

MAY, 1957

AIA

Journal
OF THE AMERICAN INSTITUTE OF ARCHITECTS

In Two Parts • Part One

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HOSPITAL AREA STUDIES

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ROBBINS METAL TONE VINYL TILE, in bronze, was used in this section of Standard-Vacuum's executive dining room to achieve contrast in the over-all decor.

DESIGNER ACHIEVES VARIETY AND UNITY IN SPITE OF VAST FLOOR SPACE

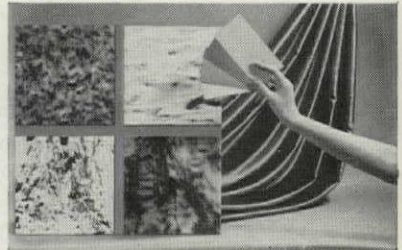
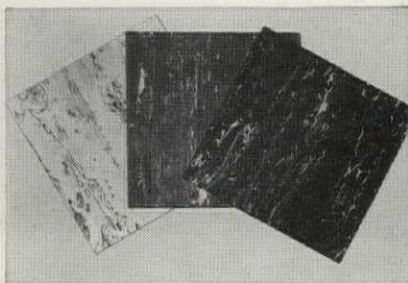
Achieving both variety and unity in a floor area covering 250,000 square feet is not an easy job for even the most versatile designer. Yet this was the problem Mrs. Helen O'Connell, interior designer for Eggers and Higgins, Architects, faced and solved in decorating Standard-Vacuum Oil Company's new international head-

quarters at White Plains, New York.

Mrs. O'Connell utilized celadon green and terra cotta as key colors on the corridor walls to achieve color harmony throughout the building. This decor was enhanced by a special beige tone vinyl floor tile specified by Mrs. O'Connell and made to her directions by Robbins Floor Products.

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Between 20- and 30-million people have tramped across these tiles since they were installed 5½ years ago in Langley's Cafeteria, New York City. Located at the entrance to the upstairs dining area, they have been scuffed and scraped hundreds of times daily. Yet they are still bright and beautiful—removed only because the cafeteria is being replaced by a new building.



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A number of architects and designers are already creating new designs utilizing our Pompeiian floor tile, the first vinyl tile ever to capture the surface appearance and texture of true marble. Pompeiian's natural lustre and easy maintenance enhance all kinds of areas in institutions, residences and commercial buildings at very low cost.



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Then you'll find this Robbins' Architects Samples Kit invaluable. It contains all the styles and colors in our vinyl, rubber and cork floor tiles. It's worth \$50 yet we're offering it free to every architect. Write today, on your letterhead, please.

Or if your kit needs replenishing, send it to us. We'll refill—add samples—return it to you. No obligation, of course.

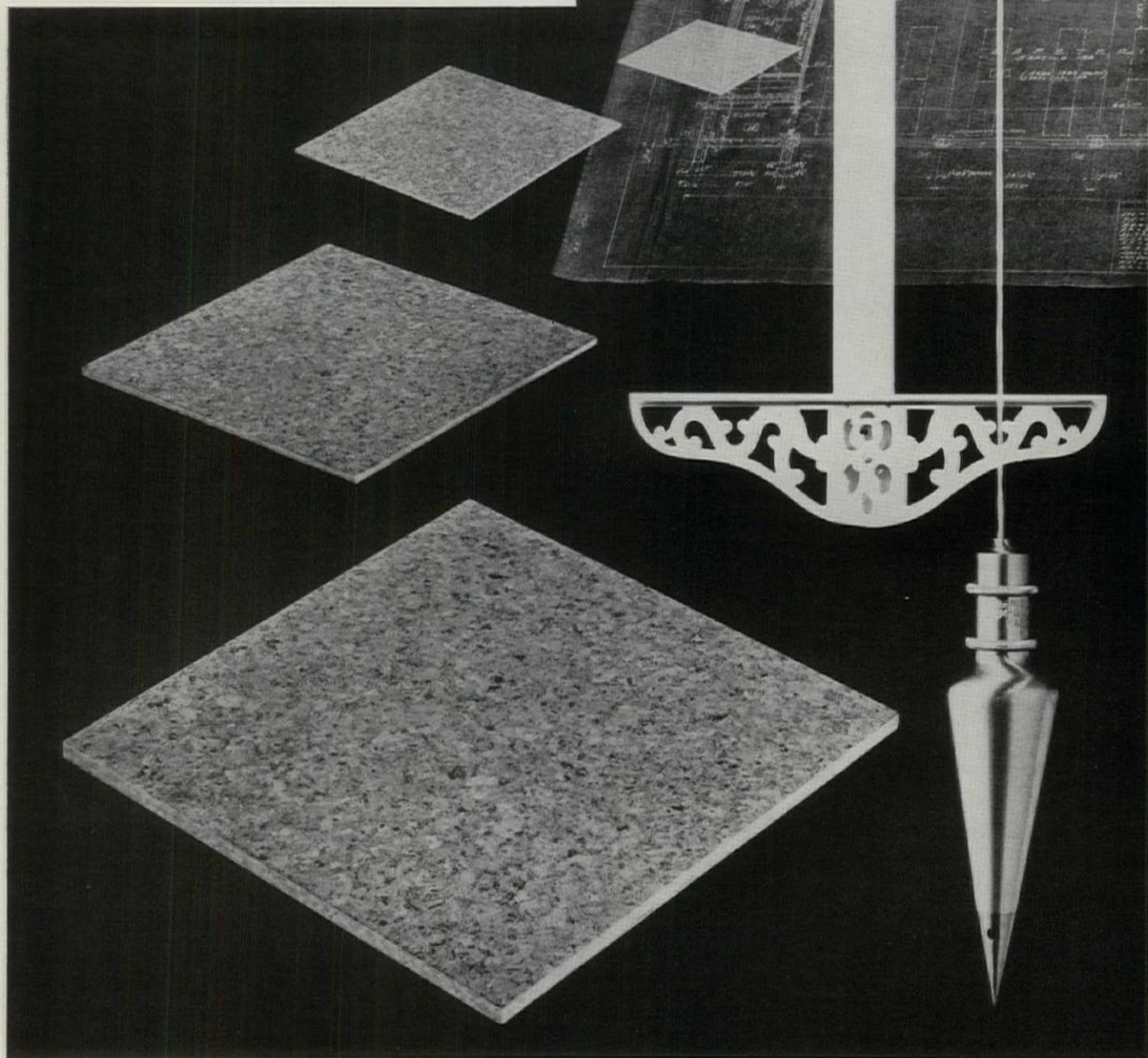
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Do you know "What's New?" in floor styling, installation and maintenance? Or would you like to see how we make those *fabulous floors*? Robbins regularly invites architects to fly down to our Tuscumbia plant. Now we've expanded our fleet—acquired a Lockheed Lodestar to speed up these trips. This year, 108 trips are scheduled from all over the country. Just call your Robbins distributor (he's listed in the classified section of your phone book)—he'll gladly make arrangements for you to enjoy some of our special Tuscumbia-brand Southern hospitality.

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for the most luxurious yet practical floors ever! So resilient! So slip-resistant! So long-wearing!

KENTILE FLOORS

available in Cork, Solid Vinyl, Vinyl Asbestos, Cushion-back Vinyl, Rubber and Asphalt Tile... over 150 decorator colors.

SPECIFICATIONS

SIZES (in inches)	THICKNESSES (in inches)
6 x 12	1/8; 3/16; 5/16; 1/2*
9 x 9	1/8; 3/16
12 x 12	1/8; 3/16; 5/16; 1/2*
12 x 24	3/16; 5/16; 1/2*

* On special order

COLORS:

Kentile cork tile (KenCork®) is available in separately packaged cartons of light shades, medium shades and dark shades. Has a factory finish--a specially prepared plastic fortified wax applied while hot, at the factory.

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and its affiliates

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in a

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*“Music and Architecture in the
Environment of Man”*

*Constitution Hall
Washington, D. C.*

*Thursday, May 16, 1957
at three-thirty o'clock*

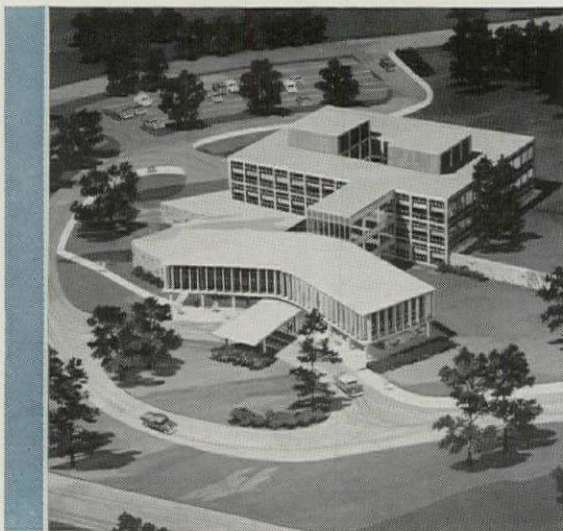
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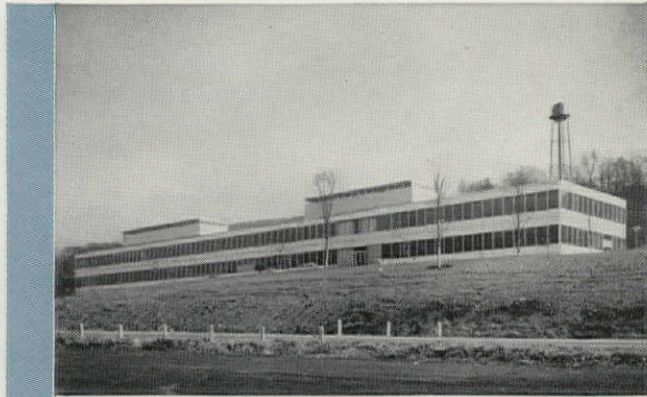
ANALYSIS AND ENGINEERING—Kawneer engineers will translate your architectural metal wall design in terms of factory fabricated units that will speed erection of your building, and assure client satisfaction. You gain the know-how Kawneer has accumulated through 50 years of architectural metals experience.

FABRICATION—Kawneer has extensive fabricating facilities available for application to your job. These modern facilities and production techniques allow Kawneer to give the most effective execution to your metal wall requirements . . . regardless of the blend of expression and function you may have in your design. Porcelain faced aluminum, stainless steel, colored Alumilite finished aluminum, insulated mullions for condensation and heat control, operating or fixed sash . . . whatever you demand, Kawneer can supply in its metal wall system.

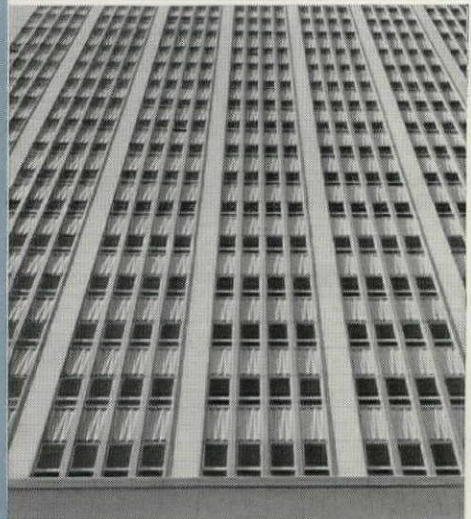
INSTALLATION—Kawneer metal wall contracts are usually direct subcontracts with architect, general contractor or owner. This places complete responsibility for fabrication and erection with one responsible firm. This responsibility allows tight control over anchoring devices, sealing methods and materials, and expansion provisions . . . control that assures you and your client complete satisfaction. Since Kawneer has this control, an effective and adequate guarantee is provided at no extra cost.



Guarantee Mutual Life Co., Omaha, Nebraska.
Architect: Leo A. Daly Co.
Contractor: Peter Kiewit Sons' Co.



Geigy Chemical Co., Greenburg, N. Y. Architect: Skidmore, Owings & Merrill. Contractor: Vermilya Brown Co.




Equitable Life Building, San Francisco, California. Architect: Loubet & Glynn. Contractor: Dinwiddie Construction Company.



IF YOU ARE PLANNING construction that calls for metal wall, any Kawneer district office or the home office in Niles, Michigan, will be pleased to discuss the advantages and characteristics of Kawneer's complete metal wall system with you.



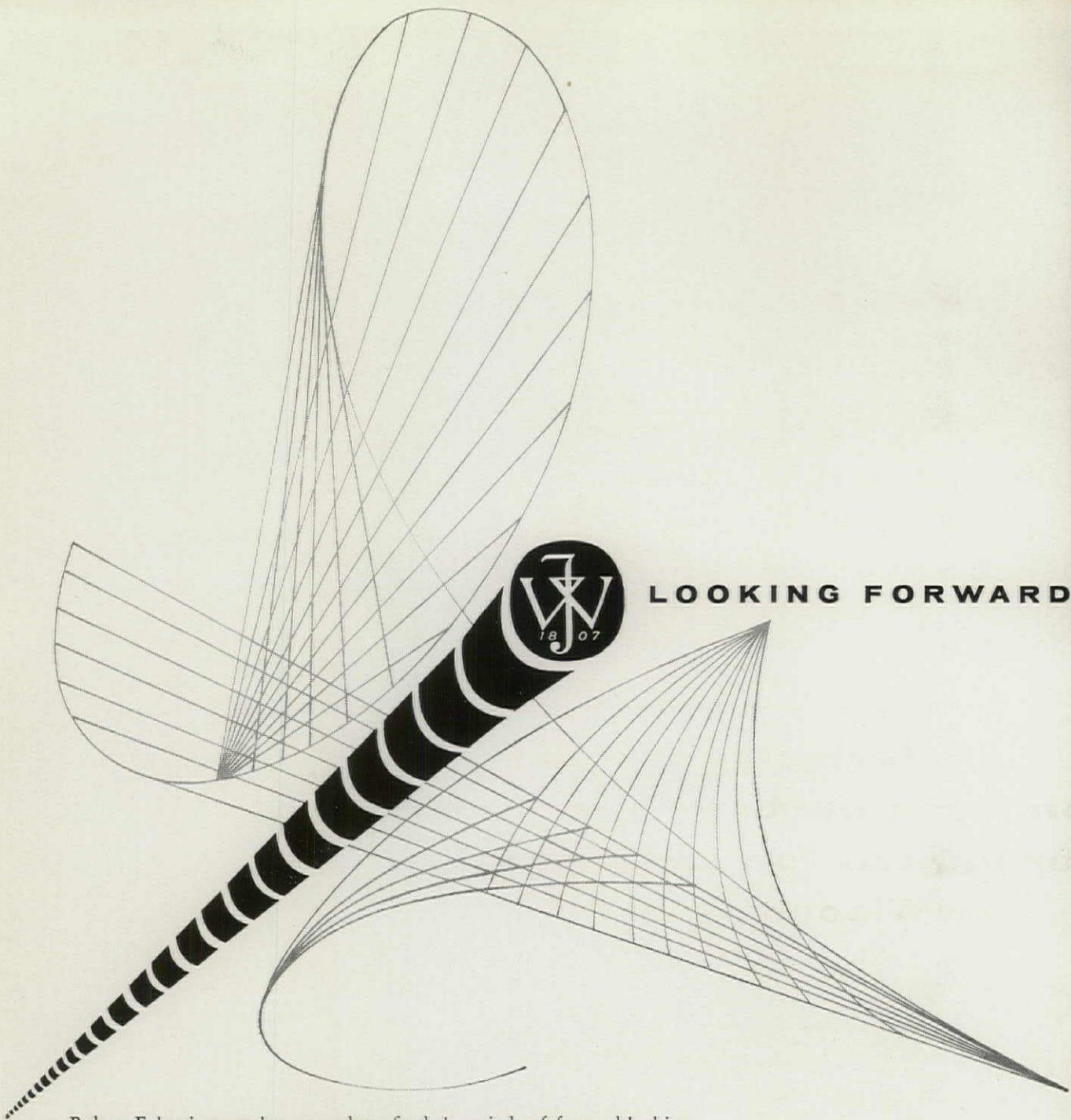


METAL CURTAIN

WALL

*the creative
building tool*

Commercial building built of 3 central core units enclosed in metal curtain wall. Apartment buildings use curtain wall recessed in balcony enclosures. End walls of anodized aluminum panels.
Design by Ray Sturmer, A.I.A.



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If America were to exploit her new industrial age, pioneering books would have to be provided. It is this demand—greater in 1957 than ever—that Wiley has been meeting successfully for one hundred and fifty years.

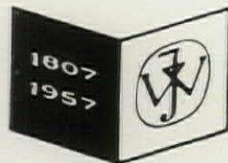
Today, the *Clermont's* atom-powered granddaughter slips through the seas...

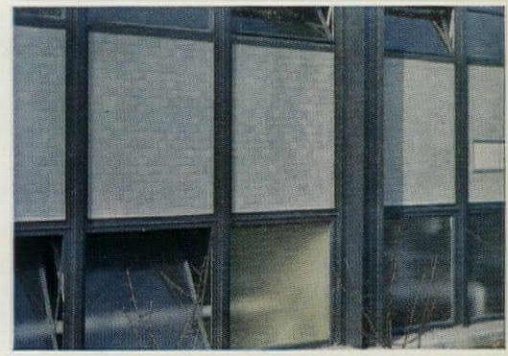
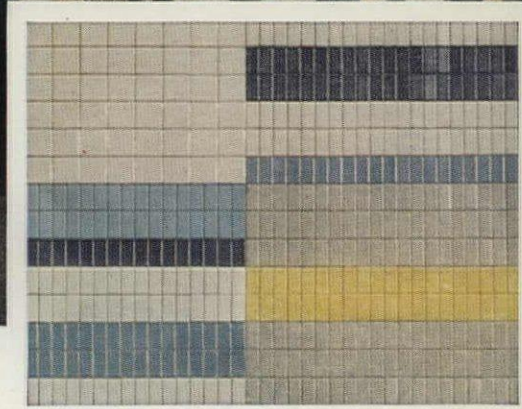
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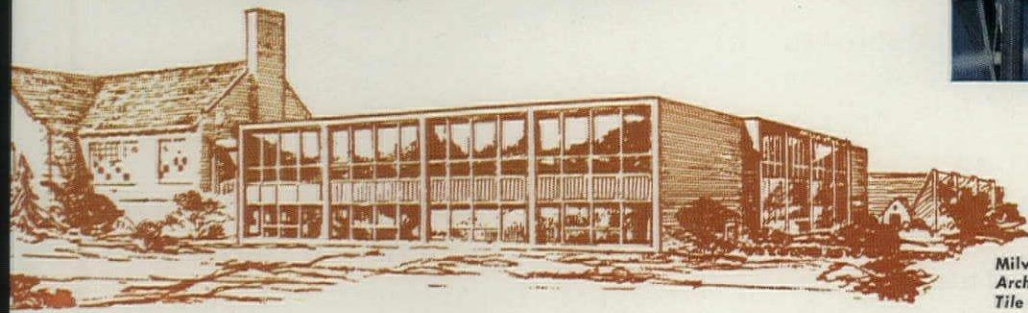
440 Fourth Avenue, New York 16, N. Y.





Above: Close up of inner court wall panel
Below: Outer court panels of unglazed tile

**Exterior panels of
Romany•Spartan ceramic tile
bring new low cost beauty
to Wisconsin school**



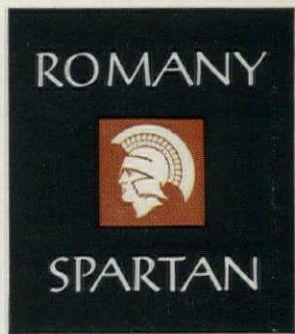
Milwaukee Country Day School, Milwaukee, Wis.
Architects: Scott, Kloppenburg & Scott, Milwaukee
Tile Contractor: Durner Company, Milwaukee

It's an outstanding exterior application of ceramic tile. In the recently completed addition to Milwaukee's Country Day High School, the architects achieved this eye-catching design for inner court walls through the skillful use of Romany•Spartan buff body glazed tile in two sizes; in colors. No less attractive, but entirely different, are the outer court walls, made of unglazed 2" x 2" Romany•Spartan Orsans.

Beauty is only one of the many desirable qualities of Romany•Spartan tile. It's fireproof, impervious to moisture and changes of temperature. It will never

fade or discolor and its self-cleaning characteristic will keep it bright and fresh looking through the years. Low initial cost and ease of maintenance make Romany•Spartan ideal for corridors, stairs, cafeterias, washrooms, locker and shower rooms, swimming pools and auditoriums.


Select from Romany•Spartan's complete range of colors, sizes, finishes and textures. If you'd like help in working out your design problems, get in touch with your nearby Romany•Spartan representative or write: United States Ceramic Tile Company, Dept. J-11, Canton 2, Ohio.



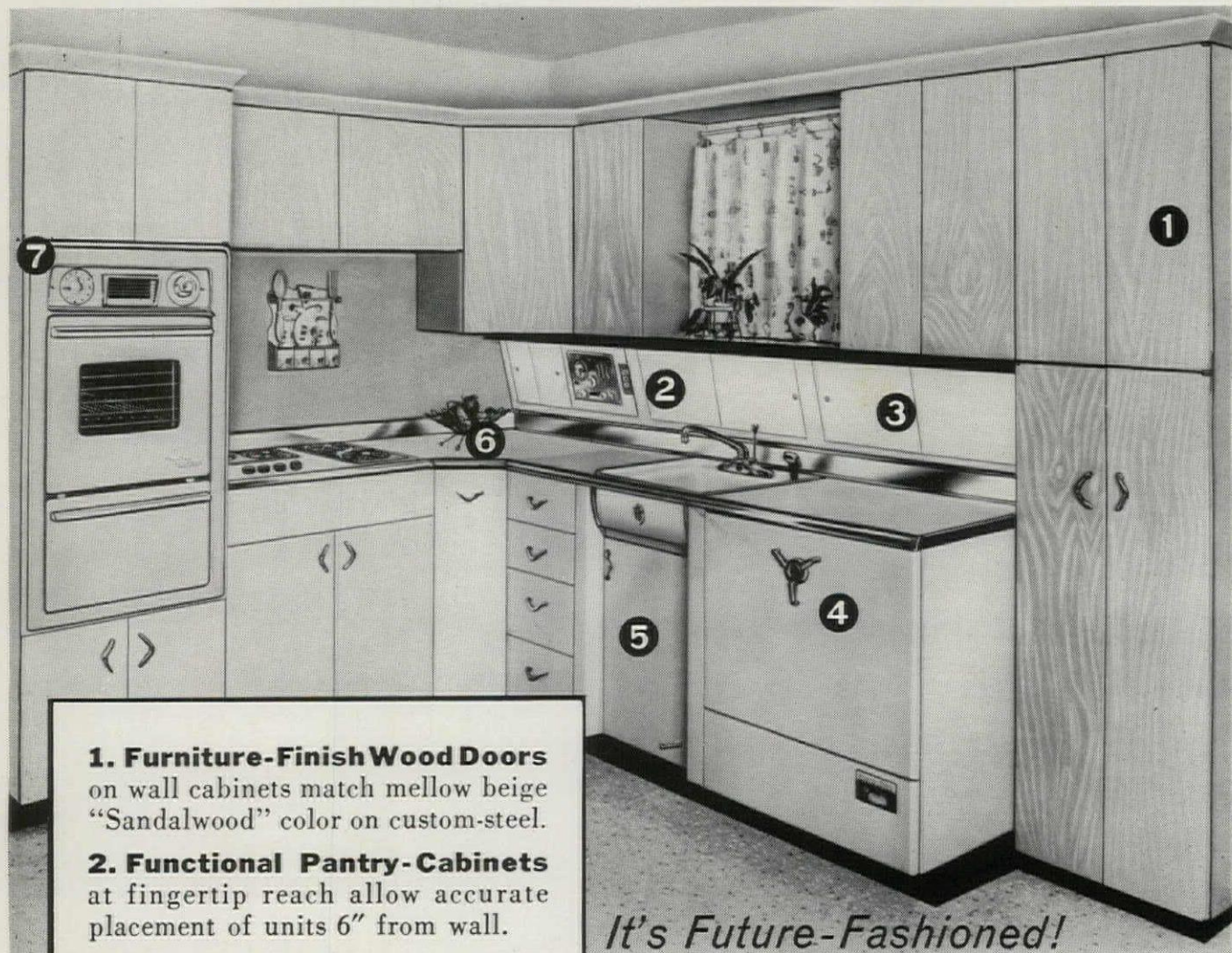
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Division of **AMERICAN-Standard**



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3. Built-In Lighting on Pantry Cabinets illuminates work area for all kitchen tasks.

4. Big 30" Jet®-Tower Dishwasher undercounter unit. Holds up to 200 dishes, washes hospital-clean without pre-rinsing.

5. Youngstown Kitchens Food Waste Disposer unseen but vital. Quiet, efficient operation.

6. New Continuous Counter Tops Lustre Trim adjustable tops fit any length without metal sealer strips.

7. Adjustable Oven Cabinets. Low price steel cabinets fit most gas or electric wall ovens.

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CUSTOM FEATURES IN WANTED UNITS FIT EVERY KITCHEN PLAN

Designed to architect's specifications, Youngstown Kitchens new Monterey units offer an opportunity to plan multiple-featured kitchens to fit any blue-print and budget. Modular units in a wide range of sizes fit under new continuous countertop for utmost flexibility of design. For complete details and specifications, call or write your Youngstown Kitchens Distributor, or Youngstown Kitchens, Warren, Ohio.



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functional and beautiful;

To you whose strict adherence to the principles of good planning
and vigilant insistence upon quality standards
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- ROTTING OF WOOD JOISTS AND SILLS
- EXCESSIVE BASEMENT DAMPNESS
- DETERIORATION BY MILDEW OF RUGS, FURNISHINGS, ETC.



"Guardian of the Home"

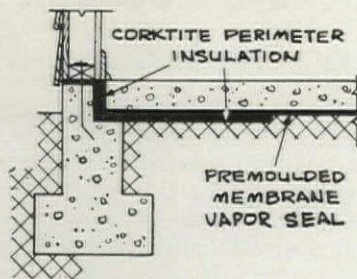
The one sure way to "eliminate" the ravages of destruction moisture is with the installation of Premoulded Membrane and Corktite in the original construction . . . all other methods are merely temporary stop-gaps. Equally effective for residential, commercial or industrial construction. When specifying or installing a vapor seal be sure it meets these Sealtight standards of quality: permeance rating of only .0066 grains per square foot . . . resistant to rot, mold and termites . . . strong enough to resist tearing and puncturing . . . expandable . . . quickly, easily and permanently installed — only Premoulded Membrane meets them all.

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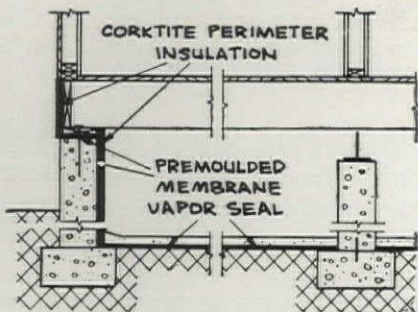
IDEAL FOR ALL TYPES OF CONSTRUCTION

SLAB-ON-GRADE

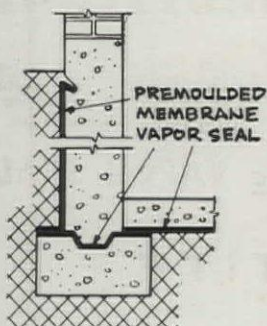


This illustration shows how the installation of Premoulded Membrane completely isolates the slab from any moisture originating in the site and how Corktite effectively insulates the edge of the slab thereby eliminating heat loss through the slab perimeter.

CRAWL SPACE



The proper installation of Premoulded Membrane and Corktite removes all danger of condensation and oxidation of metal installations in the crawl-space area . . . eliminates the need for ventilation.



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Premoulded Membrane properly applied to the exterior of the basement walls as well as beneath the floor slab insures a warm, dry, liveable basement. Prevents any movement of vapor or capillary (wick) movement of free water.

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MAY 14-17

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WHY A . . . VAPOR SEAL

Rotting walls . . . blistering and peeling paint . . . masonry efflorescence (the white powder that forms on the outside of brick buildings) . . . warping and rotting wood floors and termite problems are just a few of the many evils we have learned to live with . . . all of them are directly or indirectly caused by excessive vapor condensation.

If you are going to guard against these condensation problems you must first know what condensation is . . . here, briefly, is the story. Practically all air contains invisible moisture called water vapor . . . warm air holds more than cold air . . . so when air is cooled it must give up some of its moisture. When warm vapor laden air comes in contact with a cooler surface, it cools, and is no longer able to hold its vapor which condenses out as free water. This is why a lemonade pitcher gets beaded with water, and the very same reason why the inside surface of window sash shows condensation moisture.

Where does all of the destructive moisture in a home come from? Until comparatively recent times it was believed that this vapor originated from normal living habits . . . such as cooking, steam from the shower bath, automatic washers and dryers. True, some moisture is created in this manner, but in the average home not more than 20%, or just enough to produce normal comfort levels, arise from the daily living habits of the family.

Governmental and academic research has proven that more than 80% of the moisture induced into the home is from the ground source. It makes little difference whether gravel is used under the basement, slab floor or crawl-space . . . or whether the site is on high or low ground, whether it's on a sand dune or a cess pool — somewhere below the structure water exists and vapor will soon rise into the building.

Blameless manufacturers of paint products, metallic sash, masonry materials, etc. have tried to solve this moisture problem. However, the "cure" for destructive moisture exists only in the original construction . . . all other methods are merely temporary stop-gaps. What then, can you do to combat this destructive moisture? It's really very easy . . . simply install a true vapor seal that air cannot pass through. Unfortunately the building industry has been guilty of the promiscuous use of permeable materials under the guise of vapor barriers. It is a known fact that asphalt saturated felts, regardless of their thickness, asphalt saturated building papers, even duplex papers are all highly permeable and cannot be considered as effective vapor seals. When you purchase a vapor seal be sure the manufacturer indicates its degree of impermeability, it must also be strong enough to resist tearing and rupturing during installation operations . . . bear in mind that a vapor seal is like a child's balloon . . . just a small hole renders it useless.

Sealtight Premoulded Membrane is a true, expandable vapor seal through which water or vapor cannot pass. After installing Premoulded Membrane you will be able to safely use a wider range of floor finish applications and most important you will have a warm, dry home that will not only be more liveable but also more saleable in the future. We sincerely invite your comparison of Premoulded Membrane against all other so-called vapor barriers . . . We're sure that once you do you'll also agree there is only one true vapor seal on the market . . . Premoulded Membrane.

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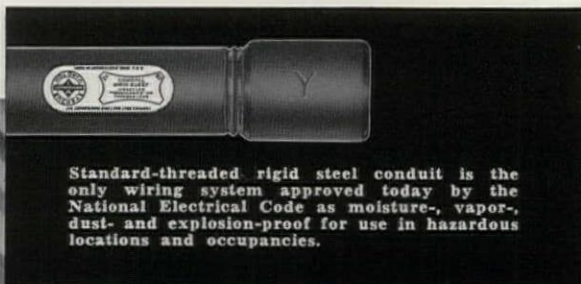
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Best wishes to the members of
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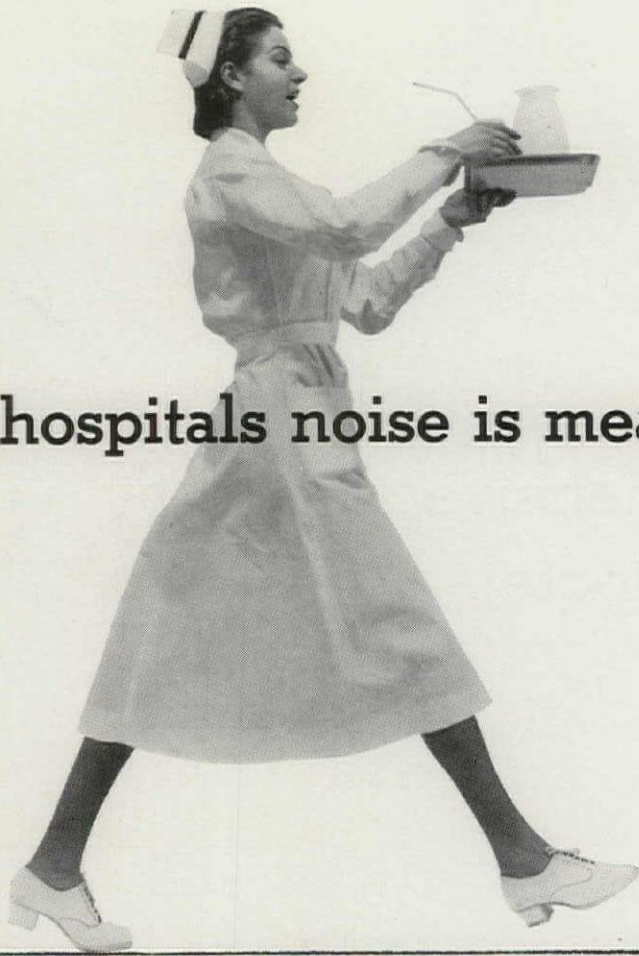
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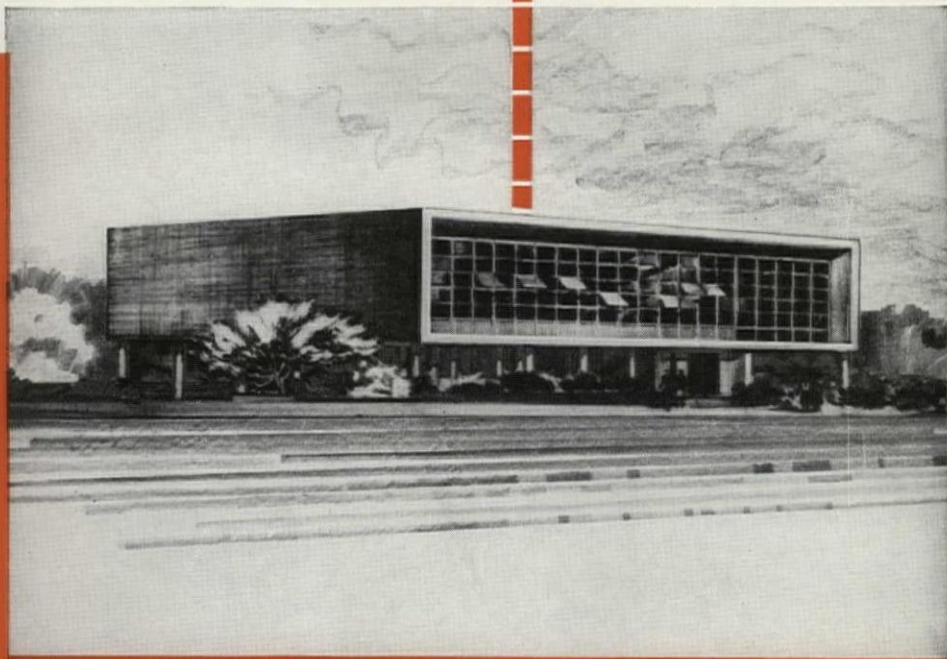
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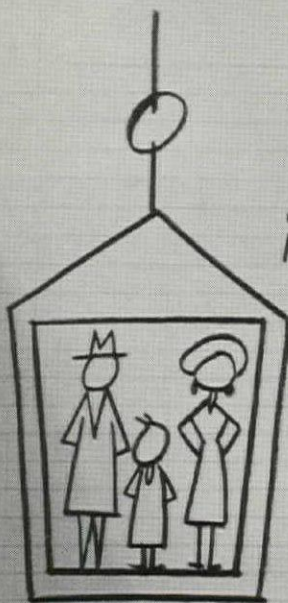
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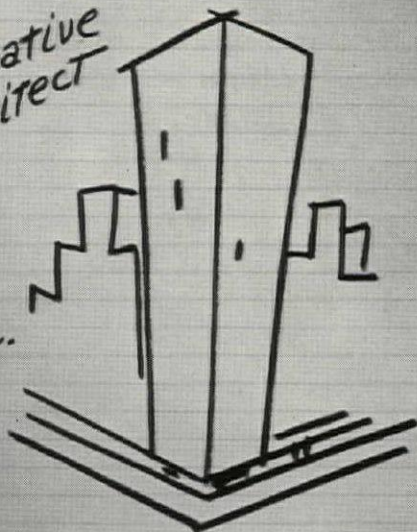
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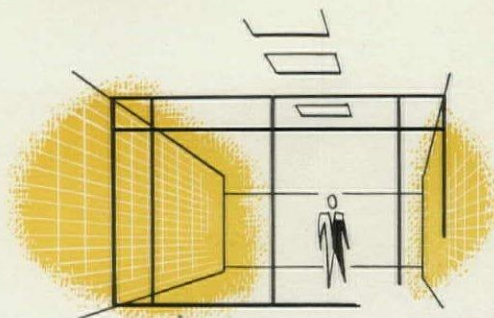
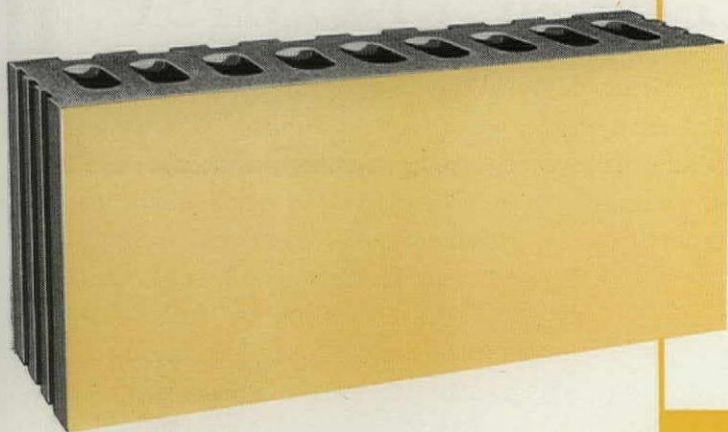
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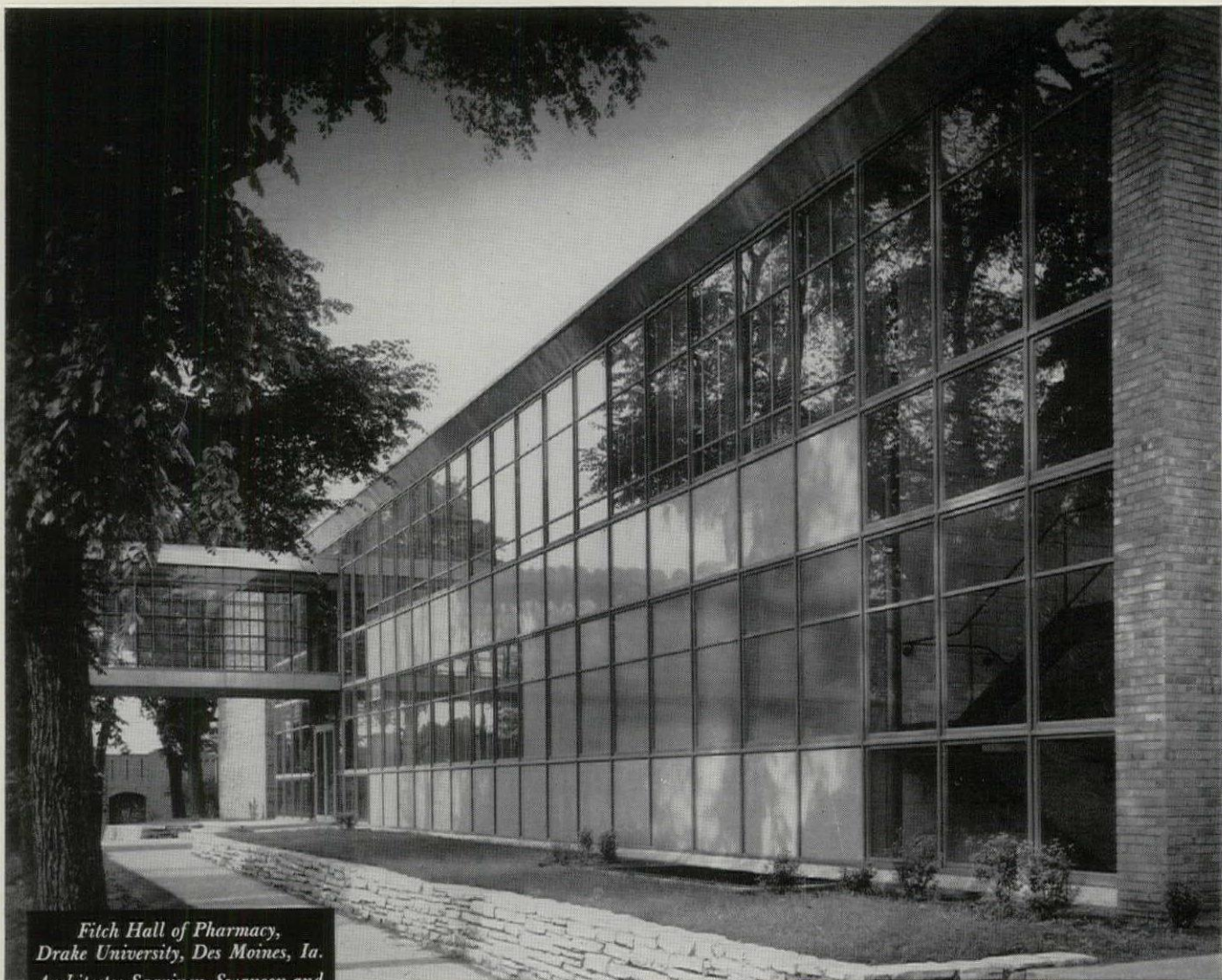


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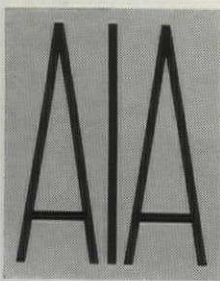
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CONTENTS

Opinions expressed by contributors to the A.I.A. JOURNAL are not necessarily those of The A.I.A.

A NEW CENTURY BECONS: A Few Planks in a New Platform, an Editorial	5
A NEW CENTURY BECONS: The Future Design of the Capital City, by <i>Ralph Walker</i> , FAIA	6
"OWNER" vs. "CLIENT"	11
THE ARCHITECT AND THE NEW CENTURY, an Editorial, by <i>Philip Will, Jr.</i> , FAIA	12
THE REHABILITATION OF NEW YORK CITY HALL, by <i>Harold C. Bernhard</i>	13
HONORS	15
THE PRESIDENT'S PAGE	16
AIA SCHOLARSHIP AWARDS	17
THE ARCHITECT AND THE "PACKAGE DEAL" by <i>Vincent G. Kling</i>	18
FROM THE EXECUTIVE DIRECTOR'S DESK	21
THE ARCHITECT IN A DEMOCRACY by <i>Robert J. Lewis</i>	22
CURRENT COMPETITIONS	23
LIFE IN A MARTINI GLASS: Wild Gold Medal Winners I Have Known, by <i>Alfred Bendiner</i> , FAIA	24
REGIONAL NEWS	26
NECROLOGY	27
EDUCATION NEWS	28
THE STUDENTS' PAGE	29
THE R. S. REYNOLDS MEMORIAL AWARD	30
BOOK REVIEWS	31
CALENDAR	33
AIA LIBRARY NOTES	34
THE ARCHITECT AND THE MERCHANT BUILDER, by <i>Donald E. Honn</i>	35
THE ARCHITECT AND FIRE SAFETY Report of the AIA Committee on Human Safety	37
HOSPITAL DEPARTMENTAL AREA STUDIES A Project of the AIA Committee on Hospitals	43



PHOTOGRAPH BY ROBERT B. FRANTZ, FAIA

A New Century Beckons:

A Few Planks in a New Platform

AN EDITORIAL

THE EDITOR STEPS into this number one position in the first issue of the new *Journal*, published at the time of the Centennial Convention of the Institute, in order proudly to raise the curtain on the product of his labors of the past few months, and to set forth certain principles and possibly to make certain requests.

The platform of the *Journal* is still not quite fully built, awaiting the suggestions of its readers. But there are certain basic planks already in place, and those we wish to enumerate:

1. First of all, of course, the *Journal* will be devoted to the service of the Institute, which is composed of its members. We aim to keep them informed on the many-fold activities of the Institute, its officers, its committees, its chapters, its staff. We want the *Journal* to be a vehicle for the exchange of ideas and information between members. We shall publish reports of the findings of our committees and our research department. We want it to be an *Institute* publication, first and foremost.

2. The *Journal* will try to point the way for young architects, or established firms, to show them how to organize their offices, their procedures, their client relationships, so as to perform a better service to society, which should at the same time provide finer architecture and greater satisfaction and profit to the architect.

3. The *Journal* will endeavor to publish articles on esthetics and architectural thinking written by the best minds of the profession and by interested laymen—from whom we have much to learn.

4. The pages of the *Journal* will emphasize the ever-broadening scope of the work of the architect. The architect of today and tomorrow must think and plan in terms of communities and environments, not

just good details and fine buildings. He must also think in terms of a more all-inclusive service to his clients than he has in the past.

5. The *Journal* recognizes the ever-growing problems of urban renewal and the rehabilitation of blighted areas, as well as the reclamation of the suburbs from the creeping paralysis of congested housing and wasteful, ugly business development. It is within the scope of the work of the architect to bring order, convenience and beauty into our cities; and to preserve and restore charm and naturalness to our countryside.

6. The *Journal* will preach the preservation of historic buildings and sites, and the conservation of green areas and our natural resources. (These are closely related to planks four and five above.) This is not inspired by mere nostalgia, but from a belief in the educational and emotional value of pride in and love for the relics and symbols of our historic past—to say nothing of the obvious value of beauty preserved, and of a visual record of the past.

7. The *Journal* will endeavor to keep its format, as well as its point-of-view, crisp and up-to-date, yet strictly non-commercial and dignified, as befits our profession.

As we said in the April issue, we welcome articles, letters, anecdotes, comments, nonsense and photographs. We have no paid writers; the *Journal* is the voice of the profession.

Accompanying this first issue of the new *Journal* is a Centennial bonus to the membership, a work which has engaged Henry Saylor these past few months, "The Institute's First 100 Years," an informal history. *After being read*, it should be given an honored place on the library shelf of every member.

NOTE—THE JUNE *Journal* WILL BE A LARGE SPECIAL ISSUE DEVOTED ENTIRELY TO THE SPEECHES AND PANEL DISCUSSIONS OF THE CONVENTION. IT WILL BE IN A PERMANENT PAPER BINDING, TO FORM A TREASURED ADDITION TO YOUR LIBRARY. SINCE THE CONVENTION IS NOT OVER UNTIL MAY 17TH, PRODUCTION OF THE *Journal* WILL BE DELAYED. YOUR COPY SHOULD BE IN THE MAIL BY THE MIDDLE OF JUNE.

A New Century

Beckons:

The Future Design of the Capital City

BY RALPH WALKER, FAIA

Our Distinguished Past President and Centennial Medallist Believes Architects all over the Country Should be Alert to the Constant Problem of Preserving the Beauty of Washington and its Surrounding Area.

6 WHEN OUR CAPITAL WAS FIRST PLANNED, it was not thought of as either a small village or as a thriving modern metropolis. The industrial age represented by the Black Country in England, and the then much more pleasant manifestations in New England were but tiny forebodings, understood by Jefferson perhaps, if not by the others interested in the design. The Capital City was, however, planned on a grand scale, the scale of the eighteenth century. No meagre plan was left to us as a heritage, although the result,—before the McMillan resurrection of the plan—belied the famous words supposedly said by Burnham: “they have no magic to stir men’s blood”—for the truly noble plan, like so many others, gathered the all too-familiar dust. But it was not the widths and positions of streets alone that concerned our political forefathers, because they saw, if not a new Athens, at least a new Rome arising on the banks of the Potomac, with buildings of distinction and of permanence, with all the beauty of a disciplined and esthetic organization of parts. They were wise in the liberal ways of the ancients and took unto themselves the democratic ideals which men ever seek and through negligence fail to grasp. The new Capital was no new Utopia but it was inspired by one of the greatest bouquets of political minds that has ever existed. Our Capital represents the keen perceptions of the

men who wrote the Bill of Rights and who once agreed to hang together.

There was no question in the minds of those early Americans that grandeur had its place, not only in the public buildings but also in the houses which would naturally spring up along the vista-reaching avenues and all about the wide circles and the generous squares. That early planner, Major Charles Pierre L’Enfant, said in his message to the future, through General Washington himself: “As matters stand, the site assigned to the Congress House and the President’s Palace exhibits a sumptuous aspect, and claims already the suffrage of crowds of visitors serving to give a grand idea to the whole—the grand avenue connecting the Palace and the Federal House will be magnificent with the water of the cascade (falling) to the Canal which will extend to the Potomac; as also the several squares which are intended for judiciary courts, the National Bank, the grand church, the playhouse, markets and exchange, offering a variety of situations unparalleled for beauty, suitable for every purpose, and in every point convenient (and here I blush a little) *calculated to command the highest price at a sale.*”

The plan was excellent, the hopes were high that this Capital City would finally overcome the urgent commercial needs of a young nation, and in a far



THE HEART OF WASHINGTON TODAY

Photograph by Fairchild Aerial Surveys, Inc.

away time develop the magnificence desired not only by L'Enfant but also by Washington and Jefferson—no mean architects themselves.

Whatever these men foresaw as to the bigness of our present, I am sure we exceed it in actuality in this great city sprawling now over the land far beyond the regional boundaries of the district—and I mean sprawling, for when you consider a suburbia like Silver Springs you realize that the primary impulse of L'Enfant has been widely dissipated into meagreness. And as you get out of the district you realize that Virginia and Maryland have had little respect for the possible majesty of the National Capital. The creeping paralysis of commercialism, first cautiously indicated in the planning of L'Enfant, has accelerated even more than the acknowledgment of the esthetic need.

We have had, however, a tremendous heritage of idealism because as an architectural profession, perhaps as plain architects, we have more than others respected the greatness possible within the concept of the Capital. Again and again, men, great and humble, have arisen to develop and protect the magnificence which we should continue to deliver to our successors. It is a very excellent place, perhaps, to reiterate that famous pledge of Athenian youth: "That we serve the city with our lives and

that we leave it more beautiful than ever before." I am not quoting exactly but the meaning is clear. Each citizen, each architect, was expected to look to and recreate the great ideal, hoping not necessarily to increase his own stature but that of the possible magnificence extolling the greatness of his country. The momentary stunt, the impermanent, shall we wish them here? No! In Washington there should be no room for anything except statesmanship in architecture. What is statesmanship in architecture? It is the understanding of how to make a great city even greater. It means that each unit added to the first produces a continuous victory for greatness. As one walks, and so often one does, along the Seine from the Isle de la Cité down with the current toward the sea, the additions one by one unfold to entrance the historically-minded, even the esthetically unaware, with the feeling that each generation (like the Greek) left a richer heritage for the following.

We have, as I have just said, a remarkable heritage and it should be thought precious, enriched rather than debauched. Here in America we have a strange proclivity to destroy beauty and preserve and enlarge slums. I was reminded of this the other evening when I heard that Frank Lloyd Wright's Robie House was to be torn down—just imagine, with all the terrible background of slums in south

Chicago. And this is true concerning the really fine buildings we have inherited from early days. I personally think it is an outrage to move the East Front of the Capitol, to change in any degree whatsoever the magnificent forecourt in which the traditional inaugural ceremonies have taken place. Could anyone imagine an Englishman suggesting that the front of the British Museum be changed? The *Times* would thunder, the *Manchester Guardian* would blast the impudence. Here in Washington is an even more noble front, and because of an inhibited desire for purity and plausibility, and merely because an iron dome overhangs a portico below, a fine facade, one of the finest in Washington, must be desecrated. We also hope the old Patent Office can be saved from this wanton destruction. It is the religious care of these things that gives the absorbing and continuing interest to other capital cities, such as Rome, Paris, London. The past is not good because it is the past, neither is the present because we exist. The Capital should persist as a continuing symbol. I have been much interested in the rebuilding of the House of Commons in its historical symbolism, and also by the need of the Poles to reconstruct Warsaw. That symbol was considered more important than the memorial to Stalin.

A Capital City is bound to have a certain bigness and its architecture should have a classic quality, and by that I mean a certain formality, a certain richness of detail, an intelligent use of ornament to add grace. I think our present-day reluctance to use sculpture, painting and decorative ornament is a blind spot caused by the extremely stupid concepts, promulgated by a few but influential Europeans, that the machine as a tool has limitations never before associated with tools—as I have said before, an animistic lifting of these limits to philosophical absurdity. I do not mean by the word “classic” the heedless copying of the Roman, Greek, and Renaissance past, just as I do not mean the meagreness and the dry monotony of the factory style now so fashionable. Certainly classicism does not mean “We do not try to please people, we are driving to the essence of things.” As an architect I would ask but one question: Just why do we exist but to please; for whom actually is the city built?

I do not see why, using the climatic conditions which exist in Washington, a truly fine architectural expression might not be achieved, one using the modern techniques of structure, but also one using originality (I mean individual expression) in the development of stone and marble, metal and glass.

In the first place, I think the skyscraper does not belong in a climate such as Washington, *that is if it really belongs anywhere*. Here trees and green spaces are desperately needed to add comfort to eye

and body, if only for those moments when necessity makes one cross the crowded streets with the further outpouring of discomforts from the constant stream of automobiles. The character of the buildings should go hand in hand with the present open plan which still persists so largely in the city, together with sufficient green spaces to reduce, as they do, the temperature noticeably.

The scale of the buildings does not have to be enormous to be monumental. I do not believe that everybody has to be under the same roof, but with the amount of land still available beautiful groups of low buildings could take care of the same population.

I was told that when Herbert Hoover was Secretary of Commerce he did not want the Commerce Building where it now is, and made serious studies to find a location which would avoid the motor congestion which he foresaw. He picked a building site out on the fringe of the city. He had made studies of traffic and of the pattern of the living habits of people working in the department, and these determined the area chosen. These studies, however, went into the waste basket together with the idea that governmental buildings should be economically constructed. I understand that the Secretary of the Treasury, Andrew Mellon, defeated him and the Triangle was the result. Now, somewhere between Hoover's idea and the architecture of the Triangle is what we should aim at in a city like Washington.

I carefully looked over the report of the committee advocating a cultural center and was greatly amused at what at other times I have called “below the wrist thinking,” which leads naturally to World's Fair, stunt-like results. In Washington the stunt certainly should be absent. What is needed is an architecture of simplicity in which the new columns, if any, are incorporated with purpose into the structure. *Certainly useless pipe-stem colonades, which never give adequate protection from the sun or rain, can be as ridiculous as an over-detailed Corinthian order.*

I repeat that I believe the architecture of our Capital should have a grandeur which can only be obtained by the use of permanent materials. Why I would eschew a large use of metals is because they need constant cleaning to look well. Neglected, the patina they collect has a shabby, muddy appearance. Even though these remarks might be taken to mean advertising some materials and damning others. I would still persist in thinking that here we need a different philosophy.

I have no quarrel with a so-called “wall punched with holes.” I believe that in a climate of humid glare, windows have more reason than the con-

house, that the individuals making up the group are not robots.

Finally I would like to suggest that the zoning height in the business areas be further restricted so that the appearance, long since held elsewhere in the city, would be that of a city dominated by nature, and that the ordinance further demand that all building in an area be constructed to the complete limitation imposed. There is nothing so distressing in a great city as the raggedness of the building line. Let New York and all other points west, north and south have skylines that look like a broken comb. Washington should try to preserve constant area-heights, for the Capitol building should always dominate the city. This is by no means absurd, for a place that has as extensive slums as Washington does not have to follow the present trend to make them larger by permitting the sweating of some properties.

We have been talking about the architecture and the plan as related to the District of Columbia but what about the sprawl that is developing in the two neighboring states? When the limits of the district were determined no one could have foreseen the impact of the railroads and the crushing force of the automobile upon city life and form. *The old city form no longer exists except as a political entity without validity.* Washington, then, is no longer the District but contains the great outlying suburbia in which most of the city workers either do now or will soon live. The traffic congestion within the city at peak hours, like that of every city in the world, is unbearable and a downright nuisance. Every study our office has made of worker population indicates a wheel some sixty miles in diameter—a journey to work at its extreme of thirty miles.

The form of the new city has never been planned—the city streets still act as spokes without even an outer rim to the wheel. Intelligent by-passing is still in its infancy. Nevertheless the automobile is forcing actively a decentralization of work, play and living. What planning there may be, is done mostly by use of zoning ordinances, and the result of this type of planning is a chaotic community with fringes that are sorry indeed. Industrial and commercial usages either are spot zones (which if intelligently planned is not a detriment), or are permitted to group themselves into a new congestion, as hasty urban developments extending out from the city's immediate influence and laws. Washington joins all other cities in having this chaotic, amorphous growth just outside its borders. (See the Virginia end of the 14th Street bridge.)

Here the problems are further aggravated by the Federal Government's seeking to gain some dispersal of its administrative services and thereby siting some activities in the region, but again without much in

the way of actual planning, either of individual position or of the effect upon the community's growth and character, which will develop about the scattered sites.

Of course there is some sophistry about these services being so important that they must be taken out of the city, leaving behind the President and the Congress. Since 1940, the value of dispersal patterns has come into serious doubt, for if the Washington district were to be destroyed it would not be by a single missile but by area saturation. The reasonableness of the military necessity for this dispersion can be questioned but the idea of decentralizing for the sake of traffic has much more validity, and if the worker pattern is important and the community life also, then the sprawl of indirection should have some forthright attention given to it immediately.

What might be then a proper regional pattern for Washington? I understand that other than museums and movies, there are few cultural advantages to be found in the city—that the inhabitants do not think of it necessarily as a cultural center, and while I question the external character of the Center proposed for "Foggy Bottom" I definitely believe in its need. I would place the siting of government buildings as close as possible to the present limits of the district, developing with their siting ring roads to take the traffic. I would do this because I think that the symbol of the nation should not be permitted to ravel away, and that the workers within our government should be permitted to avoid being on general display. In bigness there is a further need for unity of purpose and this unity can be dissipated by too great a dispersion.

I do not think that all city patterns have to look alike—cities like New York or Chicago can well afford a wider dispersal than can a national capital. I would try in Washington to maintain the integrated plan as started by L'Enfant, not a continuation of Le Notre's boulevards and circuses, but a plan that appreciates a larger growth in population and an increase in the number of automotive vehicles in the United States to a hundred million or more. Unless we plan now, the impact of forty million more cars on our cities and countryside will be terrific.

We need to develop in Washington, as elsewhere in the country, Regional Authorities, which, under the charters establishing them, will have ample authority to deal with all regional problems. One of the blights of the democratic way of life is to be found in our unplanned communities. There is sufficient precedent for this type of authority—the Port Authority of New York being one of them.

I firmly believe the time has come when the present planning commission in the District should

be considered outmoded and that a new and broader approach is needed. Washington is not a local problem; it might be a national example of the possibilities of a truly great city.

I come back for a moment to Hoover's idea of economic building. I deplore meagreness for economy's sake. In a world where many billions are

spent for wanton destruction it would still seem possible to spend a few millions on increasing the amenities for work and living.

The plan and architecture of Washington should be not only a matter of heritage but also a symbol to all the world that we are a cultural people who encourage and enjoy the beautiful.

“Owner” vs. “Client”

A Discussion at the February Meeting of the Board of Directors

AT THE RECENT MEETING of the Board of Directors David C. Baer, the Chairman of the Committee on Office Practice, presented a Committee recommendation that in the Contract Documents between Owner and Architect, the word “Owner” be changed to “Client.”

William Stanley Parker, Consultant to the Committee, presented his recommendation that no change be made.

The Committee's point was that the architect on many projects today is not actually retained by the true owner of the property concerned, but by a lessee. Sometimes there may be two or more architects working on the same building, one for the owner of the property and the building itself, and others for tenants. The Committee felt, therefore, that the word “Client” in the contract would more truthfully represent the professional relationship between the architect and his client, and that furthermore it was more dignified and had a better public relations value.

Mr. Parker felt that unless there was some compelling reason for the change, that such a change would be unwise. The word “Owner” has served in the documents for forty years, and there has been no known case of its being unsatisfactory. Furthermore, there are places in the documents where “Client” could not be substituted for “Owner,” thus causing the use of both terms, with the resultant possibility of confusion; the symmetry of the document would be lost if the descriptions of the same party varied. Whether or not the “Owner” is the

true owner of the property is immaterial, he is at least the agent of the owner. It is obvious that the owner becomes the client of the architect the minute the contract is signed, and changing the word would not change their relationship. The contracts in their present form have stood up in many court cases.

The word “Client” is a valid title in the relationship between an attorney and his client, for the attorney is the advocate for his client. But the architect must maintain the position of impartial judge between the owner and his contractor, thus the owner cannot be the “Client” of his architect.

The Board discussed the proposed change at length, and asked the opinion of the Institute's legal counsel, John T. Carr Lowe. Mr. Lowe recommended that the wording be left as it is.

One Board member said he had consulted a contract lawyer, at Mr. Parker's request, who said that it didn't really matter what the first party of the contract was called, but if other architect's and engineer's forms continued to use the word “Owner,” and other documents in related fields continued to use “Owner,” and the AIA Owner-Architect contract were changed to the word “Client,” considerable confusion might arise in the courts, as well as doubt in the mind of the public as to what the architect's status really was.

The Board decided, therefore, in the absence of any compelling reason for the change, and with due deference to the opinion of the Committee, to leave the word “Owner” in the contract forms, and voted accordingly.



The Architect and the New Century

an Editorial

"IN THE MAGNITUDE OF THE NATIONAL SCENE . . . THE ARCHITECT HAS BEEN A CARVER OF CHERRY STONES."

Charles D. Maginnis, FAIA
Speaking in 1933

AS SOCIAL RESPONSIBILITY distinguishes a mature man, so is it the mark of a mature profession. It is the guide to vision and the measure of ultimate worth. To say that architects lack vision denies the very source of our creative energies; but to state, as did Institute Gold Medalist Maginnis almost 25 years ago, that our vision has been narrow and unequal to the challenge of our times is to acknowledge truth. By such acknowledgement of truth we purge ourselves of false vanity and prepare ourselves for the recognition of need. We take the necessary first steps toward the fulfillment of our professional mission.

Society looks to the professional disciplines for leadership in preserving appropriate aspects of the general welfare. By tacit consent, the medical profession assumes responsibility for our national health; the clergy for our moral welfare; the lawyers for order and safety; the teachers for education. To whom may the public look for guidance in the shaping of our physical environment? To the industrialist? The realtor? The engineer? Too often to these and other strong, aggressive men has fallen the task for which the architect is trained. This is a leadership which we claim but lose by default. Are the architects "carvers of cherry stones?" or at age 100 have we matured—ready to seize and to rejoice in a social burden worthy of our inheritance and challenging to our skill?

Our Institute Committee on the Advancement of the Profession asks the question "How well have architects fulfilled their role?" And goes on to say:

"The answer cries forth from every city in the land . . . Appalling is the extent of ugliness, destruction of natural beauty by exploitation, spread of economic confusion, multiplication of disorder. True, some fine projects have been built, and there have been

marvelous advancements in building technology, but these bring scant comfort against the chill realization of the chaotic environment which glares on nearly every street corner from coast to coast.

"Is the architect to blame? Yes! In large measure, yes! Architects, by endowment and training, claim qualification to advance the betterment of man's physical environment. Society looks to architects for leadership. But all too often, architects have chosen the narrow role, spending efforts in the achievement of separate projects, head in the sand with regard to the disorder all around . . . Side-tracked from our true role, for which the community needs us so sorely, we have become absorbed in a multitude of matters. It is small wonder that we find threats of encroachment in fields from which we have all but abdicated."

Our professional record is not black; nor is it fair exclusively to blame the architect for mankind's demonstrated capacity to foul his own nest. Accomplishment is great. There have been a multitude of buildings that delight us, many communities where the good life can be enjoyed, and even a few "big plans" as beacons in the dark. As a profession can we all lift our eyes from the drafting board and see the full vision of service? Can we pocket the "cherry stones" and "in the magnitude of the national scene" attempt more worthy tasks? What greater challenge can the New Century offer than the total re-creation of our world in beauty! Can we re-define and firmly grasp the full professional responsibility of the architect as the *creative coordinator in the shaping of all our physical environment?*

PHILIP WILL, JR., FAIA



Photo Courtesy New York City Dept. of Public Works

The Rehabilitation of New York City Hall

BY HAROLD C. BERNHARD

*The Author is a Member
of Shreve, Lamb and
Harmon Associates*

ALTHOUGH GROUND WAS BROKEN in 1803 for the construction of the present City Hall of New York, it was not until 1812 that the structure was officially completed. History records the difficulties experienced by the architect John McComb, Jr., who had to be a Jack-of-all-trades, a designer, an inspector of quarries, a personnel man, and a bit of a politician. The completed building was enthusiastically received as a masterpiece of its era. It became at once the center of municipal life of New York, dignifying the city with a sense of civic pride and beauty.

Except for the base course and north facade which were built of brown sandstone, the building was originally constructed of Massachusetts marble from the West Stockbridge area. Repeated repairs were subsequently required to preserve the structure, and records indicate rehabilitation as early as 1847. A fire in 1858 left the building in a ravaged condition with its stonework blackened by smoke. Again in 1917 damage by fire occurred in the cupola. However, this was restored by Grosvenor Atterbury, ar-

chitect, to approximately the exact lines of the original McComb creation. During this period, sandblasting and paraffin treatments were applied to the exterior stonework in an attempt at preservation, although unfortunately these methods met with no lasting success.

The continued repairs and renovations to the exterior proved to be temporary and the need for major restoration of the exterior stonework became more and more apparent. Pieces of exterior stonework were falling off, endangering human life. The Art Commission and many civic and cultural societies, including the New York Chapter of the A.I.A., pressed for action, stressing the need for a thorough, accurate and complete restoration.

In 1937, the firm of Shreve, Lamb and Harmon was engaged by the city to make a condition and preliminary cost survey of the exterior of the building. This was supplemented by a further contract in 1944. In 1949, the successor firm, Shreve, Lamb and Harmon Associates, was engaged to prepare final

drawings and specifications for the restoration and renovation of the exterior of City Hall. At that time, however, more urgent matters such as the Korean War with its emphasis on Civil Defense, and the growing need for schools and hospitals channeled available civic funds in directions other than City Hall restoration. Ultimately, however, in 1954 the Board of Estimate allocated \$2,250,000.00 for the City Hall project, and construction was finally begun.

McComb's drawings, preserved by the New York Historical Society, proved of little help to the architects for they did not represent actual existing conditions of the exterior. Many changes must have been made by McComb in the field during the course of construction. Although measurements and drawings of the exterior from W.P.A. days were of some assistance, it was necessary for the architects to inspect the exterior from a hanging scaffold, examining and recording the condition of each stone. For this purpose the architects employed an experienced cutstone mechanic to work with their own staff members in surveying the exterior.

A great deal of study was given by the architects and the Department of Public Works in the selection of suitable materials to replace the eroded stonework. The new materials had to be similar in coloring to the original and had to be as durable as possible in the New York climate and sooty atmosphere.

Until the time of preparing final bidding data for contractors, it had been planned to replace only those pieces of marble which were eroded. Thus the problem of "blending" new and old stones for appearance was important. The architects submitted tabulations of various marbles and limestones investigated, including their physical characteristics. In company with representatives of the Department of Public Works, the architects inspected various buildings in New York faced with stones under consideration. These were compared with weathered samples of marble removed from the City Hall. It was concluded that none of the marbles under study, even with a maximum of treatment, could be blended in with existing City Hall exterior. On the other hand, it was agreed that Alabama limestone matched very well, and that its qualities of durability were superior to those of most marbles.

Unpolished Missouri red granite was selected for the base course of the building, to replace the brownstone, and Alabama veined gray limestone was chosen for the upper structure, including the north facade. The latter was a departure from the original but only to be more faithful to the early conception, for economy alone had induced the use of brownstone instead of marble on the north side.

Bids were requested by the city for the replacing of the eroded marble with limestone, with a new brown granite base course. An alternate bid called for the replacement of all exterior stonework. Fortunately, this alternate bid came within the budget allocation and was accepted, obviating the problem of "blending," and providing uniformity in stone color which, in time, will take on an aged appearance.

The construction operation was exceedingly interesting in the manner in which problems were met and overcome. The entire building was immediately covered with scaffolding of the steel tubular type, providing working stages at approximately 8'-0" levels. From these stages, plasterers and modelers made plaster glue mould impressions of the best preserved carved ornament in order to ensure faithful reproduction in the new stone. Where the old carving of a capital, oak leaf swag or acanthus

THE ALABAMA LIMESTONE LENT ITSELF TO CRISP DETAIL. NOTE THE TOOLING OF ALL PLAIN SURFACES.

Photo Courtesy New York City Dept. of Public Works



leaf modillion was eroded, the modeler had to restore the carving to perfection. Workmen then with pneumatic drills stripped off the old stone facing to a general depth of 4". The original marble facing, varying in thickness from 5" to 18", was bonded into the rubble stone backing. In some areas, particularly at the northeast corner, the slice of remaining stone had to be temporarily pinned to the masonry backing. Incidentally, the ensuing noise and dust from the drilling drove the Mayor and other occupants to temporary quarters elsewhere.

While the old stone was being removed, the new stone was being prepared at the contractor's yard with care and precision from shop drawings and finished models, approved by the architects. The new stone was then set in place and anchored to the backing. Each of the 15,000 individual stones was fastened with a minimum of two bronze anchors set at an angle into the old inner walls. The anchor holes were then filled with mortar.

A few deviations in construction and planning had to be made as the work proceeded. Flues from abandoned fireplaces were found in exterior walls, all without linings and faced with stone alone. These were filled in and sealed. Old wood lintels at basement windows were in bad condition, necessitating replacement by steel members. In places spandrel stones under windows were found to be four inches thick without any backing to the wood paneled interior. Here brick backing was provided. The steep three-sided stairway on the north side was

changed to a two-flight stair, equipped with wrought iron railings in period character.

Minor modifications were also made in basement entrances to eliminate hazards and unsightliness, in keeping with the building style. To discourage the City Hall Park pigeons who love classic architecture, a low voltage, electric pulsating system was installed on projecting cornices. The wiring cannot readily be seen, and a cleaner building will result.

Considerable study was given to the use of preservatives to seal the pores of the stone and to minimize staining and deterioration. It was agreed, however, to wait a few years to permit the new stone to dry out and cure thoroughly. It is planned at that time to wash down the exterior and apply a colorless waterproofing, especially prepared for limestone.

Renovations to the interior were relatively minor, including the removal of antiquated electric wiring, application of fresh paint, installation of new marble treads on the famous circular stair, and new draperies and upholstery.

On July 12, 1956, the restored City Hall was rededicated in all its original, treasured beauty, preserved for generations to come. In the midst of their day-to-day duties on commercial and streamlined modern structures, the architects are particularly proud of the part they were privileged to play in the renaissance of City Hall, in collaboration with Commissioner Frederick H. Zurmuhlen, A.I.A., and his associates in the Department of Public Works.

Honors

THE UNIVERSITY OF ILLINOIS announces that the Francis J. Plym travelling fellowships in architecture and architectural engineering have been awarded to three graduates of the University. Jack Mitchell Goldman, currently employed in the office of Eero Saarinen and Associates, is the Fellow in Architecture. Because no Plym award in architectural engineering was made in 1956, two were awarded this year. They went to Joseph Robert Deshayes, of Houston and to George W. Reihmer, of Chicago.

THE HOWARD MYERS AWARD for Architectural Writing was given this year to Eero Saarinen. The ceremony took place at a luncheon at the Architectural League of New York on April 4th.

THE AMERICAN ACADEMY IN ROME announces its Rome Prize Fellowships for 1957. The fellowship is for one year, each consisting of \$3000, including stipend, travel allowances, free studio and residence at the Academy. The recipients in Architecture are George F. Conley, Jr., Cambridge, Mass., and James J. Padavic, New Haven, Conn.; in Landscape Architecture, Robert T. Buchanan, Cambridge, Mass.

THE ARCHITECTURAL LEAGUE OF NEW YORK, celebrating its seventy-fifth anniversary this year, has elected as its President for the current year, Olindo Grossi, Dean of the School of Architecture of Pratt Institute, Brooklyn, N. Y. Dean Grossi also practices architecture in Manhasset, Long Island.



Photograph by Miller of Washington

The President's Page

IT IS APPROPRIATE that as we celebrate our Centennial and look forward to the new century that our *Journal* should take on a new look. We cannot, as we survey the past, but be mindful of the great service rendered by the former *Journal* and pause for a moment to pay a just and deserving tribute to the beloved Editor Emeritus, Henry H. Saylor, F.A.I.A.

Our new *Journal* has more than new format and layout. It is designed by the architect, for the architect and about the architect. It is designed to be truly the voice of the Institute and its members. We sincerely hope the membership will make full use of its pages to thoroughly discuss all phases of the architect's life and especially of those things that create the most controversies within our profession.

We look to our new voice to bring us more information so that our continuous striving for more knowledge may be partly satisfied. We have the tool, let us put it to work.

Ours is a perplexing and complicated profession. It has grown and changed its thinking more in the past fifty years than it did during the 2000 years since Vitruvius.

If someone had merely mentioned "public relations" when I joined the Washington Chapter as an associate in 1922 he would have had charges brought against him. Today our Institute spends nearly 20% of its budget on this single item. If we care to add up the sums spent by our Chapters and State Associations and especially our own members, I would guess our profession spends well over \$10 million dollars a year on this form of advertising. And this does not include the amounts spent by our good friends in the production fields who advertise for the architects' benefit. Let's not be naive—we do pay for advertising. My confreres of 1922 would never have believed it.

Your Board of Directors and a special committee of the Institute spent hours carefully studying and have now approved a professional liability insurance policy. Is this to imply that our profession realizes its frailties and its vulnerability to law suit because it has poorly equipped practitioners? Are we so poorly trained and educated that we are afraid we might design buildings that may collapse and kill people or cause tremendous damages? Those architects who signed my application for membership a few years ago would literally turn over in their graves.

Membership in the Institute today is not confined to those who are close friends. It is a far cry from the days when our Chapters were in effect "gentlemen's clubs." We are striving more and more for clients who want to build larger and more expensive buildings.

A new monster has appeared in our realm. We call it the package-dealer. Our membership cries to our Board of Directors, "Find ways to kill this vile creature." We appoint committees, they study how we can best combat this intrusion on our practice. We appoint committees to take a new look at our own way of doing business. Can the Institute itself stop competition? Why are we afraid of the builder, the engineer or the pre-fabricator—because we are not competent to do a better job? The very nature of our profession requires us to be continually alert to keep up with the fast pace of the times in which we live.

Schools of architecture and their curricula are other subjects that have taken many hours of our Committees' time. Some say that the schools have not been furnishing the profession with enough capable young draftsmen. Is it the function of the college to provide a polytechnic education and turn

out craftsmen, or should their education enable them to practice architecture? Truly our schools have changed as much as our profession. Gone are the India ink grinding stone, the carefully laid washes, the elaborate pochés, the memorizing of all the minute parts of the classical orders. In its place our students are learning the true function of architecture. Perhaps the Institute should sponsor some technical schools for draftsmen such as the Ryerson School in Toronto.

AIA Scholarship Awards

BY UNANIMOUS ACTION, the AIA Committee on Awards and Scholarships recommends the following to receive funds from the AIA scholarship funds:

Langley Fund:

ARTHUR ROBERT KLAESON, JR.
Rhode Island School of Design
ROBERT BENJAMIN CHURCH III
Georgia Institute of Technology
CHARLES A. BLONDHEIM, JR.
Georgia Institute of Technology
EWART ARTHUR WETHERILL
Royal Architectural Institute of Canada

Langley Alternates:

First—ROBERT FRASCA
University of Michigan
Second—WILLIAM LYMAN PORTER
Yale University

Rehmann Fund:

HOWARD NOBUO HORII
Pratt Institute

NBFU Funds, through the American Architectural Foundation:

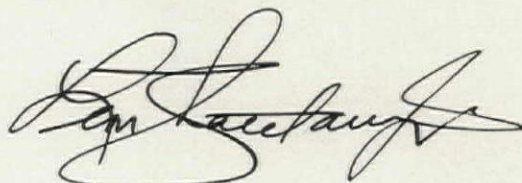
ROLF H. OHLHAUSEN
Cooper Union
BYRON G. MC INTYRE
University of Florida
ROBERT BRENNER SPRAGUE
Harvard University
JOHN I. MESICK
Pratt Institute
NEIL L. ASTLE
University of Utah

NBFU Alternates:

First—HERBERT HENRY AUER
Cooper Union
Second—SALVATORE COCO
Cooper Union

I personally hope the pages of the new *Journal* will be used to discuss opening both sides of these and similar topics. It will be a great help to your Board of Directors to hear from the grass roots.

This is your magazine. It has been designed for you—the architect.



“Quote”

USING FRANK LLOYD WRIGHT as the romance side of architecture, and Mies as the “simplicity out of chaos,” as the other side of architecture . . . leaves us looking for humanity. I think perhaps it is the most important of the three sides, but I am really stumped trying to get a specific building as an illustration. I keep wandering around the City Hall in Stockholm. That’s really a hodge-podge of all kinds of things, and perhaps that’s one of the reasons I keep going back to it.

Certainly Scandanavian tradition and growth is, to me, a very important influence. I think they are the only people who are really practicing the precepts of democracy as it applies to architecture; and I have noticed through the years—it was 15 years ago the first time, and I have been back three or four times since—that somehow or other their buildings, as a group, seem to weather much better than ours. It’s the only place I have noticed that the passage of that many years has done so little harm to the buildings . . . and it is so much more a part of the life of the people.

As I say, I haven’t been able to put my finger on any one building or even one person or anything too specific. But let’s look at the city of Stockholm. Here’s a city which is alive today, which isn’t depending on buildings of many, many years ago. We always talk about the *Piazza di San Marco*, but that’s dead, as far as today is concerned. It was completed many years ago, and people are still using it, which is fine, but it isn’t saying anything as far as what we are doing today.

But Stockholm is saying very effectively that democracy works and that the people are intelligent and do know what they want. It is saying that they are civilized. And today, there are darned few places in the world where you can, I think, get that feeling at all.

—Carl Koch in “Aluminum in Modern Architecture,” Volume 1.



The Architect and the “Package Deal”

BY VINCENT G. KLING

The author, a member of the AIA “Package Deal” Committee, feels that the architect must meet this problem by offering a similar but better service.

WHEN CY SILLING INVITED ME to join the “Package Deal” Committee several months ago I accepted unhesitatingly and participated with devotion because of my concern over the encroachment of the responsibilities of our profession being made by those who are as unqualified for the role as they are persuasive in assuming it. I fear that they will do much to mar the physical environment of this country before the test of time proves their approach to be sadly out of keeping with the best public interests.

I’ve spent a good deal of my personal time on the problem, and I think the entire membership of the A.I.A. should know that investigation of the problem is moving forth with dispatch and with very vigorous support from some of our leading architects, members of the A.I.A. “Package Deal” Committee.

It is because some additional months may pass before a report to the membership will be made that I take this opportunity to discuss the “Package Dealer,” known to some as a “joint vendor” of commercial building service. The thoughts that I set forth at this writing are my personal reactions to the problem and do not constitute an official A.I.A. statement.

Almost every architect has been confronted by the client who, in effect, says: “I can meet my building requirements rapidly, economically and sometimes under advantageous tax systems with the ‘Package Dealer.’”

In its broadest form, the “deal” includes site selection, design, budgeting and cost analysis, construction, supervision, interior furnishing, financing, insurance and sometimes lease-back upon completion with an option to buy. A few examples of this type of dealer are the builders of modern multi-story office

buildings, the steel companies producing prefabricated schools, the large-scale residential developer and the many companies throughout the country who offer a unit service to commercial and industrial occupants under a “turn key” arrangement.

I think the architect should face the fact that the broad service of this middle man has a strong appeal to many of our clients and *he must do something about it*. We architects have been blind to the vacuum into which the “Package Dealer” has moved. The trend is growing fast and we should not attempt to stop it by such negative devices as outlawing the “Package Dealer” on the basis of illegal and unprofessional practice of architecture. On the contrary, we must gear our profession for the broader service which is desired today and stress the unique position of the architect as the professional advisor to the client who places the client’s interests first and foremost.

The architect is charged with the responsibility of designing the physical environment for people all over the world. To do this well he must hold the key position as coordinator and leader of the specialists in real estate, planning, financing, mechanical, structural and electrical engineering, construction supervision and interior design as well as performing his unique role of producing architecture of high design quality.

Some positive steps must be taken immediately to prepare the architect to render the broader service required of him if he is to compete successfully with today’s joint vendors. This will mean not only a change in his professional education, but also an aggressive campaign to make known the architect’s superior ability to serve the client’s best interests—economic and other.

These are some of the services he must be ready to offer:

1. A careful determination of the cost and quality of the job before construction is undertaken. This will thoroughly acquaint the owner with the scope and quality of his project and eliminate the possibility of progressive downgrading through the construction period in order to meet the established budget. The owner is thus protected against buying a "pig in a poke" building.

2. Analysis of the relationship of cost to revenue producing capacity of the project before launching the working drawing phase, thereby assuring the economic soundness of the project.

3. Quality control over selection of materials and equipment and control over performance of contractors and subcontractors to assure the best result for the owner, who generally is inexperienced in the intricacies of the construction industry.

4. Production of a building which has high resale value by virtue of its flexibility in planning and its superior standard of workmanship and design.

5. Broad service in site selection and use, establishing the suitability of the site for the project and its relationship to the neighboring community. The architect must necessarily broaden the scope of his influence to include considerations of urban and regional planning.

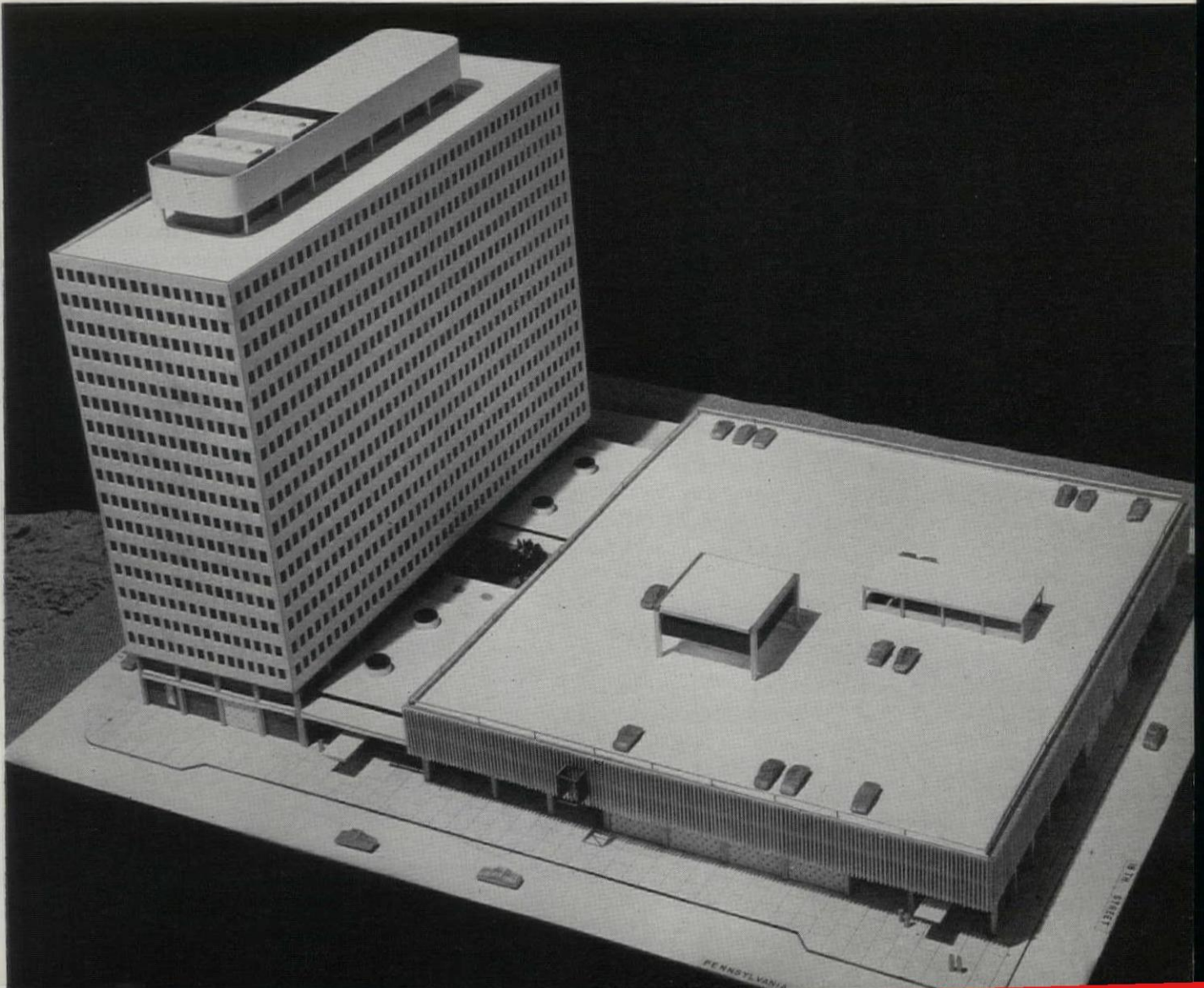
6. Knowledge of advances in building techniques stemming from the broader experience of the architect whose practice involves many different types of buildings and systems of construction. Careful analysis of new products and methods and the courage to employ them when the occasion is right. This progressive approach to building design and construction will prevent the adjustment of a design to a builder's limitations or preferences and, at the same time, bring together the forces which spell progress in architecture.

7. Analysis of the insurance and tax structures as they apply to the design of the project.

8. Coordination of the interior design with the general concept and objectives of the principal architectural design.

THE TRANSPORTATION CENTER, PHILADELPHIA, IS A BUILDING TYPE WHICH AN ARCHITECT CAN HANDLE BETTER THAN A "PACKAGE DEALER."
VINCENT G. KLING, ARCHITECT

Photograph by Lawrence S. Williams



9. Preparation of top-quality graphics and public relations material which will complement and support the project.

10. Employment and coordination of consultants in such specialized fields as hospital planning, kitchen planning, and industrial planning, where the best interests of the project will be served. The architect is in the unique position of being able to coordinate these professionals within the framework of the overall concept of the project. He alone is qualified to interpret that concept.

In general, it must be pointed out that the architect is the one person on the whole building scene who can serve the client's interests best because he is under no compulsion from manufacturers or contractors and is the only logical person to appraise the merits of the overall project before its design is undertaken.

There are a few difficulties which will seem insurmountable when the architect attempts this broader service program. The first one that comes to mind is a basic principle on which the A.I.A. has been founded that architects shall not build or be construction contractors because they cannot serve two masters.

A tool at the owner's command is the proprietary contract arrangement, whereby he selects and establishes an architect-contractor team, maintaining the independent professional status of each. This plan gives the owner the advantage of the pooled "know-how" of architect and builder from the very inception of the project without, at the same time, exposing him to the compromises involved in a design operation.

Another problem is one of fees. Obviously the lowest standard A.I.A. fee will not permit top-flight service in all of the categories I've mentioned. That there should be an upgrading in fees commensurate with the scope of service there is no doubt. An immediate positive step in this direction should be the payment by the client of all professional specialists who are brought into the architect's team. This payment should be in addition to the architect's fee wherever the architect's fee is not upgraded to encompass this added service. Another difficulty is the popular conception of the architect by the client as a picture painter—an impractical man who is brought into the project after the keel has been laid and when fancy fittings are required. It is impossible for us to do a first-quality job if some of the major decisions on site selection, budget, construction system, etc. have been made without our participation. In the defense of good architecture, I think we must equip ourselves with a thorough understanding of all the most basic elements of a project—site factors, scope, scale—and we must act as a profession to

make our proficiency—yes, indispensability—at this level of operation more widely recognized.

Another serious problem is the upsurge of prefabricators. Some architects feel that we should outlaw prefabrication because there is no building which fits all sites equally well. In this I might concur. But prefabrication for certain building types is here to stay, and I feel that the architect should take off his horn-rimmed glasses and undertake the architectural and general design of the prefabrication system in order to reduce the module and provide for a more logical and flexible application of the factory-produced building system. Where this system has application and merit we should produce the leadership for its design.

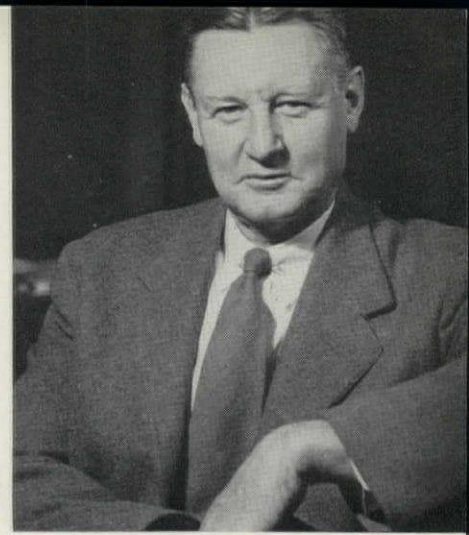
I have outlined my thinking on this bold step which all of the profession must take. Some of us are performing many phases of this broader service—but not nearly enough. Architects realize it is important. The Institute is taking calculated and thorough steps to put this subject before the membership in a positive and forceful manner. I welcome the opportunity to have worked with the Committee on "Package Deals" and to set forth this interim expression so that all our members may be thinking, meanwhile, of this important Institute-sponsored undertaking.

"Quote"

"SO THEN THE WORKS AROSE, no less towering in their grandeur than inimitable in the grace of their outlines, since the workmen eagerly strove to surpass themselves in the beauty of their handicraft. And yet the most wonderful thing about them was the speed with which they rose. Each one of them, men thought, would require many successive generations to complete it, but all of them were fully completed in the heyday of a single administration . . . For this reason the works of Pericles are all the more to be wondered at; they were created in a short time for all time. Each one of them, in its beauty, was even then and at once antique; but in the freshness of its vigour it is, even to the present day, recent and newly wrought. Such is the bloom of perpetual newness, as it were, upon these works of his, which makes them ever to look untouched by time, as though the unfaltering breath of an ageless spirit had been infused into them."

—From Plutarch's life of Pericles, and brought to our attention by Frederick J. Woodbridge, FAIA, as being particularly fitting for these times.

From the Executive Director's Desk



Photograph by Van Tassel

IT HAS BEEN A SIGNIFICANT PRIVILEGE to have been a close observer of the progress of The American Institute of Architects. It has also been a source of pride and pleasure to have been associated with that progress. Orderly expansion is gratifying. The Institute has marched forward and has become a vital force in the construction industry and even a power to be reckoned with in the general economy.

We cannot, however, flourish in a vacuum. Expanding and growing in power and prestige—physically and spiritually—The American Institute of Architects has enjoyed a career which bears some resemblance to the careers of other American organizations. Our profession has flourished along with other American professions. In doing so, we have perhaps moved a trifle ahead, relatively speaking, of the others, for The American Institute of Architects has attained a stature which was not anticipated in the myopic days of twenty years ago when I first became intimately associated with the national organization. At that time we thought we were dreaming great dreams; little did we realize how vast this country would become in power, in resources; how accelerated our progress would be; and how the role of the architect would change and the structure of its organization would have to be greatly modified. There was no conception then of a Department of Education and Research, for instance, or a highly articulated and efficient public relations, or the galleries of The Octagon which have become really a cultural focal point in Washington for architecture.

One could scarcely envision the beehive of activity that The Octagon has now become—where not only has it outgrown its original fabric, but also the Administration Building which when it was planned was considered as a building that would far exceed our usefulness and we would have to rent offices to other organizations. There was no thought at that time of turning the stables into a library (even the library is being over-used; we need more

stack space). We are now adding an annex to the Administration Building on the old parking lot which will, we hope, take care of our needs for at least the next five years.

It is very gratifying to have been a player in our progress. One can look at our growth with pride and pleasure, but the temptation to gloat evaporates and humbleness takes its place when one reads of the courage and persistence of the brave band that founded The American Institute of Architects in 1857. Their foresight and their singleness of purpose survived dismal depressions, the Civil War and the appalling conditions that maintained in the profession in the mid-19th Century.

All professions have had to struggle for recognition and appreciation, even the medical and the legal. There was a time when physicians were rated little better than barbers, and lawyers, in the days of Dickens, were scarcely looked upon with respect. Architects had an even greater struggle for they were looked upon as handy men and, in fact, sometimes they were just about that. The day can be recalled when the architect was not always admitted by the front door, but had to use the tradesmen's entrance. However, throughout the history of the profession there always have been men of talent, courage and dominance who have kept alive that spark of enlightenment and respect which now burns with a bright light.

The American Institute of Architects is a progressive organization. It keeps abreast with the times; its leadership is alert; and we know that it will maintain that place in industry and in the economy and in the world at large which it has won through the efforts of its members and their contribution to the welfare of the country.

Edmund D. Purvis

The Architect in a Democracy



BY ROBERT J. LEWIS, *Real Estate Editor of the Washington Evening Star*

THE ROLE OF THE ARCHITECT in a democracy can be compared, in a number of ways, with that of the poet, the philosopher, the lawyer, the politician and the pamphleteer. To achieve their goal, all must communicate with, and influence people, using words that can be understood and symbols that make sense.

If they are to play their role to the fullest, and are to be true to themselves, these people must seek to impress their ideas on others—for this is the way minds are influenced, fame is gained, and the world is prodded onto a new and perhaps better course.

Whatever others may think of the role of the architect, you and I know he is engaged primarily in a battle to express himself. He has been plunged willy-nilly, by the very nature of his work, on a course of trying to garland the world, and improve it with his own ideas. If he is extraordinarily successful in doing this—and the only thing that stands in his way is other architects—he may, in time, be regarded as a genius to be remembered through the ages.

Therefore, every architect must yearn to give his ideas the fullest play. Each one must at heart be an individualist. Each one must want, above all, to pursue his own star. The problem for the individual person is: How to do this?

The answer, I suspect, is that an architect cannot do all this at a drawing board, any more than a candidate can win an election without an audience, or a writer can gain a following without a publisher.

There's a common belief that the best architect is an architect's architect. In my opinion, this is a legend in the same way that there exists the unsupportable thesis that the best lawyer is a lawyer's

lawyer, or that the best poet is a poet's poet.

I am much more a believer in the good sense and good taste of an informed and mature public than I am in the idea that judgment in these things belongs exclusively to an esoteric circle of esthetes or of experts. Democracy is a political condition that holds considerable sway in this country. I believe in it as a good way of life. I would like to see architects, more and more, help make it work, in the same way that I would like to see newspapermen help to make it work—and lawyers, advertising men, poets and philosophers.

Many newspapermen spend a great deal of time trying to impress other newspapermen. Some architects, I have found, do the same thing in relation to their colleagues. This is probably as fruitful and satisfactory a life as is open to anyone, since it adds up to a greater challenge. One architect confronting the critical eyes of others in his profession is probably cast in a role more nearly like that of lion-taming than any activity outside the realm of lion-taming itself.

But impressing one's colleagues alone can become a relatively barren pursuit, even though this course often offers great rewards to the victor—usually after he has reached an advanced age.

I doubt that the man who wins out has always achieved dominance of his ideas by bending over a drawing board to the exclusion of other means of communication. Such phrases as "Less is more," and "Form follows function," have as much in common with the political hustings as they have with the world of design. They are in the same tradition as

such phrases as "Tippecanoe and Tyler, too" and "He kept us out of war."

But all this is good. The architect must be aware of his public. He must use all means available to him to wage his struggle. No architect can operate in a vacuum. No architect can practice without contact with the people who provide the real foundation for his buildings.

This is why I am convinced that the young architect, at the outset, should learn to identify himself with the mass of the people, and find out about their hopes and fears, their weaknesses and strengths, their pettiness and nobility. In my own view, the more democratic and understanding the architect, the more successful, essentially, he must be in our democratic day and age.

For the day has passed when the architect, the artist, the composer, and musician were mere lackeys in a royal or princely household.

I have heard one or two architects express a sort of nostalgic yearning for the days when things were ordered differently than in a democracy—for the days when, by a mere command of a royal patron, great new vistas were supposedly opened to art.

My feeling is that democracy of the kind we have in this country offers a chance for glories equal to any in the past, and for many more things, besides; for far broader vistas, greater freedom for creation, more exciting dreams, more valid buildings, more fields in which to conquer than any preceding age ever offered.

True, many of these inherent opportunities are unrealized, up to now. But it is the architect who must believe in these opportunities if they are to materialize. It is the architect who must take hold, who must understand people, who must pamphleteer and philosophize, who must catch fire with a zeal that cannot be quenched, if democracy is to produce greater and greater architecture, as it has produced greater and greater political and economic freedom.

The means by which the architect can do this are the same means by which our democracy has been molded in other ways. The architect must train himself to influence public taste, he must push himself to the limit of his endurance to participate in public affairs, he must learn to understand and contribute to public opinion.

It seems to me, in fact, that all this entails a reappraisal by the architect of his role in society. I have been very happy to see the architect emerge in recent years as a person to be reckoned with in public matters, and I hope that his voice will become stronger and more influential.

All this is not just a matter of public relations. It is, instead, a matter of active participation by this profession in the workings of our democracy.

The real issue for the future, it seems to me, is whether the architect will assume, to the fullest extent, his proper role as a democratic man. If he does that, I believe the world will be a better place, and that both the architectural profession and the people will benefit.

CURRENT COMPETITIONS

THE FOLLOWING COMPETITIONS are approved by the AIA. The Institute assumes no responsibility for the information below, but believes it to be correct. It advises any prospective competition to secure the full program as indicated.

INTERNATIONAL SOLAR HOUSE COMPETITION:

The Association for Applied Solar Energy proposes to erect a residence in Phoenix, Arizona, for the purpose of stimulating public interest in the utilization of the sun's energy. The house will be studied and subsequently be the subject of a symposium by scientists.

Eligibility: Any architect or student of architecture registered in his state or country or associated with an architect so registered.

Dates: Application—June 1, 1957
Submission—August 15, 1957
Awards: \$2500 plus architectural commission at 10%; \$1500, \$1000, \$500, \$500
Jury: Pietro Belluschi, FAIA
Carlos Contreras
Thomas H. Creighton
Nathaniel A. Owings, FAIA
James Walter Elmore
Conditions: Application to and programs secured from:
James M. Hunter, FAIA
Professional Adviser
1126 Spruce Street
Boulder, Colorado

LIFE IN A MARTINI GLASS:

Wild Gold Medal Winners I Have Known

I NOTE WITH GREAT PLEASURE that Louis Skidmore has been awarded the Gold Medal of the Institute and I could have told you that he was doomed to success as far back as nineteen twenty-eight.

I was on that expensive year abroad that architects used to enjoy before settling down to the Lally age here. In Rome, I travelled under the aegis of the American Academy and worked in the atelier near the Tritone. There I met up with Ed Stone and having measured and drawn the Cancelleria and the Massimi Palace we moved on to the Pensione Annalena in Florence.

At lunch on Sunday there appeared two well-worn travellers from the East, Louis Skidmore and Joseph Judge, broke, full of goat curds and just off a Japanese boat fourth class from Istanbul and heading for Paris.

Skidmore was working his way around the architectural sites of Europe and the Near East for the third year on a two-year Rotch Fellowship, and I was so touched by his zeal that before he left that afternoon I had lent him fifty dollars and even gave him ten bucks to take Marie Ward, Paul Cret's secretary, and her friend out for a drink in Paris.

Several moons after, I arrived in Paris and took up my station at the Deux Magots. Joe Judge came along and said that Skid was in England illustrating a book on English villages of Broadway and Chipping Camden for Sam Chamberlain. I wrote him and got my fifty bucks and an introduction to Landefeld and Eloise Owings and her mother and the students at the Parsons School for Designing Women, who did their homework under the guiding eye of the architects around the Magots.

Landefeld and I took the Jap boat to Egypt that winter, followed the trail of Skidmore and Judge around the Near East and wound up in Rome with patches on our pants and about twenty-five dollars between us. We hooked a lunch from Badgeley's in-laws at the American Academy and, since I was heading home and Landefeld was going back to the

Beaux Arts in Paris, we decided to spend a couple of dollars and so hired a carroza for the ride up the Pincian Hill for a final look at Rome and also a chance to smoke the American cigars which Badgeley's father-in-law had given us.

There is a long cobbled slope up past the French academy, and the horse was taking it easy when I suddenly realized that we were being pursued by a man who kept shouting "Landy!" I finally awakened Landefeld to the fact that he was being paged by a short gentleman with an Indian haircut.

Landy deigned a look. It was Raymond Hood. "Where the hell have you been?" said Hood breathlessly. "We've been to the glories of Greece and enjoyed the grandeurs of Rome," said Landy. Hood said, "Landy, get the hell up to Paris and get Skid and Joe Judge and Roorda and start some sketches for the Chicago World's Fair. I have just been to Ravello and here's the big scheme. We will build a mountain out in the lake, take everybody up in elevators, and they walk down and around the whole Fair on a big ziggurat scheme. Keep it under your hat. I'll see you in Paris," and Hood turned and raced down the hill.

I lent Landy the twenty bucks and he went to Paris. I came home and went to Cret's office, and told him what Hood was up to. Cret shrugged his shoulders and said, "He does not know what he is doing," and went on with his scheme, which was just as wild.

When Skid returned to the United States, he came to see me in Philadelphia and to meet Paul Cret. At that moment, Cret, Holabird, Hood and a couple of other notables had locked horns on how to design the Fair and Skidmore had the brilliant idea that he could get the drawings of the Fair together and make a Fair out of them. Cret, I think, sent him to Rufus Dawes and from then on Skidmore began to function. As Chief of Design, he helped put on the "Century of Progress" despite the depression and kept it alive through needled beer

and a second year. Later he went to New York and did a lot of work on the New York World's Fair, and developed a practice with his brother-in-law, Nat Owings, and later, "Skidmore, Owings and Merrill," one of the achievements of this era.

Before his retirement last year I used to visit him in his nook in the Oak Room of the Plaza Hotel beneath the brass tablet to the memory of that other famous immigrant to New York, George M. Cohan. There, in the quiet comfort of that ancient leather cove, he would continue his practice long after most of the geniuses of the drafting board were tucked in their little beds to dreams of FLW and Corbupius.

About two days before anybody dreamed of Pearl Harbor, Skid visited us. He had been asked by the Air Force to assist in setting up a series of aircraft-warning centers and observation posts in a scheme for aerial bombardment protection. It was a job which would have been delegated to somebody down the line, in an office of a size comparable to his. His companion was a regular Army captain from West Point, and we sat up all night settling the major problems. A couple of days later, all hell broke loose and the scheme was under way. Later he got Oak Ridge, the atomic energy town for 75,000 people, air bases and a lot of other work.

The Gold Medal is not given for quantity surveys. The list of awards and recognitions to Skidmore for his architecture, which is above and beyond mere building, makes you realize that he has been a great credit to the profession and has left a stamp on our era, not only in the United States but in foreign countries as well. He has trained men in his offices who have gone into the field to produce a

studied architecture which will continue to redound to his great credit.

A couple of years ago he joined the Rocking Chair Club and I realized that he had hung up his gloves and retired to the "consulting" field.



August Bendish '25

A CONSERVATIONIST'S LAMENT

The world is finite, resources are scarce,
 Things are bad and will be worse.
 Coal is burned and gas exploded,
 Forests cut and soils eroded.
 Wells are dry and air's polluted,
 Dust is blowing, trees uprooted.
 Oil is going, ores depleted,
 Drains receive what is excreted.
 Land is sinking, seas are rising,
 Man is far too enterprising.
 Fire will rage with Man to fan it,
 Soon we'll have a plundered planet.
 People breed like fertile rabbits,
 People have disgusting habits.

THE TECHNOLOGIST'S REPLY

Man's potential is quite terrific,
 You can't go back to the Neolithic.
 The cream is there for us to skim it,
 Knowledge is power, and the sky's the limit.
 Every mouth has hands to feed it,
 Food is found when people need it.
 All we need is found in granite,
 Once we have the men to plan it.
 Yeast and algae give us meat,
 Soil is almost obsolete.
 Men can grow to pastures greener
 Till all the earth is Pasadena.

By Professor Kenneth Boulding
 University of Michigan

— FROM "MAN'S ROLE IN CHANGING THE FACE OF THE EARTH"

Regional News

SOUTH ATLANTIC DISTRICT

THE TOP NEWS as this is written is the South Atlantic Regional Conference at the Atlanta Biltmore Hotel, April 4, 5, and 6. The program is ambitious, yet not too ambitious. For right at the start there is to be a session of and about committees—how to relate local and national committees so as to get results that are unified and cumulative in their effect. Ten committees are involved, with a large meeting to get things going, and small seminars following.

THE GEORGIA CHAPTER used its March meeting as a curtain raiser to get its own committees in working order. Each chairman was called upon to state his goals for the coming year; and since ample warning had been given, the result was the nearest thing to a businesslike organization of definite aims that this Chapter has seen. If the same sort of thing could happen at the Conference, with all the talent of the Southeast represented, who knows what the result might be?

One of the Chapter projects is for continuing education of architects—adult education, no less. This means courses for recent graduates, and group meetings for older men. Harold Bush-Brown, who retired last year as head of the architectural school at Georgia Tech, is Chairman of the Educational Committee, and since much has already been done with this program, there is little doubt of its success. The last course sponsored in conjunction with Georgia Tech, on the Economics of Building, was a sell-out. Apparently all the architects in this area were interested, so the panel sessions, with some of our ablest real estate men and bankers present, were among the liveliest on record.

SPEAKING OF PUBLIC RELATIONS, the Miami papers, like most other newspapers these days, give front page space to architecture, so that it is possible to learn something of Florida projects even without hearing from Florida chapters. But Miami papers, again like most other newspapers, seem to prefer that architects remain anonymous.

But the *Miami Herald* does mention that Miami architect Robert Fitch Smith has just won a certificate of merit from the Church Architectural Guild of America for his design of the University Baptist Church in Coral Gables. It even mentions that the Palm Beach A.I.A. has “nodded approval” of the move to save the house called *Playa Rienta*, the former home of Mrs. Horace E. Dodge.

THE SOUTH CAROLINA CHAPTER reports the successful launching of the Clemson Architectural Foundation, intended to improve architectural education within the State. Organized a little more than a year ago, the Foundation has already done much to improve Clemson College's Architectural Department, which has now received national accreditation and is pursuing programs of broader scope than seemed possible before. Besides adding to library and visual aid facilities, and offering scholarships and grants to promising candidates, the new regime sponsors field trips for undergraduates, brings well-known lecturers to the College, and makes it possible for staff members to attend important conferences and find out what other schools are doing. Under its first president, William G. Lyles, of Columbia, the Foundation raised more than \$30 thousand in one year. All the A.I.A. members in the State contributed, and so did their many friends in the building industry. At the beginning of the second year W. E. Freeman, Jr., of Greenville, takes over as President, with Mr. Lyles becoming Vice-President.

A FINAL NOTE culled from *Southern Building*, concerns slum clearance, and the A.I.A. had nothing to do with it, so far as we know. When the South Atlantic Gas Company acquired the Savannah Gas Works in 1945, it also acquired some of the saddest old buildings in the city. But the place was nothing if not historic. The site had been a botanical garden to begin with—General Oglethorpe's Trustees' Gardens, where he raised the first upland cotton and the first peaches in Georgia, and where he tried to raise silkworms. Later on, he built Fort Savannah on part of the property, and surely did not dream that gas tanks would someday perch on top of the fort.

All this spelled romance to Mrs. Hansell Hillyer, whose husband happened to be the president of the South Atlantic Gas Company. First she talked him out of razing the eleven old houses. Then, one at a time, she rebuilt them, and she did an excellent job. Today the former slum is an attractive and desirable residence area, and it includes a dozen more old houses that were not owned by the Gas Company when she began. Why, you may ask, do we wait for the government, when there are people like Mr. Hillyer around?

CALIFORNIA-NEVADA-HAWAII DISTRICT

THE NORTHERN CALIFORNIA CHAPTER of the A.I.A. assisted by the East Bay Chapter, the Coast Valleys Chapter, the Monterey Bay Chapter, and the

Central Valley Chapter, presented to the public an Honor Awards program of major interest on Saturday, the 9th of March, 1957 in the Garden Court of the Palace Hotel in San Francisco.

One hundred and sixty-five projects were entered in the competition by architects from all of the sponsoring chapters consisting of a total of 218 panels exhibited. The dinner was attended by a total of 550 persons, which was a sellout, made up primarily of architects and other members of the design professions, along with their guests, legislators of the state of California, and many other public officials of the cities within the area of the competition. As a matter of fact, local and state government officials attended in considerable number.

At the conclusion of the dinner, the Jury of Award went to a table on a dais that faced a large screen. The chairman of the evening, Cornelius M. Deasy, president of the Southern California Chapter, introduced the members of the jury, who were: Pietro Belluschi, Dean of the School of Architecture at M.I.T., Chairman; Edgar Kaufman, Jr., Member of the Board of Directors of the Museum of Modern Art, New York; James M. Fitch, Associate Professor, School of Architecture, Columbia University; Harry Bertoia, architectural sculptor; and Dr. J. Robert Oppenheimer, Director of the Institute for Advanced Study, Princeton University.

Public judgments were made from slides projected on the screen. The jury, of course, had had two days not only to examine the panels which had been proposed for judgment but to examine in person some of the winning projects which were located in the Bay Area. Each juror had an individual microphone which carried his voice to all parts of the room.

Commenting on the public relations program in his column in the San Francisco News, Mr. Arthur

Caylor stated, "At least one Chinese wall has been knocked down around here. Instead of keeping the Honor Awards dinner a closed professional affair Saturday night at the Palace, the architects not only have thrown it open to the public but brought in an all star cast of judges that includes only one architect."

A most unique contribution to the competition was an agreement by the City of San Francisco to give a commission to one of the award winners. To the best of our knowledge, this was the first time that a municipality had ever recognized an A.I.A. competition by such action.

THE ATTENTION of California architects is once again concentrated on the State Capitol. The Legislature is meeting in Sacramento to consider 7000 bills—about 10 percent of them of direct concern to the construction industry.

The number one legislative project of the California Council, A.I.A., is to amend the state's wide-open Architectural Practice Act. Happily, major organizations which blocked similar amendments in the past are now supporting the Council bill. Some opposition remains, however.

The major threat to the profession is a bill to impose a tight sliding scale of compensation for architectural services on public works, principally schools. The Council has undertaken a statewide public education program as part of its efforts to defeat this bill. The fate of this and the Practice Act Bill are still uncertain at this writing.

Other current activities of the Council:

The Board of Directors of the California Council, meeting February 22 and 23, voted to change the Council's name to California Council, The American Institute of Architects. It was formerly California Council of Architects.

Necrology

According to notices received at The Octagon between February 1, 1957 and March 28, 1957

BACON, CHARLES E.
Indianapolis, Ind.
BERRYMAN, GEORGE R.
Suffy, Va.
BERTSCH, F. WILLIAM
Cincinnati, Ohio
BUENGER, EDGAR W.
Rochester, Minn.
BUETOW, MAX O.
St. Paul, Minn.
CLARK, CAMERON, FAIA
St. Thomas, Virgin Islands
COBURN, ELMER R.
Newington, Conn.

COOPER, THOMAS W.
Raleigh, N. C.
DUNCAN, HERMAN J.
Alexandria, La.
ESSER, HERMAN J.
Milwaukee, Wisc.
FURBRINGER, M. H., FAIA
Memphis, Tenn.
GIBERSON, EARL F.
San Diego, Calif.
GOODMAN, ROBERT H.
Baton Rouge, La.
HUME, RAPHAEL
New York, N. Y.

KOCH, THEODORE
Staten Island, N. Y.
OVEREND, HARRISON G.
Wichita, Kansas
POGGI, C. GODFREY
Elizabeth, N. J.
RICHARDS, THEODORE
White Plains, N. Y.
SEAMAN, GEORGE W.
Pennsauken, N. J.
SIZEMORE, RAYMOND C.
Montgomery, Ala.
STACHOWIAK, STEPHEN J.
Harper Woods, Mich.

Julia Morgan

MISS JULIA MORGAN, believed to be the first woman licensed as an architect in California, died in San Francisco on February 2nd at the age of 85. She had been a member of the Northern California Chapter since 1921, and a Member Emeritus of the Institute since 1949.

Miss Morgan was the first woman to graduate in mechanical engineering from the University of California, in 1894, and went to study at the Ecole des Beaux Arts in Paris, where she was the first woman to receive an architectural degree. Upon her return to California and obtaining her license, she became a pupil of Bernard Maybeck, and received an LLD from her alma mater.

Opening her own office, she designed many public buildings and private residences throughout the state, of which the most spectacular was W. R. Hearst's castle-like retreat at San Simeon.

Sir Patrick Abercrombie

SIR PATRICK ABERCROMBIE, one of the greatest town planners of our times, recipient of the Gold Medal of the A.I.A. in 1950 and of the Royal Gold Medal for Architecture in 1946, died March 23rd at his home at Aston Tirrold, Berkshire. He was 77.

Sir Patrick designed a new London to rise out of the destruction of World War II, but its development was thwarted by landed interests—just as was Sir Christopher Wren's plan for the rebuilding of the city after the great fire of 1666.

After his schooling, Sir Patrick served six years apprenticeship in the offices of Manchester and Liverpool architects. He early became an expert in the field of civic design, and was the first editor of the *Town Planning Review*. With Sydney Kelley, he won an open competition for a plan for the city of Dublin in 1913, and its innovations brought him national prominence. Two years later, the School of Architecture of the University of Liverpool established a professorship of civic design—the first in England, and Sir Patrick was invited to take the chair. After twenty years he became Professor of Town Planning in the Bartlett School of Architecture of University College of the University of London, a post which he held until a few years ago.

During these years he developed town plans for many English urban areas, among them Bristol, Bath, Sheffield, Plymouth and Doncaster. Doncaster was the first regional plan to be established in England, and here Sir Patrick developed his first design based on the concept of satellite towns. One of his basic ideas was that of preserving the old and com-

binning it with the new. He was one of the founders of the Council for the Preservation of Rural England. His plan for London called for a series of self-sufficient communities of 6,000 to 10,000 population, each conforming to the boundaries of the original villages absorbed by the city in its growth, preserving the ancient landmarks.

"To ignore or scrap these communities," Sir Patrick said, "would be both academic and too drastic. The plan might look well on paper, but it would not be London."

News From The Educational Field

THE SCHOOL OF ARCHITECTURE AND PLANNING at the Massachusetts Institute of Technology announces its 19th annual special summer program in City and Regional Planning, from July 22nd through August 2nd. The seminars are open to professional planners, members and staff of planning commissions, architects and others in related fields. Enrollment is limited to twenty-five; tuition is \$175. The seminars are under the general direction of Roland B. Greeley, Associate Professor of City and Regional Planning.

THE DEPARTMENT OF ARCHITECTURE of Rensselaer Polytechnic Institute announces that Professor Harry E. Rodman has been appointed executive officer, acting as chief administrative associate to Professor Harold D. Hauf, head of the department.

CITY PLANNING STUDENTS at Cornell's College of Architecture are planning a 20th century version of a frontier mining town for the world's largest uranium center. They are laying out modern residential, business, civic and recreational areas for a new city rising near Elliot Lake, Canada, in the Blind River section north of Lake Huron. The thirty students are working under the direction of Professor F. W. Edmondson.

THE UNIVERSITY OF ILLINOIS announces the 26th annual Kate Neal Kinley Memorial Fellowship. This Fellowship is open to graduates of any recognized school of fine arts who have specialized in music, art or architecture. The grant amounts to \$1300 for one year's study at home or abroad. Applications should be addressed to Dean Allen S. Weller, College of Fine & Applied Arts, Room 1100, Architecture Building, University of Illinois, Urbana, Illinois, not later than May 15th.

PRATT INSTITUTE, SCHOOL OF ARCHITECTURE, Brooklyn, N. Y. holds every March a competition for high school seniors with a talent for drawing and planning. It consists of a one-day sketch problem. Sixty-seven students from 18 high schools participated this year, the problem being the design of a kindergarten.

This page is intended as a mouthpiece for architectural students, through the NASA and the Student Chapters, to speak their minds to the profession.

The Student's Page

Architectural Quality and The Student

BY THYMIO PAPAYANNIS—PRESIDENT NASA

A BUILDING IS A SHELL. It provides shelter. It acts both as backdrop and foreground to our everyday life. It defines urban space and is the main component of our cities.

And yet most people do not see buildings. They are aroused to their existence only by mishaps or inconveniences, a faulty elevator or a leaking roof. They tend to accept buildings in the same way they accept trees and hills and the sky.

The architect and the student, on the other hand, are not only aware constantly of buildings, but also conscious of quality differences. They must judge both the work of their contemporaries and of themselves, and to learn from the relics of the past.

There is no doubt that a value judgment can be applied to architecture. We are constantly taught this concept in school, but it is the criteria for this judgment which confuse us.

During our education, through lectures and books, through contact with our instructors, through conferences and discussions, we are presented with contrasting systems of values. The functionalist advocates concentration of effort on the social and mechanical operation of each building and guarantees that the appropriate form will follow automatically. The exterior decorator sees buildings as sculptural volumes and voids to be decorated with interesting forms, and to be ultimately stuffed with some kind of function in order to render their erection possible. The structural exhibitionist displays all sorts of wonderful tricks, hung roofs, concrete shells, magical shapes, often not as solutions to particular problems, but as wonderful things per se, panaceas for every ill. The materials expert carries lightly his newly acquired vocabulary of "reinforced polyester," "anodized aluminum panels," "spray silicones," confident in his sparkling pseudoscientific outlook. The organicist draws lightheartedly dubious analogies from nature (the marrow in the bones, the pipes in the structure). The nostalgic laments the lost art of monumental planning. These are exaggerated portraits, but the result in the mind of the student is the same: Utter confusion.

Yet, this problem of quality is very important to us. We debate it constantly, and from these discussions a few criteria for judging quality seem to solidify.

First of all, a design or a completed building should work well. It should have excellent circulation, good siting, it should be satisfactory both in its construction and in its mechanical operation. Moreover, it should solve the problem posed by the client. This competence does not constitute quality in itself. But it is the absolute minimum to be expected from every student and from every architect, the point on which the professional man is distinguished from the dilettante.

Second, the essential quality of a building is determined mainly by the richness, the originality, the delight of the interior spaces it contains and of the exterior spaces it defines. Architectural design is the use of walls, roofs, screens, landscaping and many other elements and disciplines to articulate voids and alter their physical characteristics in accordance with human needs. Thus, consideration of space is truly primary.

This is especially important today. Economic efficiency on the one hand and the use of rectangular projections (plans, sections, elevations) as the main tools of representation have often resulted in a timid handling of space. And while we are successful in dealing with small, "cozy" rooms, we feel a certain awkwardness in the design of parks, terminals, or housing developments, space on a large scale.

Finally, the ingenious treatment of materials, the sensitive juxtaposition of texture and color, the correct detailing of joints not only help to define space but also to determine its character and as such constitute a major attribute of architectural quality.

To expect from both student and architect competence in the mechanics of each building or design, vital and talented handling of space and the ability to use building components well, may be placing standards of quality too high. But our responsibilities as architects in the shaping of human environment are equally high.



The R. S. Reynolds Memorial Award

A SPECIAL JURY OF THE AIA announced on April third that the first annual R. S. Reynolds Memorial Award of \$25,000 had been won by the firm of Cesar Ortiz-Echague, Manuel Barbero y Rafael de la Joya, of Madrid, Spain. The building which won them the award is the new Visitors' and Factory Lounge Center of the S.E.A.T. automobile plant in Barcelona. The presentation will be made at the Centennial Convention.

The jury, as they appear from left to right in the photograph, were Edgar I. Williams, FAIA, New York; Ludwig Mies van der Rohe, FAIA, Chicago; Percival Goodman, FAIA, New York; George Bain Cummings, FAIA, Binghamton, Chairman; and Willem M. Dudok, AIA Gold Medallist, Hilversum, Holland.

There were 86 entries from 19 countries. The winner was selected because of the brilliant use of aluminum as a structural frame as well as for finishing and enclosing surfaces. The details show ingenuity as well as creativity, and the structure has weathered well during its first year.



Book Reviews

LIFE AND HUMAN HABITAT. By Richard J. Neutra. 320 pp. 8-7/16" x 12". Stuttgart: 1956: Verlagsanstalt Alexander Koch Stuttgart. \$17.50
Richard J. Neutra, FAIA, Austrian born architect who received his professional training in Europe, began his professional career in America in 1923 working with Holabird and Roche and Frank Lloyd Wright. In private practice since 1926, he has had a distinguished career. Several of his buildings have received AIA Honor Awards, and other awards. He is the author of "Architecture and Social Concern," "Mystery and Realities of The Site," "Survival Through Design" and co-author of five other books. He has written numerous articles in several languages.

"Life and Human Habitat" is an architect's book; only twenty-six pages of text and about three hundred of illustrations. Although published in Germany, the text is entirely in English and the descriptive caption commentaries are in English and German.

The bulk of the text in Chapter I, the title of which is that of the book, is essentially an abstract of "Survival Through Design" and the entire book may be regarded as an illustrated commentary-companion to the earlier work.

The editor notes that Neutra "was among the first to apply admirably modern construction techniques and materials."

"The most important material which an architect can handle is man, as species and as individual." This has been the claim, variously phrased, of many architectural philosophies of varied epochs, but for Neutra, again in the editor's words "The new client is more than a man with the five proverbial senses. He is richly endowed, sensitive being with millions of sense receptors which react to stimuli and influences of the outer world."

He pleads for a conception of design well becoming to the human organism, not adding to life's wear and tear.

Neutra rightly points to the need to re-focus on the human inhabitant and presumed beneficiary of our professional efforts:

"Acceptance of contemporary means in architecture. This problem appears largely, even abundantly solved. A similar period of effort seems ur-

gent, to clarify and get accepted the idea that it is necessary to give recognition to man's age-old physiological properties which govern his responses and should, therefore, govern the environmental design on which his wholesome life and survival depend."

"Technical Progress" has turned from white hope into some doubt. What bothers us in our well advertised patent civilization is now beginning to become better known.

He is concerned not only on economic but physiological grounds, about the family life-cycle and the client's investment for the two or three decade life of the mortgage.

Scientific research and technology must be watched and utilized but "most essential is a wonderful, deep reaching sympathy" calling for "genuine love of humanity without which all scientific equipment is bound to fail." While apparently advocating a fairly rational use of physiological data, he seems to prefer to leave to intuition the design decisions which might be grounded in part on principles derived from sociology and physiology.

This is perhaps sound since physiologists are at this point more firmly grounded than are sociologists and psychologists.

This is a timely antidote. "Too often the architect has become involved and enmeshed in constructions, has fallen in love with materials—concrete, glass, steel, plywood, plastics and their functional qualities." Without saying so, he indicates that many of the pioneers of the contemporary mode have exhibited the characteristics of the archaic phase of other great epochs.

Important areas of professional responsibility are analyzed and emphasized ". . . when endless daily irritations cause damage in human relationships, the architect will hardly be blamed or even suspected as he would be when the roof caves in or starts to leak . . . Too much attention has been paid to only the engineering or technical angle of architectural creation . . . Amazing progress has resulted in overlooking values which cannot be measured in horsepower, kilowatts, and tons."

Even neighborliness is given a biological slant: "That neighbors and people of a neighborhood should have the opportunity to meet face to face is a very justified biological urge."

What we might now call "Micro-climatology" is discussed in romantic-mythological terms reminiscent of Chinese Taoist *feng-shui*.

"Long before the existence and development of this popular wisdom as a science, man has shown respect for his 'natural spot' when he built. Builders were greatly worried whether the spirits of the place would consent to their undertaking or at least tolerate it."

As in the case of myths and proverbs pertaining to many areas of life, these observations from the experience of the race are now susceptible of rational analysis.

The author's approach and style are a combination of the romantic-intuitive and the rational-scientific. The significance of this book and the author's other writings would seem to be that they can promote a receptive frame of mind in the profession for more rational approach to the psycho-biological factors in the design of human environment.

Whatever was the combination of rational and intuitive, and whether or not he succeeded in solving biological problems in his designing, the results, photographs of which constitute the bulk of the book, are interesting, stimulating and enjoyable as visual experience.

W. A. T.

THE PRACTISING ARCHITECT. By Alec S. Eggleston. 272 pp. 5½" x 8½". Melbourne University Press; New York: Cambridge University Press, 1955. \$6.50

If any book on architectural practice can be read for pleasure, this one by a Life Fellow of the Royal Australian Institute of Architects, can be. It is somewhat illogically arranged, but it is filled with quaint expressions and amusing anecdotes concerning the architects' troubles. It is interesting to compare the Australian architects' situation with our own.

An arrangement for two young architects is described, in which each practices independently, but both use the same office force and share drafting room and reception room. Many technical terms are the same as ours; both probably borrowed from the British: clerk of works, supervision, superintendence—terms for which we are seeking substitutes—are current in Australia. The effect of their code of ethics is similar to that of our own, but they are not prevented from forcing adherence to the R.A.I.A. Schedule of Charges. This Schedule of Charges provides for an amount to be added to the architect's compensation equal to one half of fees paid consultants (or 1% of the construction cost) in addition to reimbursement of consultant fees paid by the architect.

The architect's status under the Royal Australian Institute of Architects' contract is similar to the status of the American architect under our Standard General Conditions of the Contract, but the Australian architect has greater authority and responsibility. The contractor may assume, unless notified otherwise, that the architect has authority to order changes in the construction contract, and the architect may require the contractor to discharge unsatisfactory workmen. A code of recommendations for architectural and building drawing office practice is in use. It is reported that overhead costs usually equal direct costs, and that accounting procedures require about three days of a secretary's time each month.

In Australia, quantity surveyors are used somewhat as in Britain, except for small projects, but it is less usual for the Bill of Quantities to be a part of the construction contract, taking the place of the specification. Instead, the contractor bids unit prices, and the Bill of Quantities is advisory. The cost of Bills of Quantities averages 1% of the construction cost. It is not unusual for an architect to serve as quantity surveyor, or for either architect or quantity surveyor to serve as an appraiser.

The architect's discomfort from performing three inharmonious functions is made abundantly clear by Mr. Eggleston—1) being a party to a contract between himself and his client, 2) serving as the agent of this same client-owner, and 3) acting as arbitrator between the owner and the contractor. Only with the best intentions on the part of each of the three persons involved, can this discomfort be minimized.

CLINTON H. COWGILL

GEORGIAN GRACE. By John Gloag. 450 pp. 7¼" x 9¾". New York: 1956: The Macmillan Company. \$12.50

The subtitle of this fascinating book is "A Social History of Design from 1661-1830." The author is well-known for his many books on architecture, both historical and contemporary. He poses a very interesting question at the beginning of this handsome book: "How was it that architects, designers, craftsmen, and their patrons never seemed to put a foot wrong in the Georgian period? What was the secret of their capacity for good design, their sense of style, and their impeccable judgment?"

His answer seems to be that, for one factor, there was a class of educated patrons with a high degree of taste, who would accept nothing inferior. There was, furthermore, a rich vocabulary of highly developed details and precedents in classic architecture and in the contemporary Renaissance architecture on the Continent, for the architects and

craftsmen to work with. There was also a tradition of good living—good food, good wine, and gusto, but against a background of beautiful things. All ornament was carefully studied, and assembled according to well established conventions. Originality was permitted to only a few—a Jones, a Wren, an Adam, a Soane. And these showed true originality in their creation of new forms and in their invention of new details. Others then, carefully borrowed and adapted them, always working to the often exquisite demands of their sensitive clientele—sensitive in that they were highly educated visually, no matter how bawdy their language and lusty their lives.

Lavishly illustrated, the chapter titles give an indication of the richness of the book: "Fill every

glass," "A dish of tea," "Bed and bedroom," "The toilet stands display'd," "Music in the drawing room, fiddles in the kitchen" and "Chimney-piece and chimney-corner." There is a full bibliography, and there are fifty pages of appendices with titles such as "The principal architects and their works," "Furniture-makers and designers," "Books on furniture published between 1661 and 1830," "The Society of the Delettanti," "Georgian Grace in the American Colonies" and "Contemporary Advertisements."

A big, handsome book, with much in it for the modern architect to read and ponder, as well as a delight for the lover of Georgian England.

J. W.

Calendar

May 6-11: International Congress of the Architects and Technicians of Historical Monuments, sponsored by UNESCO, Palais de Chaillot, Paris.

May 11-12: Annual Meeting of the ACSA, Catholic & Howard Universities, Washington, D. C.

May 13: Producers' Council Annual Spring Meeting, Washington, D. C.

May 14-17: Centennial Celebration Convention of the AIA, Shoreham and Sheraton-Park Hotels, Washington, D. C.

May 29-June 1: Golden Jubilee Assembly of the RAIC, Chateau Laurier Hotel, Ottawa, Canada.

June 3-7: Tenth International Hospital Congress, Lisbon, Portugal.

June 9-12: National Citizens Planning Conference, Little Rock, Arkansas.

June 13-15: 57th Annual Convention, New Jersey Society of Architects, Berkeley Carteret Hotel, Asbury Park, N. J.

June 16-21: Annual Meeting of American Society For Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

June 14-29: New England Regional Conference, Boston, Mass.

June 27-28: Annual meeting and convention of the Minnesota Society of Architects, Hotel Duluth, Duluth, Minn.

July 14-Aug. 24: Eighth Annual Design Workshop, Instituto Tecnológico de Monterrey, Mexico. For information write, Hugh L. McMath, AIA, School of Architecture, The University of Texas, Austin, Tex.

July 29 to August 2: World Conference on Prestressed Concrete, presented by University of California and the Pretressed Concrete Institute, Fairmont Hotel, San Francisco, Calif. For information write Dept. of Conferences and Special Activities, University of California, Berkeley 4, Calif.

July 10-13: British Architects' Conference in 1957 at Oxford, at the invitation of the Berks, Barks and Oxon Architectural Association. The R.I.B.A. tells us that any AIA members in England at that time will be welcomed as delegates.

September-December: International Exhibition of Architecture, Sao Paulo.

September 5-7: Western Mountain Regional Conference, Jackson Lake Lodge, Jackson Hole, Wyo.

September 9-19: First Interna-

tional Seminar on Hospital Construction, Geneva, Switzerland.

September 19-21: New York Regional Conference, Buffalo, N. Y.

September 25-26: North Central Regional Conference, Rockford, Ill.

September 25-27: Producers' Council 36th Annual Fall Meeting and Chapter Presidents' Conference, Louisville, Ky.

October 2-6: California-Nevada-Hawaii Regional Conference, Coronado, Calif.

October 6-9: Gulf States Regional Conference, Birmingham, Ala.

October 12-14: Second annual convention, California Council of Landscape Architects, Santa Barbara Biltmore Hotel, Santa Barbara, Calif.

October 17-20: Northwest Regional Conference, Gearhart, Ore.

October 23-26: Architects Society of Ohio Annual Convention, Neil House, Columbus, Ohio.

October 30-November 1: Texas Regional Conference, Dallas, Tex.

October 31-November 2: Central States Regional Conference, Skirvin Hotel, Oklahoma City, Okla.

November 7-9: Florida Association of Architects Regional Conference, Fort Harrison Hotel, Clearwater, Fla.

A.I.A. Library Notes

ACCESSION LIST NO. 14—MAY, 1957

MEMBERS DESIRING BOOKS from this list are asked to direct their requests to the library, enclosing a remittance of fifty cents for the first volume, and twenty-five cents for each additional volume. Borrowers are asked to cooperate in returning books promptly, or requesting renewal at the expiration of the loan period of one month. All loans must be insured on return.

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DEVELOPMENT HOUSES AT LAKE BARCROFT, VA.
CONTEMPORARY HOUSES, INC., BUILDERS—
KEYES, SMITH, SATTERLEE & LETHBRIDGE, ARCHITECTS

The Architect and the Merchant Builder

BY DONALD E. HONN
TULSA, OKLAHOMA

IN 1948 I RECEIVED my first commission for a 600 unit housing project. The houses themselves were not startling but were instrumental in getting me acquainted with the merchant builder's problems. Through continued study and increased knowledge of these problems I have been able to gradually switch over to the type of design and service of which any professional can be proud. My experience has proven that there are many builders eager to receive our services.

The merchant builder's problem is basically to make a profit. His interest in orientation, traffic pattern and other design features is limited entirely to the profit it will make. His design must also be easy to sell to the customer, lending institutions and governmental agencies. One project was held up over one year by the FHA. Most builders would not be this interested in good design.

The basic operation of the merchant builder is building. Therefore, the problems logically fall within the realms of architecture. It seems logical then that we as architects are better prepared to help him with his problems. It is very necessary in my opinion to define our capabilities and not let our enthusiasm run away with us. The architect can do the designing, color planning, and site planning of the individual houses. Control of cost, bills of materials and site engineering are items best left to other people. This clear definition of duties should be very thoroughly understood so some phases of the total operation are not left to chance.

Designing for the merchant builder differs from other architectural commissions in that it must be treated as product design. Both architect and builder must realize that design is not a static thing but must be constantly undergoing changes and close

scrutiny if the builder is to make the most profit. The good builder and architect are forced to be constantly alert for changing habits of the buying public, demands of the lending institutions and new materials and methods. Air conditioning is a recent example of the changes brought about by new products.

Both architect and builder must respect the design and be satisfied with it. The architect must recognize the limitations under which the builder operates and design accordingly. To design a steel and glass house for the mass market is a sure way to commit professional suicide. Likewise the builder must be willing to work out the design thoroughly on the drawing board if he is to profit most from this new association. The builder who takes the architect's designs and improvises in the field is due for disappointments both esthetically and economically.

Quality is also something that must be respected by both parties. The architect must design and specify within the limitations of the eventual sales price the builder has to stay within. To expect the builder to be a magician and ignore economies is a mistake. It is the responsibility of the builder to see that the maximum of materials and workmanship consistent with the sales price is maintained by his organization.

Both parties must realize the other has to make a profit. The average profit made by most builders probably averages about 8% to 10%. Obviously he cannot pay an architect more than his profit and

stay in business. However he cannot expect to get the most important phase of his operation done for less than laborer's wages. Somewhere in between there is an amount which is economically sound for both parties. My preference is for a straight royalty on a sliding scale. This system allows the builder to pay for only the work used and avoids the stigma of paying for a bunch of drawings. The fee plus a royalty system used by many architects has the advantage of allowing the architect to get his cost out quicker but stifles research and new plan development. Regardless of which system is used the architect should get a sizable retainer.

Due to the close relationship in which builder and architect must work the most important thing is having respect for each other. In order to do a good job both must know each other's business intimately.

There is a tremendous quantity of work to be done in this field and it is growing every year. If the architectural profession will assume its responsibility and conscientiously attempt to do a thoroughly professional job, in my opinion, they will be rewarded not only economically but with the more important aspect for true professionals of a good job well done.

DEVELOPMENT HOUSE, MOHICAN HILLS, MD.

BENNETT CONSTRUCTION CO., BUILDERS

KEYES & LETHBRIDGE, ARCHITECTS



The Architect . . . and Fire Safety

REPORT OF THE AIA COMMITTEE
ON HUMAN SAFETY (1956)

Part II

MEMBERS OF THE COMMITTEE:

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Royal Oak, Mich.
FRANCIS R. SCHERER
Rochester, N. Y.
LEONARD WOLF
Ames, Iowa
LUCIUS R. WHITE, JR., FAIA
Baltimore, Md.

WHILE IT IS TRUE that relatively few architects design single homes, they do design many buildings for residential occupancy.

In many residential occupancies there are only a few places the architect can do anything about causes of fire. Among them are heating and electrical equipment, chimneys and flues, and lighting. Other organizations are trying to educate the public in fire safety and we, too, must do all we can. Many hazards can be eliminated in design.

An electrical wiring system that is adequate will discourage the occupant from doing his own temporary wiring which has caused many fires. Locate appliances out of the line of travel to exits in case of fire.

All fuel burning appliances need air. Lack of air may cause faulty operation of the appliance and cause asphyxiation of the occupants.

All such appliances must have a smoke pipe or chimney connection, short and properly supported, not passing through partitions, with a clearance of 18", if possible; in any case, not less than the diameter of the pipe. The chimney flue should be checked to see that it is clear;

it may be clogged with brick and mortar.

We called attention to spark arrestors in our previous Report.* Keep wood well clear of the masonry of the chimney. Air ventilation is needed even with the best insulation. Remember that heat applied to wood is cumulative and can cause ignition later at as low as 212° F. Fireplace dampers should be operated from outside the fireplace. A fire screen is a "must." The hearth should be masonry supported and be at least 20" wide—24" would be better.

Always provide an attic vent. Storage closets under stairs invite the occupant to store flammable material where it can cut off the escape from the second floor.

Do not use untreated flammable fibre board in residential buildings. Flames can travel along such ceilings and walls faster than a person can run.

A garage should be vented both for fire and for the fumes from a running engine. A man was killed in the house, because he propped

the garage door open so that he could listen to his car radio, and left the engine running so that the battery would not run down.

Refer to our 1955 Report which appeared in the March-April 1956 issue of the AIA BULLETIN for discussion of the following: Basement exit. Stairs from second floor directly to exit. Basement window on fusible link, built-in television sets, incinerators, chimney screens.

The Open Plan:

We find that balcony bedrooms and others that cannot be closed from the rest of the house are not safe in case of fire. Direct access to the nursery from the parents' room would be wise if the hall cannot be closed from the rest of the house. The placing of the heating plant in a hall closet or where the occupant must pass it for escape is poor design. A fire here makes a bedroom a trap, especially if occupants cannot get out through windows. (See Section on "Windows.") If the heating equipment could be separated from the balance of the house by fire-resistant partitions, we would have safer homes. Possibly this is

* Ref: Mar.-Apr. 1956 Bulletin

too much to ask for the present. The furnace closet is often used for storage of mops, etc. Try to design so that this cannot be done. The built-in type oven has introduced another hazard in the kitchen. Adequate ventilation outside the insulation is a "must" for safety.

Two installations in homes which will save many lives are: home fire alarm systems and automatic sprinkler heads on the city or adequate private water system in the more hazardous locations. (See "Sprinklers.")

For the small home, we have been looking for an adequate fire alarm system that the average owner can afford. They are now on the market. There are both open- and closed-circuit systems. If the open-circuit system is used, loop wiring should be installed so that if the wire is cut at any place the gong will still operate. It should be realized that there are inadequate systems being sold by high pressure salesmen. The following items should be noted: The thermostat element should be one approved by the Underwriters. The gong should be large enough to awaken the occupants. There should be a test button so that the operation of the system can be tested every day.

We hope that fire alarms will soon be considered as necessary equipment in a new home, as indispensable as the heating plant. In new homes it is a very simple and economical installation; while in some older buildings, it may be a little more difficult if it is low tension wiring. In dwelling fire statistics, on factors contributing to fire deaths, we find the word "trapped" at the top of the list. Out of 1,000 cases, 844 come under trapped; 157 under inadequate exit facilities. These are the items which we may be able to remedy.

Miscellaneous Items:

There are a few items on hardware that should be mentioned. The door closer on the garage-house door should have no means of holding the door open. All closet door latches should have means of opening from inside the closet.

Workmanship in balanced foundations and the building of chimneys are important. All joints should be full of mortar. Cracks in chimneys have been the cause of many fires. Laundry chutes have a bad record for fire spread. There should be no way for fire to travel up around the walls. The chute and chute doors should be of metal with tightly fitting doors. In some residential occupancies a sprinkler head should be placed at the top of the chute. Location of chutes is important. It is difficult to believe, but true, that clothes have dropped from chutes onto the furnace smoke pipes.

The compressor for a built-in refrigerator should be placed where it will get plenty of air for ventilation. Some believe that the best all around portable fire extinguisher for a home is a coil of hose attached to a faucet at the head of the basement stairs. There should be sufficient hose to reach all floors and rooms. The hose should be fitted with a spray nozzle. The hose may give the occupant a possible chance to control a blaze until firemen arrive. The hanging bulb-type fire extinguisher is ineffective.

In our discussion of venting in a previous report, we advised that it be considered in all buildings where people sleep. In a study of reports on home deaths, we find that many people lose their lives in homes that are tightly closed.

NURSING HOMES

The past few years have seen a rapid rise in the deaths from fire in nursing and convalescent homes and also in homes for the aged. The number of deaths from fires in these homes has been so great that it presents a serious problem to the whole country.

The reason for so many deaths can usually be attributed to the fact that a great majority of these homes are converted from older residences without proper safeguards for an occupancy where few of those who live in them are in condition to look after themselves.

We are well aware that the majority of such buildings are converted to the new use without ar-

chitectural advice, but the problem is so serious that it should be brought to the attention of the profession.

Many states have passed acts for the protection of people in such homes, have license laws and regular inspection, but often such acts are not sufficiently stringent to cope with the problem, as is attested by the many deaths.

The items the architect should keep in mind in such an occupancy are: The best safeguard is an automatic sprinkler system. If a complete system cannot be installed, the most hazardous locations, basements, attics and kitchens, etc., should be sprinkled. The least that can be done is to install an approved automatic fire alarm system.

In old converted frame buildings, firestops to keep flames from traveling in the walls are most important. A plastered ceiling in the basement is desirable. Old electric wiring should be inspected and if defective, replaced. Dumb-waiters not properly protected have caused rapid spread of fire. A sprinkler head in the shaft is advisable. Walls and ceilings should have low flame spread rating. The bases of combustion kill quickly. Design so that there are sufficient smoke barriers. Always have two means of exit well lighted and arranged so that patients can be carried out.

The National Board of Fire Underwriters has a suggested "Ordinance Providing for Safety to Life in Nursing Homes, & Boarding Care Homes."

RURAL BUILDINGS

Farm buildings and other rural structures present some inherent hazards that architects must keep in mind during the design period. While many rural communities have Fire Departments, they are usually unable to respond or reach the site as quickly as city departments and if there is no water available, they find it difficult to cope with a fire of any size.

There are a number of things that can be done. The first is to space the buildings properly to lessen exposure. The prevailing winds should be at right angles to a

line between buildings. 150 feet is usually considered sufficient space. A pond or cistern within pumping distance of the buildings may save them, for lack of water is one of the causes of total losses so often encountered in the country. The U. S. Department of Agriculture Soil Conservation Service Leaflet 259 gives necessary information on the design of such a pond. If a pond is not provided, a cistern of not less than 3,000 gallons is recommended. It is advisable to have garden hoses with spray heads connected to the water supply system at strategic points. Parts of this system need to have remote control in winter. Pump-tank type fire extinguishers are next in preference after the garden hose for first aid. Provision for ladders should be made near these coils of hose. For information on the different types of fire extinguishers required, see "Your Farm & Fire Safety," by the N.B.F.U. CO₂ extinguishers are very limited in effectiveness and the bulb-type grenade is almost useless.

Fire alarm systems are very necessary in rural areas as early discovery is required if there is not to be a total loss, as well as loss of life.

A building separate from the barn is necessary for the housing of all fuel burning equipment. The exhaust pipe from a stationary gasoline engine must be treated like a chimney flue. Protect with a metal thimble so that it is 6" from wood and extends at least 18" outside of wall.

Lightning is the cause of many rural fires in most parts of the country. Lightning rods should be installed according to the specifications of the Code for Protection Against Lightning.* Wire fences which are near buildings should not be attached to the structures and should be grounded. These grounds should be protected from cattle. It is also advisable to place lightning rods on tall trees near a building or one under which people are apt to seek shelter in a storm.

* *The ASA Standard "Code for Protection Against Lightning" is obtainable from the Superintendent of Documents, Government Printing Office, Washington 25, DC, at 45c per copy.*

All motorized equipment in barns should have thermostatic control with Underwriters' label. Motors should be protected by proper over-current devices and controls. Chimneys should be protected with spark arresters. Electric lights in barns, etc., should be protected with glass or metal guards. Buildings should be accessible to fire trucks. As bulk storage fires can originate from spontaneous heating which can start at 140° F., or sometimes, less, ventilation of a barn is a necessity.*

In some locations a cleared fire belt is desirable to keep grass fires from buildings. Drives serve this purpose very well.

Care should be taken not to use materials in such a way that they will arc if a building is struck by lightning.

* *References: Your Farm & Fire Safety, N.B.F.U.*

SUPERMARKETS

We reported two years ago on the hazards of Supermarkets.* The fire record since that Report has shown that we were correct in our warning. The tragic "Oyster Supper Fire" in Baltimore, Maryland, which was somewhat similar, showed what can happen. In a crowded supermarket the condition would be much worse. The combustible ceiling design is usually much the same, inviting travel of fire, and the exit facilities in the market are often much worse.

In a fire in a new supermarket near Detroit recently, the hazard was clearly shown. Owing to a lull in trade there were only 40 in the building, but the flames spread so rapidly they barely escaped—the clerks without their coats. Had the store been crowded, many would not have escaped the fast-moving flames.

Codes do not properly cover this hazard. Means of egress offer assumed exits which are not exits at all. One Fire Chief stated that the entrance door opening in with no hardware was counted as an exit. Paths through utility sections are counted although they are usually

* *Ref: Jan.-Feb. 1955 AIA BULLETIN.*

clogged with boxes and surrounded with hazards.

Following is a list to guide in design:

Automatic sprinklers at least in utility rooms.

Fire-resistant ceilings; better yet, no concealed space.

If attic space, fire-resistant partitions to divide into sections.

Roof vents for attic spaces.

Fire wall between utility section and salesroom extending through the roof.

Cold fireproof rooms for storage of inflammable liquids so they will not be stored in quantity in the salesroom.

Rubbish rooms, incinerators and heating plants in separate fireproof rooms.

Screens around motors so that materials will not be piled so as to cut off air.

Fire alarm system.

Exits:

Clearly marked, well lighted. No chains or fixed barriers in exit aisles. All doors to open out. An adequate emergency exit in store proper so that in case of fire, occupants do not need to go through utility rooms or checking aisles. This can be controlled by an alarm, or a latch back of glass with attached hammer, and should be mandatory.

Dampers on fusible links in air ducts. Duct linings that are not flammable. Parking arranged so as not to handicap firemen or emergency exit.

Openings in walls for fire fighting and smoke removal.

Most fires in this occupancy occur in the Service Areas. A record of 100 fires shows: 78 in Service Area; 11 in Sales Area; 5 in Attic (NEPA Fire Record Bulletin FR 54-2).

This shows, among other things, the need for emergency exit lighting as the fires usually start near the electrical service entrance. It also shows the fallacy of counting as an exit for the salesroom an exit through the utility room. Sometimes the only safe exit door has an automatic door opener which is very difficult to open if the power is off.

In a supermarket we looked over recently we found two exits from the sales space, but gas-fired unit heaters were spaced at intervals around the ceiling and one was carefully placed near each exit.

DEPARTMENT STORES

We can expect a catastrophe some day in one of our large department stores, with high loss of life. The larger ones are usually in fire-proof buildings and are sprinkled—which is good—but there can be heavy loss of life in these due to the plan required by merchandising practices. Management wants customers to pass by long counters of merchandise before reaching stairs and elevators. By the same token, in cases of an emergency, the public must pass through these narrow aisles and past much flammable material to reach an exit. There are also basements and sub-basements and these are often more crowded than upper floors. Escalators are being installed running many floors without enclosures, as they depend upon sprinkler heads around the opening at each floor. We are not overly concerned about people being burned where there are supervised sprinkler systems, but smoke can cause panic—and panic, death. Smoke can reach other parts of the structure by means of a poorly designed air conditioning or ventilating system or can travel up nonenclosed stairs or escalators. Smoke can pass these openings and cause panic before there is sufficient heat to operate the sprinkler heads.

As to exits, it is well to remember that adequate exits are not enough. If the design is such one cannot reach an exit safely, it might just as well not be there as far as the occupants are concerned.

CHURCHES

While the record of church fires is serious, it is fortunate that there has not been attendant loss of life; however, there is a perfect setup for a catastrophe in many of our churches. Church fires have not been confined to the older structures. Fires in this occupancy are usually a total loss; recently a modern church in Michigan was a complete loss.

The following are the usual causes of church fires: The heating plant, defective wiring, defective chimneys and lightning.

It is necessary that the heating plant be more than adequate because of the nature of its use. It is often pushed in cold weather in order to heat the sanctuary quickly. This causes overheating and a fire hazard. Warm air ducts without proper clearance from wood has caused ignition many times. We realize it is seldom possible to place the heating plant adjacent to the building as is often required in schools but it appears to be desirable. Automatic sprinklers in the basement are indicated. An automatic fire alarm system is the least that should be done.

Second floor sanctuaries with their stairs to exits present a special problem. These are not as prevalent in newer structures but we do have many of them.

Basements used for assembly should have exits directly to the out-doors. Stairways to basements should not open directly into lobbies without self-closing doors, as a protection to those making an exit from the sanctuary.

Exits should be more than ample as the danger of panic is ever present. We have noted with alarm that many churches still persist in the "archaic custom" (Underwriter's term) of having candlelight services where the choir passes down the aisles carrying lighted candles. Sometimes childrens' choirs are allowed to do this. There have been cases where the thin gowns and veiling have been ignited and the wearer burned. The great hazard we as architects should consider is the danger of panic, and design accordingly. The architect has a responsibility in seeing that there are panic locks on all exit doors and that they work properly. Electric outlets at windows may discourage the use of open flame candles in the windows.

In a new church, the double doors equipped with panic latches had an astragal on one leaf which made it necessary for that door to be opened before the other. There is equipment on the market that does not present this hazard.

While the present day architect may not be responsible for many of our unsafe churches, he does have a duty to his community to call attention to hazards and advise inspection.

SPRINKLERS

Early discovery of a fire, when a small amount of water will extinguish it, is the best insurance that it will not be a costly one in both lives and property. We have means of detecting a fire at its start, and also of automatically extinguishing it or holding it in check until firemen arrive. We refer to the automatic sprinkler system which is considered the best means at our command of coping with the problem of fire and preventing loss of life. The system can be installed so that when water begins to flow an alarm is given. This alarm can go directly to fire headquarters. There has been no loss of life in thousands of fires in fully sprinkled buildings.

A sprinkler must be carefully designed. If it is designed to be adequate only for 20 heads opening at one time but 40 heads open, the usefulness of the system will be nullified. It is important that the water supply be adequate. If an elevated tank is used, the design of the supports is also important. A structural connection that cannot be kept easily painted can rust and fail. An instance of this occurred in Brooklyn, N. Y. Painting maintenance had been good but due to poor design, paint could not reach some vulnerable points.

As far as safety to human life is concerned, no building can be considered to be fully safe from fire; therefore, sprinklers should be considered when designing any structure. There are locations, as we have mentioned, where they are a necessity.

While the savings in insurance will appeal to some clients, the saving of life should take priority when considering a sprinkler system. (See NBFU Bulletin No. 108.)

We do not wish to convey the impression that if a sprinkler system is installed other safeguards to life can be ignored. We will always have the human element which causes fail-

ures. Someone closed a sprinkler valve in a large Minneapolis building. A million dollar fire ensued. Architects should be sure that sprinkler valves are well placed and plainly marked with warnings, or, better yet, equipped with supervisory alarms.

In locations where freezing will be encountered, a dry pipe system is necessary, although it is not considered quite as good as the wet system.

Water supply is important and may be from an elevated tank or by means of a special pump and tank. For small installations in basements and other low elevation locations, the city water pressure is usually adequate, but it is necessary that piping from the city main be ample to take care of the number of heads installed, or the purpose of the installation will be nullified. For a large installation, it is necessary to have what is termed a "supervised system."

A structure completely sprinkled and provided with a water flow alarm does not require a separate fire alarm system; however, a fire alarm system is not expensive and should be considered at the design stage of buildings. It is necessary for the architect to look into the system he specifies, as there are some systems on the market which are not adequate. Any system should have the approval of the Underwriters' Laboratories. (See discussion of this subject under "Homes.")

WINDOWS

Often changes in design of buildings bring about hazards that are not considered. A case of this is the comparatively recent craze for high strip windows in bedrooms. Many of these windows are not only too high for exit in case the occupant is trapped, but often too small. This is especially true with awning sash and some casements. The first law of safety in design is two means of exit. In a bedroom, that usually means a window. In many new homes the heating plant is in a closet off the hall. A fire originating here would trap the occupants of the bedrooms. We have no quarrel with high strip windows, but every first story bedroom should have one low window

for easy exit. When we say "easy" we also mean that the screen and storm window can be opened from the inside. With some sash this is almost impossible. We must also consider that the firemen may want to get in through the window for rescue. The occupant may be overcome from the gases, or it may be a small child or an elderly person who cannot get out by himself. The use of jalousies or glass block without other escape windows can be dangerous.

A screen or a storm window must be tight enough that a child cannot push it out but must be so designed that an older child or an adult can open it easily. Some screens and storm sash are put on with several screws. These are death traps. In an emergency the occupant would not have the time or tool to take out a number of screws.

We called attention to the hazards of windowless buildings in our Report of 1954.* Then we stressed the difficulty of rescue work by firemen where there were no windows. Many people are rescued from windows every year. Architects should not risk the lives of their clients and others by designing or specifying windows through which there is no escape. If architects demand windows or fittings of such design that escape is possible, manufacturers will mend their ways and most buildings will be safer whether they are designed by architects or not.

While on the subject of windows, we should mention the fixed window. We have no quarrel with fixed windows but there should always be windows that open—not only for escape, but possibly to save occupants from suffocation. We have written before of the danger of air-conditioning systems. Where the fan does not automatically shut down in case of fire, the smoke will be pumped to every corner of the building in a few moments and a chance to get fresh air is vital.

At Moscow, Idaho, three University of Idaho students died in a fire in a new \$500,000 dormitory. It was a case of suffocation which, from the information we have, proper

* Jan.-Feb. 1955 AIA BULLETIN.

venting or enclosed stairs could have prevented. What we wish to call attention to in this discussion is that one of the victims was badly cut with glass in a vain attempt to escape through a window. We like to think that only older buildings are unsafe, but that is not true.

The new Thirteenth Edition of the Building Exits Code (June 8, 1956) has an article on this subject. It is so important that we quote paragraph 2495:

"Every sleeping room, unless it has two doors providing separate ways of escape, or has a door leading outside of the building directly or with a travel distance of less than 10 feet, shall have at least one outside window which can be opened from the inside without the use of tools to provide a clear opening of not less than 18" in least dimension, with the bottom of the opening not more than 4½' above the floor.

"Windows may serve as a means of emergency escape, particularly where ladders can be raised by firemen or others. Even where the location is such as to preclude the use of windows for escape purposes they may provide air for breathing in a smoke-filled room while trapped occupants are awaiting rescue. Windows should have sills not too high above the floor; windows lower than the specified maximum height above the floor are preferable."

Windows are needed for more than light and view.

DOORS

Fire Doors:

Twice recently we have noticed fire doors that should always be closed, held open. In one of the large hotels in Chicago there was hardware on the door to hold it open, and in a large office building in Detroit the door to a fire stairway, which also opened into a dangerous section, was held open. We cannot control the use of wedges, but we need not put hardware on doors that invite such a dangerous practice. An open fire door may permit the passage of smoke and gases sufficient to render the area untenable before the fusible link is operated.

A Fire Chief recently called at-

tention to a condition often met in mercantile building fires. It is the heavy steel plate doors to basement chutes with no way of opening them from the outside. This may be the only way of reaching a basement fire or of venting and the time taken to burn a sufficiently large opening may mean the difference between a large or small fire. (See discussion of doors under "Hotels.")

MATERIALS

Asbestos Pipe:

When used for flues it may crack, and in rapid heat, it may explode.

Non-combustible Material:

For definition, see NFBU Special Bulletin No. 294, Revised, July 1956.

Foam Rubber:

Special Interest Bulletin No. 287, NFBU: "Foam rubbers are readily ignitable by an open flame and burn intensely emitting a dense smoke of extremely disagreeable odor. The smoke may be a major handicap to successful fire fighting operations. The possibility of igniting cotton & foam rubber is about the same; some carbon monoxide but less than with smoldering cotton. In confined spaces it can be just as toxic. In foam rubber fires, heat is intense and burning rapid. Where there is much foam rubber, sprinklers should be installed."

Ceilings:

The fire-resistant qualities of ceilings are important as fire spreads upward more rapidly than in other directions. If the floor above is combustible and the ceiling fails, there will be a failure of the floor very quickly. Combustible board or acoustical tile without a noncombustible backing fails quickly. In one instance, combustible tile cemented to the plaster failed by dropping and then served as fuel for the fire.

MISCELLANEOUS

Large Loss Fires:

Large loss fires have become a national problem. The Board of Fire Underwriters gives the follow-

ing list as causes:

- 1 Construction
- 2 Occupancy
- 3 Lack of automatic sprinkler protection
- 4 Poor accessibility
- 5 Weather conditions at time of fire
- 6 Inadequate or unreliable water supply
- 7 Delayed discovery
- 8 Fire Department deficiencies

We as architects have control over several of these items, although we cannot control Items 2, 5, and 8. In this and previous Reports, we have discussed the other causes.

In a study of 225 large fires there were structural weaknesses in 200 cases, and in 121 cases there was a lack of fire walls where they should have been.

Emergency Lighting:

Loss of life has been greatly aggravated by lack of emergency lighting where people gather, such as in the Iroquois, Cocanut Grove, and recent Baltimore fires. Such lighting is needed at exits and aisles of travel to exits. Note the Building Exits Code and Emergency Lighting for Fire Safety, NFPA Bulletin, October 1956.

Water Cooling Towers:

Water cooling towers are becoming more common as more and more air-conditioning systems are being installed. They will burn. Some of the wood exposed to the sun becomes very dry. About half the fires occur during operation. Automatic sprinklers have been found to be the best protection for combustible towers. Location of towers is important. They should not be exposed to grass fires. (See NFPA Bulletin, October 1956.)

Flame Spread—Woods & Plywoods:

In order to study the values of means to reduce spread of fires, it is necessary to have a means of comparing flame spread of different materials, such as woods, fibreboards, etc. The Underwriters' Laboratories chose asbestos-cement board as zero in the scale, and red oak flooring as 100. According to this scale, we

find redwood, 65-80 and Ponderosa Pine, 170-215 for solid wood. For other woods, see Wood-Fire Hazard Classification C 60, Card Data Service No. UL527, Aug. 1955, Underwriters' Laboratories.

The flame spread of plywoods and veneers depends to a large degree on the adhesives. Some of the exterior type Douglas Fir Plywoods are bonded with synthetic resin adhesives which are not affected by elevated temperatures, and consequently, this type of plywood does not delaminate under exposure to heat. Most interior plywoods are bonded with protein adhesives. Douglas Fir (solid wood) shows a flame spread of 70-100. In some recent tests by Underwriters' Laboratories, the following results were obtained: Exterior type Flame Spread 65-125 Interior type Flame Spread 125-150

Flame spread of plywood with resin adhesives can be reduced by pressure treatment with fire-retardant salts. Such treatment can reduce flame spread to 25-60, depending upon the salt used. This cannot be done with protein adhesive, as the salts are water-borne.

The Uniform Building Code of the Pacific Coast Building Officials Conference gives the following classes for flame spread:

		<i>Federal</i>
<i>Class</i>	<i>Tunnel Test</i>	<i>Standard Test</i>
I	0-30	Fire Retardant
II	31-75	Slow burning
III	76-250	Combustible

Cellulose fibre wall boards can go as high as 225 and we have been told that some veneers have reached a flame spread of 515.

Fire-Retardant Paints:

The flame spread of woods can be materially reduced by the use of fire-retardant paints. Early paints for this use did retard fire but had no decorative qualities. Now, paints with both qualities are on the market. Many wood finishes add materially to flame spread. In buildings where rapid flame spread can be a serious threat to life, the architect should consider a fire-retardant paint. There are two kinds of such paint: one which does not add fuel and the other which also retards fire spread.

Hospital Departmental Area Studies

A PROJECT OF THE AIA COMMITTEE ON HOSPITALS

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OVER TWO YEARS AGO the national AIA Committee on Hospitals & Health undertook a project to study acute general hospital department areas and costs. At that time CHH was under the chairmanship of Wilbur Tusler, FAIA. This study has gone ahead with major efforts by Mr. Tusler and by E. Todd Wheeler, FAIA, A. N. Kiff, present chairman, and with enthusiastic cooperation of other members of the national and regional committees. The first part of it, a tabulation of area data on departments of 75 acute general hospitals, is now ready for publication and this first issue of the new *Journal of the AIA*, in the following pages, presents information on 27 hospitals. Two other installments in ensuing issues will complete the 75 jobs, ranging from 50 to 200-beds in size.

This information in preliminary form has already proved of value in hospital planning. An obvious finding was that there is practically no correlation between hospitals. Because of program, site and budget differences, standardization of this complex building type would be an impossible task, even if it were desirable.

Two hospitals of the same unit areas—the same SF/bed—will differ in program and services offered. Each hospital offers a challenge and an opportunity for improvement, for evaluation of techniques of care and general program and their architectural interpretations. No other building type becomes obsolete so fast and can so ill afford to be obsolete.

This lack of correlation means that it is not valid to place much importance on comparisons between hospitals—these data are, rather, a tool for analysis of specific jobs. When a hospital adminis-

trator, for instance, wants to add 60 beds to his facilities he thinks usually in terms of nursing areas involved for that number of beds. From this AIA study some more accurate information may be shown him on what this addition means in areas of other departments implied by this increase in beds.

It must be noted that in continuing to study the problem we have progressed well into the *departmental cost* phase—as far as method is concerned—and that this is perhaps a still more useful objective than areas alone. This difficult extension of the study will be discussed later. It will need a budget for completion.

To illustrate the genesis of this AIA committee project and its potential value it seems appropriate to give here a few unidentified excerpts from committee correspondence:

- “. . . as agreed I have formulated a suggested framework for the collection of the data we talked about at our first meeting in St. Louis . . . (Dec. 1954) . . . we might ask each member to bring in material on one hospital for discussion. That way we can test practically the workability of the form suggested . . .”
- “. . . It does not seem too difficult to me to get the information that you request regarding square and cubic foot information regarding the various departments of the hospital which could then be put on a percentage basis of total area. This would be extremely valuable for different size hospitals and for use as a comparison against the suggested square foot areas of the U. S. Public Health Service.

(Continued on page 50)

AIA COMMITTEE ON HOSPITALS AND HEALTH

Hospital	No. 1			No. 2			No. 3			No. 4 USPHS Guide		
Location (State).....	Minnesota			Colorado			New Hampshire					
Date built.....				1948			1955					
Total beds.....	223			220			210			200		
Med. & surgical.....	163			180			150					
Maternity.....	36			40			35					
Ped. & others.....	24						25					
Ultimate Total Beds.....												
Spec. features or com.....												
Shape of plan.....												
Rectangular.....												
T.....				T								
X.....	X											
Offset X.....												
Double corridor.....				lab & X-ray flr only								
Other—state.....												
Gross floor area.....	134,017 SF			139,511 SF			119,800 SF					
DEPARTMENTAL AREAS—FIGURES GIVE GROSS AREA IN SF—AREA PER BED & % of total												
1. Administration.....	5,430	24.3	4.05	3,860	17.54	2.76	5,000	24	4.2	4,775	23.88	4.81
2. Adjunct facilities.....	5,487	24.6	4.10				6,250	30				
a. Laboratory.....	2,828	12.7	2.12				2,100	10	1.7	1,617	8.09	1.63
b. Radiology.....	1,548	6.9	1.15							1,285	6.42	1.30
1) Diagnostic.....				5,072	23.05	3.64	2,250	11	1.9			
2) Treatment.....												
c. Physical medicine.....	547	2.5	.41				1,000	5	.8	1,215	6.08	1.22
d. Pharmacy.....	564	2.5	.42				900	4	.8	1,180	5.9	1.19
3. Nursing departments.....	42,677	191.3	31.85	62,190	281.53	44.57	43,700	209				
a. Bed units.....							24,300	116	20.3	37,635	188.17	37.92
1) Med. & surgical.....	17,223	77.3	12.85	41,149	187.04	29.49	8,100	39	6.8			
2) Maternity.....	6,720	30.1	5.02	8,959	39.66	6.42	7,400	35	6.2	5,165	25.82	5.20
3) Ped & others.....	9,525	42.7	7.11				2,800	13	2.3	2,715	13.57	2.74
b. Operating suite.....	6,541	29.3	4.88	5,319	24.18	3.81	5,500	26	4.6	5,030	25.15	5.07
c. OB delivery suite.....	2,192	9.8	1.63	5,645	25.65	4.05	2,450	12	2.0	2,110	10.55	2.13
d. Emergency.....	476	2.1	.36	1,118	5	.80	550	3	.5	775	3.9	.78
4. Service departments.....	20,170	90.5	15.06	18,994	86.32	13.61	16,750	79				
a. Dietary.....	9,275	41.6	6.92	6,201	28.18	4.45	7,400	35	6.2	5,165	25.82	5.20
b. Housekeeping.....	4,331	19.4	3.23	2,862	13	2.05	3,700	18	3.1	2,715	13.57	2.74
c. Employee facilities.....	2,931	13.2	2.19	4,108	18.67	2.94	2,200	10	1.8	1,895	9.47	1.91
d. Storage (incl. CGS).....	2,272	10.2	1.70	4,895	22.25	3.51	2,300	11	1.9	4,390	21.95	4.42
e. Cent. sterile supply.....	1,361	6.1	1.02	928	4.22	.66	1,150	5	1.0			
5. Outpatient department.....	2,092	9.4	1.56				600	3	.5			
6. Residential quarters.....	1,715	7.7	1.28	2,668	12.12	1.9						
7. All other space.....	56,440	253.1	42.09	46,727	212.38	33.52	47,500	226				
a. Circulation.....	22,919	102.8	17.09	35,070	159.4	25.12	31,900	152	26.6	26,875	134.37	27.08
b. Educational.....	1,173	5.3	.88									
c. Mechanical.....	22,535	101.0	16.80	5,003	22.74	3.6	8,000	38	6.7	2,575	12.87	2.60
d. Other usable.....				2,508	11.40	1.8						
e. Walls & dead space.....	9,813	44.0	7.32	4,146	18.84	3	7,600	36	6.3			
8. Totals.....	134,017	600.9	100%	139,511	634	100%	119,800	571	100%	99,237	496.19	100%
Area per bed.....	601 SF			634 SF			571 SF			496 SF		
No. of operating rooms.....	7			6			7			9		
General surgery.....	4			3			5			5		
Orthopedic.....							1			1		
Eye & ent.....				2						2		
Cystoscopy.....	2			1			1			1		
Others.....	1—emergency											
Pharmacy functions.....												
Dispensing.....	1			X			yes			1		
Compounding.....	1			X			yes			1		
Manufacturing.....	1						no			1		
Type of food service.....	cent kit & mealpack			tray service			central-trayveyor			central by truck		
No. of meals per day.....	3			400								
Seats in dining rooms.....	120			120			75					
No. of sittings noon meal.....				11:30—1:30 const flow cafe								
Quantity of laundry done.....				all								
No. of delivery rooms.....	2			2			3 (-1 gyn—OR			2		
No. of labor rooms.....	3			4			2 (3 beds)			1		
No. of bassinets.....				42			40			38		
Loc. of premature nursery.....	3rd floor			adjacent			maternity nurs unit					
Radiographic rooms.....	2			1			1					
Combined.....	2			1			2			2		
Superficial therapy.....				1			½					
Deep therapy.....				1			½					
No. staff lock. nurses & tech.....	0 m. 69 f.			20 m. 200 f.			0 m. 0 f.					
Others.....	16 m. 35 f.			100 m. 100 f.			25 m. 120 f.					
Doctors.....	35 m.			90 m.								
Outpatient exam rooms.....	6						3			4		
Residence beds in hosp.....	10			12 m.			6 f.					
Other features.....	5 recovery beds						5 recovery beds					

GROSS FLOOR AREAS — ACUTE GENERAL HOSPITALS UP TO 200 BED

No. 5 Mississippi 1951-1952			No. 6 New York			No. 7 Minnesota 1950-1953			No. 8 New York 1954-1955			No. 9 Virginia 1950-1952		
200			199			194			188			184		
123			162			126			136			120		
32			31			48			28			49		
45			6			20			24			13		
									250					
Y						cross plan with attached kitchen-chapel wing & detached boiler house laundry			modified T			T		
85,589 SF			130,063 SF			193,548 SF			148,552 SF			135,371 SF		

5,887	29.5	6.9	5,375	27	4.1	11,474	60	6	8,453	44.95	5.68	5,968	32.43	4.41
4,135	20.4	4.8	5,972	30	4.6	8,231	42	5	7,357	39.09	4.94	6,538	35.53	4.83
1,368	7	1.6	2,194			3,137	16	2	2,780	14.77	1.88	2,616	14.23	1.93
1,808	9	2.1												
			1,660			1,800	9	1	2,650	14.09	1.78	2,242	12.18	1.66
256	1	.3	599			306	2	.5	480	2.55	.32	420	2.28	0.31
196	.9	.2	812			1,275	6	.5	870	4.62	.58	770	4.18	0.57
507	2.5	.6	707			1,713	9	1	577	3.06	.38	490	2.66	0.36
37,211	186.2	43.4	41,235	207	31.5	60,356	317	32	58,304	310.05	39.21	43,231	234.95	31.96
									32,854	174.75	22.11			
22,591	113	26.4	27,546			34,844	180	18				22,246	120.90	16.45
3,894	19.5	4.5	5,519			11,450	60	6	8,843	47.03	5.95	9,786	53.19	7.24
3,894	19.5	4.5	1,858			3,992	25	3	5,666	30.10	3.80	2,510	13.64	1.85
3,436	17.1	4.0	2,055			6,536	34	3	6,484	34.48	4.36	3,010	16.36	2.22
3,045	15.4	3.6	3,617			2,664	14	1	3,457	18.38	2.32	3,690	20.05	2.73
351	1.7	.4	640			510	2	.5	1,000	5.31	.67	1,989	10.81	1.47
12,891	64.4	15.2	20,243	105	16.0	31,542	166	16	19,211	102.25	12.9	15,698	85.31	11.59
4,564	23	5.3	9,166			10,704	60	6	8,824	46.93	5.93	6,673	36.27	4.92
2,733	13.7	3.3	5,242			4,645	23	2	2,927	15.56	1.96	3,504	19.04	2.59
2,452	12.1	2.9	766			1,026	5	.5	975	5.28	0.66	1,343	7.30	0.99
2,210	11	2.6	3,810			14,487	75	7	5,000	26.59	3.36	3,408	18.52	2.52
932	4.6	1.1	1,259			680	3	.5	1,485	7.89	0.99	770	4.18	0.57
			2,526	13	2.0	no spec dept			3,678	19.56	2.47	4,616	25.09	3.41
			2,360	12	1.8	4,617	25	2	244	1.29	0.16	1,890	10.27	1.39
25,465	127.5	29.7	52,352	263	40.0	77,328	399	39	51,315	272.96	34.53	57,430	312.13	42.41
17,974	89.9	21	24,828			42,180	217	21	18,000	95.74	12.11	23,034	125.19	17.01
						2,010	11	1						
4,381	22	5.1	9,101			16,816	86	9	17,341	92.27	11.67	19,579	106.41	14.46
									6,138	32.64	4.13			
3,110	15.6	3.6	18,423			16,322	85	8	9,836	52.31	6.62	14,817	80.53	10.94
85,589	428	100%	130,063	657	100%	193,548	997	100%	148,552	790.1	100%	135,371	735.71	100%
428 SF			657 SF			(dental unit 360 SF) 997 SF			790 SF			736 SF		

4			4			4			4			8		
			1			1			1					
			in OPD			2			none					
1			in x-ray			1			1			1		
1			dental in OPD						1—minor			2		
						yes			1					
			X			yes			1			X		
			X			yes			1			X		
			X			yes			1			X		
			bulk			bulks & trays			bulk			centralized (mealpack)		
									564 pat—250 emp			1,200		
			100						135			104		
			2						200			2		
			3,000 lb daily average						3,750 lbs per day			2,400 lbs per day		
									2 plus 1 em del					
2						2			3			3		
4						2			3			3		
27						44			30			36		
3rd floor			maternity			with other nurseries			delivery floor			4th floor		
			1						1					
			1						2					
			1						1					
			1						1					
0 m.	90 f.		5 m.	58 f.					19 m.	137 f.		20 m.	89 f.	
23 m.	12 f.		20 m.	51 f.						30 f.		50 m.	35 f.	
31 m.			25 m.			31 m.			112 m.			0 m.	0 f.	
			4						3					
									1					
			6 recovery beds			4 recovery beds			8 recovery beds					

AIA COMMITTEE ON HOSPITALS AND HEALTH

	No. 10			No. 11			No. 12 USPHS Guide			No. 13		
Hospital.....	Texas			Texas			1953			Illinois		
Location (State).....	Texas			Texas			1953			1953-1955		
Date built.....	constr start 1955			1956			1953			1953-1955		
Total beds.....	153			151			150			147		
Med. & surgical.....	94			73			130			98		
Maternity.....	32			28			20			29		
Ped. & others.....	27			24 ped—26 polio						20		
Ultimate Total Beds.....												
Spec. features or com.....												
Shape of plan.....												
Rectangular.....	3, 4, 5, & 6th floors			3, 4, & 5th floors								
T.....	off-set T bsmnt 1 & 2 fl											
X.....												
Offset X.....												
Double corridor.....				1st & 2nd								
Other—state.....				polio—1 story wing								
Gross floor area.....	114,580 SF			94,756 SF			88,133 SF			90,551 SF		
DEPARTMENTAL AREAS—FIGURES GIVE GROSS AREA IN SF—AREA PER BED & % of total												
1. Administration.....	7,595	49.5	6.63	6,495	43.0	6.85	3,575	23.8	4.1	10,825	7.3	11.95
2. Adjunct facilities.....	4,094	26.7	3.6	5,435	36.0	5.73	5,875	31.9	6.7	6,600	4.5	7.3
a. Laboratory.....	2,440	15.93	2.13	1,549	10.3	1.64	1,440	9.6				
b. Radiology.....							1,080					
1) Diagnostic.....	1,270	8.3	1.11	871	5.8	0.92	1,080	7.2				
2) Treatment.....				349	2.3	0.37						
c. Physical medicine.....				2,282	15.1	2.41	1,420	9.4				
d. Pharmacy.....	384	2.51	.336	384	2.5	0.39	855	5.7				
3. Nursing departments.....	37,703	246.45	32.91	36,820	243.8	38.86	34,830	232.1	39.7	28,157	19.3	31.00
a. Bed units.....							28,200	187.9				
1) Med. & surgical.....	15,720	102.8	13.72	12,936	85.6	13.64						
2) Maternity.....	8,290	54.2	7.24	7,232	47.9	7.64						
3) Ped & others.....	6,000	39.2	5.24	10,268	68.0	10.84						
b. Operating suite.....	4,410	28.8	3.86	3,451	22.8	3.64	4,210	28.1				
c. OB delivery suite.....	2,755	18.0	2.4	2,312	15.3	2.43	1,905	12.7				
d. Emergency.....	528	3.45	.461	631	4.2	0.67	515	3.4				
4. Service departments.....	15,811	103.31	13.8	12,810	84.8	13.52	11,475	77.1	13.1	11,918	8.1	13.2
a. Dietary.....	7,089	46.3	6.18	5,881	38.9	6.21	4,325	28.8				
b. Housekeeping.....	3,730	24.4	3.26	3,858	25.6	4.07	2,325	15.5				
c. Employee facilities.....	1,050	6.85	.916	1,179	7.8	1.24	1,595	10.6				
d. Storage (incl. CGS).....	3,060	20	2.67	1,299	8.6	1.37	3,330	22.2				
e. Cent. sterile supply.....	882	5.76	.77	593	3.9	0.63						
5. Outpatient department.....				672	4.6	0.73				1,615	1.0	1.8
6. Residential quarters.....	6,090	39.8	5.31	1,540	10.2	1.63				891	.07	.98
7. All other space.....	43,287	282.4	37.77	30,964	205.0	32.68	33,358	222.5	37.9	30,545	20.7	33.77
a. Circulation.....	24,550	160	21.4	20,297	134.4	21.42	20,285	135.2				
b. Educational.....	4,076	26.6	3.56									
c. Mechanical.....	7,130	46.6	6.23	4,836	32.0	5.10	2,250	15.0				
d. Other usable.....												
e. Walls & dead space.....	7,531	49.2	6.58	5,831	38.6	6.16	10,823	72.3				
8. Totals.....	114,580	748.2	100%	94,756	627.4	100%	88,133	597.4	100%	90,551	616	100%
Area per bed.....	748 SF			627 SF			588 SF			616 SF		
No. of operating rooms.....				6						6		
General surgery.....	3			3								
Orthopedic.....	1			1								
Eye & ent.....				1								
Cystoscopy.....	1			1						1		
Others.....										3		
Pharmacy functions.....												
Dispensing.....										2		
Compounding.....										1		
Manufacturing.....										0		
Type of food service.....	trayveyor			food cart						trayveyor		
No. of meals per day.....										475		
Seats in dining rooms.....	60			115						54		
No. of sittings noon meal.....										80		
Quantity of laundry done.....										1,600 lb		
No. of delivery rooms.....	3			2						2		
No. of labor rooms.....	3 rooms—6 beds			3 rooms—4 beds						3		
No. of bassinets.....	39			31						36		
Loc. of premature nursery.....	OB floor			OB floor						4th floor		
Radiographic rooms.....				2						1		
Combined.....	2											
Superficial therapy.....				1								
Deep therapy.....												
No. staff lock. nurses & tech.....	21 f.			47 f.						21 f.		
Others.....	40 m.			56 m.						70 f.		
Doctors.....	44 m.			52 m.								
Outpatient exam rooms.....				6						2		
Residence beds in hosp.....				8								
Other features.....	sisters 26 Beds—rec. 6 beds									recovery beds —1		

AIA COMMITTEE ON HOSPITALS AND HEALTH

Hospital	No. 19			No. 20			No. 21			No. 22		
Location (State)	Tennessee			Tennessee			Massachusetts			Wyoming		
Date built	1953—add 1955 & 1956			1956			1950			1952		
Total beds	133			128			125			124		
Med. & surgical	81			84			60			20		
Maternity	37			20			25			21		
Ped. & others	15			24			22-18			7		
Ultimate Total Beds												
Spec features or com.												
Shape of plan												
Rectangular												
T				X						X		
X							X					
Offset X	offset X											
Double corridor												
Other—state												
Gross floor area	86,689 SF			96,750 SF			95,790 SF			98,500 SF		
DEPARTMENTAL AREAS—FIGURES GIVE GROSS AREA IN SF—AREA PER BED & % of total												
1. Administration	4,740	35.7	5.5	5,500	42	5.6	4,667	37.0	4.8	5,661	45.60	5.75
2. Adjunct facilities	2,492	18.69	2.84	3,400	26	3.5	5,260	42.0	5.4	3,755	30.28	3.82
a. Laboratory	1,284	9.6	1.5	1,900	14.5	2.0	1,648	13.2	1.7	1,635	13.19	1.66
b. Radiology	559	4.2	0.6	1,500	11.5	1.5				1,533	12.36	1.56
1) Diagnostic							1,300	10.4	1.4			
2) Treatment	298	2.25	0.34				508	4.0	.5			
c. Physical medicine							1,054	8.4	1.0			
d. Pharmacy	351	2.64	0.4				750	6.0	.8	587	4.73	.60
3. Nursing departments	32,866	247.11	37.80	35,200	275.5	36.0	31,222	299.8	32.9	27,304	220.0	27.72
a. Bed units												
1) Med. & surgical	13,901	104.52	16.04	13,500	105.5	14.0	11,560	92.5	12.0	14,130	113.90	14.35
2) Maternity	8,286	62.3	9.44	4,500	35	4.5	7,684	61.5	8.0	4,782	38.55	4.85
3) Ped & others	2,016	15.16	2.33	5,300	41.5	5.4	2,864	23.0	3.0	3,303	26.60	3.35
b. Operating suite	3,925	29.51	4.53	3,200	25	3.2	4,356	35.0	4.5	2,589	20.88	2.63
c. OB delivery suite	3,480	26.16	4.01	8,300	65.5	8.5	3,280	26.0	3.4	2,167	17.47	2.20
d. Emergency	1,258	9.46	1.45	400	3.0	0.4	1,478	11.8	1.5	333	2.68	.34
4. Service departments	15,379	115.62	17.75	11,000	85.0	11.6	15,582	124.3	15.5	16,870	135.13	17.02
a. Dietary	5,167	38.85	5.96	6,300	49	6.5	6,000	48.0	6.3	7,701	62.00	7.82
b. Housekeeping	2,912	21.89	3.36	800	6	0.8	3,158	25.0	3.2	3,313	26.70	3.36
c. Employee facilities	2,113	15.88	2.44	500	3.5	0.5	2,160	17.3	2.0	705	5.68	.71
d. Storage (incl. CGS)	4,383	32.95	5.06	2,000	15.5	2.5	2,500	20.0	2.0	4,497	36.20	4.56
e. Cent. sterile supply	804	6.05	.93	1,400	11	1.3	1,764	14.0	2.0	564	4.55	.57
5. Outpatient department	316	2.38	.36				1,966	15.7	2.0			
6. Residential quarters				13,100	102	13.5	1,214	9.7	1.0	3,485	28.10	3.59
7. All other space	30,896	232.20	35.63	29,150	227	29.8	35,879	287.0	38.9	41,515	334.81	42.15
a. Circulation	17,525	131.76	20.21	17,400	136	18.0	19,328	154.6	20.0	17,816	143.70	18.10
b. Educational				4,400	34.0	4.5						
c. Mechanical	7,248	54.50	8.36	2,600	20.0	2.5	8,698	69.4	10.9	8,282	66.70	8.40
d. Other usable							748	6.0	.8	274	2.21	.28
e. Walls & dead space	6,123	46.04	7.06	4,750	37.0	4.8	7,105	57.0	7.2	15,143	122.20	15.37
8. Totals	86,689	651.8	100%	96,750	757.5	100%	95,790	765.5	100%	98,500	794.00	100%
Area per bed	652 SF			757 SF			765 SF			794 SF		
No. of operating rooms				5			5					
General surgery	4			3			4				2	
Orthopedic				1			1				1	
Eye & ent.							1				1	
Cystoscopy	1			1			1				1	
Others	emergency 1											
Pharmacy functions							fracture room					
Dispensing	yes			none (shared)			1				1	
Compounding	small						1					
Manufacturing							1					
Type of food service				central tray			bulk				mealpack	
No. of meals per day	349						600					
Seats in dining rooms	96			132			84					
No. of sittings noon meal	75						1					
Quantity of laundry done	850 lbs-day						585,800 lbs/yr					
No. of delivery rooms	2			4			2				2	
No. of labor rooms	3			labor—delivery—same			3				4	
No. of bassinets	30			24			38				20	
Loc. of premature nursery	connected to nursery			pediatrics			OBS 3rd floor				maternity floor	
Radiographic rooms	1						x-ray, fluor, deep T					
Combined							3				2	
Superficial therapy							1					
Deep therapy	1			none (shared)			1				1	
No. staff lock. nurses & tech						64 f.			100 f.			
Others							36 m.		54 f.			
Doctors						29 f.	27 m.					
Outpatient exam rooms	2						2				none	
Residence beds in hosp.				77			5 interns' rooms				10	
Other features												

48

GROSS FLOOR AREAS — ACUTE GENERAL HOSPITALS UP TO 200 BED

No. 23 New Hampshire 1954-55	Illinois No. 24 1951	Virginia No. 25	Minnesota No. 26 1951	Minnesota No. 27 1955
120 64 18 38	118 87 19, 22 (bass) 12	117 82 24 11	112 100 12	110 79 20 11
			X	X
not typical, many rooms are in present building 76,008 SF	63,010 SF	97,287 SF	49,656 SF	56,781 SF

5,460 1,450 600 rooms in old bldg	46 12 5 7	7.1 1.9 .79	2,470 3,181 972 1,148 848 300 866 195	21 27 8 10 7 3 7 2	3.9 6.9	4,165 5,034 1,745 1,761 713 194 721	36 43	4.3 5.2	2,454 1,748 832 606	22 15.4 7.3 5.4	4.9 3.5 1.7 1.2	3,336 2,444 805 1,010 413 216 22,633	30.3 12.1 7.3 9.2 3.7 1.96 205.85	5.87 4.3 1.41 1.78 .73 .38 39.92
850 28,402 rooms in old bldg	7 236.6	1.12 38.07	22,821 11,537 4,036 1,817 2,576 2,050 805 15,651 3,595 2,419 1,678 7,440 519	193 98 34 15 22 17 7 132 30 21 14 63 4	36.2 24.8	28,369 14,128 5,897 2,164 3,419 2,101 660 13,549 6,251 3,144 1,788 1,023 1,343 2,834 2,221 41,115 19,887 none 11,125 none 10,103	242 116	29.2 14.0	19,282 12,923 2,372 2,423 1,141 423 8,321 2,487 1,586 850 2,718 680	171.8 129 21.2 21.6 10.2 3.8 74.3 22.2 14.2 7.6 24.2 6.1	38.9 26.0 4.8 4.9 2.3 .9 16.8 5.0 3.2 1.7 5.5 1.4	7,250 4,055 1,878 512 7,250 2,669 1,768 806 1,463 544	65.86 13.2 17.1 4.65 65.86 24.2 16.1 7.3 13.3 4.96	12.76 2.55 7.19 3.30 .90 12.76 4.69 3.11 1.42 2.58 .96
6,662 6,050 rooms in old bldg rooms in old bldg other bldg 612 other bldg	55 50 5	8.76 7.96 .8	18,917 13,002 2,682 3,233	160 110 23 27	30.0	2,834 2,221 41,115 19,887 none 11,125 none 10,103	24 19 350	2.9 2.3 42.1	17,861 10,800 4,397 2,664	159.5 96.5 39.2 23.8	35.8 21.7 8.8 5.3	21,118 12,033 2,803 311 5,971	192.5 110 25.5 2.8 54.2	37.19 21.19 4.95 .55 10.5
76,008	633	100%	63,010	533	100%	97,287	830	100%	49,656	444	100%	56,781	515	100%
633 SF	533 SF		830 SF	444 SF	515 SF									

8 3 1 2 1 1 X X	4 2 1 1 X		3 1 (fracture)	4 2 1 1	6 2 1 (fracture) 1 emergency 1 1 minor
bulk system	no no bulk to serving c		in OPD in x-ray dental in OPD	yes	
76	34		centralized bulk 310 40 2 400 lbs daily average	centralized 3	heated carts 3 per patient % 40
other bldg old bldg old bldg	2 1 22		maternity 1 1 1 1	all hospital 1 1 in reg nursery	all 2 2 16
in nursery old bldg old bldg old bldg old bldg	1 1			1 1 fluoroscopic	1
30 m.	7 f. 38 m. 42 f.	46 f.	0 m. 30 m. 15 m.	0 f. 15 f. 0 f.	21 f. 33 m. 14 m.
	coat rack in lounge 0 0		5 12 3 recovery beds	30 m. 13 m. none none	4 recovery beds
nurses res separate					

"When you come to cost, it is a different item and I discussed the matter this morning with our head draftsman to see if I was correct in my opinion. No one in our office would be able to estimate the cost of the laboratory per square foot, including construction, heating, plumbing, electrical, cabinet work, as against the cost of bedroom space, boiler room, kitchen or other parts of the hospital. Even for a small hospital of seventy-seven beds, which is the one I have in mind working with, we would be required to employ a professional estimator at \$7.00 per hour and it is doubtful if he could complete the work on this hospital in one week . . ."

- ". . . there seems to me several questions: I agree that departmental unit costs would be a big job, perhaps too big, for *completed* work. Is it possible that such breakdowns might be facilitated in *current* or *future* work by developing a uniform method of take-off? The idea is that perhaps the first step might be *area and function* analysis alone—with combined area and cost studies developed later (not on the same jobs) as the committee work gains momentum . . ."
- ". . . I think Todd Wheeler has done a fine job. I do agree with you that it is almost impossible without spending considerable money to find out the relative costs of the different departments . . . Everything else that is suggested could be done quite easily. . ."
- ". . . I am in sympathy with your concern about the difficulties in estimating costs by departments for even a small hospital. You may recall that

one member of the committee felt most strongly that such information would be a valuable guide in planning . . . This is not something that can be tossed off lightly by any of us. If it is to be worth the effort at all it can afford to proceed slowly enough to allow for thinking as well as for work. (!) Our purpose is not to criticize given hospitals but to collect useful data on as many as we can get . . ."

After testing the forms, based on departmental designations in USPHS "Appendix A," data began to roll in from members of the national AIA Committee on Hospitals & Health and from other AIA members who cooperated generously with the project. Initial tabulations were a labor of love by Todd Wheeler, who personally entered more than half of the total. Final typed tabulations and the first printing were completed by paying personnel in a member's office from CHH budget (by special approval). Note that several USPHS hospital guide plans have been included.

Before publication, CHH decided that to avoid wrong and possibly harmful comparisons, identifying information should be omitted. This has been done, each job being given a number and location listed only by state without name of hospital or architect. Permission to publish these figures was granted by sources on this basis.

In addition to listing rooms in detail according to USPHS "Appendix A," certain rules were set forth for measurement of areas so that all would be reported on a uniform basis. These rules were as follows:

GROSS FLOOR AREA:

- measure to outside of walls
- include porches
 - balconies
 - canopies
 - penthouses
- unfinished and unexcavated areas
 - at 1/2 gross area

DEPARTMENTAL AREAS:

- measure to inside face of exterior walls
- to room side of partitions along corridors, stairs, elevators and other circulation spaces
- to center of partitions adjoining other departments
- include partitions, columns, small ducts, chases, shafts, etc., within departments.

Detailed listing of rooms suggests assignment to departments according to "Appendix A." Areas need be calculated only for entire departments and major subdivisions.

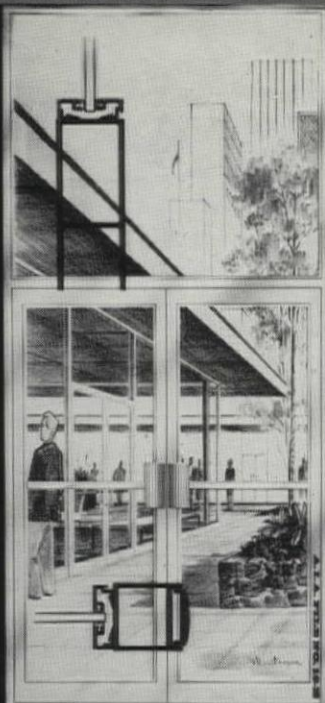
AMARLITE

	PAGES
Standard Doors and Frames	2-7
Panel Doors	8
Wide Sillie Doors	9
Supplemental Hardware	10-11
Modifications to Doors and Frames	11-16
Panic Exit Doors	12-13
Wind Load Charts	17-20
Stock Shapes	21
Specifications	22-23

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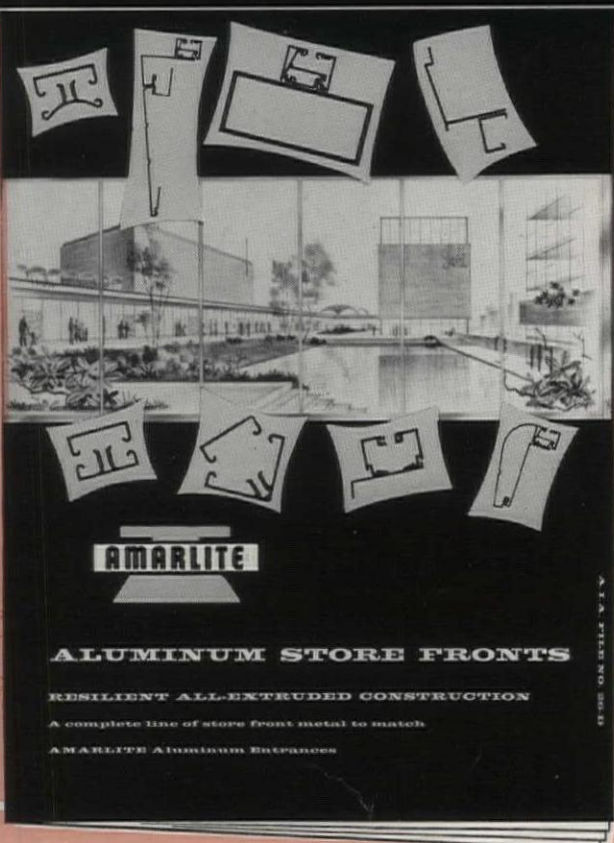
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MOSAIC



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3

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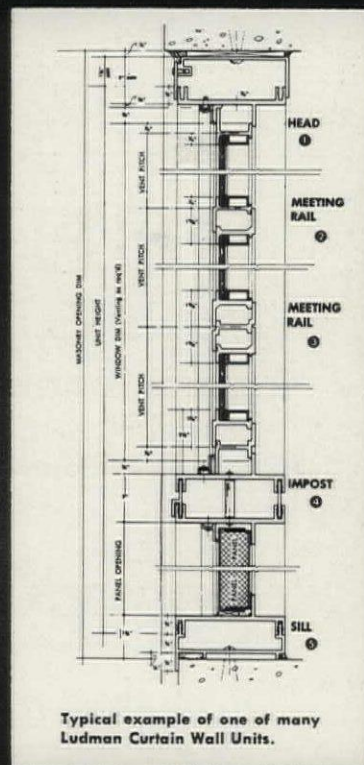
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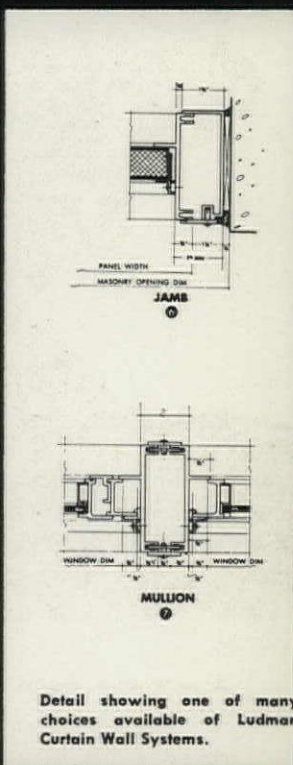
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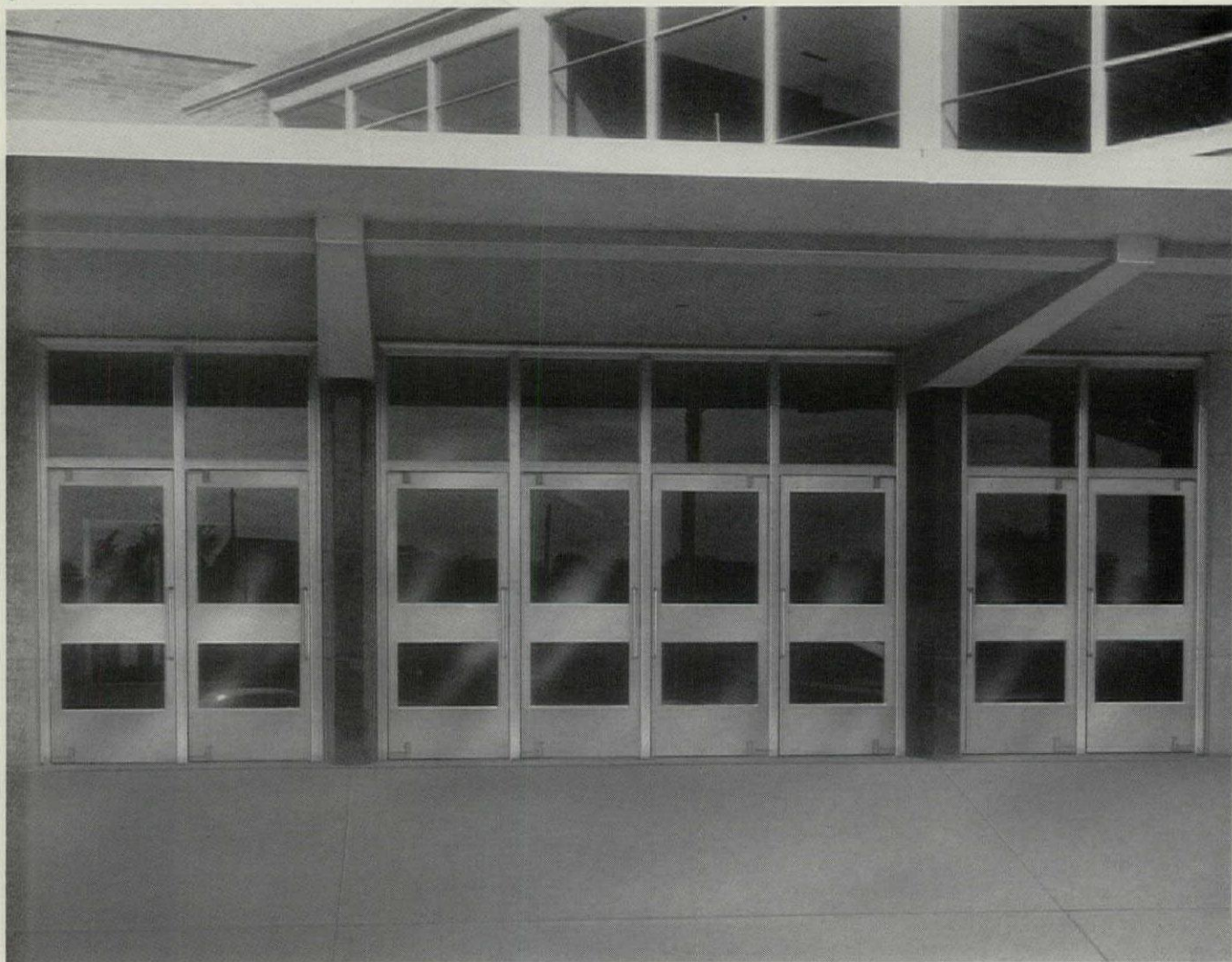
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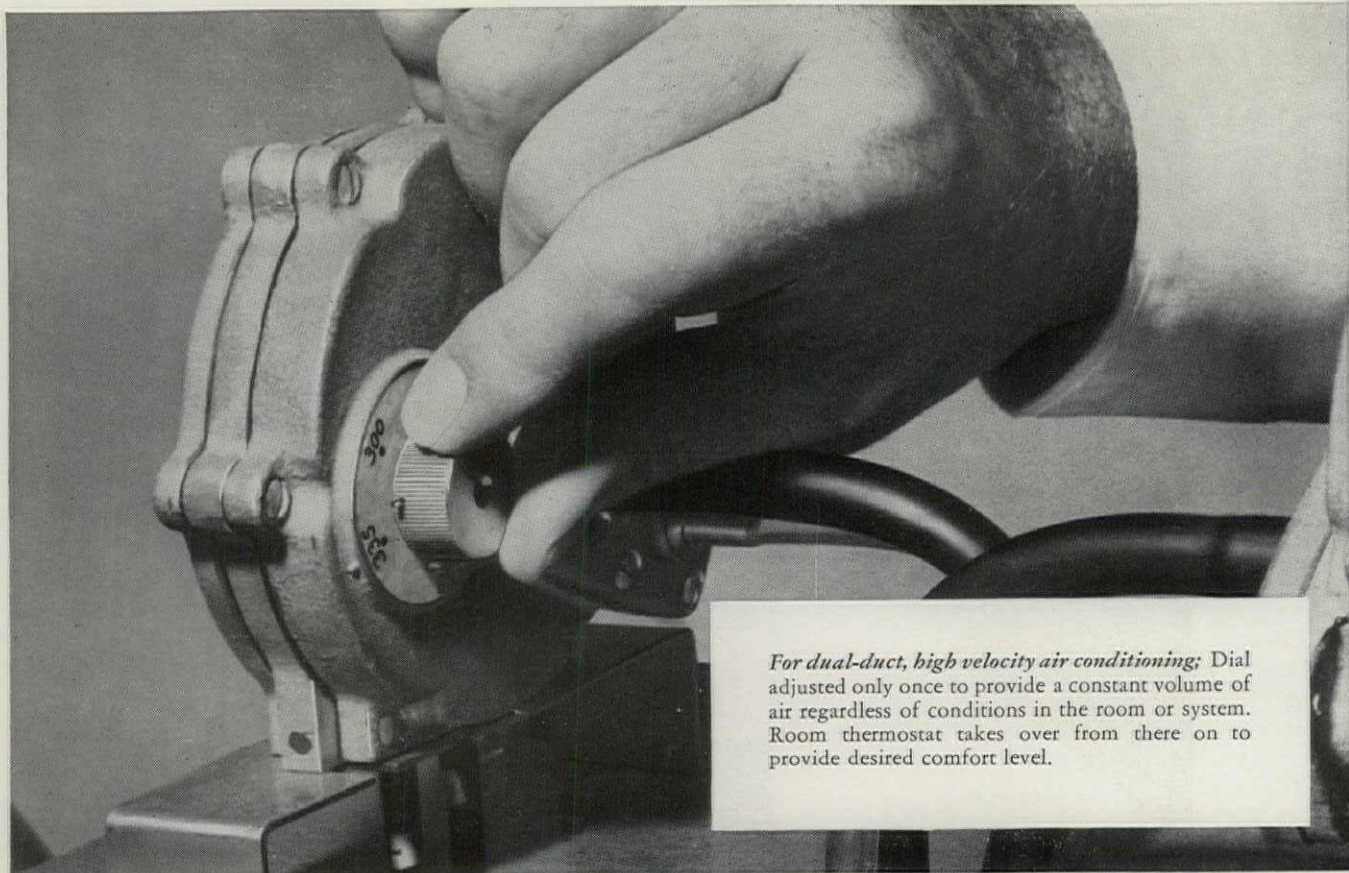
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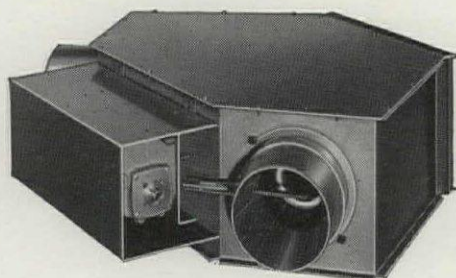
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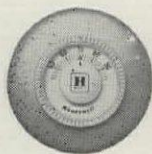
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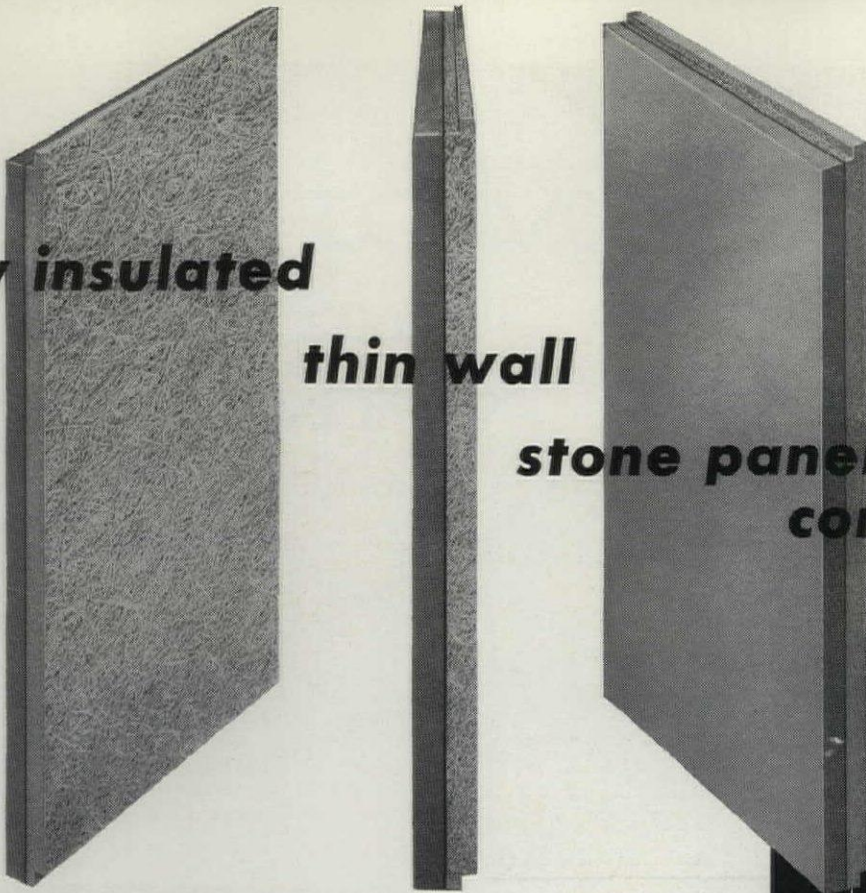
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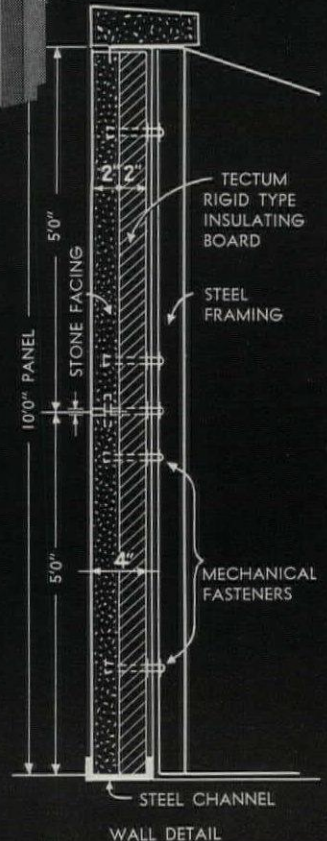
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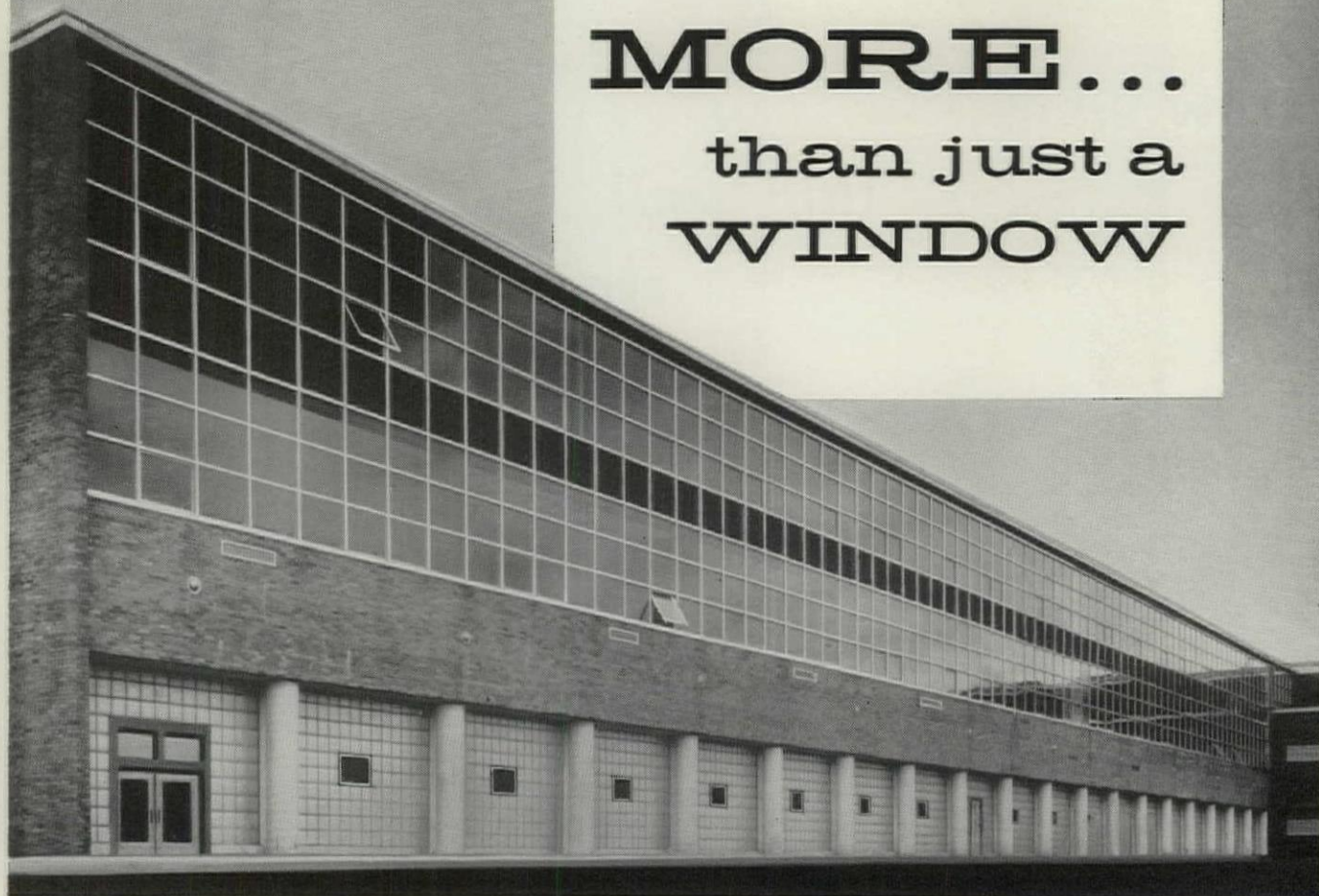
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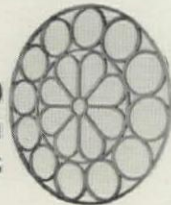


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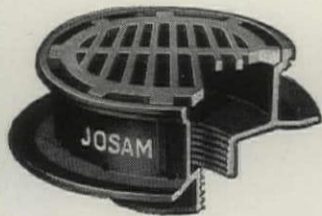


Our Lady
 Queen of Peace Church, Madison, Wis.
 Architects: *Weiler & Strang, Madison, Wis.*
 Milwaukee Journal Photo

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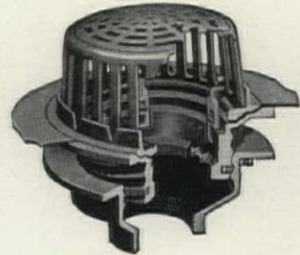
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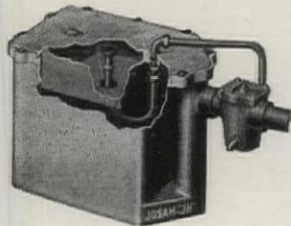
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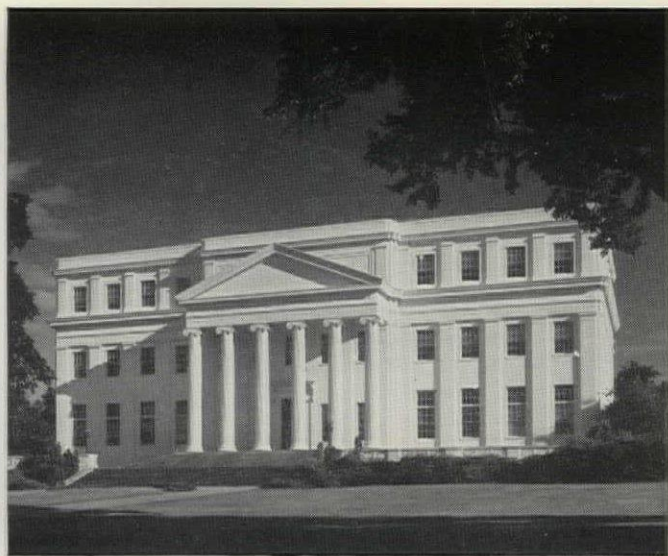
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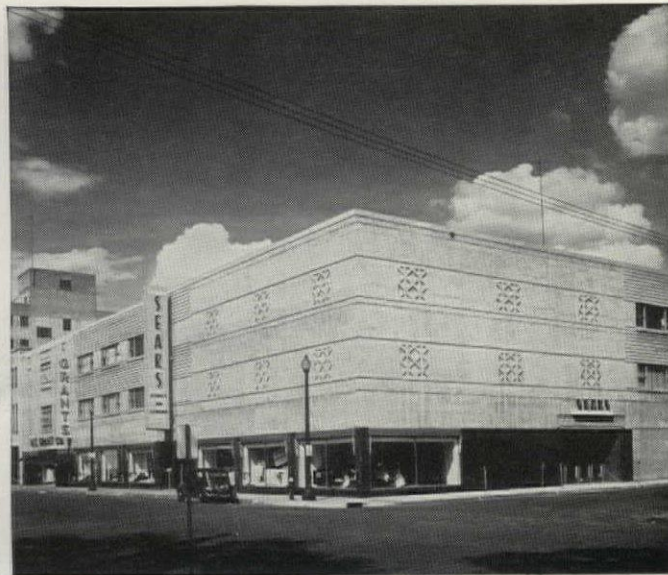
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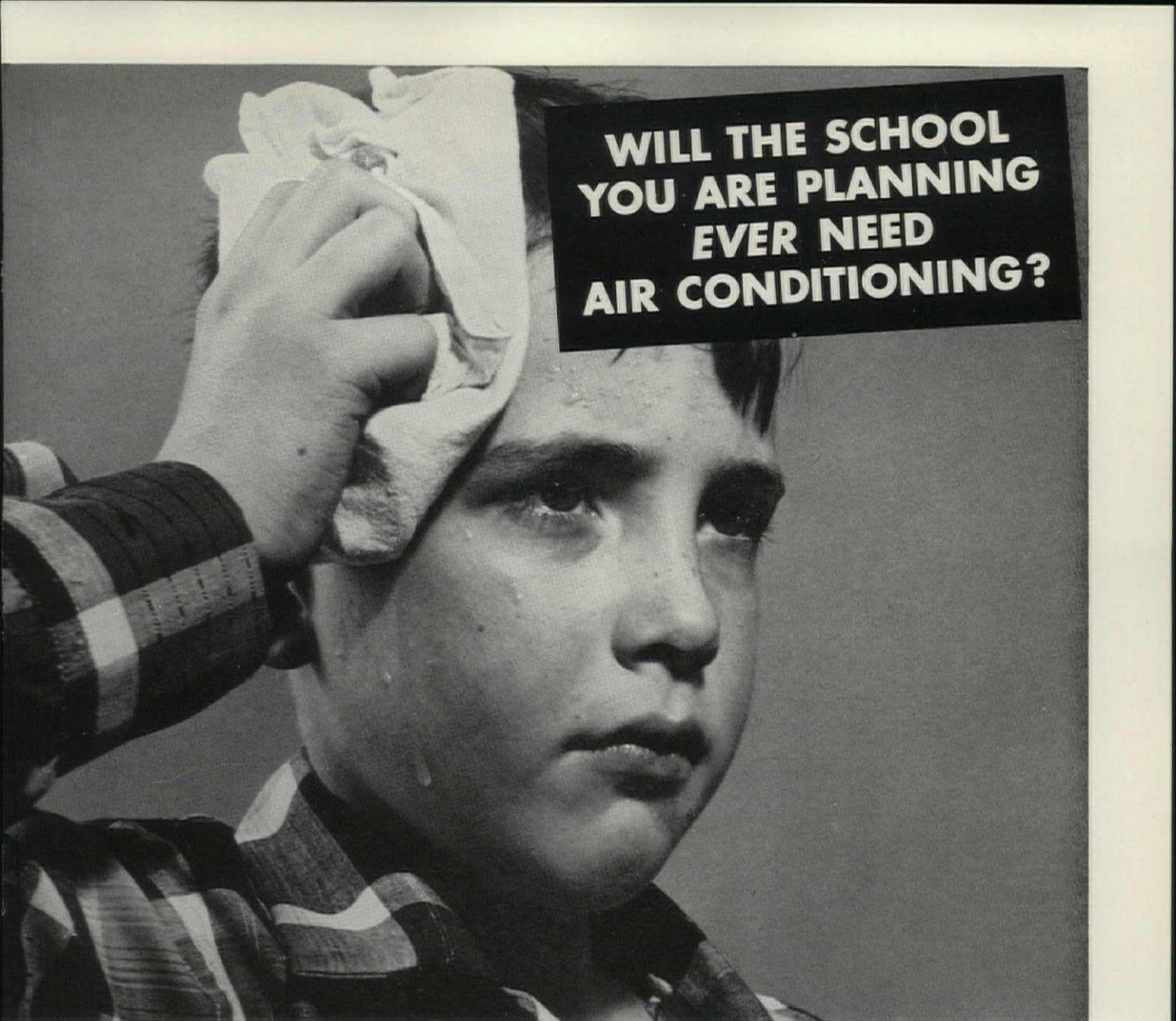
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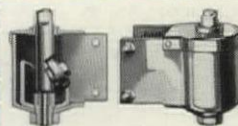
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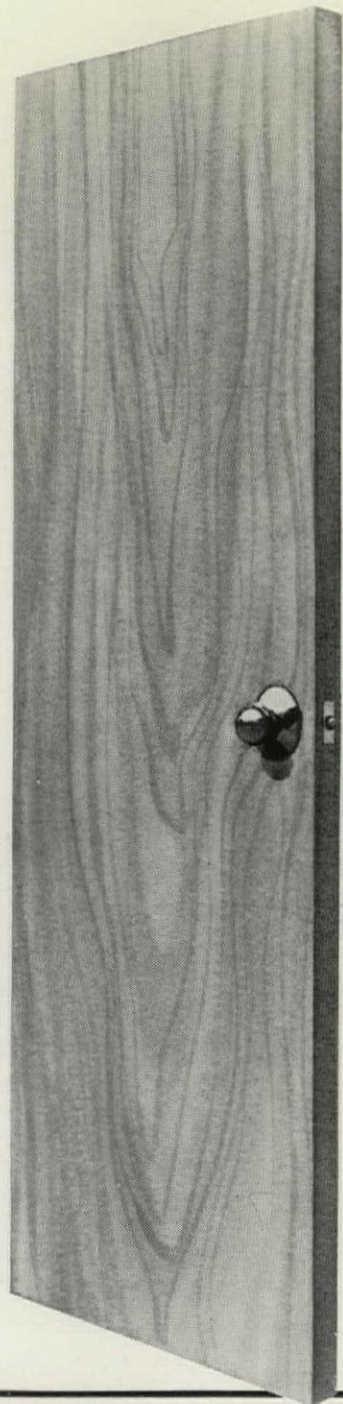
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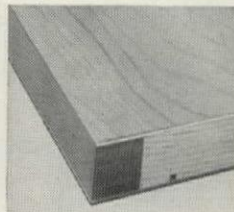


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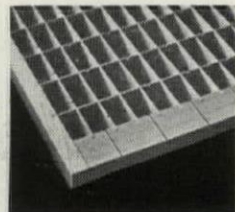
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