Bureau of School Planning, California State Department of Education; Alan C. Green, School of Architecture, Rensselaer Polytechnic Institute; Frank G. Lopez AIA, Vice President, Educational Research Services, Inc, John McKeivitt, Chief Planning Officer, University of Michigan; Sam B. Zisman AIA, Planning Consultant, San Antonio, Texas; and Otto Teegen FAIA, Department of Architecture, State University of New York.

Charles M. Nes Jr FAIA, Board corresponding member of CSBEF, and Jonathan King, Secretary and Treasurer of EFL, served as discussion chairman. CSBEF Chairman Alonzo J. Harriman FAIA was Conference chairman.

Tape recordings of the two-day conference, including discussion and questions and answers, produced more than 260 pages of typescript. This article attempts to distill from that mass of material the essence of the conference—to describe, in thumbnail, the forces that are reshaping the American campus, and their meaning for the architect.

Pressures on American higher education and, therefore, on campus design, are not new. Consider for example what has already happened to the University of Michigan.

"Between 1940 and 1960, enrollment went from 12,000 to about 22,000. In that same time, building values went from \$35 million to about \$150 million (book value). We went from six million square feet of building area to about twelve million, and we went from an expenditure of maybe a few hundred thousand dollars in research to about \$25 million and we are now up to about \$36 million in research contracts at any given time. We had probably 4500 to 5000 employees (in 1940); we now have probably closer to 12,000 employees on campus."—JOHN MCKEVITT

But the real upheaval is yet to come. In short, where Michigan nearly doubled its size in twenty years, the entire industry of higher education will have to more than double its output in less than ten years. In doing so, it will be handicapped by faculty shortages and a vast expansion in the amount of knowledge to be imparted to the consumer—the student.

"The crux of the problem is, gentlemen, that, no matter what program a school (or college) is designed against, there is only one thing we can be sure of—it isn't going to be that way in fifteen years. And the way we're building schools, the school is going to be there for 100 years. . . . Your buildings are going to have to serve a lot of whims and foibles and changes of emphasis. So the basic emphasis in any design, in my opinion, is the ability of the physical plant to adjust economically and simply to shifts in space use."—CHARLES GIBSON

The effort to provide that kind of adaptability and, for that matter, simply to provide enough campus space to accommodate the coming flood of students, is hampered by some of the traditions that govern the economic enterprise.

Gyo Obata AIA





Alan C. Green



Frank Lopez AIA

"There are many . . . colleges and universities . . . where you can shoot a cannon down any corridor at three in the afternoon with complete safety. You wouldn't hit even a faculty member, much less a student. Now, three in the afternoon is a little early to be closing up these multimillion dollar plants in terms of their educational usefulness. . . . This is no longer tenable and educators are beginning to find this out."—CHARLES GIBSON

"Well, in doing our research, we found that departmentalizing of colleges has been a tremendously restrictive thing. It causes terribly low utilization of spaces and has been one of the very real problems in creating spaces that really fit the needs of the college."—GYO OBATA

If anything, the problems are equally great when it comes to putting the pieces—buildings, roads, parking lots, etc—together to form the campus.

"College people particularly haven't the faintest idea, in my experience, of what it means to design to the orderly development of a total campus . . . so that, eventually not only do we have a well-integrated plant at any one stage of the design, but the total, when it is finished, will be something that has law and order and function to it."—CHARLES GIBSON

Even when the professional planner has been called in, the ideal campus remains elusive. It is difficult, for example, to determine the optimum size of the campus.

"You just can't go wrong getting enough land. The university is going into many other areas (ie, research, housing) besides just teaching college students. So, it is hard to say what is enough. Actually, within the academic core, if you want a very compact campus, you don't need too much area."—GYO OBATA

And, again, tradition has had its impact on campus layout.

"A great deal of the campus planning up to very recently has always been characterized by looseness of space. You've had by and large the general concept that all campuses are rural (when, in fact, very few really are). . . . It's only in relatively recent years that we've really confronted the problems in urban situations."—SAM ZISMAN

One of these problems is the automobile. A place must be made for it, but it cannot be allowed to run unbridled through the campus, disrupting pedestrian traffic and the academic atmosphere. Take the quandary faced by planners at Ohio State University when they tried to plan parking areas for the campus:

"We found that, if we parked every car we should have a place for, it would take a site of 160 acres, the size of the present campus. It just seemed impossible. We later found that we needed actually more than this, twenty acres, I believe . . . and if we parked them in ramps, it would be like the equivalent square footage of all the buildings on campus, plus another 3½ million square feet—all told, more than 10 million square feet."

—WILLIAM PEÑA

Many campuses that once were rural have become urban in nature as communities grew up around them. This, Gyo Obata pointed out, poses the problem for administrators and planners, of trying to control development of land surrounding the campus. At Southern Illinois University's new campus at Edwardsville, Mr Obata reported, university officials threatened to cancel construction plans unless county or town zoning changes or state legislation gave the administration control over development of surrounding land. Experience of the State University of New York with these problems brought forth the comment:

"There is a definite hazard in putting a college, say of 3000 students, in a small town. I don't think it's good for the town; I don't think it's good for the students . . . and I think the traffic situation, particularly, gets so overpowering that we defeat our own purposes."—OTTO TEEGEN

The upshot has been that some institutions, encountering unsavory or restricting conditions in an urban environment, have picked up and moved.

"We had a case in which we gave them the choice of buying land at high cost or abandoning the campus and starting from scratch. They chose to start from scratch."—WILLIAM PEÑA

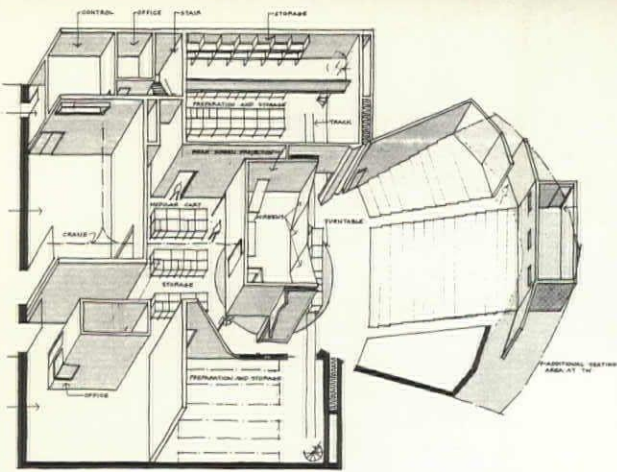
"We've just gotten through a study of this with Skidmore College, which involved studying four institutions that have moved. Most of them had very much the same problems . . . fractured campus, roads through it, bottlenecks, combined with a library half a mile from student housing and this sort of thing."—JONATHAN KING

This plethora of problems has led the colleges and universities to a new acceptance of the importance of planning, both in the development of a campus and in the layout of individual buildings.

"The importance that universities attach to planning is not really because they believe you can predict the future with any degree of authority and confidence, but primarily because they believe that you just have to do what you can to reduce the influence of chance on what happens to you."—JOHN MCKEVITT

The result has been a tendency among planners to develop detailed campus layouts covering only the near future and to sketch out long-range plans in broad strokes rather than specifics.

"I think the word 'tentative' is the key word here. Perhaps instead of showing (future) building locations . . . we should show blocks which simply



The "automated" lecture hall discussed by Alan C. Green on opposite page, showing office and service areas in relation to hall



Zisman—"I have a good deal of sympathy for the business manager who says how are you going to collect the trash. Garbage collection is a very real problem."

indicate that this is an area within which a building should be placed."—F. LAMAR KELSEY

This concept has been translated into an effort to zone the campus into areas earmarked for the expansion of specific functions. One of the more sophisticated applications, that of "strip zoning," was described by William Peña.

This approach provides for the lateral expansion of campus zones—academic, residential, activity, service—as the institution grows so that the various functions do not mingle and clash. But some observers question the whole concept of zoning.

"About the organization of the zoning of the campus into residential and academic and administrative and activity zones: More and more as we work we find that this is just not possible. More and more we find that there has to be a complete meshing of all activities. Otherwise the college tends to become a bunch of separated, departmentalized areas which, frankly, are inefficient in terms of human beings."—FRANK LOPEZ

The conferees stressed that the campus plan had to concern itself with circulation and service

elements as well as buildings. Sam Zisman, in fact, held that these were the pivotal considerations around which decisions about building sites could be made. And there was testimony to the importance of outdoor as well as indoor spaces in creation of an academic environment.

"We are interested in spaces . . . the types of spaces we are creating between buildings. . . . If the architect is conscious of the space surrounding the building, how it fits in with its neighbors, this is fine. If he isn't, how can you plan?"—WILLIAM PEÑA

And, perhaps most important, there was the realization that a campus plan is worthless unless it is implemented.

"This (planning) study isn't worth the paper it's written on unless it is to be continually pulled off the shelf, re-evaluated, and used whenever the selection of a building site is proposed. It must be continually updated. . . . It simply isn't any good if it isn't."—F. LAMAR KELSEY

Trends in design of campus buildings themselves reflect the ferment in educational technology and methodology that is being felt on the campus.



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"The university is a very dynamic place. . . . (We must) see if we can develop a university without a specific program; design spaces based on function rather than on the usual departmental setup."

—GYO OBATA

One of these functional spaces is the new lecture hall which is more than a space for mass lectures. It is designed and wired to place at the professor's disposal the full range of new teaching media; television, rear or front screen projection of film and slides, audio tapes, overhead projectors, and other new teaching devices.

Some of the new lecture halls are so thoroughly "automated" that the instructor need not be present. The lecture is tape-recorded and keyed to automatically control the visual presentation. This new lecture hall is a "neutral" space, belonging to no one academic department and adaptable for use by all of them. It involves some new design problems:

"An optimum viewing area, defined by the various images to be viewed, determines the most effective room shape. That is why we begin to get into some of these odd-shaped rooms. . . . The old classroom will no longer do; we've got to deal with a new space type and it has very definite design criteria. Stepped or sloped floors will provide the best viewing conditions. Windows are a liability rather than an asset. . . . Any natural light is hard to control and natural light washes out images.

"In terms of this windowlessness, all learning spaces should be airconditioned.

"The mechanical structure, acoustical and lighting elements must be considered together as coordinated systems. . . . Aids and media should be considered with instructional methods as integrated systems rather than simply (as) pieces of equipment to be included in the spaces.

"Whenever feasible, projection equipment should be centrally located in a projection area or production center and all equipment should be remotely controlled by the instructor."—ALAN C. GREEN

The new lecture hall, Mr Green added, will not replace all other types of instructional facilities.

"This isn't a seminar type of room and it doesn't work very well for a lot of interaction. . . . It is basically an exposition room where (the instructor) uses these various aids to complement or supplement his presentation."

For that matter, there apparently is no such thing as a universal space to accommodate all instructional functions on the campus.

"I think we have got to be very clear that, as we are trying to reach for flexibility, we are not trying to reach for flexibility of a space or facility that takes care of all functions."—SAM ZISMAN

The lecture hall, however, does offer a solution to some of the problems in providing space for science instruction. It can, for example, be equipped with a revolving stage that permits behind-the-scenes setup of demonstrations while other lectures are in progress. Setup time need not cut into teaching time or prevent continuous use of the hall. Closed-circuit television can provide a close-up view for every student watching the demonstration.



Teegen—"We can condemn or politely appropriate properties that are needed. But it's another thing to get possession . . . you can't throw people out of their homes."

Kelsey—"Tank-type toilets in the girls' dormitories? Well, the girls keep beer in the tank, and the Dean of Women says 'Damn!'"

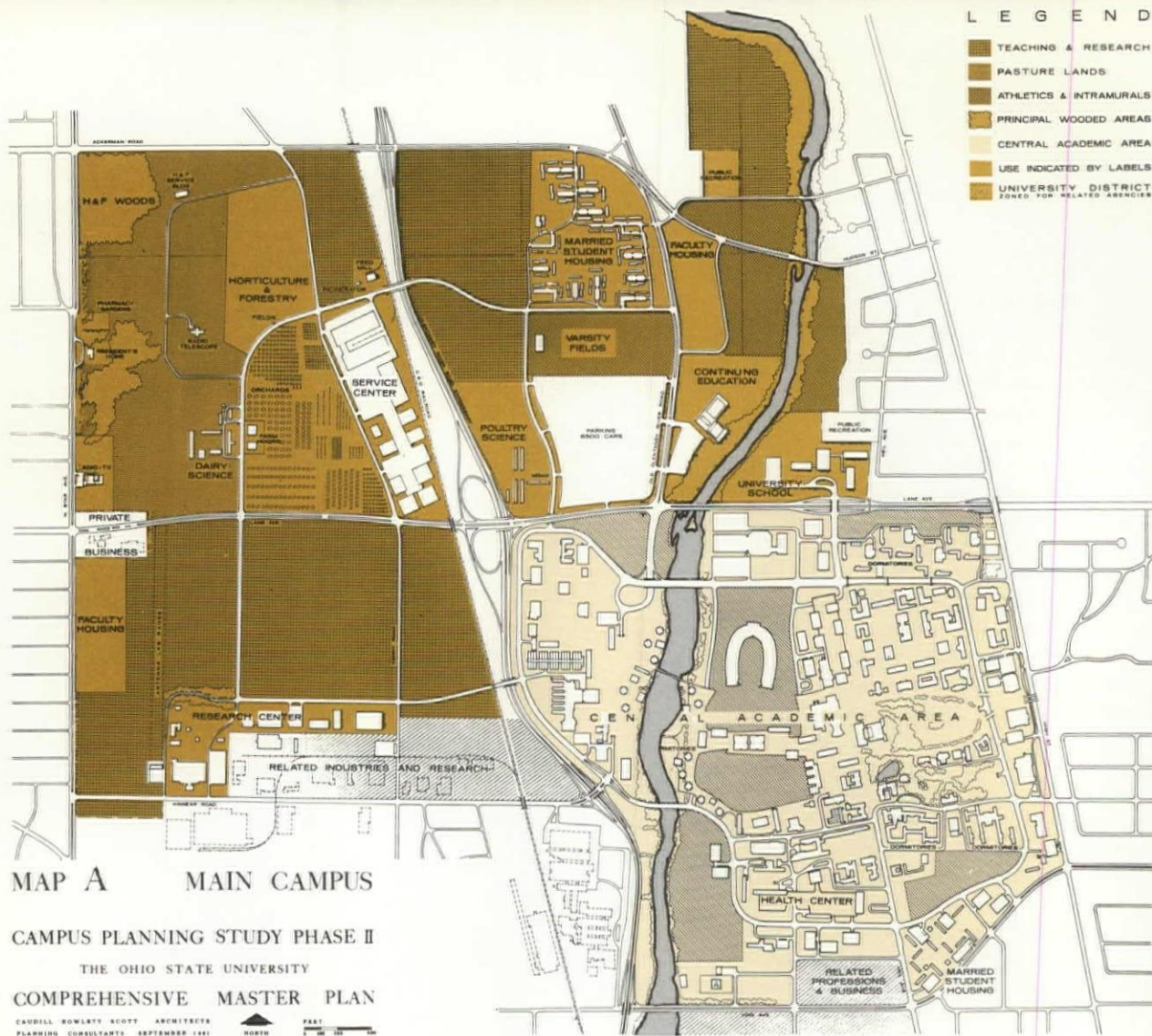


Another problem, that of low utilization of science laboratory facilities, has been tackled by attempting to design laboratories and laboratory buildings that can be used by all of the scientific disciplines. One of the more interesting efforts in this direction, undertaken at the new Southern Illinois University campus in Edwardsville, was described by Gyo Obata. It involves a system of movable laboratory components that can be "plugged in" to the utility system in different combinations to provide space for geology or botany or physics or chemistry or any of the new interdisciplinary sciences.

Even with development of these new, uncommitted or neutral spaces, designated by their function rather than departmental "ownership," the determination of how much space is needed to accommodate a given enrollment under a given academic program is a thorny problem. But there appears to be some promise in a new space allocation system developed by the California State Department of Education.

Lopez (right, with Charles M Nes Jr FAIA)—"The married students—and their children! How are you going to provide schooling for the children close to the academic complex? How do you provide shops and stores? Recreational facilities for adults who aren't in college?"





Master-plan for Ohio State University developed by Caudill, Rowlett & Scott. Olentangy River becomes symbol for the OSU campus; teaching and research facilities and dormitories are located on both sides of the river. For academic efficiency, most basic disciplines are located in heart of the Central Academic Area, with applied disciplines usually peripheral

The system, called "Space Adequacy Survey, College," makes it possible to translate space requests of various academic departments into an effective estimate of the total amount of space needed.

"The traditional procedure of estimating college plant needs was not well suited to preparation of a campus master plan. Consequently, college campuses grew like Topsy, without a clear idea as to maximum reasonable enrollment for the campus. . . . The space adequacy procedure makes it easy to determine the instructional plant needs for a maximum enrollment for a given educational program. And the device also makes it easy to back down from the maximum in an orderly and accurate manner to any interim enrollment. . . . Wherever the space adequacy survey has been used in a major program of plant development on a college site, both college authorities and the architect have loudly acclaimed this substantial saving in the amount of building area used for instructional purposes."—CHARLES GIBSON (quoted from "Space Adequacy Survey, College")

Colleges' headaches are not limited to instructional facilities, nor are the trends. Prime example: the dormitory.

"I think there should be some real caution about the extent to which institutions move into the housing business in the first place."—JOHN MCKEVITT

Many administrators and educators share Mr McKevitt's concern over the prospect of housing the millions of additional students expected to flood the campuses during this decade. Most have found that their existing dormitories are not, as advertised, self-supporting installations. And many are appalled by a relatively recent complication:

"The increasing demand for a college degree—for an advanced degree, means a greater number of graduate students and, necessarily, a greater proportion of married students. The married student problem is getting larger and larger and larger. The cost of providing housing for married students (is) three, four, five times the cost of providing housing for single students. How can an educational institution saddle itself with that?"—FRANK LOPEZ

Nevertheless, most of the colleges are building new student residences and a few have faced up to the fact that the student residence, long an intellectually sterile "nocturnal filing cabinet" for students,

ought to be integrated into the academic life of the campus.

"College housing directors resist very strongly, by and large, the integration of learning and living, which should go on, certainly, in college housing. . . . (The administrator) wants something he can administer in the fashion of the early jails that were used for dormitories. . . .

(But) we have gotten schemes in which there are six, eight or ten bedrooms opening from a central study area, with almost no corridor space. Corridor space has become a useful study area. At the same time, this (creates) small groups which are much more satisfactory socially, much less likely to commit vandalism, take much more pride in their quarters. . . ."—FRANK LOPEZ

The architect clearly will play an important role in the frantic, jigsaw-puzzle process of making the American campus big enough and functional enough to meet the challenges of the next decade. But where does that role begin and end?

There seems to be agreement that the architect should have no part in educational programming. Where institutions have fallen down in their programming decisions and statements, undue burdens have been placed on the architect and often, unsatisfactory results have been obtained.

The California "Space Adequacy Survey," developed to help overcome this problem, is not intended for use by the architect or even the architect/planner, but by programming experts from the State Department of Education.

By the same token, no one disagreed that the architect was the man to design individual buildings on the campus.

But there apparently is wide disagreement over the architect's role in the rest of the planning process. Here, for example, the viewpoint of an administrator about the type of person needed to create or review a campus plan:

"We chose land planners (landscape architects), not architects. We decided that what we wanted was a more comprehensive approach—a sense of topography, of land uses, of community relationships, and elements of this kind, because we really weren't looking for an architectural measure here. . . .

"We're really not after a close prescription of the future. We're after a capacity to accommodate the future. That is why we say that, if we take a very broad concept, we're inclined perhaps to use the non-architect to make these decisions. Because let me make a very bold and perhaps offensive statement: I do believe that architects have a trained, if not native, incapacity to see a campus development other than in terms of structures. . . . In planning, the real objective is to prepare your slate in such a way that an architect fifteen years from now can make the right decision."—JOHN MCKEVITT

Mr McKevitt's pronouncement did not go unchallenged.

"I disagree with you completely that the archi-

Peña—"We need a symbol, and the river is a symbol in so many colleges and universities. Let's put buildings on both sides—this is the river concept."



tect is not capable of master planning the total environment. I think architects are among the few people in the world who have a concept of space and volume, which after all is the real guts of any environment."—GYO OBATA

"I think that most of us have the concept of the architect as the designer and coordinator of the whole construction effort. . . . We cannot dissociate inside envelope planning from outside relationships. Master planning . . . cannot be dissociated from the development of details of the final solution."—DAVID PIERCE (CSBEF member)

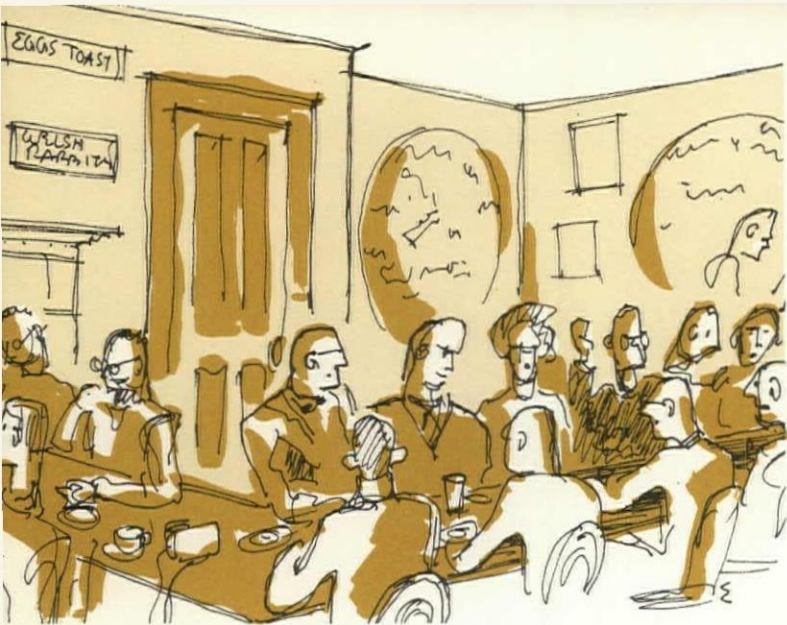
Mr McKevitt replied that he did not rule out the architect as a planner, but added:

"I am simply trying to free the architect a little bit from what I think are 200-year commitments, where he is asked to make a fifty-year commitment."

The concern that the architect was becoming involved in areas that were not his province was shared by other non-architects among the conferees.

"We feel, in our experience, that the architectural profession is becoming so diluted in many of its aspects in terms of the things they should be concerning themselves with, that continual adding of further responsibilities to be handled by the architect and, incidentally, out of his fee structure (is undesirable). . . . We also wanted to limit the service, so that architects are studying the problem of design, of structure and of enclosure and the amenities of space. 'What does this have to do with not only just housing the program, but making this institution something that is attractive, functional, and workable, the kind of a place where students go, and teachers go and they can work . . . on a round-the-clock, round-the-year basis?' And we think that's enough for one profession."—CHARLES GIBSON

How're we doing? There was a conscious effort on the part of the architects at the conference to analyze and criticize effectiveness of the architect in college and university design. Among other things, this self-criticism produced the consensus that the architect ought to exercise more self-restraint in building design and choice of materials.



"We have suggested that some restraint be used in design of future buildings and that there be a continuing use of original materials. . . . The feeling of creating, as I'm sure you've seen on many campuses, what I like to call an architectural museum, is to me somewhat distasteful."—F. LAMAR KELSEY

But one voice was raised in disagreement.

"Buildings serve functions, serve different purposes, express different times, different people. And it seems to me the campus is the place to start arguments. Otherwise, what is education? And, if different buildings start arguments, fine—excellent! If you're dissatisfied with what's gone on before, excellent! That's educational advance. I see nothing wrong in competition between buildings."—FRANK LOPEZ

And there were other complaints.

"I think the trouble in modern architecture . . . is the fact that too many arbitrary decisions are made by the architect and that he doesn't have the research and knowledge of the client to back him up."—GYO OBATA

That viewpoint was shared by the non-architects, when asked by Alonzo Harriman to voice their complaints about architects and architecture.

"I see no occupational flaw or shortcoming which is universal among architects. The number of geniuses among architects is probably not very much higher than it is among other professional groups. And yet the very nature of the task . . . to prescribe the future, really calls, I think, for a very high intellectual level of organization of concepts, of ideas into an expression in concrete terms.

"In the process of striving toward that decision, the architect very frequently gets captured by his imagination and . . . he loses the client and the client's problem a little bit. This temptation, I think, must be the profession's burden."—JOHN MCKEVITT

"There's too much hard-pencil design going on, and too many people selling their ideas rather than listening first and developing something out of a problem. There's too much aping of the literature—the prizewinning schools are turning up in places where they have no relationship at all. They're building schools in the desert that were designed for the mountains . . . just because they've turned up in *Record, Forum or Progressive Architecture*.

"Contrariwise, however, there'd be very few schools now up and occupied in our state if the architect hadn't taken the ball and done something with very meager information."—CHARLES GIBSON

Bibliography: Educational Facilities Laboratories, Inc, has published a series of reports dealing with problems raised at the conference. They may be obtained by writing to EFL at 477 Madison Ave, New York 22. Among them are:

"The Things of Education," a report on EFL's activities.

"College Students Live Here," a study of college housing. A review of the factors involved in planning and building dormitories and other types of college housing

"To Build or Not to Build," a report on utilization and planning of instructional facilities in small colleges

Case studies of educational facilities, a series of reports which provide information on specific solutions to problems in school planning, design, and construction:

- "Conventional Gym vs Geodesic Field House," West Bethesda High School, Md

- "Space and Dollars: an Urban University Expands," a report on economic physical expansion of urban universities based on a case study of the Drexel Institute of Technology

- "New Campuses for Old: a Case-study of Four Colleges That Moved," prepared by S. B. Zisman and Catherine Powell

- "A Divisible Auditorium," Boulder City High School, Boulder City, Nevada

EFL College Newsletter—for college administrators, to keep them up to date on studies of physical facilities for higher education being pursued by EFL.

Other pertinent reports, published as part of EFL-sponsored projects, include:

- "New Spaces for Learning," a report on the designing of college facilities to utilize instructional aids and media. School of Architecture, Rensselaer Polytechnic Institute

- "A Faculty Office Study: Design and Evaluation," report prepared by the Division of Academic Research and Services and the Department of Physical Plant Planning, Pennsylvania State University

University Facilities Research Center monographs, a series of reports aimed at aiding college and university planners, architects, and engineers in design and execution of new facilities:

- "Plumbing Fixture Requirements in University Instructional and Research Buildings"

- "Horizontal and Vertical Circulation in University Instructional and Research Buildings"

- "Parking Problems for Universities"

- "University Research Buildings for Short-term Grant Programs"

- "Lift-Shape Construction," a research report on a new building construction technique. Texas Engineering Experiment Station, College Station, Texas ◀



URBAN DESIGN:

THE ARCHITECTURE OF TOWNS AND CITIES

FOURTH IN A SERIES OF ARTICLES

THE PRACTICE OF URBAN DESIGN:

Some Basic Principles

The first two articles in this Urban Design series were brief histories of the art. "Historic Precedents of Urban Design" (Dec 1962 *AIA Journal*), traced the development of urban design from ancient to modern times, that is, to the beginning of the industrial era. This was followed by "The Roots and Modern Concepts of Urban Design" (Feb 1962 *AIA Journal*), in which the further development of urban design history, through to the present day, was presented. The double purpose of these historical reviews was to trace the sources of current knowledge and practices and to give encouragement and counsel in facing the great task which confronts our profession today.

From the perspective of history, the series turned to the contemporary scene with "The Practice of Urban Design: Guide Lines for the Visual Survey" (April 1963 *AIA Journal*). The article began to offer practical methods of work in the practice of urban design, outlining a technique for making a visual survey of a city or town with its surrounding natural landscape. This technique calls for carefully noting the assets, liabilities and potentials of an urban environment, the prelude to creative urban design.

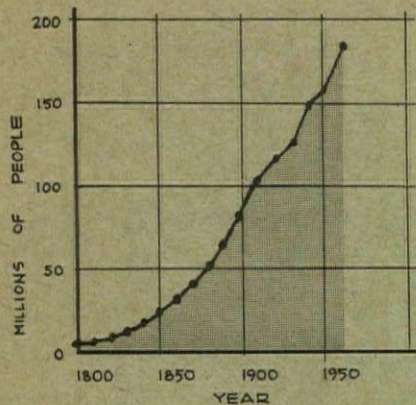
Now this, the fourth article of the series, presents the next logical step: the fundamentals of urban design. These are the design considerations and basic knowledge essential to work on a large scale.

While this *Journal* series intends to furnish practical information, in no way is it offered as dogma. Rather, its ideas are presented as a beginning and with the hope that they will stimulate critical interest and creative response. The *Journal* and the Urban Design Committee, therefore, welcome the readers' suggestions and comments.

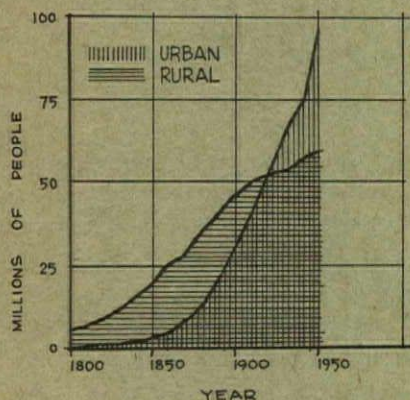
The advisor for this article was Vernon DeMars AIA, of San Francisco, a distinguished architect and eminent educator. Joseph Watterson FAIA, edited the paper. The author and illustrator is Paul D. Spreiregen, Project Head of the Urban Design Program.

CHARLES A. BLESSING FAIA, AIP, *Chairman, Urban Design Committee*

Urban Design Committee: Charles A. Blessing, Chairman; Robert L. Geddes, Donald H. Lutes, Harry M. Weese FAIA
Arch R. Winter; Corresponding Members—Edmund N. Bacon, Frederick Bigger FAIA, Kenneth W. Brooks
Carl Feiss FAIA, Albert Mayer FAIA, Daniel D. Perry, Archibald C. Rogers, Nicholas Satterlee, Dewey A. Somdal FAIA



Population of the United States: 1800-1960



Urban and rural population of the United States: 1800-1950



The purpose of urban design is to make the extent of the city comprehensible . . .

THE PRACTICE OF URBAN DESIGN:

Some Basic Principles

Urban Design: Problems and Purposes

Urban design is undoubtedly the most ambitious of the design arts. It is an enormous undertaking to design large areas of the city, let alone the whole of it. It is even more difficult to redesign them. So many people are involved, so much time is required to get things done, and tastes, ideas and conditions change. And who can say what cities should be? We know that we have them and will continue to have them, and that they will always have great problems. We know, too, that our cities will become even larger, and that there will be even more people to accommodate.

Opinion varies greatly as to what urban design comprises. Some architects believe that it involves the parts of the city, groups of buildings designed at a single time under a single program; some, that urban design should include the entire city in a detailed physical plan which would specify the placement of every element; others still, that it is a general idea or skeletal structure which arranges all the parts of the city, at the same time allowing for parts which are not yet specific or tangible.

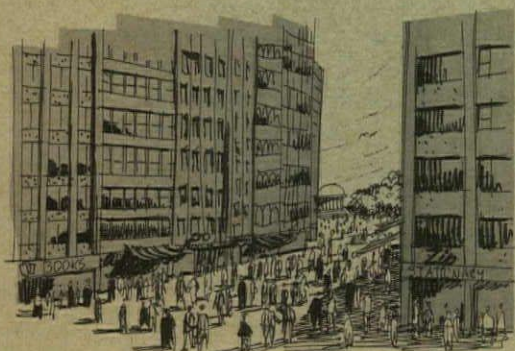
Urban design can be all these things, most certainly, and more. Because the problem is so vast, as vast and complex as life itself, we should not attempt to harness urban design to any narrow definition or scope; but should keep it open to new ideas and concepts. The above ideas are all excellent starting points for creative thought and action, but should not be regarded as final or rigid boundaries.

The historical articles which initiated this series reviewed the many and diverse circumstances in which urban design has been practiced and showed that it sometimes embraced the design of whole cities. There were great accomplishments in the creation of new cities which were usually small, but more akin to our own problems were the successes in the rebuilding of very large existing cities.

In confronting so vast a problem we do well to pause and ask ourselves what difficulties will confront us.

First of all, how can towns and cities, as very large objects of design, be embraced by a design idea? Our own history, spotted with examples of urban design accomplishments, lacks a continuous tradition. As quickly as we have found a useful technique for attacking one problem, new problems appear.

In the face of our urban problems, and because we love nature, we have often sought to make cities as unlike cities as we



. . . to make the city humane . . .

can, to replace urban ugliness with soft verdure. So often we call for more "open space" in our cities when we are really thinking of greenery and the absence of city as a substitute for truly urbane elements which we cannot quite create. We have to admit to a rather anti-urban bias. We are further hampered by a lack of sufficient local examples of good urban design to stir us on.

We do not have extensive central control in the arrangement of our cities, for we prize individuality. Yet we do make laws to protect ourselves only to find that while they check the unscrupulous, they also restrict the imaginative. Our lack of joint action is quite remarkable in view of our other areas of teamwork. Frequently when urban problems become severe we end up with solutions that jeopardize the parts of the city that we seek to protect.

Our lack of urban design know-how has led us to separate buildings and parts of the city that belong together. Too often have we isolated the monumental from the everyday parts of the city, when their alliance would be so much more preferable. We have so broad a building technology that it is difficult to achieve harmony between buildings. The architect of one building finds it frustrating to care about neighboring buildings, since they are often very poor and will probably be replaced. Thus we often find examples of architectural exhibitionism. We are impatient with the long time it takes to get results, failing to recognize that we cannot correct problems overnight that have resulted from years of neglect.

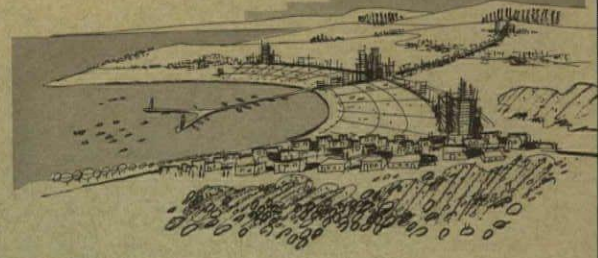
More than ever, we must recognize that there are inviolate forces at work in the city which we cannot counter. The city forces itself to be what it wants to be despite us, and anything we do in opposition to the forces of circulation or changing values is liable to be consumed in the path of "the things that want to be," as Louis Kahn describes them. We can choose, each one of us, to be either pessimistic or positive about these problems. The history of urban design tells us that we can be positive. The future of our cities tells us that it is our professional obligation.

What, then, do we try to accomplish in the design of cities? What are our objectives? Basically, we try to arrange the form of a city so that it can support the diversity that its inhabitants create, in ways that suit our culture. We search for urban forms in which a great, almost infinite, variety of parts can thrive, accessible to all. We seek to manage the form of the city so that its great size is comprehensible and livable. We seek to introduce nature here and there as a complement and a foil, and to preserve fine old places while we build new ones. We seek to complement the monumental with the mundane, giving life to one and nobility to the other. We seek to link key centers and areas in a web of the city.

In short, we seek to arrange the city so that it can harbor the greatest diversity of parts we can imagine, in a form that suits us and that we can comprehend.

All the forms of mechanical transit have profoundly affected major aspects of the structure of the city as well as adding another dimension to experiencing the city; but once we step out of or off of our mechanical aids to movement, our basic needs are the same as men of any age. For through the ages the physiology of man has changed little; modern man is approximately the same size and has the same abilities as Medieval or Hellenic man. Our basic needs in cities are thus the same as those of men of any age, whatever varying forms their cities took.

In this constancy lie the principles of urban design.



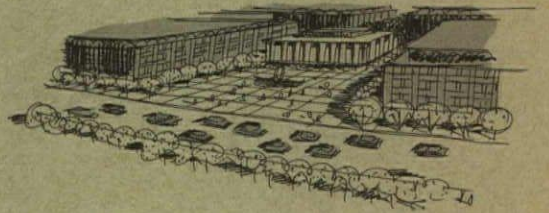
... to relate urban forms to natural settings ...



... to complement the monumental with the mundane ...

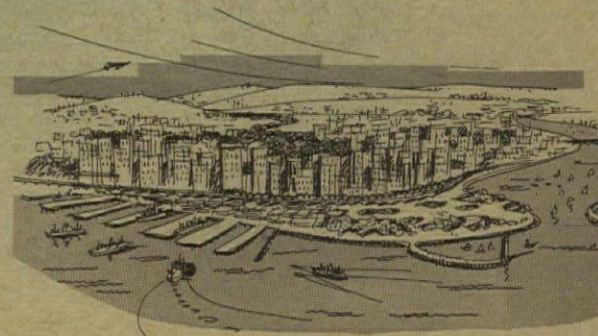


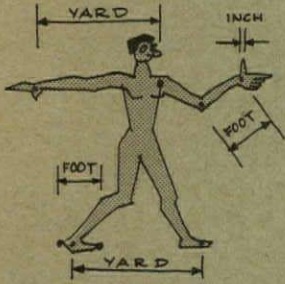
... to complement the urbane with nature ...



... to create key focal sites ...

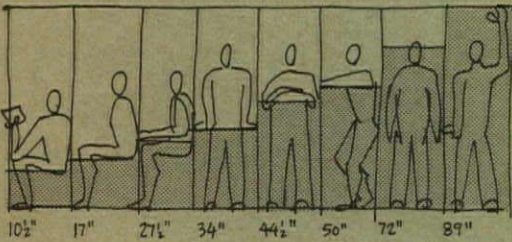
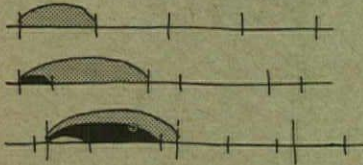
... and to make
the city a harbor of diversity





The human body is the basis of the English system of measurement

A module is a system of relative proportions, possibly incorporating harmonic refinement

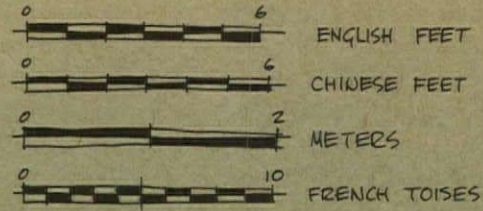


Le Corbusier's Modulor made man the basis in a system of measurement and harmonic proportion combined



Scale in architecture is a quality that relates buildings to our human abilities of comprehension and keeps their component parts in the same context

Scale in urban design is a quality that relates cities to our human abilities of comprehension and keeps their component parts in the same context



A scale is any convenient system of measurement

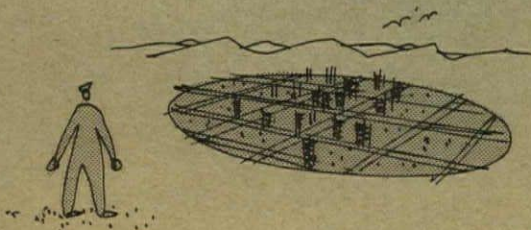
Scale in Urban Design

A scale is any system of measurement convenient to us and whatever it is we are measuring. For example, a quart or a liter is an amount of liquid which we can lift with an outstretched arm across a dinner table. An acre developed as the amount of land a man could till in one day. Inches, feet and yards—the English system—started as a convenient method for measuring length. In effect, everyone carried his own ruler around with him. The thumb measured an inch, the forearm, a foot, and a pace measured a yard. The English system was originally quite suited to buildings. Not only did it match the measurements of the human body, it suited the objects being measured as well. The details of buildings could be conveniently measured in inches, the sizes of rooms in feet, and the sizes of outdoor spaces in yards.

Another aspect of measurement is relative proportion or “module.” The full extent of a building or a city whose design is based on a module consists of elements occurring at regular intervals. This allows us to imagine the parts which we cannot see. A few readily visible elements, such as towers at key terminations and major points, tell us where things begin or end, and where important hubs are. A module may or may not be related to human dimensions. Gothic architects, like ancient Greek architects, used modules based largely on human dimensions. Renaissance architects used modules which were sometimes related to human dimensions and sometimes based on abstract proportions alone.

In design there is an additional way of measuring which is not as absolute or as simple as inches, feet and yards. It is a matter of keeping things in context with each other and with people. In architecture we call this “scale” and by that we mean that buildings and their components are related harmoniously to each other and appropriately to human beings. In urban design we also use the term “scale” and we mean that a city and its parts are in the same context and also related to people and their abilities to comprehend their surroundings—to feel “in place” in the environment. Architectural and urban scale, in this context, cannot be defined in specific linear measurements; we can, however, refer to several particular dimensions which pervade the sense of scale.

In our period of architecture and urban design there has been one system of measurement which has united both scale and module. That is Le Corbusier's “Modulor,” a remarkable system which is not too widely used for many reasons of habit and established building practices. The Modulor made man the measure in a system of rhythmic harmony and elegant proportion and could be applied to a building as well as a city.



The sizes of buildings and cities cannot be limited by human physical capabilities, but they must be tempered by human capabilities for comprehension. The largest buildings and cities can be made to feel appropriate if we instill an impression of human purpose in their inanimate forms. We can also employ the principles of scale to create different impressions of size and importance in a building or in a city scene, creating a sense of grandeur in a tiny plaza or a sense of intimacy in a large square. The range of scale effects extends from intimate scale to our world of normal human scale, and on to a world of monumental scale. Intimate scale is child-like and protective while monumental scale can create two effects: one, ennobling, lifting us above our normal selves to a world of spiritual feeling; the other, overpowering, oppressing and overwhelming us with crushing grandeur.¹

Where, precisely, do these feelings stem from, and how, exactly, can we manipulate them? We can begin by understanding the sources of scale in ourselves.

Scale and Human Vision

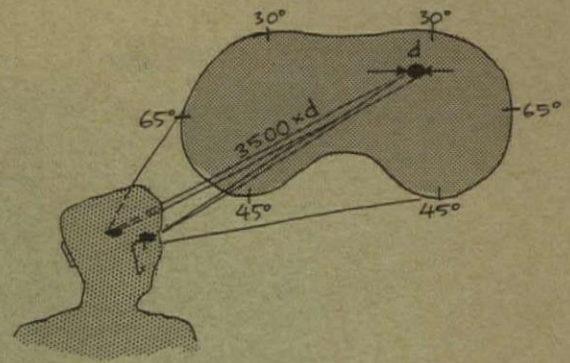
Our two eyes have a general field of view and a detailed field of view: the former sees general shapes; the latter, details of objects. The general field of view has an irregular conical shape, measuring about 30° up, 45° down and 65° to each side. The shape of our faces establishes these limits. Our detailed field of vision is a very narrow cone within this larger cone. It measures a very minute angle, approximately equal to a dime or thumbnail held at arm's length. Because our eyeballs have overlapping cones of view horizontally, we can "see around" verticals placed in our view. An important limitation of our vision is that we cannot see an object which is further from us than about 3500 times its size.²

How does this determine urban scale? A person who stands three to ten feet from us is in "close" relationship to us, eight feet being normal conversation distance. In this range we can speak in normal voices and catch the subtleties of speech and facial gesture which constitute conversation. We can distinguish facial expression up to about forty feet. A great actor, it has been said, can "project" himself through facial expression alone up to about seventy-five feet. Beyond this distance facial expression must be complemented by body gesture, as in grand opera. We can recognize a friend's face up to about eighty feet. We can discern body gesture up to about 450 feet. This is the maximum distance at which we can distinguish a man from a woman, or can tell whether someone is hailing a cab, selling newspapers or catching a flyball. It is also the maximum acceptable viewing distance in athletic stadiums. The dimensions of such places and many of the details of stadium sports are determined by this fact. Finally, we can see people up to 4000 feet, beyond which they are too small to see at all.

What is the connection between these distances and urban design? It is this: The "intimate" spaces of a city are usually not much greater than eighty feet across; the "urbane" space, no greater than about 450 feet. In monumental vistas greater than 400 feet human beings cease to play a part. Of course, there are instances where these rules are broken, but not without a purposeful design

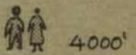
¹ For a more detailed treatise on the subject of scale see Hans Blumenfeld, "Scale in Civic Design," *Town Planning Review*, April 1953

² "Human Engineering Guide for Equipment Designers," Wesley E. Woodson, University of California Press, 1954



Our general and detailed fields of vision

Maximum distance for seeing people



4000'

Maximum distance for discerning action



450'

Maximum distance for recognizing a face



80'



40'

Maximum distance for discerning facial expression

10'

Range of conversational distance



3'

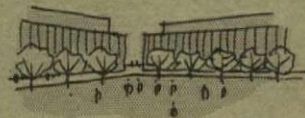
Observer



Intimate scale



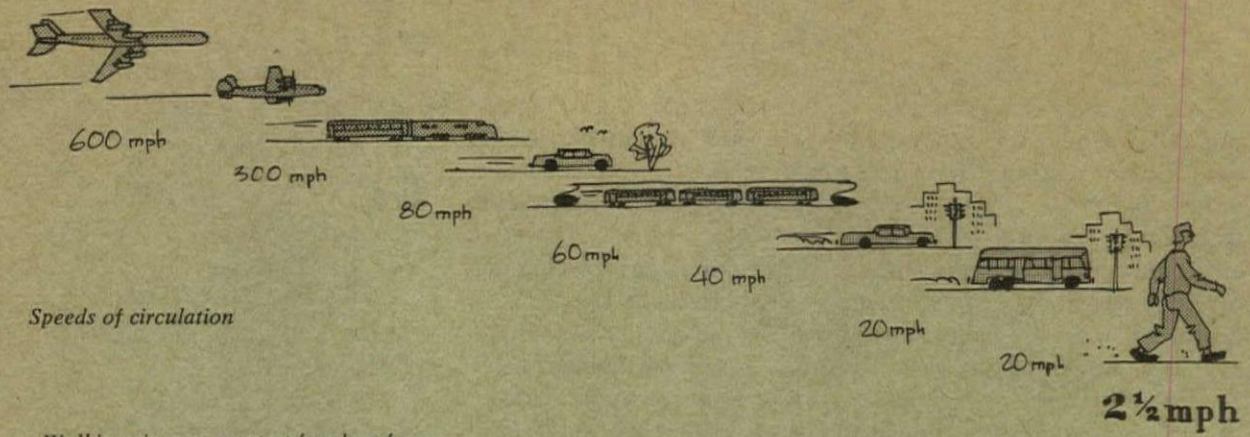
Urbane scale



Urbane scale

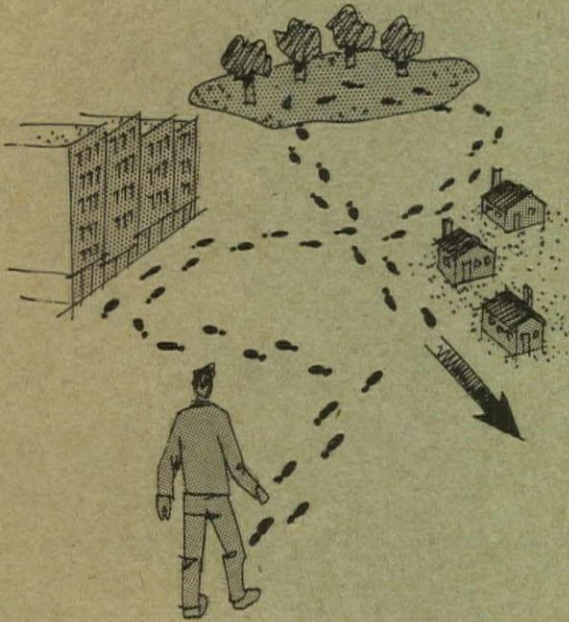
Monumental scale



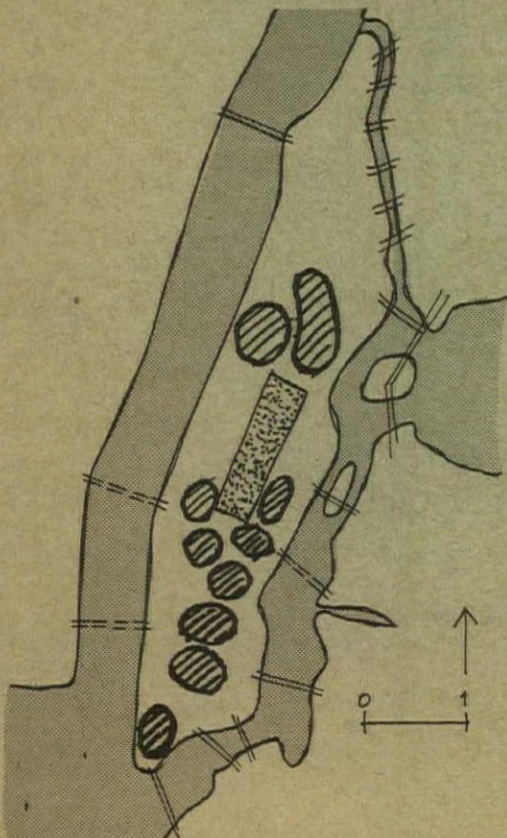


Speeds of circulation

Walking gives us greatest freedom for intimate contact



Many of the enclaves of Manhattan are within pedestrian scale



intention and the addition of key design elements that make these instances plausible to produce a unique effect.

Scale and Circulation

Urban scale is also determined by the various ways we move around in our cities and, to an extent, the way we move between them across the country. We are well-described as a nation on wheels, always on the go. No nation uses as many different kinds of machines for moving as we do.

We can fly across the entire country now in four hours; soon we will be able to go to the moon. Our zest for long-distance travel is more than matched by our need for intercity travel. We insist on maximum accessibility everywhere. Ironically, as much as we perfect travel vehicles, as much as distances melt before us, the short distances in the city become increasingly troublesome. Most of our cities cannot accommodate high-speed vehicles without considerable adjustments, often drastic.

We have been able to expand the scale of travel vastly where we are free, as in the air or in the open countryside, but only to a limited extent where we are bound, as in the city. Still, the scale of the city, as determined by accessibility, has expanded tremendously. At one time determined by horsecars, then by streetcars (which allowed us to have our first modern suburbs), the scale of accessibility in modern cities is now greater than ever before—and so is congestion. In our struggle with traffic congestion we have been considering every possible means of travel. We have experimented with helicopters to find that they are of limited use; we plan more subways (rail rapid transit as they are properly called) because they remain one of the best means of mass transit, but we are often unable to build them; we are fascinated by the idea of monorails, the old elevated railway in streamlined form; moving sidewalks have already lost their recent vogue—they were first used extensively in a Paris World's Fair around the turn of the century; and shuttle buses may prove to be useful for short trips in the central city—they are up-to-date jitney cabs.

All these modes help determine the movement or circulation scale of the city, that is, the extent of the city which is readily accessible to us. But there is one very basic and ancient mode of transport which is too often disregarded; it still remains one of the best systems and one of the essential determinants of urban scale—our own legs.

As we walk around, we are completely free to stop, turn around, go faster or slower, go to the left or right, or change our pace—in short, to enjoy the greatest freedom of choice and degree of contact with the people and places we are passing by. Every mechanical device for moving has limitations on such contact. Foot travel has the least. Mechanical devices can extend the

scale of accessibility, but the maximum contact with place so essential to every human settlement is determined once again by walking.³

The major limitations on walking scale are distance and speed; most people in performing their routine tasks are willing to walk only about a half-mile, and walking speed averages only about 2½ miles an hour. This scale determines the size of major groupings or hubs in a city. The central shopping areas are only as extensive as this walking scale allows, although they may also function as linked centers. The Wall Street area of New York, Disneyland or Farmers' Market in Los Angeles (the world's most auto-oriented city), large airport terminals and suburban shopping centers all are subject to this basic fact of urban scale.

Scale and Parameters

Another essential element of urban scale is the familiar objects whose size we have become accustomed to. A building or a monument which we know very well, cars, trees, people in the distance, light poles, windows, an archway, a bridge—all these are objects whose sizes we refer to when we judge the sizes of things near them. They may be conveniently termed "parameters," objects whose familiar size furnishes a scale for the objects near them.

Scale: Time, Convenience, Age and Habit

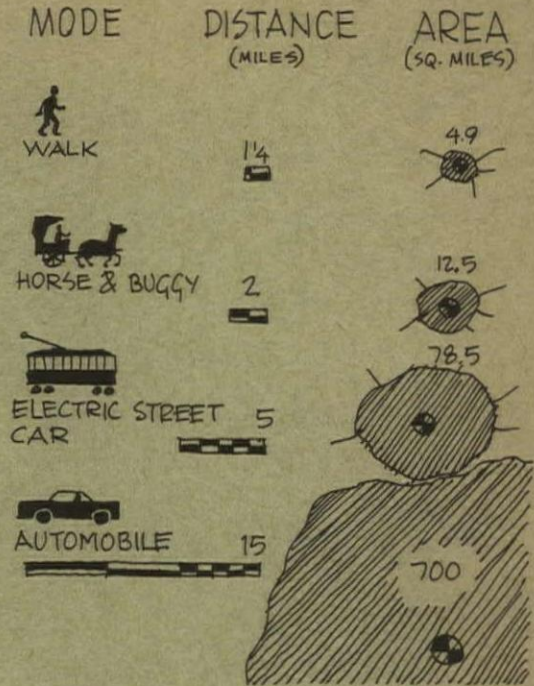
Our sense of time and convenience is also a determinant of urban scale. We are constantly measuring the distance to a place by how long it takes to get there and how convenient the trip would be. We are reluctant to go to places that are difficult to reach.

Our sense of urban scale varies according to our ages and habits. The world of a child is his home, yard, the houses and yards of his playmates, his school and, somewhere off in the world beyond, daddy's office and grandma's house. As a child grows his world enlarges and the separate parts are linked together. In their years of young adulthood, people venture out to explore new things, new places and new people, and thus the scale of their world enlarges. In the years of early parenthood, it very likely contracts to a world of home, work, friends and recreation. In the years of fuller maturity, activities are tempered by more sophisticated choice.

Our sense of urban scale also varies according to what we are accustomed to. New York is at first quite awesome for most people, but in time they become accustomed to it. People are quite adaptable, and urban scale is as much a matter of detailed treatment of the city as it is a matter of its over-all size.

So now let us see how these aspects of urban scale can be applied to the design of cities.

³ See "The Pedestrian, Downtown and the Planner," R. L. Morris and S. B. Zisman, *AIP Journal*, August 1962, and "The Heart of the City" by Tyrwhitt, Sert and Rogers, New York: Pellegrini & Cudahy, 1952.



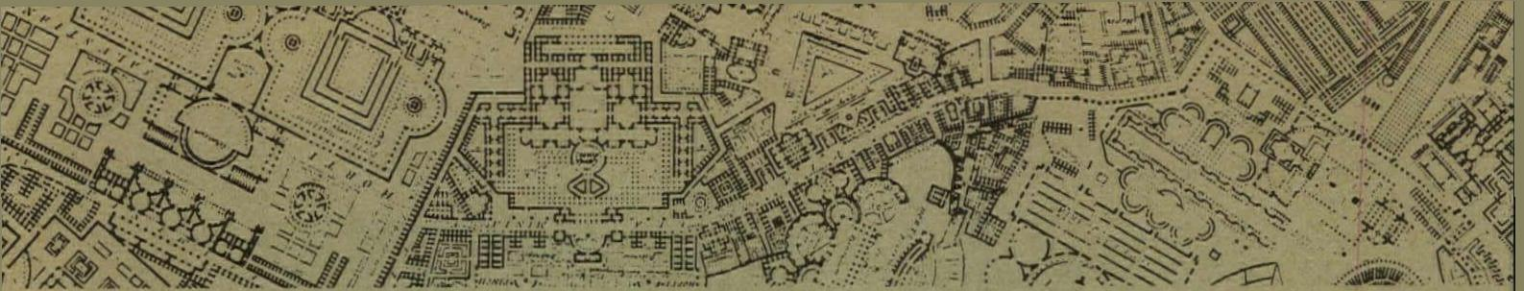
Thirty-minute travel distances and city area traversable



The sizes of familiar objects—people and cars—give a sense of scale

Scale is tempered by age and habit





Piranesi's Campus Martius

A Basic Palette for Urban Design

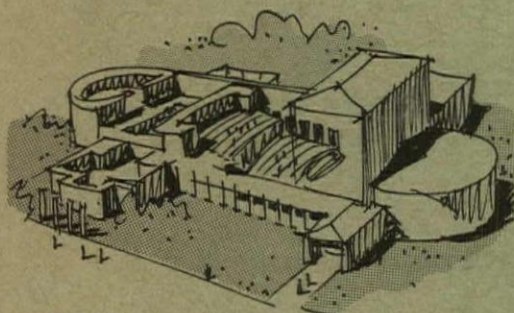
The process of architectural design is a great and wonderful struggle for a creative architect. One part of that process stands out with a special magic, as a moment of truth. That is the process of discovering a design concept, the basic core of an idea upon which the whole design centers and which will be tested as the details of the design are developed. This process is one of elimination and abstraction. We study the whole problem, eliminate the nonessentials and reach through to grasp the heart of the matter.

We all have our special ways of doing this. For some it is relatively easy; for others, quite difficult. Some problems are readily solved, others may be almost painful. But there is one thing that we all share in common as we work: a basic palette of architectural elements which we employ to express our ideas. This palette consists of architectural *space*, *mass* and the essential *activities* which they house; with these three elements we form building designs.

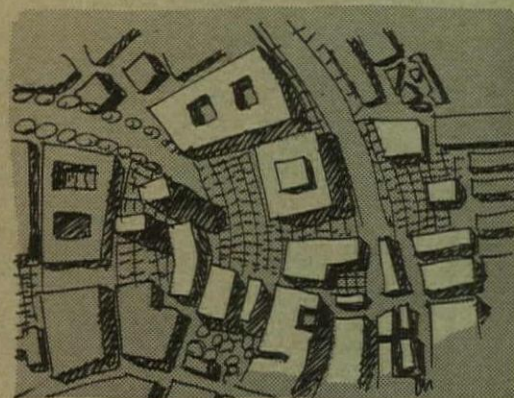
An urban design is similar. It is a challenging creative exercise which tests us at our best. It also involves the same design elements—space, mass and activity—the components of urban form, as well as of architectural form. In architectural design, spaces are rooms, corridors, courts and halls; in urban design, spaces are streets, squares and parks. In architectural design, masses are building bulks, walls, floors, ceilings, screens and sculpture; in urban design, masses are the floor of the city, its buildings, trees, fences, screens, poles, sculpture and fountains. In architecture, activities are the uses of the various parts of a building; in urban design, the uses of the various parts of the city. But here is where the analogy becomes difficult, for the nature of design on an urban scale is quite different from design on an architectural scale. The discrepancy between the sizes of buildings and cities is so great that the design problems take on a qualitative difference as well as as quantitative one.

Design actions in the city span long periods of time and many people are involved; a large-scale urban design concept must be broad enough to allow for the inevitable variables, yet be sufficiently specific and sensible to function as a rallying point for the many separate actions which compose it and translate it into real constructions. A large-scale urban design concept must therefore be more comprehensive than an architectural design. Like an architectural concept, its validity will be tested by actual application and the adjustments made when specific programs are undertaken.

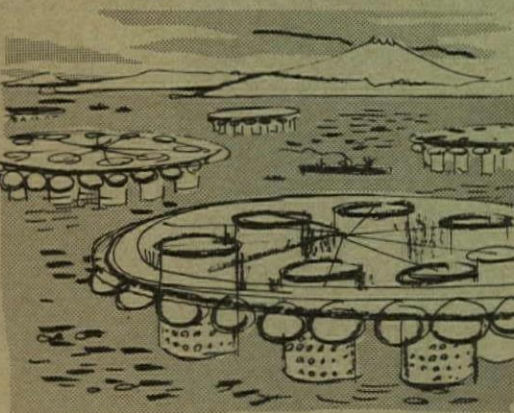
Such specific programs are the key details of the city form. In these cases urban design is primarily large-scale architecture. This is the middle range of urban design, the scale at which most architects practice when working in urban design. Nevertheless, either in small- or large-scale urban designs we are working basically with space, mass and function—welded into a form by a concept. It is these elements which we shall now discuss individually and then as a conceptual entity together.



Concept of a theater from a sketch
by Paul Bonatz



Concept of the Boston Government
Center from a sketch
by John R. Myer



Concept of a floating city
from a sketch
by Kiyonori Kikutake

Urban Space

Urban spaces, like architectural spaces, may be self-contained islands, unrelated to neighboring spaces, or may be interconnected and best appreciated by moving from one to another. They may be purposefully designed to display their linkage, to highlight a special building in the space, or suggest an important direction of movement.

Urban as well as architectural spaces may be conveniently pictured as rooms and corridors of space, or perhaps somewhat abstractly, as channels and reservoirs of space. Urban and architectural spaces form a hierarchy of spatial types, based on their size. In urban design this hierarchy ranges from the scale of small intimate court spaces on to grand urban spaces and culminating in the vast natural space in which the city is set.

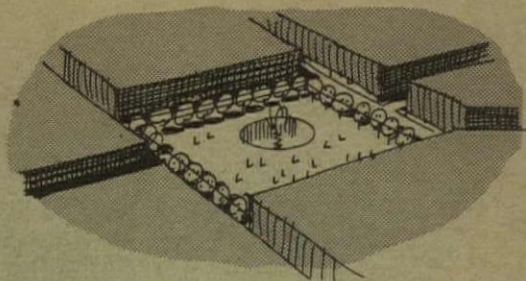
The categories of urban space derive from the distance scale of human vision. Thus urban spaces up to eighty feet induce an intimate feeling. Within this distance we can still distinguish a human face. It is the scale of our fine old residential streets. Grand urban spaces cannot exceed 450 feet as a maximum without seeming to be too large—unless some intermediary elements are introduced to sustain the character of the place. This is the distance beyond which we cannot discern people's actions. Few grand avenues and great urban plazas exceed this distance. Of course, great spaces or vistas can function as foreground to a major monument. Beyond 4000 feet people are not visible, so the vista or monumental setting functions without visual reference to them.

A fundamental requirement of urban space is actual physical enclosure or its strong articulation by urban forms. Enclosed urban space, like the space in a bowl or a tube, is formed by material surfaces. But just how much enclosure is necessary? In a plaza we must be sufficiently enclosed on all sides so that our attention focuses on the space as an entity. On an avenue, the enclosure can exist on only two sides, but it must be sufficient to hold our attention to it as a channel of space.

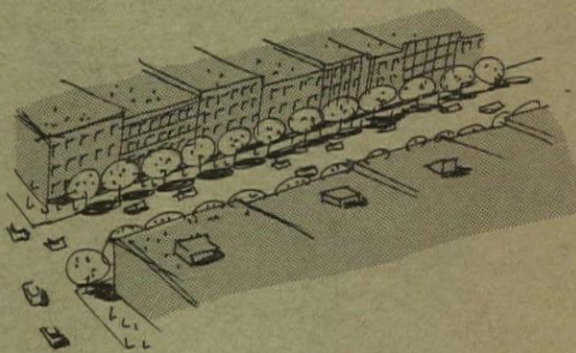
As we walk around in the city we see many things. We move our heads and eyes this way or that according to what attracts us. Nevertheless our normal frontal field of view, the view we see when we look straight ahead, furnishes us with a major impression of the quality of the space we are in. Our normal frontal field of view in a space determines the degree of enclosure—the sense of space—which we feel. The feeling of enclosure in an urban space, whether channel or reservoir, is largely determined by the relation of viewing distance to building height as seen by our normal frontal field of view.

When a facade height equals the distance we stand from a building (a 1:1 relationship) we see the top at a 45° angle from the line of our forward sight. Since the building is considerably higher than the upper limit of our field of forward view (30°), we feel well-enclosed.

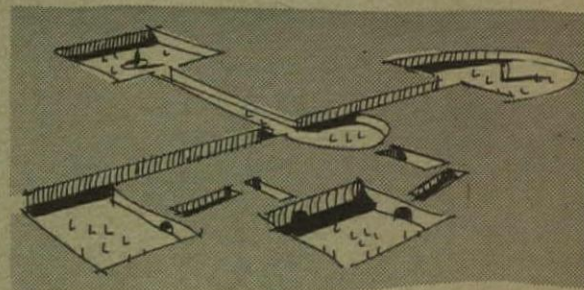
When a facade height equals one-half the distance we stand from a building (1:2) it coincides with the 30° upper limit of our normal view. This is the threshold of distraction, the lower limit for creating a feeling of enclosure. When facade height equals one-third our distance from the building (1:3) we see the top at about



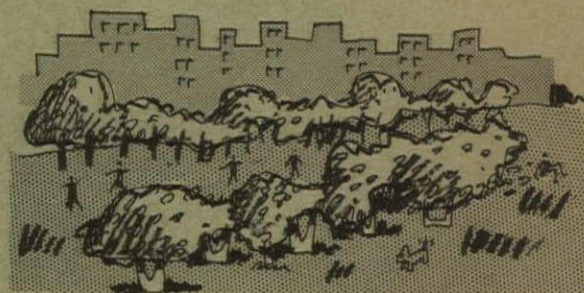
A reservoir of urban space



A channel of urban space



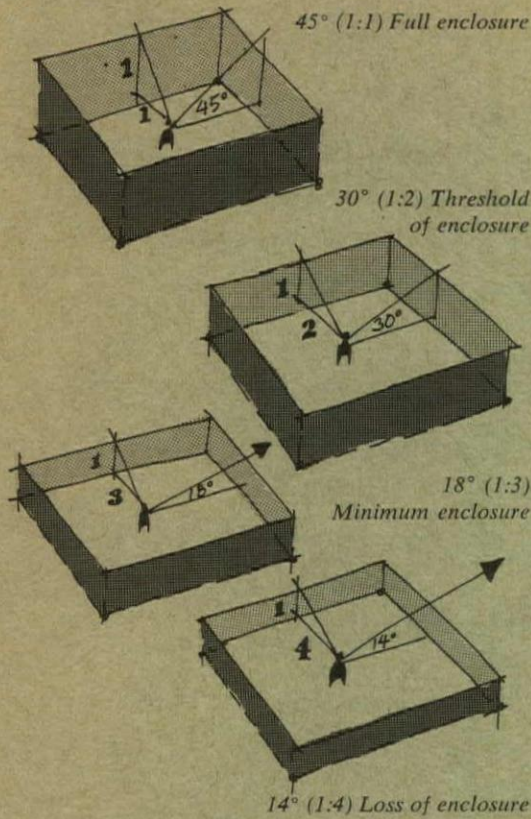
Connected urban spaces



Park or "open" space



Universal space



*Stonehenge and a New England village
Common—a sense of space or place?*



*A curved street has
a sense of closure*

18°. At this proportion we perceive the prominent objects beyond the space as much as we do the space itself. When the facade height is one-fourth our distance away from the building, (1:4) we see the top at a 14° angle, and the space loses its containing quality and functions more as an edge. The sense of space is all but lost, and we are left instead with more of a sense of place.

Renaissance architects thus derived a simple rule of thumb for the length-to-width proportions of an urban plaza: where facade height is uniform, length-to-width proportions cannot exceed 1:3; if it does the end walls are too low and the space “leaks out.”

Spatial enclosure is also a matter of continuity of wall surface. Basically, this means that the role of building facades must be subservient to the spaces they form. Spatial enclosure is weakened by too many gaps in building walls, drastic variations among the facades, and abrupt changes in cornice line.

For creative architects these principles must serve as starting points. Some urban spaces might well be designed to be only partially enclosed—an alcove along a busy street, for example. Rockefeller Center in New York City is a small space relative to the corporate giants which center on it. Its corners are open prisms of light and air, affording views to the city beyond. Gaps in side walls in this instance are a necessity, relieving what would be overpowering oppressiveness in the huge prisms of buildings which tower above.

Still, it is simplicity of form and detail which underlies the design of a successful urban space. Imagine, for example, an urban space seen under conditions of bright light; the details are more apparent than the space as a whole. In the evening or on a dull cloudy day, conditions of even light, we notice sharp features less and thus the space more as a whole.

The advantage of thinking in terms of urban space is that we can embrace a myriad of urban elements in an entity which renders these elements more distinctive and valuable than they might be alone. Attention to urban space can be extended to the design of a pattern of spaces on a city-wide scale—to the formation of a network of channels and reservoirs which knit separate districts into a fabric intelligible to its users.⁴ In planning a spatial structure for a city we must be careful to plan the intimate and the grand spaces for the purposes they serve. Too many large squares and broad avenues may not be appropriate. They can sever a district as easily as they can unify it. For most cities, one major public square suffices if there are also many smaller ones to serve less lofty functions. Too many grand spaces dissipate the sense of occasion they attempt to proclaim.

“Open space” is another type of space, and one which we should be very careful to understand. Open space is generally used as a term for park-like areas of greenery in or near the city. It is often confused with urban space but there is a great distinction between open space and urban space. The difference is one of size, activity and purpose. Urban space is a focus of urban activity; open space is a relief from it.

Urban spaces are the products of cities, specifically the juxtaposition of buildings. The larger spaces of nature in which cities sit cannot be enclosed by urban form, but can nonetheless be urban spaces in the sense that they are qualified by urban presence. The city, as a whole form, accents this vast space.

⁴ For a great classic work on this subject see: “Civic Art,” by Hegemann & Peets, New York: Architectural Book Publishing Company, 1922

Urban Mass

The ground surface, buildings and objects in space constitute the second basic element of urban design: urban mass. We can arrange these elements to form urban space and to shape urban activity patterns, on both large and small scales.

Our eyes and light conditions govern the way we see masses. Knowledge of a few basic facts of optics can make the difference between a striking and a mediocre composition. From a distance which equals the height of a building or object (the 45° or 1:1 relationship) we tend to notice details more than the whole facade or object; at a 30° or 1:2 relationship, we see the object as a whole composition, together with its details; at an 18° or 1:3 relationship, we see the object in relation to surrounding objects, and; at 14° or the 1:4 relationship, we see the object as a forward edge in the entire scene.

Under conditions of bright, clear sunlight the individual parts of objects stand out; as light diminishes, as in the evening or on dull, cloudy days, the whole composition holds our attention. Vigorously sculptured objects are best seen in strong sunlight, their sharp shadows best revealing their robust forms. Delicately sculptured objects are best seen in even light such as shadow light or northern light, their delicate outlines requiring less light contrast. Thus, southern facades may be vigorously articulated while northern facades may be more successful if delicately articulated.

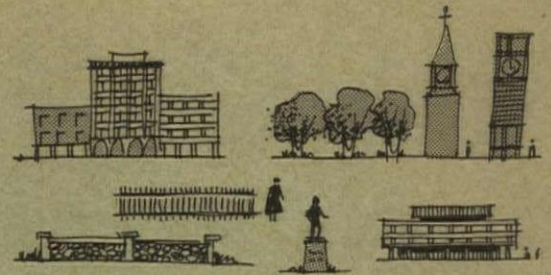
Dark objects seen against light backgrounds recede, while light objects against dark backgrounds advance visually. Warm-hued buildings also advance while cool-hued buildings recede and seem less solid. Warm-hued buildings in cool light, and cool-hued buildings in warm light, will appear awkwardly discolored.

Rough surfaces seem thick; smooth surfaces, thin. Reflections are darker and less colorful than the objects themselves. Our depth perception on clear, bright days comes largely from seeing the sizes of familiar objects in relation to each other. On dull cloudy days depth is conveyed by varying degrees of haze which increase with distance.

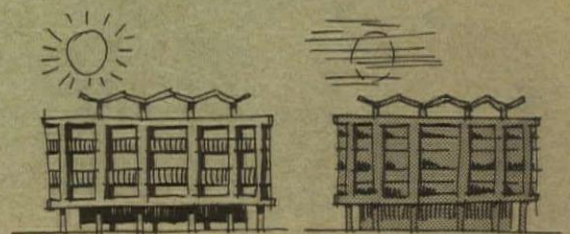
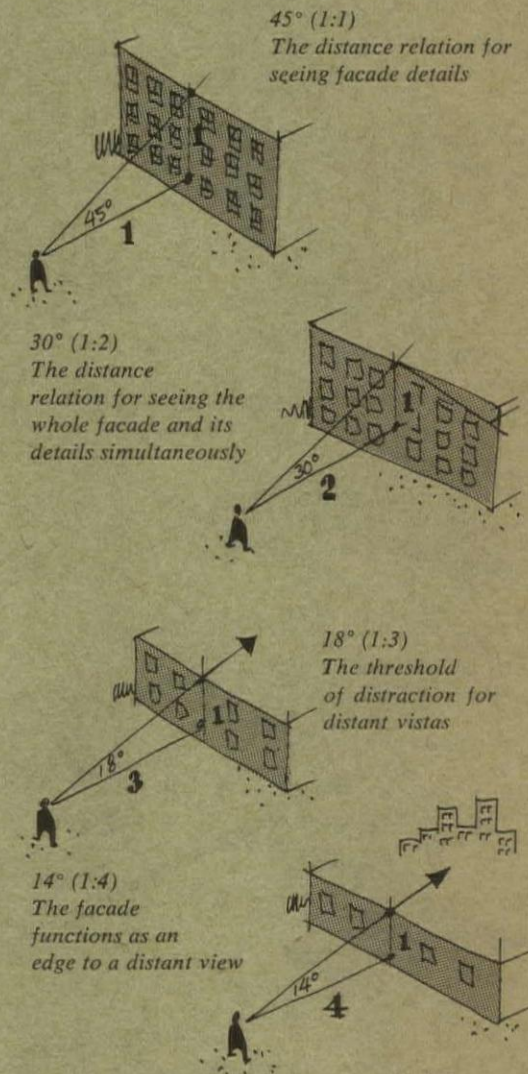
The ground, or "floorscape," is the platform of the city. Ground surface can be textured to implement fast walking, induce slow walking or be comfortable for sitting. In a large, open plaza the surface can be designed to subdivide the floor into more intimate pieces; a slight vertical edge with a slight lip so that it always casts a visible shadow will "scale down" the expanse.

Surface contour should also be treated as an important design element. In a plaza or on a long avenue a bowl-shaped surface is more visible than a flat surface, and so we feel greater familiarity with the place, simply because we can see more of it. Terracing on slopes can be a useful technique for projecting a sense of different degrees of importance; however, for buildings such as homes, which profess no lofty function, a gradual incline of small steps is more appropriate. Usually, ascent is conducive to feelings of spiritual elation, and descent, to security or relaxation.

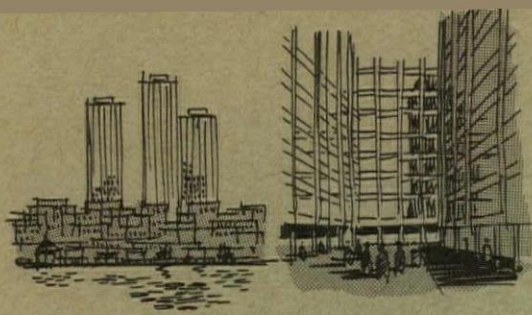
We furnish our cities with all sorts of objects which we must regard as the city's interior decoration. By recognizing them for their esthetic value as well as their practical value, they could assume a far richer role. Sculpture itself can highlight a plaza, giving it a focal point. A colonnade lining different kinds of buildings around a plaza or along a street can soften the differences between them and lend unity to the buildings. A row of regular trees can do the same for an avenue.



The components of urban mass—buildings, trees, walls, statues, etc



Appearance depends largely on light conditions



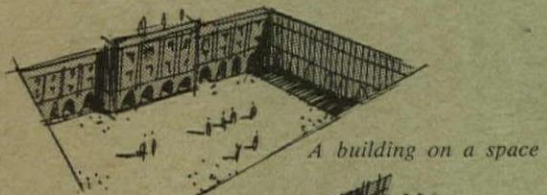
Far and near scale in a building group



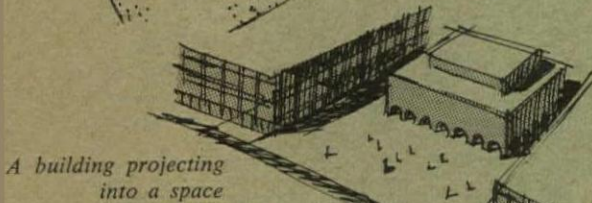
The surface of St Peter's Square is bowl-shaped



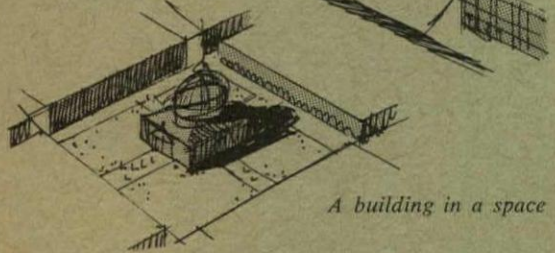
The surface of Red Square is humped



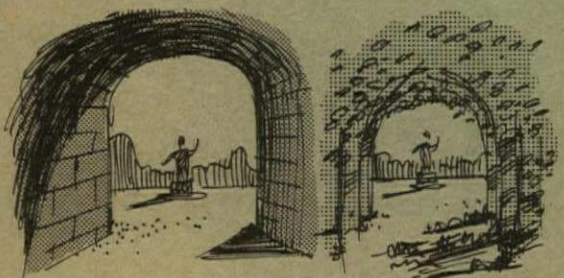
A building on a space



A building projecting into a space



A building in a space



Framing a vista with an arch

In contrast, a free disposition of trees can act as a pleasant foil to an overly rigid array of buildings, injecting an element of freedom in an area of harsh regularity. A screen of columns can act as a fine transition device between two different kinds of spaces, or two large spaces which require a division which does not cut them entirely off from one another. A vista can be framed with flanking foreground objects such as pylons, or by an arch which centers the vista and establishes a strong sense of foreground.

Individual buildings themselves may play a very great role in the total visual cityscape. A tower or dome can be a fine vista termination, either at the end of a street or on the skyline. Objects of much smaller scale can also serve this purpose, for if their profile is unique, and if they are arranged to read in silhouette, they can be effective at great distances.

Through the skillful design of building masses we can create successful urban spaces of almost any shape. The essentials of a successful urban space are its proportions, its floor and walls, and the activity which enlivens it. A long plaza can have prominent focal buildings at its ends, as well as a sculpture group in the center; a very large plaza can act as a setting for a major building; an L-shaped plaza can turn about a tower building at the corner. An overly-broad street can be brought into scale by inserting an array of small, low buildings in the center of the street, which subdivide the space without cutting it in two.

Facade articulation can bring large buildings down to human scale, and give small ones an air of importance. A long facade can be subdivided periodically into more digestible elements. A very small facade can be more assertive by exaggerating the sizes of its component parts.

Groups of buildings are also seen as clusters, ensembles whose juxtaposed facades convey the excitement, flourish and vitality of the city. Nearly every new building should be treated as a partner in the whole rather than as an intruder. We would do well to consider the appearance of each new building from the real vantage points from which they will be seen along with the proportional and detail studies of elevation drawings of facades.

In the less dense periphery of the city, buildings are seen more as individual objects than as facades. In a sense, they then become spatial parameters rather than formers of space. But where we have the opportunity to design several of them as a group, we can treat them primarily as a mass-cluster to be seen from afar and then as a group forming a space, to be used close at hand.

Indeed, the design of buildings as they are seen from afar and nearby is an essential of scale in the design of masses. Renaissance architects designed many buildings for long distance as well as close at hand viewing, and we can do the same.

Rockefeller Center and the Empire State Building, for example, are easily discerned from many parts of New York City. In Rockefeller Center we find buildings clustered about a relatively small space filled with people. We never lose contact with the whole group. The Empire State Building, however, a landmark from afar, disappears as we approach. Its base lacks the distinction necessary for close-by recognition, which could have been accomplished by even a "postage stamp" plaza in front of it.

Thus a whole city can be regarded as a large form subject to design: the center, dense and close, is the harbor for enclosed urban spaces; the periphery, loose and scattered, the setting for individual works articulating the land surface and the vast space of nature which envelops it.

Urban Activity

Nothing is more disappointing in a work of civic improvement than to find that the results of our efforts are dull and lifeless, devoid of human presence and activity. No works are more deserving of criticism, for their lack of vitality stems from the fact that they discourage people from using them. When this situation occurs it is due to a lack of urban design know-how. A prime objective of urban design is, after all, to enrich urban experience and make urban life more stimulating.

While it may seem presumptuous to think that patterns of urban life can be shaped, that is exactly what we are doing every time we make major changes in our cities. The arrangement of urban activities is a basic element of urban design. So important is it that we often recall a particular city which we have visited largely by recalling the experiences we have had there.

The key to the proper design of patterns of activity in a city is intelligent disposition of major activities together with maximum diversity. Almost every great architect in history who addressed himself to this problem recognized this, and many wrote of it, from Vitruvius through Wren and on to L'Enfant. The city is basically a place of exchange, and its capacity to effect exchange depends on the proximity of complementary elements, the separation of mutually harmful elements and, above all, the location of major functional groups in the most advantageous places.

Our early cities were good examples of this. The harbor was the center of the city and around it grew the houses of commerce and finance. Our early government buildings and public halls were sometimes built above market buildings, and hotels developed near the places of exchange. Hinterland shorelines became the place for shipbuilding and repair. Remote down-wind sites near water were good for odoriferous tanneries. High grounds were best for residences, churches, and lookout towers.

As Henry Churchill observed, our colonial towns differed from medieval towns in that ours were generally not contained by fortifications.⁵ Still we found compelling reason to build our towns tightly, to put everything in convenient proximity. Our towns were small and nature was close at hand.

The lesson to be learned from such towns is the natural and intelligent disposition of urban activities in complementary proximity, the grouping of interdependent portions and separation of conflicting ones. In small towns this was relatively easy to accomplish, even without regulatory laws.

In our time this principle remains the same, but the complexity of our own problems of arranging city form is vastly greater. Still we can and must practice the art of arranging urban activities on a small as well as an extensive urban scale.

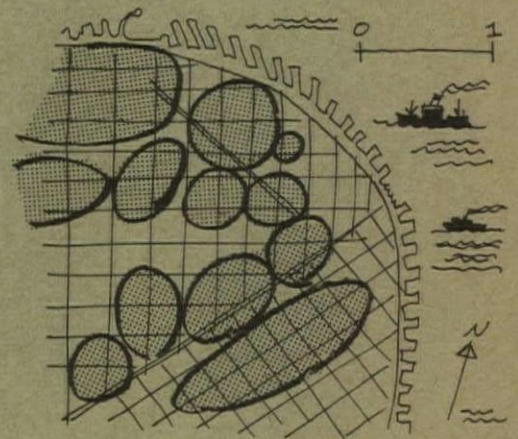
On a small scale, as in an urban plaza, we can seek to locate a diversity of types of buildings, so that the square is animated by people moving about in the plaza. We must remember that a large institutional or governmental office building has minimum inflow and outflow of personnel during the day, while a general-purpose rental office building has a great deal. Hence urban areas consisting solely of large single-use office buildings are often lifeless, while areas of multiple-use office buildings are usually the opposite. The principle of multiple-use is well extended to squares. For besides functioning as daily crossroads and meeting



Some streets are lifeless



Some streets are highly animated

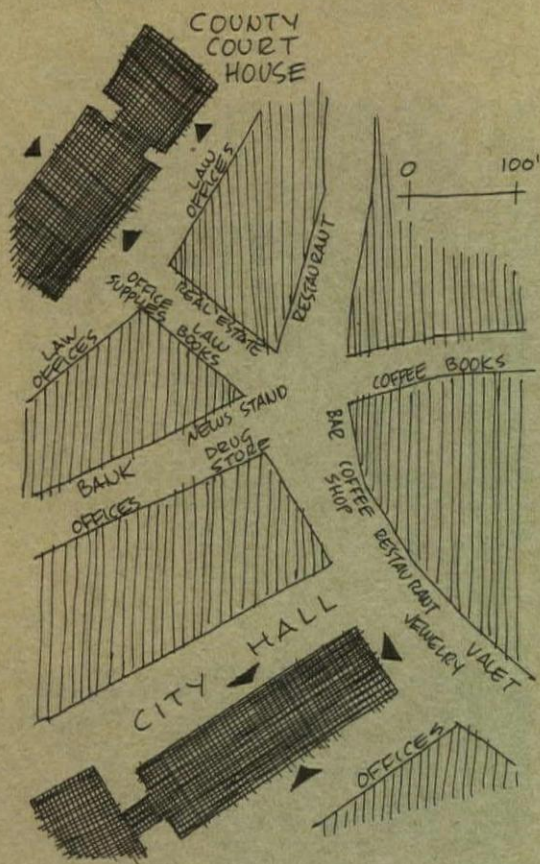


San Francisco's variety of enclaves enliven each other



Fringe parking replacing in-town residence

⁵ See "The City Is the People" by Henry Churchill, 2nd Edition, New York: W. W. Norton, 1962



In Boston two magnets, the City Hall and County Court House, generate a myriad of complementary facilities



Variety and bustle are the spice of urban life . . .



. . . relieved by restful parks

places, they may also serve as constant reminders of traditional occasions or ceremonies which infrequently take place within them—often, this alone justifies their existence.

The paths of flow of people in a city are clear to most observers. They can be quantified by actual pedestrian counts. Pedestrian avenues and plazas can accommodate these flows.

The central city, once the harbor of a panorama of life even fuller than that of the colonial town, must be invigorated to the state of fuller urban function it once had. How often do we see our central cities ringed with fields of parked cars, isolated by this encirclement of storage when they should be fortified by an encirclement of directly complementary live use. These central areas have come to depend on automobiles as a principal means of access to them. The more people they must serve, the more auto access they must provide. That access is accompanied by increased demand for parking with the result that such uses as more in-town residences are squeezed out. An increased in-town residential population needs even more facilities in the centers and these residents enliven the centers by their presence.

San Francisco is blessed by a circumstance of topography which encouraged close-in residences throughout the city's history. The hills of the city, too steep and inaccessible for commercial buildings, are well suited to residential use. Thus an in-town population has prevailed, and with it, central city vitality.

The activity patterns of large cities exist as a series of hubs, many of them determined in their geographical extent by our ability to walk from one part to another. Some of these hubs are of ancient origin and have individual characteristics of change. Financial centers in cities do not migrate. Other centers were the product of an original convenience that no longer exists, such as former dependence on ship or rail transport which was replaced by truck transport. Shopping areas do migrate, the "100% corner" usually moving in the direction of "uptown," the modern outgrowth of the old downtown. Residential areas can migrate too, largely depending on their quality and adaptability to changing modes of living.

Some of these changes in city activity can be great opportunities for new growth. An obsolete wharf area can become an excellent in-town residential area or institutional campus.

The various areas of a city, whether new or old, require varying degrees of intermixture with complementary facilities in order to function well. Because there have been severe abuses in the juxtaposition of incompatible elements in the city, the term "mixed-use" developed, a term used to describe these abuses but which has led in some cases to the opposite extreme of wholesale functional segregation. Mixed-use or better still, diversity and intensity of use, is precisely the spice of urban life. It does not mean overcrowding of facilities, but their complementary proximity. It does not mean that there is no relief from the bustle of the city but, on the contrary, that near the center we can enjoy the relief of a restful park—simply another complementary use—and that in the park itself there should be places of social gathering and life.

Urban design on the small scale of a plaza or group of buildings consists in accommodating a variety of functions. As the scale of design increases, the complexity increases too, but the objective is the same. On the scale of the whole city, the design of urban functions is a matter of allocating the major hubs of activity to the most desirable places functionally, intermixing them with other facilities that complete them, and finally linking all of these to each other.

Concept in Urban Design

An urban design concept is an idea for structuring the spaces, masses and activities in a city, or in a particular part of the city, into a form amenable to people.

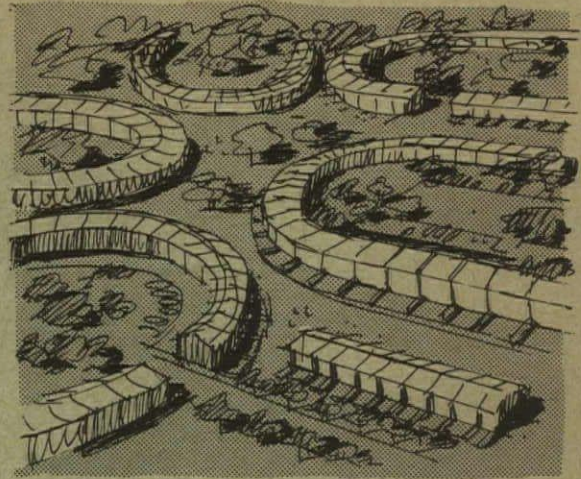
Because urban design projects embrace very large physical areas in the city they involve numerous actions from numerous people. These actions occur over considerable periods of time. Therefore, the larger an urban design project is, the more basic must be the essence of its fundamental arrangement of space, mass and activity. The beginning of an urban design concept is the recognition of those things that are subject to control and which are fundamental to the form of the city.

The fundamental concept which constitutes an urban design proposal is subject to refinement and elaboration to the extent that a project is specific. In small projects, the redevelopment of a street or square, for example, we deal with tangible specifics which can be designed and built as a whole. A sound design concept is the foundation of such work. This, in effect, is architecture on a large scale.

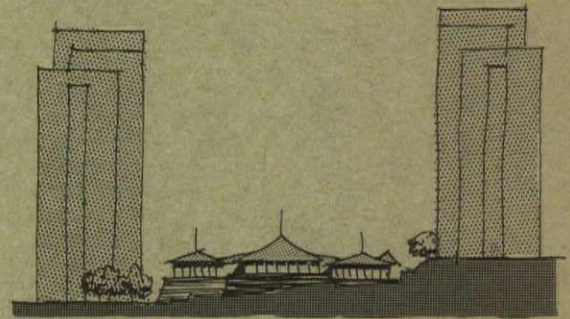
As the scope of a project enlarges the number of participants increases, including architectural participants. Again their success depends on a clear and sound design concept. Separate architects in separate design endeavors working on a large scale add the building blocks to a larger edifice. It is here that the familiar practice of architecture ceases and that the practice of real urban design commences.

Architects are accustomed to regard their design as large compositions which have a beginning and an end, a focus and some key hubs. Thus a building design is a complete design entity comparable to a piece of sculpture, painting or music. In urban design work of any large extent this view of individual works of architecture does not hold. The pieces themselves are parts of another larger composition, but one that is not succinct, one that may have many foci and which may not have definite points of beginning or end. They are a continuous part of the weave of the whole city.

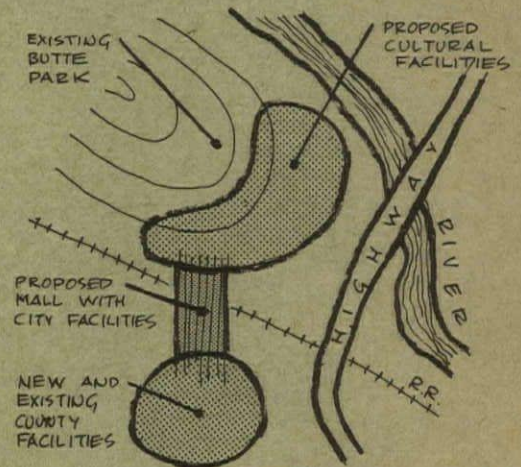
Projects of this scale are urban renewal projects for rebuilding old sectors of our cities, rehabilitation projects for downtown centers, waterfront improvements, wholesale rebuilding of sectors or partial rebuilding on a spot-by-spot basis. These, by far, are the kinds of urban design projects which most of us will engage in, and their success as urban design depends on how sound a basic design concept we have for the whole, as well as our humility in designing the parts which we are assigned.



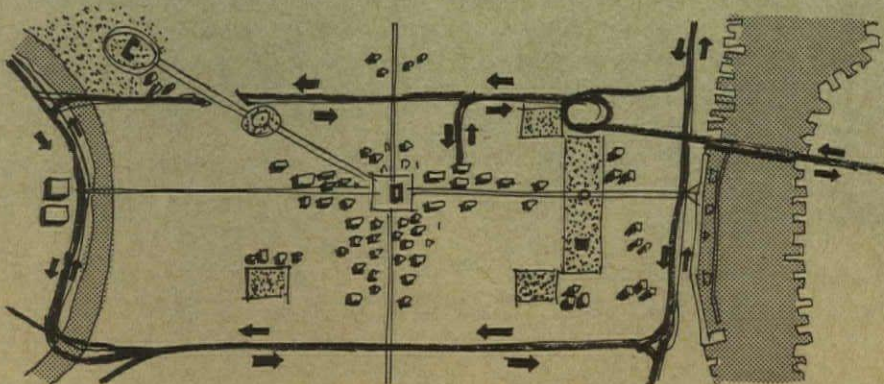
Concept: Housing proposal by Geddes Brecher, Qualls and Cunningham



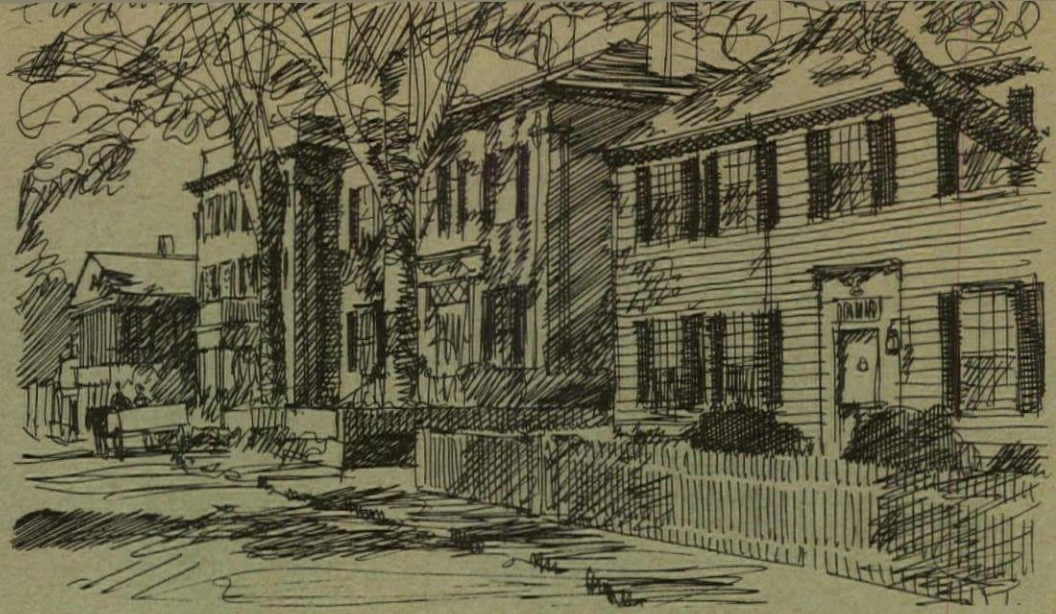
Concept: Relation of Dining Hall and Dormitories for Washington State University by Kenneth Brooks



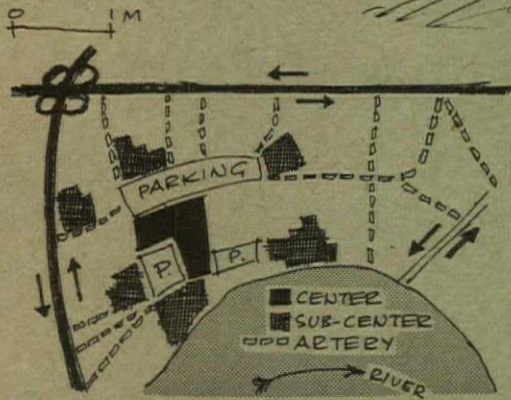
Concept: Improvements for Eugene by Southwest Oregon Chapter AIA



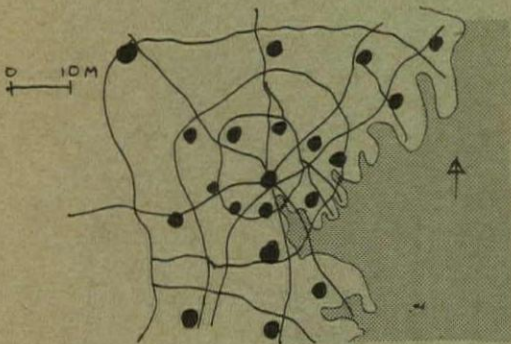
Concept: Central City Philadelphia by the Philadelphia City Planning Commission



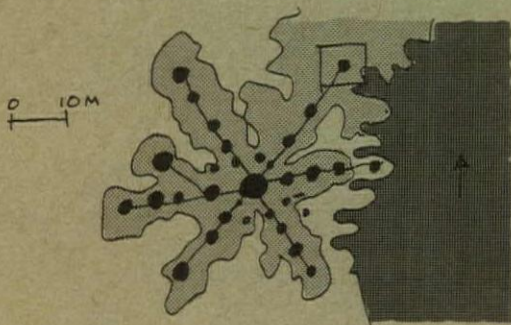
Good manners in architecture are a prerequisite to distinction in urban design—a New England colonial village



Concept: Central New Orleans by the New Orleans Planning Commission



Concept: "Metrotowns" around Baltimore by Rogers, Taliaferro, Kostitsky and Lamb



Concept: The Year 2000 Plan for Washington by the National Capital Planning Commission

Good architecture in urban design calls for good manners. A good work of architecture in urban design is one among many fellows, joined with them in spirit, not striving to outdo them. One or two works may stand out as special pieces, the others acting as background setting for them, but for most buildings architectural humility is the basis of urban design distinction.

On the scale of the entire city, urban design achieves its ultimate role. At this scale an urban design concept is a large skeletal structure upon which thrive the vital organs of the city, the essential hubs around which the mass of a city's activities and forms thrive.

Urban renewal projects, area revitalizations and waterfront improvements, to name a few, are the possible new organs of vitality in whose creation we can participate as architects in our traditional role. The creation of a large urban design concept, in its fullest sense, is an endeavor in which we can participate if we enlarge our scope.

But whether on a large or a small scale, we must recognize the essential elements of city form that we can compose as the basis of what we will later fulfill in architectural design terms. This amounts to recognizing the large-scale design opportunities which a city presents and acting to shape them. This is what Louis Kahn calls *form*, the basis or concept of *design*. *Form* is the idea; *design*, its fulfillment.

As the scale of design increases in a city, as the participations multiply, we have what David Crane calls the city of a thousand designers. They are the many people who act on the basis of the form concept which is furnished in an urban design plan. The thousand designers fulfill the promise of the initial form.⁶

An urban design concept in no way restricts these actions. On the contrary it allows them to flourish more readily. Urban design begins with establishing basic concepts and continues with their execution on a grand scale.

In the next article in this series we will explore a number of real examples of these principles in action in contemporary practice.

⁶ For a discussion on the role of urban design see "Urban Design as a Force in Comprehensive Planning" by Edmund N. Bacon, *AIP Journal*, Feb 1963

Comprehensive Architectural Practice Research & Development Buildings

by ALBERT C. MARTIN FAIA

Because it is one of the fastest growing fields of architectural interest and one in which original thought and pioneering are essential qualifications for success, the research and development building field offers architects unusual opportunities for the practice of comprehensive architectural services

Research and development has achieved its present high degree of significance to the public through dramatic space age endeavors such as missiles and electronics. Yet such industries as frozen foods, plastics, petroleum and medicine have long been engaged in—and heavily dependent on—research and development. In the 'thirties, about \$200 million was spent annually on research and development; the present rate is about \$12 billion; conservative estimates place the annual figure at about \$30 billion in the 1970's

New materials and techniques

Importance of lighting

Need for flexibility

The creative mind is the cardinal determinant in designing the environment for research and development activities. Of course, for every effort such as office work, manufacturing, recreation, worship, etc, the surroundings must be created in accordance with the specific demands of the activity. But in no other phase of life are environmental necessities so exacting, so important, as they are in research and development.

It is not at all unusual to find that forty to fifty per cent of the total personnel force at a research and development facility are scientists, technicians or other highly trained professional people. The ratio of professional to semi-skilled or untrained employees rarely exceeds fifteen to one hundred in most other businesses.

Because of their background, education, social status and occupational positions, research and development personnel gravitate to stimulating surroundings, both at home and at work. This establishes three requisites for the architect: every part of the design must be of exceptional quality; buildings should be located in—and fully integrated with—a commercial area that is of comparable character; the facility should be close to residential neighborhoods that will be attractive to personnel.

Several other inherent characteristics must also guide the architect. First, the structures must be adaptable to new and unique building materials needed to facilitate scientific uses.

Another architectural characteristic of these buildings is the importance of light. Buildings must offer illumination control to eliminate glare and bring natural and artificial light into balance.

A third trait is the need for internal and external flexibility. This cannot be limited to the structural shell or the plan for interior

Complex of buildings

partitioning; it must also become a part of all utility and comfort systems. By its very nature, research and development work is dynamic. Programs and projects are begun and completed within a period of a month, six months or perhaps a year or two.

Fourth on the list of characteristics is that an amalgam of structures is most practical, usually, for facilities of this type. The building complex must permit future subdivision of property. This increases the real value of the facility, eases the problems of initial financing and makes possible orderly incremental expansion. Most importantly, the scale of building masses becomes comfortable and psychologically acceptable.

Thus research and development design obviously places heavy restrictions and responsibilities on the architect. He must scrutinize sociological, topographical, scientific and labor factors, as well as construction technology and building costs. And time is often of paramount importance. In response to swiftly changing requirements, the architect must provide equally fast and flexible planning, design and engineering.

Comprehensive services required

In addition to the design of the physical structures, there are six paramount services which today's architect must be prepared to offer as an expert if he is to provide research and development clients with proper environment. He must be an evaluator of feasibility studies, a total-design consultant, an expert on space utilization, an innovator of new methods and materials, a supervisor of building economics and a participant in public relations counseling.

**Analysis, Promotional,
Managerial Services**

A feasibility study is conducted for one infinitely significant purpose: to expose statistically—and make possible the evaluation of—factors that will affect the adjustment of an organization to its future environment. Two interrelated categories must be thoroughly explored: economics and physical planning.

Economic considerations

Economic aspects obviously include present and future land values, labor markets and zoning trends, as well as transportation facilities, peculiarities of surrounding land ownership and community relationships. For research and development clients, however, the architect is faced with obstacles not usually found in studies for a manufacturing plant or office building.

Site selection

Of first importance are the status and characteristics of the personnel who will work in the facility. Although a given site has many features perfectly suited to other types of organizations—easy accessibility, proper zoning and good community relationships potential—it will not be suitable for a research and development facility unless attractive residential areas, an appealing community, a quiet atmosphere and appropriate land-use trends are also evident. In the selection of a site, emphasis must be placed on environmental factors that will spur the creative mind.

Architect as coordinator

As the architect is the traditional designer of structures, it is only reasonable for clients to call on him to plan their immediate surroundings. Little by little, the architect has accumulated other responsibilities so that today he is involved in comprehensive services in such areas as engineering, planning, color coordination, interior design and literally anything else having to do with the physical aspects of a facility. In many of these areas, the architect's

greatest value to his client and others is as a coordinator. He should not attempt to do the work of other professionals and specialists; rather he should serve as quasi-chairman of the planning team to counsel and systematize component efforts aimed at achieving a well-integrated, total result.

In coordinating total design, the architect can guide the development of the property through counsel on zone status, lease documents and community commitments for outside improvements. He might also recommend good traffic control patterns.

Expediting the work

Another contribution the architect makes as the coordinator of total design is in the encouragement of expeditious actions. In research and development work, swift technological advances, often coupled with unexpected demands for immediate solutions to pressing problems, require fast action by design and construction teams. If the architect has, in his organization, well-qualified planning and engineering groups, he will often be better able to offer expeditious—as well as thoroughly coordinated—services. Some architects may disagree with the concept of the planning-architecture-engineering organization, but considerable evidence exists of the effectiveness of such an arrangement for design, efficiency, speed and control, especially in research and development work.

Design and Planning Services

When surroundings are being designed for the creative mind, care must be taken with the relationships of one internal space to another, of internal to external spaces and of one external part to another. It must be remembered, however, that the fluctuating nature of research and development activities also demands interior and exterior flexibility. Today's satisfactory spatial criteria may not suit tomorrow's project. And esthetic appeal, a cardinal element, must come from orderly and well-proportioned space relationships in and around the buildings.

To meet these research and development stipulations, the architect should first establish a system of unit components. Beginning with careful consideration of the spatial and environmental needs of the individual man, needs will evolve into basic patterns or systems of space units. Combinations of these basic units will then evolve through further study. Finally, the complex of spaces must be organized to meet the requirements of a division; then division by division, they must be arranged to serve the whole.

Modules and clusters

If it is assumed that a module of four feet has been found most suitable for a system of given space units, a typical office might contain twelve four-by-four modules. A representative cluster might have approximately ninety modules subdivided into a number of combinations of offices. Incidentally, the space of this cluster might be the ideal size for a single laboratory should re-assignment of space become necessary.

Psychological considerations

Several techniques can be employed within research and development structures to comfort the eye and mind. Mental fatigue is greatly alleviated or precluded by providing the eye with a combination of long- and short-vision ranges. Corridors or long rooms should not, if possible, terminate with a blank wall; a door, window, or stairway should punctuate the wall. Wall perforations also eliminate the closed-in, contained atmosphere which encumbers the creative mind.

Exterior glass walls might well be used generously in research and development buildings, especially for small offices and work spaces. Changing panoramas add interest and relieve boredom, mental fatigue and feelings of extreme seclusion. However, care must be exercised to avoid harsh extremes. A sea of automobiles, a blanket of concrete or a monotonous series of structures should not meet the eye which just before was focused on close work in a laboratory, drafting room or research office.

Master planning

Research and development spatial requirements can be properly met, particularly if the project is a complex which can be master planned. For example, properly spaced rectangular buildings, at right angles to each other, serve as jetties into parking lots, limit the sizes of lawns, facilitate foot and auto traffic, and add a fresh perspective to the structures. As in all architecture, each project has its own individual set of peculiarities and specifications that distinguish it from all others.

Configuration and placement

The choice of structural configurations and building placement patterns for research and development facilities depends heavily on psychological demands, but there are other requirements which must also be met. The architect must remember the kinetic nature of the activities to be housed, the usual requisite for plans that will permit future subdivision, and, of course, costs. To satisfy all of these needs, the architect might well eliminate all but linear buildings from consideration, with the exception of special-purpose structures. Circular, oval or other exotic shapes are very rarely suitable for research and development work for they make interior flexibility almost impossible to achieve, initial and maintenance costs prohibitive and land-use inefficient.

Nearly all types of building products are manufactured in linear shapes—rectangles and squares. Therefore, initial construction costs are likely to be kept at a minimum if the structure adheres to the straight-line principle, and future replacement of glass sections, wood paneling, acoustical tile and other mass-produced materials is likely to be easier and less expensive.

In a research and development complex, building duplication, when appropriate, adds cohesiveness and rhythm, but a series of look-alike buildings should be interrupted with an architectural surprise to avoid monotony. This might be achieved by introducing into the complex a taller building, a mall-pool combination, a structure offering a strong contrast of materials or shape.

New methods and materials

Research and development architecture has, in a few short years, broken many of the shackles which have bound architects and builders to accepted construction techniques and material applications. This is largely due to the leadership of the young, imaginative men and women who are engaged in research and development work. Their willingness to try new things and their recognition of the fluidity of space needs tend to overflow into their relationships with architects and builders. A notable example of this is the "concurrency approach" to design and construction, which was developed to provide high quality buildings in the least possible time. This approach calls for the architect to expand his services to a point just short of actually entering the general contracting field. In the concurrency approach, the architect and

*Concurrency approach
to design and construction*

builder combine efforts with the client to a degree seldom witnessed in other architectural work.

Design during construction

Essentially, the concurrency approach requires crystallizing the interior arrangements of the building while the shell is being constructed. When the concurrency approach is employed for major research and development projects, design and construction programming becomes so complex that new scheduling techniques, such as the critical path method, offer attractive advantages. When using the concurrency approach, the architect must freeze the arrangements of the building step by step, during construction, usually just one or two steps ahead of the working crews. Close collaboration between the architect, general contractor and client representatives is essential. It is not at all unusual to have formal client-builder-architect conferences on the site every week to study, in minute detail, construction progress and future scheduling.

Importance of schedules

Concurrency necessitates the creation of closely-knit, perfectly calibrated schedules of building phases, to allow pre-purchase of long-lead equipment, chronological determination of specific work by trades, the time expected to be consumed by each phase, continued approval by municipal building inspectors and timely incorporation of design information.

New materials and their uses, limitations, advantages and costs must always be uppermost in the research and development architect's mind. He must search constantly for materials that will provide better control of acoustics, vibration, glare, temperature and foreign particle infiltration. He should be easily accessible to building-product suppliers who are engaged in the search for—and development of—improved materials. The architect may even find it necessary to establish his own research and development department to study potentials of untried products, or to compare the qualities of several items under consideration.

Building economics

Unlike most other projects, original costs of research and development structures should be computed per employee, not on a square foot or other basis. Since it deals solely with men and their creativity, the over-all research and development budget for operations is keyed to the cost per man. The architect must follow this line of thought when he computes building costs.

Studies indicate that the weekly payroll of a research and development facility is equal to approximately one dollar per square foot. In terms of rental, a \$20 per-square-foot facility costs the employer about \$12 per week for each employee, including maintenance, taxes, a reasonable return on invested capital, etc. Some companies in the research and development field estimate their costs for recruitment of qualified technical personnel at about \$1,200 per employee. Therefore, the architect has a serious responsibility to his client to create a working environment which will attract and hold such high caliber people.

Need for continued cost reporting

As previously discussed, the architect, general contractor and client will ordinarily meet on the site periodically to consider research and development building progress. The agenda for such discussions should include cost reporting. Frequent appraisals of expenses will help educate the client with regard to cost factors and will preclude financial surprises upon job completion.

*Economics of
specialized requirements*

Research and development structures have special elements that are not usually found in other types of construction—huge test chambers, clean rooms, specialized laboratories and the like. These elements have resulted in a need for further expansion of architectural practice. They have also created new cost factor problems. When working on these new elements, the architect must serve as a coordinator of specialists, in fields ranging from cryogenics to thermodynamics. In addition to the scientific knowledge supplied by these consultants, the architect gains information from them that has a direct bearing on the construction costs.

Many people contend that such specialized phases of research and development planning should be entirely within the realm of company engineers. It must be remembered, however, that research and development engineers are usually too close to their own specific problems and projects to allow them to be objective about actual costs. And sometimes because of their subconscious desire to have their efforts appear to cause as little burden as possible to the firm, such engineers tend to understate the complexity of their problems. However, the architect will be in a position to evaluate specific parts of the whole project and render objective advice on budgetary allotments for each.

Public relations services

Assistance by the architect with public relations activities for a research and development project differs from that for other types of buildings primarily in degree of importance and in the speed of execution.

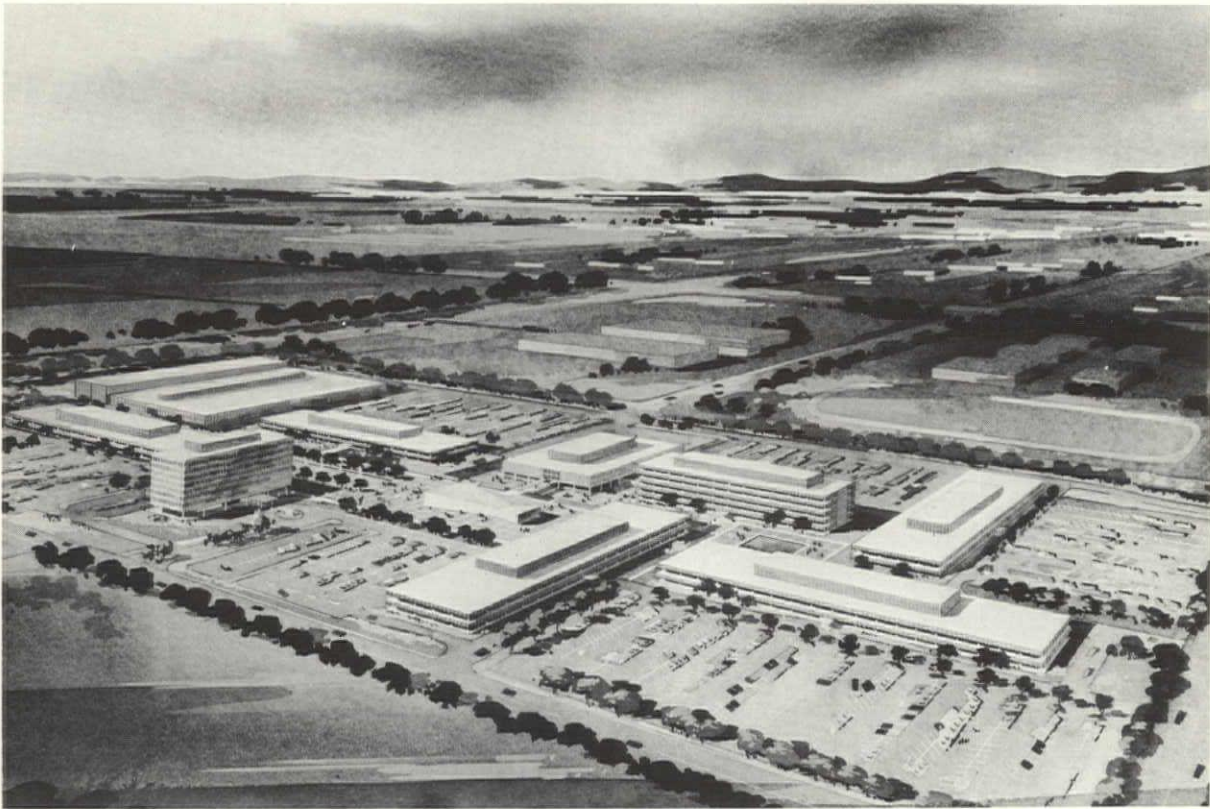
Drama surrounds research and development work. There is a hunger for information and interpretation. It is not a simple matter to translate the highly technical purposes and meanings of research and development work into the vernacular. Persistent and coordinated efforts by the client, with the assistance of the architect and his public relations representative, can remove much of the obscurity from these activities.

Communication with the public

The architect can help prepare a community for a new research and development facility by showing renderings and models of the physical plant, pointing out its architectural features, emphasizing the caliber of personnel to be drawn to it, noting the financial contributions to the area through taxes and pay checks, and calling attention to the community as a desirable location. Every communication medium, such as personal contacts, speeches and the printed word, should be employed even before the facility is constructed.

In public relations, the architect can increase his value to the client and the builder by recommending courses of action designed to preclude negative situations. For example, he might suggest routes trucks and construction equipment should take to avoid travel through residential neighborhoods or he might outline plans for easing traffic flow to the completed project.

Architects should contribute information for company-sponsored public announcements, groundbreaking ceremonies, dedications and open houses. This will reduce the chance for errors, by the architecturally uninformed, in descriptions of the complex—misstatements which might injure the positive climate desired for the facility, as well as the architect's own professional reputation.



Comprehensive Architectural Services for a Research, Development, Engineering, and Manufacturing Project

Space Technology Center. Owner—Space Technology Laboratories, Inc., a subsidiary of Thompson Ramo Wooldridge, Inc, Redondo Beach, California. Albert C. Martin and Associates, Architects and Engineers. Phase one, now complete, includes three "R" buildings housing research, laboratories and computer centers, an engineering building, a manufacturing plant and a cafeteria-service unit. Phase two will add two "R" buildings, office building and a library-auditorium

An abbreviated case history of a research and development facility will serve to illustrate some of the principles of comprehensive architectural services for such projects. Each research and development project will have a specific set of circumstances and requirements unlike those of any other. However, the elements and considerations faced by the architects of this project are revealing of the process involved in the creation of a proper atmosphere for the creative mind.

In close cooperation with Robert A. Burgin, director of administrative operations for Space Technology Laboratories, Inc, the architectural firm assisted with the compilation of comprehensive economic and physical feasibility studies. Ten sites were examined in the context of the client's requirements. The final choice was a 110-acre site in Redondo Beach. The site is near, but not directly adjacent to, several good residential neighborhoods, close to a new freeway and four miles from Los Angeles International Airport. Thoroughfares surrounding the land were found adequate. Zoning trends and land-use patterns promised an immediate and future environment amicable to the client's needs.

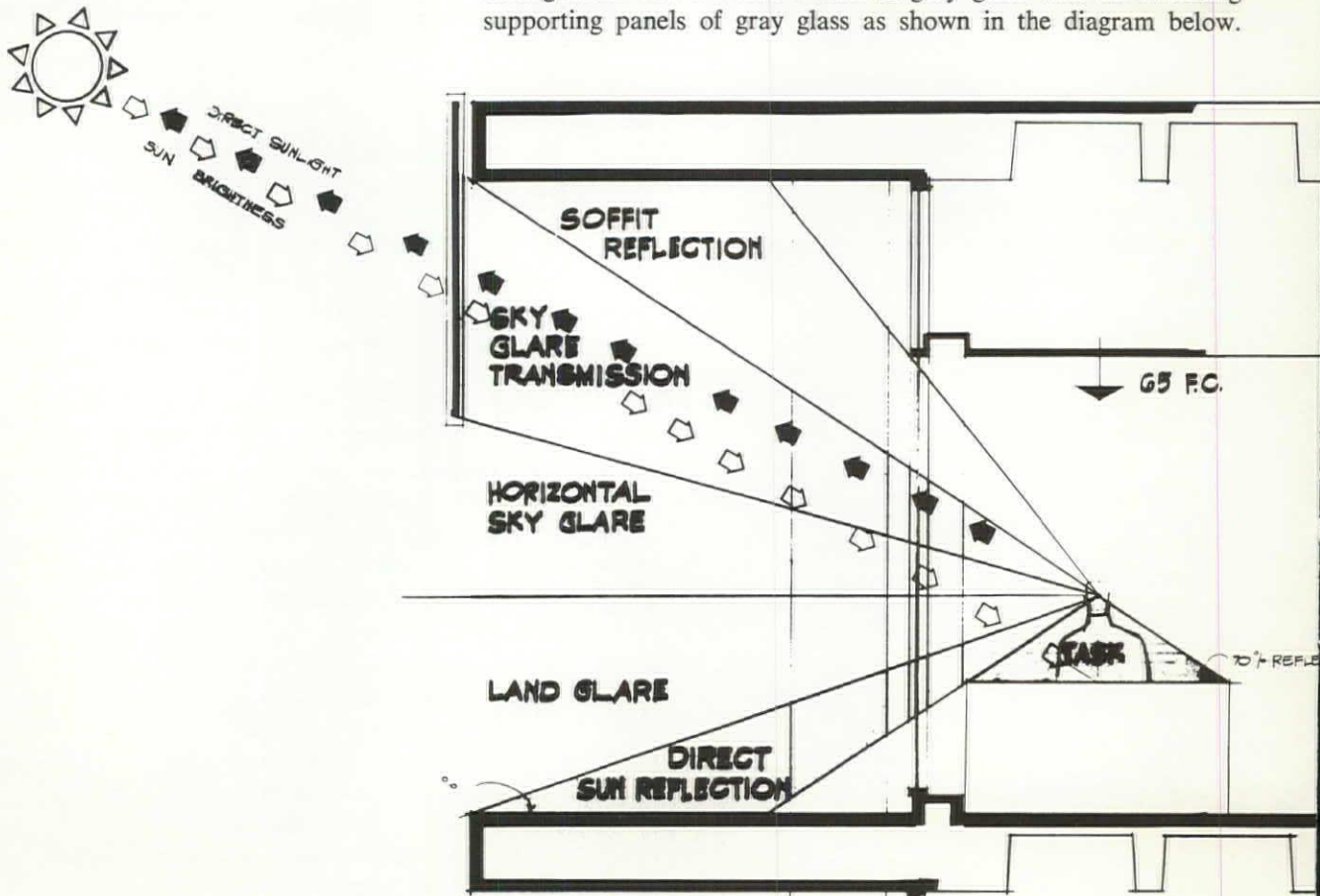
Purchase of the property was followed immediately by the preparation of a master plan for a complex of structures, which, even if future subdivision should be necessary, would be entirely autonomous. The plan provided for a set of buildings that would also satisfy the high degree of flexibility and effective space relationships required by the large number of scientists and technicians.




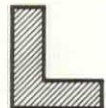




**Analyses of Special Research,
Development Building Problems**

In order to define the size and configuration of typical buildings, the architects made a study (across-page, top) to evaluate the merits of various configurations and to determine the most suitable dimensions for the prototype research (R) buildings. This chart deals with efficiency of form (ratio of wall area to floor area in square feet), space relationships in terms of extreme radius, space factors and per cent of circulation.

Based on these studies, an approximate size of 125,000 square feet was selected for the "R" buildings. The architect recommended a central core of laboratories, flanked by peripheral office clusters, based on modular techniques with utility systems designed accordingly and full-height movable interior partitions. All recommendations were accepted by the client. Originally, L-shaped structures were considered but it was found that a better master plan would result with rectangular buildings.

In order to provide the best possible mixture of natural and artificial lighting, the architects consulted with Foster Sampson, a specialist in illumination techniques. In order to achieve the fourteen per cent light infiltration recommended, the architects built several scale models for testing a variety of glass types, as well as combinations of types of glass and other materials. To rate the results of these studies, the architects prepared a chart (across-page, bottom) which demonstrated that the most desirable arrangement was a window wall of gray glass with an overhang supporting panels of gray glass as shown in the diagram below.



PROTOTYPE ANALYSIS—TWO STORY BUILDING						
SUN SHADE STUDY						
 FIRST CHOICE						
 SECOND CHOICE						
100,000 SQ.FT.						
A. EFFICIENCY OF FORM SQ. FT. WALL AREA: SQ. FT. FLR. AREA	.233:1	.256:1	.385:1	.294:1	.333:1	.298:1
B. SPACE RELATIONSHIP EXTREME RADIUS (FT.)	164	172	169	250	178	156
C. SPACE FACTOR CONTIGUOUS AREAS	2x50,000	2x50,000	4x25,000	4x25,000	6x16,667	8x12,500
D. CIRCULATION %	17.8	18.0	21.3	20.5	18.7	19.7
125,000 SQ.FT.						
A. EFFICIENCY OF FORM SQ. FT. WALL AREA: SQ. FT. FLR. AREA	.218:1	.222:1	.357:1	.256:1	.270:1	.294:1
B. SPACE RELATIONSHIP EXTREME RADIUS (FT.)	176	192	192	244	178	157
C. SPACE FACTOR CONTIGUOUS AREAS	2x62,500	2x62,500	4x31,250	4x31,250	6x20,833	8x15,625
D. CIRCULATION %	26.0	18.0	18.8	23.5	18.6	21.2

SUN SHADE STUDY

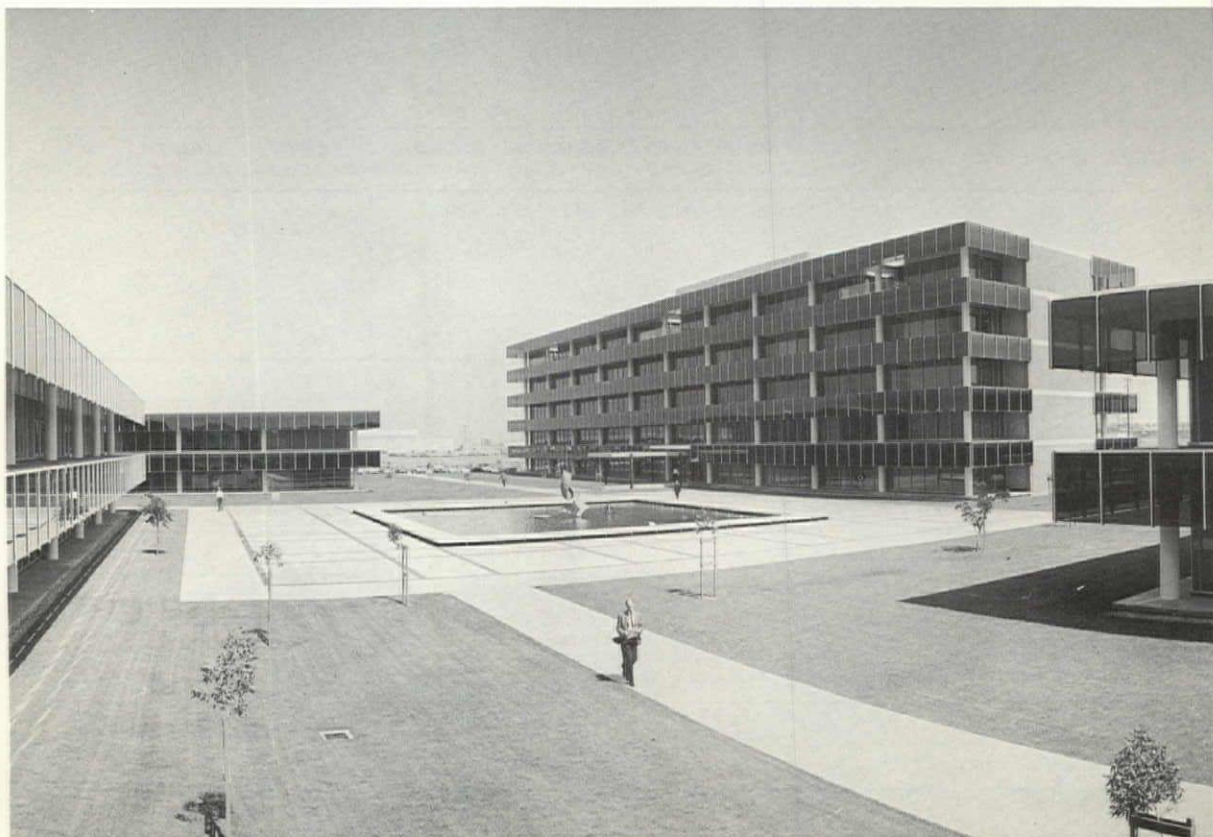
SUN SHADE	WINDOW WALL	TASK RC. FL.		DIRECT SUN REFLECTION	LAND GLARE	HORIZONTAL SKY GLARE	SKY GLARE TRANSMISSION	SOFFIT REFLECTION	DIRECT SUNLIGHT	SUN BRIGHTNESS
(A) SOLEX 76%	CLEAR	366	256	1500 FL.	500 FL.	2500 FL.	1900 FL.	480 FL.	3040 FC	64,800 FL.
(B) SOLAR GREY	"	324	227	1500	500	2500	1050	480	1680	35,600
(C) GREY-LITE #14 14%	"	288	202	1500	500	2500	350	480	560	11,900
(D) OPAQUE (WHITE BACK)	"	281	197	1500	500	2500	200	480	0	0
(A) SOLEX 76%	SOLAR GREY 42%	188	132	630	210	1050	795	200	1280	27,100
(B) SOLAR GREY	"	170	119	630	210	1050	440	200	723	14,860
(C) GREY-LITE #14 14%	"	156	109	630	210	1050	147	200	236	5,000
(D) OPAQUE (WHITE BACK)	"	152	106	630	210	1050	84	200	0	0
(A) SOLEX 76%	GREY-LITE #14 14%	107	75	210	70	350	266	67	425	9,020
(B) SOLAR GREY	"	101	71	210	70	350	147	67	235	4,980
(C) GREY-LITE #14 14%	"	96	68	210	70	350	45	67	78	1,660
(D) OPAQUE (WHITE BACK)	"	95	67	210	70	350	28	67	0	0
3/4" SOLEX 64%	1/4" SOLEX 76%	279	202	1,140	380	1,900	1,220	365	1,970	41,300
1/4" SOLEX 76%	1/4" SOLEX 76%	300	210	1,140	380	1,900	1,300	365	2,330	49,020

The Concurrency System of Design and Construction

Time was of the essence in the construction of this job; accordingly, the concurrency or design-during-construction technique was employed. Successful use of the technique was made possible by close cooperation between the architects, the general contractor and the client. The result was a remarkable compression of the time of conception, planning and execution of the project. Excavation was commenced while building design was still on the drawing board. As each phase was completed, drawings for the next were made available for immediate action in the field. In this manner, nearly 640,000 square feet of building space were made ready for occupancy in a total design and construction time of less than fourteen months.

Comprehensive services of the sort that has been described for the research and development industry hold many rewards for the architect, not the least of which is more complete and effective service. As the principal member of the design-construction team, the architect may reach a new peak of professional status. Relationships between architects, clients, builders, subcontractors, landscape architects, interior designers, etc, can be closer and more compatible than ever before.

Everything indicates that the architect's role in research and development projects will continue to grow in importance; and it seems reasonable to predict that the architect will become more engaged in the scientific approach in order to provide a superior environment for science and industry.





Commission on Architectural Design, Morris Ketchum Jr FAIA, Chairman
Committee on Religious Buildings, Kenneth E. Richardson AIA, Chairman

A Guide for Planning the Methodist Church

by ANTHONY J. FERRARA AIA

The eighth in the series of reports prepared by the AIA Committee on Religious Buildings intended to serve as guides for the architect faced with planning a building for a religious faith other than his own. Others will follow

THE METHODIST CHURCH was born in 1738, when John Wesley's heart was "strangely warmed" while attending a society meeting at Aldersgate, London.

The following are his own words: "In the evening I went very unwillingly to a society in Aldersgate Street, where one was reading Luther's preface to the Epistle to the Romans. About a quarter before nine, while he was describing the change which God works in the heart through faith in Christ, I felt my heart strangely warmed. I felt I did trust in Christ, Christ alone for Salvation; and an assurance was given me, that He had taken away my sins, even mine, and saved me from the law of sin and death.

"I began to pray with all my might for those who had in a more especial manner despitefully used me and persecuted me. I then testified openly to all these what I now first felt in my heart."

This changed his life so much that he began to preach in the open fields to crowds. There was such a response that he continued his preaching.

Soon there were many converts, some of whom began to preach to the people wherever they could get a hearing. They were so successful that soon a group of ministers were riding in regularly established circuits; preaching, establishing classes and organizing Methodist Societies. The movement grew rapidly in England, throughout the eighteenth century.

The Methodist faith soon spread in the United States where again preachers rode circuits to preach the gospel to anyone, anywhere, wherever they could get a hearing. The Methodists followed the rapid spread of immigration westward, establishing new churches. Then they followed as the

country people moved to the cities. The Methodist Church has spread most rapidly in the days of shifting population and in pioneer areas.

The Church spread to other countries in Europe. Methodists can be found in almost every nation. There are Methodist Conferences in seventeen European nations and mission work the world over—in forty nations and 125 languages.

The Methodist has been a missionary church, sending trained leaders to Latin America, to Asia, to Africa, and to the islands of the sea. The spread of the Church has been consistent and rapid.

In the United States a special phenomenon initiated by Methodism was the great revival of the 1880's. It was sparked by a Methodist layman, John R. Mott, who later was to win a Nobel Peace Prize. In a lifelong crusade for interdenominational action, he was also a prime mover in the founding of the International Missionary Council and, in 1948, the World Council of Churches.

In preaching the "social gospel," Methodists, since their beginning, have gone after, and drawn the abuse of, entrenched privilege. In 1784, the first Methodist Discipline condemned slavery, a stand which provoked bitter quarrels within the Church. In 1908, Methodists issued their famous "Social Creed," which openly opposed sweatshops and child labor, favored labor unions, advocated the Golden Rule as the remedy for social ills. In 1956, the General Conference voted that "planned parenthood," practiced in Christian conscience, may fulfill, rather than violate, the will of God.

Of all the campaigns, the Methodists' drive against liquor has been perhaps the most persistent. In 1874, they were leaders in the formation of the Women's Christian Temperance Union. In 1893, Methodist men dominated the founding of the Anti-Saloon League. The Methodist Church's attitude toward alcohol today is unrelenting but up-to-date.

The Methodists also have been militant pacifists. The entire Church was a strong supporter of the League of Nations. By 1941, Methodists counted more conscientious objectors than any other big denomination.

The first cleavage in the Methodist Church took place in 1828 when a large group of laymen withdrew from the Church in an issue of the rights of laymen. This group formed the Methodist Protestant Church.

On the Negro question, Methodism for 95 years was cleaved by a wound which has not yet entirely healed. A schism over the slavery issue split Northern and Southern Methodists into two churches in 1844, and the Methodist Episcopal Church, South, was formed in 1845. In 1939, reunion finally took place among these groups, and eighty-two per cent of Methodism was united.

The merger of North, South and the Methodist Protestant Churches provided an impetus badly needed by the entire Church. Total membership since 1940 has increased twenty-five per cent, while money contributions have rocketed from approximately \$75 million to \$414 million a year.

Basic Beliefs

The Methodists believe in God as the Father and Friend of every believer.

They believe in Christ as the Savior, the divine son of God who came to teach us how to live the kind of life that is best here on earth and which is immortal after death. They believe that the greatest honor that can be paid to Christ is to live His teachings—practical Christian living here and immortality in the next world.

They believe in the active work of the Holy Spirit in the mind and heart of the believer, and to live best by God's strength, not our own. So they believe thoroughly in the "New Birth" and the "New Life."

They believe in a clean and wholesome moral life. God forgives sins, but He demands clean and upright living afterward, as an evidence of the reality of repentance. Honesty, integrity, righteousness, clean speech, dependability in public and private affairs is the kind of life demanded by the Methodist Church.

The Methodists have always believed in social as well as personal righteousness. From the beginning the church was a reforming church, conducting outstanding crusades against social evil. It is still doing this.

They believe that the Bible contains the Word of God and should be read every day by each believer. The Bible is our best authority for religious living and belief.

Immortality is one of the basic beliefs. It is their firm belief that there is no death for the believer. Therefore, they believe that Christ posi-

tively told His disciples that He had prepared a place for His people. This means that the family of believers may be separated for a time but there will be a reunion in the great beyond. Their religious beliefs not only include the best kind of life here, but the "great beyond" as well.

The Methodists believe in conscientious Church loyalty, which includes regular worship, training of children in the church school, financial support up to the limit of one's ability, and active work to secure new members. One's religious insight develops as one accepts responsibility.

Methodists have only two sacraments—Holy Communion and Baptism. They believe active personal religion and moral living enable one to understand and believe the teachings of the Church.

Methodists claim that the Methodist Church is the exponent of practical religion. It believes in the things that make life more Christian, more moral, more progressive.

This is the reason given for belief in cooperation with all other churches. Each is a part of the family of God, and through cooperation and understanding the Kingdom on earth can best be promoted.

Church Government Sequence of Authority

The leading officials of the church are bishops and there are now thirty-seven active bishops residing in the United States. The governing body of the Methodist Church is the General Conference which meets every four years. Each bishop presides over an area. The area, in turn, is broken up into conferences of which there are 100—about three to an area. The conference, in turn, is broken up into districts (about 570 in the United States), each presided over by a district superintendent. This organization makes it possible for each local church to be in touch with the other churches and for an idea and plan to be disseminated.

There are general boards and agencies whose duty it is to look after certain interests in the Church. Some of the major agencies are the Boards of Missions, Education, Evangelism, Lay Activities, Publication and Temperance. There is also the District Board of Church Location and Building which is responsible for the selection of sites, approval of preliminary drawings, working drawings and specifications. Their headquarters are in such cities as New York, Philadelphia, Chicago and Nashville.

The local church is organized and governed by an official board. This is the administrative body that transacts the business of the local church, helps the pastor and otherwise looks after the spiritual and material welfare of the church.

The work of the local church is carried out by commissions. There are five required commissions and additional optional ones.

The Commission on Membership and Evangelism leads the church in seeking, cultivating and winning prospective members. It helps in their assimilation, restoration of the inactive members and deepening of the spiritual life and devotional practices of all members.

The Commission on Education directs all of the educational work of the local church, including the church school and the youth groups. It provides for the training of officers, teachers and leaders and counsels with them concerning the literature they use.

The Commission on Missions cooperates with other local church agencies in the development of the missionary life and spirit and the promotion of missionary support.

The Commission on Stewardship and Finance promotes and administers the financial program and cultivates the spirit and practice of Christian stewardship on the part of all members.

The Commission of Christian Social Concerns promotes temperance and the general welfare, peace and world order, human relations and economic affairs.

Wesley found that it was necessary to secure deeds to all his chapels which would place the ownership in the Conference and not the local trustees. This "Deed of Settlement" comes down to them in the form of the Trust Clause. This practice of the building of a church house for Methodist Societies was continued in America.

Contracts for architectural services must be signed by the president of the official board of the local church, with the approval of the pastor. The official board is composed of the trustees, stewards and all chairmen of the respective local church organization's committees.

Buildings

Types of Buildings

There are no particular types of churches except a missionary church, which is supported, and a self-supporting church. As with most evangelical churches, it is built for the religious message to every member of the family. The building of religious education may be a part of the entire structure or a separate structure; however, it does take a larger area, in proportion to the sanctuary. While, in the decoration of the interior of the sanctuary, many symbols may be used, these have no sacred value attached and are purely traditional.

Mandatory Planning Requirements

There are very few mandatory requirements in the Methodist Church. The cross as symbol of the Christian faith has become almost mandatory. Communion is always taken at the rail in front of the chancel, therefore, the communion rail is always between the congregation and the

altar table. The railing is usually raised one step to facilitate kneeling.

The Methodist Church is a social church; therefore, a social or fellowship hall is mandatory, with a large kitchen adjacent.

The fellowship hall should be easily accessible from all portions of the church plant. It is mandatory that kitchen and lavatory facilities be immediately available to this area. While the kitchen facilities must be immediately adjacent to the fellowship hall, these facilities must be so designed that noises or odors from the kitchen will not penetrate into the social hall area, causing distraction to a speaker, etc. The major number of fellowship halls house a stage—from a simple speakers' platform to a completely equipped stage, depending on the program of the church. All stages should include facilities for a large screen to permit audiovisual education presentations.

Other Planning Considerations

The narthex is the main entrance to the nave, and it may be entered directly from the street or from a large church vestibule. The baptistry is never adjacent to the narthex. In some well-designed Methodist churches, the narthex connects, not only with the cloak room, but with the chapel narthex and possibly with the church's reception room or parlor. The narthex may also be used to connect the balance of the building.

The nave is the area where the congregation is seated. Inasmuch as no kneeling at pews is required, the spacing of the pews may be arranged for normal auditorium seating. The center aisle has become in recent years almost a mandatory requirement due to the use of the church for weddings and processions. However, this again is left to the individual church and its architect.

There has been an emphasis among European and American churches recently on the "gathered-round" idea. This has tended to produce churches in the round. From the standpoint of Methodist policy, this creates numerous problems. Methodists claim that it tends to over-emphasize the Sacrament of the Lord's Supper, which is observed about once each month in most Methodist churches, as it places great stress on the communion table. The claim of "the Presence," as if God were present on the communion table or in the elements, is a non-Protestant idea to this faith. The only visible Holy Place, the only material point at which the meeting occurs between God and men, is the physical gathering of believers, to whom Christ imparts Himself through His Holy Spirit, when they hear His word and celebrate the sacraments which He ordained.

This view is stated by Professor André Bieler in these words: "The only real temple of the Divinity on earth, His only formal habitation, is

the community of the faithful. Every member of it is one of its living stones."

Further, the emphasis on the communion in a "gathered round" fashion means that the building is designed primarily for this one function and is, consequently, inadequate for the regular worship service.

Additional seating capacity may be obtained by means of a balcony in the nave when the floor area will not allow this to be accomplished on one level due to the fact that land is scarce or expensive. Should it become necessary to have a balcony, then it is recommended that it be put over the narthex, not projected over the nave pews.

The chancel area is at one end of the nave. It may expose the symbol of the Christian faith—the Cross. Communion is served by the pastor, from the altar table, to the congregation at the communion rail.

The chancel floor is elevated, above the nave floor, for better visibility on the part of the congregation. The altar table is usually located in the center and may be placed against the end wall or away from the wall. On non-communion Sundays, the table is decorated with flowers and/or may have a free-standing cross (provided this symbol is not exhibited in other decorative fashion). In recent years the choir has been installed on both sides of the chancel. One side usually includes the organ console and space for the choir director. (All precautions should be taken to conceal the director from the congregation.) Recent contemporary churches have been designed to have the entire choir located on one side of the chancel with the organ console and choir director located on the other side of the chancel, hidden behind a pulpit's sounding board.

The entire chancel area must give an impression which is conducive to worship; conducive to prayerfulness and quiet. It must have dignity and strength and the feeling of a place set apart. The high purpose of the area must be clearly defined by the prominence of altar, font and pulpit.

There shall be sufficient space and proper arrangements for all the liturgical acts. The acoustics of the chancel area shall be such that the congregation can clearly hear the organ and choir and still have well-balanced sound within the chancel itself. While many excellent materials have been used for the chancel floor, a thick carpet is preferred by most pastors. However, since this may create a problem in acoustics, it will have to be left to the architect's decision.

Needless to say, should the choir and organ console be placed in the chancel area, the organ console and the choir must be situated as inconspicuously as possible.

The lectern, from which the Word is read, and the pulpit, from which the Word is preached,

should be built into the chancel area setting. These should be thought of as part of the nave rather than of the chancel, and should, therefore, project into the nave beyond the chancel area. This location in the nave brings the minister of the Gospel into the midst of the people, as it were, for the proclamation of the Word. The floor of both the lectern and pulpit should be above the chancel floor—the height of which may be determined by the design and general scale of the building. The baptismal font stands on the nave floor, and it should be of exquisite design and finest materials.

Where a chapel is designed in conjunction with a church building, the chapel should be easily accessible to the main structure. The approach may be made directly from the street with its own narthex, from the main narthex, or from the weekday entrance to the church. If the chapel is to be used for weddings, most ministers stress that there should be access to the chancel end of the chapel for the pastor and groom. While, generally speaking, the chapel is a miniature of the main church, it is devoid of choir area and should have a chancel area of exquisite detail. In some larger chapels an organ is utilized; thus, the console of the organ is in the chancel area and usually sufficient space is allowed for a soloist.

The Methodist program of religious education requires the accommodation of people from the cradle through adulthood. Thus it becomes necessary for the design of this building to allow for facilities to accommodate cribs, activities of young people and adult education and activities. Care should be taken to insure a non-congested traffic pattern with regard to entrances and exits to religious education area and sanctuary area. Classrooms, of course, are proportional for each age group. The nursery usually has a small kitchenette for bottle-warming, cribs, and playrooms—all interconnecting. In the average church, usually the kindergarten department will utilize two classrooms; the primary and the junior departments, perhaps three classrooms; the intermediate department attendance is usually somewhat smaller than the junior department. As far as seniors are concerned, many young people attend college, which usually results in a relatively small number of persons to be housed. However, a church located in a college town will often be disproportionately large in numbers of persons participating in the senior program. The adult classes may be composed of all women, all men or a mixed group. Often this group utilizes facilities of the church which are not in use at the particular moment—the library, parlor, pastor's office, etc.

The Methodist Church requires robing rooms and the location of these rooms will depend on the program of the church. However, robing rooms, with their respective lavatories, should be adjacent

to a choir rehearsing room and strategically located so that the choir, emerging from their rehearsing room on Sunday morning, will have easy access to the chancel or the narthex for procession. It is to be stressed that there should be choir access to either end of the sanctuary from the balance of the building in order that the church may have the option of having or not having a processional. Consideration should be given to locating administrative offices (church office, pastor's study, assistant pastor's office, office of religious education, music director, etc.); church library and parlor, etc., near the designated week-day church entrance. Stairs, storage areas, lavatories and the like should be strategically placed for the proper function of the total church plant.

Mechanical rooms must be so placed and mechanical work so designed as to insure that there will be absolutely no mechanical sounds penetrating into the sanctuary area.

Where the law provides that no street parking of cars is allowed, or in congested areas, parking provisions should be made on the church property. Recent studies reveal that a maximum of three persons per car shall be calculated for church parking areas.

A room should be provided for gardening equipment, snow removal apparatus, etc., and this area should open directly to the out-of-doors.

Glossary

Altar: Originally an elevated structure on which sacrifices were offered; now used to designate the Communion table

Baptismal Font: A receptacle on a stand containing water for its ceremonial application, as initiatory or sacrament of the Christian Church

Ceremonial: System of ceremonies, rites or formalities prescribed for or observed on any particular worship service

Chancel: That portion of the church sanctuary set apart for the clergy and sometimes the choir

Chapel: A small place for worship in a larger building or in a building of its own

Choir: Part of the sanctuary reserved for singers

Choir Rail: The screen or rail in front of the first row in the choir

Communion Rail: A rail where the pastor serves Communion to members of the congregation. It may be placed completely in the chancel area, around or three sides of the Communion table; or forming a division between nave and chancel

Communion Table: A table holding the vessels containing the bread and wine with which the act of Communion is performed, consisting of sharing this sacrament by complete participation of the congregation

Dossal: A hanging of fabric behind an altar or Communion table

Lectern: The reading-desk from which the Scripture lessons are read at worship service

Liturgical: Designates form of public worship and pertaining to the liturgy or Eucharistic service

Narthex: The vestibule area prior to entrance into the nave

Nave: Body of the church with seating for the congregation

Parlor: A room of ample dimensions, informally furnished, for small social gatherings

Pulpit: The desk in a church from which the sermon is delivered

Reredos: The screen or ornamental work, at the back of the altar

Sacrament: A visible sign instituted by Jesus Christ to confer grace or Divine Life on those who are worthy to receive it. The sacraments of the Protestant Churches are Baptism and the Lord's Supper

Sanctuary: That area of a church building, or a building in itself, designed for worship

Social Hall: Or Fellowship hall—a large room used for religious and social fellowship

Tester: A canopy over the pulpit

Transept: In a cross-shaped church, that part of the room extending across the nave and beyond its side walls to form the arms of the cross

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T&E IN '63:

the new tax rules on deductibility of expense for travel,

by ALVIN B. RUBIN, Legal Counsel, Louisiana Architects Association

WHEN AL ZIGGURAT FILED his 1962 income tax return he deducted \$180 for dues paid to the University Club, which provides luncheon and athletic facilities downtown. He also deducted \$250 for dues paid the Country Club.

Al had found membership in these organizations to be a professional advantage. He could meet prospective clients in a favorable atmosphere and entertain friends and business contacts. Although his wife and children could enjoy the facilities as well, and Al made some use of them for social purposes, Al considered this part of maintaining his status in the community and building up professional good will.

The Ziggurats frequently gave cocktail parties and dinners, inviting compatible groups which included people who might need the services of an architect in the future. Al deducted these expenses in his tax return.

Al also deducted maintenance and depreciation on "The Bough-House," his rustic summer camp, at which he entertained prospective clients and their families on weekends. Since he used his car one-third for business purposes, he deducted one-third of his total automobile expense, including depreciation.

Al and his wife usually combined a trip to the AIA Convention with a vacation. In 1962, they attended the Dallas Convention and stayed on in Dallas for 10 days after the meetings ended. Al deducted the cost of a round trip airplane ticket, although he did not, of course, deduct the cost of his wife's fare.

In 1963, most of these items will *not* be deductible. Some of them will be partly deductible. But Al must keep much more detailed records than he has in the past to support any of these income tax deductions.

These deductions are referred to by accountants, lawyers and Internal Revenue Service Agents as "T & E expense" (ie, outlays for travel, entertainment and similar activities). In 1962, Congress passed a new law, IRC Section 274, restricting the amounts which can be deducted for "T & E" and imposing new record-keeping requirements for such expenses. The regulations and proposed regulations interpreting the new law's provisions are over 30 pages long; here's a bird's-eye view of the impact of the rules on Al Ziggurat—and you:

The following basic changes have been made in the law.

1 No deduction will be allowed for the cost of entertainment, amusement or recreation unless it is "directly related to the active conduct" of your practice, or unless it directly precedes or follows a substantial and bona fide business discussion and was associated with the active conduct of your business.

This means that the expense of taking clients to night clubs, restaurants, social clubs, theaters, hunting or fishing trips, athletic events, or like affairs will be disallowed unless you can show that this particular entertainment was directly related to your professional practice. The expense of entertaining clients to build good will or to attract possible future business is *not* deductible. However, entertainment expenses incurred directly before or after a substantial and bona fide business discussion are deductible even though they were not "directly related" to your business. Some examples of this new rule are:

Example (1) If you spend the afternoon discussing a building project with a client, you may deduct the cost of taking him (and his wife) to dinner afterward. You may also deduct the cost of taking

entertainment, business gifts

53.42
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 1046.16

him and his wife to a night club after the meeting. The expense will be considered incurred "directly before or after the meeting" under some circumstances even though they are not incurred on the day of the meeting. Thus, if an out-of-town client arrives Wednesday evening for a Thursday meeting, you may deduct the cost of entertaining him and his wife Wednesday night.

Example (2) You cannot deduct the cost of a cocktail party or dinner given to build or maintain the good will of clients and prospective clients.

Example (3) If you take a client and his wife to the Army-Navy game, you cannot deduct the cost of the tickets (unless this is directly before or after a business meeting). The new rules on business gifts permit you to make a gift to a client of two tickets (or any other article costing less than \$25) and to deduct the expense—unless you accompany the client. If you go with him to the affair, you are entertaining him.

2 No deduction will be allowed for expenses incurred with respect to an entertainment facility unless it is used primarily to further your practice and its use is directly related to the active conduct of your practice.

The term "entertainment facility" includes boats, airplanes, automobiles, apartments, hunting lodges, fishing camps and other places normally used for entertainment. No part of the expense of maintaining such a facility is deductible unless it is used at least 50% of the time for business purposes. If it is used at least 50% of the time to further your practice, you deduct that portion of the expenditure incurred for business purposes—but no more.

Example (1) You have a fishing camp which

you use 40% of the time to entertain clients and 60% of the time for personal purposes. No deduction whatever is allowed. If you use the camp 75% of the time for entertaining clients, then you can deduct a portion of the expense. You must show on which occasions you actually engaged in a serious business discussion. If you can show that on one-third of the dates when you were at the camp with clients, you engaged in serious business discussions, you can deduct only one-third of your 75%, that is, 25% of the total expense of maintaining the camp (including depreciation). However, even if you do not use the camp at least 50% of the time for business purposes, you can deduct out-of-pocket expenses incurred in entertaining there on occasions when you engaged in a business discussion or provided entertainment directly preceding or following a business meeting. The expense allocable to the occasions when clients were entertained merely to build good will is not deductible.

Example (2) You own an automobile. Thirty per cent of the mileage on the car is logged in business use and the rest in personal use. No part of your automobile expense is deductible. If 75% of your car's mileage is assigned to business, 75% of the expense is deductible. Portal to portal is out: that part of the mileage registered going from home to your office and from your office home is considered personal and is disallowed.

3 No deduction will be allowed for any entertainment expense which is lavish or extravagant under the circumstances in which it is incurred.

By the nature of things, most architects (and lawyers) won't have to worry much about this limitation. Whether an expense is lavish or extravagant will depend upon the circumstances of each case.

4 No deduction will be allowed for club dues or fees paid to any social, athletic or sporting club unless the club is used primarily for business purposes.

Remember, "primarily" means more than 50% of the time. If you visit your University Club on 50 days during the year, you must be able to show that on at least 26 days the visits were with clients or prospective clients before you can deduct any of the dues. If you show that the visits on 30 out of the 50 days meet the definition given below for business, meals or business discussions, you can deduct 60% of the dues.

Civic organizations, such as Rotary, Kiwanis or Lions Clubs, and professional groups, like the AIA, are not considered social clubs. The new rules do not apply to these organizations, and dues paid to them are still deductible if incurred for business purposes.

5 Deductions for "business meals" are allowed.

Business meals are in a separate category from other T & E expense. The meal must be in a place free from "substantial distraction." Night clubs won't do. Scantly dressed young women are also considered diverting. If, however, you do buy a client a meal in a quiet place, you need not prove that you discussed business. You must only be able to talk. And, under such circumstances, the entire cost is

deductible, including your own meal and meals for your wife and the wives of your clients. The cost of drinks before such a meal, or the cost of drinks in a quiet bar or lounge, is also deductible.

6 Deductions for business gifts are limited to \$25 per individual each year.

You must be careful, however, to distinguish between gifts and entertainment. If you accompany a client to an entertainment, the cost of taking the client is not a gift. There is a gift only if you give tickets to the client and do not accompany him. An expenditure for food or beverages will be considered a gift only if the product is packaged when it is given, and intended to be consumed at some later time.

7 Deductions for travel expense will be limited if part of the trip is spent for personal purposes.

If a business trip takes no longer than a week, or if the time spent on personal affairs during the trip is less than 25% of the total time away from home, all expense is deductible. If the trip takes more than seven days, then the expenses must be allocated based on the time spent for personal purposes and the time spent on business purposes, and only the business part of the expense is deductible, unless the time spent in personal activities is less than 25% of the time elapsed during the trip.

Example (1). You went to the AIA convention in Miami by air. You spent one day going, two days on business, two days sight-seeing and one day returning. Since your trip was primarily for business and took less than seven days, all your expenses are deductible.

Example (2). You went to the AIA convention in Miami by air. You spent one day going, four days at the convention, three days at Nassau and one day returning. Since your trip was primarily for business, part of the expense is deductible. However, since the trip took nine days and the three days spent in personal activities amounted to more than 25% of the total time, you may deduct only two-thirds of the expense.

When you are taking a business trip with some time set aside for pleasure, you may therefore be able to save taxes by 1) keeping the trip time down to seven days or less; or 2) on trips longer than seven days, spending more than three-fourths of your time on business affairs.

The new law prohibits any deduction for T & E expense unless you can substantiate your deduction by adequate records or other evidence aside from your own statement.

To claim a deduction for entertainment, you must be able to show:

1 The amount of each separate expenditure except that you may show a daily total for such incidental items as taxi fares or telephone calls.

2 The date of the entertainment.

3 The place at which you entertained, its address and a description of the entertainment (unless this is apparent from the name of the place).

4 The business purpose of the expense and the nature of the business benefit which you expected to gain.

5 The name and business relationship to you of each person whom you entertained.

If you claim a deduction for entertainment directly preceding or following a business discussion, or for a business gift, you must be able to produce similar supporting data.

1 The amount of expense you incurred

2 The time, including date and duration of the business discussion.

3 The place at which it occurred

4 The nature of the business discussion

5 The name of each person who participated in the discussion

If you give a business gift, you must be prepared to prove:

1 The cost of the gift

2 The date of the gift

3 A description of the gift.

4 The business purpose of the gift, including the business benefit you expected to derive from it.

5 The business relationship to you of the recipient of the gift

To support your deduction for travel expense, you must be able to show:

1 The amount of each separate expenditure such as cost of transportation or lodging; you may however submit merely separate daily totals on your own meals, gas and oil, and taxi fares.

2 The dates of departure and return for each trip and the number of days away from home spent in business.

3 The name of the place or places to which you went.

4 The business reasons for your trip.

You must maintain records which will "constitute clear proof" of your expenditures. These may consist of a record of the elements of the expenditure made at or near the time you spent the money. You must maintain an account book, diary, statement of expense or some similar record. You must get a receipt for any expense for lodging and for any other expenses of \$25 or more, except for transportation charges for which you may obtain later documentary evidence. If your wife accompanies you on a trip get two bills, one for the cost of the room (your cost) and a separate bill for the additional charge made for your wife's occupancy.

In other words, you must keep a full diary of your activities while on trips and a full record of your entertainment expense whether on trips or at home. In order to serve as a tax record, the diary should be kept contemporaneously, not based on entries made from memory. Your travel diary should include notes covering all of the information listed above and a complete list of your expenses.

You can purchase expense vouchers or expense diaries at any stationery store. Let your lawyer or accountant take a look at the one you propose to use before you start, and then be sure to keep your records accurately.

Of course, all of this is going to be a lot of trouble. But if you expect to deduct T & E expenses (and don't want the deduction to be disallowed later), it is essential. ◀

The National Architectural Accrediting Board

by ALBERT S. GOLEMAN FAIA, Immediate Past-President, NAAB

BECAUSE OF QUESTIONS asked and letters of inquiry received in the past, it appears necessary to issue a statement as to how the National Architectural Accrediting Board functions, who appoints its members, what are its policies, and the procedures employed in the process of accrediting schools of architecture. It is hoped that this article will provide some of the answers to the questions raised.

The National Architectural Accrediting Board was created in 1940 by a joint agreement of The American Institute of Architects, the Association of Collegiate Schools of Architecture and the National Council of Architectural Registration Boards. It is financed by these three organizations through annual contributions. The purpose of the NAAB is to accredit schools of architecture in the United States and annually publish a list of those accredited schools.

The Accrediting Board consists of six members appointed by the President of the AIA for six-year terms. Two members are selected from the AIA membership, two from the ACSA and two from the NCARB. The officers are President and Secretary.

The agreement creating the Accrediting Board established the governing policies by which it functions. The Board has through the years added supplementary policies to clarify the intentions of the original agreement.

Several years ago the Board began the establishment of a headquarters office in the AIA office building and engaged part-time secretarial personnel to handle its business. In June of last year an Executive Secretary was employed. The headquarters office is now in operation and the address is 521 Eighteenth St, NW, Washington 6, DC, to which all correspondence should be mailed. Letters requesting routine information are answered by the Executive Secretary but letters of a complex nature are forwarded to the Secretary or the President for reply.

The Board has two meetings a year. The Annual Meeting is generally held in the AIA convention city prior to the AIA convention. The Annual Interim Meeting is held at least thirty days prior to the Annual Meeting at the Octagon office building in Washington. The Executive Secretary attends these meetings and handles the paper work necessary to implement and record the activities of the Board.

In order to obtain information on which the

NAAB bases its decisions, the Board uses a prepared checklist of items consistent with the original agreement and policy statement prepared to assist in evaluation procedures. Visits are made periodically to the various schools of architecture. Each school is judged on its own merits, and no attempt is made to dictate to a school of architecture how it should conduct its program. The NAAB considers the stated objectives of each school and bases its evaluation on how these are accomplished.

The Board makes no attempt to compare one school of architecture with that of another nor to classify the offerings as to their related quality.

Accreditation is normally given for a five-year period and therefore accredited schools of architecture are usually visited once every five years. Each school is requested to submit to the Board an Annual Interim Report noting any significant changes which may have occurred. When a school is accredited for the first time, it is generally given provisional accreditation for a period of two years, at the end of which time it will again be visited. If it has shown improvement, it is normally given a five-year accreditation. If no progress has been made in complying with the previous recommendations of the NAAB reported by the first visiting committee, the school might be given another two-year provisional accreditation or be removed from the list of accredited schools. A fully accredited school will either be granted accreditation, for another five year period, lose its accreditation, or be given a provisional status.

Provisional accreditation for a two-year period has all the advantages of full accreditation during that period and is considered an accredited school. However, provisional accreditation serves as a warning that it must show some improvement in fulfilling its objectives in a manner befitting a good architectural educational program.

There are presently fifty-three accredited schools, with an average of about one new school seeking accreditation each year. This means that with schools with normal accreditation being visited every five years, provisional schools every two years, and one or two new schools each year, there are from twelve to fifteen visits each year. Evaluation teams are normally made up of three members with one member from the Accrediting Board serving as Chairman; the other two members are selected from

the AIA, the ACSA or the NCAAB, depending on the representation of the NAAB team members.

When a school seeking accreditation is visited the first time, the team is usually made up of four members, with two from the NAAB. This procedure is normally employed on a visit to a school with provisional accreditation.

Inspection visits are made approximately sixty days after school starts in the fall in order to see the school in full operation, and must be completed thirty days prior to the Interim Meeting in order to allow the Board to review the visiting committee's reports. Prior to the visits each school of architecture is required to submit an evaluation report. These reports are sent to each member of the inspection team for his review. The inspection team's evaluation reports are read at the Interim Meeting and official action taken by the Board. Following this meeting, the President of the NAAB reports to the Presidents and to the Heads of the schools of architecture of the respective universities. Shortly thereafter an official list of accredited schools is published and distributed.

At the Annual Meeting the schools to be visited during the coming year are reviewed and the members of the evaluating teams are selected. Assistance in making the selections is rendered by the President of the three founding organizations. Following the Annual Meeting a letter is written to the head of the school of architecture of each school to be visited asking if he approves of the team members selected. If there are objections, alternate selections are proposed. Once the team members are approved they are asked if they would be willing to participate. Normally, unless there is a conflict in scheduling the invitation to serve is enthusiastically received. Alternates are generally selected at the Annual Meeting to fill in for those who may not be able to serve. The Chairman of the visiting team then gets in touch with the head of the school and the members

of his team to agree upon a date satisfactory to all the parties. Visits generally take from two to three days.

It is customary for the team to draft notes for its report before leaving the school. The Chairman writes up the report and circulates it to the members of his team for their comments. The report is put into its final form and mailed by the Executive Secretary of the Accrediting Board to await official action at the Interim Meeting. After official action is taken by the Board and the List of Accredited Schools is published, no further action is taken until the next visit.

New schools wishing accreditation for the first time should write the Secretary in Washington making a request for an official visit. The school will then receive a questionnaire asking for certain basic information from which the Board can determine if the school warrants an initial visit. Before a school is visited it must have graduated students from a five-year course in architecture. The Board is authorized to accredit only the schools offering a program leading to a baccalaureate degree and has no authority to accredit programs in graduate work. The NAAB is not authorized to accredit such related courses as architectural engineering, city planning, building construction, interior design, or landscape architecture.

Loss of accreditation affects the graduating students' chances of becoming a registered architect in the minimum period of time and, of course, reflects serious conditions existing in the school that can and should be corrected.

Serving on the Accrediting Board can be one of the most interesting and enlightening experiences in an architect's professional career whether it be in practice or in education. It affords the practitioner the opportunity to keep in touch with the progress being offered in the schools of architecture and enables the educator to observe other schools in operation in order to better evaluate his own. ◀

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:

Regular rate	\$7.00
Professional rate	5.00
Chapter Associate rate	4.00
Architectural Student rate	3.50
Single copy	1.00
Foreign rate—add \$1.50 to the above	

The new "Professional rate" is to be extended to all members of the allied professions—landscape architects, planners, engineers and those in the collaborating arts. Address any inquiries to the Circulation Department, *AIA Journal*.



Pan Am '65

IN MAY 1965 THE ANNUAL AIA CONVENTION will be held in Washington, DC, in conjunction with the eleventh Pan American Congress of Architects. With our Latin American relations assuming greater importance in national affairs, this undertaking places great responsibility on us. We welcome it; indeed we solicited it when Phil Will issued the formal invitation in Buenos Aires during his presidency of the AIA.

Each country participates in these Congresses through its membership in the Pan American Federation of Architectural Associations. This is the official body concerned with architectural matters in the Western Hemisphere. Its functions in the field of architecture are similar to those of the Organization of American States (Pan American Union) in hemispheric policy, the Pan American Health Organization (Pan American Sanitary Bureau) in matters of health, and others.

By designation of our government, the AIA is the agency which represents the United States in the PAFAA and its Congresses. Although we were one of the founders of the Federation in 1920, this will be the first Congress to be held in the US.

All delegates to the ten previous Congresses will remember with pleasure the way they were received in Latin America. We are preparing for a meeting which will have all the gaiety of the previous Congresses. With our Latin American friends and their families to join us, the Capital City will be alive with excitement.

At the same time, we expect to offer a program of unusual dignity and importance. For the panel sessions we are assembling a roster of distinguished speakers who will be heard around the world in three languages on the theme, "Cities of the New World." This should be an occasion to match the AIA Centennial Celebration of 1957.

Because congresses of this kind offer a prime

opportunity for a country to project its national image, our neighboring governments have made generous appropriations to their local professional societies for these meetings. But we recognize this is not the pattern in this country. Your Board of Directors, therefore, has set up a special account to accumulate funds for the 1965 Congress well in advance.



DuMoulin
and
Wharton

Pan Am Planning Team

This is an opportune time to introduce Rockwell K. DuMoulin AIA (left), who joins the headquarters staff as Program Director of the 1965 Congress. A native Chicagoan, he most recently was Chairman of the Division of Architecture at Rhode Island School of Design. Rocky is well qualified for his new assignment, having served as US delegate to the seventh and eighth Pan American Congresses. His extensive consulting experience abroad includes that of directing the Point Four Program of technical aid in architecture in Latin America.

Dale Wharton (right) will work with Rocky to coordinate the 1965 AIA Convention with the Pan American Congress, to be held simultaneously in Washington. Coming to the Octagon last fall after six years on the staff of the American Academy of General Practice, Dale replaced Marvin Mayeux as Convention Manager and wears a couple of other hats: he is Purchasing Agent and Administrative Assistant for the Institute. WHS

Library Notes

Architectural Drawings

A CONSIDERABLE AMOUNT of attention has been paid to the technological aspects of architecture. There has been much written on new methods, new materials and various phases of the structural sciences.

With the mechanization of nearly every field it is expected that architectural drawing, too, will continue in this direction with drafting machines and other forms of automation. And, although the "personal touch" is giving way to the "norm," as we are told by Claudius Coulin in his book "Drawings by Architects from the Ninth Century to the Present Day" (New York, Reinhold, 1962), he assures us that "the clarity and concentration of an architectural idea will always be reflected in the drawing and vice versa" and that the working out of a design will always be an individual achievement.

In collecting the drawings for this book, Mr Coulin came to the conclusion: "In the view of many of my colleagues drawing is merely an affliction and at best a necessary evil." We are happy to be assured by him, however, that this view is not shared by all architects and that most of them appreciate the importance of drawing. Mr Coulin has collected the drawings of some sixty-five architects, including Leonardo da Vinci, Palladio, Inigo Jones, Sullivan, Nervi and Wright. Through a study of the book it is possible to trace the four stages of drawing necessary for a structure.

First there is the rough sketch—drawn on a paper napkin, the back of an envelope or on a sketch pad. The question now is: Will it work? Sketches by Aalto, Eero Saarinen and Joern Utzon are cited as examples of such drawings. Once it is determined that the rough sketch will work, the architect may proceed to the preliminary design, which goes into detail and considers problems of construction. Structural principles and dimensions are now revealed. There is still flexibility, and this point is indicated in the examples given of sketches by Gio Ponti and Nervi.

Then the first concrete step toward the realization of the structure is shown in the final design. There are plans, sections and elevations. Examples of work by Sir Christopher Wren and E. Maxwell Fry are cited. Then the last step is the large-scale working drawing: that "chief means of communication between architect and builder." Theodor Fischer's drawing and one by Henry van de Velde are illustrative.

By its chronological arrangement the book shows how the taste of an era is expressed through architectural drawings. "A sense of style is manifest not only in the architectural treatment but also in the handling of human figures and landscape." Further, the drawings reveal much about the architect himself. While Mr Coulin is frank to admit that he found it difficult to determine whether a drawing was actually made by the architect or simply originated in his office, he maintains that the personality of the master still finds expression in drawings not necessarily his own.

Happily, all the drawings have been reproduced in their actual size. This book reveals "the diversity

of architectural problems and of the equally wide range of possible graphical solutions." Best of all, it underscores the fact that architecture is indeed an art.

Another book, much smaller and less detailed, is "Architectural Drawings from the Collection of the Royal Institute of British Architects" (London, Tiranti, 1961). James C. Palmes, Librarian of the RIBA, states in the Foreword: "This is simply a little picture book, designed to accompany a selection of drawings from the RIBA on an exhibition tour." There are fifty-four examples given, and the brief notes about each drawing are helpful. Although "a little picture book," it underlines Mr Coulin's contention that drawings "reflect the architect's unique temperament and character."

It is inescapable in a time of technology that observers of architecture tend to place emphasis upon its science rather than its art. The books mentioned review the rich history of architectural drawings and serve the particular purpose of reminding the architect of his ancient heritage as an artist. The drawings of a Frank Lloyd Wright or a Louis Kahn remind us that there are in our midst masters of the art of architectural drawing.

The drawings of Wright are presented beautifully in two books: "Drawings for a Living Architecture" (New York, Horizon Press, 1959) and "The Drawings of Frank Lloyd Wright," edited by Arthur Drexler (New York, published for the Museum of Modern Art by Horizon Press, 1962). Mr Wright's drawings have an aura of artistry which has rarely been reached by the architect. His drawings stand as works of art, perhaps, rather than as illustrations of architecture. As many reviewers mentioned at the appearance of the first book cited, his drawings place him alongside the Renaissance masters of this neglected art. Mr Drexler says that however beautiful the drawings, they cannot be separated from the thought and feeling that made them so and that the drawings tell us more about Wright's thought than is apparent in his finished buildings. His drawings are rightly "part of every architect's education. They have long since entered the life and colored the history of architecture wherever it is understood as an art."

The drawings of Louis Kahn have an ability to communicate concepts in an uncanny way. The philosophical ideas of this seminal architect and artist are conveniently conveyed from the mind of Louis Kahn to the communicant by means of a recently published book. Entitled "The Notebooks and Drawings of Louis I. Kahn" (Philadelphia, Falcon Press; distributed by Wittenborn and Co, New York, 1962), this book is edited and designed by Richard S. Wurman and Eugene Feldman. The book is divided into two sections: first, a group of sketches produced during Mr Kahn's European travels and reproduced in actual size and then the early sketches and finished renderings of buildings and visions. The accompanying text, which proves that Mr Kahn is also a poet, is based on transcriptions of Kahn's unpublished speeches. Mr Kahn says, "The painter sketches to paint, the sculptor draws to carve and the architect draws to build." It is his belief that "architecture is the thoughtful making of spaces." In this provocative book this philosophy is manifest.

The books mentioned here are available on loan to corporate members.

MARY E. OSMAN

THE LIBRARY—books and building—as part of the learning center would be closer to the full meaning of the word “library,” but even then the whole thing is rather useless without a staff of librarians and a body of readers to make demands on the whole complex. So books and readers and the library building, well-staffed, make an impact on the learning process. A learning center without a library would not be a learning center. To say the library is the heart of the learning center would be getting close to the truth, but here again the library is influenced by the whole center and the degree to which the library may be the heart of the college depends upon the influences brought to bear on the creation of a new library. The collection can be thin without mental nourishment and unworthy of the college, or it can be made the rich lifeblood of a fine curriculum. Only then can the library be thought of as the heart of the college as a learning center.

It can be a collection with content and a staff with skill and dedication. The physical plant should have the ability to serve collection, staff and reader. Because of tradition and an appreciation of the importance of the contents of the building, the building itself becomes more than a shelter for books, staff and readers. It becomes by the nature of things a symbol of education. There is no other college building which has more responsibility in dealing with that elusive thing called the image. In some cases the chapel takes preeminence as a building. This is fine where the Creator is held up as the giver of every good and perfect gift. But as far as the purely secular side of education is concerned the library is the center of the learning unit, in this case called the college.

How do we create the proper image or impression with this important building on the campus? Do we copy the idea so long used in churches, and build the equivalent of a tower or a steeple? Do we look around for forms to express monumentality? Or do we look at the work the library building has to do and find in it character, to the site and find interesting influences, and to materials and methods which produce quality? If the library building and all of its parts inside and outside are created naturally and skillfully, the whole will develop a personality which will be a reflection of inward char-

The Library as Part of the Learning Center

by J. RUSSELL BAILEY AIA

Another in the series of papers presented at the Seventh Annual Summer Workshop of the Council for the Advancement of Small Colleges. The author is a specialist in the library field, and has designed libraries for city, county and private collections as well as colleges throughout the United States



Walter Hines Page Library, Randolph-Macon College, Ashland, Va.
J. R. Bailey AIA, architect

acter and outward grace. A discriminating person will recognize the depth of character created by such a library design.

Such a building creates some visual surprises. The beauty isn't all on the surface, nor is it all in one place. A well designed library is not a "shirt front" design, nor is a good present-day library monumental. In one sense, a monument is an object designed to memorialize; in another, "monumental" connotes an impressive structure of formal grandeur. In some cases this means classical lines, a building created to follow the style in important buildings in antiquity. This may also mean an attempt to impress by symmetry and ornament.

Architects and colleges have failed in some cases to create li-

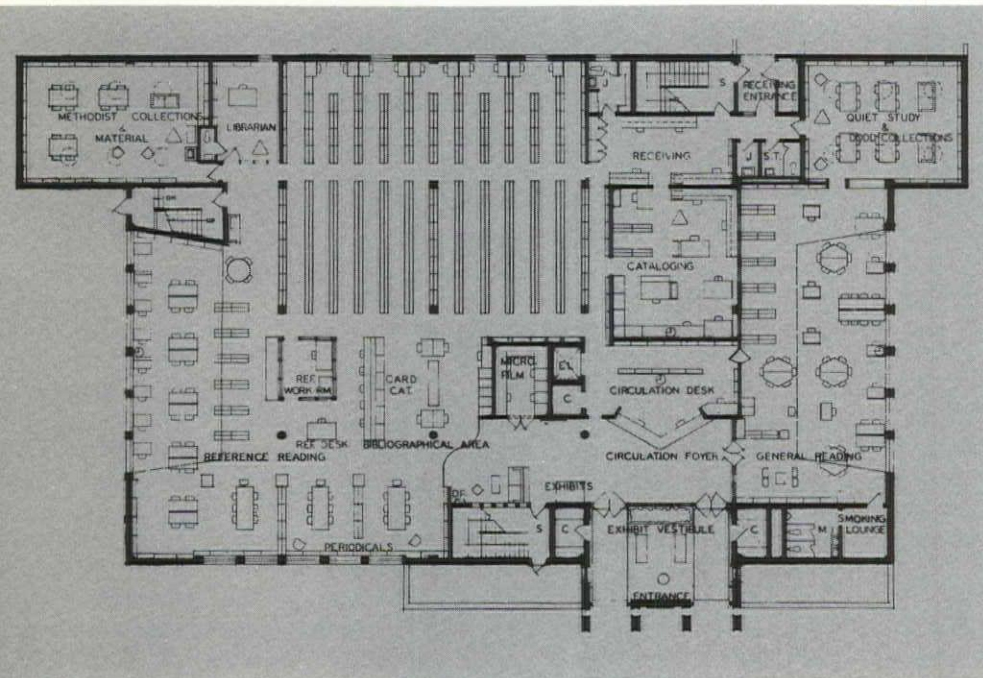
worthwhile character. Relation of the spaces now occupied by buildings and spaces between buildings are sometimes as important as the buildings themselves. Therefore, the architect must have a keen understanding of a comprehensive development of form and function. All of the problems both inside and outside must be solved. It must be remembered that a library building is not designed from the inside out nor from the outside in, but from all sides with each space consideration given skillful treatment to create a synthesis.

Some things the architect will do to create a fine library. He will open the building enough to the outside so that sight of inviting interiors will draw readers inside. He will suggest the value of skillful and

As he deals with books, he is dealing with an interesting unit which he must thoroughly appreciate if he is to design well for himself and his client. Books are in some ways like human beings; they are "fearfully and wonderfully made." Books are designed for human use, to human scale, to human needs, and to human destruction. Books are extremely heavy. The architect will design for their weight. He will do this in such a way as to allow many or few books to be accumulated in a small area. (More about this later.) Books are beautiful or ugly, depending on various conditions. Books are valuable or worthless. Again this depends on many conditions. Books are much used, little used or not used at all. Books are monsters to keep clean and dry and just dry enough. The architect will deal with all of these problems. The librarian will be helpful in advising how to do this. The rare-book lover, the real bibliophile will be after the architect to keep him in line about these valuable lovable items. Books are hard to see and read in various conditions. The architect must be knowledgeable about reading habits, table heights, glare, ballasts, lamps.

The architect will try to design for a perfect atmosphere for reading. This is impossible unless you get perfect lighting designed for one person who will finally give in and say yes, this is perfect. The wise architect knows that he can hire the best lighting engineers and they will do the best they can, and that when it is all finished there will be some people who will not be satisfied. The fact is there is no best lighting for every person. The fact is man doesn't know as much about lighting as he would like to know. I have a feeling lighting—general reading room lighting—is too flat, too "efficient," and too white or cold in most cases. This is just a hint of the problems a library building design presents.

We have talked about books. We should dream about readers for awhile. They are really fearfully and wonderfully made. The architect who knows about them knows a lot about life. If he doesn't know much about readers he should have a few sessions with a wise and experienced librarian. Readers are something! The architect will learn much if he follows them around in a library. Some readers are students and some are professors; some readers are girls and some are boys.



Randolph-Macon library is designed on 22' 8" x 27' module, permitting interchangeable reading rooms, book-storage areas; spacious reading rooms

brary buildings of lasting and sufficient appeal because of the lack of skill and direction needed in developing a really well-rounded building personality. In some cases the easy thing to do is design a new library building which slavishly follows the details of nearby existing buildings. This is apt to make the library look like just another dormitory or classroom building.

The architect should strive for reasonable distinction in his library structure, but at the same time he should consider the surroundings and make the library at least a good neighbor to all other buildings of

artistic planting and sculpture and painting. He will offer well-chosen materials which are, if possible, indigenous. He will introduce a freshness of design which will show how satisfying the simple functions of reading and storing of books can be. He will suggest that a building is not just for first impressions. He will know that a good library should have a character which allows its admirers and readers to discover rich elements throughout the building. The architect for a new college library should be sensitive to the proper use of light and color in all parts of the building.

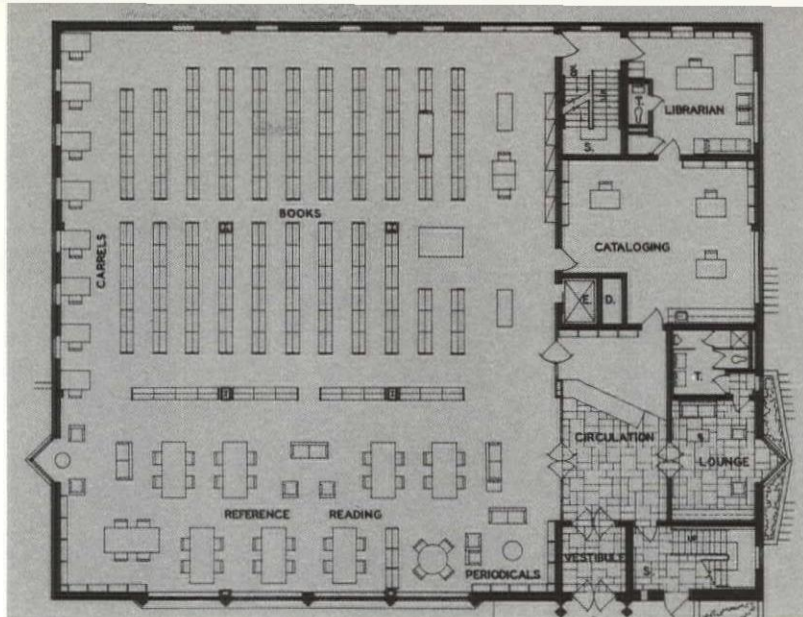
The architect will find out—if he doesn't know—that the serious student likes to read by himself. He likes an individual table and a chair, of course. He likes to read for more than a few minutes. This kind of reader is interested in looking at the books, dipping into them and in discovering for himself the material in the various kinds of collections. The serious reader is usually not the one who gives trouble. His mind is so active and his body is so well-disciplined that he gets lost in books. This is the kind of reader the college is trying to develop.

Readers into Scholars

The architect will be most interested in knowing how to design a library to train readers—to encourage them to make scholars out of themselves. The library building has a lot to do with this. For example, if the architect makes all of the students study in formal reading rooms at large tables in the middle of a pool of activity under the glare of the librarian who is behind the desk, he is not going to encourage the student to become a scholar in the library. The student who is going to become a scholar may end up becoming a scholar in his own room. He may not be as good a scholar that way, because he will miss a lot of books. Many small colleges have libraries which make library use difficult rather than easy. The architect won't want to repeat that kind of error in a new building, no matter how beautiful or expensive the building may be.

It may be interesting and helpful if random notes on design criteria are mentioned. How many reader seats should be provided in the library? To answer this question is to ask more questions—how many students and faculty does the college wish to plan for? What kind of college is being considered?

To start on such an answer let us take three sizes of schools—with student bodies of, respectively, less than 1000; 1000-2000; 2000-3000. For the small, I suggest 50% to 40%; the medium I suggest 40% to 30%; the large 25% to 20% of the combined enrollment (students and faculty) should have seats at reading locations in the library. In general the more scholarly the faculty and the more difficult the curriculum, the larger percentage of seats will be required in the library. Usually the larger the school the smaller the percentage



Westminster Theological Seminary Library, Philadelphia. J. R. Bailey AIA, architect. Entrance and lobby are divided from reading room by glass partition. Carrels adjoin book stacks holding Biblical commentaries

of seats provided in the library. The reasons for this are several and, I am sure, obvious.

How much space should a student have? Most men students need a table space about 2' x 3'. Therefore, tables with seats on each side should be 4' wide. If graduate work is being done 2' 6" by 4' 0" would be a much better space, especially in single study tables.

How many books should be housed in standard shelving arrangements? If ranges of book shelves are spaced about 4' 6" on center and the book compartments are the usual 3' wide, seven shelves to a single faced compartment, there is an average or rule-of-thumb of 14 books per sq ft if the books are shelved at about 250 books per compartment.

If you know how many books you will build for and how many readers you will seat, can you approximate the total size of the library? Within reasonable limits, yes. There are two rules, one you use if you want to be on the ideal side and the other practical minimum in some cases. Rule I says that you multiply the readers by the number of sq ft per reader and add that to the number of sq ft required by the book collection and double it. That should give an approximate size for the library.

Rule II is similar except that you let the books and readers equal 62% of the total size and work out an answer by proportion.

What does a building cost per sq ft? A big question, with no pat answer! It may cost from \$15 to \$60 per sq ft and more. This answer gets more realistic when you

consider the location of the library and all of the many specifications and design items. It is possible to get comparative figures for various areas.

How high are the ceilings in a library? The lowest ceiling is 7' 6", the highest is usually two floors high. The practical height for large areas is 9-10' with the low ceilings at 8' for reading rooms. Most commercial lighting fixtures are designed for the 9-10' ceiling height. It costs more in many respects to go higher than 10'.

The cost of airconditioning alone is a big item. What size column spaces or modules? Make the column spacing fit book compartments. Usually columns spaced 22' 8" on center in both directions is practical. 27' 0" is a better spacing for reading rooms. A 22' 8" x 27' 0" spacing is useful. A 27' x 27' bay is about as large as is usually practical where book loads are superimposed. These are just a few answers to the questions most library designers like to consider.

Remodel or Rebuild?

It is easy to resolve the problem of whether or not to add a library building if there is space enough, if that space is in just the right location, if the library is a grand and much-loved architectural gem, and if the college would consider nothing but keeping it and making it work at any cost. It is easy to decide what to do if a library building is poorly located and there is not enough land, and if the character of the building is not pleasing and its structure not sound. But it is not easy to make a decision when

the conditions are halfway between these two extremes (as is more often the case.) What do we do then? What are the things to check? How do we start?

Why not begin by making a list of questions and then filling in the answers? A checklist can easily be made, but obtaining facts to answer properly all the questions on the list is more difficult. Then what do you do? Follow a do-it-yourself plan, or call in an experienced, talented person to help evaluate the conditions and make a sound recommendation? The answers to these questions should be made on the basis of a balanced consideration of cost for outside, expert advice and for quality of talent among those interested in the library, including both staff and board members. The checklist and its answers can then be worked into a statement of program similar to that prepared for a new building. It will comprise the needs for the library. In this area the librarian is expert.

Librarians are particularly well-qualified to develop a creative list of needs. Creative list means a list born of knowledge, experience and imagination. Such a list would recognize the need for space for books and readers, and space for staff. Requirements would show a desire to develop the library's collection, to create a general interest in the use of the library with all its services, and to develop interest in all means of communicating knowledge and wisdom. A librarian would be quick to recognize needs in making more efficient use of the library staff. The statement of needs would show comprehension of the program. Through it a decision on whether to remodel or to build a new building would begin to come into focus.

Is the existing building structurally sound? Does it meet the requirements of fire safety regulations or of a reasonable code? Is it air-conditioned, or can airconditioning be installed with a reasonable degree of economy? Are the other mechanical services—electric wiring and lighting, plumbing, elevators, heating, ventilation, communication systems, etc.—in compliance with reasonable building codes? Are books and other reading material properly housed? Are shelves adequate? If there is a multi-tier stack, does it prevent a functional addition and alteration? Is arrangement of the library efficient? How can it be improved? Has the library fallen into a general state of disre-

pair? Are floors, lights, walls, furnishings in need of refurbishing? Is the atmosphere inviting, pleasant, and stimulating? And—the big question—is the building planned for efficient use by the staff?

This is a most interesting question for the librarian, but it is equally interesting to the administrator and trustees. If the staff is not working efficiently because of building handicaps, then money is being poorly used. In libraries it's not the building cost; it's the staff cost. Furthermore, if the staff is not as efficient as it could be because of building inadequacy, library service suffers. Keep the library staff happy, and new readers will use the library. It is knowledge and information and wisdom and understanding we need. If the old library building can't do the job, remodel it so it will, or build a new one that will help get library resources into the hands of students.

What It Takes

An ample supply of money is what is needed today for remodeling or for rebuilding. Generally, it costs more to remodel than to construct a new building—square foot for square foot. (There are exceptions, however.) The cost of demolition is high in labor, in dirt, in inconvenience, in damage to books, and so on. It is difficult to obtain a fixed contract for such work without paying a premium price. Also, it is more difficult for the architect. Because it costs him more to do his job, he must add to the cost of his services. As there are many unknowns in remodeling, a large contingency budget must be provided. There are structural risks and dangers involved in many alteration projects. Contractors and architects do not like to take these risks. And some library administrators and boards never quite recover from a full-scale remodeling project!

On the brighter side, remodeling is justifiable if results are satisfactory and if reasoning was correct in deciding to remodel. For example, if a college had to wait a long time for money to be appropriated for a new building, the cause of the library might be largely lost for many years. Remodeling may be the wise thing to do even though it costs relatively more.

Public opinion *can* be molded. (This statement must be made with reservations.) If the college has the potential and if remodeling is the

correct procedure, then sell the idea and convince people they are going to have a fine library, the best library for the conditions, the best for the school. Remodeling does not have to be a second best. It can be the best. We who work on libraries like to think our new library buildings are going to be worthy of remodeling. We like to think we could do a fine job on them if we were called back to remodel our own designs. We think we have planned for additions. There should be no stigma attached to remodeling.

I would like to give here two or three illustrations which are variations of opinion on remodeling. Opinion and decision on this subject can be based on sentiment, or expediency, or can be calculated. Our colleague and library buildings expert, Mr Keyes Metcalf, supplied me with these examples. A perfect example of sentiment is found on the Delaware State College campus. At this school the library was developed from an old slave quarters' building. Here there was no question. The building was to be remodeled at whatever cost would be required.

The donors of Harvard's Widener Library stipulated that no additions were to be made to the building and that the courts were not to be filled in. This calculated bit of foresight is unusual and perhaps unique in the history of library buildings.

How It's Done

A proposal should lead to a commitment and a commitment to a completed project. The proposal is first made to the administration, and then it may have to be voted on by the governing body. At any rate, the proposal to remodel must be clearly and enthusiastically stated, positive, and convincing. Librarian, architect and committee must be convinced themselves that the alterations and/or additions are the best answer at the moment and that the moment is right to go all out for the project.

Giving money for remodeling is not as glamorous as giving money for new construction. But if remodeling is the correct thing to do, make a convincing proposal—and sell the idea wholeheartedly!

If a new building is the answer, the decision to build must certainly be as wholehearted as a clean-cut decision to remodel. A great opportunity for building a college library should be thrilling to those who have this opportunity. ◀

A I A



School Plant Studies

BT 1-53

Mexican Rural Schools



by Eric Pawley AIA, Research Secretary
Staff Executive, AIA Committee on School Buildings
and Educational Facilities;
and Donald Hardison AIA, US Observer for UIA Commission

Photographs by the Authors

One of a series of papers prepared by members of the AIA Committee on School Buildings, and by selected specialists, to make laymen aware of school building problems and trends and to stimulate discussion. They are not intended to be definitive last words and carry only the authority of their respective authors. New subjects are being worked on and contributed articles are welcome. Reprints of these non-technical articles are widely distributed to educators and interested laymen. One copy of each current issue will be sent free of charge—additional copies 10¢ each.

WE HAD THE PRIVILEGE last year of attending the Eighth Reunion of the UIA Working Commission on School Buildings, which was held in Mexico specifically to inspect and evaluate the Mexican Rural Schools. The basic *schoolroom-plus-teacher's dwelling* developed for this national program was awarded the Grand Prize for School Architecture at the 1960 Milan Triennale and attracted a great deal of interest from visiting architects and educators. It is a simple and psychologically sound solution for developing countries, combining a degree of quality-control with local community involvement.

The *Aula-Casa Rural* is partially built and equipped with compatible, prefabricated components, furnished by the government only on the condition that they will be supplemented by slab and certain enclosing elements produced by local labor and materials. It is capable of a considerable range of variation since the components are compatible and are designed for flexibility in arrangement and expansion. The system works so well that it is already being expanded into housing and other building types, even including light multi-story construction.

US Evaluations

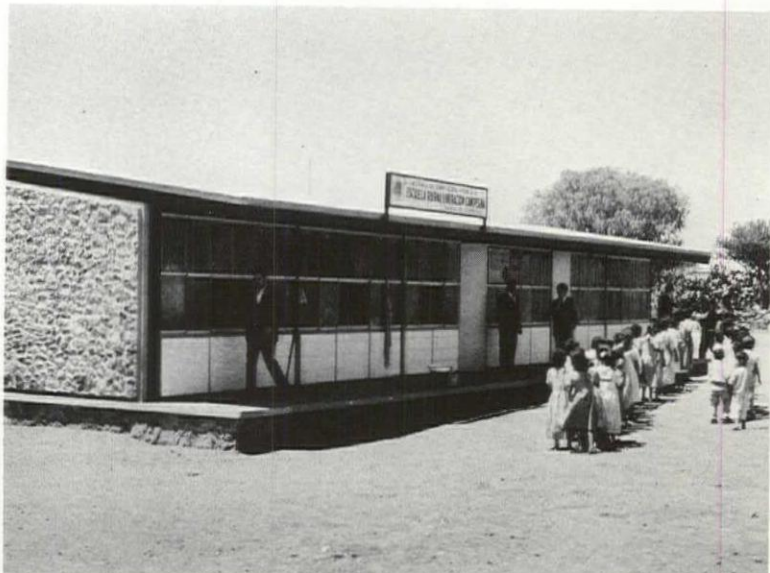
Participants in the UIA meeting were requested by the Mexican officials to make individual comments and evaluations of this program. Our two statements were substantially as follows:

"It is obvious in the design that a great deal of attention has been given to providing a basic minimum facility which will offer the rural student a satisfactory environment for vital educational processes. The pre-engineered structural system appears to be an ideal solution to the first step in providing a standard of teaching/learning space and sanitation for various communities. Use of local materials for floors, roofs, and filler walls (note variation in photos) is probably the most significant aspect of the design, for in this one concept is uniquely combined the triple advantages of local citizens' support, individuality of materials and textures, and a training program of great value to progress in each community.

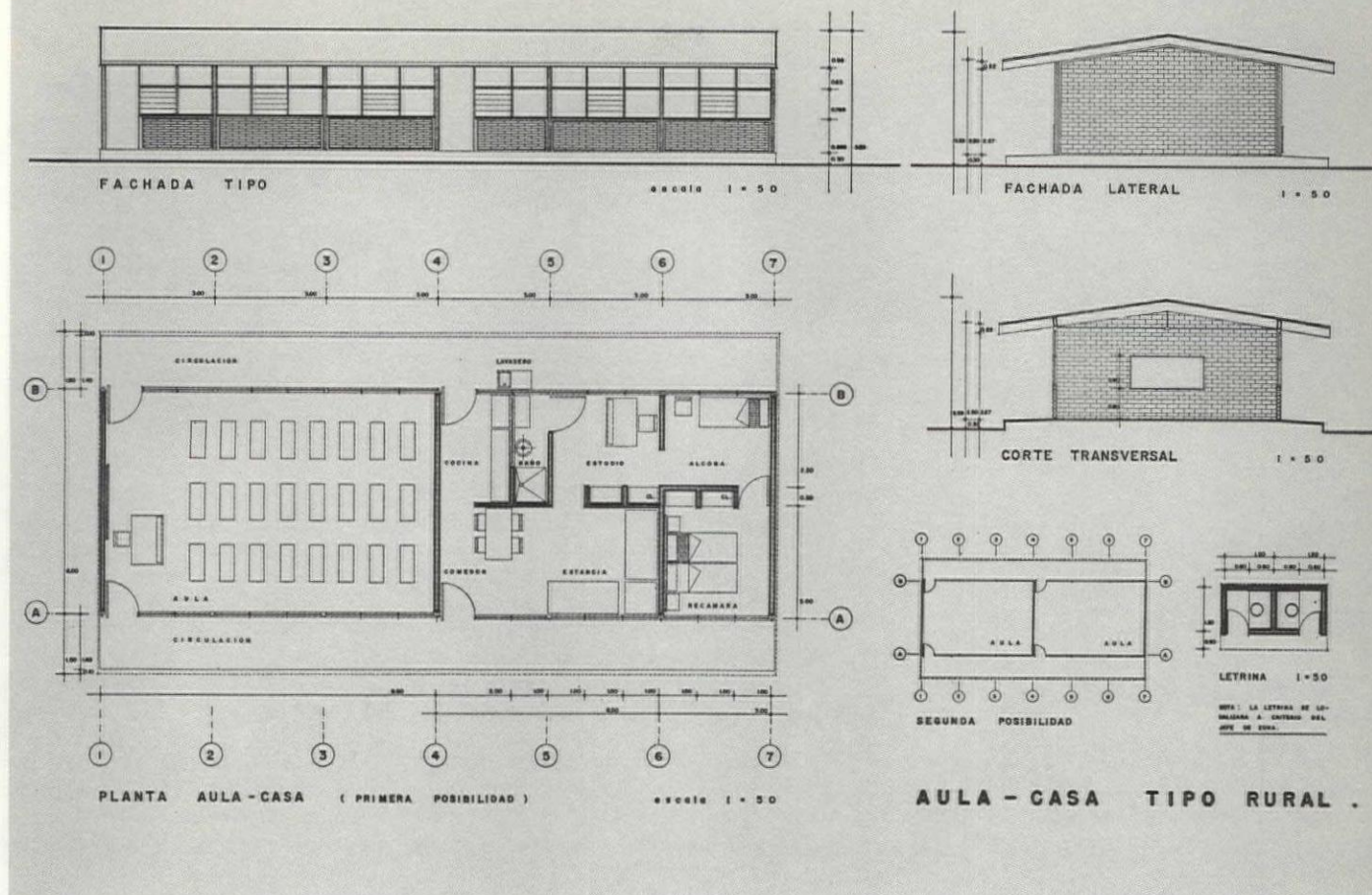
"Technically, from a design standpoint, I found no basis for criticism. Lack of weather-proofing and the often open spaces in



Members of UIA Working Commission on School Buildings in front of Mexican school at Atlahuézia, Tlaxcala. Note local materials in end wall



Mexican children line up to enter their school at Palmillas, in the north of the country. Local labor pays dividends in economy, pride of ownership



Schoolroom at left, teacher's residence at right. Second possibility provides another classroom in place of "teacherage"

fenestration, are expressions of the very temperate Mexican climate and, after observing examples where fenestration was tightly fitted, I am sure the design lends itself to weather-tightness if conditions should warrant. We also noted better workmanship in later examples, which proved that techniques have advanced with experience.

"For many emerging countries where problems of the rural school can be solved only by central initiation and direction, the Mexican solution appears particularly well suited.

"One question which might be raised concerns future aspects of the program relating to construction by component parts. As noted, the system seems ideally suited to small rural schools, but in application of the system to larger and larger facilities, advantages of standard parts may tend to be offset by cost of variations. Could the local architect be granted freedom in structural design he presently enjoys in wall treatment? This approach would be practical only

where region or state could draw upon experienced professionals capable of reflecting in the design the rich architectural heritage of the area. It might also be expected that programming of space requirements of such a decentralized arrangements would be directed from a central planning office.

"It is evident that the school is becoming increasingly the center of interest and pride of each Mexican town or village. In a country which has produced such handsome and magnificent church buildings it is hoped that history may record that the same spirit of inventiveness and achievement may be expressed in its school construction.

Individuality is one of the charms of the current Mexican effort in the rural schoolhouse. My plea is that it not be lost through excessive repetition of elements."

Donald L. Hardison AIA
US observer for UIA Commission

"This system is remarkably successful in three ways which firmly support each other for the basis of

improved general education. *First* is a success in *psychology*—in acceptance by a public perhaps often eager for education for its children but, as in all countries, not completely convinced of the benevolence of government or careful of property which comes as a gift.

"The *second* success is in constantly *evolving technical development* resulting from an alert and highly competent small staff of architects and engineers coordinating work of private professionals, and actively directed by a fine architect, Pedro Ramírez Vázquez.

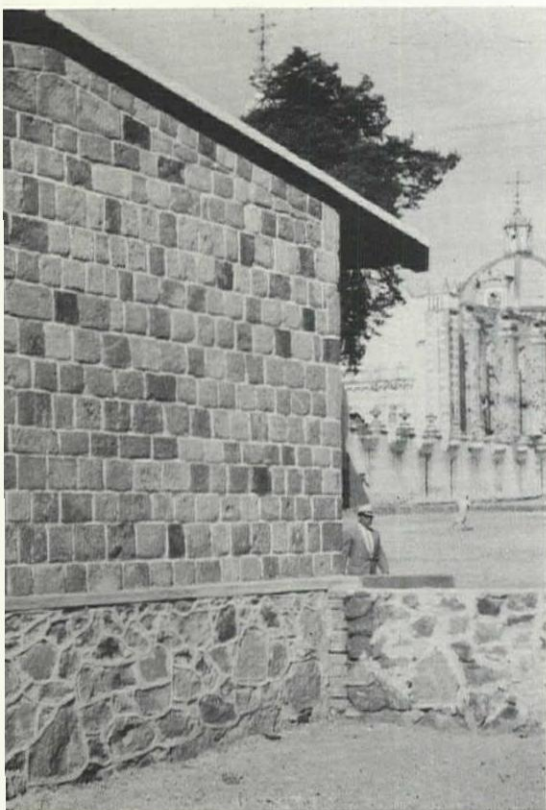
"The *third* success is in recognition of importance of some *esthetic quality*—a recognition that schools must be attractive in appearance (and concept) for children and for the teacher who may need the special incentive and status of a neat and convenient place to live in order to take a remote post, (perhaps in a tropical region where his bed may be a nylon hammock—see photo next page.) This too, by its example, may be an important part of education for children and parents of the district.



Teacher proudly shows visitors the nylon hammock which is his bed in "teacherage"



Natives of San Blas come to admire their handiwork. Mexicans are eager for education for their children—rural schools help educate more



Stone in Atlahuézia school was cut for pagan temple, which was torn down by Spaniards. Stone was used in a convent, razed in its turn during Revolution

"The first success obviously came from experience over a period of years and is an especially fine example of applied educational psychology. By involving local citizens who contribute hand labor and local materials for their new school in return for the government's provision of structural components and equipment, the school becomes their own. By giving they receive—a scriptural admonition come true. It is a practical lesson, as well, in the potential for good in cooperation between neighbor and neighbor and between citizen and state and federal governments.

"The second success, in technical development, avoids the deplorable over-emphasis on total prefabrication which seems to lure many people to the false concept that environmental design reaches its ultimate in the automobile or refrigerator. Instead, this Mexican success is based upon a rather small series of compatible framing components (all non-rolled shapes formed in a sheet-steel fabricating plant—itsself a part of the research and developmental operation). These framing components and complementary equipment are designed to be appropriate for enclosure by local labor, local materials and traditional building techniques, possibly as beautiful as the stone at Atlahuézia, originally cut for a pagan temple, torn down by the Spaniards to build into a convent, torn down in the Revolution and now used in one of these schools.

"The economy of this procedure, in the broad sense of the word economy, affects production, transportation (even airdrops are possible in remote mountain areas), division of labor, training of local artisans as well as use of local skills already available—masonry already mentioned, stucco in tropi-

cal Yucatán—(and some roofing methods, in particular, were most interesting). This latter aspect of using local capabilities is also an important part of acceptance and education.

"Because of the government's acceptance of a research approach, this program does not become rigid. Our visit to Puebla showed how continuous experimentation is going ahead to explore possibilities of this system. A notable balance has been maintained between urgent need for production volume and this desirability of continuing development.

"The third success, in esthetic quality, of course is always relative. The important thing is that the result satisfies man's needs in this direction as he conceives them. It is touching to see a pattern of brickwork emphasized with loving care in a school built by the hands of men in an Indian village of *less than 200 inhabitants* (San Blas). Architecture is often not properly recognized as a powerful element of education. To place school children in well-proportioned space with appropriate color, pattern and textural designs, and within good functional planning, exercises an unforgettable influence for living. (Note the offset buildings in the example on opposite page.) This system of construction which presupposes enclosure by local materials and building technique maintains the consistent character of region and village itself. The entire sensory environment is a part of education.

Technical Considerations

"It must be noted that the climate of regions visited so far has simplified the problem of school design far beyond conditions met in many parts of North America. We should be unable to build these

Aula-Casa Rural, San Blas, Indian village of less than 200 people



schools because of problems of heating and weather-tightness and frost. Over the years our state and local regulations for school construction have increased until now the architect reminds us of a recent cartoon which showed a man inside a huge bottle lying on its side, with materials and tools beside him, as he worked out through the neck of the bottle with two long implements to build a ship model *outside* the bottle!*

"Our regulations insist upon maintenance of a narrow temperature range, illumination of a ridiculously high intensity and fireproofing of most steel frame construction.

"Infiltration of cold winds, driving rains, water seeking joints where it freezes and destroys construction, thermal expansion and contraction due to large temperature differences—all of these problems are ours, fortunately not yours.

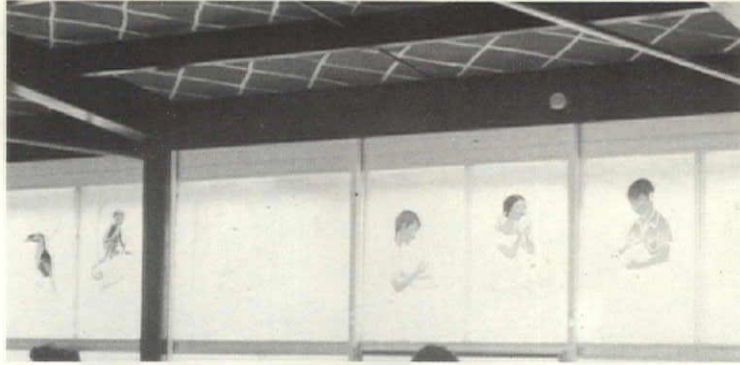
"To my surprise you have had no difficulty with fading of translucent laminated pictures in your windows. It would seem that ultraviolet radiation would fade these quickly, particularly at higher altitudes. Personally, I believe in the desirability of changing conditions of light—our engineers have made a fetish of static conditions—but we would also have trouble perhaps with the quality of light through your fenestration. I believe some conditions of strong glare might result during sun exposure in spite of your 5' overhangs on both sides. In those of our schools which have taken this problem of glare into account (notably in California) we are limited to a small range of brightness contrasts.

"It might be of interest to see what possibilities exist for the Mexican system to be applied to spaces of larger volume (with interior columns—not necessarily larger spans), and perhaps also to non-rectangular shapes such as hexagons which have some advantages the bees and architect Frank Lloyd Wright discovered before ordinary mortals.

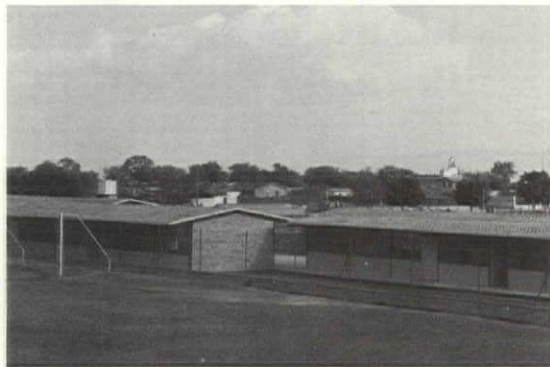
Educational Considerations

"As schools increase in size we are finding it quite important to have a range of size of spaces for various teaching-learning situations. Uniform-cell classrooms are suitable for some kinds of instruction, other subjects may best be presented before larger groups, and

* See School Plant Study BT 1-49. (Lopez): *AIA Journal* Aug 62



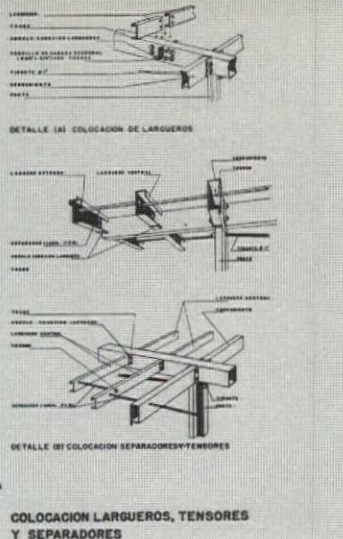
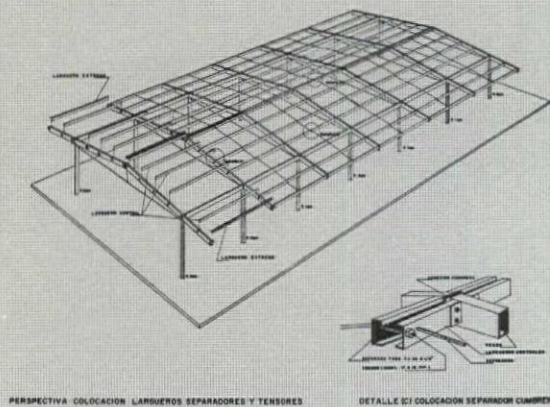
Interesting fenestration technique involves laminated pictures in windows—sometimes Mexican national heroes; or (top) just appealing children



Offset buildings show evidence of intelligent functional planning

Five-foot overhangs on both sides of building help reduce problem of glare, form protected walkways (see "circulation," p. 103) on floor plan

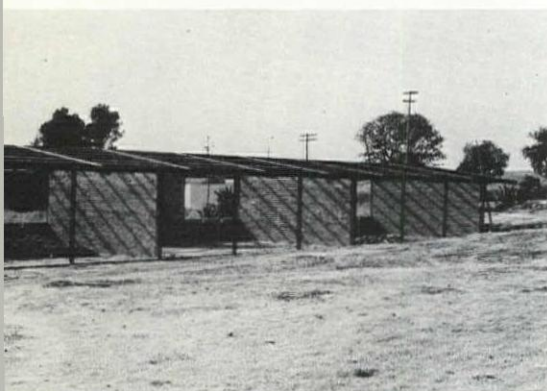




PERSPECTIVA COLOCACION LARGUEROS SEPARADORES Y TENSORES

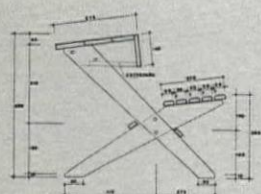
DETALLE (B) COLOCACION SEPARADOR CUMBRERA

COLOCACION LARGUEROS, TENSORES Y SEPARADORES

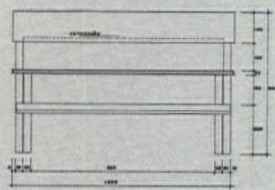


Detailed working drawings are provided with the government-furnished components of the Aula-Casa. This perspective shows roof members; construction details are shown beside large drawing in manual. Note roof construction in Atlahuézia school

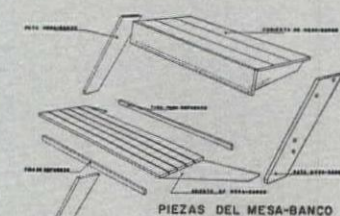
Instructions for assembling "mesa-banco" (table-bench) are shown below. At right, these desks finished and in use in San Blas school



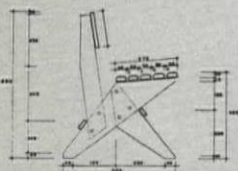
MESA BANCO TIPO



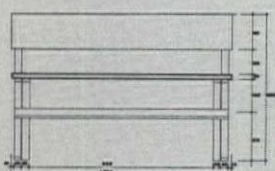
ALZADO FRONTAL



PIEZAS DEL MESA-BANCO

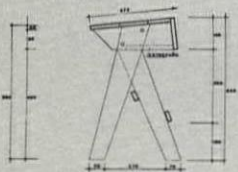
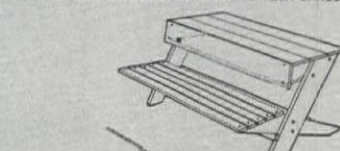


MESA BANCO TERMINAL DE GRUPO

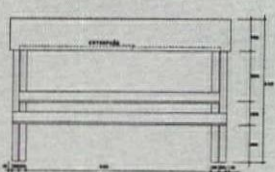


ALZADO FRONTAL

1º PASO UNION DE ASIENTO Y PATAS DE MESA-BANCO



MESA BANCO CABECERA DE GRUPO



ALZADO FRONTAL



ARMADO MESA-BANCO DEL AULA

still others require seminar or even individual study spaces—at least this is the current theory here.

"Regimented desks for formal class lectures are no longer considered necessary for instruction or discipline, particularly in primary classes. Furniture has been designed to permit a wide variety of arrangements.

"It seems regrettable perhaps that it is difficult to see out of these schools in those areas where views are so beautiful.

Another Note on Esthetics

"We believe the experience of authentic, original art is an important part of education. With all the wonderful artistic talent of your people we should like to suggest a program, perhaps under sponsorship of your distinguished lady-architect, Sra Ruth Rivera, of circulating exhibits to all schools. These might at first, for simplicity, be excellent original drawings or prints—then paintings, textiles, possibly (where protected spaces are available) ceramics and small figures. These exhibits (one object at a time) might stay in each school in a special place of honor for one week and then be replaced by a new object. The third dimension is highly important in this as children begin to work more and more with only two-dimensional teaching materials.

Conclusion

"In discussing the entire Mexican educational program with Mrs Pawley she called my attention to a most important aspect of its success, with which we should like to conclude these observations. Like mass-production, mass-education can easily be accompanied by a loss of individual values. It is one of our great problems. No part of your program is handled like an impersonal mass-education effort. Highly individual but cooperative participation by parents is required. This is also implicit in adaptation of manufactured components to the individual situation. At no point is the individual lost but his contribution is valued and the child as well can see this recognition of individual values. You have established the educational milieu for mass-education which preserves individual and human values in a system which will extend to all the people. This is the great significance of your program."

Eric Pawley AIA,
US member of UIA Commission
(and Alexandra Pawley)

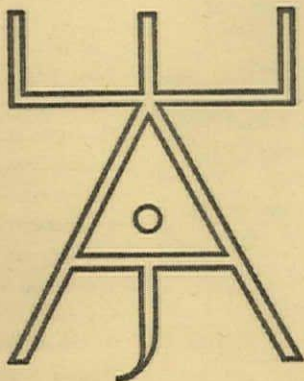
**ASSOCIATION OF
COLLEGIATE
SCHOOLS
OF ARCHITECTURE**

On Frank Lloyd Wright and His Atelier by Barry Byrne

The Place of Science in Architectural Education by Henry J. Cowan

Books: reviews by Buford Pickens, M. D. Ross and H. F. Koepfer

Letters to the Editor from Walter Gropius and Howard Dearstyne



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On Frank Lloyd Wright and His Atelier

by Barry Byrne

The ACSA, by definition, and most of the readers of this journal, by vocation, are committed to the academical kind of architectural education. Yet there still exists another kind, older than any school of architecture—the pupil-apprentice system. Few living architects are as well qualified to speak for this system, both by experience of it and by subsequent achievement in architectural practice, as Mr Byrne.

While the purpose of this article is to state the case for the apprentice type of architectural training I received in the Oak Park studio of Frank Lloyd Wright, I am faced with the fact, inherent in the circumstances, that I must perforce write overmuch about myself as pupil in relationship to Mr Wright as master. The situation in the studio, as it affected those of us who came there to work and to learn by working, was a uniform one, and I can truthfully state that my status and my apparent worth (qualified as that was by the fact that on entering I possessed only the rudiments of drafting ability) soon put me on the level of those who had come from the Armour Tech and University of Illinois Schools of Architecture, and on that of the one man out of post-graduate school at Harvard, who had the finishing gloss of a year in Vienna under Otto Wagner. It may be that I possessed some advantage over these seemingly better equipped pupils in that I was not encumbered with matter I had to ignore or, if possible, discard.

When I entered the studio in the late spring of 1902, Mr Wright, in accepting me as an apprentice, was careful to state that I could expect little attention from him. As I had no exaggerated idea of my own worth I was in no way dismayed or deterred by this perfectly reasonable statement. I accepted it as being only what was to be expected, because it accorded with what I already knew—namely, that if I advanced in knowledge and skill it would be through my own effort. I am, however, indebted to his then principal assistants William Drummond and Walter Burley Griffin (the latter to be at a later period my partner associate) for their counsel and assistance in my starting days at the studio.

I have no reason, then, to complain because during my first year at the studio Mr Wright gave me no attention, condescending or of any other kind. It may be indicative of his erroneous view of me that an early Christmas present from him was a copy of Maeterlinck's "Treasure of the Humble." I now know that he had mistaken my natural, Catholic-derived sense of hierarchy and of my temporarily low position in it for the virtue of humility, which I admire but cannot honestly claim for myself. It is also a curious fact, but one that will be understandable to those who have known Mr Wright, that this view of me as the undemanding "small boy," instanced in his autobiography,¹ persisted for years. It did, I am sure, distort his view of me on the two much later occa-

¹ Frank Lloyd Wright, "An Autobiography," pp. 236-237. Ed

sions when he invited me to return to him with the status of associate rather than of pupil-draftsman.

While I was art columnist for the review *America*, I wrote for it a rather lyrical account of my early impressions of the studio and of Wright himself, who was very completely reflected in the environment he created. I still feel that lyricism fitted the scene and the personality as I knew them. To me life at the studio savored, not of dream but rather of the realization of a higher order of things. It was a happy place and the many years that have passed since I entered it have not greatly reduced my sense of it as a rare thing in my life. As for teaching, in the ordinarily accepted sense of the word, there was none. It was a true atelier where one learned, if one had the capacity, by working on the buildings that Mr Wright designed. I have often been asked: "How then did you learn to design, if Mr Wright did all the designing?" The answer will be clear to anyone who worked under this master, who designed his buildings primarily in plan, with massing and details, as finally arrived at, completely coordinated with the plan. Although Mr Wright is sometimes pictured as studying his compositions in perspective, this was not his way when I worked under him. The designs he made existed primarily in those greatest of his contributions to a living architecture, his incomparable building plans. The value of his exterior massing and details derived from their appearance of inevitability and from the fact of their indisputable rightness as expressions of the plan.

Endowed as he was with an unerring sense of the third dimension, Mr Wright, in the period between 1902 and 1909 when I was in the studio, always arrived at his designs in plan and elevation, the last usually the determining one upon which perspectives were based. In the later years of my tutelage, and when projects were turned over to me to develop into working drawings, the original Wright-made studies would come into my hands with the plan established and the main theme of the exterior design clearly defined in elevation. The development of all implied but not delineated portions of the project then became the problem of the student draftsman, subject to the master's approval and often to his correction.

Out of the problem this presented to persons like myself there developed, as might be expected, an awareness of that important but too often overlooked matter, esthetic relationship. In Frank Lloyd Wright's designing of architecture the matter of right relationship was of infinite

importance; his insistence upon such relationship and his achievement of it link his architecture with the great architectures of the past—just as the failure to achieve it must forever separate much of current designing from the great tradition. It was the pupils' work, therefore, to develop the undelineated portions of Mr Wright's designs into well-related parts of the total conception. When I consider the artistic integrity of the designs to which we sought to relate our developments, I can only regard the training this gave me as basic to whatever I have since been able to do in design as a practicing architect. The value inherent in this sense of relationship was a basic one and related not only to the forms Mr Wright initiated, but to any forms one might feel impelled to use on independent ventures. This was a conclusion at which I arrived early in my studio days, and one which I knew promised well as a basis for whatever inventiveness in architecture time and my blood-derived instinct might generate in me. And the concept of right relationship was to become so much a part of me that the awe-stricken days I spent in and around the Cathedral of Our Lady of Chartres with Alfonso Iannelli were illumined and made profitable to me by the apprehended truth that came to me in my days with Wright. For in Chartres again was manifested to me the infinite variety within unity that my experience under the great master Frank Lloyd Wright showed as a possibility in any and all architecture, when rightly based and developed.

In discussing the Wright studio and the training received there, I can of course speak only for myself. Whether others saw beyond his highly personal style to the factors on which I decided it was based is not a question I can answer. Of course it is a truism that what a student, in pursuit of any kind of knowledge, brings with him to the laboratory or lecture hall pretty much determines the intellectual or artistic profit that will accrue to him. I very much doubt that any system of education can possibly modify this basic essential individualism, though the machine-like giantism and arrogant assumptions associated with the American educational system implicitly deny it, while fostering a pseudo-intellectual caste system. It is an unfortunate fact that the valid criticisms of this machine-process education by Robert Maynard Hutchins have not affected a change in it.

It was as an effective rejection of the corresponding machine-like giantism in architecture that the high standards of the Wright studio were most important in the training of the student. That

studio, as I knew it, was an oasis in a desert inhabited by architectural marauders who issued from the fastness of their hundred-draftsmen offices to capture "the important commissions." Occasionally lukewarm studio apprentices were lured away by the high salary bait dangled from the marauders' bastions, but never were those who defected of enough consequence to constitute a loss to architecture. The majority became so imbued with the basic, all-determining idea that the production of architecture resulted from the operation of a single talent-endowed personage that such temptations had no power over them. Furthermore, when the studio apprentices left, it was in most cases to establish their own practices, preferring the freedom and integrity of humble professional status to the servitude and degrading compromise usual, then and now, in large-scale architectural emporiums, where building design is a merchandised commodity.

Since neither artistic talent nor individuality in architectural design is ever the result of teaching, the value of an architectural training must lie in the imparted knowledge of basic design techniques and in the standards of personal and architectural integrity acquired by the student. If the student acquires these in his training it will be no mean acquisition, and there will be, granted that he has talent, a possibility that maturity and hard work will produce that rare thing, an architect. I say "rare" because fashion-mongering addicts of architectural publications only succeed in becoming architectural couturiers, a type now appallingly prevalent. This brings to mind one other happy condition in the Wright Oak Park studio: The apprentices rarely saw architectural publications in it. So that source of pernicious infection was happily avoided.

A well-known architectural theoretician and former educator² has recently stated in the correspondence columns of the *AIA Journal* that the students in training at Frank Lloyd Wright's Taliesin atelier were doing no more than producing designs in Wright's personal style. This leads me to wonder if he is aware of any architectural school that betters this condition. I certainly am not. In fact, what is produced in most schools is of such an indifferent quality that I can only expect the Taliesin product to be better. While I have no connection with any schools of architecture, it has been my fate to act as judge in a number of Lercaro-Spaeth architectural award competitions, established to stimulate creativity in church design in our schools. As the entries were countrywide, it seems reasonable to assume that they were typical of the generality of architectural school work. Nothing appeared that showed any

grasp of the fundamentals on which an architecture might be based; nor was there any evidence of independent approach to the problems of design involved in the expression of practical and psychological functions. In the designs submitted there was, on the other hand, every sign of diligent perusal of current architectural publications, and a not too tasteful rendering of the architectural clichés shown in them and associated with that architectural delirium termed modernism. While none appeared, I must say that Wright-inspired designs, or for contrast designs by pupils of Mies van der Rohe, would have lessened the dreariness of those incidents in my working life.

It is an ironic situation that what started out as a valid and valuable crusade for a vital architecture, inspired and directed by Louis Sullivan and Frank Lloyd Wright, should now, thanks to the influence of the talented Europeans who later took up the cause and gave it a revolutionary character, have resulted in a fashionable so-called "style." I sincerely believe that the American adventure would have saved us from our present deplorable architectural condition if it had developed in its own way and had not been deflected by the invasion of European concepts. As Joseph Conrad has stated, it is a characteristic of revolutions that the initial idealists are always supplanted by those who are merely exploiters of the situation.

When I visited Europe and the Bauhaus in the early 'twenties the new architecture there, as I have told in the *Benedictine Quarterly Review*,³ was germinating in an atmosphere of revolution. The American movement had none of the characteristics of a revolution. On the contrary, it was well rooted in American life. Even in obvious ways (as in the Wright plans) it found its basis in ordinary living and building arrangements. It was an indigenous, healthy plant. But that could only count against it with our orchidaceous, provincial-minded sophisticates, who found in the New York Museum of Modern Art a suitable center for their Europeanizing efforts. Our architects, and our schools of architecture, unfortunately adopted the Europeanized variant as publicized by Philip Johnson and others. As a consequence we are now in the hands of the exploiters of that European architectural revolution.

Small wonder that Wright, with his affinity for our American folkways, should have found our wholesale retreat from our native and natural situation a revolting spectacle. Much that he said in attacking the European-derived work may have seemed excessive. In actual fact the lamentable architectural condition we now face, and live with, bears out and amply justifies his jeremiads. In his case also, while the prophet was in truth latterly

² Walter Gropius, whose letter is printed again on pp 120 of this issue. *Editor*

³ Summer 1954 issue

greatly honored in his own country, that came about only as a result of the preceding European acclaim, which assured American architects that, the applause having reached such a volume, it was safe to join in. The final image of this great per-

sonage was a sadly distorted one, reflecting publicity values of the kind exploited in the Luce publications while the innate value of the great architect and—even more important—of his message was almost totally obscured.

The Place of Science in Architectural Education

by Henry J. Cowan, University of Sydney

Discussion of the part that building science should play in the education of architects, and of the way in which it should be taught, is too often bedeviled by the prejudices described in the diagnosis of the ills of architectural education (whose author still remains anonymous at the time of going to press) that appeared in the March issue of this journal. Professor Cowan writes from the vantage-ground of a university which actually has a Department of Architectural Science, of which he is Head. Since this article was written, in 1961, the University of Sydney has taken a step further in introducing the degree of Master of Building Science, with a curriculum designed for the common post-professional training of architects, physicists and civil, mechanical and electrical engineers, in the scientific aspects of the design of buildings.

The investigation of the technical problems of building on an extensive scale by scientific methods is comparatively new. Throughout the ages buildings have been erected by traditional methods which evolved relatively slowly, and technical problems were largely solved by a process of trial and error. In the past labor costs were relatively low, and economy in the use of material was not generally a vital factor in design. Today the rising standard of living and the consequent rise in wage rates has increased the cost of building much more than the cost of other commodities and emphasised the importance of the rational employment of materials. The growth of industry, and the consequent growth of big cities, has created a need for factories, office buildings and

hospitals which require specialized equipment and services. The concentration of large populations in relatively small areas has made it necessary to build high, and structure has become a dominant factor.

If the technological age has created many new problems for the architect, it has also placed at his disposal new materials and new techniques. Moreover, the architect need no longer rely entirely on his own technical knowledge in the design of buildings, but he can call on various technical consultants to advise him.

Scientific Problems of the Architect

Today's architect in his professional practice therefore faces four main scientific problems:

1 Largely because of the changing cost structure of the building industry, new materials and methods are constantly being developed. Their use creates problems (ie, moisture penetration of heat insulation) which must be solved by scientific enquiry because the speed of development does not permit a gradual evolution of new methods. The architect must be able to interpret the results of scientific tests, and he may sometimes have to initiate them.

2 The increasing height and span of buildings and the need for stringent economy in the use of materials calls for more precise methods of structural design. Although the architect normally retains a structural consultant for all but the simpler work, the structure is an integral part of the architectural concept, and the architect must

himself decide its basic form. Moreover, the architect may be responsible for supervising the erection of the entire building.

3 The standards of services have risen with increasing prosperity and with the development of new equipment. Highly intricate ducting and wiring is required in modern buildings as a matter of course, and their accommodation may be a critical design feature. In specialized buildings appreciable development work may be necessary to decide on the correct location of the equipment and its supply lines.

4 The use of new methods and materials may in itself give rise to new problems. The use of lightweight construction introduces problems of heat and sound insulation which were largely absent in solid masonry construction. In tall buildings more rigid design in relation to fire becomes a necessity, and sunlight control is required when full airconditioning is used. In addition, the need for speedy communications and the noise of modern machinery create entirely new problems.

The changes in architectural design during the last forty years are far greater than any which have occurred in a previous period of comparable length, and there is at present no indication that the pace is slowing down. Further radical changes must be anticipated, and the question arises whether our education system is capable of preparing the architect to initiate new design methods and to employ them in a rational manner.

The majority of the earlier schools of architecture were started either as branches of an academy of fine arts or as branches of a school of engineering. This has naturally had a strong influence on their curriculum, often resulting in a lack of technical instruction in the one case or in its undue dominance in the other. On the continent of Europe most schools have a strong technical bias. Many of the architectural departments form part of the faculty of building of a technical university, and students of architecture and of civil engineering sometimes receive a common course during the first one or two years; separate courses for civil engineers and architects are given only in the higher years. In the English-speaking countries the engineering bias has been much less pronounced, but some universities have given optional courses with a higher technical content. These are usually referred to as architectural engineering or structural options to distinguish them from the "general" or planning options.

Scientific Education for New Generation

It is no longer possible to teach architectural science without basic science. Without the necessary background knowledge, the instruction becomes a recital of facts which quickly get out of

date. On the other hand, it is no longer necessary to teach many of the details of structural design which have now become the responsibility of the structural engineer. The depth of the scientific knowledge needed by the architect thus depends on the use to which it will be put. When he relies on a consultant for technical details, as in the design of a steel frame or an airconditioning plant, he does not need to be able to perform the calculation himself; however, he requires a broad overall knowledge of the problems involved for the initial design of the building and the coordination of the consulting engineers. In other fields the architect remains his own technical specialist, and he needs a more detailed knowledge. These are usually relatively simple problems, such as the control of sunlight penetration, or the thermal and acoustic insulation of buildings. Most important of all, the modern architect needs a broadly based knowledge of science to be able to understand the new developments which are bound to take place in the years to come, long after he has finished his formal education. The new architectural science curriculum therefore concentrates on the fundamental principles of the design of buildings and their subsequent behavior and on developing in the student the ability to absorb new knowledge after he has left the university.

One obvious difficulty in teaching science to architects is the growing mathematical complexity of all scientific subjects. Taking structures as an example, we find today's students introducing into their designs structural forms which are so complex that they are not included in the undergraduate civil engineering curriculum; engineering schools will explain on inquiry that these forms must be regarded as falling within the scope of postgraduate courses because of the advanced mathematical methods required. Clearly no conceivable revision of the mathematics courses in architectural schools would make it possible to discuss these courses on a purely theoretical basis. Yet students are entitled to expect guidance from the teaching staff on the use of complex forms just as much as if they used the older and simpler steel and concrete structures.

Importance of Practical Work

The average architectural student is receptive to visual demonstrations, but does not respond well to the mathematical. The exclusive use of computations in the structural courses of the architectural curriculum is therefore clearly unhelpful. A structure is in fact a physical concept, which can be explained in terms of mathematics. It can also be explained, often more simply if not with the same degree of precision, by means of a structural model. A much more extensive use of ex-

perimental methods is therefore indicated.

While a model demonstration during a lecture or a studio discussion is helpful, it is important that the student should himself perform an experiment and report on it if he is to derive the full benefit. The mechanics of complex structures is not easily grasped, and the student will not understand the implications of the problem until he has worked them out for himself.

Structural subjects usually occupy more time than other scientific courses in the architectural curriculum and present some of the thorniest teaching problems. The experimental approach is, however, helpful in most other branches of architectural science. Students gain a clearer appreciation of the properties of building materials by performing the more important tests on them. Sunlight penetration, which requires complex trigonometry for analytical treatment, is readily understood with the help of a model, and the same applies to many problems of illumination, acoustics and thermal insulation.

Facilities in engineering laboratories are helpful, but they are usually restricted to one or two years of the course. Moreover, the equipment is frequently too complicated for architectural students; it is unnecessarily precise and its principles are not sufficiently obvious by visual inspection. The most important single innovation of post-war architectural science education is therefore the establishment of laboratories in some architectural schools. Although their number is still small, it is growing rapidly.

Practical instruction should not be confined to the laboratory. Every course involving theoretical analysis or numerical methods should be accompanied by tutorial classes during which students can do suitable exercises. These should be followed by further exercises on the drawing board, during which the student translates the theory into the dimensions of the building. Exercises of this type are mainly applicable to structural courses, but they should also be given in conjunction with courses on equipment, acoustics, lighting, etc. Only then is the student ready to use his scientific knowledge in architectural design. In general the technical problems created by students in their own designs are far more complex than those presented to them in set exercises; but it is important that they should solve them for themselves to appreciate the implications. This must, however, be reserved for the higher years of the course.

Organization of Architectural Science Studies

In most schools of architecture the structural courses occupy more time than all other scientific subjects. In the earlier part of the century, students were generally taught steel construction and later also reinforced concrete construction, in some detail, and some schools aimed to turn out architects who would be independent of consulting engineers. Now that this is no longer the case, many details formerly considered necessary can be omitted. On the other hand, new structural materials, such as aluminum and prestressed concrete, have appeared, while the use of many more complex structural forms, eg, rigid frames, shells and suspension structures, requires an extension of the courses in basic structural theory.

Structural mechanics is usually taught as a logical development from fundamental principles. This approach, however, ignores the many difficulties which had to be overcome in the development of the present theory and the oversimplifications which have occurred in the process, and a historical approach is therefore a useful supplement to the normal presentation. A correlation of the history of science with the history of architecture also helps to place both in their right perspective.

The study of building materials is, perhaps, not as important as formerly, since manufactured materials are used to a greater extent, and even natural materials are becoming more standardized. New materials are, however, constantly making their appearance, and an appreciation of the general qualities required from them is of the utmost importance.

The problems associated with the use of mechanical and electrical equipment are growing rapidly, and an extension of the existing courses is urgently needed. Failure of the architect to understand the principles of airconditioning or of vertical transportation in a building at the initial design stage may add greatly to the cost, or call for far-reaching alterations later on. It is reasonable to assume that the relative cost of the equipment installed in a large building will continue to increase, and that it will become more complex in design and more automatic in operation.

In the field of architectural physics the architect is more directly concerned with the technical details, because consultants are not normally employed to advise on sunlight penetration and natural lighting, acoustics or insulation against heat and sound. The increasing height of buildings, the extensive use of glass and of lightweight materials,

and the prevalence of noisy machines all create new problems which are frequently ignored at present. The effect of the natural elements—fire, water and wind—in new forms of construction is also worthy of more detailed study.

As the design of buildings gets more and more complex and our knowledge of architectural science increases, some measure of specialization becomes necessary. The architect is today no longer primarily a creative artist producing great masterpieces. Most architectural designs aim at the correct solution of complex planning problems and the construction of pleasant and efficient buildings which perform their proper function.

Specialization in Architectural Studies

This new interpretation of the design process may call for the cooperation of a number of architects in a design team, if the problems are so numerous that no one of them can master them all. Some may be specially trained to coordinate the work of the structural, mechanical and electrical consultants, while others could deal with those aspects of architectural physics which enter directly into the design of the building. In the larger offices a few architects with a training in research methods will be needed to take full advantage of the resources offered by building research organizations. The failure of most architects to understand the results of building research and their inability to apply them in practice is one of the greatest weaknesses resulting from our present education system.

Specialization may be introduced before or after graduation. The creation of one or more scientific options in the undergraduate course would evidently produce some architects who are not as fully trained in the non-scientific subjects as their colleagues. There is a sharp division of opinion as to whether this is desirable, and each national institute must decide whether it wishes to admit to its membership architects with differing training and qualifications.

Some of the options introduced in the earlier years of this century aimed at the education of architects who would be able to undertake a certain amount of structural design without the aid of consultants. This is not the modern concept of a scientific option: It is intended to produce a scientifically trained architect rather than an architectural engineer. Nevertheless, a lower level of training in planning and esthetics must clearly be accepted from a graduate who has taken a specialized option. An alternative solution is the introduction of special post-graduate courses which may be taken by some architects after graduating from a common course. The number of students who would take a post-graduate course would,

however, be much smaller than the number of students who would take an undergraduate option, because of the economic sacrifice required.

Integration of Architectural & Engineering Training

Some measure of integration of the training of architects and other professional persons engaged in the design of buildings and in building research is clearly desirable if a proper understanding of the contribution which each can make to the work of the other is to be achieved. In some continental universities this is accomplished in part by having a common course for architects and civil engineers in a faculty of building. A similar arrangement has been suggested from time to time by architects in England; but the suggestion is not supported by many engineers. By tradition, there is a close association in British, American and Australian universities between the various branches of engineering, and the tendency is toward greater integration of the early training of all engineers. The elementary courses therefore tend to be devoted mainly to scientific subjects; their level is far above that needed for architecture and beyond the scientific capability of many architectural students.

Suggestions are frequently made for cooperation between architecture and civil engineering students (and occasionally electrical and mechanical engineering students) in the design of buildings. The engineering students are asked to act as consultants to the architectural students in their design projects, to give a measure of realism to the training of both. Although on the face of it the idea is an excellent one, it rarely produces satisfactory results. The structures designed by architecture students are either so simple as to give rise to elementary but tedious calculations, or else they are far beyond the capacity of engineering students. At post-graduate level, however, integration is feasible. The number of students involved would be much smaller, and all would be especially interested in their common problems. The application of scientific principles to the design of buildings is essentially a matter for cooperation between scientists and engineers with some knowledge of building problems on the one hand and architects with scientific ability on the other.

Specialist architects, engineers acting as consultants to architects, and scientists engaged in building research would all benefit from a common post-graduate course. Integration of post-graduate studies by experts approaching the same problem from different points of view could thus act as a counter to the unavoidable specialization at undergraduate level.

Research in Architectural Science

In addition to formal post-graduate study, there is an urgent need for research in architectural science. At present this is undertaken only very sporadically in the universities. The foundation of the Building Research Station in England in 1921 was a milestone because it provided the first training ground for research on the whole complex of building problems. Many of its former staff have since been promoted to leading positions in other research organizations.

Although most countries have developed their own building research organizations since 1945, this does not solve the educational problem adequately. Training in research methods is properly the function of a university, and certain aspects of pure research of little immediate practical applicability cannot easily be undertaken in governmental research institutes. Here also there is scope for integration of the problems of scientific research with the less tangible problems of architectural design. The application of science to architecture is in itself a field for research.

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Books

Site Planning

By Kevin Lynch. Cambridge, Massachusetts: The MIT Press, 1962. \$8.00

Compared to many other professions or disciplines, architectural education has been handicapped by the meager output of competent analytical writing by teachers. I refer not to textbooks, as such, but rather to serious studies of various aspects of architecture that should be filling up that hiatus on our library shelves between the holy scriptures concerning form-givers of the moment and the thinly sliced, literary sandwich meat which the professional

journal editors like to insert between the picture pages and their profitable advertising bulk. Even book publishers have found a ready market for "instant" biographies and histories, hastily concocted by attaching footnoted essays to portfolios of familiar pictures.

Whatever the reason may be for the lack of writing in depth, it is not especially flattering to educators in architecture as a literate group. Barclay Jones has found convincing evidence that our profession is totemistic in its emphasis on differences from all others by having gods peculiar to itself. Surely, one of the most sacred taboos among us is one which holds that design, because it is essentially visual, is

therefore non-verbal and can only be communicated by mystic ritual.

Few teachers could be better qualified to lead a break through this fictitious barrier to serious writing on the design process in architecture and planning than Kevin Lynch, who combines the humanistic sensitivity of an erstwhile Taliesin Fellow with the technical competence and discipline one expects from an author who has had many years as student, teacher and consultant at MIT; he is currently an associate professor of city planning. About nine years ago Lynch startled the design professions by his perceptive piece, "The Form of Cities" in the *Scientific American*. Shortly thereafter his "New look at Urban Design" was first presented at the annual ACSA meeting in 1954 (*Journal of Architectural Education*, No 10, part 1, 1955, pp 31-3). Since then Lynch has been co-director with Gyorgy Kepes of a five-year research project sponsored by the Rockefeller Foundation on the form of the city. This led in 1960 to his "Image of the City" which has not only become a handbook for city seeing but, of equal importance, has established a vocabulary through which we can communicate urban design ideas.

"Site Planning" is a natural sequel to "The Image" but with a finer focus on the specifics of individual sites and the techniques of planning: "an introduction to the art of arranging buildings and other structures on the land in harmony with each other." Lynch separates his book into two distinct but complementary parts: the first—eight chapters describing theory and principles for the analysis of the site, the program and the synthesis of design; the second—six chapters spelling out the more specific techniques, standards and reference data that one needs when confronted directly with a practical site planning problem.

Part one proceeds from the definition of goals to the inherent aspects of surface, subsurface and climate, explaining how each facet might relate to the program and the budget. He discusses the location of activities, systems of circulation, and the problems of light, noise and air with all their social, esthetic and economic implications. He makes clear that long-range site planning, whether for cities, subdivisions or universities, is meaningless without controls. Most welcome to teachers are his two chapters on visual form (esthetics) and the process of site planning (design), where the psychological implications for architecture are broad indeed as we contemplate programming for computer aid in decision making:

"The design process should be kept as open and fluid as possible until a wide range of alternatives has been developed and tested. All too often this process is cut short by a state of mind which is narrow and critical from the beginning, as though design were a logical process which proceeded from initial assumptions by rational steps to a unique solution. On the contrary, design is an irrational search, conducted over a ground previously prepared by experience, the study of principles, and the analysis of site and purpose. It is after this search

has produced the alternative possibilities that rational criticism is brought to bear."

Part two, "Detailed Technique," begins with a typological study and critique of housing, shopping centers, industrial estates, institutions, and a short but profound piece on urban renewal. The four remaining chapters present concise reference data on streets and ways, utility systems, soils, plants, climates and costs, all of which illustrate and reinforce the discussions in earlier sections of the book.

Whether he is discussing esthetics or pipe sizes, Lynch's writing, conditioned by experience with students, is remarkably clear; but because he is dealing with visual form and spatial relationships, he reassures the reader with hundreds of lucid thumbnail sketches in the margins beside the text; the effect is not unlike an animated film accompaniment. In addition, there are more than forty illustrations, many of them air views. Readers already familiar with "The Image" will notice several improvements in the physical form of the book itself. The size has been increased just enough to permit the use of a bolder and more legible type face; pages have wider margins, the traditional superior numerals within the text have been omitted in favor of far more functional marginal notations to the bibliography and numerous cross references. Material which might have been contracted in an appendix, as in "The Image," has fortunately been kept within the text. Even the bibliography has been made more useful by subdividing as "selected references," from which he has too modestly omitted his own publications.

There may be some who will argue with Lynch about various small points, but to this reviewer he is persuasive and authoritative without being dogmatic, as when he makes a case for *expressing* rather than *screening* power lines, parking areas and sign boards. His criteria and standards, for the most part, are derived from his own research data, from reference to human psychology and anatomy, optical illusions and natural phenomena which affect the senses. "Site Planning" is exemplary in many ways and should become a classic, not only for its usefulness to students and professionals alike, but as a masterly model for teachers of architecture to emulate in other subject areas.

BUFORD PICKENS

Washington University, St Louis

Mid-Century Architecture in America: Honor Awards of the American Institute of Architects

Edited by Wolf Von Eckardt. Baltimore: The Johns Hopkins Press, 1961. \$12.50

This volume is a primarily pictorial record of the results of the national Honor Awards program initiated by the American Institute of Architects in 1949. Following a foreword by Philip Will Jr, President of the Institute, there is a short introduction by Wolf Von Eckardt and a statement of the origin of the program and list of the juries by Edmund R.

Purves, Counseling Director. These sections account for the first thirty-two pages of the book.

The major part of the work follows and consists largely of photographs of the buildings receiving awards. Those receiving the higher category of First Honor Award are illustrated in several photographs. Usually a plan and occasionally some other drawing is included. There is also a short explanatory paragraph introducing each of these designs. Buildings which received an Award of Merit are presented in a single photograph only. The illustrations are arranged in groups by type of building. These categories are 1 Office Buildings; 2 Commercial Buildings; 3 Hotels and Restaurants; 4 Public Buildings; 5 Industrial Buildings; 6 Medical Buildings; 7 Religious Buildings; 8 Campus Buildings; 9 Schools; and 10 Residences and Apartments. A chronological listing of the awards and a section of biographical notes containing short summaries of the careers of the architects and the architectural firms concludes the text. There is an index which is helpful in providing a geographical reference to the works mentioned as well as enabling the reader to locate the various buildings designed by the same architectural firm.

Within its limitations, the book presents a conspicuous cross section of architectural taste in mid-twentieth century America. When the Honor Awards program was initiated in 1949, largely under the guidance of A. F. Heino of Chicago, it was first limited to the work of corporate members of the Institute. After a few years, the base was broadened to include as acceptable the work of anyone legally eligible to be called an architect. At first, also, the idea was to limit the "competition" in any one year to a few categories of building types. This too was abandoned after several years. Through broadening the base of consideration in these ways, the survey became more truly representative and came closer to achieving the aims of the AIA, "to obtain public recognition and acclaim" for American architecture as stated by Mr Purves.

The juries, which in the earlier years sometimes included laymen as well as architects and architectural educators, in recent years have been more generally composed of architects, frequently including among their members men who have been previously recipients of the awards. It would appear that the standards have become more exacting and that in general there has been a tendency to reduce the number of Awards of Merit. It should be noted here that the buildings considered for awards consideration must be submitted by the architects themselves and that if an architect, for whatever reason, does not wish to offer his work, it cannot be considered. This factor, combined with the other limitations, has meant that the annual survey is not as completely representative of the most distinguished architecture as one might like it to be.

In spite of the fact that Wright, Gropius, Mies and Le Corbusier were given the Gold Medal of the Institute during this period and that three of them were American architects in the legal sense, none of their work appears here. While it may be, as Mr Von Eckardt states in his introduction, that "it would have seemed supererogatory, somehow, for these masters to submit their work to juries . . . [though] technically entitled to do so," the survey of fine buildings in these twelve years undoubtedly suffers from the absence of any examples of their work. It does not seem entirely unreasonable to think that a comparison of some of their masterpieces with other fine buildings would have been either damaging to their reputations or to the chances of other architects, of lesser renown, to receive proper acclaim. Also, owing to the limitations of the "competition," such notable contributions to design as those of Buckminster Fuller do not find a place in this volume. Perhaps it will be possible to find some way in the future to get a broader base of selection for the Honor Awards program.

What is presented does give an interesting and at times exciting view of the architecture produced by this country (some of the buildings are actually located abroad). Lever House by Skidmore, Owings and Merrill with which the illustrations begin, Saarinen's General Motors Technical Center, Neutra's house in Ojai, California, Yamasaki's McGregor Memorial Center and Johnson's Roofless Church are just a few of the really outstanding buildings that figure here and would reasonably figure in any survey of the period. Indeed, since some 224 buildings are included, there are many more that could be mentioned. The general level is high, and the number of questionably important buildings is small. Turning the pages of this report gives a hopeful view of the architectural profession in this country. In fact a number of the buildings which received an Award of Merit and are therefore only presented in one photograph could well have had a more extensive treatment. The restricted treatment given these buildings is one of the more unhappy results of this survey presentation.

While the grouping of buildings by types is of some convenience, it is also restrictive and presents difficulties. In the twentieth century, the distinction between office buildings on the one hand and commercial and industrial structures on the other is not easily drawn. For example, the General Motors complex is grouped with the industrial buildings, though a great deal of it is devoted to "office" use. The St Louis airport is grouped with commercial structures rather than public buildings, though a bus shelter qualifies for the public category. Hotels and restaurants are surely commercial buildings although they are grouped separately in a category of their own. Except for hospitals, residences and religious structures, it seems difficult to draw hard lines and perhaps the "categories" only confuse the picture.

The number of awards given in each category is of some interest. A rough check indicates that office buildings and schools both have received nine Honor Awards and residences and public buildings seven each, while the hotel and restaurant category received only one Honor Award in twelve years. Buildings receiving an Award of Merit are spread in varying number throughout all types from some sixty awards for residential work and twenty-three for schools (the next largest number) to six for hotels and restaurants. This would suggest that our most outstanding work is done in office buildings and schools, with residences as the next most likely-to-be-successful type. The number of awards given for public buildings is a bit deceptive since this category includes such varied types as libraries, embassies and park shelters. It is rather curious, considering the great interest in them in the last decade, that only three religious buildings received Honor Awards, and one of them was built in Japan. While there were fifteen Awards of Merit in this group, it would seem that the examples chosen are less interesting than might have been the case.

On the whole the juries seem to have been generally successful in distinguishing the better from the good, and there are surprisingly few of the Honor Awards which in retrospect one would want to withdraw; on the other hand, some of the Merit Awards would seem to have improved in stature with the passage of time. One serious disadvantage in the whole program is the fact that selection is made on the basis of photographs and drawings and not on personal inspection. Although the latter would perhaps require too great an expenditure of time and money to be feasible, it still remains true that to be judged fairly, architecture must be seen and visited. Having served on a regional Honor Awards jury, the reviewer is painfully aware that photographs and drawings may convey a very different impression of a building than may be obtained from an actual visit. In the end no one can really make a sound critical appraisal of architecture that he has not personally seen.

In the introduction Mr Von Eckardt gives a summary of the rise of the "Modern Movement" in twentieth century architecture. While at times he tends to oversimplify the historical background, it is a useful and informative account. For the general audience to whom it is primarily directed, it should be very helpful. He pays homage to the great figures of modern architecture such as Wright and Le Corbusier, Gropius and Mies, and one can only sympathize with him for the limitations he must have felt in their non-appearance among the recipients of Honor Awards. He recognizes the importance of Fuller and others who, while not being in the narrow sense architects, have contributed so much to the growth of architectural thinking in this country. While he does not attempt a critical analysis of the buildings illustrated, he does give credit to Mies as the greatest single source of inspiration, an opinion that is certainly borne out in the illustrations in the commercial, office and industrial categories, if not in all the others. He makes a well-directed plea for greater conformity rather than more individuality; for respect for the neighborhood. After looking at the buildings here

presented, the reviewer feels strongly that he is right and that those which appear at first most novel and "original" are the very ones that will withstand the test of time least well.

Some small items might be worth correcting in future publications of this sort. The date given is only that of the date of award. It would be well to have the dates of construction also; in some cases the projects had a rather long history. The book is attractive but the reviewer feels that somewhat less space in margins and larger photographs would have been better. None of the photographs are particularly identified as to what part of the building is shown, and this is not always obvious from the internal evidence of the photograph. Many of the plans are without a graphic scale.

In spite of the limitations of the award, a good idea of the character of architecture most esteemed in the United States during the past decade can be obtained from the selections of the juries. A casual check of the index and the chronological table (which are not always in agreement) reveals the following information. The late Eero Saarinen received five Honor Awards, including two in the same year (1955); Minoru Yamasaki, three Honor Awards and two Awards of Merit; Philip Johnson, three Honor Awards (two in 1961); Mario Ciampi, three Honor Awards (two in 1958) all for schools; Skidmore, Owings and Merrill, four Honor Awards and some dozen Awards of Merit, at least one in nearly every year included in the survey. If nothing else, this would appear to indicate that those architects who are better known nationally are also those whose work is most highly regarded.

M. D. ROSS, *University of Oregon*

Philip Johnson

By John M. Jacobus Jr. New York: George Braziller, 1962. \$4.95.

Whatever one's evaluation of Philip Johnson may be, he does play an admittedly astonishing and conspicuous role as architect and critic in today's blurred architectural scene. His buildings are decisive, his words peppery. Indeed he deserves a Boswell.

Mr Jacobus has given us much in this book, the first published monograph on Johnson, but does not do the definitive job. It is rather "an interim report" to quote the author. Arranged for us is a chronological review of Johnson's buildings with proper references to Schinkel, Soane and Ledoux, all of whom were influential sources. Historical figures delight the historian and teacher. They fill the stage of criticism, so to speak. Drama is supplied with the critical year of 1956 when the protagonist turns his back on his forebears and ventures alone (Boissinas house) to create a more personal and more fluid style.

Throughout, Mr Jacobus has made careful comparison and intelligent analysis. On occasion an evaluation appears unsupported such as Johnson's role of middleman for Mies—making "the style of Mies readily communicable to lesser designers." Johnson's

designs have always appeared *above* the level of a possible vernacular style. The SOM office might be better cited as representing Mies in the marketplace. Elsewhere, the reported shadow of Wright on Johnson's work seems improbable. One wishes to see those Johnson studies done in the Wright manner to which reference is made. They would perhaps supply and make clear the connection. As for the parallel spatial concerns of Wright and Johnson, this too seems unconvincing.

The Davis House in Wayzata, Minnesota, was completed in 1952, not 1954. In its proper sequence (after the Hodgson house and before the Wiley house), its design makes better sense. The deMenil house in Houston is omitted from the chronology. Plans are uniformly and beautifully drawn. The addition of orientation and scale would have made them more useful. (I myself resort to the omnipresent Mies chair as module to determine measurements.)

As for the retrospective character of Johnson's creative work, he would appear to be going further backward in time, to the Renaissance, to the Middle Ages. Certainly his projected pavilion for his own use recalls Piero della Francesca's setting for the "Flagellation" or Ghiberti's "Sacrifice of Isaac" panel of the Baptistery doors. As for those structural traceries that appear in the Computing Laboratory at Brown University and in a study for Lincoln Center Plaza, these could be said to reflect late Gothic experiments. And

surely there is a turreted air about the Kline Science Tower for Yale. Tantalizing stuff for the architectural detective-historian. I would say we need a book of confessions from the architect himself.

H. F. KOEPER, *University of Minnesota*

Other Books Received

Inclusion here does not preclude review in a future issue.

OFFICE BUILDINGS. By Jurgen Joedicke. New York: Frederick A. Praeger, 1962. \$15.00

CONTEMPORARY ARCHITECTURE IN GERMANY. By Werner Marschall. New York: Frederick A. Praeger, 1962. \$16.50

PRE-COLUMBIAN ARCHITECTURE. By Donald Robertson. New York: George Braziller, 1963. \$4.95

CHINESE AND INDIAN ARCHITECTURE. By Nelson I. Wu. New York: George Braziller, 1963. \$4.95

JAPANESE ARCHITECTURE. By William Alex. New York: George Braziller, 1963. \$4.95

WESTERN ISLAMIC ARCHITECTURE. By John D. Hoag. New York: George Braziller, 1963. \$4.95

DESIGN WITH CLIMATE: BIOCLIMATIC APPROACH TO ARCHITECTURAL REGIONALISM. By Victor Olgyay. Princeton, NJ: Princeton University Press, 1963. \$12.50

Letters to the Editor

The Bauhaus Contribution

Sir:

Recently some statements on the Bauhaus, Germany, have been made in your *Journal*,¹ which by omitting decisive facts result in misconceptions which need clarification.

Sufficiently detached today from the drama of the Bauhaus, which I initiated in 1919 and which I left in 1928, I wish to state—*sine ira et studio*—what in my own view was the new contribution of the Bauhaus, considered historically, in the field of education.

The most direct way to do this is to compare the Bauhaus method of education with that of two so venerable masters as van de Velde in Weimar and Frank Lloyd Wright in this country. Both men had

before me the idea of the unification of the arts. How did they try to reach this goal? Van de Velde, ingenious, inventive artist of world renown and full of stimulating enthusiasm, followed his conception that a unity of the arts could be achieved by disseminating his own personal vocabulary of form, his "line" as he called it. He considered his school in Weimar to be the proper instrument with which to consolidate his own form pattern into a "style."² Almost without exception, the work of his students shows the personal form character of the master.

In order to underline the educational importance of an *objective* method as built up in the Bauhaus in contrast to the subjective one of van de Velde, I should like to give a second example of the results

¹ Mr Gropius refers to "The Bauhaus Revisited" by Howard Dearstyne, October 1962 issue. *Ed*

² See his recently-published biography "Geschichte meines Lebens," R. Piper & Co, Munich

of an autocratically-run architectural school of fame. Recently I visited Frank Lloyd Wright's school in Taliesin which his widow valiantly carries on after his death. I saw the work of several scores of students, who were without exception turning out designs in the vocabulary of their great master. No independent approach could be found. This experience assured me again that such a method of education cannot be called creative, for it invites imitation and results in training assistants, not independent artists in their own right. Certainly the contact of the student with a great radiating artistic personality like Frank Lloyd Wright or van de Velde is an invaluable and unforgettable human experience, but here I am trying to compare educational *methods* and *goals*, which must not be confounded with the artistic potency of the teacher. A great artist is not offhand a great educator.

The assertion has been made that the Bauhaus followed the philosophy and pedagogy of van de Velde. In fact it established its educational principles in clear and conscious opposition to van de Velde's method.

Starting the Bauhaus as its responsible Director, I had come to the conclusion that an autocratic, subjective approach must block the innate budding expression of differently-gifted students, as the teacher, even with the best intention, imposes the results of his own thought and work on him. I convinced myself that a good teacher must abstain from handing out his personal vocabulary to his student, but should rather let him find his own way even via detours; that he should encourage the growth of independence in the student, and vigorously destroy his imitative reactions, or at least make him aware that he tries to harvest on foreign soil. I succeeded in convincing great artists like Kandinsky, Klee, Feininger and Moholy-Nagy that altogether we should humbly try to find a supra-individual *objective* method, a teachable common denominator for all which would be conducive to creative work. We scoffed at the arrogant idea of establishing a "style." As a basis for the creative process, we tried to study objectively natural phenomena, observing psychological and biological facts, laying the foundation, so to speak, for a science of design, and experimenting with the facts we had collected. This approach we found gave an organic and *unifying* background to all our activities. Personal expression thus became, in each individual creative process, related to the same principles recognized by all, while imitative attempts were taboo.

Accordingly, handicraft in the workshops was, right from the start, not an end in itself, but laboratory experiment preparatory to industrial production. If the initial products of the Bauhaus looked like individual craft products, this was a necessary detour for the groping student whom we avoided prodding with a foregone conclusion.³

³ I should like to draw attention to a large documentary work, recently published, which may become the standard book on the Bauhaus. Its author, Hans M. Wingler, Director of the Bauhaus-Archiv in Darmstadt, Germany, has collected material covering 1919 to 1933 in years of careful scholarly work. The title is "Das Bauhaus, 1919-1933 Weimar Dessau Berlin" (Verlag Gebr. Rasch & Co, Braunschweig). An English edition is planned.

Since the educational method is as important as the personality of the teacher—a fact which is too little recognized today—I have tried here to outline with precision the different educational aspects and attitudes at stake. Though an objective method, such as the one followed in the Bauhaus, has to take a much longer, thornier road than the autocratic one, it protects us against imitation and conformity, it preserves the uniqueness of the creative individual and, simultaneously, the spiritual coherence of the age.

This kind of education we have until now reserved for the artist, but, if we cannot give it to everybody, the gulf between him and the people will remain unbridged. If we congratulate ourselves today on the strides that have been made in releasing the young artist from the bondage in which he was formerly held by having to follow the methods and recipes of his teacher, we must realize that the greater part of the task is still before us: namely, to give to the average young person, right from the beginning of his schooling, a visual training based on objective principles, ie, on the laws of nature and the psychology of man.

Standing on such a sound foundation, the gifted individual will find his personal interpretation, but artists and public alike must start out from the same premises of universal validity; only then will the creativity of the maker find the response of the user.

WALTER GROPIUS
Cambridge, Mass

Mr Dearstyne writes:

Mr Gropius seeks to minimize the influence on his school of the great forerunner, Henry van de Velde, by asserting that he deliberately rejected the "autocratic" teaching methods of the Belgian which, in common with those of Frank Lloyd Wright, encouraged the student to imitate the form language of the master. He substituted for this "subjective" teaching method, he says, an "objective" one which allowed each student to develop in accordance with his own creative bent. Thus Mr Gropius reopens an old, old controversy. You can pick a fight at the drop of a hat in any ACSA gathering by raising this question. Those schools which have on their faculties no distinguished personalities swear by the objective method; the precious few which do or have had are all for the subjective. As for me, I was nurtured, at Mr Gropius' own school, on the latter method (Kandinsky, Klee, Mies van der Rohe, Hilberseimer) and I regret, only, that there are not enough of these great personalities to go around for, if there were, we would today have real art and architectural education.

A great teacher, like Mies van der Rohe, teaches the basic and the universal through his own vocabulary of forms. He transmits to each student, in accordance with his ability to learn, an inkling or an understanding of enduring truths. He equips the student with a sound basis on which to build his own individual creative work. This is rather like the ap-

prentice-master relationship which Gropius set up at the Weimar Bauhaus and which prevailed from the Middle Ages down to the nineteenth century. Does Mr Gropius think that Verrocchio stifled the initiative of his apprentice, Leonardo da Vinci, and Perugino that of his pupil, Raphael, when these masters transmitted to their students, along with their insight, their form vocabularies?

Mr Gropius makes another statement in his letter which cries out for rebuttal. He says, "Accordingly, handicraft in the workshops was, right from the start, not an end in itself, but laboratory experiment preparatory to industrial production." He made a similar assertion in his book, "The New Architecture and the Bauhaus." I was astonished when I read this because it is so strikingly contrary to the facts. At the time Gropius was still negotiating for the directorship of the Bauhaus, he wrote (March 3, 1919) a letter to "His Excellency, Mr Republican Plenipotentiary Paulson," some functionary of the post-war government of Saxe-Weimar, in which the following revealing sentence occurs:

I intend, if I accept the directorship which has been offered me, to put the entire undertaking on a practical, handwork basis, in the realization that, above everything else, the further extension of the already widespread art proletariat in Germany must be arrested and that capable craftsman of which there cannot be enough, must be trained in their stead. . . .¹

Gropius became director of the newly-constituted Bauhaus on April 1, 1919, and issued shortly afterward his now-famous first Bauhaus proclamation. In this, he says:

Artists, sculptors, painters, we must all return to handwork! . . . There is no difference in kind between the artist and the craftsman. The artist is an enhancement

¹ Copy of letter in Bauhaus file of Walter Gropius, photostated with his permission, and translated from the German by the writer

of the craftsman. The grace of heaven, in rare moments of inspiration, which lie beyond the control of his will, causes art to blossom unconsciously from the work of his hand. *But a foundation in handwork is indispensable for every artist. . . . Let us therefore establish a new guild of craftsmen. . . .*²

There is no suggestion in this that the purpose of training the students in the handicrafts was to equip them to make models for industrial mass-production. It was not, in fact, until Theo van Doesburg took up residence in Weimar and cast a jaundiced eye on the aims and teaching methods of the Bauhaus that the orientation of the school was altered. In a letter written to his friend, Otto Meyer-Amden at the end of March 1922, Oskar Schlemmer, then one of the Bauhaus masters, speaks of the influence of van Doesburg on the Bauhaus:

One of those here who goes eagerly to the attack is van Doesburg, the Dutchman, who is so radically interested in architecture . . . that painting scarcely exists for him. He is a very eloquent champion of his ideas, so that he draws the Bauhaus students under his spell, especially those who are interested, before everything else, in architecture. . . . He rejects handwork (the focal point of the Bauhaus) in favor of the modern means, the machine.³

Van Doesburg persuaded, not only the students, but also Walter Gropius of the error of the Bauhaus way. Thereafter, handwork to produce models for serial reproduction by industry became the watchword. Why Mr Gropius, whose school reflects so much credit upon him, feels it necessary to rewrite history, in an effort to amend certain of the supposed shortcomings of the Bauhaus, is somewhat difficult to understand.

² Translated from the German by the writer. The italics are those of Mr Gropius

³ *Oskar Schlemmer—Briefe und Tagebücher*, Albert Langen-Georg Müller, Munich, 1958, p 125. Translated from the German by the writer



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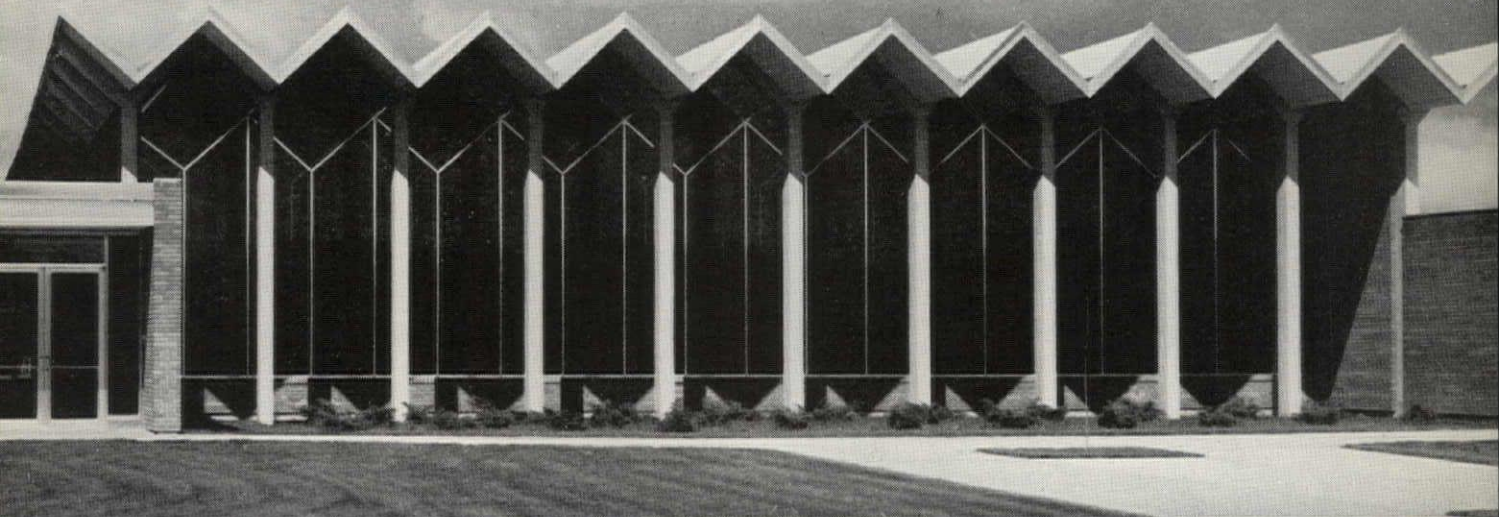
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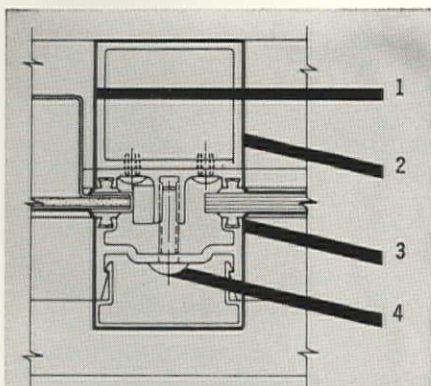
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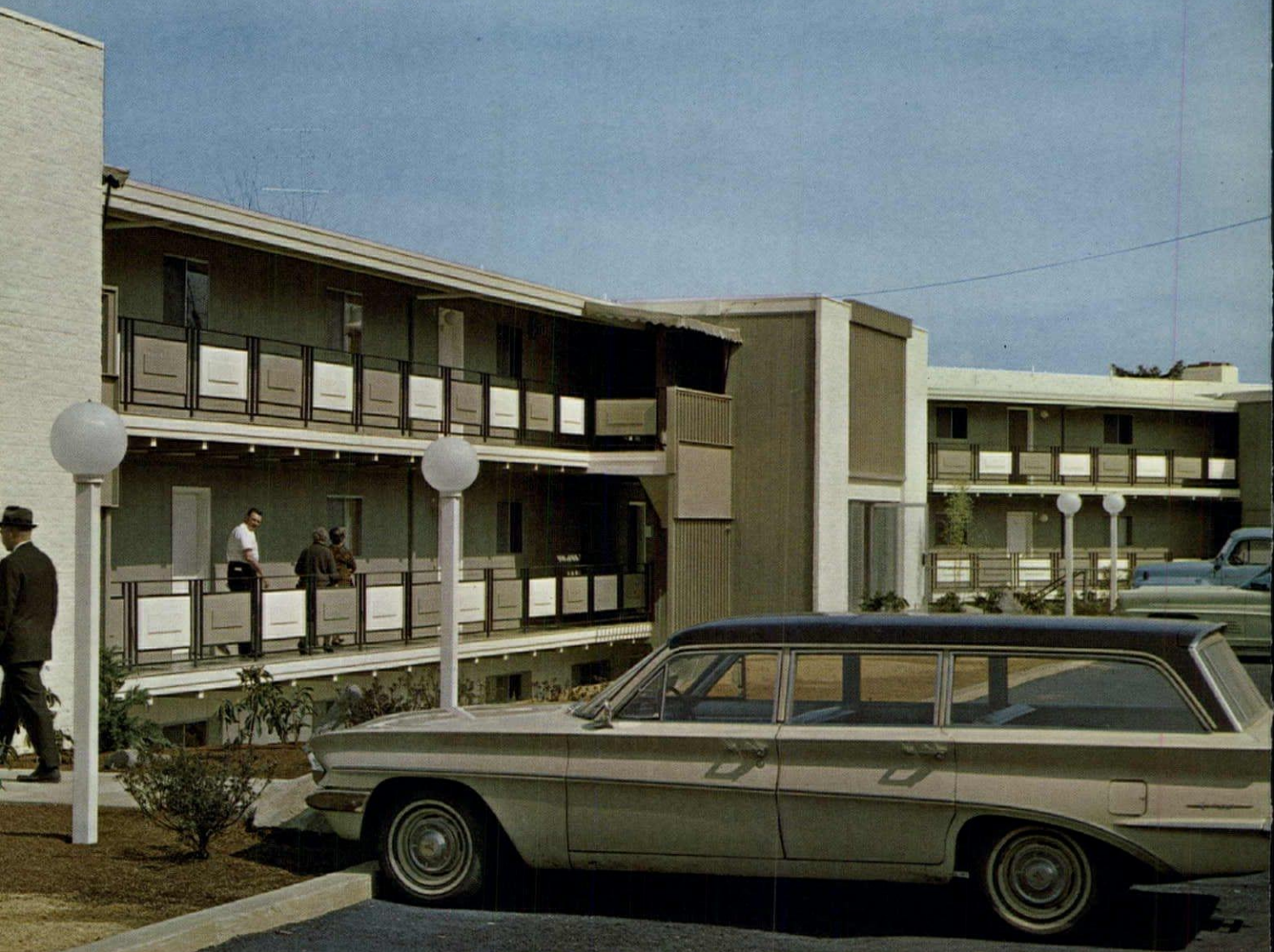
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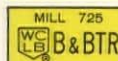
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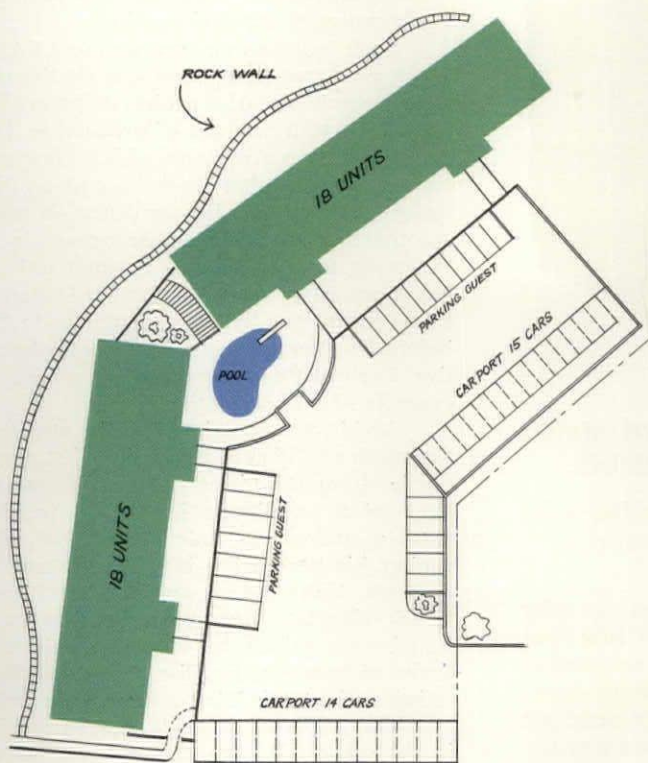


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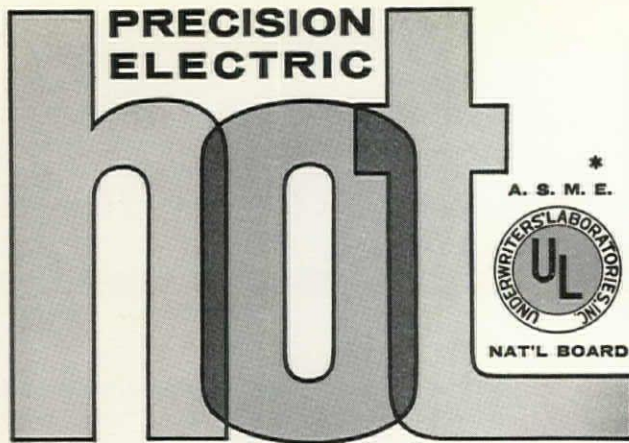
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Letters Cont'd

progress remains based on the work he produces. But it is not treated as if it had some esoteric market value, ie, given a "grade"—with all its corrosive implications to the student and the teacher. Marks seem as futile a gesture for creative effort as trying to rate the beauty of a building according to the amount of money it costs! The paper and pencil operations of a student, his so-called "designs," are closer to revealing the creative dynamics of his personality than they are to being a practical solution to some problem proposed in an artificial classroom environment. A competent teacher will be able to "read" the student's progress in his work and make recommendations from it.

Briefly stated, what is proposed is a kind of continuing classification based on criteria provided by the student, rather than a "class" with *a priori* requirements determined by the school. When the student's work characteristics are combined with subjects structured to suit individual needs, the teacher is in a position to effect the total growth of the student as demanded by the nature of the profession. The classification includes what may be tentatively identified as 1) manipulative, 2) emotive and 3) cognitive inclinations. These do not have absolute or mathematically expressive values.

Each indicates an approach and a kind of work habits preferred at a given time by the student. If a student tends to start a project by immediately plunging into it with a media of production, literally "get his hands" into a solution without first giving much consideration to what others have to say or to reading about the subject, his tendency is manipulative. Another student may be quite aroused by the subject and want to talk or write about it rather excitedly. His tendency is emotive. Another student may want to start with the library's references to the problem before he attempts to design. His tendency is cognitive. Each of these represents, of course, an extreme example of a classification.

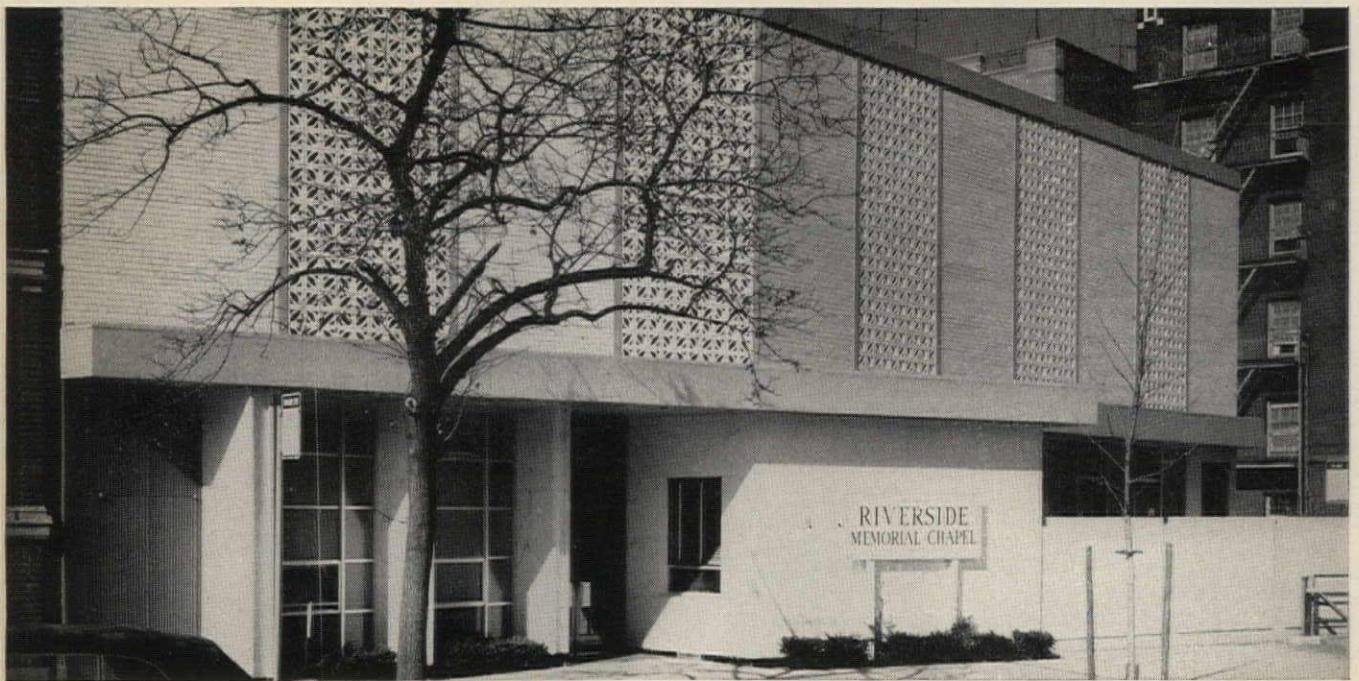
Architectural subjects can be structured to suit the needs of different categories of students. For example, from the history of architecture the teacher may select conditions for design problems which teach a student not only "facts," but allow him to project his personality into the life and times of a past era. Either as an architect for Pharaoh, for a Greek city-state, for a monastic order, or for a Renaissance prince, the student will have the opportunity of becoming familiar not only with the characteristics of a "style," but actually help create it.

The nexus of America and its architecture lies in the school. If architecture is not to succumb to the regimentation of an extrapolated high school administrative system and educational philosophy, the emphasis on learning must revert back to the teacher and the individual student aware of the context of his environment where alone the dynamics of evolutionary growth can occur.

MILTON D. LOWENSTEIN AIA
Member of Faculty
Arizona State University
Tempe, Ariz

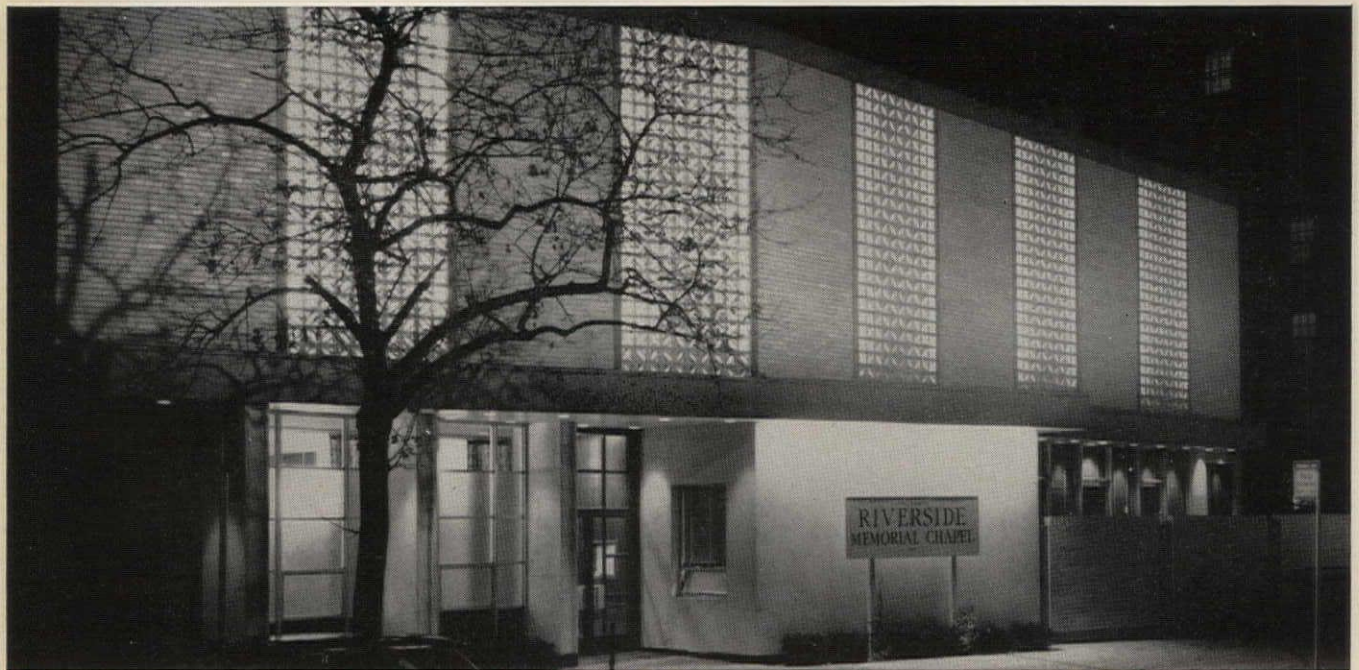
EDITOR, *Journal of the AIA*:

I have been intending to write for some years now to tell you how very much I appreciate the
Continued on p 130



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Calendar

June 9 to 19: AIA-ACSA Teachers Seminar, Cranbrook Academy of Art, Bloomfield Hills, Mich

June 23 to 26: ASLA Convention, Penn-Sheraton Hotel, Pittsburgh

June 23 to 30: BRI Summer Sessions, Wianno Club, Wianno, Mass

June 26 to 29: National Society of Professional Engineers Annual Meeting, Sheraton-Cleveland Hotel, Cleveland

July 13 to August 23: Summer Architectural Workshop, Instituto Tecnológico de Monterrey, Mexico (Contact Prof Hugh H. McMath AIA, School of Architecture, University of Texas, Austin 12, Tex)

July 15 to 19: School Planning Laboratory Institute, School of Education, Stanford University, Stanford, Calif

July 15 to 26: Special Summer Programs in City and Regional Planning, MIT, Cambridge, Mass

AIA Regional and State Conventions

June 13 to 15: New Jersey Chapter, Essex and Sussex Hotel, Spring Lake, NJ

August 1 to 3: Michigan Society of Architects, Mackinac Island

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

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

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

Future AIA National Conventions

1964 June 15 to 19: St Louis

1965 May 5 to 14: Washington DC

1966 June 28 to July 1: Denver

1967: New York City

1968: Portland, Ore (tentative)

1969: Chicago (tentative)

1970: Detroit (tentative)

Necrology

According to notices received at the Octagon between April 1, 1963, and April 30, 1963

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CROW, WILLIAM H., New York, NY

FRANKENBERGER, GEORGE F., Cincinnati, Ohio

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Book Reviews

Art and Architecture of Ancient America. George Kubler. Baltimore, Penguin Books, 1962. 396 pp illus 7¼" x 10½" \$16.50

Another volume in the excellent Pelican History of Art series, this is a book distinguished by a literate, perceptive scholarship which masters its materials, by good editing and production.

The main body of the text is in 300 pages of fine quality paper, with more than 100 line-and-tone illustrations, flanked by contents, meticulous lists of illustrations, maps, chronological tables and introduction in the front—and in the back by nearly forty pages of notes, plus a dozen-page bibliography, nearly 250 halftones on semi-gloss paper and a fifteen-page index. These details are given to show the care in production for which all users should be grateful in these days of the quick-buck approach to publication.

Arrangement is chronological within three main geographical divisions: Mexico, Central America and western South America. Emphasis is on artistic significance but sufficient controversy about dates is introduced to satisfy (?) the archeologist as well.

Kubler is a professor of the history of art at Yale who has spent a number of separate periods of considerable time in the field. By no means should the reader skip his brief introduction—it places the rich treasures of the pages to follow in a perspective of world-history and in relation to sister disciplines of anthropology, sociology and archeology. Kubler's contribution perhaps is his conviction that styles which formerly were considered following each other within rigidly separate time-sequence boundaries may well have overlapped in time as regional variants. In following this belief he assures us many supposed gaps and anomalies are filled and explained. He claims little patience with an excessive concern for dates ("gourmandizing over the past!") but they are inevitably prominent in such a work.

It is especially good to find in these pages an awareness of contemporary values of architecture in discussions of design detail and of the site-planning of the great ceremonial centers and their individual monuments. The term "grandiose" seems somewhat of a pejorative when applied to the subtle alignments and relationships of Monte Alban (Zapotec) but the contrast with Mitla (Mixtec) is well-drawn—"... effect of suburban villas, jealous of their privacy ... reflect a social organization and a conception of the public areas radically different from those of the Classic Zapotec theocracy."

About a hundred pages are devoted to the Maya—as much as each of the other two sections grouping many different traditions—and they are filled with interesting detail. Their "obsession with recorded permanence" resulted in "inscriptions which permit exact dating, to the day, within a 700-year range"—but they had no metal tools and no wheel. We can still learn much from their extreme sensitivity to the spaces which bathe their buildings.

In each period ample space is devoted to other arts

—pottery, textiles, painting, sculpture and jewelry—all are brought under scrutiny when they are significant.

The third and last part, dealing with the Andean civilizations from Colombia to northern Chile, in particular dwells upon these specialties: the matchless textiles of Peru,* the fine metal jewelry of some of these areas, the cradle of western metallurgy ("at least 1000 years older than that of Mexico and the Mayan regions"), and some of the pottery.

The fantastic Paracas textiles Kubler describes in terms of musical variations. Weavers and users "... were accustomed to retain many more [sequences of variations than we could] in a process not unlike our habituation to polyphonic music. ..." Apparently, due to a peculiar kind of archeological chauvinism, only a few of more than 400 "mummy bundles" deposited in the museum in Lima in 1925 have ever been opened! The others presumably contain equal treasures of this sort (from before AD 500) preserved in the extremely arid conditions of the burials.

A few criticisms—the zones in the chronological charts should have been aligned from page to page. It is a nuisance to seek photographs in the back referred to throughout the text—but it saves money. The city of Mérida was possibly omitted from the map as a colonial establishment—but how about the tremendous ceremonial center of Dzibilchatún between Mérida and the Gulf? Small carp indeed for such a fine book. EP

The Shape of Time. George Kubler. New Haven, Yale University Press, 1962. 136 pp illus 5¾" x 8¾" \$3.75

With the subtitle, "Remarks on the History of Things," Professor Kubler has produced in this small book a deep and scholarly study of the theory of art history which is a delight to read. While his special field is the Pre-Columbian and Spanish colonial, he ranges easily over other archeological periods and esthetics-in-general with fresh, perceptive comment on every page. His style is precise and luminous with complete command of his material, its sources, and with a rare gift for the right, literate but unpedantic word.

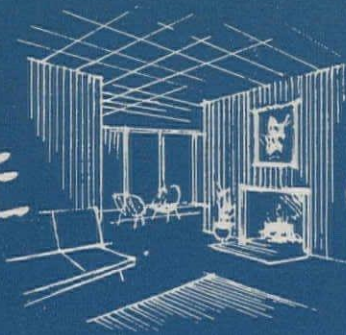
Kubler is impatient with the usual esthetics based on personal interpretations of dubious "meanings," symbolism and the popular anecdotal or artist-biographical approach. He is concerned with kinds of sequence and duration, the importance of the timing of an artist's "entrance" into a formal sequence. He has enlightening passages on prime objects and copies, invention, discard, and explains how valued objects (or buildings) become esthetically trite.

"Fashion ... differs from a sequence by having no appreciable dimension in time." "... artistic inventions alter the sensibility of mankind. They all emerge from and return to human perception, unlike useful inventions, which are keyed to the physical and biological environment." "For most persons inventive behavior is a lapse of propriety surrounded by the frightening aura of a violation of the sanctity of routine." (!)

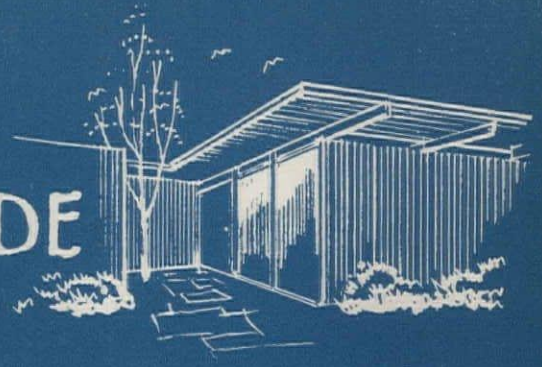
For the thoughtful reader, an adventure in ideas and expression yielding a new sense of history. One of the important books of the year. EP

* See "On Designing" by Anni Albers—reviewed *AIA Journal* August 1962 for a technical appreciation.

INSIDE



OUTSIDE



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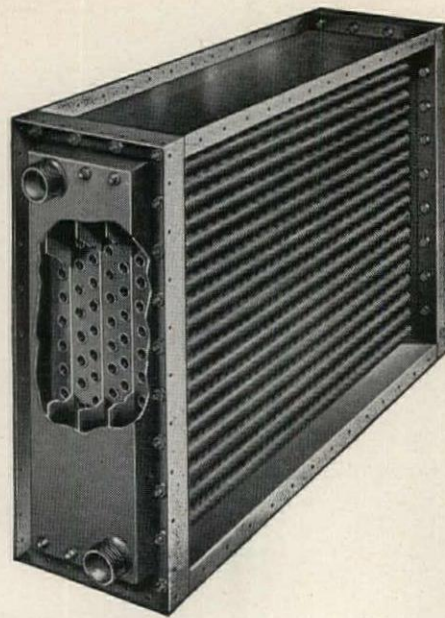
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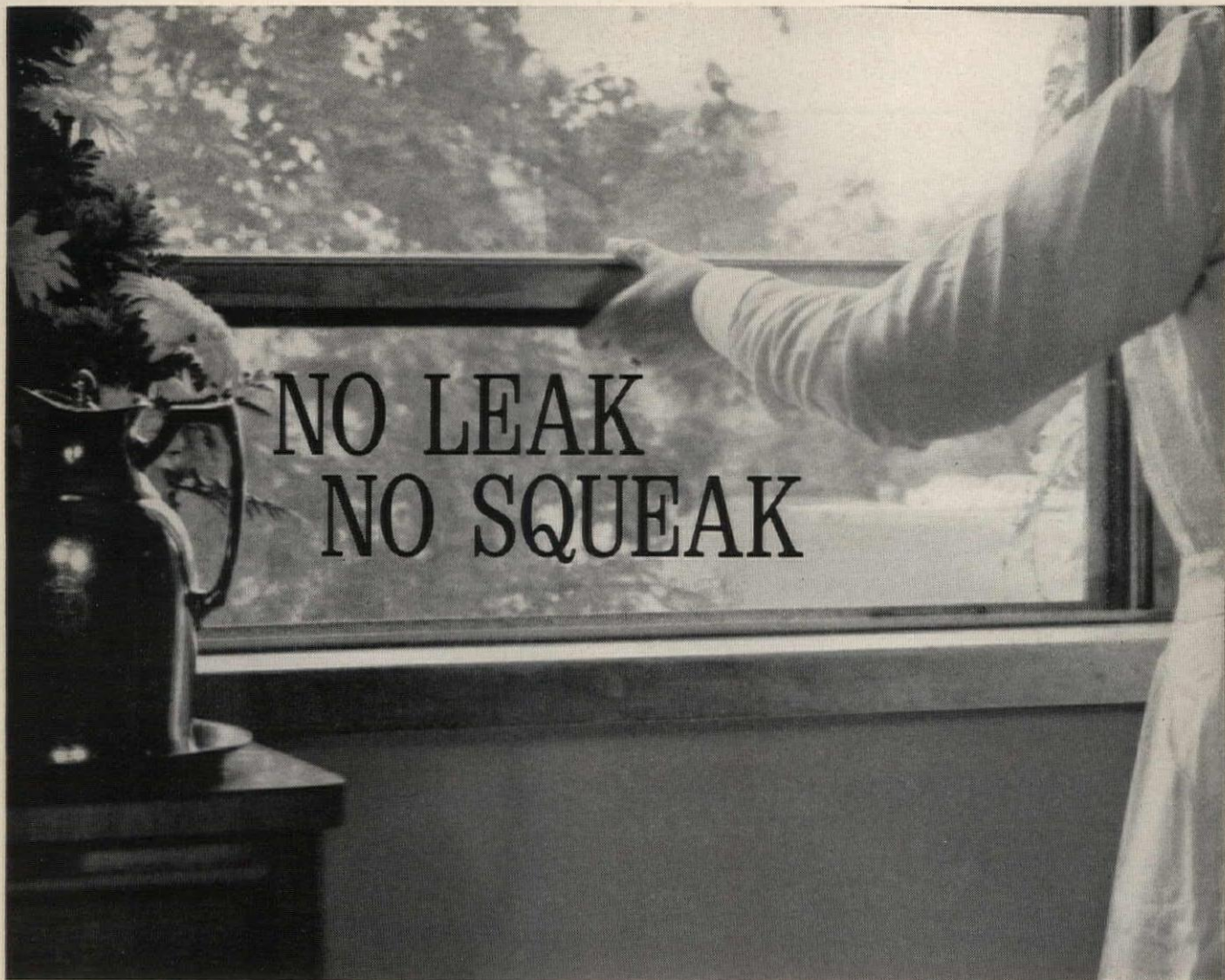
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Allied Arts

Weimar—Nürnberg—Bonn

by Wolf Von Eckardt, HON AIA

For its first series of exhibits, the new arts center of the New School for Social Research in New York City has set out to demonstrate the use of art as a political weapon. It could hardly have found a more poignant example than the political posters which, like silent screams, accompanied the turbulent march of Germany's history of the past forty odd years.

These posters, covering the period of the first German republic, the Nazi Reich and Adenauer's post-war West Germany under the title "Weimar, Nürnberg, Bonn," have never before been shown in this country. The show will be open to June 15. It is fascinating and frightening.

Newsreels and books of all kinds have, of course, provided numerous all-too-vivid chronicles of the events in Germany in which we all became involved and which added the new and utterly inadequate word "genocide" to our language. These chronicles tell us what happened. The posters of Weimar and Nürnberg give us a clue *why* it could happen. They are graphic evidence of politics carried to frenzied, emotional excess, of being taken so dead seriously that in the end it could only lead to death.

There is no use arguing that art had no part in this. For these posters are not the work of mere draftsmen carrying out some indifferent assignment of giving form to a content not of their making, as advertising artists do. Not all of these posters are good art. But they are art just the same in that form and content fuse in the heat of their creators' total commitment and conviction. The conviction is often fanatical.

The Weimar posters convey the persuasions of several of the more than a dozen political parties of that period. They are, however, all alike in the shameless way in which they exploit the hunger and desperate confusion of an orderly people who could endure anything but the chaos of defeat. With every line, every ugly color, every stroke of the brush, most of these posters are expressionism at its most extreme. Though done by far lesser artists, they would have been impossible without the great German expressionists of the period. The difference, aside from quality, is mainly that they do not evoke compassion but raw, irrational passion.

The Nürnberg posters are less raw and more calculated. Line, color and brush stroke combine in some to whip the prejudices and smug delusions of Teutonic supremacy of upright little people into orgiastic hatred. Others are masterful, mawkish designs that are like visual trumpet flourishes making the sounds of order in the fury of chaotic strife, elating frustrated pettiness into sham grandeur—*ein Volk, ein Reich, ein Führer!*

Even the simplest of these designs are superb poster art. One of them show nothing but flame-like, seemingly artless and casual brush letters on a dark background. The letters say only: "The Führer in

Cologne, March 30, 1938." Yet, this poster is vibrant with emotion. You can sense that this Führer, his enemies crushed, Austria annexed, his Reich re-armed, was at the pinnacle of his power. And in the arrogance of these carelessly smeared words, you can sense a whole city trembling in suspenseful anticipation of a momentous event, the suspense heightened by the dark cadence of thousands of drums beat by thousands of stern faced, brown-shirted Hitler youths.

The Bonn posters are different. It is a different era, the era of a glowing economic miracle which all but outshines the deep shadow in which it occurred, the shadow of that wall which divides not only Berlin but our world. They are neat, calm, well designed and dull.

I had a curious reaction to them. A moment earlier I had been shocked by the emotional violence which marks the posters of Weimar and Hitler. Now I was shocked by the utter lack of emotion in those of Adenauer. The earlier emotionalism was the product, after all, of a tremendous vitality and fervor, of the same volcanic eruption of German art between the two arts which gave us Thomas Mann, Bert Brecht, Wilhelm Lehmbruck, Vasily Kandinsky, Ernst Lubitsch and Walter Gropius and Mies van der Rohe. In literature, drama, sculpture, painting, film and architecture, we are still building on the lava of that eruption.

You also could see that those Weimar posters were painted in cold studios on empty stomachs. Not that the Bonn posters were bad. You could hang them into the annual New York Art Directors' show and no one would bat an eyelash. But you could see how behind them were not ragged artists but well-dressed designers who drop their work at five sharp, go for a *Wirtschaftswunder* whipped cream or beer, see a Hollywood movie with German subtitles, sleep peacefully and resume work in the morning, their minds already on the toothpaste poster they would do next. There is no personal involvement in the issues these posters depict. If they are art, they are art for art's sake.

And is that not the reason for the all but total absence of art as a political weapon in this country today? It was not always thus. We never had political posters as the Europeans use them, but we too used art to fight for social causes. Remember the WPA murals and the work of Ben Shawn and Stuart Davis and Thomas Hart Benton in the New Deal days?

Now we ridicule the notion that art should have "social significance," just as the social significance boys once ridiculed art for art's sake. Now most of our official art has become introvert and uncommunicative, a soliloquy of the artist, intent to probe the inner depth of his soul rather than of the human drama, out for self-realization rather than the realization of his ideals, concerned with his inner conflicts rather than the conflicts of history in the making.

Yet, it is the very a-political, self-analytical quality of the new art which seems to rankle Khrushchev so and which has rankled Hitler before him. Perhaps non-politics is also a form of political involvement, just as atheism is a form of religiosity. Perhaps in that sense the abstract expressionists and the others of the perennial American avant-garde do care about Hiroshima and Birmingham, and the brotherhood of man. We can only hope.

And perhaps the German artists of thirty years ago cared too much. It would be sad if the artists of today cared too little. ◀