

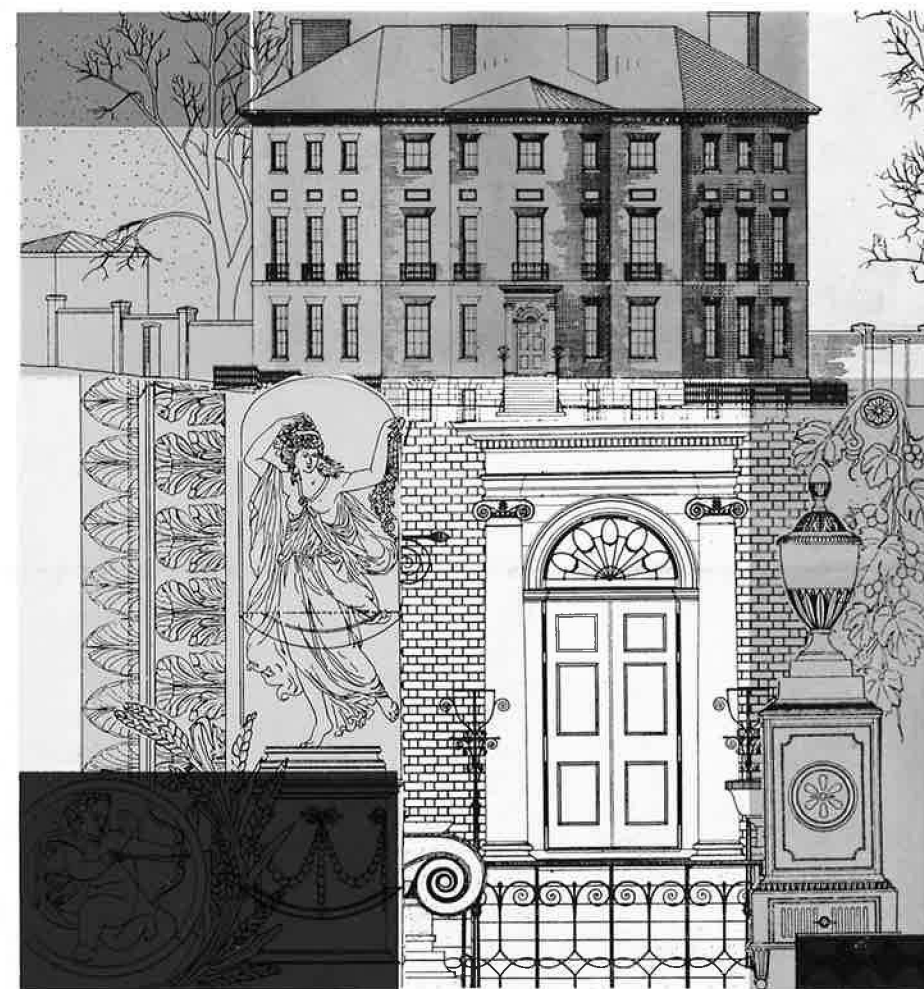
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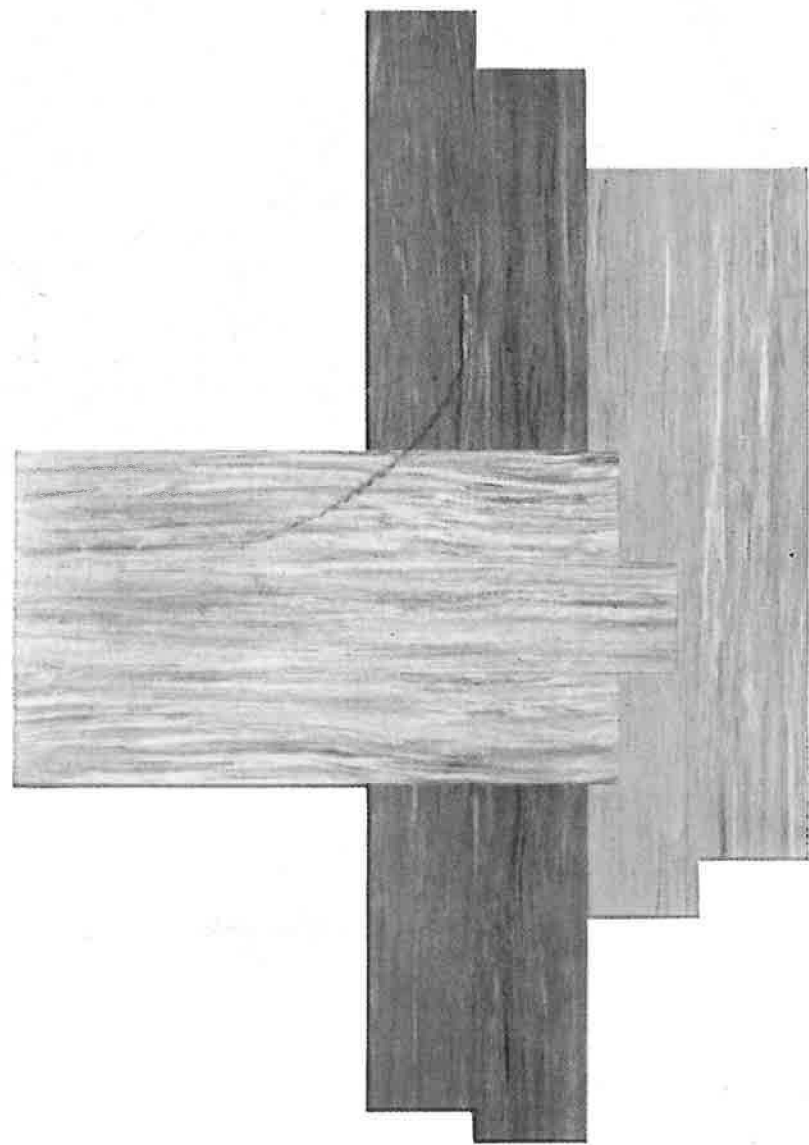
A · I · A

Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS



The Octagon — Yesterday, Today, Tomorrow by Henry H. Saylor, FAIA • Indianapolis CBD
Memories of FLW • People - to - People International Seminar • Notes on a French Horn I I



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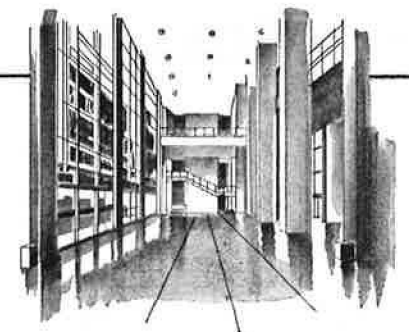
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Journal

VOLUME XXXII, NO. 4 OCTOBER 1959

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THE COVER

The montage was designed by Wolf Von Eckardt to lead you to Henry Saylor's article on page 50. The drawings were prepared under the direction of the late Glenn Brown, FAIA, for his delightful portfolio, "The Octagon," published in 1917.



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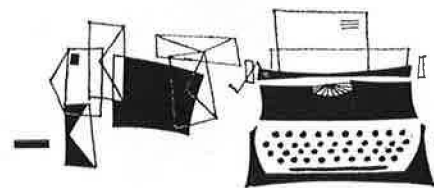
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L E T T E R S

A Cry for Sanity in Art Criticism

EDITOR, *Journal of the AIA*:

After reviewing the current furor and the political implications ascribed to the selection of American works of art to be exhibited in the Soviet Union, I should like to observe that bad art ought to be called bad art—and whether it be red, pink or blue bears little relevancy as to its artistic merit.

Until the advent of the avant-garde movement, sculpture, painting and mural decoration were considered to be entirely within the realm of the visual arts and, being such, each work was acclaimed or criticized on the basis of its esthetic qualities.

However, we are also aware that throughout every period of history there have been tendencies in art gravitating toward the exotic, the bizarre and the grotesque. That these art forms as a transitive novelty have their place cannot be denied, for they have an appeal to almost everyone in limited dosages. But to foist them on an unsuspecting public as the credo of art in our era is perhaps the most outrageous esthetic swindle and mass-mesmerism ever attempted.

Thus, the avant-gardists, knowing their works could never survive purely on their visual merit, have added a new dimension—the contemporary art critic—a sophist so intoxicated by his own vocabulary that he has eagerly accepted the role of high priest in the lip-service promotion of a new and weird art cult. This literary propagandist is the nucleus of a powerful clique dedicated to the adoration and glorification of artistic insincerity and charlatanism.

In comprehensible and inartistic “masterpieces” are “explained” to the public by a subtle concoction of glib gibberish, motivational psychology and literary legerdemain. The critics have embarked upon a complete abnegation of art’s basic precepts. In their world-stood-on-head lexicon, ugliness is beauty, fantasy is realism and blatant confusion is orderly logic.

These self-styled experts, who have entrenched themselves as the arbiters of the art world, sneer contemptuously at schooled art as “dated,” “passé” and “out-of-step with the times.” Their substitute formula, however, is to replace artistic

anachronism by inartistic anarchism and nihilism.

I am sure that any rational person will agree that we are in the midst of vast and unprecedented changes in our social and cultural mores. Since time and progress are no longer moving as straight-line functions but rather as logarithmic curves, it is particularly important to establish sound criteria for the visual arts that will take these decisions out of the hands of the mountebank, the dilettante and the insincere faddist.

Any country is only as great as its cultural and moral attainments. History affords us much previous experience whereby civilizations flourished or foundered on these fundamentals.

Finally, may I say we have enough social, moral and cultural ills plaguing the contemporary scene without the additional chaos and bad taste created by artistic delinquents and their very vocal coterie.

GORDON D. FRIEDLANDER
White Plains, N. Y.

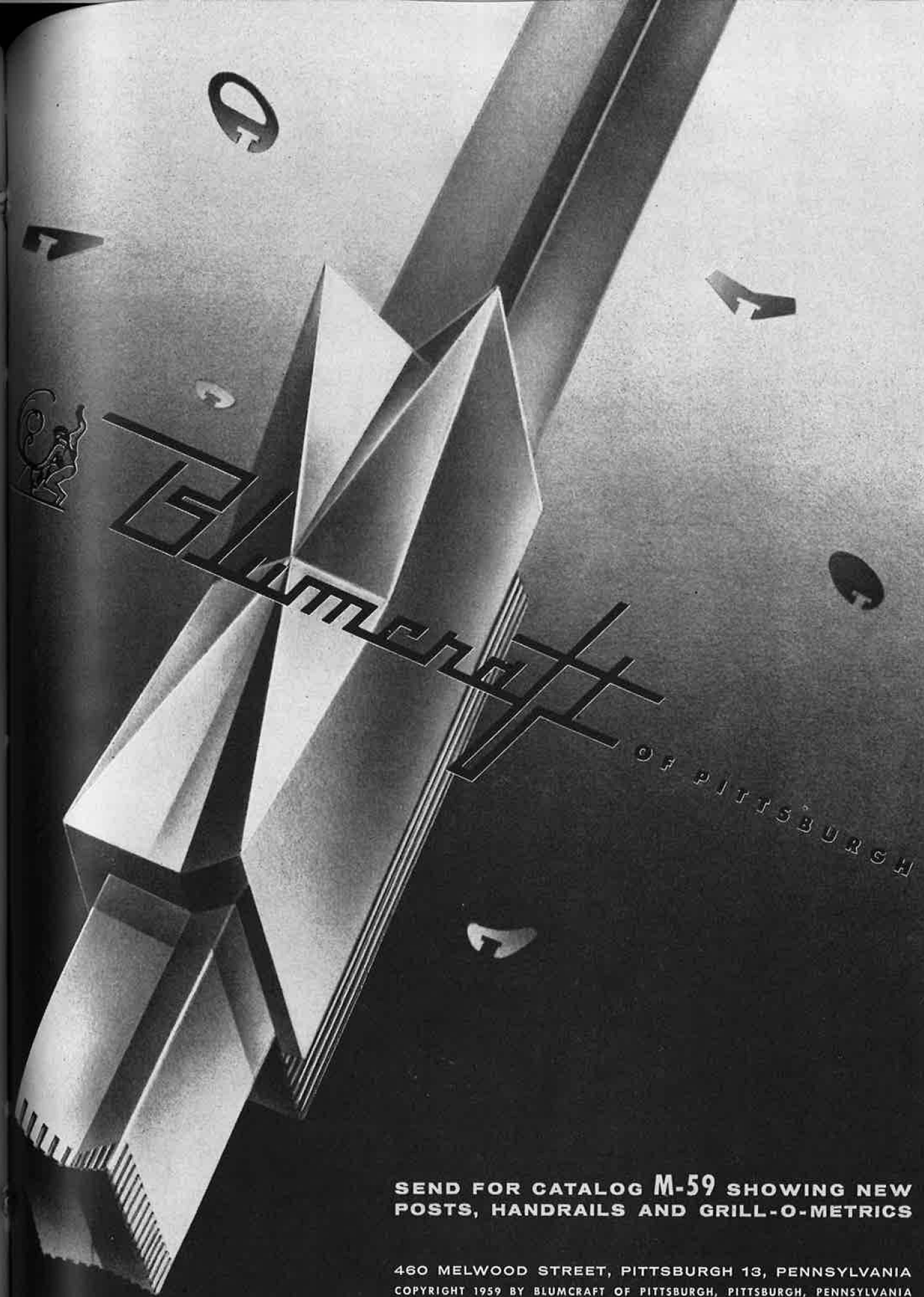
Bouquets

EDITOR, *Journal of the AIA*:

I had been meaning for some months to write and express my support, or more properly my enthusiasm, for your general editorial policy as I sensed it develop, but I fear it required the delightful item by Dr. Panofsky on the “Ivory Tower” to strike real fire in me. His range and touch there demonstrated were so perfectly evocative of the qualities I would hope to see inculcated in my ideal architect’s education, I could not resist writing in to convey my pleasure.

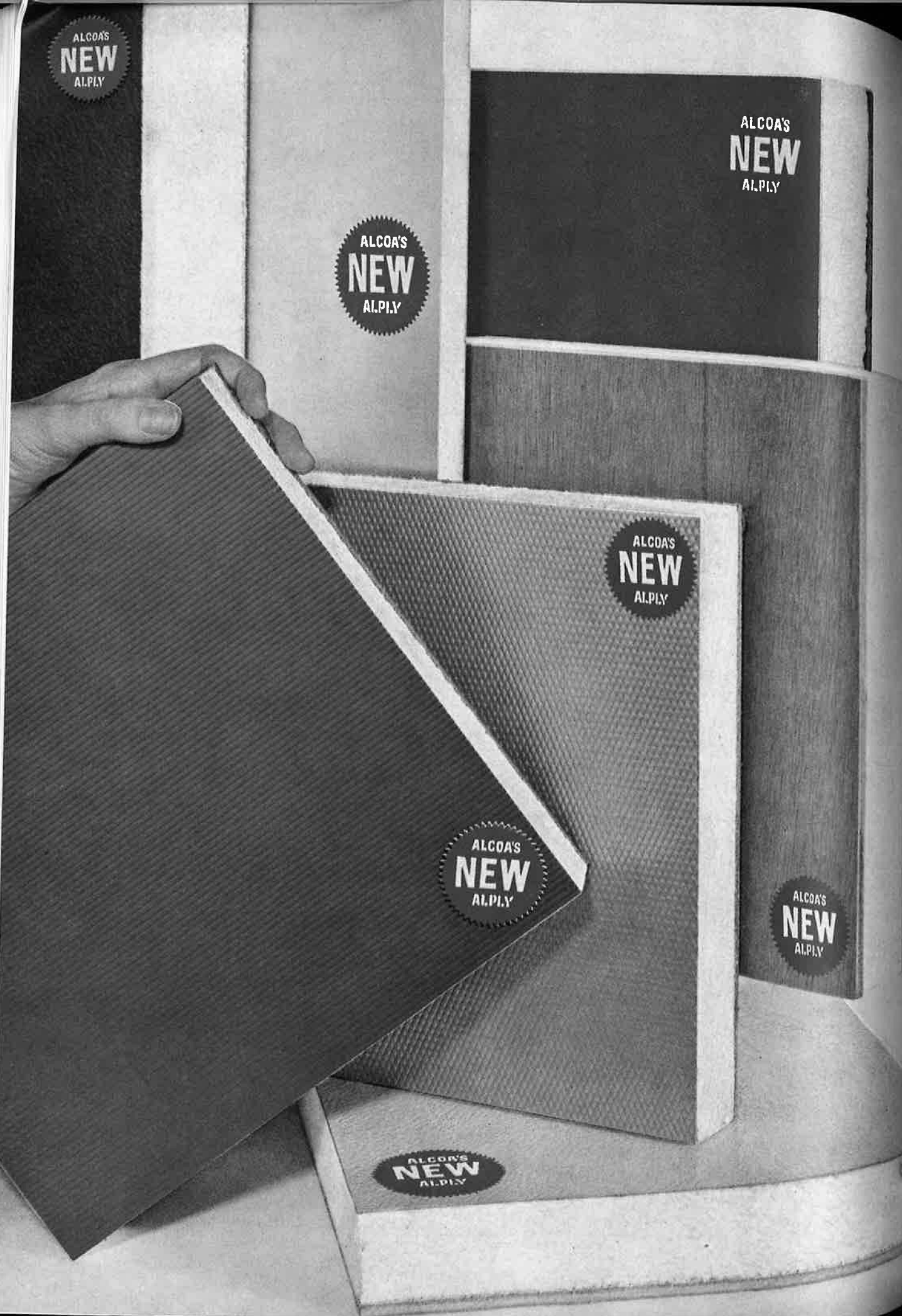
I would like to add, it is one facet of the *Journal* which I observe frequently and with satisfaction: Your inclusion of this sort of non-specialist, non-technical, in a sense tangential but in a broader sense significant and vastly enriching phase of the cultural effort of the human race. Perhaps a nostalgic reminiscence on my part of the disappearing genre of gentlemen architects—George Howe, Philip Goodwin, Lawrence Grant White come to my mind; perhaps a throwback further still, to the Renaissance “Homo Universalis” whose bent for self-expression extended through all the arts. In any case, I wish you well.

LANDIS GORES, AIA
New Canaan, Conn.



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2 Here's how the NEED for air conditioning was proved

The administrators and board of Alton Community Unit School District No. 11 had positive proof that air conditioning was needed. In building an earlier school, air conditioning was incorporated in the mechanical system as an alternate proposal which was accepted by the board. Their decision was overwhelmingly justified as the resulting program of remedial enrichment and high school summer classes began to make education a year 'round proposition in Alton. The increase in summer enrollment proved that the need for air conditioning was real. This time it was planned for in advance—to take full advantage of the economies inherent in air conditioning design.

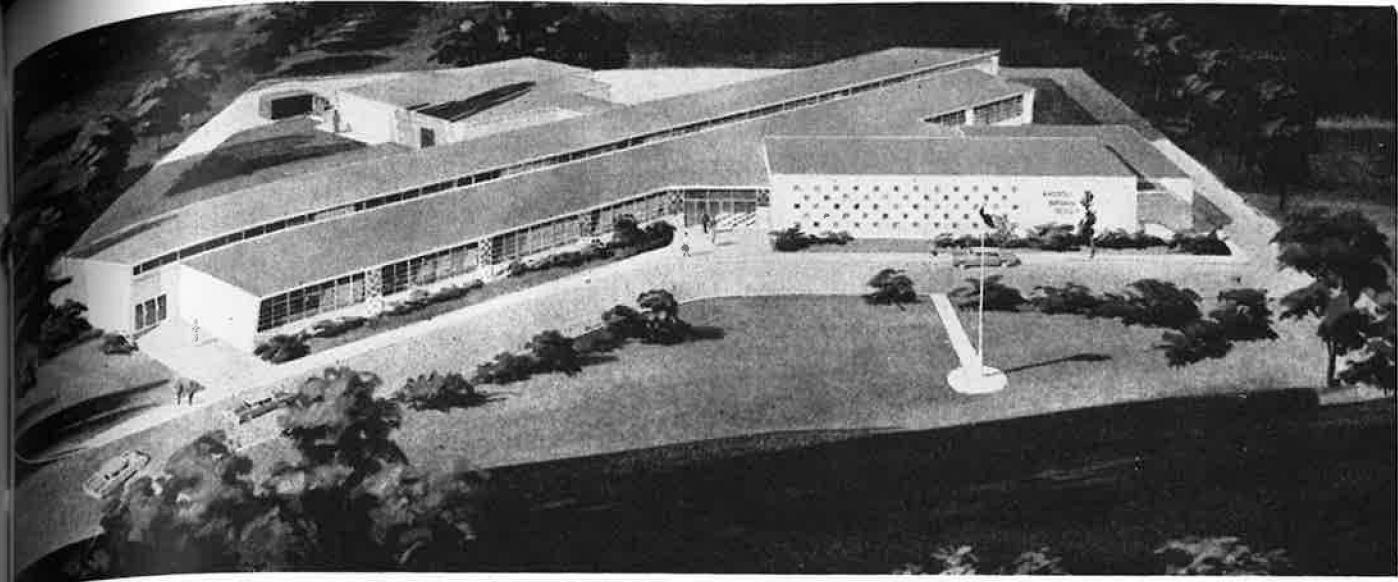
3 Here's how DESIGN ECONOMIES of air conditioning were proved

Architects Keeney & Stolze of Alton proved beyond question that tangible savings could be effected in air conditioned school design. They pointed out that by designing for air conditioning, the cost of installation and operation of the air conditioning system could be greatly minimized. A few examples of Keeney & Stolze design: orientation of the classrooms on a diagonal to the property lines for maximum sun control; a clerestory on the north side of the corridor to give light without heat to corridor and classrooms; a roof of white Georgia marble chips to reflect heat and minimize the air conditioning load.

FACTS

4 Here's the KIND of school this planning achieved

Design economies didn't detract one iota from quality construction. Gilson Brown school contains 13 classrooms, two kindergarten rooms (each with its own sanitary facilities and outdoor play terrace), administration suite, health room, counseling room, multi-purpose room with stage, ceramic-tiled kitchen with walk-in cooler, band room, four large ceramic-tiled rest rooms and a teachers' lounge. Exterior finish: brick and ceramic tile facing. Doors and windows are of aluminum. Interior has exposed masonry walls and two-inch solid plaster partitions. Corridors have glazed ceramic tile walls. Floors are of asphalt tile with terrazzo or cork patterns.

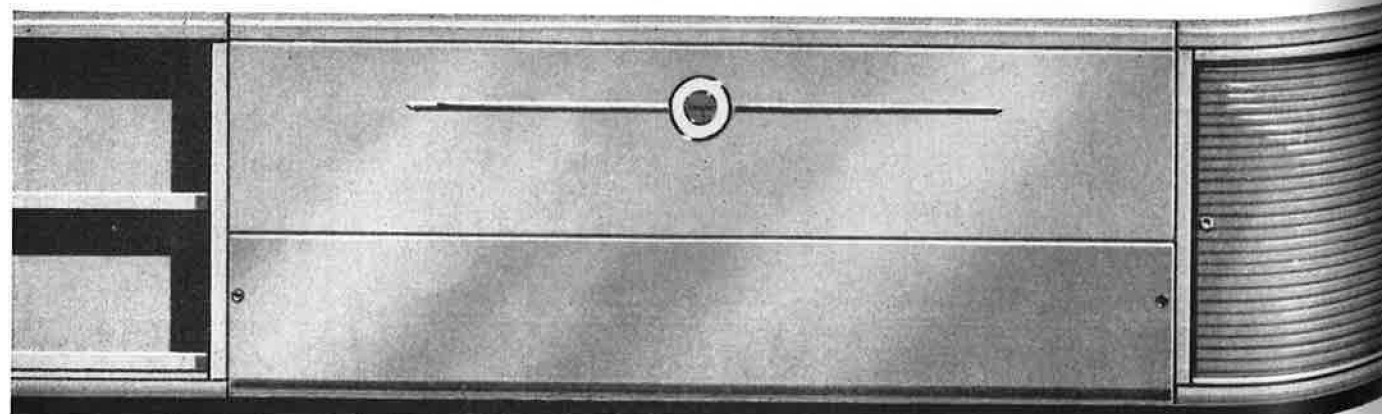


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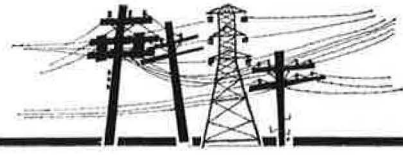
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NEWS

Community Planning News—Nashville, 1970

► The first trial step toward the fulfillment of the plans of "Nashville—1970" (See *AIA Journal*, May 1959) may be taken very soon. The *Nashville Banner* carried a story not long ago stating that the proposal for a "Church Street Mall" continues to draw comment and study. The plan calls for restricting Church Street exclusively to pedestrian use from Eighth Avenue to Fourth Avenue—except that vehicular traffic would be permitted to cross Church Street on the cross streets as usual.

Ultimately, of course, the street would be paved flush, eliminating curbs, and landscaped. But it is planned to make a trial—probably for only a day or so—in the near future. It would seem too bad that such a trial could not last at least a week, justifying the placement of temporary landscaping in tubs, benches, kiosks and other furniture to attract the shopper. It would also give the merchants, the public and the city fathers a better chance to study the effects.

An "inquiring reporter" sampled opinions from downtown pedestrians. Some of the comments were: "It'd be a good idea. The sidewalks are awfully narrow. When there's a big crowd downtown it's awfully hard to get around. It takes twice as long to walk from one store to another. It would save a lot of bumping around." "According to what happened in Kansas City, it might be a good thing. Malls are in use there." "I don't think it would really be necessary, with the traffic lights we have." "It would be a pretty nice thing, with space as overcrowded as it is. Pedestrian traffic could move freely." "People in cars have the same right to be downtown as we do. There's enough room for all of us. There's certainly enough room on the sidewalks. If you have to walk down Church, it would be a long way to go." "I think it would be a good idea. You could cross the street when you get ready. It would be more convenient."

All of which is interesting but adds to the confusion. AIA Chapter President John Charles Wheeler said "We are as interested in the proposal now as when it first was presented and will be glad to work with the proper groups to effect

it." Mayor Ben West favors it but is worried about re-routing traffic. "There is no doubt but that we need more conveniences for pedestrians downtown," he said, "We also need downtown beautification."

So the discussion goes. Perhaps by the time this story appears in print, the experiment will have been made. Good luck to Nashville!

NOTE—The Editor would like to have a full page of Community Planning News every month, in cooperation with the Institute's Community Planning Committee, Carl Feiss, Chairman. Please send us news of what you and your community are doing. ◀

Inquiry by Canadian Architects Into Housing Is Assisted by Federal Grant of \$30,000

► Arrangements have been completed for a full-scale inquiry by the Royal Architectural Institute of Canada into the design of residential areas. The inquiry will be assisted by a Federal grant of \$30,000. The announcement of this assistance came from The Hon. David J. Walker, Minister responsible for the operations of the Federal Housing Agency, Central Mortgage and Housing Corporation.

A committee of inquiry will cross Canada seeking ways in which the new parts of cities and towns can be better designed for the inhabitants.

Invited to join in the search for a better residential environment are consumer groups, municipal bodies and others involved in the formation of new communities.

The RAIC has obtained the services of three distinguished architects to form the committee. They are Peter Dobush, of Montreal, John C. Parkin, of Toronto, and Charles Edward Pratt, of Vancouver. Alan Armstrong of the Central Mortgage and Housing Corporation will serve as secretary to the committee at the base of operations in the RAIC offices in Ottawa.

Maurice Payette, President of the RAIC has commended the establishment of the committee and has been quoted as being confident that the committee will be successful in submitting recommendations for the improvement of the residential environment throughout Canada. ◀



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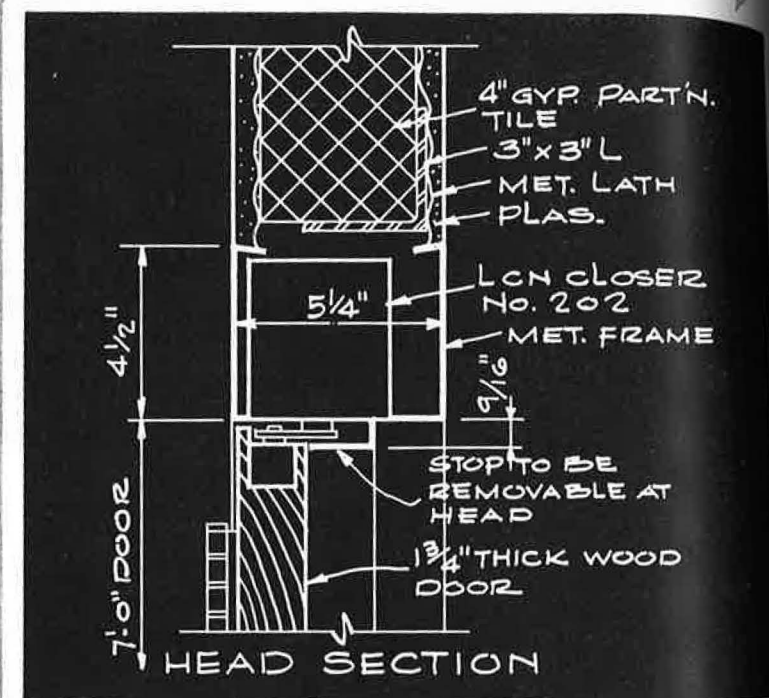
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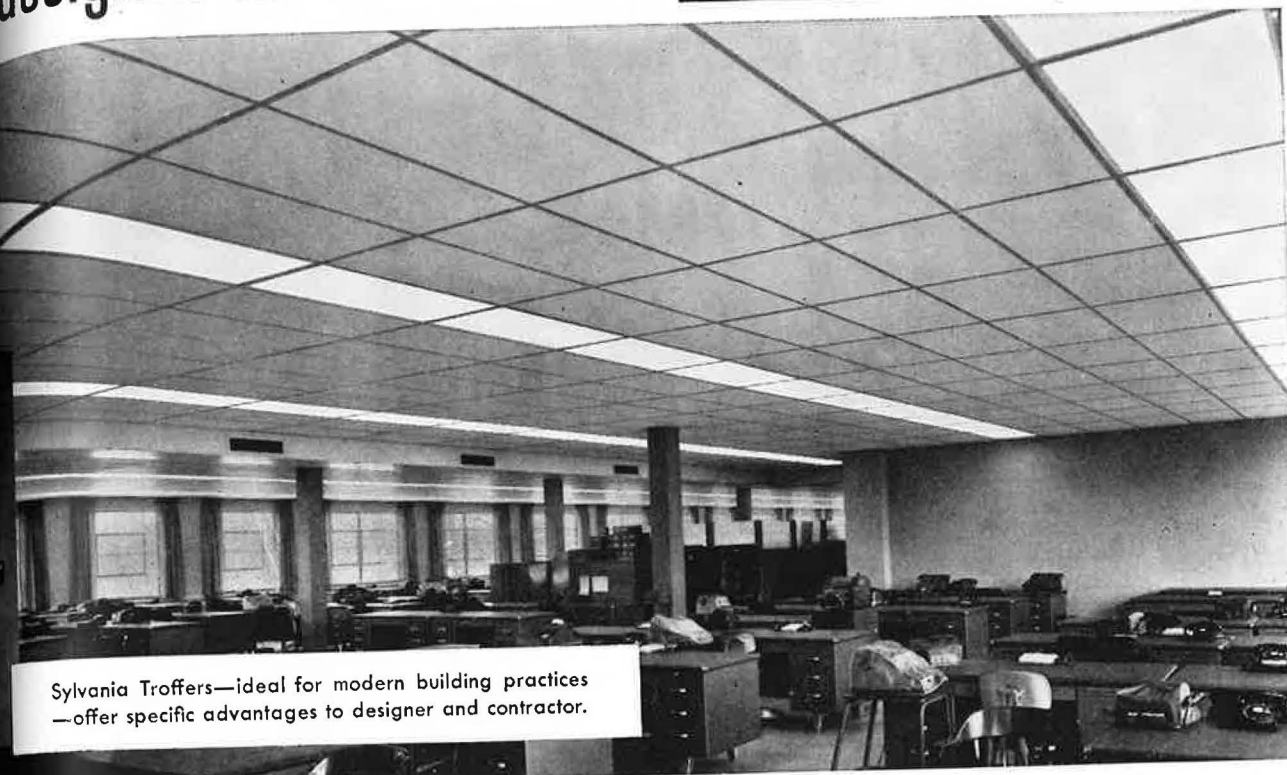
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Sylvania Troffers—ideal for modern building practices
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The next time you specify or install recessed lighting, check the many advantages of Sylvania Troffers before making your choice. Compare Sylvania Troffers feature for feature with other makes. Then you be the judge.

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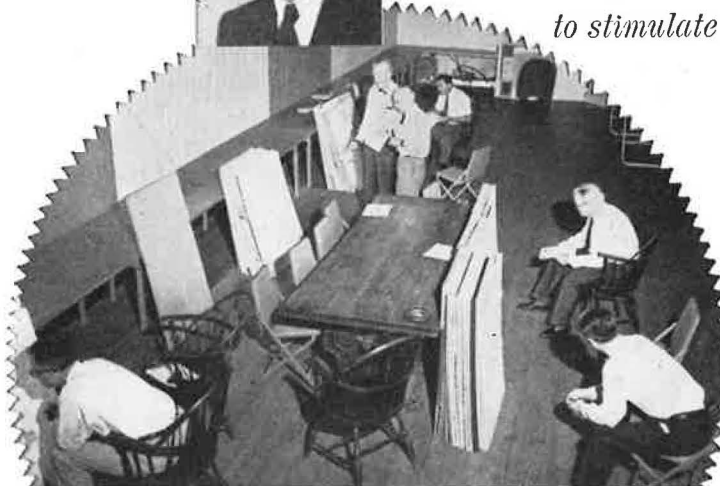


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- Robert Zion, New York, N. Y.
- Harold Breen, New York, N. Y.
- Peter Bradford, New York, N. Y.
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- Hayahiko Takase, Birmingham, Mich.
- Kyosuke Yoshioka, Birmingham, Mich.
- Chih-Chen Jen, Glendale, Mo.
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- Philip Gold, University of Illinois
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CERTIFICATES OF ACHIEVEMENT

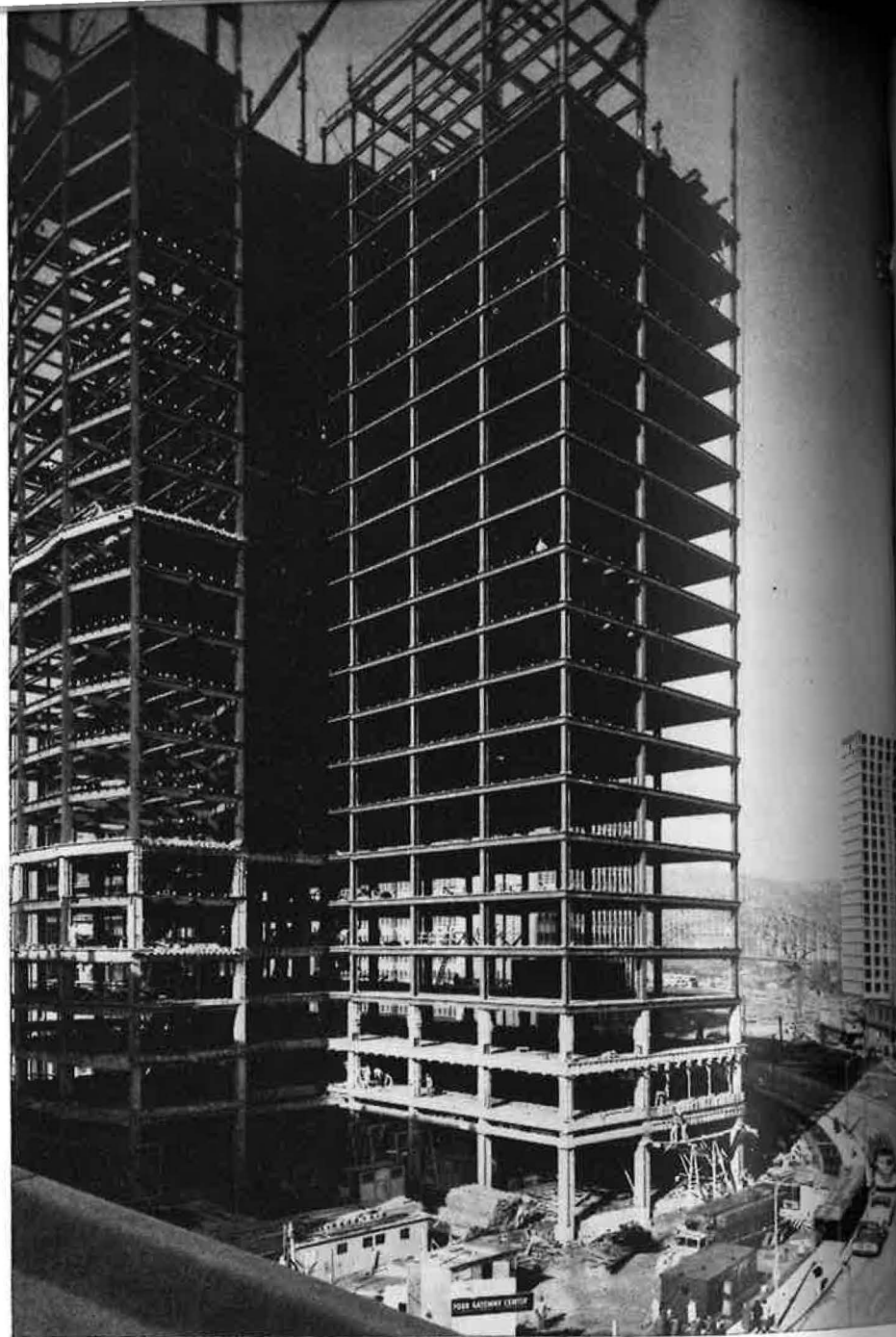
GENERAL: Michael F. Gebhart, Herbert A. Magoon, Calvin N. Lundquist; Thomas N. Larsen, Peter Woytuk; Thomas E. Tomsik, Robert Blatchford; Alan Hamilton Rider; Thomas H. Hodne, Dennis W. Grebner; Malcolm M. Davis, William Lindemulder.

STUDENT: J. Michael DeLapp, Ben W. Carr; Philip M. LeBoy, Ernest B. Phillippon; Ronald E. Ginn, Richard J. Paulin; William Holzbauer; Malcom M. Davis, William Lindemulder (also in General Competition).

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An important feature of steel construction occasionally overlooked—*immediate full strength*, is the key to safe, fast and economical construction. When a structure is built around steel, everything about the job moves fast. Not only does the framework go up faster, but other trades can move in and start work almost as soon as members are in place—rather than waiting weeks for safe conditions.

In addition to speed and strength, steel lends itself readily to all kinds of

fabrication and all types of connections. (All field connections on Four Gateway Center were made with High Strength Bolts.) Steel can take rough handling, it can be shipped and stored economically, and it can be safely erected in any season. And steel construction can be readily altered and accurately inspected during and after construction.

The important fundamentals show that steel serves you best. And for the best service in steel construction, get in touch with American Bridge.

Four Gateway Center Building, Pittsburgh, Pa.

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Designed by Harrison & Abramovitz, Architects

General Contractor: George A. Fuller Company

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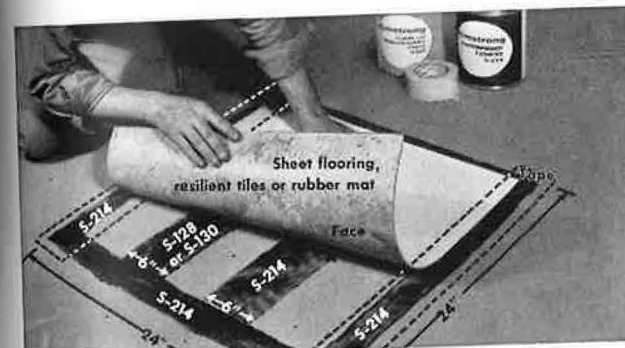
Resilient floors on lightweight aggregate concrete

How to avoid installation difficulties

A number of new types of concretes—providing a variety of important advantages—have been introduced in recent years. One type, lightweight aggregate concrete, has come into very wide use for suspended slabs in large commercial buildings. When resilient floors are installed over lightweight aggregate concrete* there are two potential sources of difficulty. (1) Lightweight aggregate concretes contain a greater quantity of water than solid aggregate mixes. And, being hygroscopic in nature, they tend to retain this excess moisture, particularly when it is confined under a top layer of regular concrete. This prolongs the drying time. And it can create "alkaline moisture problems" similar to those in concrete laid directly on the ground. When this occurs, adhesive bonds can be ruptured, linoleum, wood, and other flooring materials can be damaged. (2) Due to the low density of aggregates used, the subfloor surface may be too weak to hold a suitable bond with resilient floor adhesives.

Determining moisture conditions

It is essential that moisture tests be made on all lightweight aggregate slabs before resilient floors are installed. While rapid evaporation may cause the surface to dry completely, moisture is often retained within the slab itself.



This mat test should always be made with suspended lightweight aggregate concrete subfloors. Conducting the test with different types of Armstrong adhesives checks the suitability of the subfloor for resilient floors and determines which adhesive is best for the condition of the concrete and the specified floor.

Adhesives

If tests show a suspended subfloor of lightweight aggregate concrete is completely dry, conventional Armstrong adhesives may be used. In some cases, when the floor is not completely dry, the adhesives recommended for Armstrong floors on grade should be used. When high quantities of

* This article is confined to concrete made with lightweight aggregates such as vermiculite or expanded slag. Other new types of concrete (air-entrained concrete, for instance) do not have the same properties of moisture retention or surface strength as most lightweight mixtures.

moisture are present, the use of special—and somewhat more costly—Armstrong adhesives permits the safe installation of resilient floors.

Surface reinforcement

Because it forms a weak, crumbly surface, lightweight aggregate concrete of density less than 90 lbs. per cu. ft. should be finished with a one-inch topping of standard concrete mix before resilient floors are installed.

The chart below shows approximate densities of aggregates and gives recommendations for surface preparation:

Density Classification of Concrete Slabs		
Density in lbs. per cu. ft.	Type of aggregate or chemical composition	Recommended surface preparation
light 20-40	expanded perlite, vermiculite, and others	1" topping of standard concrete mix
medium 60-90	expanded slag, shale, and clay	
medium 90-120	expanded slag, shale, and clay	approved for use of resilient flooring if troweled smooth and even
heavy 140-150	standard concrete of sand, gravel, or clay	

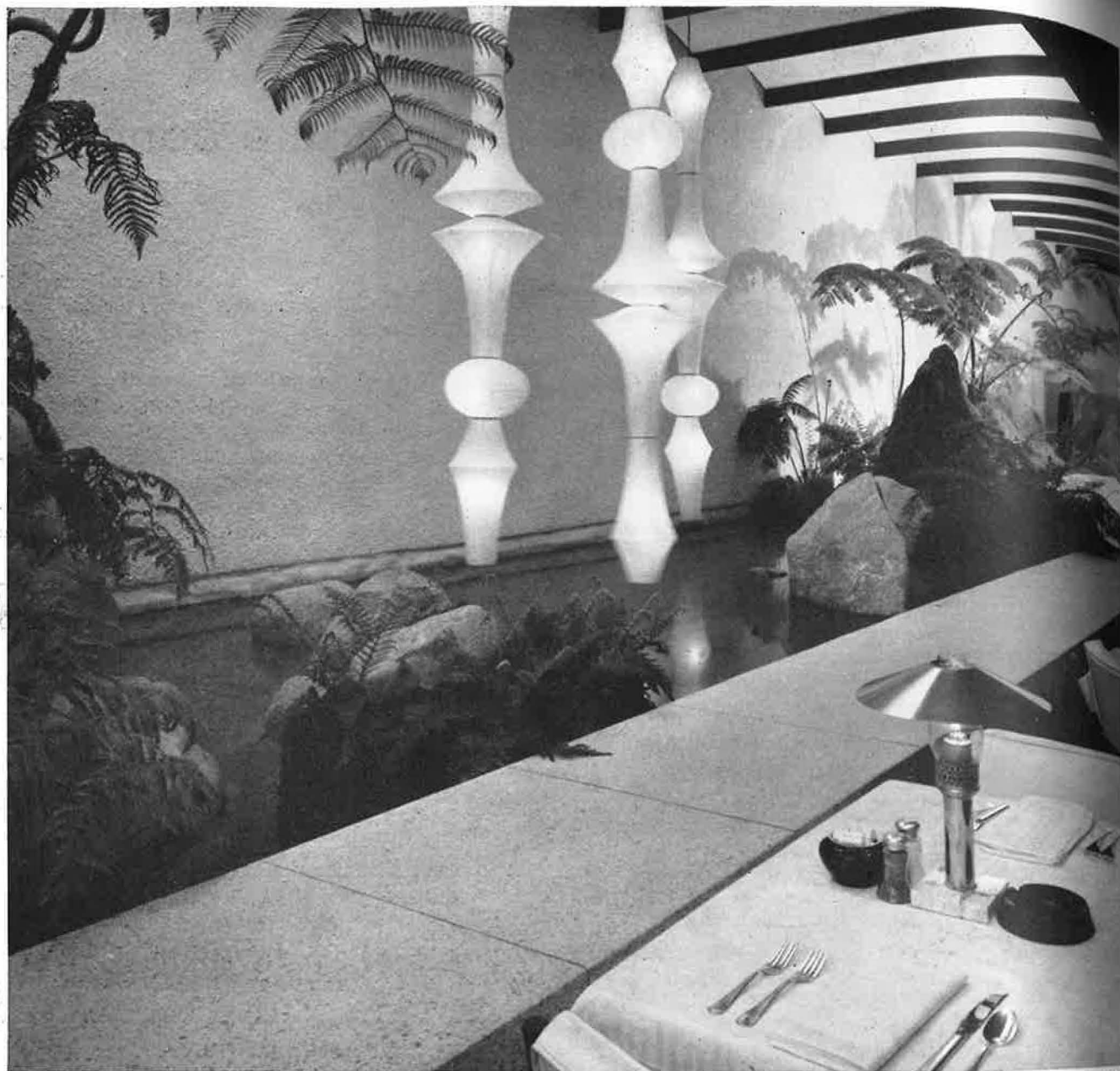
The selection of resilient floors

When suspended lightweight aggregate concrete subfloors are thoroughly dry, any Armstrong floor may be safely installed. When there is moisture, Armstrong floors unaffected by alkalis or moisture should be specified. Armstrong Asphalt Tile and vinyl-asbestos Excelon Tile—both low in cost—are excellent choices. Armstrong Rubber Tile, Custom Corlon Tile, or new Opalesq Vinyl Tile (both solid vinyl) can be used. Armstrong Vinyl Corlon with Hydrocord Back is the only sheet floor that can be used on lightweight aggregate concrete that contains excessive moisture.

Questions can be referred to the Armstrong Architectural-Builder Consultant in the Armstrong District Office nearest you. He can also obtain for you the services of the Armstrong Research and Development Center and special assistance from Armstrong installation specialists. Or write Armstrong, 1610 Sage Street, Lancaster, Pennsylvania.

Armstrong
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FLOOR DIVISION • LANCASTER, PENNSYLVANIA



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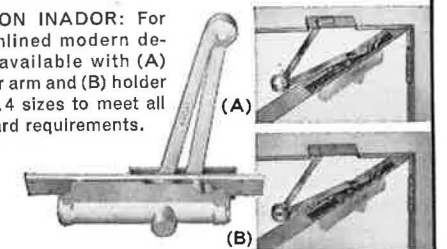
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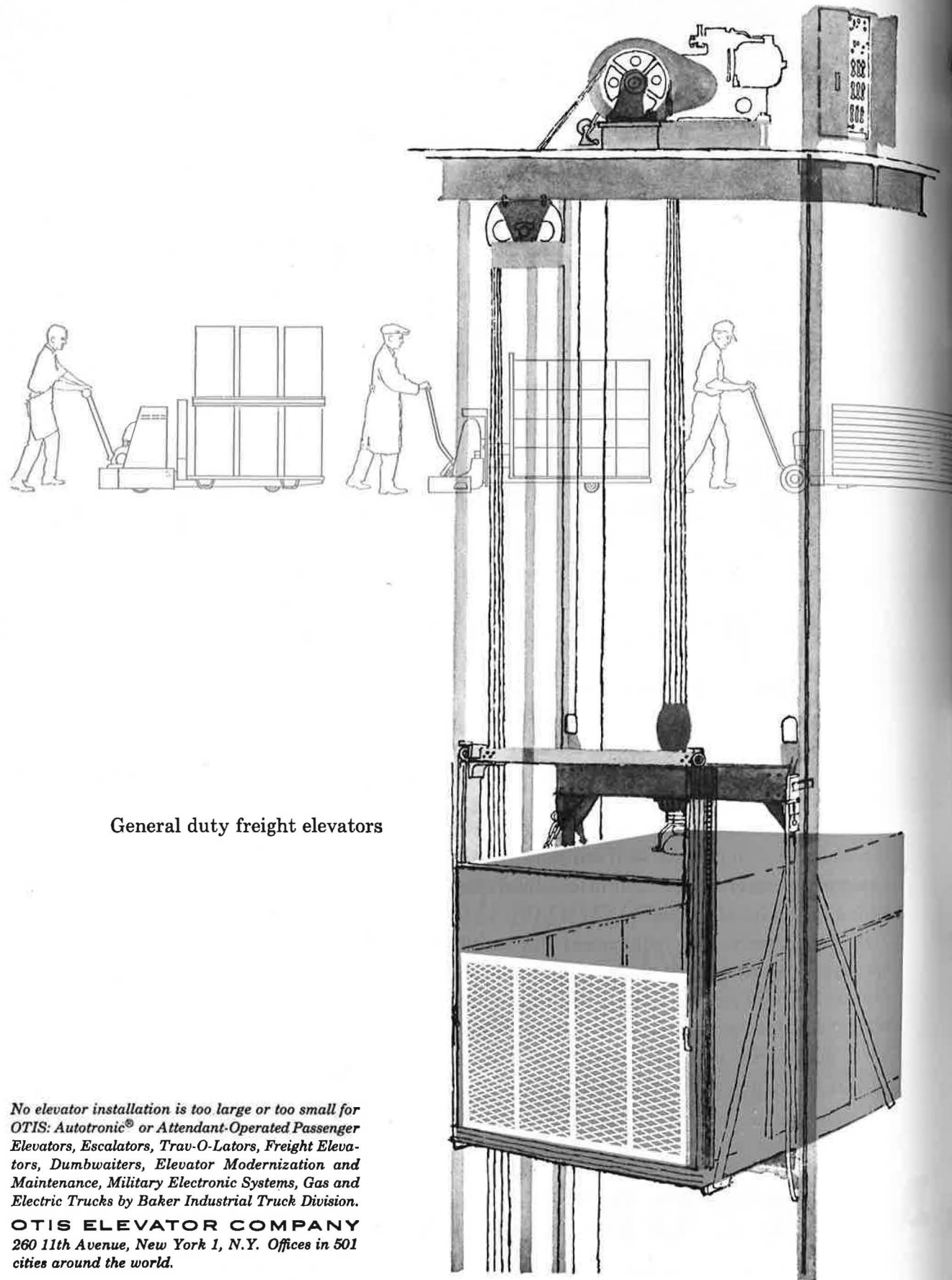
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INSPECTED
SHEATHING MATERIALS
Not more than 10 squares
Issue No. 0000

FIRE HAZARD CLASSIFICATION	
Attached to a noncombustible surface with adhesives**	Mechanically attached to a noncombustible surface with noncombustible fasteners
FLAME SPREAD	0
FUEL CONTRIBUTED	10
SMOKE DEVELOPED	20-40

**Adhesive listed for this manufacturer under Guide No. 40070 and applied in accordance with manufacturer's instructions

LEXSUCO
Noncombustible* Lexsuco Adhesive R907T
*Complies with noncombustible standards as set forth in SEC. 200 National Board of Fire Underwriters' NATIONAL BUILDING CODES and SEC. 220-3 National Fire Protection Association's NATIONAL FIRE CODES
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Underwriters' Laboratories, Inc.
INSPECTED
ADHESIVE
Not more than 8 gal.
Issue No. 0000

FIRE HAZARD CLASSIFICATION	
Adhesive applied to a noncombustible surface**	
FLAME SPREAD	10
FUEL CONTRIBUTED	15
SMOKE DEVELOPED	5

**When applied in accordance with manufacturer's instructions

Noncombustible Standard met by Lexsuco Vapor Barrier and Lexsuco Adhesive R907T. Underwriters' Label granted.

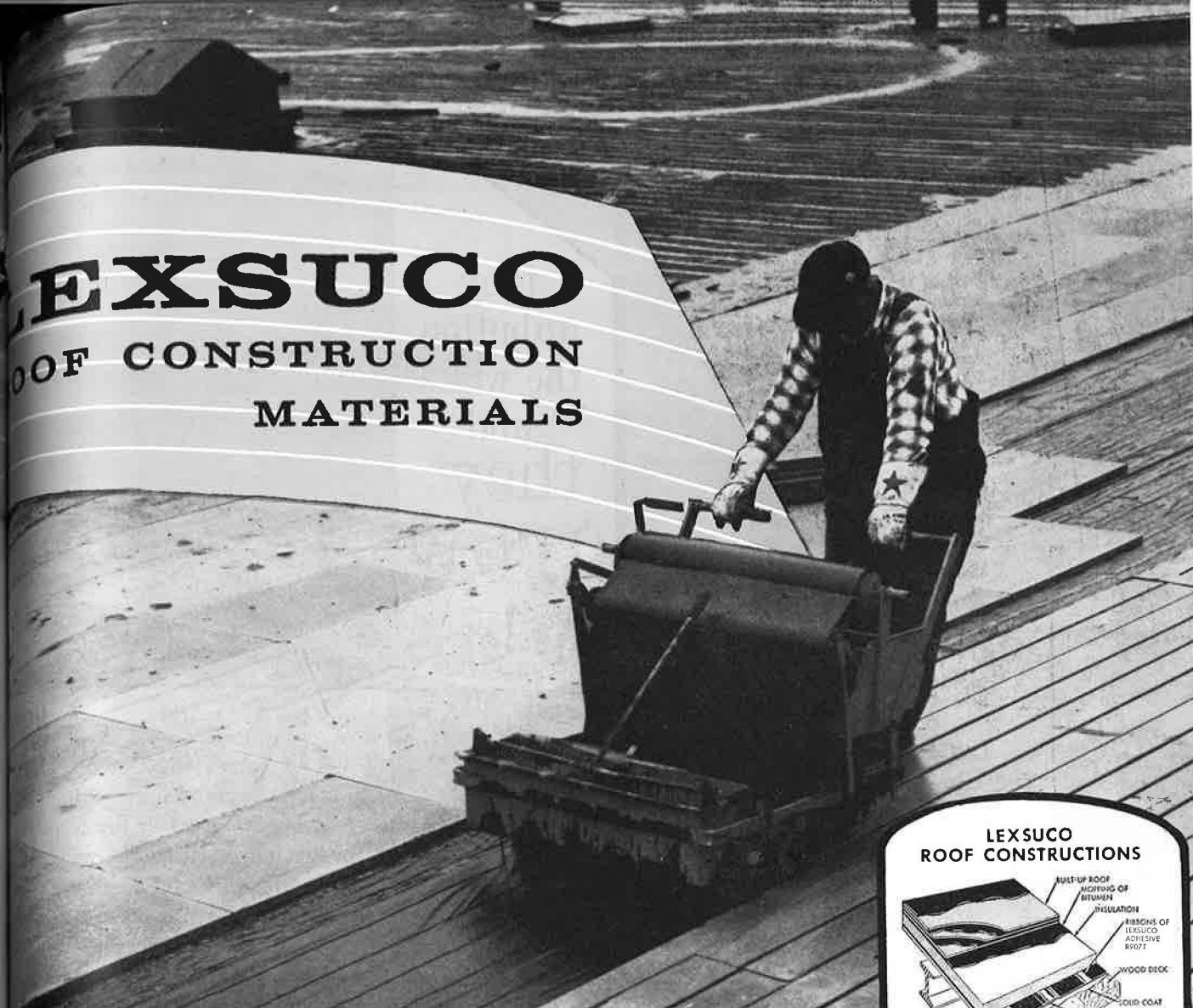
● Underwriters' Laboratories, for the first time, has tested and accepted a roof vapor barrier and adhesive. Extensive tests proved that the Lexsuco Vapor Barrier and Lexsuco Adhesive R907T meet the non-combustible standards established by the National Fire Protection Association and the National Board of Fire Underwriters.



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Contact your distributor or Lexsuco representative for information and the Underwriters' Report, or write to us direct. Ask about THE NEW LEXSUCO PVC WATERSTOPS.

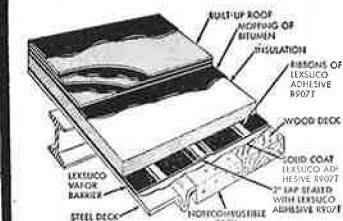
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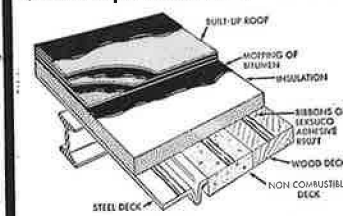
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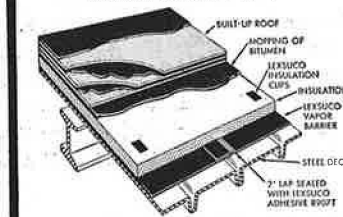
LEXSUCO ROOF CONSTRUCTIONS



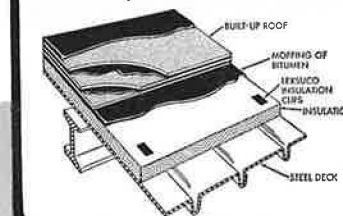
Lexsuco Vapor Barrier & Adhesive R907T



Lexsuco Adhesive R907T



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Lexsuco Insulation Clips

they
unbutton
the walls
and
they
grow
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Architects: O'Neil Ford and Richard S. Colley
Associates: S. B. Zisman and A. B. Swank
General Contractor: Robert E. McKee
Marble Contractor: Southern Marble & Tile Co.
Material: Georgia Mezzotint Marble

Off comes the Georgia Marble, on go as many square feet of floor space as necessary for current expansion, back go the walls again. There will be no deference to expediency here. Texas Instruments can spread out over their 300-acre tract without changing form or function. In fact, they've already started.

Such flexibility is important to Texas Instruments, a company with a plant area that is nine times larger than it was five years ago. So is the appearance of their operations, certainly a reflection of the character of the work within. In using Georgia Mezzotint Marble they found that the large panels (5'-3" x 3'-0" x 0'-1 1/4") made available to them were surprisingly inexpensive when it came down to the buttoned-in-the-wall costs. And they gained the matchless and enduring beauty that only marble can provide. Result: a happy marriage of practicability and the first material of architectural art.

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Alfred Shaw, FAIA

A People-to-People International Seminar

*Comments on a whirlwind circumnavigation of
South America as part of an inter-association, inter-America program,
meeting architects and talking with people.*

► In November of 1958, The American Institute of Architects, along with some thirty other institutions, ranging from the American Medical Association, the CIO, the AFL, the Girl Scouts of America, and the American Farm Bureau, to the Catholic Welfare Council and the National Association of Manufacturers, sponsored a "People-to-People" seminar which circumnavigated the South American continent by air. I found myself honored as their representative and was suddenly on my way.

In each of the seven cities, each member had an opposite number. In other words, I had an architect host or two at all places. An amazing geographical, architectural, political and social experience!

What is the function of an architect on this seven-city intercontinental circuit with representatives of other professional societies?

Well, I had to find out. In the seminars there were some periods during which the architect, dressed up in his earphones, was only a listener, but there were other occasions and opportunities to answer questions by savvy Santiagans or Cariocans or, even better, by planting questions with

his architect counterparts. In the first seminar at Caracas, this became apparent and from then on the architects arranged a freer schedule and used their eyes throughout the urban areas.

Instead of detailing it at each city (let me say here that the efficient George Denny and his staff were the organizers of this economic and cultural safari), it was so arranged that everywhere the first privilege we had, with the support of the State Department, was a personal briefing by the American Ambassador—everyone of them sincere, dedicated men. With their encouragement and instruction, we proceeded to explore sources which they could not and which were indeed fruitful. We then went out on the town and at the end of our stay, elegant receptions were held for us and our counterparts—sometimes, I'm sure, at expenses far above governmental allowances (See January 1959 *Atlantic Monthly*).

In this pursuit, recalling the gift of some of Christ's apostles, the architects discovered that in the visual arts we were benefited by the "Gift of Tongues." Economists, educators, political experts, must talk and translate, but architecture speaks all languages.



Caracas

► My counterpart in Caracas, Dr. Sanabria, a progressive young success in a country building madly (goodly and badly) took us up 3000 feet, almost vertically, on the *Teleferico* to Monte Avila to inspect his new Humboldt Hotel. This is the hotel which, built by the departed dictator, Jimenez, against Sanabria's recommendation for rooms, has about four per cent room occupancy per year. Sanabria told Jimenez twenty-five rooms, Jimenez said one hundred seventy-five and they settled for one hundred twenty-five—about one hundred too many. An incredible view of the city—almost in plan—certainly an excellent oblique. The empty space would be ideal for the plan commission. The food and drink was excellent. From this point, the city looked like a dream.

Caracas, seen from inside, is the most nervous city in South America and with earth-moving to create new sites and new roads, the new and half-built buildings, the pre-election tenseness with its ubiquitous posters, gives the impression of a psychological boiler factory about to move into a new location. The handsome *Presidente* of the Junta, the suave Admiral Lazzarabel, received us graciously and with never a thought of eggs or stones, the Venezuelans in numbers took us to their hearts.

Your representative visited the nuclear reactor he designed for the Venezuelan government and completed the arrangements for the final stage of construction. A white ceramic temple to research, fifteen miles out in the mountains above Caracas. All Venezuelan money except the fuel loaned by the Atomic Energy Commission. We survived the revolution.

30

Bogota

► Banking out from the airstrip at La Guaira over the Caribbean and the northern Andes to Bogota, where a great round table at the airport provided tiny cups of the best coffee in the world for free. And then in the dark to the Holabird

and Root Tequendama Hotel. In the morning we discovered that this part of Bogota is also being rebuilt and is in its ugly, empty period. My architect counterpart, Martinez, showed me his new hospital—incredibly large (1000 beds plus) and most efficiently equipped, as well as a luxury country club with one of the best glass swimming pools ever built. One of the thousands of examples of the contrasts between luxury and poverty that we were to see everywhere south of the Equator.

The new University of Los Andes, struggling under the leadership of an anti-Hitler German, Dr. Hildebrand and his dynamic Irish wife, had progressive steam—even the School of Architecture. They took us over one day and showed us how the famous salt mine can become a cathedral. Expecting something “corny,” we found a vast cave, carved out in bays with an orderly plan of apses and chapels, the walls of crystal salt, rough and natural in surface texture. The walls are lighted indirectly with cool fluorescent sparkle and contrast dramatically with the warm incandescence of the apses and chapels.

The newest *Gratte-Ciels*, incredibly high and imposing, one by Martinez—the architect of the moment—two blocks or closer from the dark richness of the colonial monuments, the University of Bogota, contemporary as can be, provided a stimulating, modern background for our seminars.

A group at the Ciudad Universidad, under the direction of an American, Eric Carlson, has developed plans and details for minimum cost block houses for the Altiplano and all South American undeveloped areas. The package contains not only plans and details, but one-man concrete block machines so that an impoverished farmer can build his own home. This United States project spreads all over South America and has been used by the Mary-Knoll fathers in the back-country with great success. Even little community plans are also passed out and actually built.

Lima

► Refueling at Quito and Guayacil, with the sun exactly on the top of your heads and the heat of their mid-summer, the barren horror of the petroleum area at Talara—not a blade of grass or vegetation, but lines of jet fighters. The colossal scale of the waves and the cliffs along the Pacific, brings us to Lima. Compared to Bogota and Caracas, here is a surprisingly finished-looking, comfortable city, even though not so progressive. Here, the best known architect, Belomundo, is too busy to see us as he is a candidate for president. They say very popular, too.

Our seminar, with instantaneous translation earphones, was held in the magnificence of the Cabildo (city hall). The economic problem reared its ugly head and our economists parried their counterparts in a diplomatic attempt to explain the cut-down in lead and zinc quotas and lowered prices. This criticism of the United States' policy began in Columbia on the subject of coffee and we never got rid of it—nor even answered it properly. Our government, after listening to the lead and zinc miners from our western states, with the State Department's attention diverted to trouble spots in Europe and Asia, created by the Soviets, has made decisions in these areas (coffee, lead, zinc, cotton, wool, and beef) which appear to the South American as deliberately unfriendly. Whether they are accurate, economically, is more than an architect can say, but psychologically and diplomatically they are hell! Whether the administration weighed these differing considerations is not known, but if we lose the personal friendship of the South American republics to the Soviet for a perfect economic answer, we have lost even economically. The Soviets are everywhere and not under cover. The South Americans want us to be friends and do not want the Soviets, but the hard-boiled economist and the American companies have more than commodities to think of. Before the era of Soviet penetration, these actions would cure themselves with the healing quality of time, but now the Soviet jumps into the vacuum so fast, we have no time for diplomatic error.

Here in Lima, the educators had heavy words with each other: the self-satisfaction of the Americans (perhaps even justified) and the exact opposite on the part of the Peruvians with their high percentage of illiteracy.

At Ocampo's elegant house, we had red-hearted scallops with a relish of onion and spice on top—“Just pick up the shell, sir,” unique even in the piquance of Peru—and a free conversation

between engineers and architects—freer than the seminars because professional and friendly, and the *Pisco* sours loosened our tongues.

We concluded that in Peru the situation between North and South America is bad because of three things:

- The rapacity of the American companies
- The stupidity of the American government
- The rapacity and stupidity of the Peruvian government.



Santiago de Chile

► From my room: the snowy mountains, the great plaza in front of the hotel, the dark gray of the buildings (due to smoke and a dark native cement), the assiduous attention of my counterpart, Mardones Restat. One morning he secured a helicopter from the Chilean Air Force and with Dr. Van Esteren, town planner of Amsterdam, we took off and did the whole system of boulevards, river banks, parks, and the satellite developments from low altitude at low speed. This is the way to study the plan of a city. Then out to the Undurraga vineyards (also by helicopter) landing on the lawn a hundred feet from our luncheon table, with Gaucho music in the most classic grove of cypress this side of antiquity.

In the University of Santiago, which is a Roman Catholic institution, the School of Architecture, financed by a wealthy Hebrew patron, has a most adequate staff and buildings.

The Chilean architects, among them Iguarte and Billoch Newberry, arranged (with some influence) for the new “Teatro Municipal” to be opened. It was designed by a brilliant young bad-boy architect named Alvarez. It has a stage, rising totally above and below—about thirty feet—and divided into thirty inch squares, each of which can move up and down seven feet and with two revolving stages at the side which move to center as required. The rest of the house is incomplete except for a fine mural, one hundred feet wide and sixty feet high, going through two floors, second in quality only to someone like Leger and not yet equalled by anyone in the United States. The place is full of dust and when it will be used, God knows!

31

One question came to me here from my architect friends, "why, at the international conventions, are there only six or seven United States' architects and one hundred-seventy French architects or one hundred-thirty Mexican architects?" One of these conventions was held in Moscow.

Upon inquiry, I found that in most cases, the governments subsidize the delegates. In view of our sixty billion budget for military purposes, one wonders why we pay so little attention to cultural propaganda at which our country could be more adept. It happens not only in cases of this sort, but it seems as though our products in the intellectual, literary, radio and movie areas couldn't be any worse. The ballets from Russia seemed to be doing them more good than the diplomats.



Buenos Aires

► Crossing the Andes not far from Santiago at 23,000 feet, we circled the dramatic peak of Aconcagua and then flew the long, flat flight across the pampas to this great city.

One cannot see Buenos Aires without thinking of its decay through the long dictatorship of Peron. A great country, almost ruined by a single man. Our seminar brought this out. The strength, even after spoiling by Peron, of the Neo-Peronistas still shows in their strikes and their non-recognition of redevelopment contracts with American petroleum companies. Oil, as well as utilities, are government-owned and, therefore, operating badly and at a loss. There was an economic pall over the country—in fact, officially, a state of siege existed.

The best parts of the city suggest the old days of the orientation toward Paris and Europe. But even now, contrasting with the tottering economy and poverty in certain areas, there are more stylish houses and more sophisticated entertaining than one finds in New York or Chicago. Well landscaped, elegant town houses of the past generation, good servants, and the whole lot of new apartments—all cooperative as in Paris, because rent controls are still in force.

Peralta, partner of Sanchez Elia, showed us some originally-designed industrial structures as

good as the best in the United States but there are so few. They are doing some very good apartments (upper bracket) as well.

There is a sophisticated group trying to develop an original school of sculpture and painting in Buenos Aires' galleries as in New York or Paris. This all in spite of the intellectual destruction wrought by Peron.

Montevideo

► Over the wide and muddy Plata, to Montevideo to meet the not-too-impressive head of the governmental committee (deposed by the election in the brief time since this visit), giving us the keys to the country.

Uruguay has gone so anti-dictator that there is no actual head of government except as he presides over the elected committee.

With architect Villars to the best-looking and most impressive school of architecture and warned that here I might be harassed by the preponderance of Communists in the student body and, particularly, in the faculty. The frigidty with which they received me, as an American, validated his fears, but by showing them that our ideals in city planning and the ultimate beauty of the city were as good as theirs, it was evident to me that their alleged Communistic classification was superficial. It was more a sort of mediocre snobism, attempting to differentiate themselves from the businessman and government people, who had brought about such economic success as Uruguay has—and this is considerable even if the currency is deflated.

Although the architects of the town seem to have occasional and helpful suggestions to offer, the city planning, not only of the city of Montevideo, but even the smaller cities of Uruguay, is being done by the staff of the school of architecture at the university—a rather unusual situation, but apparently being done very competently.

Apartments along the ocean in the city as elegant as Park Avenue are incredibly beautiful and even on a smaller scale—cheaper ones, too.

Sao Paulo

► For the last twenty years we have heard "you should see Sao Paulo. Rio is this and that, but the great city of Brazil is not Rio." Sao Paulo feels this, too. Coffee (after rubber) first made its triumph and then gave Brazil its one-crop problem. It is the reason, with industry, that Sao Paulo is the muscle of the Brazilian economy today. The buildings pile up in volume. The archi-

tectural chaos of Sao Paulo is equal to this volume, skyscrapers by the ton, mostly undistinguished. Niemeyer is imported from Rio, but his great S-shaped building, eight years under construction, languishes while great structures, built without benefit of any architect, give the city an economic, if not esthetic, satisfaction.

The architects are making some progress in the problem of recognition and influences, both by graduating capable architects from their schools, and by using legal pressure in the design of these mountains, which need not necessarily be mediocre (but let's be calm—New York and Chicago are only a little better).

The exceptions done by architects give a brighter hope and even the leftover buildings of the exposition area, just outside the city (many by Niemeyer) are more visually alluring—even in their dusty past of only three years—than the buildings in the center of the city plan.

Here in Sao Paulo, Carlos Lodi, architect, is chief of the City Planning Bureau. They are coping with the expansion problems and in the central area he has the most staggering traffic problem. The new plan, concerned chiefly with untangling the traffic, is designed on the basis of concentric rings, the smaller one of which (in the congested part of the city) is being implemented as fast as possible. This study and its solution is being handled in a highly competent manner.

My great pleasure in Sao Paulo was to put on the floor of our seminar my architect counterpart, Dr. Mello, to speak enthusiastically on the subject of Brasilia, the new capital of Brazil. He exceeded his allotted five minutes and then was asked more questions. In some ways, our discussions were dominated by economic and political problems, so newsworthy today, but the idea of an idealistic approach to the building of a new capital nine hundred miles in the empty interior of this great country, larger than the United States, caught something in the naiveté of our group and intrigued them.

Next day, with Dr. Mello's help, I flew to Brasilia to see Oscar Niemeyer and this project—a new city planned by Lucio Costa and in which all the buildings are designed by Niemeyer. ◀

Brasilia

► The most exciting architectural project in South America is Brasilia and it is to be finished in 1960 or thereabouts. Except for Canberra, I know of no national capital which moved so boldly, into the hinterland. The government has

not actually moved, but Kubichek is in residence in the President's Palace from time to time. Northwest of Sao Paulo and Rio, in gently rolling country, not tropical but in a pleasant, even climate, over three thousand feet above sea level, it has nothing of the visual excitement of Rio, but is calm and placid.

The general plan of the town is that of a swept-wing plane, roughly ten kilometers in span with the residential areas forming the wings and business and government areas forming the fuselage. The flat ridges form this natural plan and the fuselage will be further marked by damming the river to make a U-shaped lake, which will surround it on both sides. Distant hills give sufficient interest to the horizon. The master plan is by Costa.

As precedent for a new city from scratch, Brazil can also point to Belo Horizonte, halfway up from the coast. It has grown from a tiny cross-road to six hundred thousand since 1927 and is quite impressive from the air.

Oscar Niemeyer sent a car to the airstrip (the first piece of construction in Brasilia—there is no railroad, only an uncompleted highway) and very graciously took me on a tour. He lives in a little house quite different from his two fascinating houses in Rio, evidencing the sacrifice of living in a construction camp as an offset to the dedication he gives to Brasilia.

Up to now and likely for some time, he is doing all the buildings—only two of which are finished. They are complete and beautifully finished except for landscaping. In various stages of completion, other structures, with distances up to 15 kilometers between them, are starting to show against the sky. There are multi-story buildings for the ministries, and the offices of the embassies. In the central triangular Court of the Three Powers, one can see the foundations for the Supreme Court and the two circular meeting places for their Senate and House. The final drawings are not complete, including Niemeyer's idea for the roofs. However, just the day before, he finished his original sketches for the great plaza for the cathedral and the theatres. Oscar's courage shows in his jaw, his dedication in his eyes. As he confidently explained, for both these buildings, the free-form columns which curve out for half their height at the bottom are the same. In the Cathedral, circular in plan, they rise from the plaza with the high altar one story below and visible thru transparent walls. The theatres, large and small, are placed under a vast roof, rectangular in plan and open to the air with the free-form columns

running around on four sides. A full-size plaster model of one of these intriguing columns is set up for inspection.

Housing, I would guess for perhaps 10,000, is well under way. It includes multi-story buildings (slab) with partitions forming structural wing-walls under six inches thick, row houses, and garden communities for all classes of inhabitants from the garbage man up through government and white collar workers and including the "brass." The brass includes the many residences for the ambassadors in their separate area overlooking the lake. All neatly placed in a row, each one has a six hundred foot front so that with even greater depth they will have parks of their own. These areas are all the same size except that assigned to the North Americans and this, obviously, makes a conversation piece.

The scope and vastness of the street and boulevard system looks as though it would service even a greater development of the automobile. The main arteries for circulation are over four hundred feet wide, I would guess, four lanes in each direction and service streets on each side. Intersecting pedestrian traffic will be above or below.

The hotel is brutally simple and rectangular to the point of laughter. Four stories high, the rooms all on one side of a corridor 750 feet long, the special glass block is claustrophobic and I understand will be relieved by some clear glass "openables." The foyers and public rooms are smart and habitable and a blue mural over one hundred feet long backs up the glass lounge very pleasantly.

Niemeyer is proudest of the Palace and well he might be. It is completely furnished, down to the ash trays, for the President and guests. All service rooms are slightly below and above ground and are vast, forming the terrace on which the building sits. The site is at the tail of the peninsula so that there will be water on three sides and even on the fourth side toward town, a broad basin, four hundred feet wide, with two portals at the ends, forms the barrier to the park surrounding the palace.

The unique shape of the columns is more subtle and beautiful than distant photos reveal. As Niemeyer puts it, "they barely touch the ground and give a feeling of lightness." They are formed of reinforced concrete, covered with thin white marble executed in curved surfaces of great delicacy. The interruption of the arches on the entrance side is unfortunate—not only in breaking the rhythm, but it also reveals the less

interesting structural system of the exterior glass wall. On the garden side, the arches come off beautifully.

The interior, of which Oscar's daughter was the designer, is elegant, comfortable, and full of warm colors and sufficient gold and brass to keep the sparkle. All the important rooms have glass walls and look out to the lake, pools and hills beyond. The little chapel with the spiral plan is just outside the formal reception room and, also, has white marble walls, subtle compound curves, developed from the spiral plan and the outward curve at the base.

I have used Niemeyer's first name because all the draftsmen refer to him as "Oscar" in a respectful dedicated hush—a little like "Mies." They have come from all over the world and work for small wages in an atmosphere of creative construction.

Not the least interesting area is the temporary shantytown, complete with pool parlors and alleys, bars, stores, bawdy houses, and other emporia. The paper, sheetmetal, and plywood structures are dumped helter-skelter along one main street which changes from mud to dust instantaneously. The town consists of about 25,000 people. There are no unions, no trades or crafts, no specialists. They are guided by very competent construction bosses under the control of a government corporation, "Novocap," and earn about \$25 a month. The only craft which seems to be causing them trouble is steel erection. The piles of unerected steel diminish very slowly. Everyone carries a gun or a knife and life is cheap as in a mountain mining town. Police are not in evidence except for traffic.

Even with or perhaps because of its location, Brasilia has an atmosphere of dedication at all levels. When Oscar described his self-imposed isolation here, he asked me, "What would you do? Don't you think it's worthwhile?" I could only answer "Yes." Thinking of a great architect designing practically a whole city and an idealized and dramatic one. Good luck to you, Mr. Niemeyer!

Rio de Janeiro

► Travel ads may be of value, but one should come to Rio without having seen a picture of it. There is such drama in the incredible spread of beaches and bays and the sugar loaves—count them—they are the best vertical masses in the world.

However, I wish the Brazilians would leave them alone without cable-cars and illuminated

statues. Those which are smooth and barren with their high stone curves on top, are beautiful—especially Gavea (Portugese for the "Look-out"), which rises above the Gavea beach and above the houses around its base. One of these is Oscar Niemeyer's beachhouse which has been publicized. At the head of a small ravine, it is more dramatic than pictures indicate. This ravine must have looked impossible before the terrace floor was built halfway up with a small sugar loaf rock in the bottom—almost unrecognizable as a building site.

The American Ambassador, Mr. Briggs, gave us a briefing at Wally Harrison's embassy building—strangely enough, the only large airconditioned building in Rio. The Brazilians count entirely on sunshades, which do an amazingly good job (once you are in them) considering they save the cost of cooling. However, with all of the luxury of Rio, the lack of airconditioning is rather amazing.

The office buildings in Rio, such as the ABL building, the Ministry of Education, are better by far than the greater volume of structures in Sao Paulo, but where the architecture is more impressive, the engineering is inadequate, even to the extent of being underelevated and requiring people to queue up forty or fifty in a line at the ground floor.

In our discussions on integration, one of which took place in Rio, the tendency of the press in the United States, which is then copied by the world press, exaggerated the negative points about the Little Rock debacle and failed to give to the world the true picture of how limited these areas of non-integration are in the United States. Our Negro member, Mrs. Sampson, did some lucid and brilliant speaking in this connection. Brazil is unique that it speaks Portugese and has complete integration. The old European settlers, Jewish or Nordic, as well as the Negroes, all have the same status.

However, while this integration works, it doesn't mean that uneducated groups are existing, intellectually or financially, at the same level as the more educated groups. While there was once a Negro president, certain work and positions fall into groups, as might normally be expected.

I believe the reason for this is that in Brazil, the freedom of all slaves was proclaimed as a national action, with no politics involved, while the freedom of the slaves in the United States was not only very political but involved a great civil war. This political controversy is and has always

been one part of the problems of integration in this country. It is not in Brazil.

Mr. Ribiero, my attentive counterpart, showed me many of the incredibly beautiful residences in the mountains and near the beaches. One had a feeling of a much more sophisticated life in Rio (where it happened to exist) than that which exists in the United States.

We should know that the people of the southern part of the western hemisphere do not consider themselves as South Americans. They are Peruvians, Brazilians, Argentinians. We would be wiser to know this. They have an exciting future as individual nations. Plumbing, automobiles and supermarkets alone do not make a nation.

We also could know each other better if the language barrier didn't exist. As we know each other better, both continents will live better, "Solo y Juntos."

One of our geniuses, at a summarizing meeting in Rio, said "when we started this complex journey, we were certainly confused, but after seeing everything, we are still confused but on a much higher plane!"

It would be impossible to enumerate the many courtesies, professional, personal, and social, which were extended during my journey. The Institute and the writer can boast of our fellow architects in South America and my sincere appreciation is extended to these fellow architects in the various cities:

CARACAS: Sanabria.

BOGOTA: Martines, Camillo Cuellar.

LIMA: Harth-Terre, Edejalde.

SANTIAGO: Mardones-Restat, Jorge Arteaga Iszaza

BUENOS AIRES: Sanchez Elia, Peralta, Agostint, Ugarte

MONTEVIDEO: Julio Butler, Nelson Revello, Villars, Scasgo, Brugnini

SAO PAULO: Icaro Mello, Lodi

BRASILIA: Oscar Niemeyer

RIO DE JANEIRO: Roberte Marido, Roberte, Ribiero.

Photos courtesy The Pan American Union, Wash., D. C.



► Being a planner of sorts, one of the most freely used of my prerogatives is that of making assumptions. Thus, I assume that at least one of the purposes of this series of articles on Central Business Districts, and as incident thereto, "city planning," is for others to garner some "do's" and "don'ts" from what their predecessors have experienced. Knowing that very little attention will be paid to such admonitions, I am, nonetheless, (as becomes all good "Mosesque Demagogues") passing them out. I do so at once just to get them out of the way, and in the hopes that a wandering reader may be intrigued into reading further—or at least looking at the pictures. I believe they tell a story which does not require the supplemental literature. These admonitions have particular reference to those who have a yearning to become members of a plan commission, but apply equally well to architectural advisors in the matter of downtown planning.

First Admonition: In a community made up largely of politics, newspapers, pressure groups, and selfishness, as well as a lot of nice people, the path from cheerful creativeness to dull realization is often tough and tortuous. But don't give up.

Second Admonition: Forecasting even ten years ahead means, in essence, being out ahead of the pack. You will be called such dainty things as,

Monument Circle today



Indianapolis

George Caleb Wright, FAIA

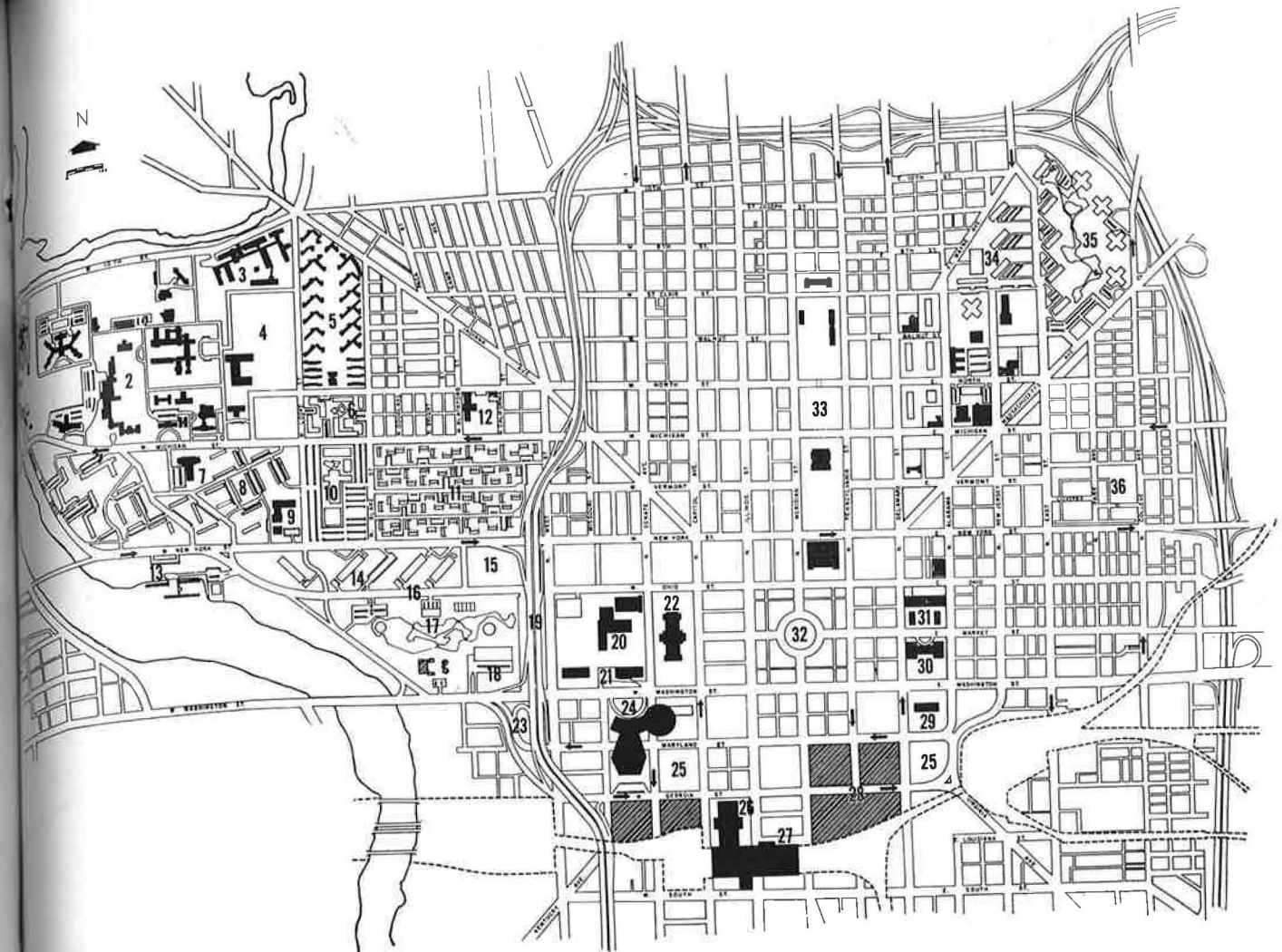
"dreamer," "nut," "crazy," "lunatic," "wild-eye," "crack-pot," etc. But stay out there in front. There is no progress in just meeting what the pack wants you to meet.

Final Admonition: Do not expect too much of a tangible nature in return. It takes a lot of time. There is no salary. It doesn't necessarily create jobs for your office. You get perfectly lovely folks mad at you. But there is no fuller satisfaction than that of having created something of value for your community. Even if it is just a little bit.

And so, with a blush of honest modesty, we offer this bit of our metropolitan planning—*Indianapolis CBD*.

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- 36 Lockerbie Fair

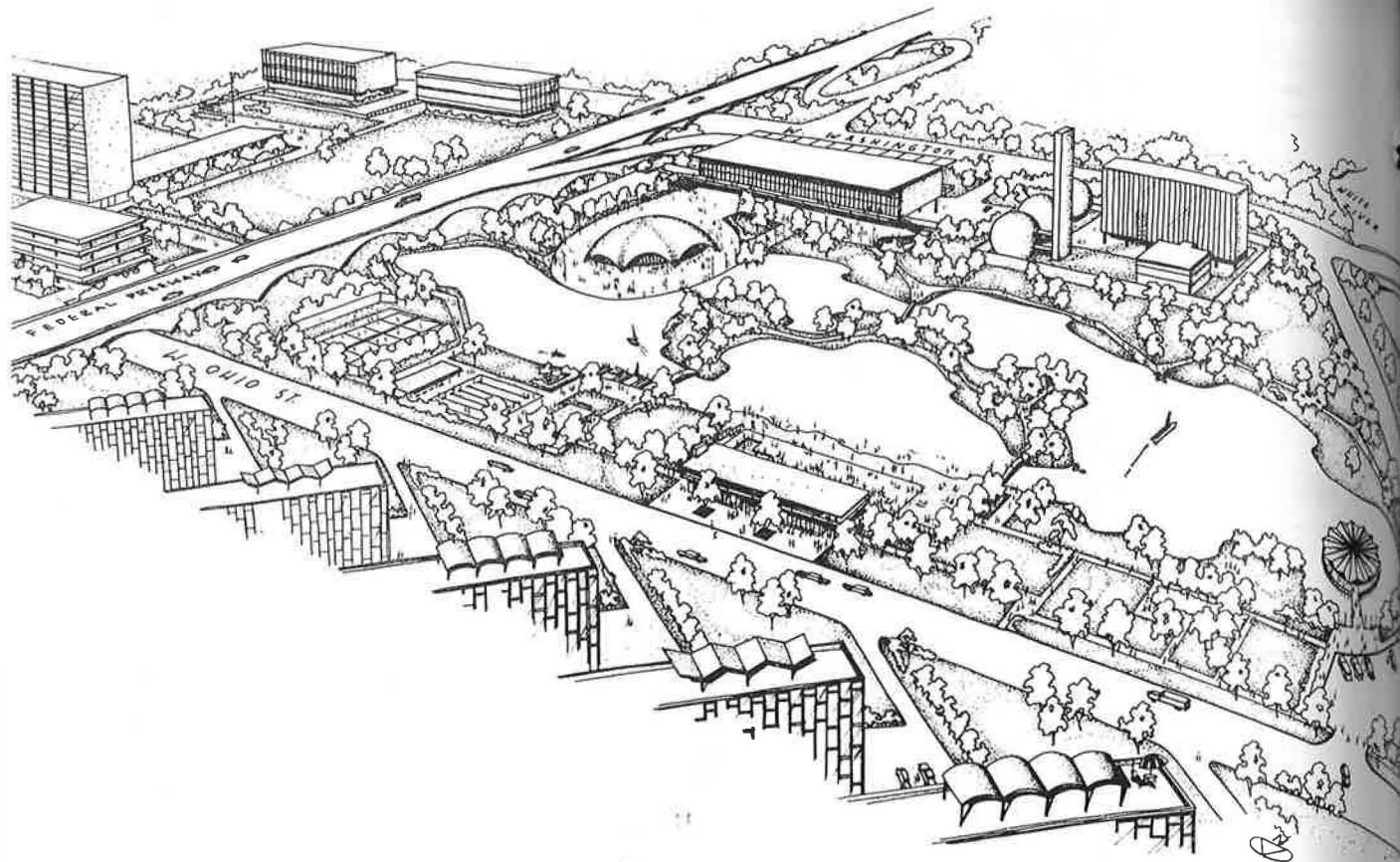


The Indianapolis Central Business District Plan

Another in the Journal's series of stories on how local architects have been invaluable assistance to their city's Planning Commission in planning for the reclamation and rejuvenation of the Central Business District. Written by the President of the Marion County Metropolitan Plan Commission.

The Metropolitan Planning Department of Marion County was not brought about in a moment. It was the fruitage of careful research by citizens who were aware of a serious need, and who were determined to seek an answer. It seems proper to insert here, that without not only the support but the encouragement of such a group, the probable success of a Plan Commission is practically non-existent.

This group in Indianapolis was able to convince the state General Assembly that the future life of our state capital city was threatened. The groundhog automobile was at our vitals. The life-giving stream of industry was being diverted to other cities because of the cumbersome procedures inherent in locating in Indianapolis. Schools, churches, and parks were located with-



West Mall Development—park, playgrounds, hotels, motels

out benefit of a technically accurate prediction of the future. New housing burst into the hinterlands without the advantages of sewer and water—and, too often, where individual disposal systems became a health menace because of the clay soil. To be sure there did exist local planning commissions; but they operated with a serious lack of co-ordination. The greatest activity of the plan commissions was in the granting of variances. This was an abuse of the usual conception of the use of variances, which resulted in the sprinkling of non-conforming uses with carefree abandon. I believe I am safe in asserting that, relative to its size, many more variances have been granted in Indianapolis than in any city in the country.

As a result of the heaped-up evidence which the local group was able to present to the Assembly, a bill was passed at the 1953 session creating a Research Committee with instructions that it report back to the 1955 session with a specific recommendation. You see, our state Assembly is just as deliberate a body as any similar legislative body. Perhaps it is well that as significant a creation as a plan commission is in the gestation pe-

riod for a long time. The resulting birth should be fairly free of blemishes.

The research group was a working group carefully selected. They were men and women fully aware of the problem. Early in their deliberations, they realized their need of technical guidance, and they employed Kenneth Schellie, a planner of wide reputation. As ideas commenced to congeal, they also employed legal talent to put ideas into the proper legal phraseology.

The first conception of this group was a Plan Commission having jurisdiction over all planning in Marion County plus the seven surrounding counties. This was, of course, a realistic approach. They were thinking in terms of the real metropolitan area, rather than in terms of political subdivisions. But the General Assembly, for some strange reason, is bent by politics. It didn't require much time for it to amputate the neighboring counties and to limit the geography involved to Marion County alone.

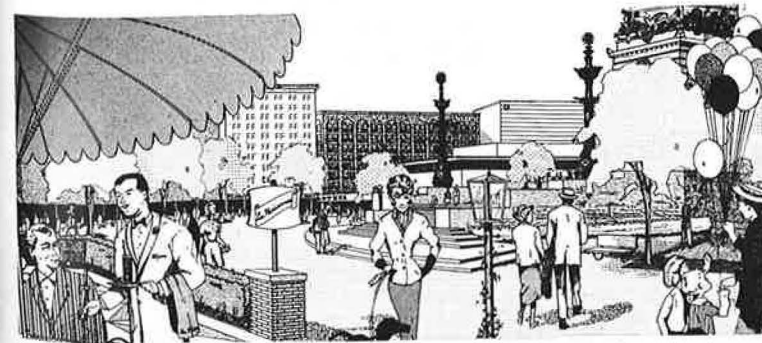
After the usual committee confusions and entanglements with legislation involving daylight saving time, chicken lice, sheep dip, integration,

right-to-work, etc., the General Assembly of the State of Indiana, in session of 1955, passed the act creating the Metropolitan Planning Department. The act applied only to counties containing first class cities; and at present there is only one such county in Indiana. It is Marion County, with Indianapolis being the first class city. The Planning Department is composed of three divisions: (1) the technical staff; (2) the Board of Zoning Appeals; (3) the Metropolitan Plan Commission. You will recall that the physical area of activities of the Department is restricted by the political boundaries of Marion County. From the administrative standpoint, it is almost impossible to cross those boundaries. But the surging population never sees them. Central Indiana, being relatively flat, offers no geographical limitations, so people spread gaily in all directions, and Metropolitan Indianapolis is way out beyond the boundaries of Marion County. Thus, because we are limited to Marion County, we feel that we can not do a complete planning job.

Practically speaking, there is a fourth component of the planning procedures. All zoning ordinances of the county (including Indianapolis) are approved by the Plan Commission. After having been approved by the Plan Commission, such ordinances must go to the County Council for final adoption. The County Council (being an elected body) is, of course, directly responsible to the people and is the proper body to pass legislation.

The creation of a Master Plan for Marion County is the large and well-nigh awesome job of the Planning Department. As alphabetized in the law, the components of the Master Plan go from "a" to "q"; and then was added a neat "r" which included ". . . any other factors which are a part of the physical, economic, or social situation within the city or county." That should about cover anything, and certainly must be interpreted with caution.

Monument Circle, restored to pedestrian scale



A part of our all-inclusive job was the planning of the Central Business District of Indianapolis. In approaching this job, the staff invited the help of the local architects. The response of the architects was most gratifying. No doubt the chance to create an entirely new inner city, with proper regard for existing immovables and confused traffic patterns, offered an irresistible challenge.

In general, the Central Business District has most of the features inherent in any like American city—the central core of fine stores and office buildings; a deteriorating surrounding belt of cheap stores; and a second belt of slums or near slums. Of course, there are the nearby railroads (in our case concentrated to the south), and the old industrial and warehousing tentacles of the railroads.

Certain features of Indianapolis are unique. First there is the Circle—and anyone who has seen it will agree, I'm sure, that there's nothing just like it. Meridian Street cuts the Circle north and south, and Market Street cuts it east and west. A square of streets, one block distant, encloses the Circle and diagonal streets project outward from each corner of the square. That is the simple, and rather efficient, basic scheme of Indianapolis. Two blocks to the west of the Circle is our state Capitol, and to the west of it is a growing group of state buildings. Two blocks to the east, somewhat off-center, will stand our new city-county office building. It would have been wonderful if an open plaza could have been created to join these two governmental groups. The importance of buildings which stand in the way makes such a development impossible.

Perhaps the most disturbing elements in the planning picture are, as yet, in the conceptional stages only. Indianapolis has the distinction of receiving a greater impingement of highways, as proposed by the Federal Interstate Freeway System, than does any other city. Then, in addition

War Memorial Plaza today



to an outer loop around the city, there is proposed an inner loop circling the Central Business District. It is safe to assume that the most far-seeing and sincere planner in Indianapolis cannot possess the imagination to predict correctly what this system of highways will do to the city. Briefly, and with omissions, the existing unchangeables, plus the highway threat, constitute our most serious planning problems.

The architectural group served as consultants to the staff of the Planning Department. The staff gathered the requisite technical data, made the finished drawings, and kept the thinking within the confines of sound planning. Calvin S. Hamilton, Executive Director of the Department, was a constant attendant at the meetings of the architects, which consumed many midnight hours. The architectural group was headed by Edward D. Pierre, FAIA. His creative capacity was invaluable. Usually a member of the Plan Commission was also in attendance.



War Memorial Plaza tomorrow

The first job was to fix the objectives. As finally determined they were as follows:

- A. Establish well defined *land use districts* for community cohesiveness.
- B. Provide an *arterial system* of one-way streets and a closed freeway loop to relieve traffic congestion in the shopping core.
- C. Provide adequate *parking facilities*.
- D. Provide a *combined transportation center* to facilitate movement of passengers, freight and mail.

E. Promote private owner *remodeling and renovation of property* and buildings.

F. Engage in large scale *land clearance* and rehabilitation of blighted areas.

G. Provide expanded, compact and stabilized *shopping facilities*.

H. Consolidate *governmental facilities* on the city, county, state and federal levels.

I. Provide *civic, cultural and educational facilities* which will extend their influence to encompass the entire Metropolitan Area.

J. Insure that *Indianapolis, the capital city of Indiana, symbolizes by its growth the paramount position it holds in the political, economic and social functions of the state and its citizens.*

The architects were then divided into four groups with a section of the total area assigned to each group. Shortly thereafter, things exploded in all directions. Turn that many architects loose with instructions to "go to it," and you may expect astonishing things to happen. Of course astonishing things did happen, and it became necessary to reintroduce the realities of the problem without curbing imaginations, after which steady production followed. As schemes and thinking began to take form, the groups were brought together for discussion, for criticism, and for co-ordination. After much hard work and many sacrificial hours the overall scheme commenced to unfold. It was then that our Indianapolis architects commenced to reap the returns on their time investment. They received no money award, but they had the thrill of creation on a large scale, and of thinking in broad terms. More particularly, they had the profound satisfaction of having made a real contribution to their home city, which should add much to the happiness of the days ahead.

The significant parts of the plan are indicated on the map. These are simply particular elements which fit into the complete plan, just as the Central Business District plan must fit into the larger

plan for Marion County. As a matter of fact, in planning the CBD the entire Metropolitan area was constantly persuasive. The traffic pattern, as it originates in the county, and as it heads into and out of the CBD, has much to do with the shape of downtown. Zoning for future industry, which existing close-in industry will look at covetously, will leave areas for new planning in the CBD. Proper considerations for increase in shipping by truck and plane are elements in the central city plan.

Just where does our plan go from here? It has, as yet, a rough course to run. Much can happen to it. First, it will have the close perusal of an Advisory Council to the Commission. This Advisory Council is made up of representatives of various groups interested in the Central Business District. It is a Council composed of dedicated and influential citizens, and I underline the word influential. Being influential, they are persuasive in the proper places. This Advisory Council makes its recommendations to the Plan Commission. The Plan Commission then reviews the plan at a regularly advertised public hearing, where the general public has its say. And you may be sure the public will have its say. The Plan Commission then does to it what it wants to, and may finally adopt it (or a reasonable facsimile of it), as a part of our Comprehensive Plan. In the adoption of the Comprehensive Plan, the Plan Commission is the final authority. All ordinances having to do with zoning and related problems are recommended by the Plan Commission to the County Council, and final adoption of such ordinances is by the County Council, but the Comprehensive Plan is an exception to this procedure.

Much may happen to the architects' conception before final adoption by the Plan Commission. Our belief is, that there is so much in the plan that is basically sound and readily defensible, that it can not be easily destroyed.

A basic essential leading to final adoption is the assurance that in general the plan has the approval—in fact, and more the active support—

of those citizens most concerned. In this instance it is first those who earn their living in the CBD. Secondly, it is those governmental units concerned with operating the essential functions of a large city. It is a fact, which we all recognize, that local government is to a very large percentage supported by taxes created in the CBD. The more interesting the CBD becomes, the more firm the tax base becomes. Therefore, the enthusiastic support of government is essential. Then the approval of those who spend time and money in the District is not only desirable, but it becomes a most potent persuasive force. Ingress and egress is important to these folks; but I am persuaded that exciting appearance, and an overall "aliveness," is the prime pulling power. They must have something to "Oh" and "Ah" over.

Well, it's a selling job. We envy Philadelphia, and their model. We believe all of the literature, and all of the pictures put together in a book fail to tell a complete story. A model which can be



W. F. Jones Studio

Northeast Apartments — a vast blighted area will be replaced with middle and upper income apartments, with garages, shopping center and school.

seen in three dimensions, and in which people can recognize streets and buildings, gets attention and interest, and these are the first essentials to a selling job. So far we have not discovered that individual or group able and willing to finance the making of a worthy model. But we will. And when we do have a model, and also the support of business, the approval of government and the interest of the people, it then becomes a matter of taking care of details. The battle is won. ◀

Lockerbie Fair — the four blocks surrounding James Whitcomb Riley's home, now blighted, will be restored and reconstructed as an 1890 Main Street.



MEMORIES
OF
FRANK
LLOYD
WRIGHT
BY
ALISTAIR COOKE

42

► I met him first on a winter's afternoon in what I almost slipped into calling the vestry of his suite at the Plaza in New York. I pressed the electric button at first timorously, then boldly, then incessantly, and was about to turn away when the door was opened by a pretty young woman, a secretary, or granddaughter, or vestal virgin, perhaps, who beckoned me into the hushed gloom behind her through which I expected to see sacramental tapers. Then she nodded and vanished down the corridor.

It is difficult to avoid these theological images in introducing him because his reputation, his public pronouncements, his photographs . . . the majestic head, the marble serenity, the Miltonic collars, the cape of Superman . . . all conspired to suggest a sort of exiled Buddha, a high priest scuttled from his temple by the barbarians, one of those deposed monarchs so frequently seen around New York who gamely try to convey that a free-wheeling democracy is just their speed. The room he sat in was seedy, in a lavish Edwardian way, and no single furnishing—no chair, fabric, window casement, carpet, lintel, or door knob—was invented much later than the June of 1869 in which he was born. He lay stretched out on a sofa, his fine hands folded on his lap, a shawl precisely draped around his shoulders.

He looked like Merlin posing as Whistler's Mother. Indeed, there was always a curiously feminine grace about him, but it was nothing frail or skittish. He looked more like a matriarch of a pioneer family, one of those massive Western gentlewomen who shipped the piano from Boston round the Horn, settled in the Sacramento Valley, defied the Argonauts as they set fire to the cattle barns and, having finally reclaimed their Spanish land grants, came into their own again as the proud upholders of old manners against the derision and ribaldry of the new rich.

In writing about him as a character delineated by Henry James, or sentimentalized by Gertrude Atherton, I hope that I am not so much arranging a suitable atmosphere as conveying a psychological shock. One expected a tyrant, a man constantly caricatured by the press as a bellowing iconoclast. And here was a genial sceptic whose habitual tone was one of pianissimo raillery.

It may be that I knew him too late, when the fire and brimstone were all spent, when whatever lava had been in him in the turbulent days had cooled and hardened in the enormous, firm dewlaps that started at his nostrils and seemed to be tucked away not far above the clavicle. There must be some explanation for the discrepancy be-

These reminiscences of the gentle Jove
who has left us are both amusing
and deeply revealing,
written by the well-known
TV figure and columnist.

tween the legend and the man. Perhaps his long decade of neglect in his sixties, when he had to borrow from friends to retrieve a mortgage on his own home, is as good as any.

At any rate, all my apprehension vanished as he threw me, from a seniority of forty-odd years, the flattery of calling me "young man" and asking what was on my mind. It was a project that was to waver and die and come alive again in his eventual appearance on a television programme. He dismissed it at once as an absurdity, since it involved a medium only slightly less debased than the movies. I told him that no sponsors would interrupt his sermon, the models he used would be of his own choosing, he could say exactly what he pleased.

He wafted the whole vision aside as a bit of vulgarity for which he would not hold me responsible. Then he slipped, from total and inexplicable free association into a diatribe against Franklin Roosevelt. In some dim but infuriating way, Roosevelt, it seemed, was responsible for the triumph of the rabble, for the "agony of our cities," for skyscrapers, for the United Nations building ("an anthill for a thousand ants"), for the whole mushrooming fashion of what he called "Nuremberg Fascist Modern," and for the coming destruction of the Edwardian pile we were sitting in ("the only beautiful hotel" he said bafflingly "in all of this god-awful New York"). About two hours later, by which time he had murmured most of the slogans from his latest book, he chuckled and said: "Tell me, Alistair boy, did you ever meet an executive, a president of a corporation, a buttonpusher, who ever had a smitch of aesthetic in his make-up?" I said I never had.

"Very well, then, when do you want me to appear and where?"

We blocked out the feature and arranged rehearsals, and went around for weeks in euphoria,

which was shattered when he passed down an ultimatum through an emissary: "No rehearsals! Rehearsals freeze the natural flow of the human personality." This sounds awful in print, but all such *sententiae* were delivered, either in person or over the phone, in the delicate and warmly modulated voice which had for fifty years seduced wax manufacturers, oil tycoons, bishops, university boards of trustees, and at least one Emperor of Japan into commissioning cantilevered Aztec structures most of which were later rescinded, condemned as unsafe, or merely paid for and deplored.

On the day of the show, we asked to pick him up after his midday nap and brought him to the studio well ahead of time. He had evidently forgotten all about the fiat against rehearsals and stood by a model of his Bartlesville, Oklahoma, building and watched the stage manager chalk in a position for him on the floor. "What is this?" he asked, pointing down to the tiny prison yard he was meant to move in. I recalled to him the actor's famous crack about television ("Summer stock in an iron lung") and he smiled and seemed to be pacified again. The director's voice came squawking over the loud-speaker: "Mr. Wright, will you turn and face the model?" He must have thought it was God's commandment, for he raised his head and said to the air the appalling syllable, "No."

He thereupon sauntered off to get his hat, cane, and cape. I chased him and got him off for a stroll around the dark cavern of the studio that lay beyond the lighted set. It was a tight moment. He needed to be coaxed, but he could spot a fawn at twenty paces, and flattery got you nowhere. We had an hour to go, but he took my arm and we pattered in circles in the gloom while the director watched the minute hand of the clock. I agreed that television was a mad, catch-as-catch-can business but suggested it was hardest of all on the camera men, "the real craftsmen." I mentioned that they could not trust to luck, they had to block their shots and know where the prima donnas intended to move. Five minutes later, he was back on the set as malleable as an ageing cat. The scripted outline was forgotten. We simply sat and talked, and to comatose or apoplectic millions he trotted out such unashamed ad libs as: "The interior decorator is simply an inferior desecrator of the work of an artist"; "we are all victims of the rectangle and the slab, we go on living in boxes of stone and brick while the modern world is crying to be born in the discovery that concrete and steel can sleep together";

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"we should learn from the snail . . . it has devised a home that is both exquisite and functional."

After this first bout with the most highly advertised ego of our time I ran into him in various places or was asked to call on him, and I probably presume in saying that my failure to discern any conceit in him but only a harmless vanity, penetrating observation, and always his beautifully cadenced good sense was due to one of those accidents of personal chemistry that seal confidence in an instant and dissolve mountains of fear or antagonism that can never be argued away by two uncongenial people.

The last time I saw him, a year ago, I was to "moderate" a debate in Chicago on the present condition of our cities. The panel consisted of a real estate man, a housing commissioner, a professor of architecture, and Wright. It was sponsored by a steel company that legitimately hoped to popularize "the steel curtain," which is now the first constituent of most of the skyscrapers going up. Wright outraged his sponsors, and almost broke up the forum, first by professing boredom over the arguments of the builders and real estate men and consequently walking out to take a nap; and later by indicating a diorama advertising the steel curtain and saying: "These steel frames are just the old log cabin, they are all built from the outside in, first a steel frame, then they bring in the paper hanger, and what have you got?—a box with steel for horizontals instead of lumber."

Driving down the lake front he had done most to glorify, he ridiculed the glinting skyscrapers and the whizzing automobiles ("rectangles on wheels"), but he could work up no steam or bile. His only genuine sigh was for the universal misuse of steel, "this beautiful material that spins like a spider and produces a tension so perfect that you can balance a monolith on a pin point." I felt that

this lament for the city he secretly adored was a little recitation for Buncombe. In his ninetieth year he could afford to be agreeable to everybody, though he tried valiantly to resist the inclination. After all, it had been fifty-eight years since he had pioneered the sweeping horizontals of the first "prairie house" (which would pass creditably anywhere as a distinguished "contemporary" house), fifty-one years since he built the first air-conditioned building, fifty-four years since the first metal-bound plate-glass door, forty-eight years since the cantilevered floor, poured concrete, and all the other explosive solecisms that are now the grammar of the modern architect.

One imagines him arriving this week end in Heaven, tapping his malacca cane against the pearly gates to test the strength of the carbonate of lime, and greeting Saint Peter with the disarming tranquil gaze and the snowy head held high. He will ask to see "the many mansions I've been hearing about for nearly ninety years," and will be taken on an obsequious tour only to discover, without surprise and without regret, that there is a distressing reliance on Gothic, that there is nothing so bold as the cantilevered balcony over the waterfall in Bear Run, Pennsylvania, that nothing has been done to dampen with coloured glass the enormous glare of the light that never was on land or sea. He will say as he turns away in boredom from his guide: "The principle of floating all these structures on a more or less stable mass of cumulus clouds is no newer than the cushion of mud I put under the Imperial Hotel in Tokio in 1922, with the express purpose of withstanding (as it did) the wrath of God. I understand He has been sulking ever since."

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A Medal Worth Its Metal

No matter how great the honor of an award, the medal, plaque, or Oscar that goes with it rarely has much artistic value. Most of them, in fact, are downright awful. But even medals can be well designed, to wit the medal shown here, donated by AIA Regional Director Harold Spitznagel which is awarded annually to the senior student of Augustana College, Sioux Falls, S. D., who has shown the greatest promise in the fine arts. It was designed by Ogden Dalrymple, a sculptor on the Augustana College staff.



"... houses tucked into rocks . . . rural slums these past 20,000 years."—Brantôme

VI

I remember my first visit to the Tomb of Napoleon under the Dome of the Invalides (officially, the church of St. Louis), and the extraordinary feeling of space that took me by surprise and exalted me in a way entrance into no other space has ever done. And this I believe is the common experience of those who, surrendering their *billet* to the crippled veteran at the door, enter and find themselves in a world they never knew, a space like the inside of a vast sound. Nor is this experience a one-time thing; for I have been there often since those days before World War I, and I am always amazed anew.

There is a very different quality to the space of Chartres, to the space of Bourges, the spaces enclosed by today's concrete shells. This is to be expected, and yet how can there be different kinds of space? How can there be Bach's Magnificat and Prokofiev's Concerto in D? The space of Chartres is mystic space through which the search of man for God and God for man is pursued endlessly. Bourges, on the other hand, is a profound unity,

Notes on a French Horn

This is the second part of an article by **Henry S. Churchill, FAIA**, and deals with space in architecture and the inevitable failure so far of contemporary architecture to evoke great moments

defined by lines clearly drawn by St. Thomas, a multiple, five-aisled vessel without transepts. The lines of force are made clear and luminous by color, not as in Chartres richer and more vibrant. For all that, the unity of Bourges, apparently so simple, is no less complex than Chartres, the mystery of the Trinity remains. The Dome of the Invalides is not complex, and unlike either Chartres or Bourges the unity is exterior as well as interior. It is one thing, one space contained, one form in Space. It is a complete, unitary, comprehensible world. *L'Etat c'est moi*.

Space today often is mere enclosure. It is not the same thing, and usually is not meant to be. Architects have been obsessed by enclosure because the process of accomplishing it is closely related to the creation of space. So close that they are often confused. And indeed the line is finely drawn: the Dome of the Invalides: Val de Grâce: the dome of the Capitol in Washington. In St. Peter's in Rome the feeling of space as space is lost in the feeling that it has been hollowed out of the masonry: it does not exist as an independent quality.

Why does the architect seek to create space? Why did God, when the world was without form and void, seek to create it? To have space, there must be form. Movement and comprehension need space and form, to create them is delight. In architecture they become visible, in music audible, in poetry they become essence.

Painting is magic.

VII

Périgueux is the old capital of Périgord, and Périgord is where for over thirty thousand years people have lived along the valleys of the Dordogne and the Vézère. It may be the oldest continuously inhabited area on earth. The oldest inhabitants chose wisely, for the valleys are very lovely, and if the air is not of Angevine keenness neither is it sultry and hot, and no doubt there were truffles even that long ago to tempt the wild boar.

The caves of Lascaux are full of magic, beautiful paintings, like those of Altamira, of animals and the hunt. Pure magic for the hunt, in the dark of the earth. What is odd about Lascaux is that unlike the other caves and stations it is not in the river valley but up and away from it, the entrance almost at the top of a ridge. The others are under beetling limestone cliffs for the most part, with present-day dwellings built alongside. Les Eyzies, for instance, which is, like Brantôme, a village of many people living in houses tucked into the rocks, the road past their door and the river beyond the road, a church where there is a bit of meadow, a bridge, a millpond,—rural slums these past twenty thousand years.

There are more modern slums to be found, although the modernity is only comparative. What we call old cities, old villages, are nearly all frightful slums. The old houses are dismal and dank, without sanitary facilities. The privies are mouldy; often there is no running water. But the garbage is not thrown into the streets, and there is usually

"... whose lives are spent in its shadows."



a garden of some kind, or at least an adjacent garden that can be looked into, or a park perhaps. Slums by our standards, but "picturesque" when we travel. Our own slums are seldom picturesque, they are just dreary. Perhaps it is because we are too familiar with our slums: or is it wrong to equate the picturesque with the unfamiliar?

There is little tearing down in order to rebuild, not very much remodelling. There is, as with us, new peripheral growth; and where there was war damage the rebuilding is usually more open, both plan-wise and with more glass, than was the old. It is not so picturesque, but it is better for children to grow up in. Architecturally it is mediocre, like our new residential areas. The church and the Hôtel de Ville remain, the one with its cobbled market-square and the other with its cedared garden. They keep the continuity that interconnects time and place. There is a plaque, somewhere, to tell of Nazi murder and local valor. One does not monumentalize these things, recording is enough and proper. There were martyrs under the feudal lords, too; resistance was always there. Better than most the French well know that "liberty is not of tomorrow but of today."

Slums perhaps. Along the river is the broad promenade with stone walls to lean on and ramps down to the water; on the way to the river are cafés; the great walls of the church shade the square; there are public gardens, trees, flowers. There is fine bread, wine, good food. It is not "a high standard of living," admittedly, but it is a high standard of life. It is a higher standard of life even for those who can't afford it than is ours for those who can.

"The great walls of the church shade the square." It would be hard to give any accurate value to the meaning of the physical church to the people whose lives are spent in its shadow. Does its daily presence, known since birth, make it senseless? What does it mean to one's outlook on the world to see Notre Dame la Grande every day? That marvel of light and shade, the strange sculpture, the intense and compelling story that it tells, if one stops to look. Or to cross the serenity of the dirty little square to be found so often; so satisfactory in its anonymity? Are these things worth keeping—not just because they are old, which is no reason, but because they affect someone's, or some many's, existence with light and thankfulness? Is it better to live in a slum across from something of grace than to live in a slum across from another slum?

Some day those questions will have to be answered, when the standard of living catches up with the old slums.

VIII

In France, as in other countries of long history, full many a hilltop wears a little castle or a little church, and in the fields are manor houses. These are part of the nation's heritage, nothing much in themselves, yet each is part of the picture of valley or ridge, each would yield, on close inspection, some detail of pleasure—a carved gate, or a charmed garden, or the pleasant proportions of a stair tower, or just a pattern of old brick. "Modern" domestic has not yet become a part of the landscape, the new glass and concrete villas are to be found only in clusters near the big cities, and not many even of those, so that how they will "wear" cannot as yet be even guessed. It is customary to say that the old local materials of stone, clay and wood are what give quality to buildings of little merit otherwise, the weathering, the patina that fits them into the sun of Provence or the mist of Brittany. And this may be true, but perhaps even glass and cement and steel may acquire in time a justifying landscape to harmonize with the corruption of the material, and the sagging cantilever and rusted fascia may become objects of picturesque esthetics, with the mouldy wall and the cracked lintel. Nature and the soft under-belly of man's mind adjust easily to each other. The shock of broken plate glass may not be so easy to reconcile, while on the other hand its replacement might well, by its superficial perfection, over-emphasize the deterioration of its frame and point out what a mess the building has in fact become.

X

Replacement of the old goes slowly in France, in spite of destruction caused by war, and much of the new resembles the old. A strong and pervasive "modern" architecture does not yet exist in France. Corbu remains a sculptor with theories about architecture; Ronchamps is a deep personal expression of failure, without a future. For some reason—it is hard to say what—Mies has not been the force in France that he has been in the United States. One of the reasons is that French psychology does not lend itself to the peculiar emptiness of Mies' expression; another reason is that Miesian classicism is a steel, glass and enamel panel technique, while the current French materials are concrete and more restraint in the use of glass. There is something else missing, though. Mexico, with many of the same technological difficulties, has developed an indigenous approach to architecture that is noticeably lacking in France. The most notable structure in



Chateau de Breze, an outpost of Cluny

Paris since the Eiffel Tower is UNESCO, which is a failure in the same way that UN in New York is a failure: The office building dominates the group, which has no composition at all. Nervi's great assembly hall, like the General Assembly, is a thing apart, unrelated to the office building. It is just dull, like the Ecole Militaire just down the street and unlike the Hôtel des Invalides just down the avenue.

Dull as UNESCO is, it is not unpleasant, like UN. It has more humanity, as Paris has more humanity than New York. There is space, the scale is more reasonable, there is not the terrible glassy, blank feeling that is the mark of UN. Time will operate in UNESCO's favor, as it has with so many of the dull great buildings of the world: Masonry improves with age, even concrete. Glass is either brilliant or broken. Enamel chips. Steel rusts.

XI

The valley of the lower Rhone, Provence, is as every one knows, full of the remains of Rome, great masonry edifices that have withstood the exploitation of time and man. What there was between Rome and what we call Romanesque is unknown. There is the amphitheatre at Arles and then there is St. Trophime at Arles. There are Latin verses and then the troubadours and the legendary schmaltz of Aucassin and Nicolette. Besides "wine and song and Provençal mirth" there is the *mistral* cutting down the valley and Mont Ventoux somehow omnipresent. The fields are cut into little plots by windbreaks of tall poplars leaning to the south. It is not all mirth.

The Roman remains provide an accent of brutality and indifference—the first because they are coarse and brutal in themselves, the second perhaps because they seem so alone. Roman



Orange—the amphitheater wall. "A million feet high and a million miles long."

architecture is so essentially urban that nothing seems quite as silly as the structures at St. Remy, unless it be the remains of Vaison-la-Romane. St. Remy sits in a fold of the Alpilles, that curious outbreak of tortured rock rising over the Bouches-du-Rhone and of which Les Baux is the crowning horror. St. Remy faces away from the sea, one comes upon it quite casually, there it is for no particular reason, the Mausolée and the inevitable Arch, and some upset stones. And that is all. It is by Chirico out of Piranesi.

It is obvious that the Romans cared for none of these things, whereas the cloisters of St. Trophime and St. Gilles are shelters from whatever fears created the carvings of the porches, the Hells so much more real than the Heavens, the many happy devils busy torturing and the one sad, futile Christ. But this is not just Provençal, it is eleventh century theology. Only it seems architecturally and sculpturally more vivid here, in the utterly bright sunlight and in the presence of those high and meaningless piles of Roman stone.

They may be meaningless, if the sculptured Romanesque churches are meaningful in anything except the literal sense of the word. If it is otherwise, as it must be to all except the historian, Rome is impressive. In Orange is an amphitheatre built into the hillside, and the stage wall closes the seating from the front. This wall is now one side of a town square, and to come upon it from behind, down the narrow street under the hill and into the square, is an experience. Around a corner and there it is, a million feet high and million miles long, ponderous, implacable, an aspect of eternity. Compared to it the Pont du Gard has the delicate charm of the Pazzi Chapel.

There is an arch in Orange, too. If you have seen one triumphal arch you have seen all triumphal arches, just as if you have seen one Mies

building you have seen all Mies buildings. No one but the historian cares much about to, for, or about whom the arch was built. They are alike, but not alike. So one wonders about Park Avenue come the twenty-second century, and what a twenty-second century Panofsky will make of it all—assuming there will be a twenty-second century, which seems probable, and a Panofsky, which is less probable. The correlation of the magazine advertising industry with buildings of the advertisers will make a fascinating research. The effect of soap and soap opera (which it will be hard to distinguish, without laborious footnotes, from opera opera) on Skidmore, Owings and Merrill, and the effect of Schweppe's whiskers on Mies, who has none, may well be the subject of furious monographs.

XII

After listening to the Ninth Symphony, as I have been this morning, magnificently reproduced on my hi-fi set, I should like to be able to walk into Chartres Cathedral and sit for an hour or two. I cannot, of course. I must fall back on my memory of that tremendous visual symphony, of the emotion it has been my privilege to have felt when there. And I say to myself, these are supreme experiences, and it is not good to try to experience them too often. I do not want to hear the Ninth every day, nor to sit in Chartres as a matter of course. But I would like to be able to realize Chartres or any other work of architecture, when I wished, as I can the Ninth, or a work of Bartok's, or the B-Minor, or a piece by Lully. I have never seen the Parthenon, nor the Temple of Heaven, and though I have seen very fine photographs, and studied the plans, those buildings and others which I have not seen and walked into and out of are as nothing to me emotionally, so I have missed a part of what should have been my life experience. For the emotional greatness of architecture lies in its space and form in relation to oneself, looking at pictures is like looking at a musical score: It is notation and nothing more; the only reality is space and form in space, and sound and the magnificence of the space that sound makes.

Architecture is indescribable because it is something that has to be seen to be believed. It is not possible to convey the quality of something one has not seen, even though it is possible to set down its metes and bounds so that, theoretically at least, it could be exactly reproduced by a qualified artisan. A photograph or color print of a painting is a reproduction of a two-dimensional

thing in two dimensions, and the impression it gives is of the same order as the original. The letters of the alphabet, the words and sentences convey ideas; but no printed page in any language will convey anything about a Strauss waltz or the Ninth Symphony, or even a simple song, unless one has already heard it, and not much even then. And so with architecture, which is a three-dimensional experience . . . no words, no photographs can substitute for the physical experience. Architecture must, therefore, remain an art of limited appeal, for not too many can stand under the dome of St. Peter's and then St. Paul's, savor Hagia Sophia for a month, visit the Taj Mahal when the spirit moves. Or even take the ten full minutes necessary to completely grasp the design of Lever House.

Clever as we are, I doubt if we will find a means of bringing the Taj Mahal and its gardens life-size into a 12 x 24 foot living room in Marshy Heights in the same way that we bring music and drama and poetry. How then can we expect even the educated to have a real appreciation of architecture? Discrimination in the arts depends on the ability to make comparisons, to see or hear, and above all to feel, this work and then that, and to repeat and comprehend how this grows on one and this other does not.

So to the untraveled architecture is a non-existent art. What one has not seen does not exist—except, perhaps, metaphysically. It is perhaps possible to accept the existence of God without having seen Him, but it is not possible to know, without having heard it, that the B-Minor is a manifestation of Him, or what Kubla Khan's stately pleasure dome looks like.

The great masterpieces, those which penetrate the bowels and fill the cavities of the body and the interstices of the mind with a radiance so vast and thunderous and possessive as to blot out existence for the moment—they are worth the time and effort of pilgrimage. As I said before, these are not for daily experience. But life would be infinitely poorer without the minor masterpieces, the transient attractions even, and these too the lover of architecture has to forego as real experience. The attraction of minor works of art is enhanced by associative ideas or concepts from the other arts. They cross-fertilize each other, so to speak. For instance, to take a very minor for instance, how much of the plaintive charm of les Alyscamps at Arles is due to the literary overtones, how much to the architecture and space? Les Alyscamps is a good example, because it illustrates what I have been saying just before about

the non-existence of the unseen. Here is something that is not even photogenic.

Actually, little enough is left of this once great and beautiful Roman cemetery. What was once a splendid burial ground with avenues of trees and monuments, has been reduced to a single hot road lined with cypresses, between which are massive sarcophagi. At the end of the avenue is the ruin of a Romanesque chapel. High walls shut out the world beyond. This is all that is left of a Roman and medieval way to heaven, les Alyscamps, the Elysian Fields from which so many thousands started on their long pilgrimage to Compostella, the Field of the Star. This is the memory, across all of France and all of Spain, the way to heaven. Without it, would the solemn trees—those "sad cypresses" with echo of how many poetic tombs—and the squat, ugly somber tombs between them, without these associative undertones would they still seem informed with solemnity and dignity? The chapel itself is very bare, very simple, lighted by small clerestory windows which give moving patterns of brightness across the bare floor and onto more tombs as squat, but more ornate than those left outside. Connecting, a round room with tall columns supporting a groined vault lost in obscurity, no ornament.



Arles, les Alyscamps . . . "come away, come away death."

Yes, one finally decides, this is a place of the dead. It is a small and inconsequential dirge, but because it stirs the memory of so many other lovely inconsequentialities it remains in one's memory by its own right and when one reads "Come away, come away death" or hears a madrigal of Monteverdi, les Alyscamps comes to mind.

For minor works of art this associative aid is very important. What is Gray's Elegy but a series of related images, as much so, indeed, as The Waste Land? And when we walk along the Arno do not the leaves lie thick in Vallombrosa? These things speak back and forth across the centuries. What we build today lacks this invocative power; but this too will come in time, for always the sentimentality of the future is greater than the imagination of the present.

The genial former Editor of the *Journal and Historian of the Institute* tells the story of the historic house and of the Institute's efforts to restore its former gracious atmosphere.



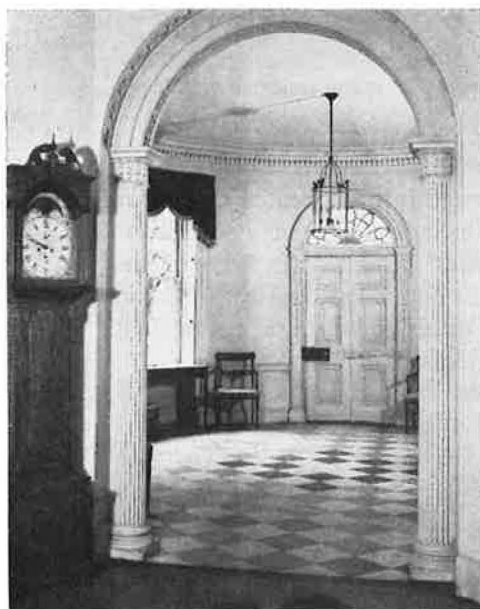
Henry H. Saylor, FAIA
WITH PHOTOGRAPHS BY THE AUTHOR

The Octagon

YESTERDAY • TODAY • TOMORROW



The inviting entrance



An interior view of the principle entrance, taken from the stair hall looking into the marble foyer.

► Back in 1955 the Octagon passed through a period of major reconstruction in which the interior was strengthened structurally in prospect of an increased use by visitors. In addition to this strengthening, the goal of the Institute was the bringing of the main public rooms of the Octagon into closer harmony with the history of the mansion as the town house of Colonel John Tayloe in 1796 until 1855. In 1855 Mrs. Tayloe died, and the old mansion came to the end of an epoch. It had been one of the chief centers of Washington society, both official and unofficial.

Through its hospitable front door had passed John Adams, Jefferson, Madison, Monroe, John Quincy Adams, Jackson—every President before 1850 with the one exception of General Washington. He had advised Colonel Tayloe to build his town house in the new Federal City rather than in the more obvious urbanity of Philadelphia, the Colonel's first choice. Although General Washington had kept a "sidewalk superintendent's" eye on the work under construction, he died without seeing the Octagon finished. When the British burned the Capital in 1814, President Madison accepted Colonel Tayloe's offer of the mansion as a temporary White House. Here in Madison's study, was ratified the Treaty of Ghent, February 17, 1815. The circular pivoted table on which the Treaty was signed is now in its place, but it had more than its share of adventures after Mrs. Tayloe's death. The furnishings had been distributed among the heirs and friends, the pivoted table being shipped to San Francisco. In 1916 the fire and earthquake left their marks on the City by the Golden Gate, and the Treaty Table, as it has been called, was wrapped in bedclothes and trundled out of the path of the fire. The San Francisco Chapter of the Institute purchased the table and returned it to the Octagon, where it once more stands in the circular room on the second floor, the room President Madison used as his study, now called the Treaty Room.

With this architectural heritage, the Octagon, in our keeping, the responsibility of maintaining it in conformity with the unique associations that hallowed it pressed more insistently upon the Institute's successive administrations. They became acutely conscious that we were more than mere owners of a brick house. More and more the visitors to the Octagon assumed a role of joint ownership and responsibility for what we had regarded as our own private property. The Senate Committee on the District of Columbia, sensing this

development—but not without some adroit persuasion by Treasurer Leon Chatelain—declared the Octagon and the Institute's Library Building, both of which were open to the public, exempt from taxation.

In September, 1949, the Institute's headquarters staff moved out of the Octagon, just across the garden into the Administration Building, which, before its completion in 1940, had been taken over for war work by the Government. To the Editor of the *Journal* and his secretary was left the guardianship of the Octagon. There was a feeling that the Octagon might serve as a sort of front door to Institute headquarters, its drawing room to be furnished in a sort of clubroom atmosphere, suitable not only for the reception of visitors but also for the occasional use of Institute committees. The furniture, serviceable reproductions for the most part, seemed adequate. With the passing of a few years, however, and the growing stream of visitors, it became evident that the structure of floors and stairs, while having been adequate for service during a century and a half, was showing signs of decrepitude under the weight of visitors by the busload. The use of the second floor as an exhibition gallery brought alarming risk to the delicate frailty of the stairway, already some inches below its proper level. An engineer made careful examination of the structure and reported the need for major operations to strengthen floors and stairs. How they were performed without affecting the physiognomy of plaster cornices, floors of 1 5/8" thickness—each board the full 26'-length of a room—is a long story, but the story now being told is of furnishing.

The gain of exhibition galleries on the second floor, by leaving out two partitions between former bedrooms, together with the more frequent use of drawing room and dining room for the formal openings of the successive architectural exhibits

upstairs, soon made it evident that the clubroom character of the drawing room was an affront to the dignity of our architectural heritage.

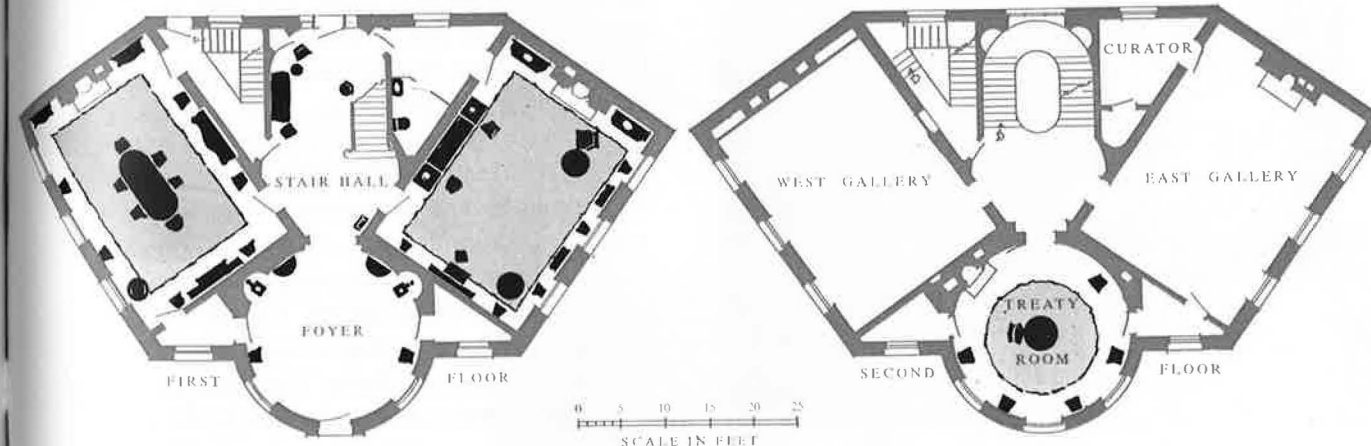
Suitably furnishing the main hall, drawing room, dining room and, on the second floor, the Treaty Room, was the problem facing the Institute, a problem involving great expense if, as hoped, the pieces were to be authentic examples of the period, including oriental rugs, suitable hangings and fitments.

It was reasoned that the original furnishings were, in the main, brought up from Colonel Tayloe's magnificent plantation, Mount Airy in Virginia, supplemented by new purchases in 1800. The Mount Airy furniture was largely of English cabinetmakers' work, with examples of the best artisans that America afforded—the Colonel being one of the wealthiest men in the new nation.

On the advice of Mr. James Cogar, then advisor on furniture for the Williamsburg Restoration, and through his personal researches here and in England, a master plan was made for the important rooms. The acquisition of the pieces needed and the assembling of a proper setting would have to be left, it was thought, to a future in which funds might become available.

Almost immediately, however, the family of the late John Walter Cross, FAIA, became interested in the idea of furnishing the dining room as a memorial to this well-known New York architect. The Institute's committee and its consultant were asked to assemble the pieces of a character suggested by the master plan for this room.

To start with, the original wall color of the dining room was revealed by carefully removing one after another of the many coats of paint applied in a century and a half. The bottom coat was a soft light green. Window hangings of Scalmandre silk brocade, and an India rug from



Cashmere formed the background in harmony with the repainted walls and woodwork. A rare set of twelve shield-back mahogany chairs was found in a Richmond collection and re-upholstered in a harmonious green. Mr. Cogar's travels abroad turned up a three-section mahogany dining table, a Scottish breakfront cabinet, an inlaid mahogany sideboard on which was placed a pair of Sheffield candlesticks, a Sheffield urn and a pair of knife-boxes; over it was hung a convex English mirror. There are candle sconces on three walls, the fourth with its fireplace breast flanked by a pair of serving tables, bearing Sheffield wine coolers. All of these, with the exception of the rug and the window hangings, are authentically of the period 1770-1800. Hanging on the wall is the priceless pair of portraits by Saint-Memin, only recently brought together to reunite Colonel Tayloe with his architect, Dr. William Thornton.



The furnishings are not quite complete, for the Cross family has hopes that we might find a Waterford chandelier of the right size, and possibly an oil portrait of Mrs. Tayloe or of Dolly Madison to hang over the fireplace. Some of the original Tayloe china is in the breakfront cabinet, kept from loneliness by some other rare pieces that have been loaned the Institute.

The Cross family has no thought of restricting others gifts to the dining room; for example the family welcomed the gift by Board members' wives of an eighteenth century Viennese tureen that graces the dining table.

In the drawing room the beige carpet, of club-room days, has been replaced by a Persian rug; the dark window hangings have given way to hangings of a light brocade harmonizing with the same light green uncovered on the dining room walls and now made the wall color throughout the first floor. Gone are the clubroom reproductions. Instead there is a magnificent eighteenth century mahogany sofa, in memory of Past-President James R. Edmunds, Jr., flanked by a pair of Pembroke tables holding a pair of exquisite Sheffield branched candlesticks. There are two round tip-top tables, two card tables, a set of six side chairs, and a large Chippendale armchair. Oil portraits of Thornton, Benjamin Latrobe and the Washington family at Mount Vernon are to be seen in this room, and one of the large gold-framed mirrors that had a place on the Octagon walls in Tayloe days. There is still the opportunity for memorial gifts of a pair of armchairs to complete the sofa group, and a wing chair, and an authentic Waterford chandelier.

In the main hall, the marble-floored circular foyer just inside the front entrance, is now to be refurnished in memory of the late F. Ellis Jackson, FAIA, of Providence, R. I. The main stairway hall, into which the foyer leads, is in need of oriental rugs to replace the beige carpet. Here are located the maple rattan-seat settee and two matching chairs that were part of a larger set used by the Tayloes, and, one by one, gradually acquired from the heirs by gift or purchase.

Upstairs, in the circular room over the entrance foyer—the Treaty Room—Past-President Ralph Walker and his firm gave a superb circular Savonerie rug of Adam design.

The circular walls make somewhat difficult the use of most furniture shapes, but Mr. Walker's interest continues in hoping to find the right pieces to go with the famous Treaty Table and the eighteenth century wall sconces given us by the RIBA.

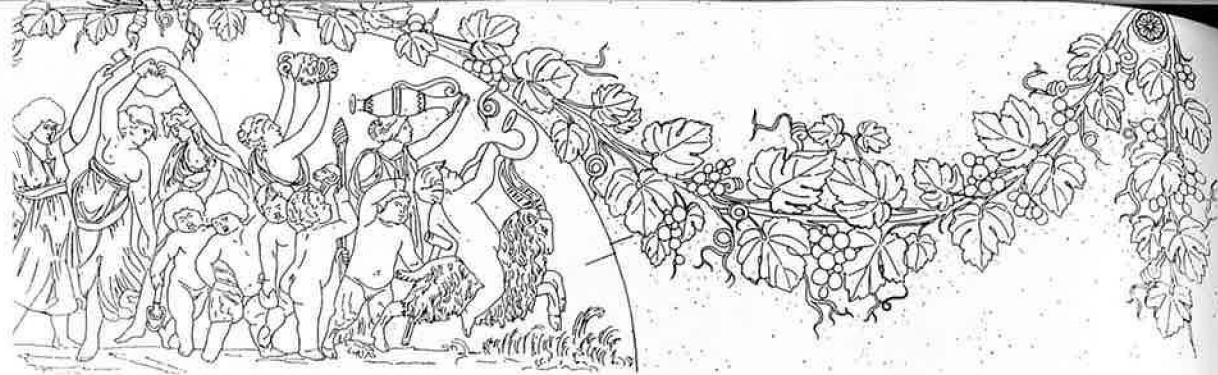


The Drawing Room on the main floor of the mansion. The mantle is the original one put in the house in 1799.

◀ The entrance hall looking through the arch and toward the garden entrance.

▶ The circular Treaty Room on the second floor. This was the room used by President Madison as his study, and it was here that the Treaty of Ghent was signed.

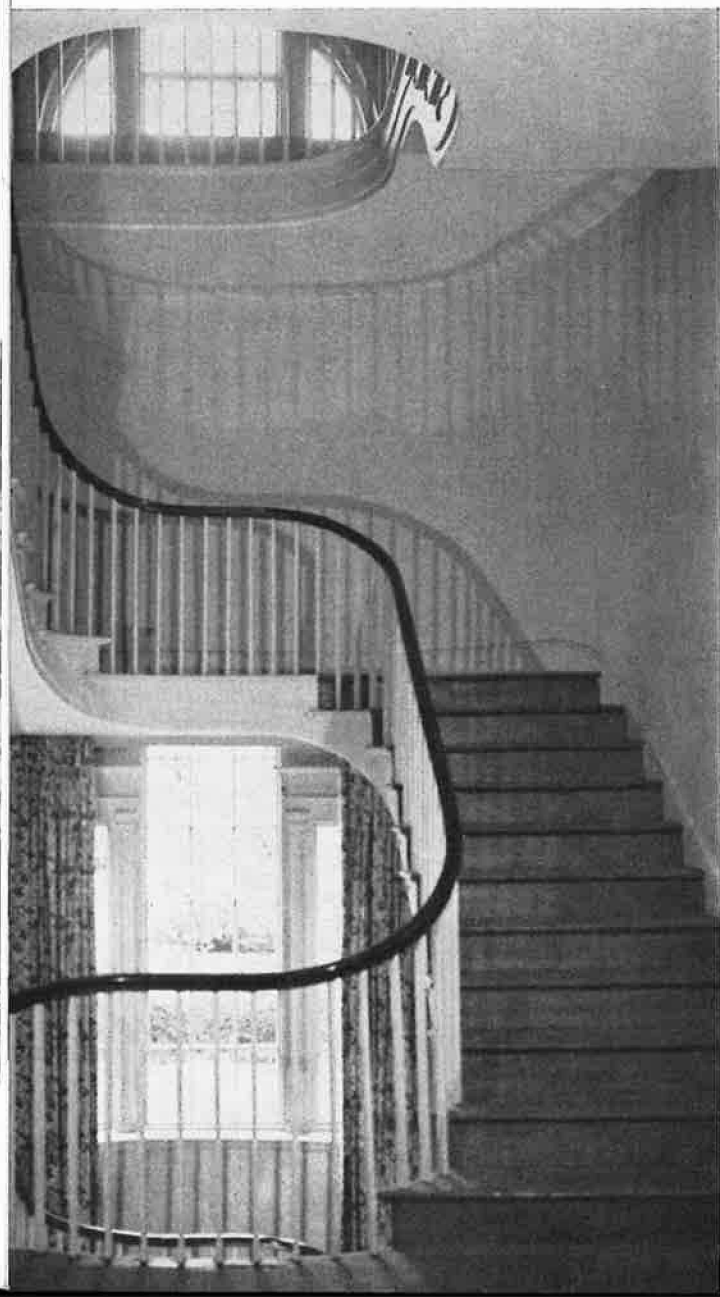




The Virginia and Philadelphia Chapters have made generous gifts to the furnishing of the drawing room. It will be readily understood that the Committee's responsibility is a heavy one. The master plan has been very carefully studied, and all details should be in conformity with it. This means that miscellaneous offers of furniture must be scrutinized, and accepted only if they conform to the master plan. This work of seeking out, acquiring and often reupholstering, has for several

years been under the chairmanship first of Milton L. Griggs, FAIA, of Charlottesville, Va. and more recently of Bryden B. Hyde of Baltimore. Members of the present Committee are Mrs. Victorine duPont Homsey of Wilmington, J. Roy Carroll, Jr., FAIA, representing the Board of Directors, and Mrs. Edmund R. Purves as invited advisor.

A method followed by many of the donors is to give cash to be spent under the direction of the Committee and its consultant in accordance



The dining room, above, presented as a memorial to John W. Cross, FAIA, by his family, is furnished in authentic 18th century antiques. On display in this room are pieces from the china service used by President Madison during his occupancy of the house. Left, the stairway has a much more effective sweep by not having a corner post.

with the master plan, the object to be identified as a memorial to some individual or group, or the gift of cash for the general purpose of aiding the whole project of the Octagon furnishing.

It would seem a rare opportunity to establish personal or group memorials which together will bring back to the Octagon a large part of the atmosphere of gracious living that distinguished the grand old mansion in the early days of the national Capital. ◀

AIA President
John Noble Richards, FAIA
reports on a bold
experiment in urban renewal

Toledo takes a step



► As President of The American Institute of Architects, I have continually advocated rehabilitation and revitalization of downtown areas all over these United States. That is why I am very proud to see this concept of downtown revitalization occurring in my own home city—Toledo, Ohio.

The "Shoppers' Seaway" has been a great community effort, as indicated by excellent cooperation between the city, the county and private organizations and individuals. This community effort is indicative of Toledo Today and Toledo Tomorrow, and conveys a feeling of new community enthusiasm on a grand scale.

This downtown garden, these four blocks of grass, flowers, trees and plants, fountains, community exhibitions, and park benches, literally sprang up overnight. The project was not in design form until after the fourth of July. It bloomed from blueprint to reality in less than 48 hours—over one week-end. It is the result of community team-work, backed by the enthusiasm of many people who have the desire to improve their downtown area. The Mall has been built for



Downtown

Sculptures were
by Toledo's Museum of Art

*"Let's keep
the Mall
permanently,
Mr. Richards!"*



is



*Department
store
president
Michael Yamin
approves*



*A music store
demonstrates
its wares*

for

This was traffic-choked Adams Street



People



a trial period of 45 days, to give it a true test as to whether a Mall system will benefit downtown Toledo. The highlight is a display which is causing a great deal of comment—the 67 sq. ft. model of Downtown Toledo. The model is based on drawings prepared by six teams of architects (three men on a team), members of the Toledo AIA Chapter. It is displayed in an open pavillion, which was built and donated by a local contractor. Serving on a voluntary basis, each team worked on an area of downtown Toledo, showing by sketches how that particular section might be improved or rebuilt. In addition to working together for eighteen months, and with the Toledo-Lucas County Planning Commission, in designing a new downtown area, Toledo architects designed the eight entrances to the Malls.

As Chairman of the Merchants' Committee, and Chairman of the Technical Committee for the Malls, I have never worked with a more inspired and competent civic-minded group of people. The fruits of their hard work are reflected today in the smiles on the faces of the people who have visited Toledo's Malls. It has given the city a tremendous lift. In addition, Toledo's "Experiment For Progress" has inspired people from all over the country—civic and business leaders—to visit Toledo in order to visualize what can be done—with enthusiasm, courage and hard work—to beautify a downtown area. After a month of use, it appears that business in the downtown area has increased, many downtown merchants wish to make the Malls permanent, and people are coming downtown, because downtown is for people.



The Mall Technical Committee (above) meets weekly in President Richard's office. The model for a new Downtown Toledo, viewed by youngsters (below) calls for a new, enjoyable waterfront, the Maumee River expressway, pedestrian malls, four new parking garages and underground parking as well as a new Convention Hall and a new apartment area.



Arbitration For Architects-

Does It Work?

► Nearly every architect, we suppose, is familiar with the standard clause regarding arbitration which is included in the General Conditions of the Contract and in the other recommended forms of agreement published by the Institute. Few architects have had occasion, however, to be involved in arbitration, and the question naturally arises in their minds that in the event they were to be forced into arbitration—does it work? Of course the architect is concerned about whether arbitration works when his client becomes involved in arbitration, but the architect's concern may be even more immediate since he himself may become involved in arbitration. The architect's decisions under the standard building contract may be submitted to arbitration and therefore the architect may become directly involved in an arbitration procedure as the representative of his client.

Since every architect is likely to become involved in arbitration either for himself or on behalf of his client, he should be familiar with the Standard Form of Procedure under the AIA documents and the laws governing arbitration in the state in which he practices. In some instances he may be required, with the advice of his attorney, to prepare Supplementary General Conditions, modifying the standard arbitration clause.

Numerous questions concerning arbitration have been brought to our attention. For example, it has been reported in some states, where arbitration concerns an architect's decision, that the owner does not have to participate in the arbitration procedure. Is this true in your state? What would happen in your state if one party to a contract brought suit instead of submitting the dispute to arbitration? Should

arbitrators be paid for their services? These inquiries have prodded the writing of this article.

Survey Made as to Architects' Experience With Arbitration.

In order to answer these questions, the secretaries of all state societies of architects were asked to report to us the names of architects who have had experience with arbitration procedures. In response to this inquiry and our follow-up we received reports from fifteen architects concerning seventeen instances of arbitration. Reports were received from California, Florida, Louisiana, Michigan, Pennsylvania and Texas. The type of disputes involved may be classified as follows:

- 1 Eight disputes were between the owner and the contractor.
- 2 Four disputes were between the architect and the contractor.
- 3 Three disputes were between the owner and the architect.
- 4 One dispute involved two architects.
- 5 One dispute involved a contractor and his subcontractor.

Stated in another way, eleven of the seventeen instances reported involved an owner; thirteen instances involved a contractor; eight instances involved an architect; and one instance involved a subcontractor.

In view of the large proportion of cases in which contractors were involved, it might be expected that the Association of General Contractors would be giving the matter active attention to see whether arbitration worked. An inquiry to them indicated that arbitration is not a matter of immediate interest to them and that contractors are generally well satisfied with current

arbitration procedures.

Likewise, reports from architects indicate general satisfaction with the current arbitration procedures. Most of the architects reporting had been connected with arbitrations in only one or two instances. It is quite possible that the right of the parties to demand arbitration as set forth in the General Conditions of the Contract creates a psychological atmosphere in which the parties seek to settle their disputes without the necessity of submitting them to arbitration. Experience would seem to indicate from the relatively few instances of arbitration that the right to arbitrate creates an atmosphere of fairness and cooperation and a disposition for the quick settlement of incipient disputes.

Should Arbitrators Be Paid?

The American Arbitration Association recommends that arbitrators serve without pay except for reimbursement of travel and subsistence expenses. Many architects, on the other hand, think that arbitrators should be paid a compensation equal to the amount which they would be able to earn in their private businesses. Reports we have received indicate that arbitrators have received from \$75 to \$100 per day. If arbitrators are to receive compensation, it is apparent that their compensation should be agreed upon prior to the submission of the dispute to them. In this regard we might also say that the general opinion among the legal profession would be that arbitrators should receive compensation. A judge in the law courts would not expect to serve as judge without compensation, and therefore it is not reasonable that arbitrators should likewise be expected to serve without compensation. Of course, if the matter to be arbitrated is a relatively simple one which can be settled by the arbitrators in a few hours, then very likely compensation is not indicated. However, where the dispute requires the arbitrators to spend several days resolving a complex matter it seems only fair that they should receive compensation for their time.

There is a general agreement that arbitration is much quicker and less expensive than resolving the very same dispute through the

courts. A number of the cases reported to us involved no costs whatever to the disputing parties. Ordinarily, where costs are involved, the costs are assessed against the parties by the arbitrators, sometimes in equal amounts and sometimes with the larger part of the costs charged to the losing party. It seems desirable that if costs are to be charged that the arbitrators be given specific authority to do so at the time the dispute is submitted to them for arbitration.

Likewise the cost of arbitration can be reduced by agreeing beforehand on the records to be submitted to the arbitrators, and that only a single arbitrator is to be chosen. Where the dispute involves a substantial sum of money it would seem desirable that the testimony received by the arbitrators be recorded and that the award of the arbitrators contain a statement of the issues and dispute, a summary of the evidence considered, and a statement of the reasons for the award.

Reaction of the Individual Architects to Arbitration Procedures.

We believe that the following comments on arbitration procedures which we have received from individual architects will be of interest.

"Time required compared to court action, in my opinion, is less, and can be substantially less. Several meetings of short duration (about 2 hours each) are generally sufficient." So says Albert S. Goleman (Goleman and Rolfe of Houston, Texas). Jas. Gamble Rogers (Winter Park, Florida) reports: "The discussion lasted less than half an hour, and the decision . . . was not contested." One case reported required two days and a half. There is general agreement that arbitration is quicker than court action.

The importance of speed in settling disputes is emphasized by William W. Eshbach (Philadelphia), who writes: "I believe the settlement of a problem by arbitration has the possibility of drawing less public attention (via newspapers) than does a court case . . . It is extremely important to resolve the problem immediately, efficiently, quietly, and in a professional manner. The quicker the problem can be resolved, the less exaggera-

tion will be applied in the mind of the layman—especially if the layman happens to be an architect's client. There is the chance that the client will regain his regard for architects due to their caliber, integrity, fairness and promptness as arbitrators."

No criticism has been received concerning biased decisions. Franklin S. Bunch (Jacksonville, Fla.) writes: "It would be my opinion that awards made under arbitration proceedings probably have a better chance of fairness than under court actions. The informal procedures usually followed in arbitration actions are to my way of thinking of sufficient orderliness to assure reasonable and fair awards."

Ralph Bodman (Baton Rouge, La.) remarks upon the importance of careful "wording of the matter to be arbitrated," to the end that the arbitrators may "fully grasp the import of the matter." Once a question is clearly and accurately stated, the answer may be obvious to all concerned. With the decision in the hands of men who are experienced in building, the right answer is more probable than otherwise.

To make sure that all parties abide by the decision, it is well to get such an agreement in advance. Robert E. Burns (San Francisco) reports: "In my experience, there has been little difficulty in enforcement of awards. The parties usually comply voluntarily, but if they fail to do so, the enforcement procedures under the California Arbitration Act are summary and direct and rarely present any difficulty."

Effect of Different Arbitration Laws in Various States.

It is impossible to state here in this brief article the considerable variations in existing laws which apply to arbitration in the several states. However, certain general principals can be stated with respect to problems which will arise under arbitration.

What Happens If One of the Parties Will Not Submit the Dispute To Arbitration?

A problem which could arise, although this apparently is infrequent, is that one of the parties to the agreement will not submit the dispute to arbitration as provided

in the agreement. It may be stated as a general principle that the laws of most states will not compel any party to honor his agreement to arbitrate nor will the courts ordinarily name an arbitrator for a recalcitrant party where he refuses to name an arbitrator as is required by the arbitration provisions of the contract.

How Then Can the Injured Party Obtain Redress?

Although the courts will not compel individuals to submit their disputes to arbitration as they have agreed upon, nevertheless the recalcitrant party is under a handicap with respect to the law courts if he does not submit his disputes to arbitration. The decided cases generally hold that where a recalcitrant party will not arbitrate a dispute as agreed to in the contract, neither will the courts lend their aid to the enforcement of the recalcitrant party's rights under the contract. It is therefore seen that a recalcitrant party, if he is at a disadvantage, is under strong pressure to abide by the arbitration procedures of the contract. However, where the recalcitrant party is in the advantageous position, such as for example, a contractor who has been paid and will not complete the job in a proper manner, it would seem that there is little that can be done to compel arbitration of the dispute. However, the injured party, after making reasonable efforts to obtain the submission of the dispute to arbitration, is free to enforce his rights in the courts of law the same as if no agreement to arbitrate had existed.

What Happens When a Party Will Not Accept the Award of the Arbitrators?

Where one of the parties will not accept the award of the arbitrators, the law of most states provides remedies whereby the award of the arbitrators can be enforced. Ordinarily in most states the award of the arbitrators can be reduced to judgment in the courts of law and enforced the same as any other judgment in a law court, without the necessity of a further hearing in the law courts upon the matters submitted to the arbitrators and decided by them. Again, from re-

ports which we have received, it would seem to be a highly unusual situation where the losing party is unwilling to accept the award of the arbitrators.

In the event that any arbitrator runs into a situation where one of the parties to a contract requiring arbitration either refuses to submit the dispute to arbitration or refuses to accept an award made by the arbitrators, the best advice which we can give here is that in such instances the architect should consult with a reputable attorney familiar with the laws of the state in question as to what should be done. The technicalities of these situations vary from state to state. Where these matters are in dispute, no one should proceed without the advice of competent legal counsel who is able to advise how the arbitration provisions of the contract may be enforced in that particular state.

The law generally indicates that if the parties have agreed to submit certain matters to arbitration, the law courts will not entertain law suits involving such matters except in the one instance which we have noted in which a party having made every effort to submit the dispute to arbitration has been unable to obtain the cooperation of the other party in doing so, and thus no arbitration could be made. In other words, once the parties have agreed to submit certain disputes to arbitration, as a general rule they no longer have the choice of taking these disputes into the law courts.

How to Submit a Dispute to Arbitration?

While the arbitration provisions of the standard AIA contracts set forth this matter with some detail so that a pretty good understanding of how to submit a dispute for arbitration can be obtained by reading them alone, nevertheless we do feel that some comments here on this problem are in order.

If any party to a contract with the standard AIA arbitration clause believes he has been wronged, he may write the other party (or parties) with copy to the architect, demanding arbitration, stating "the matter in controversy," and designating either that the AIA Stand-

ard Form of Arbitration Procedure be the guide or that the rules of the American Arbitration Association be followed. If the AIA procedure is chosen, the party on whom the demand is made must reply within fifteen days, or the statement of the demanding party must be accepted. Within twenty days, if the parties fail to agree upon a single arbitrator or three arbitrators, each party shall name one arbitrator and these two shall agree upon a third. If this is not accomplished, the arbitration must be administered according to the rules of the American Arbitration Association.

If the arbitrator or arbitrators have been appointed as stated above, an agreement should be reached concerning payment (or non-payment) and reimbursement of expenses to arbitrators. If an arbitrator should not act, the parties shall within ten days agree upon a substitute or refer the matter to the American Arbitration Association. Under the AIA standard procedure, arbitrators must have no financial, business or family relations with either party. Unless parties agree that no hearing need be held, the oath of office shall be taken by the arbitrators, parties may be represented by counsel, witnesses may be heard and subjected to questioning, and exhibits may be introduced.

The expenses of the proceedings, (including salary of a clerk if needed) may be assessed against the parties in just proportions. The award shall be made within thirty days from the closing of the proceedings, and shall be mailed simultaneously to each party, and a copy thereof sent to the architect. Wherever the prevailing law differs from the Standard Form of Arbitration Procedure the prevailing law shall be followed.

If the contending party should designate that the arbitration shall be administered with the Rules of the American Arbitration Association, he must mail them a copy of his demand. If, under the AIA standard procedure, either party fails to name an arbitrator, or if two named arbitrators fail to name a third, or if the two parties are unable to agree upon an arbitrator to take the place of one who does not act, the arbitration will be administered by the American Arbitration Association. With their pan-

els of over 13,000 business and professional men in 1,600 cities and representing various branches of the construction industry, the American Arbitration Association is able to carry the procedure through expeditiously, and for reasonable fees. Their service is a valuable adjunct to the arbitration procedure described in AIA Document No. M-201, Standard Form of Arbitration Procedure. In some states a court may be asked to appoint arbitrators when there is failure to agree upon them.

As we stated before, the award of the arbitrators should set forth in some detail the matter in dispute and the nature of the award. In this regard a suggested outline for the formal award of an arbitration board is given below.

- Names and addresses of parties
- Names of arbitrators and their sponsors
- Subject of arbitration and questions in dispute
- Place and date of hearing
- Names of those present at hearing and their sponsors
- Designation of exhibits
- Background of case
- Complainant's contention
- Other party's contention
- Summary of facts
- Reasons for decision
- Arbitrator's decision
- Allocation of expense

How to Avoid Arbitration.

In conclusion we might say that the best way to avoid submitting disputes for arbitration is not to have any disputes. The cases reported to us indicate that many of the disputes reported would not have arisen if suitable written agreements had been prepared and signed and if adequate records had been kept. As we stated before, thirteen of the seventeen cases reported to us involved a contractor and of these thirteen cases, in nine of them the appeal or request for arbitration was instituted by the contractor. It may not be fair to infer from this that contractors are more disputatious, but since they have more at stake financially than other parties in a building contract, they are more likely to seek arbitration if the matter cannot be settled among them informally. ◀

FOR INSTANCE—

Substantial Completion and Final Payment

BY WILLIAM STANLEY PARKER, FAIA, Consultant to the Institute on Contract Procedure

▶ A letter was received a short time ago asking for an official interpretation of the phrase "Substantial Completion" as used in Article 4 of the Standard Form of Agreement between Owner and Contractor on a stipulated sum basis (AIA Doc. No. A-101). In spite of the fact that this phrase has been in use in this form since 1915 there may well be others pondering the same question, so it may be worth while to consider just why this phrase was used.

It is used in order to determine when the next to the final payment to the Contractor is due to be paid. It has been customary to consider that the final payment should be made thirty or perhaps sixty days after the work has been completed, to give time for the filing of any liens that may show up. Final completion must mean actual final completion—everything actually done. Strictly interpreted, then, the next to the final payment should be paid when everything has actually been done.

At the end of every job there are always various unimportant minor details unfinished, although the building is in a condition to be occupied—a piece of hardware, a minor correction of unsatisfactory painting, etc. The final payment may be anywhere from 10% to 15% of the contract price, a substantial sum for which the Contractor and all Subcontractors are

eagerly waiting. It is felt to be an unreasonable hardship to hold up the semi-final payment and therefore also the final payment on account of a few inconsequential defects. It has been established that the semi-final payment shall be due "upon substantial completion," leaving it up to the discretion of the Architect to determine when that "substantial completion" has been accomplished.

The date of final completion is another matter. Article 5 states that "Final payment shall be due _____ days after substantial completion of the work provided the work be then fully completed and the contract fully performed." The date of substantial completion is settled at the discretion of the Architect. The date for final payment must be determined by the facts. However, even at the end of the thirty or sixty days there may still be some odds and ends unfinished.

Keeping in mind the financial importance of the final retained percentage to all the contractors on the job Article 5 provides for a further semi-final payment of the bulk of the final payment, holding out only such sum as may be adequate to protect the Owner's interest pending the final completion of the minor items still not completed.

The importance of the final payment to all concerned on the proj-

ect has been the reason for the adoption of the phrase "substantial completion" and it is also the reason why there has been for some time serious consideration of the amount of the retained percentage. Thirty years ago I believe many Architects called for a retained percentage of 15%. For a considerable period 10% has been considered reasonable. Recently on federal public works the 10% has been reduced to 5% after the job has been 50% completed if conditions on the job are satisfactory.

Whether and when and to what extent it is wise to make a reduction in the retained percentage will depend on the way in which the job has been administered by the Contractor, his financial condition and the character of his subcontractors.

On public works it is not a mandatory provision but is optional with the Government Engineer if job conditions are satisfactory. Adequate protection of the Owner is the basis for the retained percentage. It is a financial burden on the industry to withhold more than is reasonably necessary. It may be a potent factor in getting unsatisfactory work corrected. If the retained percentage is permitted to be reduced towards the end of the job it should be done with due consideration of the condition of the work and the financial interests of the Owner. ◀

SHARP FOCUS

► Somewhere in our starry-eyed professional youth we learned that "good architecture has no back-side." We had a naive faith that the "Queen Anne front and the Marry Anne behind" was only a manifestation of the perverted taste of the Victorian Era.

It was in 1925 that we first applauded Mumford's blast at the Imperial Facade in "Sticks and Stones." We are tolerantly amused at the dismal pomposity of the wooden false fronts now museum pieces in western ghost towns.

It may be recalled that when the Philadelphia Savings Fund Society job was new and shocking, some were unkind enough to say that the best part of it was the back side we weren't supposed to look at. The same could well be said about a lot of present-day efforts.

We still cling to the ideal but our faith is sorely tested every day.

The "best offices" are as guilty as the pot-boilers and plan-factories. How long are we going to keep on kidding ourselves and letting our clients kid themselves? We know very well that it will be years before that adjoining old walk-up is replaced by a taller building. Nowadays it's more likely to become a parking lot or two-story parking garage. Increasingly we see through city blocks and see what we aren't supposed to.

We will of course be sharply reprimanded and told that money talks and that hard-headed clients won't listen to such nonsense. Since when has the profession conceded that architecture is completely under the thumb of economic determinism? And will we agree that since the public doesn't object, consciously, we should continue to be party to perpetuation of this evidence of national cultural immaturity?

Some day, if our crusading zeal and torch-bearing propensity have not been completely squelched by current worthy causes and noble experiments we will go after this one, on a big scale. We shall of course have to use the wiles and talents of the public relations boys, and certainly the building materials trade associations. Our strategy will be a squeeze play or pincer action, divide and rule; the costly material people will ante-up with the hope of getting their stuff on all four sides, and the economical durable goods fellows will support our cause hoping to get theirs on the street facade. And we will offer big money prizes for designs or finished buildings in which the costly and the economical are tastefully mixed on all four sides and everybody will be happy, total cost the same, no throats cut and the city-scape vastly improved.

W. A. T.

STUDY IN ETHNOLOGY

R. M. CROSBY, AIA

62 The Architect, he biped are,
And sometime he called "homo-sap";
He almost human, but not quite,
Because him brain a handicap.
Sometimes he shingle him hang out,
And then him sit alone and sob,
While vainly wait for loaded man
To hand out they big cushy job.

On calloused elbow him prop up
He saddly addled, shaggy head,
And worry for him got no cash
For foolish girl what him have wed;
For how to no-pay advertise
Are one sore problem him ain't solve,

And he stiff neck unbending are
When him stern ethics are involve.
He nose, it red from too much hootch;
Also it short from grind-stone are;
Him dine on hot dog, thinly soup;
For he they ain't no caviare.
Him live on hope and slowly starve
'Til cash-full client come he way,
Then all he fee him squander
And he ancient bills him just ain't pay.
Whom want to be an Architect?
He life one long and sad mishap;
Him ain't no homo, no indeed!
On no, him just a simple sap!



From the Executive Director's Desk

► Not only by virtue of a training which strengthens self confidence, an indoctrination which pursues that training, and an experience which battens on challenge and to a gratifying extent by his nature, an architect is competent to understand almost any given problem and to provide a solution for it. He is at home anywhere with the exception probably of those areas which call for advanced knowledge in the current seemingly esoteric sciences. And I suspect that the member of our profession who fears to venture into these mystic worlds has yet to appear in our midst. I suspect that given enough time and training an architect's solution for, let us say, a space machine, would probably work. I, for one, have never hesitated to exploit my natural and acquired talents for the benefit of mankind, even if certain elements of mankind were neither receptive to, nor interested in, my brilliant findings.

For reasons which only the United States Army might explain (and the likelihood of that ponderous body so doing, is slight), I was ordered to solve problems and assume responsibilities which were completely foreign to me. The problems did, however, hold out an aura of undeniable fascination. But, by falling back on my architectural indoctrination, on the ability which was nurtured by such masters as Paul Cret and Georges Gromort, to identify the major elements of any problem, to relate those elements and to produce a solution, I found myself successfully engaged pursuing villains and solving riddles, occupations scarcely associated with the architectural profession or its organization, the AIA.

On one occasion, after struggling through jungles and up steep mountainsides, using a rushing stream as the only available trail, I determined conclusively that there was only one night fighter and not two (as reported by an aerial observer) which had crashed in that beautiful but unholy region. Again, I even determined to the advantage of his beneficiaries, that an old army sergeant died in line of duty when he mistook a bottle of Flit

for a bottle of a more palatable and commonly admired liquid. His physical hardihood was such as to prove his undoing, for by dint of furious self control, he contained the poison within himself and in a week was buried with military honors. Again I determined one time on a remote and barren Pacific atoll the other side of the equator, that it was a bit of Japanese flak and not a saboteur who had cut the gasoline lines on a bomber and thereby I restored to a certain degree, the morale of a squadron where a state of jitters was making for general ineffectiveness.

With these three samples of unusual application of our procedures for solving problems you have an idea of how unexpectedly clever we architects are. I do not think that I would ever hesitate to give anybody advice on anything and I recall once having told some senior, regular officers of the American Army how to go about winning the Pacific war. This was an occasion when my solutions failed to evoke interest but did succeed however, in creating an atmosphere of sub-zero frigidity. My training as an architect has even enabled me to hold my own as the Executive Officer of a national professional society (legally known as a trade association). Now that schools are appearing somewhat timorously for the training of executive officers and other staff personnel for trade associations and although I never attended any of these schools, having learned my role simply through its exercise, I would, if I had an eye on a society executive job, consider it an essential experience and one which will doubtless be required in the future. At the same time, it is a sine qua non now that the top man be a member of the profession his society represents.

Now one of the things which makes life extremely interesting for anybody in my position is the fact that I serve under the direction of a Board of Directors made up of architects, each and everyone of whom like myself, can analyze and solve any given problem regardless, and in

turn we work for some 13,000 other architects who are gifted, trained and fully equipped, not only to point out the errors of commission and omission but to undertake any role themselves whether it be administration, editing, production, personnel, accounting, government liaison, the influencing of federal legislation, the care and handling of federal officers and the meeting on equal terms, or at least assumed equal terms, with the elected high and mighty of the nation.

Now what really bothers me in light of his omniscience, skill, forwardness overall and broad outlook is the architect's horror of criticism, not of others, but of himself. Just why architects alone are frightened, angered and threatening when their work is criticized, is something that I fail to understand. Perhaps it is our one manifestation of immaturity. I sincerely hope that before an apprehension becomes an incurable phobia, we will be able to accept and even welcome criticism. The kind of criticism that is meted out to painters, musicians, playwrights and performers, to sculptors, to authors and in fact to everybody except architects. With us, one hint of criticism and the rumble of a libel suit makes itself known.

It is encouraging to see the well known architectural magazines essaying, still a bit on the timid side, occasional architectural criticism. But unfortunately, the magazines are also allowing themselves to be devoured. Just as the automobile is devouring the country, advertisements are devouring the magazines. Now that the format is approaching and doubtless will overtake that of the Sears Roebuck Catalog (without that publication's wholesome respect for light paper stock) I find as I grow older that I lack the physical strength to hold one up for more than three minutes at a time. And it now takes someone with patience and the attributes of a Maine guide to find the non-advertising text. Anyone coming upon one of our major periodicals for the first time is completely stymied. I must admit that I have gotten into the habit of "passing the buck" and asking others on the staff to let me know if there is anything that should enlighten or irritate me in the current numbers. At the Octagon we have trained hunters for text who seem to be able to come upon the meat of the magazines without exhausting themselves in the chase.

I am told that it is essential to success (though whose success is not clear) and advantageous to intermingle advertising and text. Maybe this is so, but it would appear to me that our architectural magazines stand in some danger of losing their appeal to architects for which I had supposed them

to have been designed. Now I trust that my good friends, Tom Creighton, Doug Haskell, Em Goble, and Perry Prentice and their brilliant and splendid staffs, having essayed a bit of criticism will accept in good part this sincere plea—produced in a spirit described once by a small boy as "constrictive criticism." I have become benign and philosophical now that retirement is looming and am looking forward to indulging without restriction in criticism, pontification and a freedom of speech denied me by my present office. It is not that I intend to be mean; far from it, I love good architecture. I think occasionally I can recognize it when I see it. What too often passes for exciting architecture today is later found to be atrocious. Too many buildings go up which are incredibly awful in design and which do not contribute to the advancement of architecture nor to the prestige of the profession, but which possess a veneer of current clichés to attract. Pioneers, especially those with ability, should be encouraged. Works of real merit should receive considerably more acclaim than they do. Criticism of architectural achievement is not the only form of criticism to be advocated—a good healthy criticism of our mores, our procedures, and even of our ethics is in order.

The other day, a leading architect spoke out in public against our archaic, inefficient and completely unpublic relations-wise system of basing fees on percentage of construction costs. He was immediately pounced upon. Now ever since I first got out of school, the justification for percentage fees has bothered me. Nobody has ever explained it satisfactorily. The longer I sit in this position and deal with the public, particularly as exemplified by the federal agencies, I am increasingly unable to justify the percentage system.

A man should know the value of his service. He should know what it costs him to produce; he should know what he is entitled to for his costs, services and know-how. Why can he not put his price on all this and not resort to an economically and logically indefensible system, conceived, I suspect, years ago in laziness?

I started out by saying that architects are superior and brilliant—and I honestly believe ourselves to be. We just need to come a little more of age.

Edmund D. Purvis

► Bob Alexander brought out some good points and raised some good questions, in his vividly presented "The Architect and Society—The Image of the Architect" in the July *Architectural Record*.

Not only has the image of the architect changed during the past three hundred years, but I wonder if it has ever been a very clear image? Is it now? Is architecture even a clearly defined profession?

We consider the professions of medicine and law to be clearly defined fields of work, with definite obligations to society. They are everywhere—well, almost everywhere—accorded the highest respect. Yet ancient as those activities are, it has only been a little more than a century since the doctor was simply a barber or a leech, and the lawyer was not admitted to polite society. They have travelled far and fast since then.

The activity of architecture is even more ancient, yet we consider that we came of age as a profession only a century ago. But I fear that by the standards of the other two we are still a disparate and widely divergent group, many pulling in different directions, many not pulling at all.

The American Medical Association and the American Bar Association together with its affiliated local bar associations, exercise considerable influence and even control over the education of those entering their profession and their licensing to practice. The image of the doctor or the lawyer today is partly the result of the image presented to the public by these associations, but even more the result of the image created by individual members conscientiously and often at a sacrifice carrying out their duties to society. True, the doctors have been over-romanticized, but the image remains. We have not done so well.

Where have we fallen down? Hard to say, very hard to say. Yet several contributing factors come to mind. First of all, it seems as though the schools of architecture in the past have failed to inculcate in their students the concept of architecture as a closely knit, tightly-operating profession. I am a strong believer in the rugged individualism of the architect—even when operating as a mem-

ber of the currently popular "team." No one is more outspokenly individualistic than the successful surgeon. Yet he is always conscious of the fact that he is a member of a nationwide—a worldwide—profession, and he makes his discoveries in medical science and improvements in techniques immediately available to his fellow practitioners through his professional association. Only a few architects—and bless them—have in the past felt that strong tie to the group.

Part of the blame must also lie upon the Institute itself. Until about fifteen years ago it was perfectly true that the Institute was an exclusive club, as Ed Stone called it in his convention address. No attempt was made to build it into an association which would truly represent and include the architectural profession in the United States. Only the "best" were members. Even though that is now buried in the past, and the Institute has grown tremendously, therein lies the reason that today the AIA still does not include all the licensed architects in the country by any means. I would venture a guess—based upon a bit of personal experience—that half of the non-members have a prejudice against the Institute left over or inherited from the old days. The other half are "little fellows" with their offices in their sun porches who make a living out of alterations and small houses. It has probably never occurred to most of them that membership in the Institute would benefit them and that the Institute would welcome them—they would be more likely to welcome the Institute if its dues were scaled down to their level.

In order for the AIA to become more truly representative of the profession and a still greater force in the nation's economic and social life it is imperative that more of the leading architects take an active part in the affairs of the Institute—not just accept its Fellowships, Honor Awards and Gold Medals and deliver its Keynote Addresses. The greater success and distinction an architect achieves, the greater obligation he should feel toward his profession and its national association.

At the top executive level in business and in-

dustry today the image of the architect is in most cases all that we could hope for—all that Mr. Alexander sets forth as the ideal. He is the "Creative Coordinator," the "Environment Shaper" and the one professional capable of the broadest "Creative Thought."

But few architects today are worthy of that picture—too few. Our new top status has been brought upon us by the efforts of our very best men, maybe a couple of hundred firms—not by any means necessarily the *Forum's* one hundred biggest firms. We're getting the best press we've ever had, thanks to the work of those best men and thanks to the deliberate efforts of the Institute. But little thanks to the rank and file architect.

And yet it is to these very architects that the country is looking to pull it out of the mess of uglification and strangling confusion in which it finds itself increasingly enmeshed—or so we say. If we claim the job of total design we must claim it in the name of all architects, of the entire profession of architecture, not just of the few best men.

To establish ourselves as a true profession, therefore, we must:

► Adopt if we will the entire field of "total design" as our province, but the good Lord help us if we don't show ourselves capable of solving the environmental problems of mankind and creating thereby the beauty and order we preach.

► Establish uniform standards for architectural education and registration, which shall be under the control of the profession, broadened to insure that the architect will be a man of well-rounded culture and all essential skills.

It is more essential, however, that the architect be a man of wide information and broad enthusiasms, well schooled in the humanities, than that he be crammed with a number of short courses attempting to cover every facet of the complex activities he has ahead of him.

66 ► Include within one national professional society all those who work on the designing team today—not only the architect but his draftsmen and various office executives, the planners, the landscape architects, the engineers both structural and mechanical, the interior designers, and the specialists in such allied fields as space analysis, cost analysis, and the economics of land use and urban renewal.

Such a group is not as diverse as it may first appear, and can be bound together in one organi-

zation with one set of professional standards and objectives, creating a unity of approach to all problems and presenting one face to the public.

► Establish a national headquarters in the nation's capital which will be a true center for all the visual arts which collaborate with architecture, a fountainhead for exhibits, films and discussion, a control point for research and study, including a museum and library which will display and preserve the best architectural thought of all times, and an alert and progressive publications program reaching not only the profession but the public.

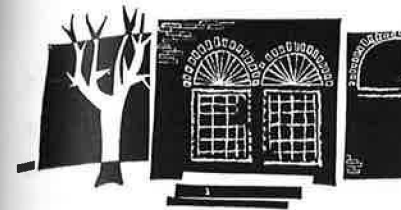
► Pool all our intellectual resources and our skills by a system of more frequent and better-attended meetings—call them seminars or conventions if you will, both regional and national, with inspiring speeches, importantly informative papers and lectures, and plenty of informal discussions of the bull-session type.

Every architect should have at his disposal the accumulated fund of knowledge of all his fellow architects; we must build a cumulative tradition of know-how to which everybody contributes and upon which everybody can draw. An outgrowth of this would be a system of brush-up seminars at various points about the country which would be so good and so valuable that architects would flock to them.

► The American Institute of Architects can and should be the medium through which all this is accomplished—in fact, it *must* be.

This is aiming pretty high and to accomplish it will take the re-oriented thinking and whole-hearted efforts of every architect in the country. If we claim the responsibility for the total design of man's environment—as we are doing in our public pronouncements—we have got to be *capable* of it, every one of us. At the present time I doubt that we are.

When every architect awakens to the potentialities of which his talents and his training make him capable, when he lifts his nose from the drawing board and the golf tee, when he gets over his smug satisfaction with the money he's making—at long last—during these best of possible years, when he realizes that he has a civic duty to his community and does something about it, and finally when he realizes that he *is* a member of a highly essential and closely-knit profession with a great responsibility to society, *then* we will have a true profession dedicated to the ideals set forth by the founders of the Institute in their statement a hundred and two years ago. J. W.



LIBRARY NOTES

ARCHITECTURE OF THE AMERICAS

The present list comprises the titles of books which the Library has that deal with the architects and the architecture of the Americas outside the United States. They cover a wide range from the ancient to the contemporary, and vary in treatment from the picture book to the scholarly history. All are available to corporate members of the Institute on the Library Loan Service—fifty cents for the first volume, twenty-five for each additional.

G.E.P.

British West Indies

ACWORTH, ANGUS W.

Buildings of architectural or historic interest in the British West Indies. London, 1951. 21 p.

ACWORTH, ANGUS W.

Treasure in the Caribbean, a first study of Georgian buildings in the British West Indies. London, 1949. 36 p.

Canada

COUTURIER, MARIE A.

Marcel Parizeau (architect). Montréal, 1945. 40 p.

GOWANS, ALAN

Church architecture in New France. New Brunswick, N. J. 1955. 162 p.

GOWANS, ALAN

Looking at architecture in Canada. Toronto, 1958. 232 p.

MORISSET, GÉRARD

L'architecture en Nouvelle-France. Québec, 1949. 150 p.

NOBBS, PERCY E.

Architecture in Canada. London, 1924. 89 p.

ROY, PIERRE GEORGES

Les vieilles églises de la Province de Québec, 1647-1800. Québec, 1925. 323 p.

Mexico

AYRES, ATLEE B.

Mexican architecture; domestic,

civil & ecclesiastical. New York, 1926. 150 pl.

BOSSOM, ALFRED C.

An architectural pilgrimage in old Mexico. New York, 1924. 10 p. 110 pl.

GARRISON, G. RICHARD & G. W. RUSTAY

Mexican houses, a book of photography and measured drawings. New York, 1930. 173 p.

KILHAM, WALTER H.

Mexican architecture of the viceregal period. New York, 1927. 221 p.

KUBLER, GEORGE

Mexican architecture of the sixteenth century. New Haven, 1958. 2v.

LABEAUME, LOUIS & W. B. PAPIN

The picturesque architecture of Mexico. New York, 1915. 118 pl.

MARQUINA, IGNACIO

Arquitectura cristiana del valle de Teotihuacan. Mexico, 1921. 54 p.

MYERS, IRVING E.

Mexico's modern architecture. New York, 1952. 264 p.

OBREGON SANTACILIA, CARLOS

50 años de arquitectura mexicana. (1900-1950) Mexico, 1952. 121 p.

OBREGON SANTACILIA, CARLOS

Mexico como eje de las antiguas arquitecturas de América. Mexico, 1947. 109 p.

OBREGON SANTACILIA, CARLOS

25 años de arquitecto, 1924-1929. Mexico, 1950. 36 p.

SANFORD, TRENT E.

The story of architecture in Mexico. New York, 1947. 363 p.

SOCIEDAD DE ARQUITECTOS MEXICANOS

4000 años de arquitectura mexicana. Mexico, 1956. 330 p.

YANEZ, ENRIQUE

18 residencias de arquitectos mexicanos. Mexico, 1951. 118 p.

South America

HITCHCOCK, HENRY R.

Latin America architecture since 1945. New York, 1955. 203 p.

ANTE-PROJETO.

Arquitectura contemporânea no Brasil. Rio de Janeiro, 1947-48. 2v.

GOODWIN, PHILIP L.

Brazil builds; architecture new and old, 1652-1942. New York, 1943. 198 p.

MINDLIN, HENRIQUE E.

Modern architecture in Brazil. New York, 1956. 256 p.

NIEMEYER SOARES, OSCAR

The work of Oscar Niemeyer by Stamo Papadaki. New York, Reinhold, 1950. 220 p.

NIEMEYER SOARES, OSCAR

Oscar Niemeyer: works in progress by Stamo Papadaki. New York, 1956. 192 p.

ARANGO, JORGE & C. MARTINEZ

Arquitectura en Colombia; arquitectura colonial 1538-1810, arquitectura contemporânea en cinco años 1946-1951. Bogotá, 1951. 127 p.

MARCO DORTA, ENRIQUE

La arquitectura barroca en el Peru. Madrid, 1957. 47 p.

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION.

Cuzco, reconstruction of the town and restoration of its monuments. Paris, 1952. 55 p.

WETHEY, HAROLD E.

Colonial architecture and sculpture in Peru. Cambridge, 1949. 330 p.

GIURIA, JUAN G.

La arquitectura en el Uruguay. Montevideo, 1955. V.I

VILLANUEVA, CARLOS R.

La Caracas de ayer y de hoy, su arquitectura colonial y la reurbanización de "El Silencio." Paris, 1950. 87 p.



BOOK REVIEWS

Small Homes in the New Tradition.

By François C. Morand. 143 pp. illus. 8 3/4" x 11 1/4". New York: Sterling Publishing Co.: 1959. \$4.95

Here are thirty-five houses in the Americas from Quebec to Mexico City, half of them in the US, including a few top-grade, a few spectaculars and several heavy-handed. One Rudolph cottage with swinging cannonball counterweights is a real shinbuster. Photo-views are a rather depressing tattle-tale offset gray. E.P.

Origins of Functionalist Theory.

By Dr. Edward Robert De Zurko. 265 pp. 6 1/4" x 9 1/2". New York: 1957: Columbia University Press. \$5.00.

The author, Dr. Edward Robert De Zurko, is a registered architect and a member of the architecture faculty of Rice Institute.

The time-scale of this book will surprise the average reader. For most "functionalism is regarded as an essentially modern phenomenon extending back in time to Horatio Greenough 1805-52." This book ends with the period of Greenough, and its contents range from classical origins, through medieval and Renaissance formulations, and all the moralisms, rationalisms and naturalisms of the British, French, Germans, Italians and Americans during the seventeenth to nineteenth centuries.

"The ideas of functionalism are not the product of the thought of a limited school of men, nor are they by any means of modern origin."

Continuity and inheritance of ideas are emphasized throughout the book: "Their [Pugin and Ruskin] prophetic character, their tendency to denounce almost everything about them, and their hortatory style can also be seen in the writings of Greenough, Morris, Sullivan and Wright."

Greenough anticipated Le Cor-

busier by a century when he wrote that "buildings may be called machines."

The ideology of functionalism is shown also to range widely:

"Functionalism implies a pluralistic not a monistic system of values. Functionalist criticism, observed historically . . . evaluates . . . architecture largely in terms of moral, ethical, social, and often metaphysical ultimate values as well, whereas in evaluating contemporary architecture there is a tendency for the critic to stress primary or immediate values such as economy, ease of circulation, sanitary features, ease of maintenance, or good light and ventilation."

"The criterion of fitness for purpose has been related at one time or another to criteria of technique, mechanical efficiency, organic form, imitation, morality, style, character, logic, originality, appropriateness, order, expression, health, personality fulfillment, social value, symbolism, economy, monumentalism, empathy, and religion."

Thus in spite of the delimiting title, this is really a much needed, comprehensive survey, guide and source book on the esthetics of architecture. It ought to be a required text in every school of architecture. The students could ask some embarrassing questions of their design critics who seem to steer by the seat of their pants. It should be interesting and helpful to some practitioners whose design rationale seems to consist of equal parts of copyism and compromise. Writers and critics could be helped in sharpening their fuzzy vocabularies.

"A clear distinction between organic architecture and functional architecture has not been made even by writers such as Frank Lloyd Wright and Lewis Mumford . . ."

It would be helpful all around if we could agree upon what we are talking about and designing for:

" . . . the implications of functionalism are being called into question . . ."

" . . . functionalism is neither a clear and unchallenged law of architecture nor a spent force, but a vital concept requiring clarification.

"Functionalism is the only esthetic which frankly accepts the world of technology as an important part of the pattern of culture.

"Technology in building construction has advanced rapidly without a noticeable widespread improvement in architectural design.

"The right kind of functionalist design will not only exploit technology to its fullest but will humanize it." W. A. T.

The Modern Slide Rule.

By Stefan Rudolf. 70 pp. Illus. 8 3/8" by 10 3/4". New York: 1959: The William-Frederick Press. \$5.00

If you are more than a casual or occasional user of the slide rule, this book could have considerable practical value. The author, who has had long European experience as a registered architect, engineer and teacher in Poland, presents an original method for use of the slide rule in fundamental mathematical operations.

This method, which is patent pending, permits the exact fixing of the decimal point in the result as it appears on the scale of the slide rule—thus eliminating inaccuracies resulting from the usual methods of approximation. While the method has its tricky aspects, with constant use there will be a definite gain in speed and certainty. This is particularly true when dealing with complex fractions, exponents, roots and the like.

The reader is assumed to know his mathematical theory, of which there is very little in the book. The rules are concisely stated, illustrated by examples, diagrams and problem exercises—with answers. In addition to ordinary multiplication, division, squares, cubes, inversions and combinations, there are sections on the use of logarithms, log logs, trigonometric functions, and even the quadratic equation. E.F.M.

RESEARCH FOR ARCHITECTURE · PART II

AN AIA CONFERENCE SUPPORTED BY THE NATIONAL SCIENCE FOUNDATION
Ann Arbor, Michigan, 10-12 March 1959

HIGHLIGHTS

A recap of significant findings

The first conference on research for architecture considered:

- contributions and relationships of other disciplines to environmental and esthetic design
- criteria for future project proposals and support

There was general agreement:

- on need for such research
- on lack of trained personnel and current inducements
- on use of existing buildings for case-studies and data on failures
- on need for long-term support and continuity of cross-discipline meetings
- on avoidance of rigid definitions of basic and applied research

Brief findings follow, in each of the six conference subject-areas, as discussed by participants:

Architecture

Architecture is a creation of a total environment within which can be accomplished the aspirations of man. We need a center and organization for research for architecture as well as studies at existing schools.

Architect's design responsibility is not the whole story—there must be studies in sciences underlying architectural practice (including economics) and clinical research in architectural theory.

Research may be of two kinds:

- passive: to make available predigested information
- active: new information and original thought to give depth and perception to design decisions and alternatives

Greatest professional challenge faced by the architect is that he finds too few clients of discrimination. Is it his social responsibility to meet low standards or to exert himself to better a performance which is neither understood nor valued?

Structures

Need better communication between architect and structural engineer — whither architectural form? Increased use of model analysis is stimulating structural research. Architect needs familiarity with new structural concepts.

Need studies of complex interactions of composite structural materials and how to analyze structural form cut loose from the stress-concept.

Psychology

Architects and behavioral scientists must learn something of each other's methods and data already on hand—must apply themselves to realistic problems.

Need study of organization-client—a vacuum of knowledge about social functioning of organizations. Architects should take responsibility for shaping the future and not feel that they must conform to a sociologist's prediction of it!

Forget sharp boundaries between disciplines. Avoid current fallacies of team and project research—people who agree to agree are not going to get very far in research. You cannot decide what you are going to prove. You cannot plan research.

Sociology

Need studies in architectural theory (professional practice theory), quite possibly non-academic in method and including relationships of individuals, physical and social environment.

Esthetics is least-developed area in sociology and psychology.

Planning

Conceptual or design responsibility of the architect has been outrun by technology. Designs are solutions of hypotheses—how can we research or teach in this field?

Problem-solving approach to creativity has been tradition. Need to define architectural problems in clinical terms in order to get help from other disciplines—or to develop the profession's own research talent.

Architectural research efforts and support should be centered on architectural problems—city planning, for instance, currently has some recognition and support. Scope of design must be enlarged to help clear up the urban mess.

Architecture deals with problems and management of space, and needs evaluation of factors of environment. Basic fact is that you cannot plan without an inventory.

Do not confuse measurability of a research subject with its ultimate importance.

Environmental Hygiene

Research experience in this field offers profitable suggestions for architectural research.

Considerable evidence of induction of behavior by architectural form. There is an analogy with the nervous system.

Public demand creates support for research—which must be long-term.

*Suggested or reported by conference participants**

- 1 METHODOLOGY OF ARCHITECTURAL RESEARCH
 - 1 A master outline for advanced architectural research
 - 2 Ways of financing architectural research, including development of public demand as prerequisite to substantial support
 - 3 Modus operandi for interdisciplinary frontal attack on architectural research
 - 4 Use of new techniques in systems or operations engineering
 - 5 Role of schools with respect to research—development of research talent
 - 6 (Current project): *Policy statement on architectural research* for the College of Architecture, University of California, Jan. 1959
- 2 COMMUNICATIONS AND DOCUMENTATION
 - 1 Collection, classification and dissemination of past and present research findings
 - 2 Information technology that will place at architects disposal in usable form the enormous mass of available information he needs
 - 3 Communication by architects with each other and with the public of major generalizable ideas developed in the course of designing a building
 - 4 Study of architectural drawings, graphic arts and writing as a basic form of communication with the audience they serve—is there a better form?
 - 5 Feedback of information from job investigations being made daily but lost in individual files
 - 6 Architectural history—documentation of special building types
 - 7 A study of humor in architectural design
 - 8 (Current project): *"Building Science Directory"* published annually by Building Research Institute, lists building industry associations, societies, organizations engaged in research—their research programs and publications

*These hundred-odd suggestions have been gleaned from several hundred to indicate some possible areas and subjects. None of the new proposals has been evaluated by the committee—for researchability, support or potential value.

3 ARCHITECTURAL THEORY

- 1 Bridging the social and physical sciences: principles of transition from aspatial considerations to spatial arrangements
- 2 Kinds and sequence of information needed by the architect for design
- 3 Analytic concepts and techniques, including effective analysis of alternative design possibilities
- 4 Principles of the creative processes—thinking, reasoning, intuition and systems of alternative development
- 5 General rules of visual space perception and color phenomena applicable to specific design problems—an orderly rationale for esthetics as preparation for "the intuitive leap"
- 6 Use of predictive capacity of other disciplines to help present designs fit future needs—or should present designs shape the pattern of future living?
- 7 Social responsibility of the architect to raise design standards held by the public to higher standards
- 8 Clear statement of architectural theory, principles and objectives to encourage better practice and comprehension of architecture
- 9 The basic issues of civic design—enlargement of concept of scale and scope of design to include urban and regional design.

4 FACTORS AFFECTING ARCHITECTURE

- 1 Design impact of the client
- 2 Crucial decisions and points at which they occur in evolution of architectural form
- 3 The effect of mortgage policies on architectural design
- 4 Impact of technological change on architectural design
- 5 Psycho-physical basis for color preference and selection in architecture
- 6 Physiological and psychological lessons learned from experiences with atomic submarines and space vehicles, and their application to building standards

Examples of completed or current projects:

- 7 Influence of climate on architecture. Princeton School of Architecture
- 8 Human relations considerations in the architectural design of offices. College of Architecture, University of California
- 9 The following projects at Engineering Ex-

- periment Station, Texas A&M College:
- effects of landscaping on natural lighting
 - effects of sound on buildings
 - solar radiation and its effects on buildings

5 ARCHITECTURE'S INFLUENCES AND EFFECTS

- 1 Bridge-building between physical and social sciences: effect of spatial arrangements on functional organization
- 2 Effect of major alternative approaches on people—large apartment and shopping centers versus traditional communities
- 3 A systematic basis for clinical research on relationship between physical forms and the goals they are supposed to serve
- 4 Use of psychological data in designing spaces to induce desired reactions, as for children, elderly people, the mentally ill, etc
- 5 Constructed environments that have produced similar responses by peoples of various ages and cultures
- 6 Extent to which environment as created throughout history indicates evidence of conscious design effort—what part of conscious design philosophy is rationalization of an already determined form?
- 7 (Completed projects): *"Space for teaching"* and *"Building for learning."* Engineering Experiment Station, Texas A&M College

6 REACTION OF PEOPLE TO ARCHITECTURE

- 1 Effect of social and cultural forces on individual's perception and attitudes regarding the architect's end-product
- 2 Behavioral and emotional awareness and reaction to buildings, arcades, rooms, etc
- 3 Comparative study of conditions under which specific kinds or styles of architecture have or have not gained popular acceptance or acclaim
- 4 Analysis of fads and fashions that sweep across major building types
- 5 Systematizing predictable environmental reactions into known relations which, if built into structures, would produce desirable or avoid undesirable results
- 6 Elements of visual perception of color, space, scale, line and form
- 7 What natural values such as sunlight or grass, cannot be supplied by technological

- improvements—when may such natural values be ignored?
- 8 Psychological impact (perception) of cities (urban environment)
- 9 (Current project): *Studies of form and color.* Architectural Laboratory, Princeton University

7 EVALUATION OF ARCHITECT'S END-PRODUCT

- 1 Evaluation of completed buildings of various types in the light of original objectives and as affected by influences exerted during program and planning phases
- 2 Methods of follow-up to determine how satisfactory any structure is
- 3 Feed-back of evaluation of completed projects to the architect
- 4 (Completed project): *Measuring the quality of housing.* Housing Research Center, Cornell University

8 ARCHITECTURAL TRAINING

- 1 New systems of education, appreciation and interpretation to improve society's understanding of architecture
- 2 Correlation between school training and the roles assumed by graduates as they work up in architects' offices
- 3 Better preparation of architects and planners for full range of opportunities and responsibilities involved in new operating scale, where large projects are built quickly by single organizations
- 4 Program and function analysis
- 5 Study of need for organized training in field of "architectural sciences"
- 6 Extent to which architects should become sophisticated in terms of existing psychological information
- 7 Use of sound films and cartoons in conjunction with model analysis and testing to teach architects the feel of what goes on in structures
- 8 Architectural aptitude testing
- 9 Development of research talent
- 10 (Current project): Cooperative study by AIA, ACSA and Educational Testing Service: *Aptitude tests for admitting architectural students*

9 PROFESSION OF ARCHITECTURE

- 1 Professional behavior of the architect:
 - image of the architect as held by the public—by architects

- characteristics of people recruited into architecture
 - effect of training on the architect as a person
 - analysis of the architect's role conflict (art versus marketplace)
 - case histories of architect-client relationship
- 2 Issues raised by group practice or interaction between architect and architect, or between architect and specialists
 - 3 Sociology of the architectural profession
 - 4 Goals and methods for the architect to assume community leadership as a means of effecting needed environmental changes
 - 5 Role of the architect in urban studies
 - 6 The architect's responsibility on behalf of "the public interest" as compared with merely satisfying the client
 - 7 Criteria for true professional architectural services; conveying these criteria to society in intelligible form
 - 8 Study of owners' preference as interpreted by developers of tract residential building—role of the architect in this field
 - 9 Principles of management and sales relations applied to architecture as a business, especially to the problem of getting and keeping clients
 - 10 A comparative study of methods of remuneration for architectural services
 - 11 Adaptability of architectural profession to changing needs or revised interpretations of these needs
 - 12 (Completed project): "The Architect at Mid-Century." 2-volume report of AIA Commission for the Survey of Education & Registration 1954

10 RESEARCH IN RELATED FIELDS

A Acoustics

- 1 Effect of acoustical treatments on the quality of sound as distinguished from volume
- 2 (Current project): *Effects of landscaping on sound*, Engineering Experiment Station, Texas A&M College

B Economics

- 1 Economics of reusing plans for buildings
- 2 Comparative analysis of construction industry with other industries

Completed or current projects:

- 3 *Planning criteria and methods for building*

- conservation; a study of San Francisco as an example.* College of Architecture, University of California
- 4 *A study of the useful life span of school buildings*, College of Architecture and Design, University of Michigan
 - 5 *Methods of reducing the cost of public housing*, School of Architecture, Pratt Institute

C Environmental Health

- 1 Treatment of domestic, industrial and municipal sewage (no significant advances in four decades)
- 2 Problems of liquid and industrial waste disposal associated with increased demand for water supplies due to metropolitan and industrial growth
- 3 Control of water and air pollution by industry, including radioactive substances
- 4 The physics of environment: study of temperature, humidity, air movement, illumination and noise as a means of achieving physiological well being through control of mechanical systems, insulation, lighting and acoustics

D Planning

- 1 Design objectives in urban and suburban residential neighborhoods
- 2 Better patterns of urban land use—radial instead of concentric?
- 3 Predictable trends in scientific and community development
- 4 The planning process; how to make it more than a static and negative means of regulating what people are going to do anyway when they get around to it

Completed or current projects:

- 5 *Perceptual form of the city*, sponsored by Rockefeller Foundation at Department of Architecture, MIT.
- 6 Housing Research Center, Cornell University:
Commuting patterns of industrial workers in the Northeast
Housing and journey to work

E Psychology, Physiology, Anthropology

- 1 Visual perception of architectural specifics of space
- 2 An approach to architectural design through exploration of anthropological factors and physiological relations

Completed or current projects:

- 3 *Social and psychological aspects of home lighting*. Housing Research Center, Cornell University
- 4 "The rise of shells" and "Psychology of shells." Articles in July '58 Architectural Forum

F Sociology

- 1 Analysis of occupancy requirements and trends as affected by rapidly changing technology
- 2 Effect of mobility on the character and role of institutions in the urban pattern
- 3 Effects of increased exercise of right of eminent domain due to increasing population and competition for land
- 4 Patterns for domestic life with extrapolation for 20 years hence
- 5 Social organization, organization theory and function of the client.

Completed or current projects:

Housing Research Center, Cornell University:

- Housing and social values*
Farm housing in the northeast
Housing and human values
Housing for the aged

G Structural Design

- 1 Use of electronic computers and other techniques for more rapidly evaluating probable behavior of structural systems
- 2 Methods of studying realities of structural behavior that go beyond the mathematics and mechanics of analysis, such as model analysis and testing
- 3 Extension of ultimate strength and limit design concepts, especially to structural forms for which unit-stress solutions are not available
- 4 Behavior of materials in complex structural shapes and under combined stresses
- 5 Redetermination of design live loads and utilization of probability theory to achieve a more rational relation between loads and strength
- 6 Sequence and relationship of certain mathematical curves to problems in structural analysis and construction of buildings

Completed or current projects:

- 7 *Development of thin-shell precast concrete roofs*, College of Architecture and Design—University of Michigan
- 8 *Research in stressed-skin structures*, School of Design, North Carolina State College
- 9 "How firm a building foundation," article in August '58 Architectural Forum, describes research at various universities on soil behavior.

H Unclassified

- 1 Transportation techniques encompassing movements of people, goods, messages and ideas; their purposes and relation to land uses
- 2 (Completed project): Institute of Engineering Research, University of California: Real Estate Research Program, *Studies of Organization of the Home Building Industry*

11 EXAMPLES OF APPLIED RESEARCH (UNCLASSIFIED)

- 1 Composite studies of units of major building types in which a number of variables are kept unchanged while one of the factors is varied
- 2 Optimum balance of physical obsolescence of building components
- 3 Design criteria for various building types, methods of determining such criteria

Completed or current projects:

- 4 *Studies of plastics in housing*. Sponsored by Monsanto Chemical Company, MIT.
- 5 *School Plant Studies*. AIA Committee on School Building & Department of Education & Research
- 6 *The Cornell Kitchen* — product design through research. Housing Research Center, Cornell University.
- 7 *A study of the thin concrete hyperbolic paraboloid roof for the Cowboy Hall of Fame Building*. Sponsored by A-E for the building, University of Michigan
- 8 *Architectural photogrammetry* for (a) historic American building survey (b) building movements. Ohio State University.

- 1 Architecture—a redefinition—Herbert H. Swinburne, AIA
- 2 The architect's role in structures research—Myle J. Holley
- 3 The behavior of the architect: process and product—Albert H. Hastorf
- 4 Architectural research from a sociological perspective—Donald L. Foley
- 5 Environmental hygiene and its meaning for architecture—M. Allen Pond
- 6 Planning and science—Burnham Kelly, AIA

- 7 Conference proceedings (first draft)
- 8 Recent projects reported in architectural magazines
- 9 Additional projects reported by Robert W. McLaughlin, FAIA
- 10 Suggestions made by deans and staffs of architectural schools—1958
- 11 Survey of the current status of architectural research at US Universities—Ezra D. Ehrenkrantz—30 January 1959
- 12 Policy statement on architectural research for the College of Architecture of the University of California—Donald Foley et al January 1959

CONFERENCE POSTSCRIPT

The program of research for architecture which is being submitted to the AIA Board at its meeting in November will reflect to a considerable degree the thinking of and suggestions made at the AIA-NSF conference. These have been reported above and in last month's issue of the *Journal*.

It must be obvious to the reader that the Institute will have to oversee a very large and expensive operation if it is to assume responsibility for the research discussed at the conference. The Committee on Research and staff must establish workable limits and provide creative leadership. In order to accomplish this, projects will be screened to determine whether they are researchable, whether they can contribute to the objectives of research and, if so, whether they can be financed and from what sources.

It is the considered opinion of the Committee on Research for Architecture that after initial AIA financing, major funds must and should come

from society as a whole, from organizations both within the building industry and in other scientific fields which are interested and concerned with environment and shelter. This is not merely a pious hope. A reasonably careful sampling of opinion among persons who are knowledgeable in the field of research and research finance has been encouraging.

The work will be organized so that we can begin on a modest scale and gain experience for a fully developed program. We must operate interdependently with our own profession and the many others whose concerns lie in the same areas.

It is with sincere appreciation that on behalf of the Institute, the Committee on Research for Architecture expresses its thanks to the participants in the AIA-NSF conference, as well as to the members of the Steering Committee who responded so generously and ably in organizing this quest for knowledge towards a better total environment.

AIA Committee on Research for Architecture
 WALTER E. CAMPBELL, FAIA, Chairman
 ALFRED S. ALSCHULER, JR.
 C. MELVIN FRANK
 HERBERT H. SWINBURNE
 KAREL YASKO

Hurricanes

Prepared by AIA Committee on Disaster Control*
 and Eugene F. Magenau, Staff Executive,
 AIA Department of Education and Research

First of a planned series of Technical Reference Guides on the following disasters:

- HURRICANES • TORNADOES • HIGH WINDS • FLOODS • SNOW AND SLEET • BLIZZARDS • HAIL • EARTHQUAKES
 CLOUDBURSTS • FIRES • FOREST FIRES • LIGHTNING • TERMITES • AVALANCHES • ENEMY ATTACK

I • Hurricane Habits and Habitats

► The word "hurricane," meaning "big wind," has been attributed to Carib Indian origin. "Hurricane" is the term for tropical cyclones in the Atlantic Ocean, Gulf of Mexico, or the Caribbean Sea, and also is used for similar storms in that part of the Pacific Ocean near Central America and Mexico. Not all tropical cyclones reach hurricane intensity—if wind speeds remain below 74 mph, they are known as "tropical storms."

The "typhoon" of the China Sea, the "baguio" of the Philippines, and the "cyclone" of the Bay of Bengal and the Indian Ocean, are names used elsewhere for the same type of storm we generally call a "hurricane."

AREAS WHERE HURRICANES FORM are over all tropical oceans except the South Atlantic. Hurricanes which affect the Gulf and Atlantic coasts of the US originate in two principal regions: southeastern portion of the North Atlantic between the Cape Verde Islands and the Antilles; or the Caribbean Sea and Gulf of Mexico.

* Committee Members:
 Ralph O. Mott, Chairman
 Jeffrey E. Aronin
 Ernest T. H. Bowen II
 Victor C. Gilbertson
 Thomas F. McDonough, FAIA

LIFE SPAN OF HURRICANES. Average life is about nine days. August hurricanes normally last the longest, around twelve days. July and November hurricanes last only about eight days.

PRINCIPAL LAND AREAS subjected to hurricanes are the coastal regions of Australia, China, Japan, the Philippines, India, the West Indies and the US. Most hurricanes follow a pattern, creating in the US a "Hurricane Belt" shown in Fig. 1. However, areas outside of this belt are not immune and complacency could be very dangerous if a non-conforming hurricane should strike.

THE STATES generally affected by tropical storms and hurricanes and the number of storm tracks passing through these states by ten year periods from 1886, are shown in Fig. 2. Rated on basis of frequency, they fall in this order:

- 1 Florida, Georgia, West Indies Islands
- 2 North & South Carolina
- 3 Louisiana, Mississippi, Alabama
- 4 Texas
- 5 Others (New England—New York, Pennsylvania, New Jersey, Virginia, Maryland, Delaware)

MONTHS WHEN HURRICANES OCCUR. Principal hurricane months are August, September, and Octo-

ber. Frequencies by months are given below for the period 1886 to 1958:

	Tropical Storms	Hurricanes
January	0	0
February	1	0
March	1	1
April	0	0
May	9	2
June	37	16
July	39	21
August	133	99
September	193	123
October	138	64
November	26	11
December	4	2
Total	581	339

AVERAGE FREQUENCY of tropical storms and hurricanes by decades is given below:

	Tropical Storms	Hurricanes
1886-1890	47	29
1891-1900	77	49
1901-1910	71	35
1911-1920	49	35
1921-1930	56	36
1931-1940	104	48
1941-1950	97	56
1951-1958	80	51
Total	581	339

For the past seventy-three years a median of four hurricanes per year have occurred. This increased to five per year in the past thirty years and in the past ten years to

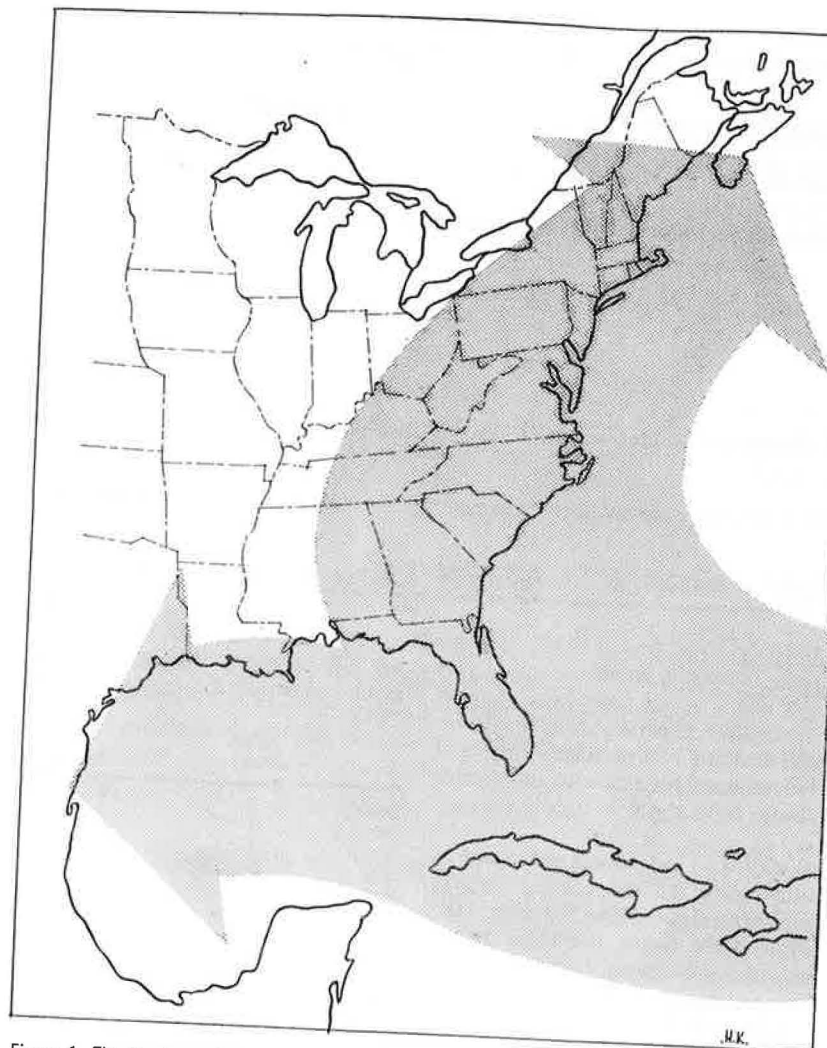


Figure 1. The Hurricane Belt

(From data supplied by the U. S. Weather Bureau)

seven hurricanes per year. Greatest number of hurricanes in any one year was eleven in 1916 and 1950. No hurricanes were observed in 1907 and 1914. In 1893 and again in 1950, four hurricanes were in progress at the same time in either the Gulf of Mexico, the Caribbean Sea, or the Atlantic Ocean.

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WIND SPEEDS of more than 150 mph have been observed at the surface in mature hurricanes. A gust of 186 mph was recorded in Milton, Massachusetts, but estimates go up to 250 mph. The strongest winds usually are felt in the northeast quadrant of the storm, where the speed of the wind rotating about the hurricane's center is additive to its general forward movement. Rotation is always counter-clockwise in the Northern Hemisphere.

FORWARD MOVEMENT of the hurricane itself is usually less than 15 mph, especially during its early life in tropical waters. When it moves northward forward speed usually increases. The famous hurricane of 1938 was clocked at 56 mph as it moved through New England, and Hurricane "Carol" of 1954 moved almost as rapidly northward after it passed Cape Hatteras, North Carolina.

DESTRUCTION AREAS IN PATH OF HURRICANES vary considerably. In a small hurricane the path may be only 25 miles wide but in some of the great hurricanes, the width of destruction may extend nearly 500 miles.

LOWEST AIR PRESSURE IN THE CENTER OF HURRICANES. The lowest barometric pressure ever recorded at a US weather station was 26.35

inches at Long Key, Florida. Often the pressure within the "eye" of a hurricane is less than 28.50 inches. Such low pressures occurring over water generate tides or storm waves.

STORM WAVES associated with hurricanes sometimes cause great coastal inundations. High water is the cause of more loss of life than high winds. More than three-fourths of all loss of life in hurricanes can be attributed to storm waves. High water ten to sixteen feet above normal tides has been recorded during some of the larger hurricanes along the Gulf and Atlantic coasts.

RAINFALL FROM HURRICANES. The record rainfall associated with a tropical cyclone in the US was at Taylor, Texas, in September 1921 when 23.11 inches of rain fell in a period of twenty-four hours. Characteristically the rain begins with showers as the hurricane approaches, changing to severe squalls, then heavy and continuous rain near the center sometimes lasting for several days as in New England after "Diane" of 1955. Very heavy rains may occur just outside the high-wind area, causing floods there as well.

THE CALM CENTER OR "EYE" OF THE HURRICANE. The "eye" or center of a mature hurricane (where calm or low surface winds prevail) averages about fourteen miles in diameter, ranging from five to forty miles. If you are in the path of the "eye" this calm interval will follow a period of strong winds in one direction, and be followed by a period of equally strong winds in the opposite direction.

CHANGING WORLD CLIMATE? The increasing number of hurricanes is not the only evidence of a long-term change in world climate. Our summers are hotter by 1° and winters cooler by 2-4°, a good start towards the 14° drop in average annual temperature that would bring on another Ice Age. Tornadoes are happening more frequently and in more places. Freak storms, floods and drought are becoming more unpredictable and violent, particularly in the East.

Several theories have been advanced to explain these weather phenomena:

- Changes in solar activity (sun-spots) have some effect on terrestrial weather.

- Volcano eruptions create a dust blanket in the atmosphere which shields out the sun's heat for extended periods thus lowering the temperature.

- Increased population and enormously expanded industrialization have pumped added amounts of CO₂ into the atmosphere at a rate of ten billion tons a year. When combined with water vapor a veil is formed over the earth which allows the sun's radiant heat to pass but partially blocks reflected heat, thus raising the temperature.

- There are two relatively stable high pressure areas or "anti-cyclones" whirling in a clockwise direction high above the Atlantic and Pacific oceans. Pushing against our shores and combining with other "favorable" conditions, they tend to generate counter-clockwise wind systems, or tropical cyclones. The "anti-cyclones" have shifted northward and inward towards the US (although no one knows why).

- The nuclear explosion theory has little scientific support but has been suggested by citizens who do not realize the order of magnitude of forces required to create weather. A hurricane expends the energy of two Hiroshima-size atomic bombs every second—in one minute this amounts to more energy than the entire US produces in electric power in fifty years.

MAN-MADE CHANGES. Microclimatology can be changed by deforestation, leveling of sand dunes at beaches, replacement of vegetation with paving. These have a double-barreled effect by destroying the protective or compensating features provided by nature.

II • Extent of Damage or Loss Due to Hurricanes

THE DAMAGE resulting from the most devastating tropical storms and hurricanes is given in columns headed "Deaths (US only)" and "Damage by Category" in Fig. 3. Notable is the fact that in the last fifteen years, the number of deaths caused by such storms has decreased compared with earlier years. From 1944 through 1958, the death rate averaged about 65 per year, and in no single year during that period has it reached the

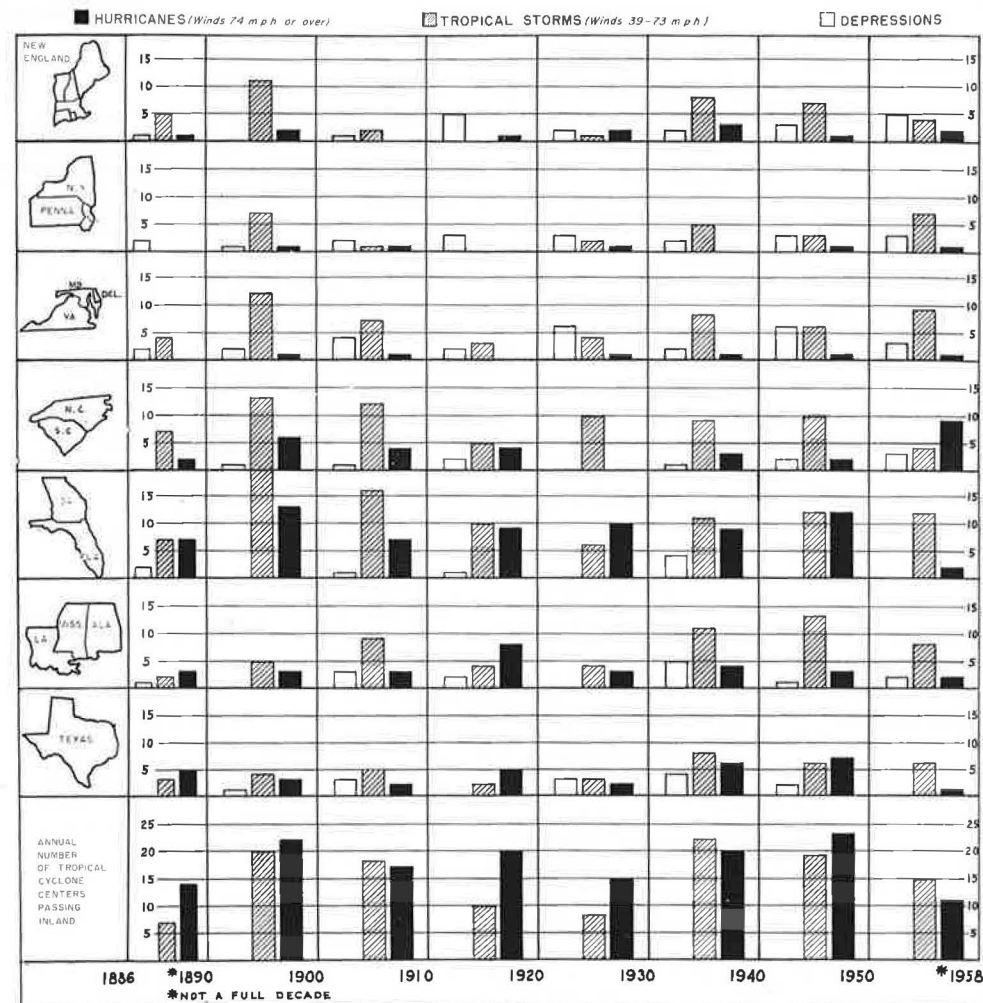


Figure 2. Tropical Cyclones affecting Gulf and Atlantic Coastal Regions 1886-1958 (From data supplied by the U. S. Weather Bureau)

single storm less of 1938 (600), 1928 (1836), 1915 (550), or 1900 (6,000). More adequate warning service can in part be credited for this development. On the other hand, property damage has tended to rise in terms of cost. This is explained by the increase in value of property lying in the paths of tropical storms. Neither trend necessarily bears any relation to fury of tropical storms. Total damage in any particular year may greatly exceed or be far less than the century average. It is particularly startling that the \$3/4-billion damage from such storms in 1954 was far more than in any preceding year of this century, yet the period from 1 January to 28 September, 1955, topped 1954 by more than \$1 billion.

Individual losses vary widely. In an insurance study of windstorm losses in Iowa which has the highest winds of any state (mostly from

tornadoes) structural damage to farm buildings ran from \$110 to \$2,443 with an average of \$286—roofing damages averaged \$25.60. Losses to manufacturing plants in the New England hurricane of 1938 averaged from \$20,000 to

Waterfront at Milford, Conn. Being battered by hurricane waves and winds which forced evacuation of 300 persons from exposed areas



\$80,000 in the various states, with the maximum loss going to \$¼ million. Today these figures would be higher because dollar values are higher. Greatest losses reported to NBFU for single storms in recent years were:

Nov. 1950 Windstorm
Northeastern US \$173,900,000
Aug. 1954 Hurricane "Carol"
NY—NE 129,700,000
Oct. 1954 Hurricane "Hazel"
SC—NY 122,050,000

Note that these figures represent insurance losses only and do not include uninsured, underinsured or deductible losses which must be added to arrive at total property damage.

DISASTER INSURANCE is thus seen to be only a partial solution. While desirable, this is still a negative approach to the problem. If your property is in a very exposed location and is lightly built, insurance companies may not insure it. Flood insurance is not available at all; the Federal Flood Insurance Act of 1956 was a pioneer effort of great merit in this field, which Congress passed but through a technicality failed to provide initial operating funds. Windstorm insurance is available in the form of "Extended Coverage" as a part of fire insurance policies and including six other hazards (hail, explosion, riot due to civil commotion, riot attending a strike, aircraft and motor vehicle damage and smoke from heating or cooking appliances). Related water damage is being excluded more and more. Rates are established on basis of loss history in each area over last three to five years for each type of construction such as frame, masonry, fire-resistant, etc., but unfortunately without regard to construction details. Ordinary properties get "class" rates dependent on above factors while mercantile and other special occupancies get "specific" rates dependent on use and contents of building. Annual premiums vary from .015 to 1.50 per \$100 of 80% of full valuation as set by owner, excluding cost of excavations, underground foundations, etc. Most rates are under .75 in high-wind states, and under .08 in the most favored areas. The first \$50 of damage is not covered by insurance.

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Figure 3. Notes on Devastating Atlantic Hurricanes of the 20th Century

Date of Storm	Areas Hardest Hit	Land Station With Highest Wind Speed*	Deaths (U. S.)	Damage Category	Remarks
1933 Aug 27-Sep 15	Texas	Galveston, Tex. 65 mph**+; peak gust 120 mph	6,000	7	Damage and loss of life caused by both wind and storm tide which inundated Galveston Island.
1909 Sep 10-24	Louisiana and Mississippi	New Orleans, La. 53 mph**	350	6	Storm center passed 50-75 miles west of New Orleans. Winds were much stronger in that area.
1915 Aug 5-24	Texas and Louisiana	Galveston, Tex. 92 mph; peak gust 120 mph	275	7	Twelve foot storm tide inundated Galveston to a depth of five to six feet.
1915 Sep 22-Oct 2	Middle Gulf Coast	Burrwood, La. 106 mph	275	7	Ninety percent of buildings destroyed over a large area south of New Orleans. Many casualties due to persons remaining in low-lying areas despite warnings.
1916 Jun 29-Jul 10	Mississippi to Florida	Mobile, Ala. 99 mph	7	6	Very destructive along the coast from Mobile to Pennsylvania.
1919 Sep 2-10	Florida, Louisiana and Texas	Sand Key, Fla. 80 mph+; peak gust 120 mph	287	7	Severe storm in both Florida and Texas. Over 500 persons lost at sea.
1926 Sep 11-22	Florida and Alabama	Miami Beach, Fla. 132 mph	243	8	Storm maintained hurricane intensity passing through south Florida into Gulf of Mexico.
1928 Sep 6-20	South Florida	Lake Okeechobee, Fla. 75 mph**+; peak gust 160 mph	1,836	7	Wind-driven waters of Lake Okeechobee overflowed into populated areas, causing most of the casualties.
1935 Aug 29-Sep 8	South Florida	Tampa, Fla. 86 mph	408	7	"Labor Day Storm"—one of the most violent on record. Barometer reading of 26.35 inches on Long Key is lowest of record in the Western Hemisphere. Peak gusts 150-200 mph in Lower Keys.
1935 Oct 30-Nov 8	South Florida	Miami, Fla. 94 mph	5	7	"Yankee Storm"—so-called because it moved in from the northeast. It was of small diameter and destructive winds covered only a narrow path.
1938 Sep 10-22	Long Island, N.Y. and Southern New England	Blue Hill, Mass. 121 mph**+; peak gust 183 mph	600	8	Very heavy damage over most of New England. Storm was moving forward at speeds up to 56 mph in this region.
1940 Aug 5-18	Georgia, South Carolina and North Carolina	Savannah, Ga. 90 mph	50	6	Heavy flooding as far inland as Tennessee from hurricane rains. Thirty deaths due to floods.
1941 Sep 16-26	Texas	Texas City, Tex. peak gust 83 mph; Several towns near storm center—peak gusts 100 mph	4	7	Very heavy damage to crops. Warnings resulted in evacuation of most exposed places, reducing casualties to low figure.
1944 Sep 9-16	North Carolina to New England	Cape Henry, Va. 134 mph; peak gust 150 mph	46	8	Heavy damage from North Carolina to New England. Heavy casualties at sea (344 deaths) related directly to wartime shipping activities.
1944 Oct 12-23	Florida	Dry Tortugas, Fla. Average 1-minute speed 120 mph	18	8	Warnings and evacuation prevented heavier casualties. Over 300 persons killed on Caribbean Islands. Heavy citrus damage in Florida.

III • Types of Damage

The force of a hurricane is such that whatever lies in its path is likely to suffer damage varying all the way from minor to total de-

struction. Loss of life statistics are given in Fig. 3. Countless injuries add to the direct effect on people. Peoples' activities are also seriously disrupted. This report is limited to a discussion of damages directly

Figure 3. (cont.) Notes on Devastating Atlantic Hurricanes of the 20th Century

Date of Storm	Areas Hardest Hit	Land Station With Highest Wind Speed*	Deaths (U. S.)	Damage Category	Remarks
1945 Aug 24-29	Texas	Corpus Christi, Tex. 67 mph**+; Several towns near storm center—peak gust 135 mph	3	7	One of the most intense Texas storms. Forward motion of storm near coast as slow as 5 mph caused long duration of strong winds.
1945 Sep 11-19	Florida, Georgia and South Carolina	Carysfort Reef Light, Fla. 138 mph	4	8	Damage very heavy in Dade County, Fla. Evacuation of exposed locations prevented heavy loss of life.
1947 Sep 4-21	Florida and Middle Gulf Coast	Hillsboro Light, Fla. 121 mph; peak gust 155 mph	51	8	Very large and intense storm. Wind and water damage on Florida east coast and in Louisiana and Mississippi.
1948 Sep 18-25	Florida	Key West, Fla. 75 mph; peak gust 150 mph	3	7	Heavy crop damage. Storm center appeared to be broken up into several distinct and separate lull areas.
1949 Aug 23-30	Florida to Carolinas	West Palm Beach, Fla. 110 mph**+; Jupiter, Fla. peak gust 153 mph	2	8	Storm center passed over Lake Okeechobee. Levees kept Lake from overflowing. Compare casualties with 1928.
1950 Oct 13-19 "KING"	Florida	Miami, Fla. average 1-minute max. speed 120 mph; peak gust 125 mph	4	7	A small but violent storm which passed directly over Miami, then up the whole Florida peninsula.
1954 Aug 25-31 "CAROL"	North Carolina to Maine	Block Island, R.I. 120 mph; peak gust 135 mph	60	8	Property losses greatest in any single storm up to this date. Extremely high tides flooded many low-lying areas in New England.
1954 Sep 2-14 "EDNA"	New Jersey to Maine	Block Island, R.I. 87 mph; Massachusetts Bay, Mass. peak gust 135 mph	21	7	New England again heavily hit.
1954 Oct 5-18 "HAZEL"	South Carolina to New York	New York, N.Y. 113 mph; Wilmington, N.C. 82 mph; sev. N.C. towns peak gusts 130-150 mph	95	8	Heavy damage in exposed North Carolina areas due to wave action. Storm retained intensity through middle Atlantic states.
1955 Aug 3-14 "CONNIE"	North Carolina	Ft. Macon, N.C. 75 mph; peak gust 100 mph	25	7	Heavy rains fell from North Carolina to New England, varying from 6 inches at many stations to over 12 inches at La Guardia Field, N.Y. This rain saturated the ground and filled the streams.
1955 Aug 7-21 "DIANE"	North Carolina to Massachusetts	New York, N.Y. 59 mph; Wilmington, N.C. peak gust 83 mph	184	9	Rainfall from this storm just a few days after "Connie" caused general floods over the entire northeast U.S. Damage attributed to this storm exceeds any prior storm of record.
1955 Sep 10-23 "IONE"	North Carolina	Cherry Point, N.C. 75 mph**+; peak gust 107 mph	7	7	This was the third hurricane in eastern North Carolina within five weeks and the fourth within eleven months.
1956 Sep 21-30 "FLOSSY"	Louisiana to Florida	Burrwood, La. 88 mph**+ peak gust 110 mph	15	7	Damage occurred along the Gulf coast from New Orleans to western Florida.
1957 Jun 25-28 "AUDREY"	Texas to Alabama	Sabine Pass, Tex. 85 mph; Lake Charles, La. peak gust 105 mph	390	8	Storm tide over 12 feet above normal caused inundation as far as 25 miles inland along La. coast. Hundreds of homes destroyed. Heavy surf and wind damage to off-shore oil industry.

*Fastest one mile unless otherwise noted.

+Wind measuring equipment disabled at speed indicated.

+This is a new form of presentation of storm damage estimates. The Weather Bureau has for some time recognized the fact that without detailed expert appraisal of damage all figures published are merely approximations to fact. Since errors in dollar estimates vary in proportion to the total damage, storms are placed in categories varying from 1 to 9 as follows:

1 Less than \$50	4 \$5,000 to \$50,000	7 \$5,000,000 to \$50,000,000
2 \$50 to \$500	5 \$50,000 to \$500,000	8 \$50,000,000 to \$500,000,000
3 \$500 to \$5,000	6 \$500,000 to \$5,000,000	9 \$500,000,000 to \$5,000,000,000

**Average five-minute maximum speed.

affecting the architect — namely, damages to buildings and groups of buildings.

1 WIND: Damage due to direct action of the wind may include the following:

- window panes broken or entire sash blown out
- roofs blown off, partially or entirely—this is caused by suction or negative pressure on the upper side of flat or low-sloped roofs or lee side of steep roofs, and may be aggravated by pressure building up through broken windows, or by overhanging eaves under which the wind can apply a prying action
- walls in upper stories caving in or out if stiffening or bracing members of roof structure are blown off
- roofing, shingles or tiles blown off
- steeples, pent-houses, skylights or other roof structures damaged or demolished
- electric power, telephone, water and sewer service lost, usually because outside lines are broken
- sprinkler pipes broken, not only losing fire protection but possibly water-soaking both building and contents
- injury to buildings (and people) by sheet metal roofs, roofing gravel or other flying debris blown from neighboring buildings
- complete demolition of structurally weak buildings whether of wood frame, masonry or any other material
- entire building lifted off its foundation or overturned
- damage to all kinds of building accessories, which are especially vulnerable due to their isolation, elevation or lighter construction than main buildings: signs, chimneys, metal stacks, fences, sheds, water tanks, TV antennas, telephone poles, etc.

2 WIND-DRIVEN RAIN: In addition to water damage from leaking

79



Beach property damaged and foundation completely undermined by battering wave wash (Long Island, N. Y.)

roofs and broken windows, the force of rains driven by high winds often is sufficient to penetrate joints around normally weather-tight openings and even solid walls.

- flash floods may exceed the capacity of drainage systems, especially if drains are clogged by leaves or other debris

- rapid erosion and penetration of soft ground may cause a landslide

3 FLOODS: The torrential rains which accompany hurricanes frequently cause floods resulting in far greater destruction than the wind itself.

- Besides the physical damage to foundations and structures and their contents due to direct action of rising water, the impact of floating objects may be very destructive. More important is the wide disruption of normal supply and waste disposal services (including septic tanks in rural areas), constituting a serious health and even survival hazard.

- Flood damage will be discussed at greater length in a later report on "Floods."

4 STORM TIDES: When a hurricane center hits the coast a storm tide also hits. Striking with almost irresistible force it may:

- wash away whole beaches and any buildings erected there
- damage or destroy natural or man-made dunes and dikes

- undermine foundations, toppling structures into the water
- damage or destroy marine structures and buildings, shipping, fishing, beach resorts, etc, by battering with waves, loose boats and debris
- overflow dunes or dikes and flood the mainland

It is important for owners and mortgagors as well as architects to gain a better understanding of hurricane characteristics so that everyone will insist on proper measures to minimize damaging effects.

IV • Existing Code Provisions

There are four major codes in general use throughout the US:

- *National Building Code* of National Board of Fire Underwriters.
- *Southern Standard Building Code* of Southern Building Code Congress
- *Uniform Building Code* of International Conference of Building Officials (formerly Pacific Coast Building Officials Conference)
- *Basic Building Code* of Building Officials Congress of America, Inc.

Only the first two of these contain adequate provisions for effective resistance to lateral wind forces anticipated in various parts of the country from hurricanes (but not tornadoes). The NBFU Code is

somewhat more empirical than SSBC; both conform with "American Standard Building Code Requirements for Minimum Design Loads in Buildings & Other Structures" (Reference 6 at end of report). The map, Fig. 4, shows minimum permissible design pressures acting either inwards or outwards, as computed from Weather Bureau records, for buildings from 30 to 49 ft above average level of adjacent ground. Allowance must be made for wind blowing from any direction. Design pressure varies with height as follows:

height zone (feet)	wind-pressure-map areas (lb per sq ft)					
	20	25	30	35	40	45 50
30 to 49	20	25	30	35	40	45 50
Less than 30	15	20	25	30	35	40
50 to 99	25	30	40	45	50	55 60
100 to 499	30	40	45	55	60	70 75
500 to 1199	35	45	55	60	70	80 90
1200 and over	40	50	60	70	80	90 100

There are special provisions for steep roofs, eaves and cornices, anchorage, chimneys, tanks, towers, signs, shielding and unusual exposures, overturning and sliding, and stresses during erection.

Minimum Property Standards of FHA include provisions for sill and plate anchorage, with wide regional variations in some cases subject to discretion of regional office. However anchorages are not spelled out for areas subject to very high wind.

Standard codes are often amended locally, as is proper, to incorporate special additional requirements for hurricane resistance. But they are sometimes amended by removing their teeth to satisfy short-sighted or special-interest groups. Other typical code weaknesses:

- no requirements for qualifications of building inspector
- jurisdiction stops at city limits—even where enabling statutes permit their extension to whole counties or states
- enforcement inadequate or entirely lacking—as where there is a code but no building department
- hurricane winds and waters do not respect geographical boundaries.

A recent study of building codes in Florida showed that all large municipalities and some with population as small as 1600 had codes. Dade County which includes Miami is one of the few exceptions where coverage extends to all in-

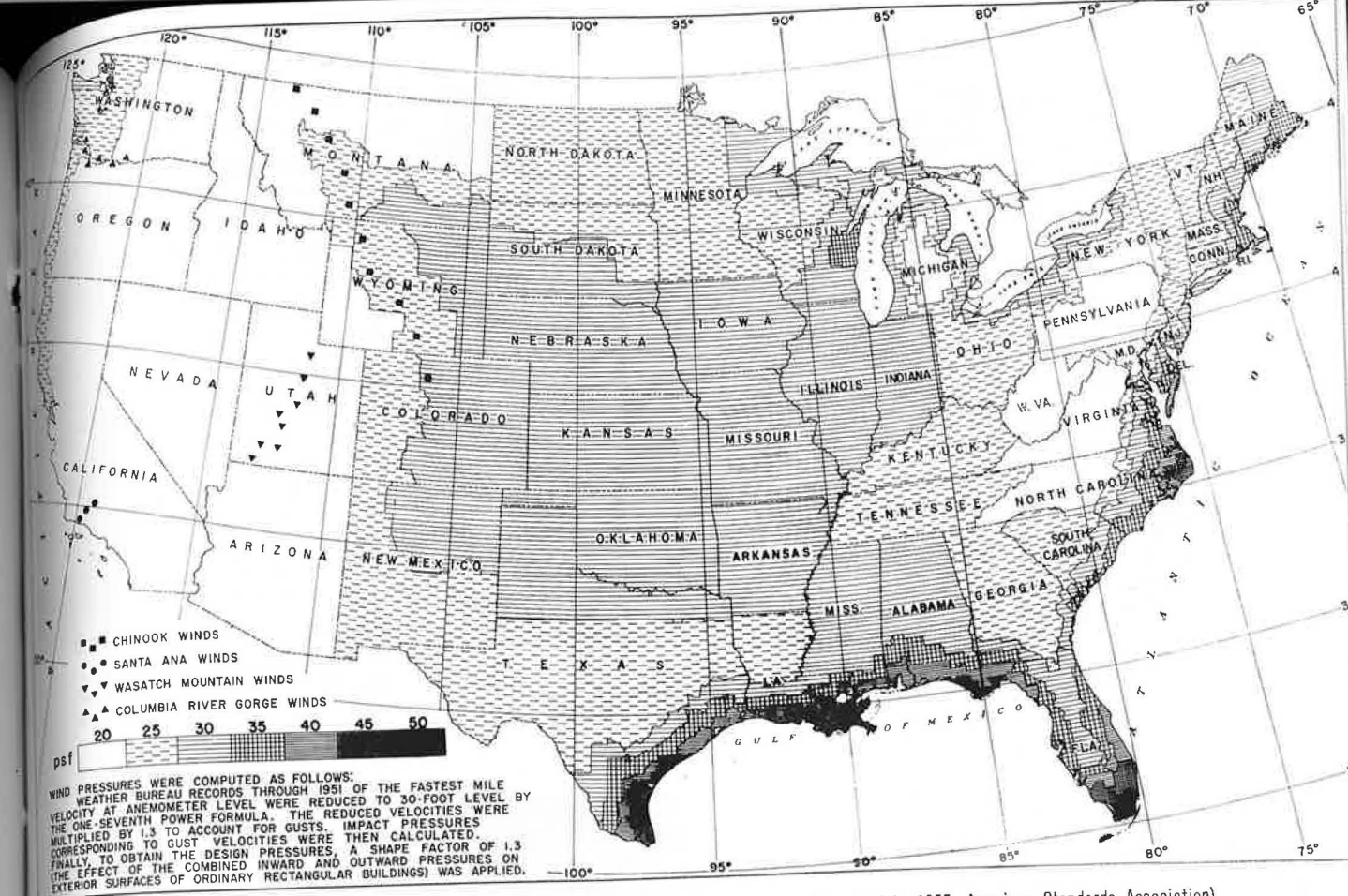


Figure 4. Minimum Allowable Resultant Wind Pressures (From A58.1—1955, American Standards Association)

corporated areas in the county, hurricane-resistant requirements are included, and they are strictly enforced.

V • Customary Construction Practices

Except in cases of architect-and-engineer-designed construction or where building code requirements exist coupled with adequate code enforcement, little or no regard is given to construction to resist hurricane forces. One or more of the following factors puts much construction in a questionable classification relative to hurricane resistance:

1 Economic pressure by merchant builders who lean to visible selling and eye-appeal rather than investment in "invisible things which the purchaser cannot see or appreciate".

2 Marginal prefabricated farm and industrial buildings are sold and erected due to price competition and lack of code—although properly designed structures are available.

3 In non-code-controlled areas a prospective owner is often unwittingly sold on construction whose quality or adequacy of design he is not capable of determining. Although statistics are lacking, there is evidence that in some places as much as 90% of the work is constructed without the use of professional services.

4 Lack of knowledge of construction principles on the part of some general contractors, particularly in the jackleg classification, where the locality is not under code and where professional services are not employed.

Although hurricane-resistant framing devices such as clips, braces and ties are commercially available, in the Tampa, Florida area for example their use is actually decreasing, probably due to complacency and economic pressure.

There is increasing use of open structures such as carports, and long-span roofs in light industrial and residential work where inadequate anchorage is provided against uplift. Other current trends which call for special structural analysis,

proper anchorage and moisture-proof construction are:

- large expanses of glass
- panelized or curtain-wall assemblies
- light-weight aggregates in masonry units and poured concrete
- wide overhangs
- reduced weight of entire structure
- slab-on-ground construction

VI • Conclusions & Recommendations

The Committee on Disaster Control is considering a supplementary report to contain construction details of good hurricane protection practice and would welcome submissions from readers having experience in this field.

1 BASIC PRINCIPLES OF GOOD CONSTRUCTION PRACTICE

- *Good Siting* takes advantage of microclimatology (see Regional Climate Analyses and Design Data,



Built-up beach area before . . .

. . . and after being struck by a tidal wave and hurricane (Massachusetts)



Ref. 3). Stay away from waterfront and low inland areas or if unavoidable, design to withstand highest likely water-level and wind. Retain or develop vegetation, trees and other natural protective features.

- *Architectural Planning* reduces vulnerability to hurricanes by adapting layout and materials to prevailing or probable local conditions.

Even well constructed buildings of highest cost materials may become a total loss if design is unsuitable.

- *Structural Analysis* should replace adherence to fixed minimum standards or rule-of-thumb solutions. Complete reliance cannot be placed on codes which are frequently too specific and therefore adequate for only average conditions, or too general, merely pro-

viding for example that anchorage shall be "adequate".

- *Competent Supervision of Construction* helps ensure use of sound materials and good workmanship.
- *Emergency or stand-by utilities, storage facilities and supplies* should be available.
- *Awareness* should replace the almost complete indifference to hurricane protection that exists in areas not recently subjected to hurricanes.

2 IMPROVEMENTS TO EXISTING STRUCTURES

One or more of the following measures may go far towards reducing vulnerability and damage in event of a hurricane:

- provide storm shutters and strong fastening devices
- provide temporary hurricane braces or tie-downs for installation during storm warning period
- strengthen anchorage of TV antennas and other appendages
- add structural bracing and anchors if roof and wall framing is accessible or when undertaking major alterations or renovations
- keep joints properly pointed or caulked
- keep trees pruned around house. Remove branches that may sway against roof or windows
- prepare floor plans of larger buildings such as hospitals, showing area designations, route charts, bed expansion, etc, for planned emergency program.

3 DESIGN CRITERIA FOR NEW CONSTRUCTION

Structural criteria for hurricane-resistant construction vary widely for different localities, building shapes, heights, elevations, etc, and cannot be enumerated here. Authoritative local standards and data may be obtained from offices of the US Weather Bureau, US Department of Agriculture, and often from local building officials. Travelers Insurance Company of Hartford has one of the best private weather bureaus. Other authoritative sources are the following:

- *Wind Pressures*: "Wind Pressures in Various Areas of the US" (Ref. 18)
- *Wind Loads, Hydrostatic Pressures and General Structural Re-*



One of several homes in El Sobrante, Calif. wrecked by earthslides from heavy, drifting rains typical of hurricanes

Wide World Photos



Hurricane "Audrey" left this large boat high and dry on a highway in Cameron, La., in the midst of shattered homes

Wide World Photos

quirements: "Minimum Design Loads in Buildings and Other Structures" (Ref. 6)

- *Anchorage*: "Anchorage of Exterior Frame Walls to Various Types of Foundations" (Ref. 15). "Preventing Storm Wind Damage to Farm Buildings" (Ref. 21). "Handbook of Industrial Loss Preventions" (Ref. 28)
- *In General*: Electric power and telephone lines underground (in streets and subdivisions as well as private property). Storm drainage system adequate for peak load. Buried tanks anchored and floor slabs reinforced against uplift with water at maximum height. Pier or pile foundations preferred over continuous walls where exposure to wave action is possible. Use heavy weight or rigid roofing materials.

4 RECOMMENDED CODE PROVISIONS

Chaos would exist in modern cities and towns without the minimum standards established by locally adopted building codes. But lack of uniformity and other built-in defects of our antiquated codes cause immeasurable waste, plus endless frustration on the part of architects, builders and officials who have to cope with them. Major elements of necessary code reform are:

- replace "specification type" with "performance type" codes. This would permit desired results to be achieved without limitation to specific materials and methods.
 - encourage legislation making a model code available in every community and encourage communities to adopt it, as 34 cities, 96 towns and 162 villages have done with Model Code of the State of New York.
 - the perfect code has not yet been written but uniformity is possible with performance type codes. Every effort should be made in this direction. Local amendments should be encouraged where model code standards are too lenient or too severe.
 - adequate codes must be coupled with adequate enforcement to be effective
- Lending agencies as holders of the purse strings could exert great influence in seeing that proper standards are met. A few of them do and others should be encouraged to provide inspection ensuring code compliance, particularly in non-code areas or where professional services are not employed.

5 RECOMMENDED PROCEDURES AT TIME OF DISASTER

American Red Cross, Salvation Army, National Safety Council, US Weather Bureau, NBFU, and

casualty insurance companies are among the organizations that issue publications and have well-organized programs for keeping alive and healthy during a disaster. This report will confine itself to considerations directly concerned with buildings.

- Get into a house or other building that is out of danger of waves or high water, is well anchored to its foundation and has a strongly secured roof
- Install storm shutters or board up windows on sides exposed to most violent winds. Securely fasten garage doors. Do this well before the storm as these things are hard to handle in a high wind. Insecure shutters may blow loose, do more damage than none at all.
- One or more small windows on lee side may be opened but if wind or flying objects create openings in windward side, additional vents should quickly be opened on lee side to prevent build-up of internal pressure which could lift roof or blow out walls.
- Apply adhesive tape to any unprotected glass areas. This may not prevent breakage but will prevent dangerous shattering.
- Securely fasten or bring indoors any loose objects that might be blown around causing damage by impact—garbage pail, porch furni-



Roof and brick veneer inadequately anchored (Georgia)

ture, toys, etc. Movable awnings should be raised and securely tied or removed entirely.

- Install hurricane braces in lightly constructed sheds, carports, etc.

- Check emergency sanitary and cooking facilities. Double check any heat appliance not recently in use, for fire safety. Fill bathtub and all available containers with fresh water. Check food supplies, candles, flashlights. A bucket of sand may be used to absorb spilled fuel or smother a small oil fire—fire extinguisher is preferable provided it is proper type for flammable liquids and you know how to use it.

- If "eye" of storm passes directly over, there may be a lull lasting from several minutes to a half hour or more. Stay in a safe place or make emergency repairs if necessary but be prepared for returning high wind blowing in opposite direction.

- Keep radio or TV tuned to Weather Bureau advisories. Use car radio if electric power fails.

6 RECOMMENDATIONS TO ARCHITECTS FOLLOWING DISASTER

Like other citizens, the architect should cooperate with but not hinder organized relief agencies, and take every precaution against safety and health hazards. In addition, he should join the fight against unnecessary destruction, injury and loss of life, incidentally improving his own qualifications, by:

- investigating, photographing and reporting to AIA examples of damaged structures, construction details, site planning, etc.—both successes and failures.

- offering collectively with other architects in disaster area, recommendations to public officials and the public for replanning and rebuilding.

- encourage insurance companies, Red Cross and other restoration agencies to restore damaged structures in a better manner than they were before, or to permit their

abandonment if in a marginal location.

7 ADDITIONAL RESEARCH NEEDED

- The Weather Bureau has made great strides but continued meteorological research is needed to further improve weather forecasting and warning services, weather control and air pollution control.

- Research on new building products and assemblies for exterior use should include performance testing under hurricane conditions.

- Methods of unifying, modernizing, extending enforcement and geographical coverage of building codes are urgently needed.

- Our rapid urban growth and spreading population make it imperative to find better ways to utilize the land or prevent its wrong use. One aspect especially needing study is the legal organization of supra-county or supra-state bodies to deal with this problem.

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* Asterisk indicates material used for this article hereby gratefully acknowledged.

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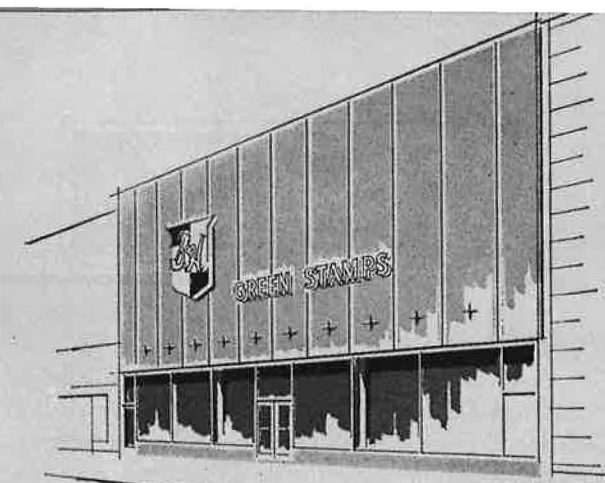
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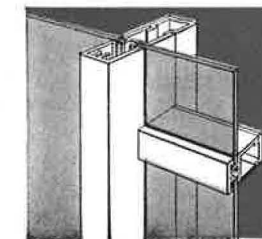
ARCHITECT: SAGGUS, WILLIAMSON, VAUGHT & SPIKER, ATLANTA; GLAZING CONTRACTOR: A.C.D. GLASS & MIRROR CO., INC., ATLANTA



ARCHITECT: DAHME & ASSOCIATES, STORE DESIGNERS, COMSTOCK PARK, MICH. DAVID S. POST, A.I.A., ASSOCIATE ARCHITECT

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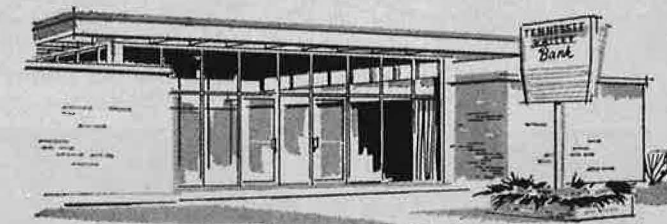
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ARCHITECT: MASTIN & SUMMER, ATLANTA; GLAZING CONTRACTOR: PITTSBURGH PLATE GLASS CO., ATLANTA

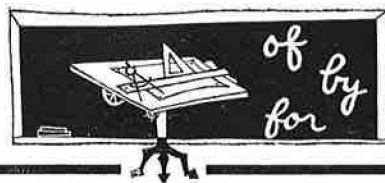


ARCHITECT: PAINTER, WEEKS & McCARTY, KNOXVILLE; GLAZING CONTRACTOR: PITTSBURGH PLATE GLASS CO., KNOXVILLE

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S T U D E N T S

Spanish Students Visit the Institute

► A special program for twenty visiting Spanish architectural students, graduates of the University of Barcelona, was held recently at the Octagon.

The program opened with preliminary remarks in Spanish, by Marvin Mayeux, Administrative Assistant of the Institute. The first address was by Joseph Watterson, AIA, Editor of the *Journal*, who welcomed the visiting students on behalf of the Institute.

Clinton H. Cowgill, FAIA, gave an interesting talk on "Architectural Practice" which was followed by the film, "Architecture—USA."

Following a brief intermission, Osborne T. Boyd, Chief of the Housing Division, International Cooperation Administration, addressed the group in Spanish on the subject of community housing, and showed a film, also in Spanish, appropriate to the subject. Mr. Boyd then conducted a question and answer session in which the students enthusiastically participated. The program concluded with a tour of the Octagon and a buffet luncheon.

Among the invited guests were: Dr. Paul A. Goettelman, AIA, Associate Professor of Architecture, Catholic University; Howard Mackey, AIA, Head of the Architectural Department at Howard University; Leon Brown, AIA, Head of the Department of Design at Howard University; Mrs. Louis G. Mandez, Chairman for International Relations, Richmond Diocesan Council of Catholic Women; Robert Murphy of the National Catholic Welfare Conference; and Thomas H. Locraft, FAIA, Head of the Architectural Department of Catholic University.

Reviewing a booklet on American architecture in the drawing room of The Octagon are (seated l to r) Professor Juan Montero Pasos; Mrs. Luis G. Mendez, Jr.; (standing l to r) Manuel Torres Minguez and Manuel Sanchez Arroyo.



As an indication of appreciation for the hospitality extended by the Institute, the group presented two handsome volumes of the works of Antonio Gaudi, which will become a part of the Institute collection. ◀

The Fifth Annual Student Forum

► On November 23-25, the Institute will again welcome students from many of the architectural schools in the nation to the Fifth Annual Student Forum.

By discussing the objectives of the AIA with practitioners, deans, staff members and fellow students, with first-hand inspection of the AIA headquarters, each representative will return to his school prepared to answer many of the questions about his profession which normally arise during his academic training.

The aim, on the part of the Institute, is not entirely unselfish, for by helping the students, the AIA strengthens itself. In doing so it places the profession in a stronger position to discharge its ever-increasing obligation to society.

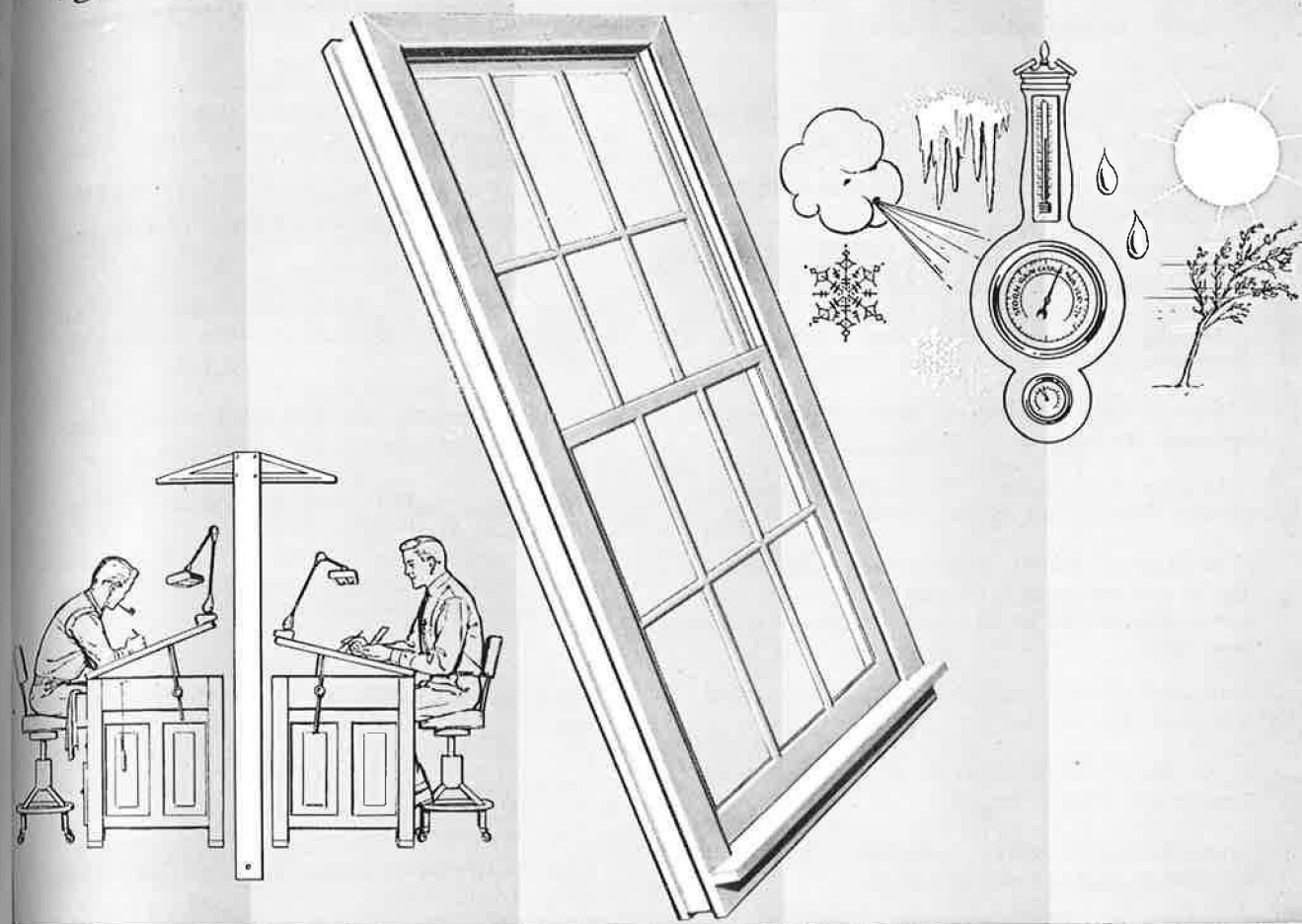
The Institute pays the principal transportation expenses of only one representative from each school. However, in past years many additional students have attended on their own initiative. Last year, due to a problem of logistics, a strict limitation was imposed allowing only one student representative from each school to attend the Forum. This year the Institute is pleased to announce that arrangements have been made to permit the attendance of a limited number of additional students.

As this issue goes to press there are only a few short weeks left in which to make final preparations. We have heard from most schools, but we wish to remind those schools who have not sent in the name of their delegate to do so as soon as possible. It will also assist in final planning to know the number of additional students representing each school. ◀

British Architectural Student Seeks Kindred Soul

► Peter W. Mortimer Bruton, a third-year architectural student in England, is interested in corresponding with someone in the United States. His letter says that he is interested in exchanging ideas with a "Westcoaster having a progressive outlook." Of most interest are the subjects of design and construction methods. Peter's address is: Shilliams Cottage, Thrupp Lane, Stroud, Gloucestershire, England. ◀

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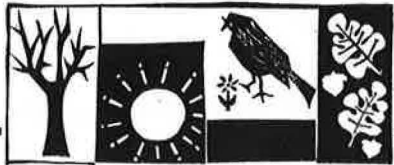
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C A L E N D A R

October 2-3: New England Regional Meeting, Newport, R. I.

October 7-9: Central States Regional Conference, Des Moines, Iowa.

October 8-12: California Council Convention, Hawaiian Village Hotel, Honolulu, Hawaii.

October 8-10: New York State Association of Architects, Whiteface Inn, Lake Placid, New York.

October 8-10: Northwest Regional Conference, Spokane, Washington.

October 8-10: Western Mountain Regional Conference, Western Skies Motel, Albuquerque, N. M.

October 13: Fourth Annual Architects' Tour of Japan. For information contact Kenneth M. Nishimoto, AIA, at 263 South Los Robles Avenue, Pasadena, Calif.

October 14-16: Architects Society of Ohio, Sheraton Hotel, Akron, Ohio.

October 14-16: Texas Society of Architects Annual Convention, Austin, Texas.

October 20-30: Annual Convention, Architectural Institute of Japan, Kyoto and Osaka.

October 23-24: 14th Annual Meeting and Forum, Pennsylvania Society of Architects, Galen Hall Hotel, Wernersville, Pennsylvania.

NECROLOGY

According to notices received at The Octagon between July 31, 1959 and August 21, 1959

90

- HUNT, LEIGH, FAIA, Milwaukee, Wis.
- LEEKES, STANLEY, Dumont, N. J.
- SIMMS, JAMES CLYDE, Honolulu, Hawaii
- TUCKER, GEORGE L., Chicago, Ill.
- WINSTON, JOSEPH, New York, N. Y.

Honorary Fellows

- CHRISTOPHERSEN, S., Buenos Aires, Argentina
- FITTE, RAUL J., Buenos Aires, Argentina

November 1-7: Fifth annual convention of Prestressed Concrete Institute, Deauville Hotel, Miami Beach, Florida.

November 9-13: Meeting of Board of Directors, Portland, Oregon.

November 12-14: Florida Association of Architects, and Florida Regional Meeting, Jacksonville, Fla.

November 16-19: BRI Fall Conferences, Shoreham Hotel, Washington, D.C.

November 23-25: Fifth Annual Student Forum, The Octagon, Washington, D. C.

January 25-29: Meeting of Board of Directors, The Octagon, Washington, D.C.

January 28-30: Forty-sixth Annual Meeting of the North Carolina Chapter, Sir Walter Hotel, Raleigh, N.C.

April 11-12: Inter-Society Color Council, 29th Annual Meeting, Philadelphia, Pa.

May 12-14: South Atlantic Regional Conference, Winston-Salem, North Carolina.

May 28-June 3: Twenty-fifth World Planning and Housing Conference, San Juan, Puerto Rico.

Financial Aid for Student Architects

► A financial aid plan for student architects and schools of architecture has been announced by the Barrett Division of Allied Chemical Corporation. Participating in the new program during the academic year 1959-60 are the Universities of Cincinnati, Florida, Pennsylvania, Syracuse and Washington.

The plan provides an annual allocation of \$1,000 to each university's school of architecture. Of this amount, \$650 will be given to one or more students, the remaining \$350 will be available for the school's architectural program.

Eligible for grants are third, fourth, and fifth year students who meet the financial need and academic requirements of the scholarship committee of their institution. ◀

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Flush Partitions 48" and under — 22 gauge	Floor Fastenings — 5/32" x 1" heavy zinc plated steel
Panel Partitions of over 48" — 16 gauge	Cast Brackets — Zamac, extra heavy die cast
Panel Partitions 48" and under — 18 gauge	Steel Brackets — 1/8" minimum thickness
Stiles (with headrail) — 20 gauge	Shoes — .031" Stainless Steel, full 3" high, hemmed top and bottom
Stiles (without headrail) — 16 gauge	
Doors — 22 gauge	
Headrail — 1 1/2" x 1 3/4" 20 gauge lockseam tubing	

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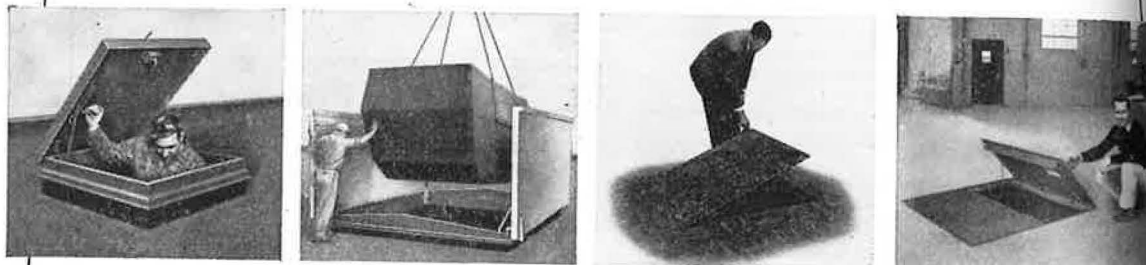
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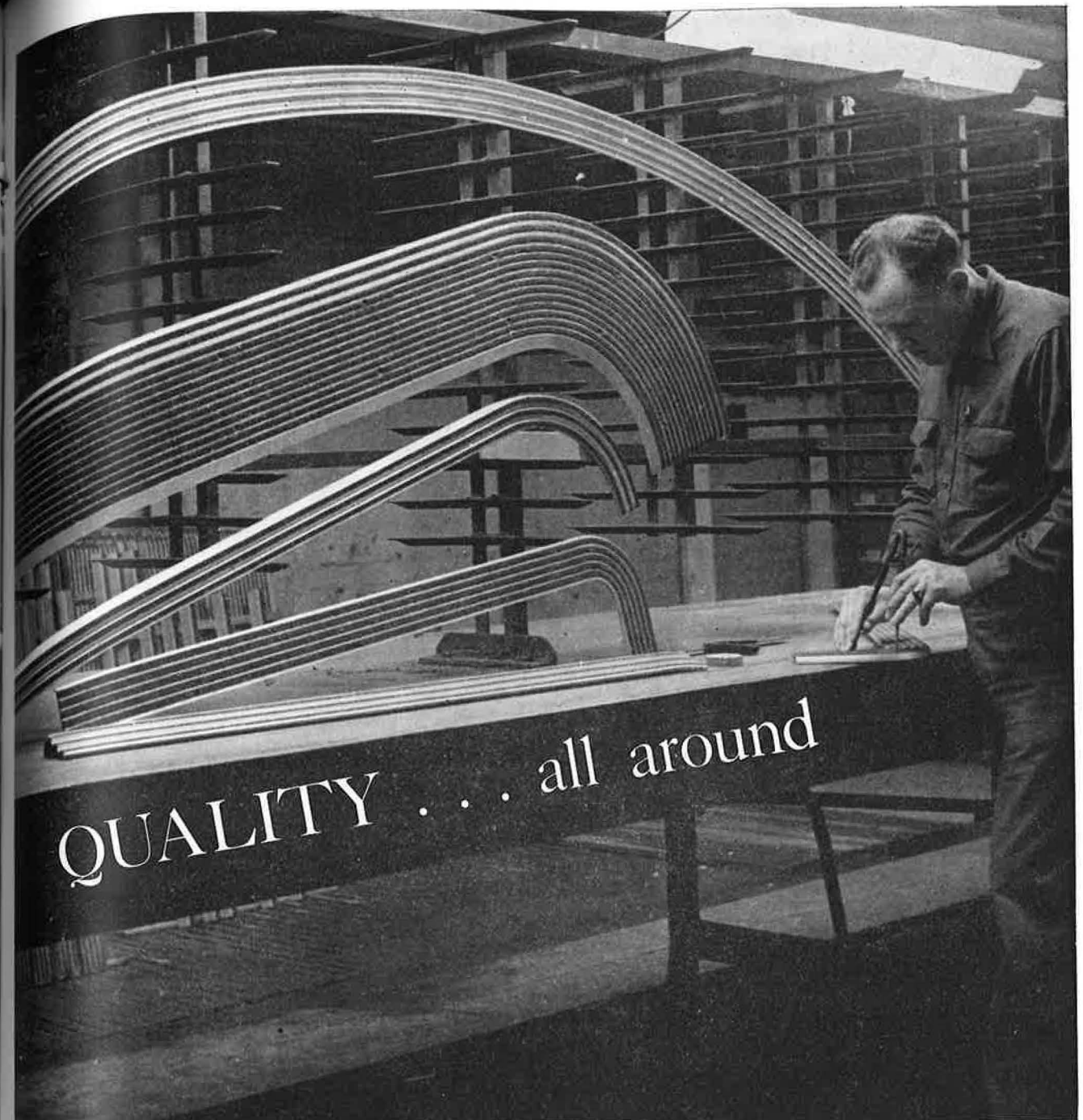
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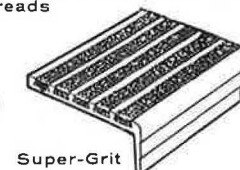
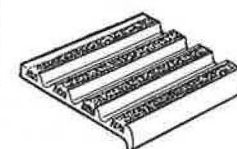


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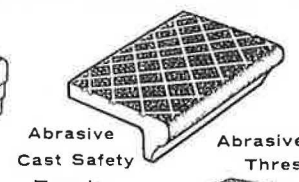
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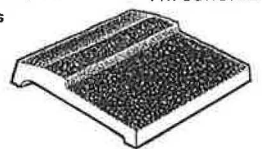
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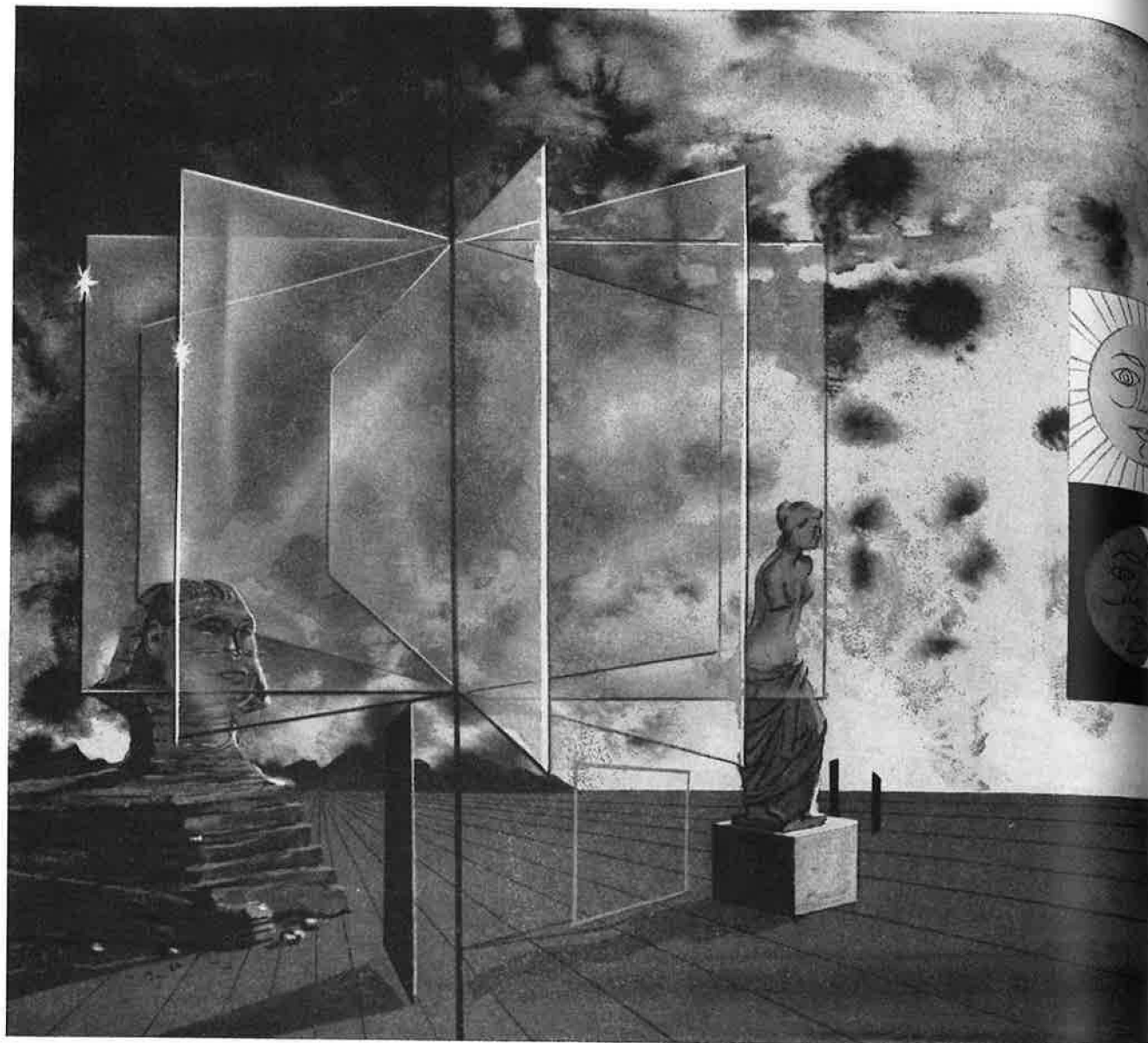
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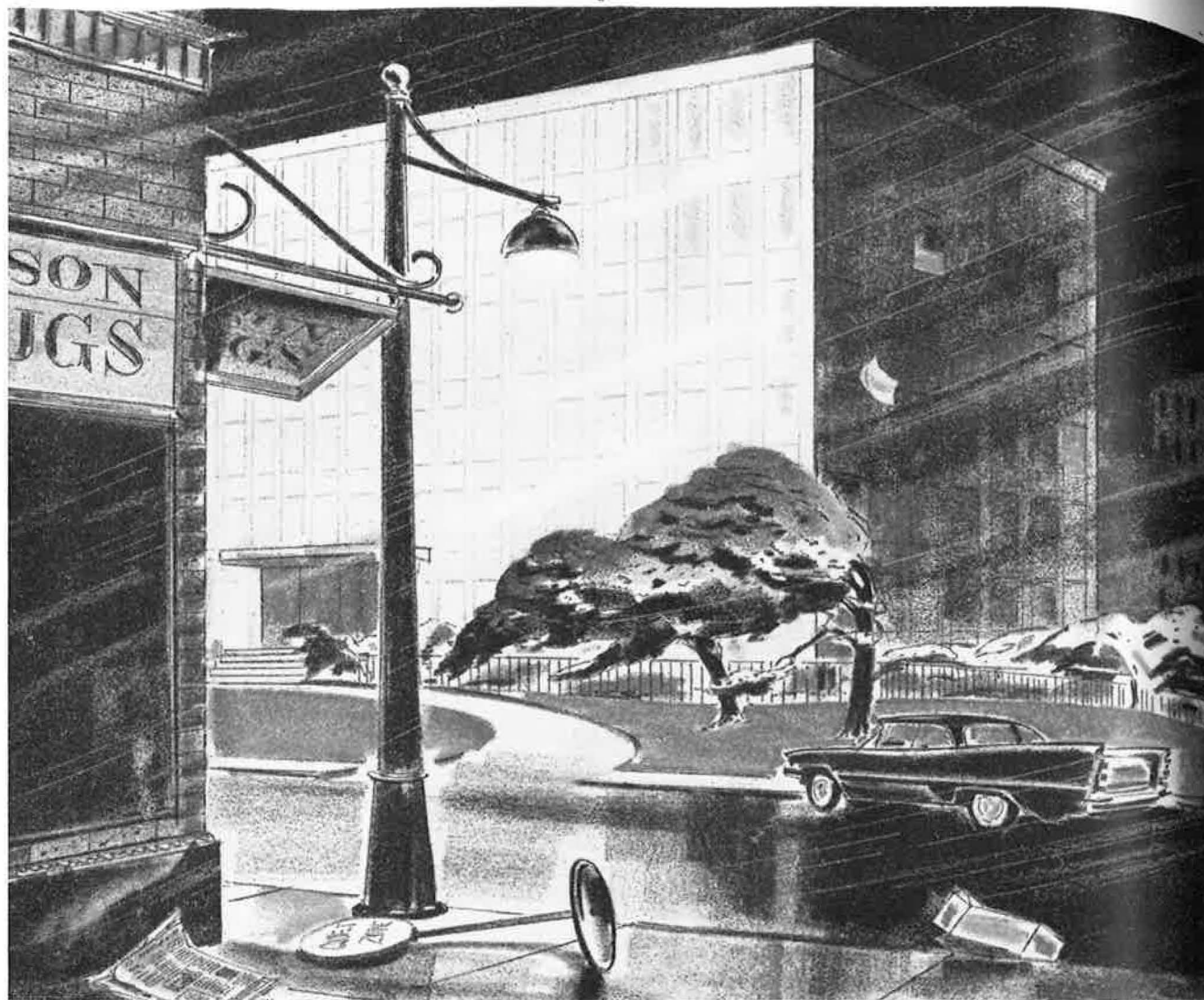
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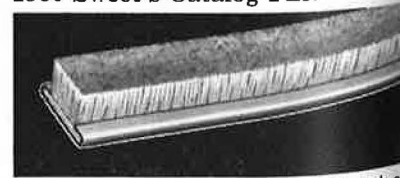
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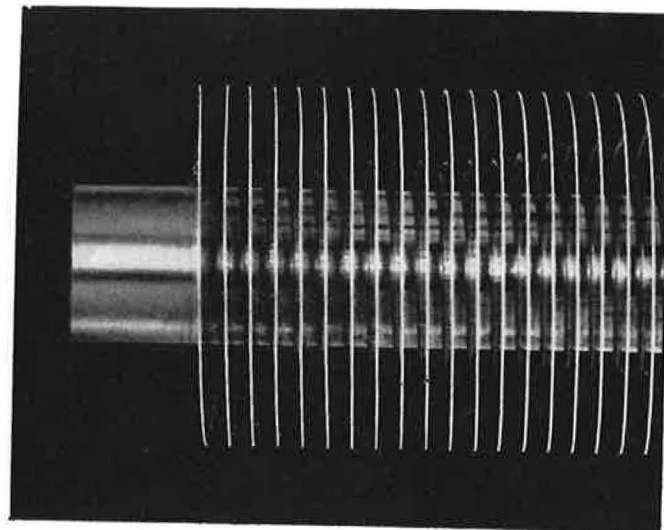


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Burlington Industries Office Building
Greensboro, North Carolina

Moraine Meadows School
Dayton, Ohio

Lexington School
Oklahoma City, Oklahoma

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Armstrong ACOUSTICAL CEILINGS

AIA's New Typography

► A year or so ago we began to apply some professional typographic design standards to the Institute's publications. The job began with the "Handbook of Architectural Practice" which also includes most of the AIA contract and other documents. By now practically all printed matter which comes out of the Octagon has a deliberate "family resemblance," including, since the July issue, the *Journal*.

We achieve this family resemblance of AIA typography by sticking basically to the same type, the type you are now reading—Times Roman. It is not only the most recent addition to contemporary body types, but also, unquestionably, the most highly legible, distinctive and beautiful.

Times Roman was designed just a few years ago by the British typographer Stanley Morison for use in the London *Times* which has since become a pure delight to read and to behold. I am told that more than 11,000 drawings were made, tested, and analyzed by optometrists and ophthalmologists (doctors dealing with the anatomy, functions, and diseases of the eye), before the final design was selected. This design might be called "classic," in fact its capitals closely resemble the Roman letters on the Trajan column.

The basic forms and shapes of these letters are, however, not constructed with T-square and compass, like most so-called modern typefaces, but go back to the calligraphic letters which were organically written with a broad pen which automatically creates the serifs and transitions from thick to thin. Morison achieved his feat of packing more, larger, and more readable letters into a line of type of comparable size by making the body of his lower-case letters proportionately larger in relation to the ascenders and capitals and by slightly condensing them.

Being somewhat purist in our tastes, we use the same type for headlines and display. This, we feel, gives our documents a quiet dignity and distinction we could never achieve by using either bolder or contrasting type.

A studied variation of upper and lower case, capital, small caps and Italic letters and a rhythmic and well balanced arrangement provide the interest. We occasionally use a different letter to accent the basic harmony of our type page.

While we stick to this basic "vocabulary," as architects call it, in the *Journal's* typography, we enhance the rather severe Mies-ian beauty of Times Roman with a touch of Ed Stone-ian baroque—the Italic in which the words "AIA's New Typography" above are set. It is called "Bulmer" Italic and is a replica of a famous type cut by one William Martin about 1790 for William Bulmer of the Shakespeare Press. With its swash capitals and its sharp contrast between thick and thin lines, this type is reminiscent of the quill penmanship of the baroque period which has never again been equalled.

Our permanent headings, such as "Allied Arts" above, are treated like trade-marks on the theory that you recognize rather than read them. We have set them in an almost silly circus poster type called Egyptian and adorned them with spot drawings to brighten otherwise utterly dull type pages like this one. The drawings are by a very young and, we think, very talented girl who just walked into our office one day, recently, looking for work. Judy Plotner also designed last month's cover from a picture postcard Henry Churchill sent us to illustrate his article.

The cover, of course, must recommend the *Journal* to you. It determines whether you open the book or file it away. Yet, fortunately, it need not compete with other magazines on the newsstand, so we don't have to scream for your attention. Our solution is to let our expensive, coated white cover paper do most of the talking, keeping our imprint as direct and simple as possible, and allowing as much flexibility for the picture or design which is supposed to get you sufficiently aroused and mystified to open the magazine.

Once we get you inside, each article must be presented so that it invites you to read it. We attempt to accomplish this by arranging its words and pictures as straightforwardly and logically as we're able. The recognizable structure of the layout, rather than frills or tricks, is supposed to provide the appeal. Given enough white space from our editor and good pictures from our authors, we hope that their message will, in designer Walter Dorwin Teague's words, "emerge from the designer's hands more efficient than when it reached him." For nothing can be right unless it looks right. W. V. E.



More than 33,000 pieces of 1 3/8" glazed ceramic tile were used to create this mural. Side panels use 8 1/2" x 4 1/4" tile. Color Plate No. 405.

This colorful mural in the entrance lobby of the DuPont Plaza Center in Miami, testifies to the way ceramic tile can be used to achieve striking decorative effects. Created by American Olean's design department, this impressive 24 x 35 ft. mural will greet hundreds of thousands of visitors to the Architects' International Bureau of Building Products each year.

