DECEMBER 1957

AIA

# Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS

## THE ENGINEER AS CITIZEN

*By Morris L. Cooke, P.E.*

## NEW OFFICES FOR THE WHITE HOUSE

*By Douglas W. Orr, FAIA*

# The American Institute of Architects

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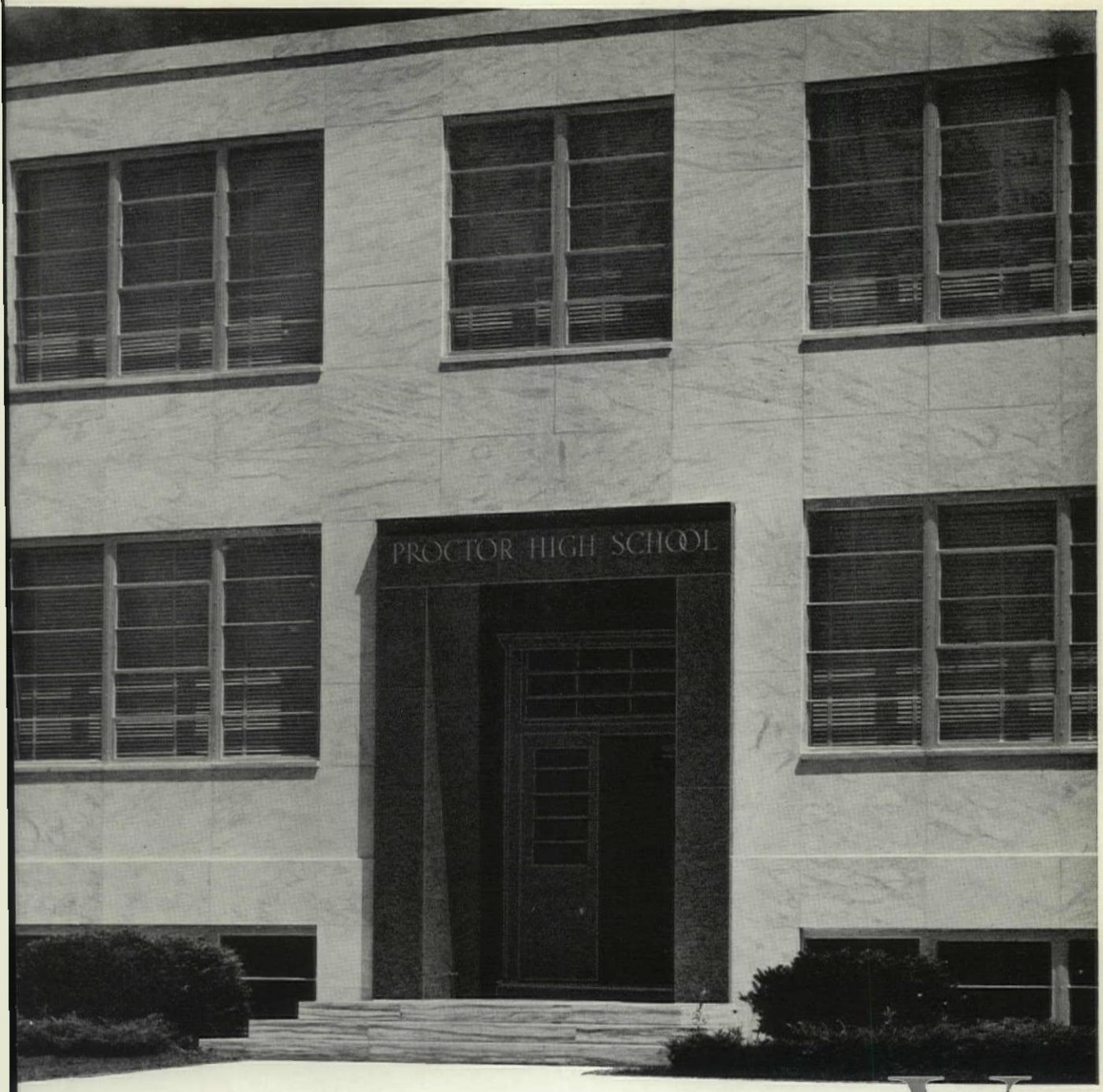


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TO EACH CORPORATE MEMBER
OF THE AMERICAN INSTITUTE OF ARCHITECTS
AND EACH CHAPTER ASSOCIATE:

The Committee on Professional Liability Insurance of the Institute has been engaged for the past several years in a comprehensive study of Architects' Professional Liability Insurance.

The Committee has now completed its study and has recommended that the Board of Directors commend to the favorable consideration of the membership, the protection offered by the program and policy presented by Victor O. Schinnerer of Victor O. Schinnerer & Company, Inc., of Washington, D. C. The Committee was of the opinion that it had been able to obtain a basic policy, all things being considered, which would be of great advantage to the profession.

At its meeting in Houston, Texas on November 28th, 1956, the Board of Directors accepted and adopted the Committee report.

Since the success of the program will depend on broad participation by the members of the Institute, we urge your serious and favorable consideration.

Cordially yours,

COMMITTEE ON PROFESSIONAL LIA

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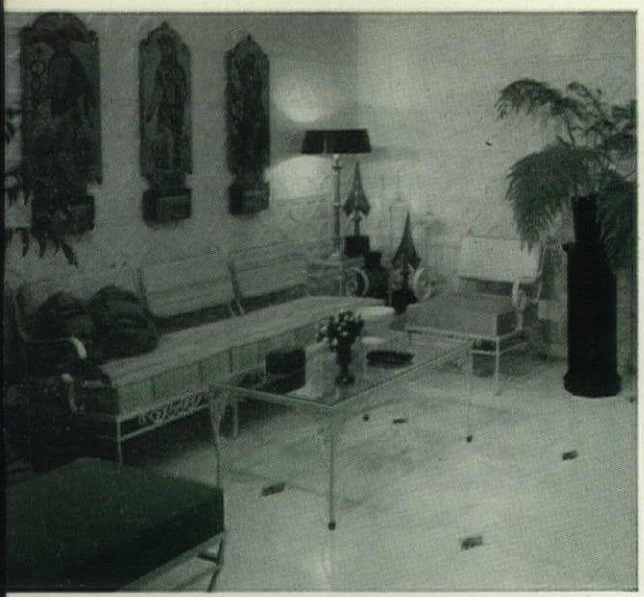
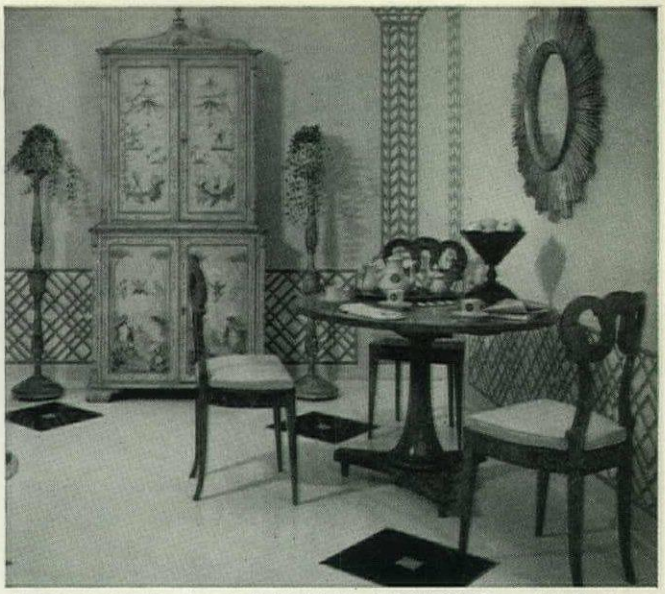


DECORATOR JOHN E. GRIFFIN decorated the Woodard Furniture exhibit room with a floor of white Robbins vinyl. Small ceramic insets subtly tie dining and living areas with a Directoire feeling.



DECORATOR L. RAYMOND TOUCHER exhibited a formal morning room in which black Robbins vinyl insets were outlined in nickel against a white Robbins vinyl field, creating a room of dignity.

*At the 1957 National Home Furnishings Show in New York's Coliseum . . .*

# AMERICA'S TOP DECORATORS CHOSE ROBBINS AGAIN

*Why* did so many exhibit rooms (only 4 are shown here) feature Robbins Vinyl Tile floors?
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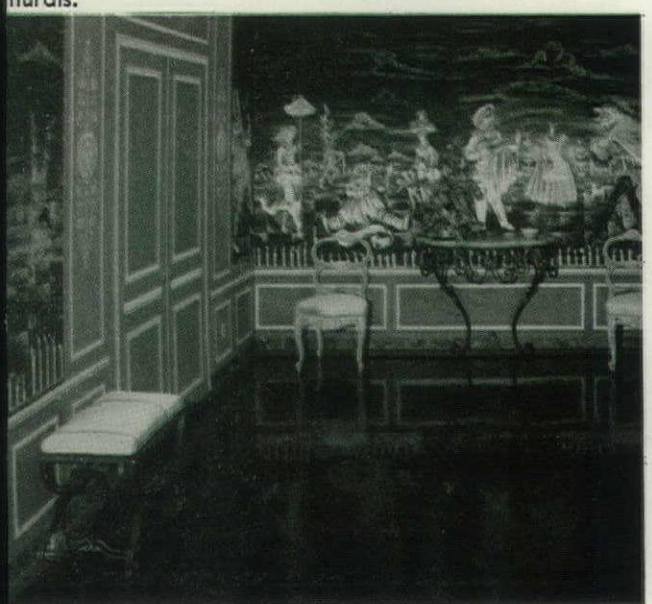
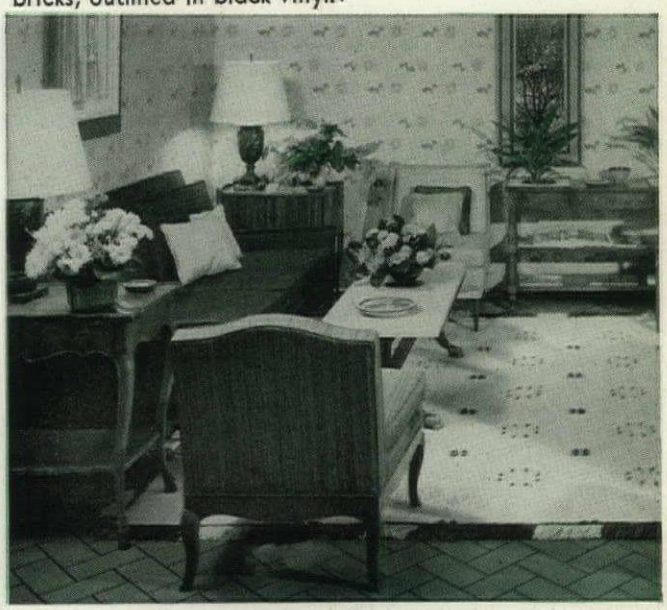
DECORATOR MARY E. DUNN of Nancy McClelland, Inc. — Black harlequin diamonds of Robbins vinyl reflect the French, Venetian and Italian antiques, and lush murals.

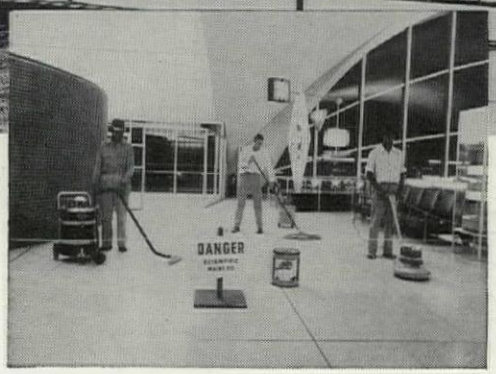


DECORATOR INEZ CROOM envisioned a simple card and family room, and emphasized its inviting comfort with Robbins terra cotta vinyl hand cut into herringbone bricks, outlined in black vinyl..



# *Where Tomorrow Begins..*

Lambert - St. Louis Air Terminal
Architects: Hellmuth, Yamasaki & Leinweber




*In the beautiful functional buildings now rising, tomorrow is already here . . . and so are tomorrow's floor problems.*

The past 50 years has seen unbelievable progress in the development of new forms, new materials, new harmony of design — and the unveiling of new concepts of floor treatment which makes the modern functional floor practicable.

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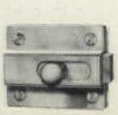



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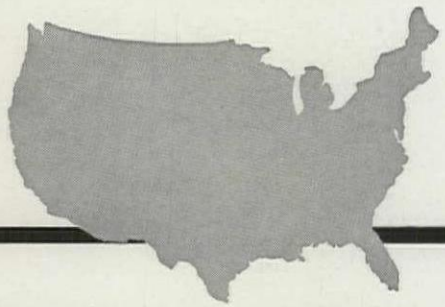
# Will The School You Are Planning *Ever* Need AIR CONDITIONING?



## ...the answer is YES!

**Here's a partial list of schools which are air conditioned now, or are ready for it anytime —with Herman Nelson unit ventilators**

Pleasant Hill School
Austin, Texas

St. Paul Evangelical Lutheran Church
Dolton, Illinois

Davy Crockett School
Phoenix, Arizona

Wilmot School
Wilmot, Wisconsin

Niles Township High School
Skokie, Illinois

South High School
Bakersfield, California

Morrillton Elementary School
Morrillton, Arkansas

Sierra Joint Union High School
Auberry, California

St. Paul's Lutheran Church
Clyde, Ohio

Catholic Student Center
Louisiana State University
Baton Rouge, Louisiana

Immaculate Heart of Mary Parish
Chicago, Illinois

New Science Building
Northeastern State College
Tahlequah, Oklahoma

South Union Junior High School
Fresno, California

Mockingbird Road Elementary School
Vero Beach, Florida

Administration & Educational Building
Buena Vista College
Storm Lake, Iowa

St. Monica Parish Church
Willows, California

Purdue University
W. Lafayette, Indiana

Wm. S. Speed Building
University of Louisville
Louisville, Kentucky

Elementary School
Phoenix, Arizona

Lodi High School
Lodi, California

McKinley School
Bakersfield, California

St. John the Baptist School
Chico, California

St. Monica's Church & School
Dallas, Texas

Southeastern College
Hammond, Louisiana

Trinity Episcopal Church
Lawrence, Kansas

Our Lady of Fatima Shrine
South Bend, Indiana

Sardis Presbyterian Church
Charlotte, North Carolina

Theodore Roosevelt School
India, California

St. Peter & Paul Parish
Turkey Creek, Indiana

Belle Isle Elementary School
Oklahoma City, Oklahoma

Eunice Smith School
Alton, Illinois

Holy Name Elementary School
Cook, Indiana

University of Pennsylvania
Philadelphia, Pennsylvania

Swarthmore College
Swarthmore, Pennsylvania

Immaculate Heart of Mary Parish
New Orleans, Louisiana

St. Mary's Church
Ft. Worth, Texas

St. Patrick's Church
Denison, Texas

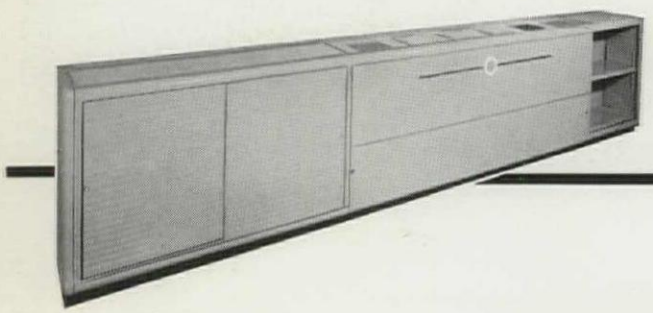
## Already, more than 100 schools have planned for it—by installing HerNel-Cool II

Nearly every school would benefit from air conditioning as have offices, theaters, hospitals and homes. In fact, many new schools *are* air conditioned, or have prepared for it—by installing HerNel-Cool II unit ventilators. *This Herman Nelson product is the first unit ventilator to offer optional air conditioning,* as well as heating, ventilating and natural cooling (with outside air).

*Already—less than a year after its introduction—it has been selected for use in more than 100 schools throughout the country. And no wonder!*

These units can be installed now so that the school enjoys all the usual benefits of the famous Herman Nelson DRAFT|STOP system. Only the addition of a chiller in the boiler room is needed for complete hot weather air conditioning. This can be provided initially, or if it's not in the current school budget—at any future time.

Would you like more information? Just write to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Kentucky.



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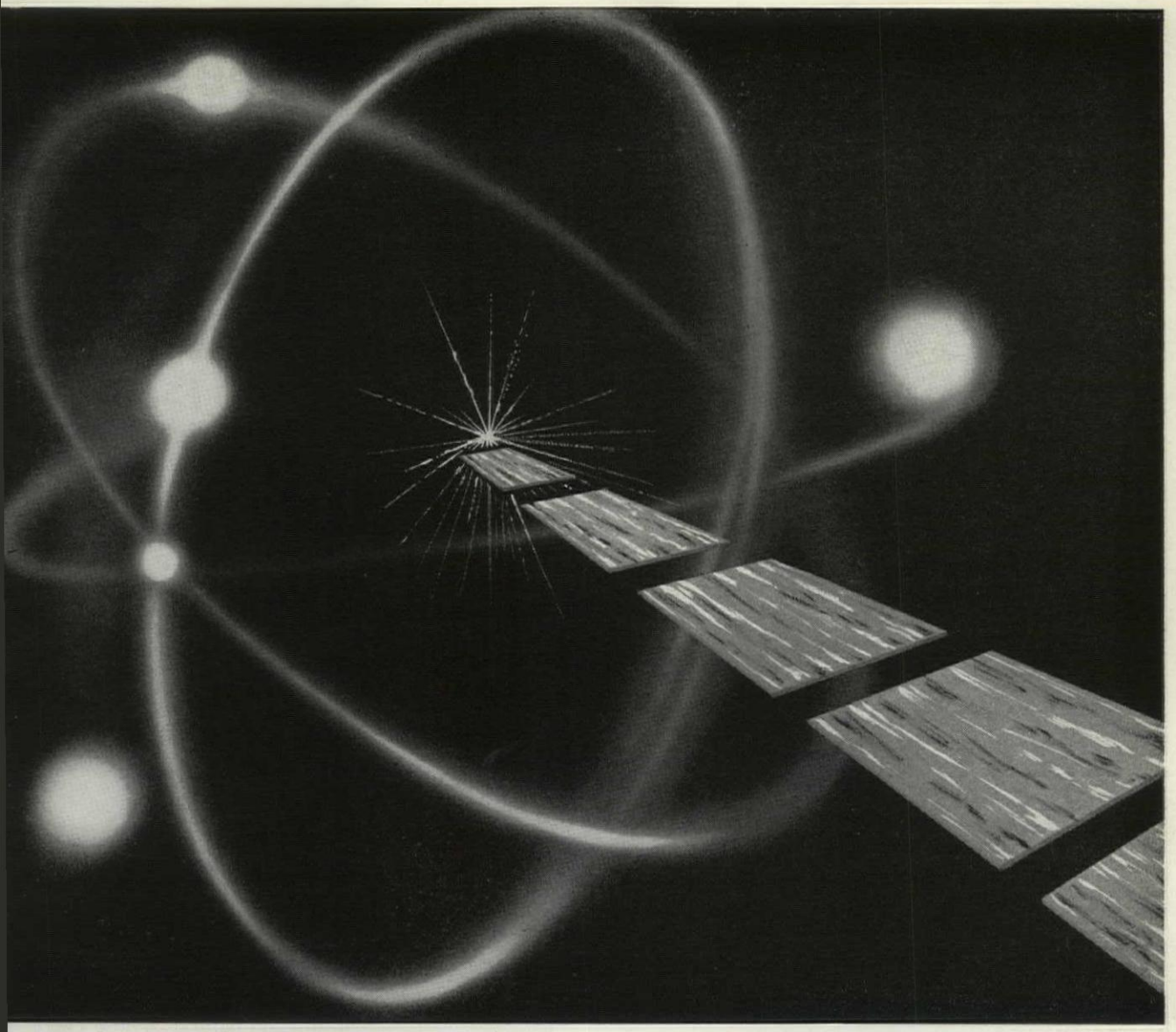
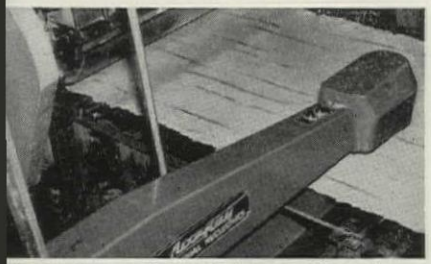
UNIT VENTILATOR PRODUCTS

System of Classroom Cooling, Heating and Ventilating



# Now Nuclear Science Assures MATICO Quality



clear gauge continuously inspects tile and con-
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With AccuRay on the job, MATICO achieves the greatest product uniformity in tile history! By keeping tolerances within plus or minus 1%, MATICO gives you uniform thickness, tighter surfaces, improved dimensional stability. This means MATICO Tile looks better . . . wears better . . . even installs better, for it's always "on square."

AccuRay beams electrons at the tile, automatically adjusts the production process to maintain pre-set standards. MATICO gives you tile quality controlled by AccuRay, another mark of leadership for the tile you can always depend on.

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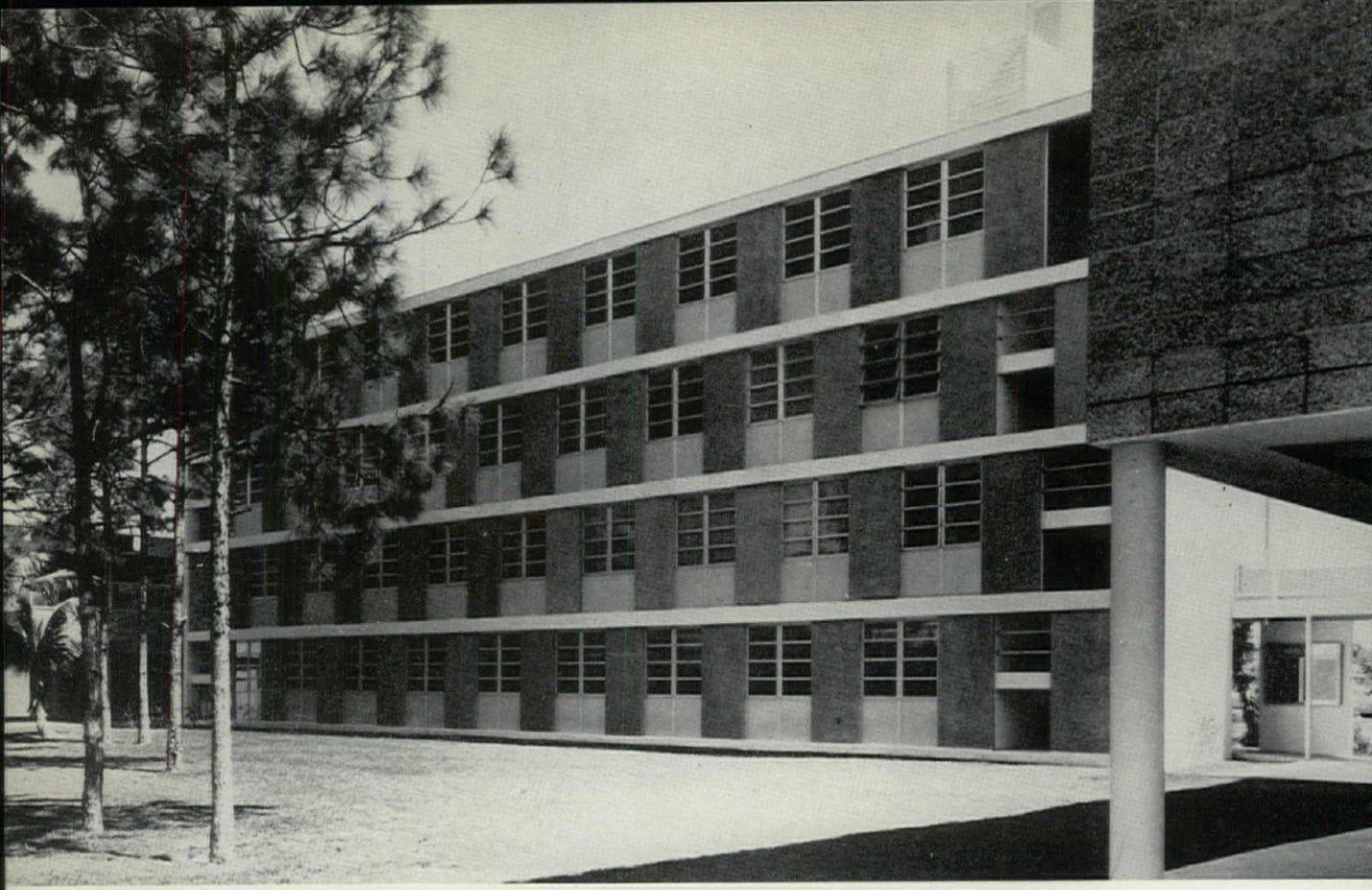

**UNIVERSITY OF MIAMI LAW BUILDING**
Curtain Wall by Ludman

*Architect: Robert M. Little, Miami, Fla.*
*Contractor: Fred Howland, Miami, Fla.*

# the architect's vision sets the pace for the future . . .

*by Lawrence Field*

The plans an architect draws today may well determine the architecture of the future.

When an architect does project the future in his plans, he must find the materials with which to implement that vision.

For example, within very recent years, curtain walls have introduced new dimensions of freedom in design and given the architect a new fluidity of line, and a cleanness of structural concept and mobility.

Eminently practical, ingeniously adaptable, curtain walls have enlarged the architect's horizon and, at the same time, achieved a valuable saving in construction time and costs.

The Ludman Corporation was one of the first to pioneer in the engineering development and successful installation of curtain wall in hundreds of buildings of every kind. Its engineers are constantly formulating new methods of treatment, new ways of handling curtain wall design. As a result, Ludman Curtain Walls offer practical expression of architectural concepts . . . allow the architect almost unlimited extension of his ideas.

Ludman Curtain Walls match architectural vision with superb window engineering that reduces construction time and costs, yet is always beautiful, efficient and flexible. They combine window and wall in one easily handled, quickly fastened, labor saving unit. Maintenance is virtually nil.

Ludman Curtain Walls are easily adaptable to any wall treatment desired, offering a wide range of materials, color and texture for interior and exterior walls.

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Ludman know-how, based on years of actua curtain wall experience, has proved of ai to architects the country over.

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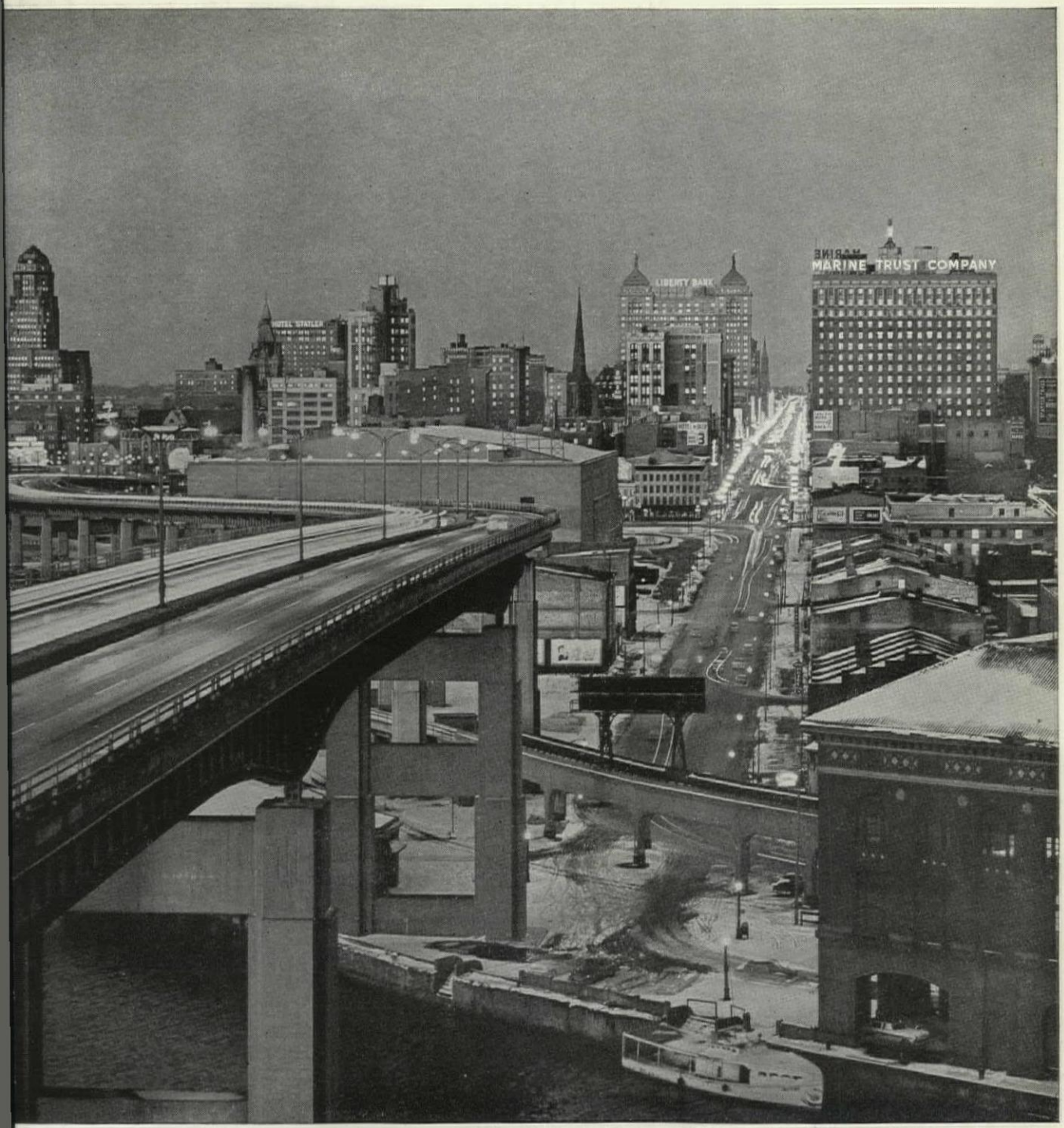


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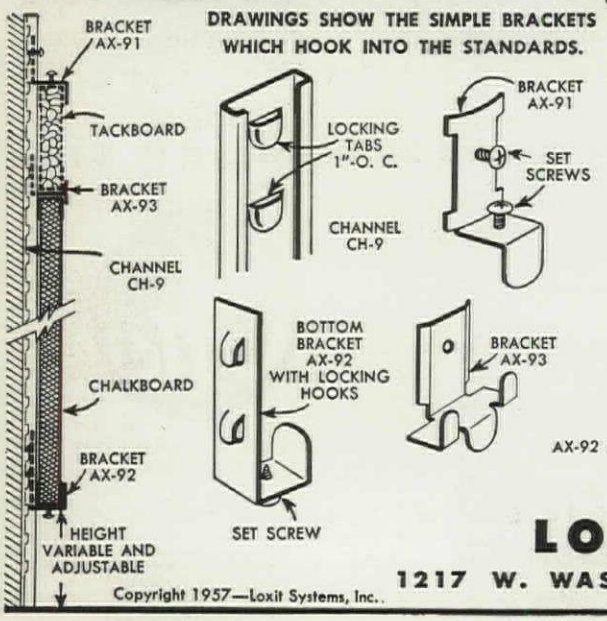
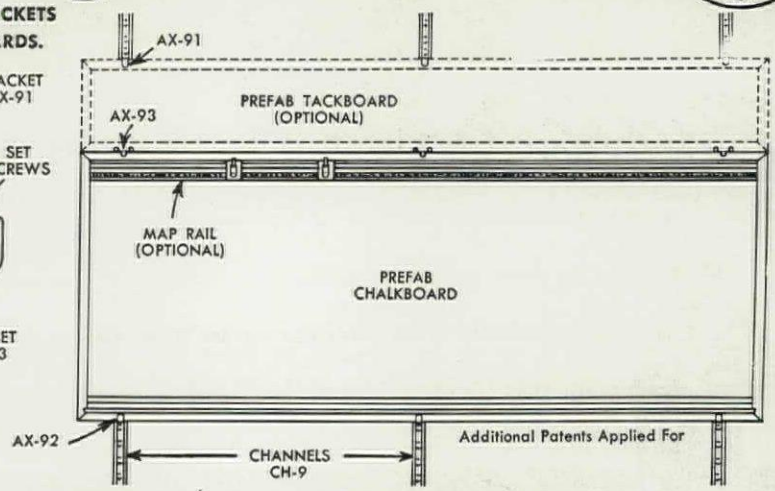



DRAWINGS SHOW THE SIMPLE BRACKETS WHICH HOOK INTO THE STANDARDS.

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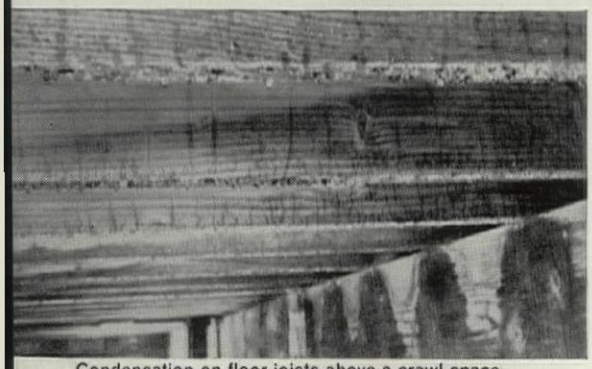
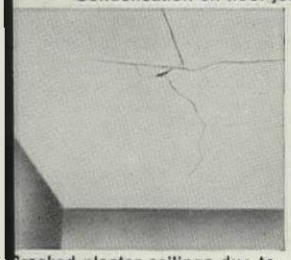
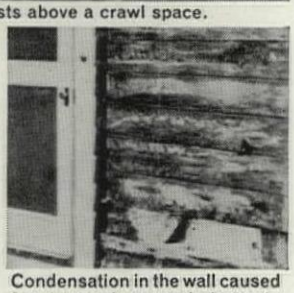


Condensation on floor joists above a crawl space.



Cracked plaster ceilings due to condensation on the inside of flat roof deck.



Condensation in the wall caused framing to decay and plaster to crack.

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AIA Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS



VOL. XXVIII, No. 8 DECEMBER 1957

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

THE LIVE AND THE DEAD

PHOTOGRAPH BY
JACK B. GUSS

*An Editorial:*

# Vicious Vernaculars

SINCE NINETY-EIGHT PER CENT of the Amer-an populace shows not the slightest awareness f what professional architects mean by good build-g, the AIA has an arduous duty to perform. One at will not pay off for a generation, but is more sperately important than any of the worthy causes w being undertaken, that is to create taste at the ass roots level. The longer the task is delayed the ore dubious the ultimate victory. We have been rrying about an innocuous kind of traditional ivy d should have been uprooting the poison variety. here are several prolific species of the latter, all rnacular and all vicious. Together they form our al environment: "Industrial Incompetent," "Edu-tional Emasculated," "Ranch Romantic," and Highway Horrorific." They add up to abominable solation.

The upper middle class as well as the lower mid-e class, which are all we have, find all four tedious, t not, as they should, utterly destructive of values. hat reaction can be expected of them? Unlike ums, the new wasteland does not instantaneously eate terror; the vernacular products are new, clean, asonably well plumbed and lighted. Nothing here provoke a revolution; only apathy and numbness. w will a people believing in "Ranch Romantic" a symptom of progress and prosperity be brought fear it as a tranquilizer? Capital has been con-med, pride of ownership is involved, the whole mily perhaps has planted and painted, all for thing? How to convince them that their ranch uses are the degenerative phase of a dying tradi-n, sinking under such worn out emotional associa-ns as thatched eaves, magic casements and im-memorial stones. J. M. Richards a few years ago spoke of "Castles on the Ground," now the castles have gone underground and all we see is the not quite submerged ruins.

"Educational Emasculated" is hardly less bad. What are our children studying in? "Flat-top Gothic" here, brick boxes there, over which preside such whispy Georgian ghosts as to make genuine Georgian forever anathema and, chiefly, bastards sired by filling stations out of ranch houses. Too often architects have served as the midwives. "Industrial Incompetent" in which modern materials and methods of construction have spawned islands of brick and glass in ponds of asphalt, anonymously, without character or identity. "Highway Horrorific" is the chaotic assemblage of all the above extracted from a Waring Blender by a band of psychotics directed by those madmen, our brothers.

Where in all this is the power of the AIA? Have the vernacularists ever heard of suiting form to function, of expressing materials, of character or climax, of adaptation to the site, or harmony with environment? Are Madison Avenue, the pulps, Congress or the clergy, T.V., Hollywood, or the realtors, going to do anything about this? Ultimately the bulldozer and the mortician will. Whose responsibility is it? Who most wants the public to recognize and employ him? Will our avid customers of tomorrow come from this fetid jungle? It would seem to be the profoundest concern of the AIA to begin the nearly hopeless struggle to reverse this trend, if only to survive.

CARROLL L. V. MEEKS

# Centennial Dividends

## *The Responsibilities of Public Recognition*

When Henry R. Luce, Editor-in-Chief, Time, Inc., says something he means it. Many members will recall his remarks at the Centennial Banquet:

". . . . To use an American expression of elegant classical lineage, the American people are beginning 'to get the word'—about architecture. It's up to us to send out the word more vigorously. You have accomplished the American revolution in architecture. Now it's for editors and enlightened citizens to make known the news for that revolution."

Through his publications, Mr. Luce has emphatically demonstrated that this was no idle suggestion and the proof of his stated intentions has been on the newsstands almost every week since the Centennial Celebration.

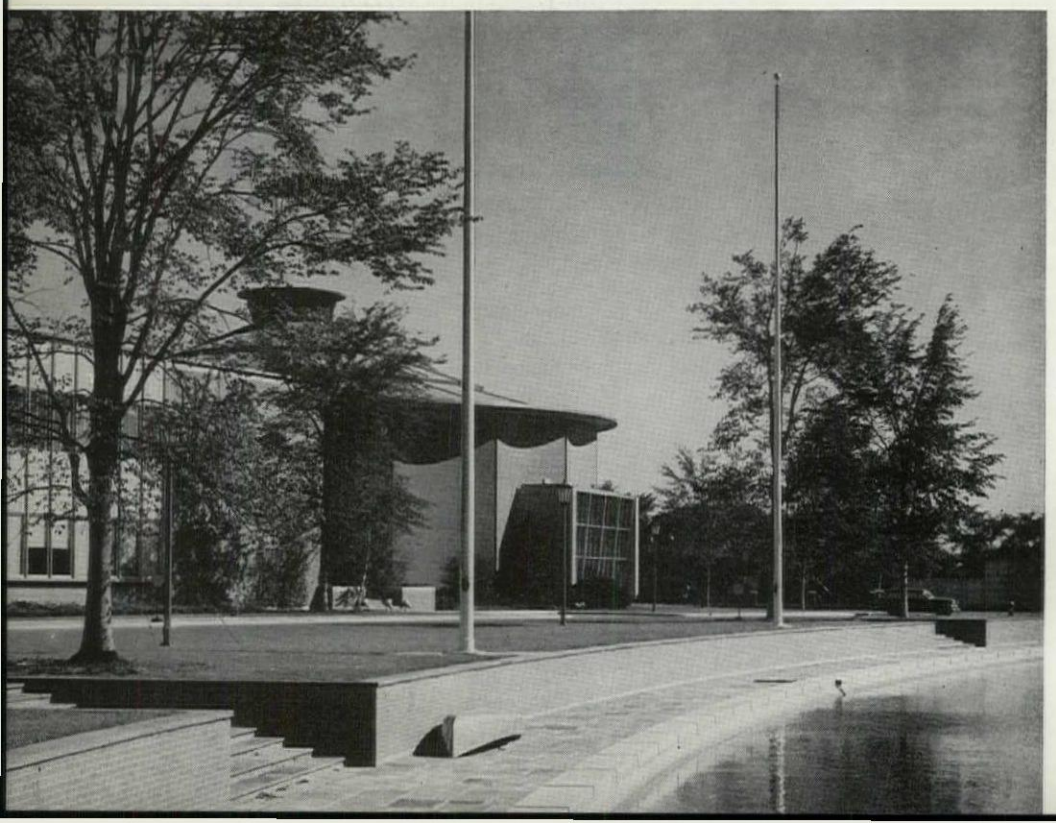
Of course *Architectural Forum* and *House and Home* are aimed towards architects and builders. Now *Fortune, Life* and *Time* have stepped up their coverage of architecture considerably. A recent example of this broad interest on the part of the Luce publications was the highlighting, through pictures and text, of the Connecticut General Life Insurance Building in Hartford. *Time, Life, Fortune,* as well as *Architectural Forum* appeared almost simultaneously with major stories about the planning and construction of this building, each slanted toward its own particular reader-interest. Prominence in the giants of the publication world such as these is proof positive that architecture is arriving—that it is big news these days.

The avenues of communication opened to us by our Centennial activities continue to provide opportunities for talking about architects and architecture.

Public recognition, the emergence of architecture into the public eye, imposes a grave responsibility on the architect and his profession. We must indeed keep our sights high if our profession is to play its rightful part in Mr. Luce's further description of architecture. "Furthermore, millions of Americans not only the professionals, have begun to see that in our Twentieth Century, architecture is more than building here and there, vitally important though each good building is. Architecture is a plaza, a civic center, a great redevelopment area. Architecture is a whole city. Architecture is the whole sweep of the continent."

EDWIN BATEMAN MORRIS JR

## FAVORITE FEATURES OF RECENTLY ELECTED FELLOWS



BENJAMIN LANE SMITH, FAIA

DETAIL OF STYLING BUILDING, Ford Research & Engineering Center, Dearborn, Michigan. Voorhees, Walker, Smith and Smith, Architects

# The Architect and the Operative Home Builder

By L. Morgan Yost, FAIA

THERE IS A LOT OF ROOM for architects in the home building field but all too few architects are becoming interested in this new type of practice. Too few builders are calling in architects—even fewer realize what the architect can do for them. In short, we need a greater mutual understanding before our profession can become influential in this largest segment of the construction industry.

Here is a profitable field of practice, one somewhat akin to industrial design, and the usual architect-owner agreements and scope of practice do not pertain. Some builders will start with limited service, then be convinced that they can use more complete services when they see what an interested and knowing architect can do for them.

Don't expect results overnight and don't forget that many builders have had poor experiences with architects who did not have the patience or vision to see where a thorough job could have led them. There are a hundred or so firms doing good builder work—enough to show them that this is a field well worth developing, if you like houses and people.

The successful home builder's architect will not wrap up a design and set of working drawings and deliver them to the builder. Nor will he pull something off the shelf. Teamwork is necessary, meetings with the builder's staff periodically to develop a project that will succeed for the simple reason that all phases have been considered—site, market, labor, financing, purchasing, manufacturing, scheduling, advertising, selling, complaints, color, landscaping, and many others.

The architect can't handle all this sitting in his own office. He must get out and know the builder and his problems. He will work with the builder on many things, lending his experience, judgment and vision. But he will automatically deliver no selfishly inspired packages. Teamwork is needed, time repeat, and even in this the architect will gain great satisfaction.

These are the areas in which an architect can be of help to the builder:

**Analyzing Builder's Market**

1. Analyze the type of community, the financial strata of the buyers, the nationality backgrounds.
2. Analyze whether the community is a growing community or not, whether the buyers are being pulled from other houses.
3. Does the builder need a trade-in plan? In other words, what kind of people are buying this builder's house?

**Analyzing Builder's Competition**

1. What are the builder's competition building and selling?
2. Are there unfilled markets that should be catered to?
3. Are there price classes which should be catered to?
4. What are the neighborhood considerations?

**Analyzing Community Services**

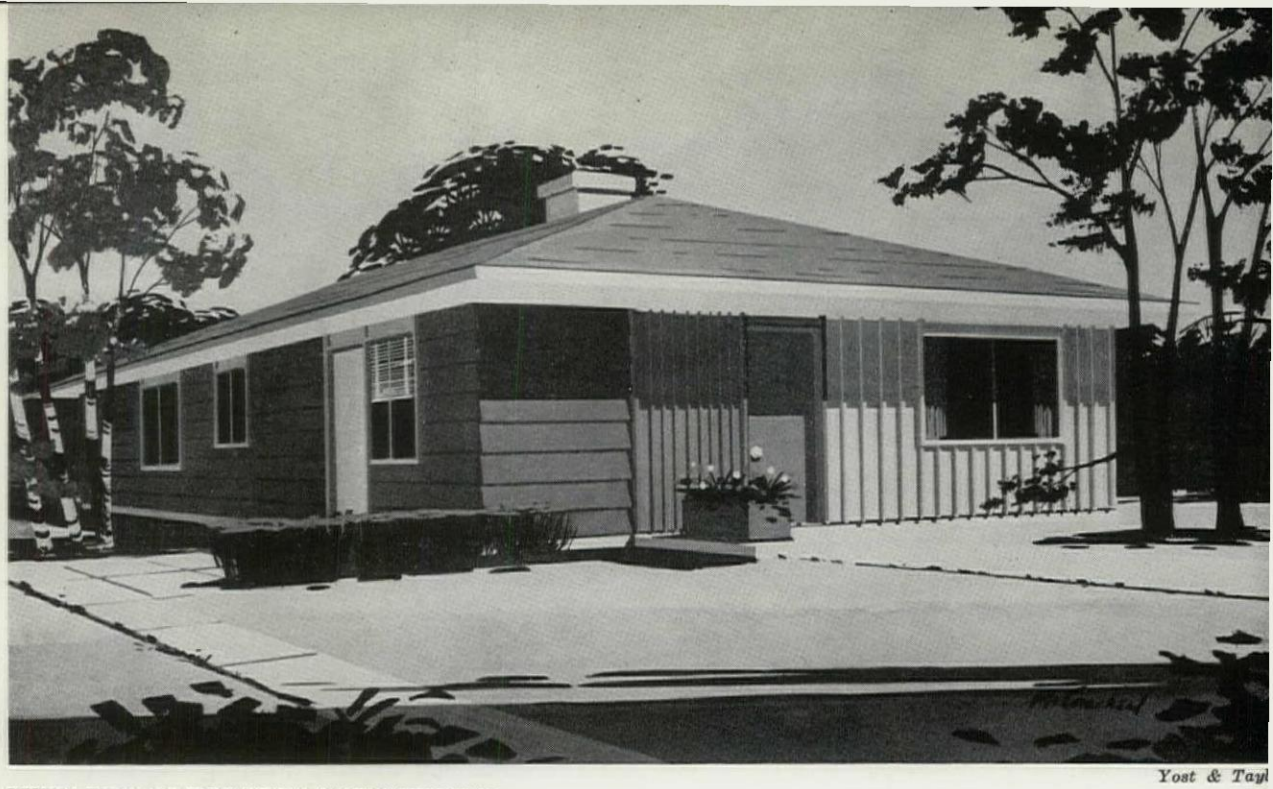
1. Water, gas, electricity.
2. Sewer.
3. Transportation and highways.
4. Shopping.
5. Schools.
6. Churches.

**Assisting In Property Selection**

The trained eye of the architect can see both the good and bad features of a piece of property, and his counsel is valuable before its purchase.

**Area Planning**

1. Study of residential areas
   a) Size of lots
   b) Orientation of houses
2. Shopping Areas.
3. Industrial areas in relation to employment, noise, odor and smoke nuisances.
4. School site.
5. Church site.
6. Recreational facilities.
7. Traffic as to hazards and convenience.



Yost & Tayl

DESIGN FOR MASS PRODUCTION IN LOW COST FIELD
BY THE AUTHOR'S FIRM FOR HARNISCHFEGER HOMES, INC.

**Conferences**

During progress of design to make everyone part of the team; also to get the benefit of their experience.

1. Builder.
2. His production manager or superintendent.
3. His purchasing agent.
4. His sales manager.
5. His financial man.
6. His staff architect (if any).
7. Interior decorator
8. Landscape architect
9. Color consultant
10. Site Planner

} Usually on staff of architect or consultant to him.

**Analyzing Local Building Ordinances**

1. For conformance.
2. To present data for desirable variations.

**Guiding the Project Through FHA, VA, and Lending Institutions**

1. For proper understanding of the project by these groups.
2. Expediting.
3. For revisions to conform.
4. To present case to overcome objections if the builder and architect feel it desirable.

**Guiding the Project Through Community Governments**

1. Permits.
2. Zoning.
3. Streets.
4. Sewers, water.

**Design**

1. Site plan.
2. Site engineering (sometimes done in arch tect's office, more frequently by a consultant
3. Individual houses or buildings.
4. Landscaping and planting.
5. Providing plans for later additions by pu chasers for development of landscapin fences, etc., to safeguard community appea ance.

**Working Drawings**

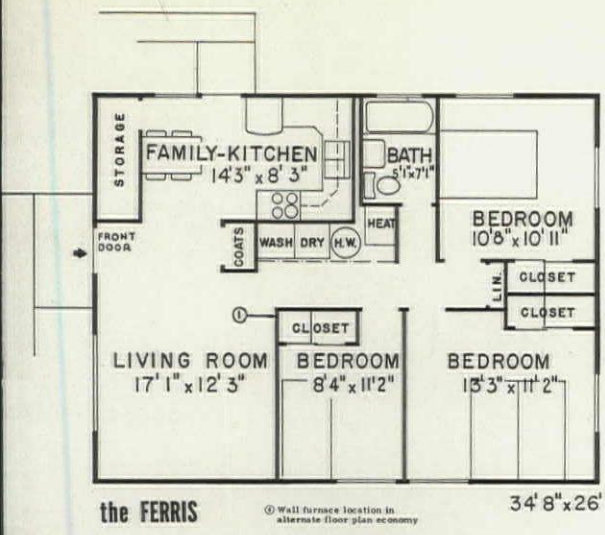
1. Slanted to builder's method of constructio either conventional, pre-cut, field fabricate factory prefabricated.
2. Specifications, materials, equipment, app ances, for quality, price availability, in co junction with builder's purchasing agent a superintendent.

**Color**

1. Exterior materials and paints for harmony a variety, giving proper character and emphas
2. Harmony and character of street.
3. Interior colors for sales appeal and harmo with largest number of buyers' furnishings.

**Supervision**

1. To assist trades to understanding of structu
2. To bring about constant improvement duri construction of project.
3. To gain ideas for improvements in futu projects.




**Assisting the Builder with Public Relations and Merchandising Program**

1. For acceptance by community as a neighbor and as a customer.
2. Sales brochures, and consultation with the builders and advertising agency. Renderings and display plans.
3. Promotion and opening sale.
4. Customer relations program, and preparing owner's manual to forestall later time consuming complaints and questions.
5. An internal builders relations program within the organization to make everyone feel they are "in the know."
6. Industry relations with Home Builders Associations, mortgage bankers, etc.
7. Press relations.
8. Zoning relations.
9. Display of products that are used in the project.
10. Pilot model house
    a) Landscaping
    b) Furnishing
    c) Interior decorating
    d) Traffic through house

**New Products Development**

1. The architect who services several builders becomes a representative of a group and can have influence on product design and quantity price to the builders.
2. His experience is useful to the manufacturers of appliances, materials and equipment.

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*See also:*
*Architectural Services for Development Builders* by Mr Yost—*AIA Bulletin* January-February 1953
AIA 1955 convention seminar papers on *Development Housing* by Mr Yost and Thomas P Coogan—*AIA Bulletin* November-December 1955
*The Architect and the Merchant Builder* by Donald E. Honn—*AIA Journal* May 1957

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# *Our Peripetic President*

In case you have been wondering what became of "The President's Page," which appeared in a couple of issues of the *Journal,* the following, reprinted from the October issue of the *Bulletin* of the Washington Metropolitan Chapter, will explain its absence:

Here is a quickie, unretouched, written especially for the *Bulletin* by our own globe trotter, Leon Chatelain:

"Early in June met with San Francisco Chapter, then spent five days in Hawaii, addressed the AIA Chapter. Flew to Manila, P.I., Mary and I guests of the Philippine Institute of Architects, addressed their annual convention and received an honorary fellowship plus overwhelming hospitality. Visited Hong Kong and had banquet in "floating restaurant" with their society of architects. Most interesting city. Flew to Japan as guests of the Japan Institute of Architects, visited Tokyo-Nikko-Kyoto-Nara-Osaka, Kamakura, Mt. Fuji and many other fascinating places. The Japanese are one of the most hospitable people we ever met. Back home on July 1st via Anchorage and Seattle.

"Quick trip to White Sulphur Springs, West Virginia, another to Chicago with Society of Residential Appraisers. Rocky Mt. Region convention in Jackson Hole, Wyoming—beautiful spot—theme of meeting 'Nature in Architecture.'

"Left September 15th for Berlin via Paris. Attended dedication of Berlin Congress Hall designed by Hugh Stubbins. Building originally conceived by AIA. It made a deep impression on the Germans. Returned home via London, met with RIBA President Cross and Secretary Spragg.

"Later in October expect to meet with the Northwest Region in Gearhart, Oregon, and speak in Baltimore, Md., and Charleston, W. Va. Attend Texas State Conference in Dallas and in November the Florida Architects Association in Clearwater and then the AIA Board Meeting in Phoenix, Arizona."

# The Engineer as Citizen

*We are engineers and as such hold a position of peculiar trust and responsibility in connection with the progress of a complex civilization. We touch on every hand problems of life and destiny in which we must take some part.*

—WILLIAM F. DURAND

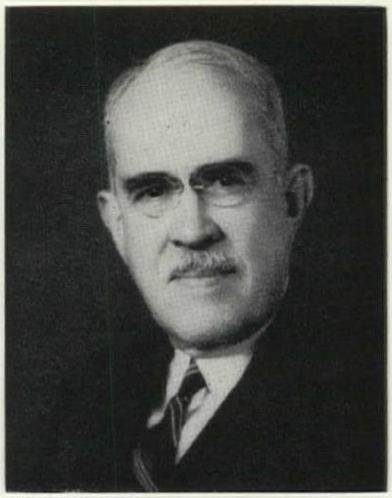
Past President of the American Society of Mechanical Engineers, and Emeritus Professor of Mechanical Engineering at Stanford University.

AT HIS INSTALLATION as president of Rutgers University, Lewis Webster Jones said, "The universities must now put first the education of young men and women as persons and citizens, recognizing that their training as competent technicians is necessary but of secondary importance." Here Dr. Jones put his finger on three important phases in the training of engineers as all-round people.

Now let us take a look at what is actually happening in these three quite distinct areas of engineering education. In the first place it can be freely admitted that our engineering schools, utilizing the rapidly increasing stock of scientific and technical knowledge, and aided by a wide variety of engineering societies, are doing a pretty fair job in providing for the technological side of an engineer's equipment. As bearing on Dr. Jones' reference to "persons," certainly progress has been made in recent years in the development of the cultural side of a standard engineering education. This has been due largely to the influence of a recommendation first formally made over twenty years ago by the Wickenden Commission, and later endorsed by Engineers' Council for Professional Development through its accrediting procedures. Both agencies suggest that at least twenty per cent of curricular time be devoted to non-engineering subjects of a cultural type likely to broaden the engineer's outlook and to enrich hi personal life by acquainting him, as Matthew Arnol expressed it, "With the best that has been known an said in the world, and thus with the history of th human spirit." Let it be admitted that really to illu mine engineering curricula as recommended is n easy task. Simply to add non-engineering subject without a reasonable expectation that they wil broaden understanding and enrich the outlook ha already been proven to be only a sacrifice of hour previously devoted to technical training. To accom plish any satisfying result may take years of tria and error. A significant and nation-wide effort to ward this end has been too long delayed.

To lengthen the normal four-year engineerin course to five years, to demand a pre-engineerin arts course, and to make engineering a graduat course are suggestions seemingly too radical to b considered at this time for general adoption.

But, vastly important as it is, next to nothin has been done by the engineering profession, throug the schools which train engineers, or through ou engineering societies, to activate Dr. Jones' insistenc that the technically trained be at the same time full fledged citizens. In *Engineering, a Creative Profes sion,* published a few years ago and widely advertise by E.C.P.D., and its predecessor pamphlet, *Engineer*



*Chase Ltd., Photo*

BY MORRIS L. COOKE, P.E.

*The engineer occupies much the same position in society as the architect, and faces the same problems. Morris Cooke has had a distinguished career as an engineer and a government official. He has served as Director of Public Works in Philadelphia, Chairman of the Shipbuilding Stabilization Committee and Chairman of the President's Water Resources Policy Commission. In this article, reprinted from the American Engineer, Mr. Cooke expreses his concern for the position of his profession.*

*ing as a Career,* published earlier, no mention is made of the engineer's civic responsibilities other than those involved in being a good technician. This situation results in a measure from a curious conviction on the part of many of those educating engineers that the study of the so-called humanities, even when conducted under ideal auspices, includes all necessary recognition of the engineer's civic responsibility.

## The Engineer and Social Service

WHILE VOTING at elections has come to be recognized as a prime responsibility of educated people, the effect of a single vote in a national electorate must necessarily be minimal. Similarly, while the social service rendered by any one engineer may easily be of limited importance, social service on a profession-wide basis would undoubtedly be a mighty force in human affairs. There is no intention in what follows to discuss how we engineers are meeting the test of non-technical civic interest by comparison with what is being done by other professions. The discussion is on the opportunity and responsibility of our own profession.

The assumption is commonly made by doctors, lawyers, economists, engineers, and other professionals—who, by the way, are apt to be among our most highly schooled people—that good work in their own technical specialties absolves them from any responsibility for what goes on in other sectors of our far-flung society. This attitude becomes more and more baneful as our specialties become narrower and deeper. Any professional is apt to evaluate as his most significant rating that accorded by those practicing in the same specialty. This is assumed to be the master test for professional accomplishment and arrival. As narrowing and deepening specialization goes forward by leaps and bounds, what happens within the intervening and widening interstices of the social order becomes more and more accidental. Therefore, over wide areas of human interest what happens benefits not at all by the good offices of those who should be the best qualified to lend a guiding hand. In these haphazard and uncontrolled circumstances the illiterate, the overly ambitious, and the blatantly crooked are apt to call the tune. We cannot afford to *assume* the continuance of our democracy with its priceless liberty. Survival requires conscious and devoted effort at all levels, and by all groups, constituting the American public.

Here are some typical matters among thousands which cry out for non-technical and non-official attention from the lay public. On the domestic front:

slum clearance, soil conservation, control of stream pollution, education at all levels, strengthening government and making it clean, civil liberties, agencies for safeguarding and advancing the moral standards of our national life, and a hundred and one other local community enterprises such as hospitals and health clinics, homes for the aged or infirm, boys' clubs, YMCA, symphony orchestras, and recreation centers. And internationally we citizen engineers should stand with the growing number and variety of agencies that struggle for better relations between peoples and states, and that further relentlessly pursue the attack on world-wide poverty and low living standards. That aid to backward peoples is not all technical or governmental was recently illustrated through the sending by airplane under National Council of Churches auspices from Columbus, Ohio, to Iran, of 30,000 New Hampshire Red baby chicks. The movement for the exchange of students between this and foreign countries carried on under scores of different auspices, many of them non-governmental, is becoming a great force for the betterment of human and international relations.

### The Broad Outlook

AS A LARGE PERCENTAGE of our profession "work for the Government"—as much as fifty per cent in ASCE—we should have in mind that public employment is not necessarily synonymous with socialmindedness. The acceptance by engineers of invitations to sit on non-engineering or quasi-engineering boards and commissions, either public or private, can and perhaps usually does, tend to broaden the understanding between our specialized field and that which lies outside. But the master result will be achieved only when the individual engineer and our engineering organizations have learned to promote socially minded activities on their own initiative—when to think beyond the narrow technical confines of engineering has become second nature.

Of course the claim is often made by professional people, including engineers, that when adequate time and attention are devoted to their technical pursuits, no time is left for lay endeavor. All history and all philosophy appear to question this point of view. Leadership and arrival seem to depend upon broadening both the outlook and the activities. It took Elton Mayo to teach the management engineers the significance in the study of shop operations of what he called "the total situation." The same outlook in a broader field is suggested by the word ecology, only recently receiving common acceptance, as indicating the necessity for going far afield in the study of nature and its ways.



As over eighty-six per cent of all engineers are employees, it would seem highly important that as early as possible in their education they should receive specific grounding in the essential qualities of the public interest as contrasted with those definitely private, and at times anti-social, considerations which are part and parcel of our so-called free enterprise system. Accepting certain principles and practices as being innately and timelessly either right or wrong, and assuming that they provide the basic foundations for all conduct under the democratic process, it would seem desirable that the rules for our day-to-day guidance in such matters should be evolved through the long-time and wide-scale thinking of the citizenry generally, rather than be handed down on occasion by any then-dominant top leadership, either in Government, the college world, or in private enterprise. Thus civic and ethical disobedience on proper occasions is implied if the engineering group's claim to professional status is to be justified.

Since adult engineers as a rule find it difficult to serve in the less conspicuous capacities of the social service, the ultimate achievement of our goal seems to lie in seeing to it that the start be made in high school and college days. Even the simplest of social welfare assignments will begin to make the evolving engineer recognize himself as a member of society and not simply as a highly skilled technician. Under Carnegie Corporation financing, Teachers College of Columbia University has made substantial progress in taking the study of civics and the practice of public service into a large percentage of our high schools. Seemingly this system without material change could be extended to cover at least the undergraduate years in engineering schools.

### Civic Responsibilities

SOME liberal arts schools and colleges are already using teachers' influence in leading their pupils' activity into various lines of community service. Goddard College at Plainfield, Vermont; Parsons College at Fairfield, Iowa; Illinois College at Jacksonville, Illinois; the University of Kentucky at Lexington; St. Francis Xavier College at Antigonish, Nova Scotia; are a few among many colleges which have stressed community development in their curricula. In some instances the development of student thinking has been the motivating consideration. In others a sense of responsibility for the community in which the college is located accounts for the interest. Facility in community service cannot be acquired solely through "book learning." There must be practical experience. Even four years of intense extracurricular activities cannot take the place of public service off the campus.

The broadening of the interests of adult engineers would be encouraged if the effort were made to have frequently on the program of engineering meetings some spokesman for a non-engineering discipline, beginning perhaps with economists and other such professionals whose work at least impinges on the engineering field.

When engineers discuss civic responsibilities, they usually have in mind holding elective public offices. Of course that involves getting into politics, and "politics is rotten" according to the normal engineering point of view. We have some rotten politics, just as we have some crooked business. There is too much of both. Society provides jails for offenders. But this is really testimony as to its health —not at all an admission that the social fabric is honey-combed with evil. So, to admit a percentage of graft in politics and of crookedness in business, is to face facts, rather than to damn our political and business systems or to give aid and comfort to the guilty. To say that "all politics is rotten" not only gets us nowhere, but it is not true—and further, it is a thoroughly demoralizing cliché. If crookedness comes our way, let us try to "scotch" it. But let us not permit the fact that there are crooks, to lend too much color to our lives. That is what the crooks in government and industry would have us do. It is terribly anti-social. Emphasize the fine things rather than the drab ones—not because it is either pleasant or tactful to do so, but because it is the formula by which the race has always gained new heights.

### "Sound Off"

THERE ARE at least two ways by which one enters the political field. Either some top man, or so-called "boss," taps you on the shoulder and suggests that you run for some political position, or—and vastly preferable—through a gradually widening interest in socially minded service of the public, seeking or accepting a political post becomes a natural. This was apparently the route by which Herbert Hoover became President of the U.S.A. and ASME members Thomas E. Millsop and Raymond R. Tucker became mayors of their home cities.

As a matter of fact, both engineers and scientists tend to become a bit resentful when taken to task for not seeming to carry their fair share of the responsibility for affairs, domestic and foreign, lying outside their strictly professional domains. This is because each of us has engineering acquaintances who display an active concern for the poor and the aged, or for some phase of public education, or who struggle to make the public service more efficient and to free it from dishonesty. But statistically speaking, how general is this community-mindedness among engineers? No one can tell. It has been suggested from time to time that questionnaires be sent out to a representative number of the members of our large engineering societies, not only to find out what public services are now being rendered, but also to awaken interest in increasing the volume of this type of activity within the profession. In the absence of any statistical data reflecting either the participation by engineers in public affairs or the public's recognition of the value of such services, the author has had recourse to sources of information not designed to be so used.

For instance, a review of several programs of the American Forum, the Georgetown University Forum, Youth Wants to Know, and the New York Times Youth Forum, and one year of America's Town Meeting of the Air, reveals surprisingly few speakers or members of panels who could be identified as engineers.

Of 522 appearances of American citizens in these enterprises only 13 are of our profession. On the other hand, there were 134 lawyers, 116 educators, 75 journalists and authors, 56 business men, 26 doctors, 21 scientists, 20 economists, and 16 clergymen among those distinguished names. The truth of the matter seems to be that engineers are not trained for the hurly-burly of public discussion and by virtue of that fact live lives all but detached from the pulsating non-technical world. In the opinion of one distinguished member of our profession, engineers do not "sound off" enough. Even in engineering proceedings informal discussion is all but unknown. The fact that an engineer is assumed to possess what he considers to be the revelant data before expressing an opinion precludes "sounding off." And yet, as the *Charlotte News* (Charlotte, N. C.) recently observed, " 'Sounding off' is one of America's finest democratic exercises. Don't ever let it wither away."

### Few Engineers in "Who's Who"

IN AN ANALYSIS by profession of the members of the present Congress—84th First Session—made by the Library of Congress Legislative Service, one member of the Senate and one member of the House are listed as engineers—this out of a total of 531.

In the 1950-51 issue of *"Who's Who in America"* (the last volume for which a vocational index has been provided) there are listed about 1,100 engineers who in their correspondence with *Who's Who* asked for this designation. In some minds these particular engineers would be rated as the very top echelon of American engineering. There are in the U.S.A. about 400,000 men and women calling themselves engineers or actively practising in the field. So it is admittedly difficult to appraise the significance of

the listing in *Who's Who* of less than three tenths of one per cent of this total, no matter how meticulously the selections might have been made. Neither as to engineers, nor as to any other classification, appearing in this highly esteemed publication, have norms been set up which being met insure the inclusion in its lists of any given individual.

In order to see how those listed appraised themselves, both as to their engineering accomplishments and otherwise, I have had 110 (a ten per cent pilot study of those 1,100 persons who listed themselves as engineers) of these biographies analyzed. They were chosen quite at random from good-sized cities and small towns located in the eastern part of the United States, the Middle West, and the Far West. *Who's Who* assures me that the questionnaire sent to those whose listing is under consideration specifically asks for details of civic and related activities. The biographical sketches prepared from these data always include mention of these non-engineering activities themselves and/or the top position held in connection with them.

In making this analysis I have omitted all military service and membership in social organizations such as the Masons, Shriners, Elks, American Legion and Knights of Columbus, as well as in academies, foundations, associations, institutes, and societies where dues-paying signifies the interest.

Without claiming anything approaching mathematical accuracy, among the 110 names of these supposedly outstanding engineers, there were found 30 with a clear record of some community service, whether confined to a single line such as "Boy Scout work" or of a more varied type.

But among these same 110 names there were found 69—or almost two thirds—who, while giving a more or less detailed account of their technical work, made virtually no mention of any community activity or interest. The remaining 11 names among the 110 constituted a median group either not indicating any continuing interest in community activities; or showing solely an interest in business associations such as chambers of commerce; or indicating an isolated public activity extending over a short period such as occasional service as arbitrator under national or state arbitration agencies. It is significant that only one of these 110 rather conspicuous engineers mentioned any social interest or activity international in character.



**Answer is Simple**

THE ENGINEER, if he wills it, can be the master builder in the civilization that will eventually emerge from the flux and chaos of the present day. But this can happen only as the engineer takes on a social-mindedness which makes him see his specialized technical task as only a part of the total picture—a part having thrilling quality and proportion. Engineering, to seize its marvelous opportunity, must get out of the glorified gadget, materialistic, and separatist stage and become a towering part of humanity's incessant struggle for plenty, for peace, and for spiritual values. "Engineers must be alert to world conditions and have a thorough understanding of mankind's hopes and aspirations" was part of a statement made recently by T. Carr Forrest, Jr., past president of the National Society of Professional Engineers.

Even for such voluntary, and usually uncompensated, civic service an apprenticeship is required. As C. S. Mackenzie said in his Roy V. Wright (ASME) lecture, we must outgrow the well-nigh universal attitude among engineers that by virtue of their training they can serve acceptably in a wider range of public causes without preliminary practice on the lower rungs of the public-service ladder. There is a "feel" both in governmental and the non-governmental services of the people quite different from that normal to employment for hire in private enterprise.

"The answer (to the engineer's social problem) is not easy but very simple" are words used by William Faulkner to describe a somewhat comparable situation. Our goal would appear to be development to the point where the largest possible percentage of professional engineers have what might be called civic *cum laude* status. This means that they will have had a hand—and one involving some sacrifice in time, leisure, and possibly money—in one or more community activities either local or gauged to some one state or the nation, or possibly international in scope.

The engineer's blueprint is an ever more widely used device. But it must bespeak socially conscious and spiritual content to assure to our profession of engineering a dominant position in the evolving civilization.

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## *To the Ivory Tower Boys*

BY HUBERTUS JUNIUS

If ye would build an ivory tower
By all means be about it,
Never be it said I shook my head
Or for one minute doubted
The wisdom of those high ideals
So uniquely yours alone,
But if it's elephants you'll be needing now
Will ye kindly shoot your own.

# From the Executive Director's Desk:

## *Below the Tenth Floor*

THE PERIPATETIC LIFE of an executive director leads to the possession of an imposing array of credit cards (most of which the membership will be relieved to hear are seldom, if ever, used). If cleverly arranged in a credit card folder, a riffling can produce a pretty sight, for credit cards have now achieved a variety of color and printing which makes one's wallet like the sample book in a wallpaper shop.

About the most chaste card with which I was ever honored was the so-called Gold Card issued by a certain hotel company. This was before that company merged with another chain. Presumably in the interest of stockholders the cards were no longer issued and at the same time services in the hotels took a turn toward indifference.

The Gold Card was a mighty thing as it insured the holder of a nice room, sometimes a suite, and as a guest at any time. It carried an aura of esteem and, when shown, could transform a headwaiter from a snob to a sycophant.

Holders of Gold Cards were each sent a little gold tie clip in the form of a spade and they were automatically made members of a Groundbreakers' Club, one of this country's more exclusive organizations. I am sorry to say that I have lost my gold tie clip and I am even sorrier that Gold Cards no longer exist.

I could have used such a device to good advantage in a midwestern metropolis a while back when I registered at a hotel which I regarded as one of this country's superior hostelries. It was nice to say, "I'm staying there, you know," and say it in a tone that let the listener know that he was scarcely one, socially, with you. I am speaking of the past, for today the assumption of such a tone would be dishonest.

My reservation was made in ample time and I was assured that upon my arrival late at night I would find a comfortable room awaiting me. All the way up in the elevator I cherished the prospect of a pleasant night, for the clerk at the desk, with impeccable manners and a tone which had a faint echo of the good old days, had allowed I would be quite happy under their roof. His assumption could have been based upon his total ignorance of the dungeon to which he had consigned me and which I approached through a labyrinth of corridors. Starting off at the elevator lobby which lacked the old lustre, our path deteriorated as we progressed along its intricacies until the carpet became downright shabby and the corridor walls looked as if a troop of sub-teen-age vandals had been enjoying their wicked wonts. It seemed I had reached my assignment. The room had not a single picture on the walls, a nakedness that was emphasized as I looked in vain for other equipment. The room was furnished solely with half a dozen battered tables used, presumably, by salesmen and looking as if they served Swedish massage experts working on armor clad patients. The floor was far from clean so I held on to my briefcase.

A call to the front office brought the news that there had been a mistake—my room was next door. So the patient bellboy and I went next door. We intruded upon a very irate gentleman who informed us in no uncertain terms that that was his room and we could get out. As we had scarcely gotten in, it was very easy to comply with his request.

Another call to the front office elicited the information that another mistake had been made and that I was really headed for a room on another floor and, speaking geometrically, as far distant as possible from where we were standing. The bellboy was young, willing and jocular, but at that hour humor was wearing a trifle thin. All communications and interior travel were time-consuming.

Finally I was guided to the room which was to be mine—about as mean a cell as ever it has been my misfortune to occupy. The furniture appeared as if it had been acquired second-hand from a sanitarium and the bed linen of that material one used to find in servants' bedrooms of the Bourgeoisie. The room was graced with one window, giving an un-

obstructed view, on a clear day, of an airshaft. However, as the shaft itself was dismally utilitarian and grimy, it provided scant cheer. There was no adornment of any kind save the literature extolling the fascinations of the bar rooms in the lower lobbies.

For the first time in many years I pulled back the bedcovers with that unpleasant trepidation associated with the old Fall River Line.

Putting my trust in the printed word and in my familiarity with other hostelries, I consigned my laundry to the servidor well before the early deadline, anticipating a shower and clean linen upon my return from a hard day's work—say around five-thirty or six o'clock in the afternoon. However, I had reckoned without the general decline of interest in my welfare. At six o'clock, no laundry. I called that commodity and then went out to dinner, returning around eight o'clock—no laundry. I read until about nine-thirty in the evening and looked again—no laundry. I called again—it was right on its way.

Finally I went down to the lobby and enlisted the services of an assistant manager. Through the combined efforts of the assistant manager and myself the laundry was retrieved finally around eleven o'clock that night. Without the friendly and frenzied assistance of the assistant manager I would have been forced to leave without my clothes. As I had to leave at six o'clock the following morning to catch a plane, I was not amused.

Thinking it would be well to advise my wife o the approximate time of my return to Washington I called Western Union. Being accustomed to th efficient and brisk ways of most Western Union per sonnel, I was unprepared to struggle with the elderl lady who was manning the desk in the lobby. Trans mitting the telegram was an arduous operation, rem iniscent of difficulties in telegraphing from remot Spanish towns or from the average French post office

Now there is one feature of the chain that have always enjoyed and that is their "bedside book. I have a collection of them and noting there was fourth edition available but failing to find one in stalled at my bedside, I went to the floor desk an informed the floor Mother that the maid had for gotten to leave the book in my room. I was rathe harshly reminded that I was on the seventh floor an that "bedside books" were not distributed below th tenth floor.

It seemed that I had been not only registere and given shelter, but I had been segregated as wel

"Sic transit gloria mundi."

Edmund D. Pann

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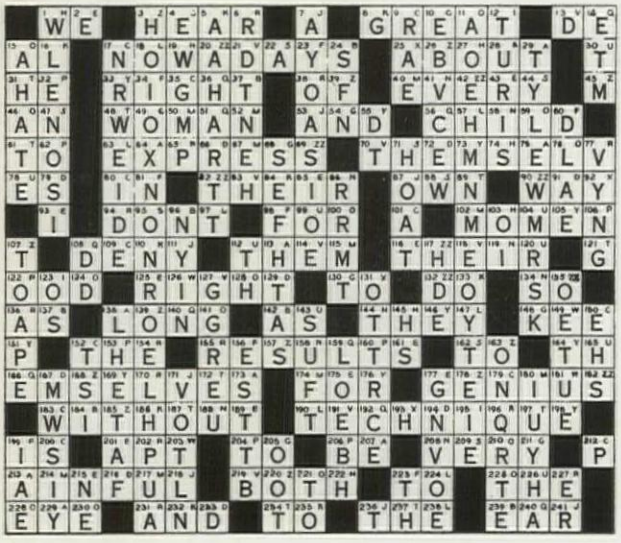
## *Archrostic Solution*




## *Group Design*

By Arthur C. Holden, FAIA

An architect once made a pretty sketch,
Sweet little house just right for family living
But ninety-nine more houses in a stretch,
All placed alike, filled families with misgiving.

Houses need not be different to be good;
Mere varied forms may spell disharmony.
Repeated forms if rightly understood
Can still be mingled with variety.

Variety and repetition blend
Creating subtlties of rhythmic grace;
Solids and voids serve one harmonic end;
Shelter and out-of-doors are forms in space.

Where families live and feel what life can mea
Space harmonies and beauty should be seen.

THE R.S. REYNOLDS MEMORIAL AWARD ALUMINUM SCULPTURE FOR 1957, BY THEODORE ROSZAK

# The R. S. Reynolds Memorial Award

The Institute has announced plans for the R. S. Reynolds Memorial Award for 1958. The Award carries a $25,000 honorarium to be awarded to the architect making the "most significant contribution to the use of aluminum" in building.

Established a year ago by the Reynolds Metals Company in memory of its founder, R. S. Reynolds, Sr., the annual award is administered by the Institute.

To be considered for the award, an architect must be nominated by either: a chapter of the AIA, or any architects' society or architects' group outside of the United States, or any college or university.

Special programs with complete nomination details have been mailed to the aforementioned groups and specifically to chapter presidents, secretaries, editors of chapter publications, public relations counsel, and chairmen for nominating purposes. The cooperation of these respective groups is requested in making this award even more successful than the first annual award in 1957.

In addition to the $25,000 honorarium, the architect picked by the Jury receives an aluminum sculpture, especially created by a prominent artist. Theodore Roszak, the distinguished American sculptor, created the piece awarded in 1957 to Rafael de la Joya, César Ortiz-Echague, and Manuel Barbero Rebolledo of Madrid, Spain. The workers lounge at the S.E.A.T. Automobile Factory in Barcelona, designed by the Spanish firm, was selected as the best building in the first competition.

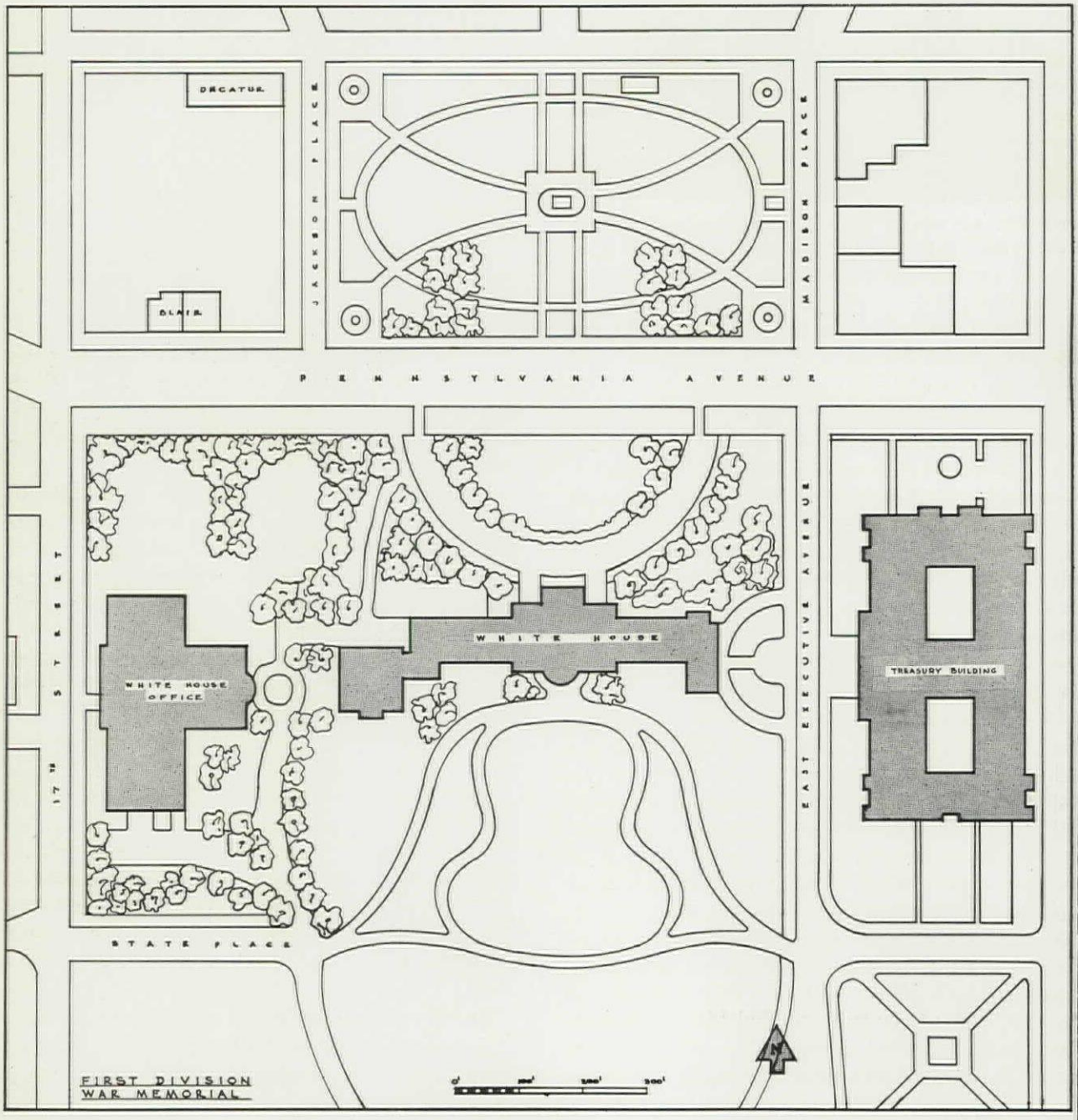
The award may be given for any type of structure and is not restricted merely to buildings. Prime consideration is given to the creative value of the structure and its potential influence on modern architecture.

A five-man jury of distinguished architects will judge the nominations and their selection will be announced in May 1958. The award and the aluminum sculptured piece will be formally presented at the Institute's annual convention to be held in Cleveland, Ohio, July 7-11, 1958.

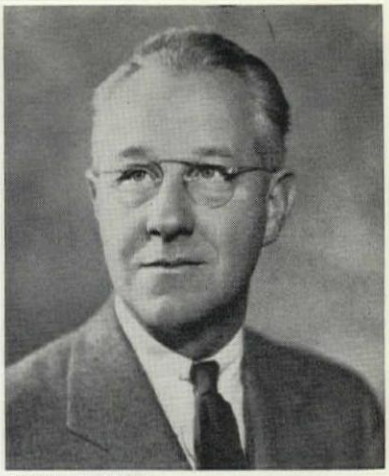
The 1957 Jury of Award, selected by the Executive Committee of the Executive Board of the Institute, consisted of Willem Dudok, of Hilversum, Holland, 1955 Gold Medalist of the Institute, representing architects of foreign countries; Ludwig Mies van der Rohe, FAIA, educated in Germany and Honorary Member of the Society of Architects in Mexico, Honorary Corresponding Member of the Royal Institute of British Architects and Professor of Architecture and Director of Architecture and City Planning, Illinois Institute of Technology; George Bain Cummings, FAIA, President of the Institute during 1955-56; Edgar I. Williams, FAIA, presently Chancellor of the College of Fellows of the Institute; and Percival Goodman, FAIA, practitioner of New York City and a member of the Graduate Faculty of the School of Architecture, Columbia University.

# New Offices for the White House

BY DOUGLAS W. ORR, FAIA



Mr. Orr, a former President of the Institute, is a member of the President's Advisory Commission on Presidential Office Space, which has recently made its full report to the President.



*Joseph A. Stone*

IN THIS THE CENTENNIAL YEAR of the Institute, the Past Presidents of the Institute have passed a resolution embodying the idea that the Federal City belongs to the nation and that the next half century's development of the Capital City—a crucial period in its development—should be watched and understood and be a matter of special interest to members of the Institute. Since the Capital City is the heritage of all the people, and the White House one of the most important dedicated and sacred symbols to the nation, what affects the White House and the needs of the Presidential Office should deeply concern all of us.

The President's Advisory Commission on Presidential Office Space has brought the White House and its grounds into national prominence recently in its report and recommendation and since it seems essential that the architects of this country should be aware of the facts involved, and in order to clear some of the confusion about the Executive Office of the President of the United States, it seems desirable once again to set forth the fundamentals which are inherent in the problem but which seem to have been misinterpreted or misunderstood by various writers on the subject.

A supercilious article in a recent commercial magazine indicates that much is being written on this subject without knowledge of the basic facts set forth in the report of the Commission. It might be well to recall that the Executive Office functioned for more than one hundred years as a part of the White House itself, a building essentially designed as a residential structure. For the next fifty odd years, it has operated in the West Wing, itself built as a temporary expedient, and successively altered and enlarged. Since then structures have been brought into use to meet the changing requirements of the growing Executive Office. Not since the nation started has this office operated in a structure or structures planned and designed to serve its own unique function. For many years now, the only solutions offered for this office have been temporary moves for expediency's sake.

The Executive Office has naturally grown in size as the nation has grown and as the country became more important in world affairs. It has been intimated that the reason for recent growth has been the organization of the present incumbent. This is far from the facts for during the administration of President Truman, the technical members of the then White House Commission together with the Executive Director were requested by the President to make a study of the size office which should be constructed to house the Presidential Office Staff. The figures prepared at that time showed an almost identical need with those of today.

It should be understood that the Executive Office basically is made up of two parts. The first of these is known as the White House Office and includes the President, the immediate assistants and advisors with whom he works closely and their necessary supporting personnel. This particular office is one requiring unusual plan arrangement and is *not divisible,* as all of those who must be immediately available to the President should be housed in the same structure. This is not true of the existing arrangement and causes delay and inefficiencies as well as being very inconvenient for the President.

The second part consists of agencies which do not necessarily need to be in close contact with the President and can be housed in well designed office space reasonably convenient to the White House Office.



### The Office Must be on the White House Grounds

HISTORICALLY AND TRADITIONALLY, the White House Office has always been on White House grounds, and it is a foregone conclusion that the

American public would not be happy if it were located elsewhere. This is an exceedingly important matter in the determination of location. Historically also, the original White House grounds included the blocks on which now stand the old State, War and Navy Building and the Treasury Building as well as the areas east and west of present Lafayette Square and the Ellipse.

L'Enfant did not contemplate any intervening buildings between the Capitol and the White House. East and West Executive Avenues were cut through the grounds and the Treasury and State, War and Navy buildings built on land taken from the White House. The areas east and west of Lafayette Square similarly have been taken away and in some instances sold to private individuals. While the recommendations of the President's Advisory Commission were not concerned in this problem with the areas flanking Lafayette Square, one proposal was considered and rejected to place the White House Office on the west side of Jackson Place flanking the west side of Lafayette Square.

Every consideration was given to the possibility of utilizing the Treasury Department building for the use of the White House Office as had been suggested. An important factor is that the building was designed and constructed to meet the particular requirements of the Treasury Department operations. The use of this structure for the White House Office would require removal of those facilities and a major alteration of the Treasury building to meet the unique needs of the President and his office. Further, such use would require the provision of adequate facilities elsewhere for the Treasury Department. All of these factors, including the disturbance of a departmental operation well situated and integrated in two tunnel-connected buildings, and the move of approximately 1,800 employees, can be eliminated simply by providing space directly for the White House at another point.

In addition, occupancy such as that suggested would result in the President's functions being moved in the direction of the city's heavy commercial operations; in a separation of the White House Office functions by added rather than less distance; and in once again providing the White House offices with adapted and makeshift quarters, little, if any, better in arrangement than those provided now. The Commission felt that the suggestion for the transfer of the White House Office to the old Treasury building would not meet the intent of the legislation creating the Commission.

The criteria set up by the Commission carefully spelled out the important factors. The specific objectives were as follows:

1. To propose a solution that would satisfy, to the extent presently foreseeable, the needs of the White House Office and the other agencies of the Executive Office of the President for the next fifty years at least.
2. To disassociate the Executive Mansion from the activities of the office as far as practicable.
3. To provide adequate space for the White House Office in a structure appropriately located and designed for the purpose.
4. To provide convenient and expeditious access from the White House to the Office.
5. To provide maximum security and privacy to the President and his office.
6. To provide adequate space and facilities for the President, his office staff, and persons making official, professional or courtesy calls at the White House Office.
7. To provide a well planned integrated arrangement of the President's immediate office bringing into functional proximity to the President, his principal immediate assistants and advisers, staff-personnel of critical supporting services, and other persons regularly requiring frequent conferences with the President.
8. To provide reserve space sufficient to insure adequate housing for probable growth of the White House Office in terms of new and unforeseen or broadened responsibilities.
9. To provide a plan that would contribute to the White House Office dignity commensurate with the importance of the high position of the President.
10. To retain and possibly to enhance the traditional character of the White House and its surroundings.

### The Commission's Recommendation

THE PROBLEM WAS REGARDED not only from the point of view of space and management, but also from an architectural, historical and civic point of view. Of all the proposals considered, seven separate plans were found to be worthy of individual investigation and comparison among themselves. The plan proposed, namely of placing the White House Office where the present State, War and Navy building now stands, has the following advantages:

1. It permits the White House Office building to be incorporated within the White House grounds, restoring to the grounds an area originally taken from them, allowing the White House Office to remain on the White House grounds, where it has always been and where by tradition in the minds of the Ameri-

can people the office should be located.

2. It permits the design and construction of a building in keeping in size and character with the White House.

3. It permits an arrangement of structure and grounds that will serve to enhance the White House, rather than overshadow and detract from it.

4. It provides suitable space for the White House Office in one building on a basis of proper office organization.

5. It provides reserve space for reasonable future expansion.

6. It permits an integrated functional office arrangement of the White House Office.

7. It provides offices convenient of access from the White House by tunnel.

8. It provides maximum security and privacy for the President and his offices.

9. It permits the removal of office activities from close association with the residence functions of the White House.

The 84th Congress, Second Session, prior to the creation of this Commission, had authorized a project known as Federal Office Building Number 7 to be constructed along Seventeenth Street north of Pennsylvania Avenue and occupying about one-half of the depth of the block. Inasmuch as this had been authorized, it seemed desirable and logical to suggest the placement of the second part of the Executive Office in this building as it would be near the White House office and could serve very nicely as expansion space in time of emergency.

All members of the Commission agreed that the plan recommended was the most efficient and best adapted to the needs of the President. It was felt that this crying need of the Chief Executive of the United States should be satisfied immediately and adequately and should not again be a temporary expedient offering no relief from the present intolerable conditions and simply postponing the decision to a future date. It is believed that the plan recommended would remedy in an effective and lasting manner a project too long deferred.

Because the White House has been one of the prime concerns of the Institute, whatever develops in providing the President with adequate quarters is of great import.

# SHARP FOCUS

THE ONLY VALID long-range basis for any program or consideration of the package deal problem, is the public interest.

The best interests of the client are served:

- By free choice of the architectural organization wherever located, best fitted to design his particular project, and free choice, by selection or selected competitive bidding, of the general contractor and/or sub-contractors best able to construct his project in its location; at the market price for required quality of building.
- By disinterested fully professional advice and service for design, coordination and supervision on a fee basis, unprejudiced by stockpiling or greater discounts to the contractor on building elements, equipment and furnishing.
- By the architect's full coordination and supervision of the work of the contractor and sub-contractor.

Any experienced architectural firm can render this optimum service, in the best interest of the client, without infraction of or change in the AIA standards of practice.

WALTER A. TAYLOR



# CALENDAR

*December 6 and January 10:* Final lectures in Urban Planning Seminar, University of Notre Dame, Notre Dame, Ind.

*December 11-12:* National Construction Industry Conference, Congress Hotel, Chicago, Ill.

*January 19-23:* National Association of Home Builders Convention-Exposition, Chicago, Ill.

*Jan. 30-Feb. 2:* The Society of Architectural Historians Tenth Annual Meeting, Mayflower Hotel, Washington, D.C.

*June 11-14:* Annual Assembly of The Royal Architectural Institute of Canada, Ottawa, Canada.

*June 22-27:* Annual Meeting, American Society for Testing Materials, Hotel Statler, Boston, Massachusetts.

# LIFE IN A MARTINI GLASS:

I was raised in the tradition that Architecture was the Mother of Arts, and Sculpture and Painting were her Handmaidens, so I know all about everything and am the last word.

What has me is this idea of our joining to get Uncle to put one of the Handmaidens in the Cabinet as Secretary of Fine Arts.

All I can see ahead is one more stuffed campaign donor, taking off his Corbusier glasses and pointing in favor of the best darn Democrat Sculptor, or Republican Painter depending on which state the wind blows from.

We now have more Art Experts than Artists. I thought that when I passed my State Boards and was given a stamp to practice, I had qualified in Design, but I never saw an Art Jury, Art Commission or Fine Arts Appointee who would leave anything alone. God, the Republican Party and the President, Governor or Mayor, put them there to protect the Dear Public from bad design, and nothing less than a six B pencil can cure the itch to change something.

The Institute should sponsor something which would make it mandatory to let architects alone and let the Architectural world go to Hell for just one generation. I doubt that we will be much worse off.

Well, Politics makes strange bedfellows, especially when they turn out to be a couple of handmaidens. I have listened to this "Commissioner" line for some time now, and I think it is all a lot of nonsense. I shall now expound, space permitting and the editor keeping his hands off the copy.

Several years ago, when alterations and additions to houses tired me, a friendly tycoon classmate gave me a mural to paint in the children's department of his shoe store in Louisville, Kentucky. I am sure now that he only meant to have me scribble on the walls, but when he woke up I had arrived with a mural triptych twenty feet long and six feet high in full wet oils, showing all the animals, freaks, trapeze artists, hand balancers, wire walkers and clowns in a gay pattern of the Circus. His youngest daughter smiled beatifically, and then my client loved it and paid handsomely.

While Betty and I were stretching the beautiful work, a note came inviting me to lunch with the Mayor, the Head of Council, the Head of the Board of Trade. I went.

Those who have enjoyed the hospitality of Louisville, Kentucky, will sit back in a lovely haze of Bourbon memories. For all you others, it was one hundred in the shade when we entered the Pendennis Club and two desegregated colored gentlemen handed us mint juleps in silver goblets. A mint julep is no good unless the first sip freezes the skin of your lower lip and curls the caps off your dentures. I only drank two, which was ungracious, but I had to work. We had luncheon, brandy and big cigars. The Mayor rose and presented me to the assembled; told them all about my wonderful painting and said that he wished to present me with the Keys to the City of Louisville, Kentucky. He had gone to see the painting and a little child laughed at a clown and so he had decided not only to give me the Keys to the City of Louisville but also the Flag of the City of Louisville. He went to his brief case and brought the treasures over. I rose, completely plastered, and stood waiting to get my awards and thank the six gentlemen who were presenting them.

"Before I give you these gifts of the City of Louisville," said The Mayor, "There is only one question I wish to ask you, Mr. Bendiner, is this painting or mural a Work of Art?" I held on till the count of nine and rose glassily and said "No, Mr. Mayor, it is not a Work of Art. Mr. Byck didn't ask me for a Work of Art. It can't ever be a Work of Art, I'm sorry."

"Waddayamean it's not a Work of Art and can't ever be a Work of Art. How do you know it's never going to be a Work of Art?" said His Honor.

"Look, Mr. Mayor," said I. "It can't be a Work of Art. It hasn't got a portrait of my mistress in it. What you don't understand, Mr. Mayor is, Great Paintings always have a portrait of the artist's mistress. Look at Goya, Canova, Leonardo da Vinci, Toulouse-Lautrec. Great Painters all had mistress portraits. If you want a Work of Art, I first have to go out and get a mistress."

The Mayor looked at me and said something about how he had heard of most of these artists and he didn't realize.

I looked around for somebody to pull me out and my good eye lighted on Dr. Justos Bier, an Austrian gentleman, who was head of the Fine Arts Department of the University.

"Dr. Bier," said I, "Please, you can tell these gentlemen, am I not correct?"

Dr. Bier arose and said, "Gentlemen, Mr. Bendiner is entirely correct. If his painting does not have a portrait of his mistress in it, it is surely unlikely to be a great Work of Art. You know, when the great Michelangelo was painting the ceiling of the Sistine Chapel, he used to come way down off the ceiling and go to lunch. Everyday he was taking four hours for lunch. The then Pope was getting worried about his ceiling and sent the Papal Swiss Guards out to find out what took Michelangelo four hours for lunch.

"The guards returned and reported that Signor M. went to his girl's house for lunch. The Pope, being a practical man, installed the young lady in an apartment in the Vatican. Michelangelo never left the Vatican. The ceiling is finished. It is a great Work of Art."

Everybody laughed, the Mayor gave me my key and my flag and told me to go get a mistress.

I went over to Dr. Bier and threw my arms around him and said, "Boy, you sure saved my life. But tell me one thing, Dr. Bier, where did you get that story?" "Listen," said Bier, "you stick to your way of making a living and let me stick to mine."

Alfred Bendiner

# A New Look at *Professional Liability Insurance*

*By* Joe E. Smay, *Director of the Department of Architecture at the University of Oklahoma and Chairman of the AIA Professional Liability Committee.*

When an individual employs an architect today, he expects, and obtains, greater competence and reliability than ever before. This is brought about not only by various legal requirements for those who would practice the professions, but by a recognition of the members of the profession itself, who recognize the duties and responsibilities to that public which employs them. Laws are increasing which regulate the practice of the profession to a point where now in all states, and territories, the applicant must prove his competence by examinations, experience, or other recognized standards. Courts of law have established precedents through epoch making cases, showing clearly that the practitioner must be competent and reliable before he can so represent himself to the public. When the American public employs such an expert, it demands an ability to protect from errors in not only execution of the regular duties of the profession, but also for errors in judgment.

As the direct result of the work of committees of The American Institute of Architects, and the National Society of Professional Engineers, a new Broad Form Architects' and Engineers' Professional Liability Policy is now available to architects and consulting engineers.

This policy was not created by enterprising insurance firms attempting to sell a new type of insurance to the architectural and engineering professions. Rather, it was created by members of the professions who recognize the great need for sound protection in light of modern day conditions.

For many years there has been a steady increase in the number of third party liability suits for bodily injury, property damage, loss of income, loss of services, etc., based on real or imagined damages. This trend has increased since World War II, and has been most noticeable in the increase in claims for damages because of the use of the automobile.

This modern inclination to attempt to collect for real or imagined damages has spread and become a matter of great concern to all engaged in commerce, industry and the professions. In response to the demand for protection against the increased hazards, the insurance industry has, during the past twenty years, made available to commerce, industry and the legal, dental, medical and other professions, additional forms of Public Liability Insurance designed to provide adequate protection for their requirements under present day conditions. But, despite the increase in protection available to others, there was a complete lack of interest on the part of most underwriters in providing sound and adequate protection for the architectural and engineering professions. In an attempt to find a solution to this lack of available protection, the AIA has had a Committee exploring the subject of professional liability insurance for the past eight years. The Com-

mittee worked with various insurance agents, and listened to anyone who wished to give advice or make a proposal.

Two years ago, the AIA Committee was placed in touch with the insurance firm of Victor O. Schinnerer & Company, Inc., of Washington, D. C., and then, for the first time, began to get some results in finding domestic insurance companies who would write a Broad Form of Errors and Omissions Insurance for architects and engineers.

In subsequent meetings, representatives of the NSPE participated in the discussions with the AIA Committee. The available markets were surveyed and a questionnaire was circulated to members of AIA to ascertain their wishes as respects this type of protection. Responses were received from approximately 1,500 firms indicating their strong interest in the proposed insurance. A surprisingly large percentage of the replies specifically stated that they were interested in a Broad Form Policy.

With this mandate from the membership, the Committee set about to develop a policy form which would provide the maximum protection for the architectural and engineering professions. They made deletions and required additions to the policy submitted by the underwriters so that it would conform to the desires and customs of the professions. Thus, when the new policy was finally written, it accurately reflected the wishes of the Committee and, in many parts, the wording suggested by the Committee.

This new policy provides the finest and most complete coverage ever provided for professional errors, omissions and negligent acts. Most other policies lack one or more items of protection provided by this policy. Some cover as a result of accident only—others provide fairly broad coverage, but lack local service facilities, or are not legally available to agents and brokers in many states. In others the deductible features applies to the expenses of defense.

The policy also pays all costs of defense and supplementary payments, in addition to the policy limit. In other words, if you have a $100,000.00 limit under your policy, the insuror pays up to that amount, *plus* the costs of defense. In most other policies, the $100,000.00 limit would include legal defense costs. Another outstanding feature of the policy is the availability of fully retroactive coverage. This means that, for an additional charge the policy may be extended to cover all the work you have done before you took out the policy, back to the date when you started to practice, provided the error, omission or negligent act is discovered and claim is made during the policy period. This protection was not available until the new policy was developed.

Other important extensions of coverage are:

- The policy provides coverage for the architect and/or engineer, not only for his own professional errors, omissions and negligent acts, but also for the professional errors, omissions and negligent act of all others for whom he may be legally liable in the conduct of his practice. This would include not only other architectural or engineering firms employed to do certain work, but also any other person for whose professional acts he might be held legally liable.
- The policy also provides for settlement of claims by arbitration in accordance with established procedures of The American Institute of Architects or with the rules of the American Arbitration Association.
- This is the only available policy tailor-made to the requirements of the Committee, who believe that the cost of the protection is reasonable in light of the broad protection provided.

Of course, there are many who will say that the professional man by ability and diligence should avoid the possibility of legal action for errors, mistakes and negligent acts. While this viewpoint has much merit, it has become increasingly apparent that the complexities of our modern society have imposed the obligation of self-preservation even on those of us whose goal is perfection.

Under our system of government—by law, and not by men, the time may come to all of us when, however right we may think we are, we may be required to defend ourselves in a court of law because some one legally forces us to prove we are right. If that time comes, we can either defend ourselves, or provide ourselves with the means of defense. The newly developed policy provides this defense, and in addition, will pay damages up to the policy limit, if we happen to be wrong.

For the first time, Broad Form Errors and Omissions Insurance is available to the architectural and engineering professions, in an American company licensed to do business in all forty-eight states of the U.S.A., the District of Columbia and Hawaii, Alaska and Puerto Rico. Thus, the average practitioner, to relieve himself of the frequent worry about what might happen, may insure against such emergencies and devote his best to his client, unhampered with doubts and indecisions because of that worry. Such protection is now available for architects and engineers in the newer forms of professional liability insurance.*

* Information concerning the policy can be obtained by writing to Victor O. Schinnerer & Company, Inc., Investment Building, Washington 5, D. C.

# Public Relations — newspaper publicity

*This is the third of a series of articles by* ROBERT R. DENNY

PUBLICITY IS ONE OF THE MOST misunderstood and misused words in our promotional lexicon. Some people assume that it is the be-all and end-all of public relations—which it is not. Others believe that, if it's just done properly on the national level, it will take care of itself on the community level. It won't. Still others think that it's simply a matter of technique, which if well-handled, will solve all problems without any demands on the time and effort of the chapter and individual. This, too, is untrue.

If I may be permitted to mangle the language for purposes of simplicity, I would say that the most important fact about publicity is this—it isn't something you *get*, it's something you *do*.

A professional society whose members have influence in a community will always command a certain amount of public attention because of its prestige. However, this in itself won't *make* news and produce favorable publicity on more than one or two isolated occasions. Publicity can be helped along by a sound knowledge of the mechanics of communication. It's certainly true that poor procedures can wreck good planning. *But,* all the mechanical excellence in the world won't make news if the activities reported are not, in themselves, newsworthy.

This is an enormous subject. Therefore, let us define our scope. For purposes of this article, we'll talk about publicity techniques and suggestions on the chapter level. In a subsequent issue, we'll discuss public relations and publicity for the individual office. Also at a later date, we'll go into the mechanics of radio, television, and establishing the speakers' bureau.

Let us start with the assumption that the chapter's primary interest is in its own members and their relationship to their community. Proceeding from there, we can pose some questions and answers which may be considered basic in establishing a good publicity program.

First, what is the problem? If you have an average chapter and community, your overriding problem is a lack of public understanding of the architect—who he is, what he does, and how he contributes to the community, both esthetically and economically. Second, what should be your program's prime objective? To create public understanding of the architect. Third, what are your program targets? Your local editorial media—that is, your newspapers, radio and television stations, the house organs of your neighboring plants and businesses, the chamber of commerce publication, the board of trade newsletter; your community's civic, service, and fraternal clubs; your legislators on the municipal, county, state, and national level. Fourth, what are your publicity motives? This may seem out of place here, but it's most important. For anything you do which fails to contribute to the public interest and is aimed solely at self-aggrandizement will fall of its own weight. Your publicity, like your actions, must involve and serve the public interest.

Having come this far, we can now ask two decisive questions—what should you do, and how should you do it?

Let's start with specific ideas and suggestions, and then take up mechanics and techniques.

It's doubtful that any single event will give you the publicity mileage you should have. You should have a program comprising a number of projects for which specific tasks can be assigned by your public relations committee. One good way to spark the ideas necessary to a continuing program is for your committee to go over the check-list of target groups mentioned earlier and consider the environmental interests of each. One good choice of subject matter may cut across the interests of a number of groups and publications.

For example, consider a well-organized talk about how sound planning and construction produce economy in schools. A simple, point-by-point discussion of the economics inherent in long-range planning, early site selection, and design tailored to the

local site, climate, community, and curriculum—when bolstered with specific examples and figures—will be of interest to the city or school editor of the newspaper, to the parent-teacher association, the chamber of commerce, and the Kiwanis Club.

Similarly, a church group will be interested in the architect's method of approach to designing the suburban church and its contrast with church planning of a century ago. Quite often, it is the little anecdote or small touch that holds audience appeal. For example, I remember the considerable amount of audience interest generated by an architect who explained how rugged "white elephant" sites, unsuitable for residential or commercial use, were perfect for church use—*provided* the adaptation of building to site were made by a competent architect. A good case history of this type will also appeal to the editor of the church publication.

As a chapter, have you explored the possibilities of holding public panel sessions on architecture in your community? The AIA chapter in Denver did it by tying-up with the Denver public library and the city's adult education council. A series of such illustrated programs were held at the library for an enthusiastic audience.

Participation in career conferences for high school students, tied in with open-house tours of architectural offices, may do much to attract attention to the chapter and its members, besides serving the worthy purpose of recruiting promising young men for the profession. This project can embrace appearances before high-school assemblies; a display to pupils of models, sketches and photographs in several architects' offices, and a trip to a building site. The local newspaper should be invited to send along a reporter and/or photographer.

A group chapter effort to give its community a look at its future comes as close as anything can to producing sure-fire publicity. An excellent example of this type of activity was provided several months ago by the Little Rock, Arkansas, Chapter of AIA. There, the chapter joined with the metropolitan area planning commission in projecting the area's community facilities, population, and renewal needs. The end product was a handsome report filled with information on the "new city," its transportation, subdivision planning, restored business district, etc. The document, presented formally to the Chamber of Commerce, was illustrated profusely with drawings prepared by the chapter. A most important point: The Little Rock architects didn't just go "blue-sky" and draw pretty pictures. Before-and-after photos and drawings showed clearly that the renovation of downtown contemplates utilization and remodeling of many existing buildings. A direct result: Two dozen newspaper stories and subsequent speaking invitations which have been extended to the chapter, on the average, twice a week.

The chapter can make news by concerted action to preserve its historic and worthy buildings. Looking at the matter selfishly, this is an excellent opportunity to create good personal contacts with the often-influential members of the local historical and civic societies, besides creating the kind of slam-bang controversy which appeals to the press.

These are just a few of many suggestions designed to reap a publicity harvest for the chapter. In my office and at the Octagon, we receive many clippings from local newspapers that indicate what chapters are doing.

From the *Detroit Times,* for instance, comes a story headlined "Architects Aid Schools." It goes on "A committee from the Detroit Chapter of The American Institute of Architects will be appointed to serve as consultants to the Detroit Board of Education. . ." From the Los Altos, Calif., *Herald American,* this story: "The Long Beach Museum of Art has organized and is offering for national circulation the exhibition 'Arts of Southern California—Architecture' . . . Twenty-one leading architectural firms are represented. . ." The New Rochelle, N.Y. *Standard-Star* reports that "Architects Present $1,000 to Student in New Rochelle," in carrying a story on the Westchester chapter's ambitious scholarship program.

In Philadelphia, the chapter received attention via a five-column headline in the *Inquirer* to the effect that "Architects Urge Phila. to Retain City Hall." The architects' report, according to the newspaper, was made "as a civic duty. . . (the absence of City Hall) would weaken the continuity of architectural tradition of the whole country. . ."

In Kansas City, the AIA chapter took on a whopping public task and gave the *Kansas City Star* a statement that criticized both sides in a construction strike and urged renewal of negotiations. The headline, "Architects in a Strike Plea" and column-long story created a chain reaction that included a front-page editorial, extensive coverage on radio and television, *and* resumption of negotiations which ended the strike five days later.

These examples illustrate how news is made, and how, when opportunity knocks, the alert chapter opens the door. Returning to our assumptions, then, let's assume that the chapter has organized a good program, makes news through worthwhile projects, and seizes the chance to make more news by careful and well-timed attention to community affairs. The chapter's remaining need is knowledge of the mechanics of press operation. Since we intend to

treat radio and television separately, we will confine ourselves here to newspapers and local publications.

Many valiant press efforts are wrecked on the shoals of tedious and over-written releases. The lead story of such a story, the editor decides (if he bothers to think about it at all) must have been very heavy. It sank like a rock to the bottom of the release. Obviously, the story was written, as Gilbert and Sullivan once said on another subject, "by terrified amateurs."

One way to assure the chapter of good press handling and writing is to hire an agency or free-lance person to do it on a professional basis. In situations involving small communities and smaller budgets, it may be possible to hire a local newsman on a part-time basis. However, on the theory that even if you follow this advice you still should know something about it, here are a few tips:

The basic news release is a simple, straightforward account of an event. The first paragraph or "lead" almost invariably answers the who, what, when, where, and why of any story. Like this:

> John R. Smith, president of the New Bedford Chapter of The American Institute of Architects, will address a meeting of the Kiwanis club at 8 p.m. Wednesday (March 20) in the Konrad Milton hotel on "A Plan For A New Downtown." The speech is one in a series of talks being sponsored by the New Bedford chapter to advance public understanding of community planning.
>
> WHO—John R. Smith, president of the New Bedford Chapter of The American Institute of Architects
>
> WHAT—will address the Kiwanis club
>
> WHEN—8 p.m. Wednesday (March 20)
>
> WHERE—the Konrad Milton hotel
>
> WHY—to speak on "A Plan for a New Downtown"

This, admittedly, is an elementary example. Yet few persons who read newspapers all their lives would be able, without some explanation of technique, to sit down and write a basic newspaper story.

Here's a good rule of thumb: In the "straight" news story, the most important news is at the top. Information of diminishing interest flows down through the story. Thus, if the story were set in type as written and something had to be chopped from the end to fit into the page form, nothing of basic importance would be lost from the story.

Here are some pointers on writing press releases: Type, ditto, or mimeograph all copy. Double-space all copy. Give full names, titles and addresses of people. Give times, dates, and places of events. Make sure the release carries the name, address, and telephone number of the person your committee has designated to answer questions and handle press contacts. Make sure your press contact man has a copy of every release that goes out and is informed about the story. *Do not* send carbon copies to editors. If your secretary has to type the story, and the same story is to go to three local newspapers, tell her to type three originals. Avoid adjectives, i.e., the "outstanding" speaker, a "stimulating" discussion, etc. If the speaker is outstanding, or the discussion is stimulating, the facts will speak for themselves. This is one basic difference between editorial and advertising copy.

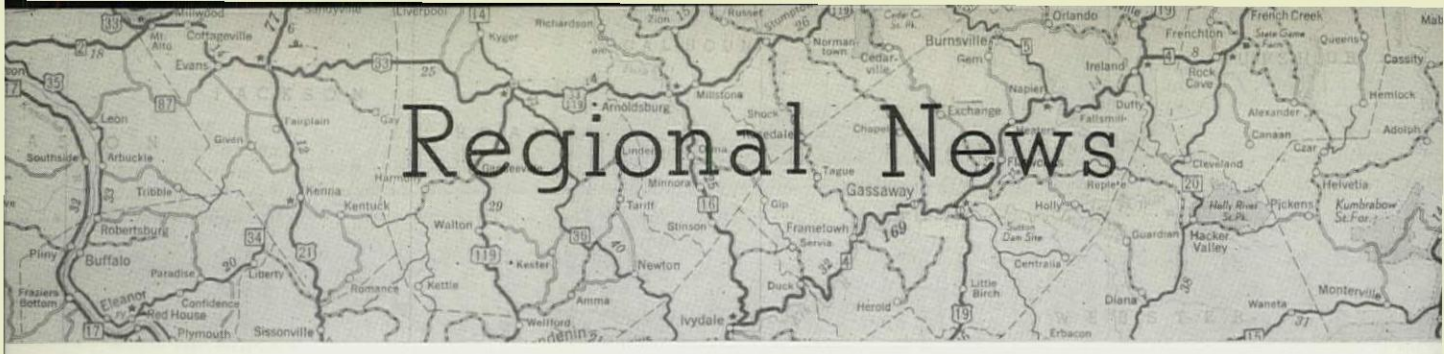
When you're scheduling a speech, panel discussion, or meeting, send the newspaper a brief release about a week in advance. Attach a memo to the editor requesting coverage by a reporter and photographer. Assuming that you have a speech scheduled for a certain evening, call the editor that afternoon, and reiterate your request for coverage by the paper.

If the editor tells you that his personnel work load is such that coverage will be impossible, volunteer to call the paper that evening after the speech has been made. It helps to insure coverage if you send an advance copy of the speech to the editor the day prior to delivery. Then, assuming you've done so, have your press contact man notify the city desk that evening that the speech has been delivered as written in the advance copy.

Should no advance copy have been dispatched to the city desk, briefly recite the highlights of the speech over the phone when you call the paper. Most morning newspapers need their morning news —except for fast-breaking crime traffic, and international news stories—by about 10 p.m. Do *not* wait until next day to call. Of course, none of this will be necessary if a reporter covers your meeting.

Photographs make news. Whenever possible, have advance photos taken of events. Send glossy head-and-shoulders pictures of speakers to the paper, in advance. Attach a caption to the photo. If you take a group photo—make it a small group—identify the people, left to right, in order of their appearance. If you take a photo of a single person—here we should emphasize that *all* pictures should be taken by a *professional* photographer—you may write the subject's name and firm in *soft* pencil on the bottom of the back of the picture. On no other occasion should you write on the back of a photograph. It ruins the print. Instead, type out the caption on a piece of paper and tape or paste it to the bottom-back of the print. *Do not* send snapshots. They won't reproduce well.

*(Next month: Radio, Television, and the Chapter)*



# Regional News

EDITOR'S NOTE: *This column is in danger. News comes in pretty faithfully from two or three regions, and sporadically from two or three more. None from the others. Possibly an explanation of its purpose will encourage members to see that their chapters send news to their Regional Editor—or directly to the* Journal *if they wish.*

*Nearly every chapter is engaged in some activity which would be of great interest to some other chapters—activities in the fields of community service, public relations, influencing legislation, etc.*

*News of these activities is what this column wants. This is the only way chapters in one region can find out what chapters in other regions are doing. We cannot give space to personal items, the opening of new offices, the election of new officers, etc.—such news is for the regional publications. Here we want to tell the rest of the country what* you *are doing in your region.*

*So please co-operate with your Regional Editor. This* can *be one of the best pages in the* Journal!

## NEW YORK DISTRICT

THE LONG ISLAND SOCIETY CHAPTER has a large display panel on permanent exhibition in the Architects Exhibit, Inc., an information and display center for building products in the huge Roosevelt Field Shopping Center. The contents of the panel is changed monthly, and consists of renderings, photographs, sketches and models submitted to a selection committee by members.

## SOUTH ATLANTIC DISTRICT

THE SOUTH CAROLINA CHAPTER is sponsoring a film, *The Development of the South Carolina Home,* to mark the Centennial. Scheduled to be shown by television stations in all the principal South Carolina cities, the film takes viewers on a tour of the state's notable houses of the last hundred years, with Betty Lane Cherry, of Orangeburg (—Miss United States of 1956) asking the questions. Appearing with her are the Chapter officers —President Louis M. Wolff, of Columbia, Vice-President John M. Mitchell, of Charleston, and Secretary-Treasurer A. Hugh Chapman, Jr., of Spartanburg—who have seen to it that the film has a happy ending, with emphasis on the best contemporary work.

## CALIFORNIA-NEVADA-HAWAII DISTRICT

THE PASADENA CHAPTER has joined with its auxiliary, the Women's Architectural League, in sponsoring a Centennial Home Tour to celebrate locally the 100th anniversary of the founding of the Institute.

Opened to the public on October 26 were a group of seven Pasadena area homes representative of a century in architecture. Historically as well as architecturally interesting, the residences—still in use as family homes—ranged from an abode owned by the same family since 1848 to the award-winning modern home which Thornton Ladd built in 1949 and altered periodically until 1956.

Homes shown included the modern residences of Arthur O. Hanisch, designed by Henry Eggers and Walter Wilkman; Mrs. Lillian B. Ladd, designed by Thornton Ladd, her son; and Robert E. Cralle, designed by Richard J. Neutra. The William K. Dunn residence included on the Tour was designed by Pasadena's Greene brothers in 1897. Originally a two-story "summer cottage" belonging to eastern industrialist James Culbertson, it was completely remodeled in 1953 by Smith & Williams, Architects and William L. Rudolph, Associate. Another Greene & Greene example was the home of Mr. and Mrs. Max Hill, built exactly fifty years ago for R. R. Blacker and preserved in its original form. Two San Gabriel homes included were "La Casa Vieja," an abode which was originally part of the Mission Quadrangle, and a Victorian showplace, "La Presa Rose," built by pioneer Rose around 1862.

Proceeds from the Tour are being used to establish a fund "to further the public understanding of the cultural, historical, and architectural heritage of the area."

THE EAST BAY CHAPTER'S Centennial banquet was held recently at the Hotel Claremont in Berkeley, California. John Knox Shear, editor-in-chief of *Architectural Record,* was the principal speaker.

Regarding urban and regional planning, Mr. Shear said that communities must determine the kind of identity they want to have, and then work toward maintaining it. In an area such as the San Francisco Bay area not only is a regional planning authority—with real authority—an essential, but each community in the area must develop its own qualities for the good of the whole area.

The celebration, in which Oakland Chamber of Commerce assisted the Chapter, drew some 350 business and professional leaders, civic officials and architects from all parts of the San Francisco Bay Area. An exhibition of photographs and models by Chapter members, and of early East Bay architecture by Maybeck, Mullgardt, Howard, Hays, Julia Morgan and Coxhead was held in the hotel during "Architects' Week," October 13-19, which had been declared by the Mayors of Oakland, Berkeley, and Richmond, the three largest cities in the East Bay.

# Letters to the Editor . . .

EDITOR, *Journal of the AIA:*

The *Journal's* welcome to the debate of the Grand Design is a most hopeful sign for the future. It is well that the discussion is now joined, for it will be a long one.

It is also pleasant to see Professor Carroll L. V. Meeks of Yale University, President of the Society of Architectural Historians, willing to leap into the arena. The more combatants the merrier, especially when they arrive with all the gold and feathers of learning.

Let me attempt to answer a few points raised by the SAH President. If he will glance once again at John Summerson's "Heavenly Mansions," he will find the following use of the phrase "aesthetic adventure" after an exposition of Viollet-le-Duc's rationalism: "It is a neat explanation and one the less accurate because it entirely ignores the character of the design as a *motif*—as an aesthetic adventure." As for the great Frenchman and originality he sets enough value on the word to write "l'architecture civile prend un nouvel essor pendant toute la durée du XVIe siècle et produit seul des oeuvres vraiment originales" and elsewhere when condemning the epoch of Louis XIV, "une fois dans cette voie, l'architecture civile perdit chaque jour de son originalité."

The SAH President may pin the label "picturesque" on what he likes as is his privilege, but he must spare the Chicago Fair of 1893. He has forgotten what Henry van Brunt, one of the Exposition architects and President of the AIA in 1899, observed of that spectacular American triumph. The men of the Fair chose to adopt "a uniform and ceremonious style—a style evolved from and expressive of the highest civilization in history . . ." and that this forbade "the use of medieval, or any other form of romantic, archaeological or picturesque art."

On the question of the dome upon the drum being the symbol of the democratic state it has been and is today the symbol of our National Capital, mirrored in many of the capitals of the 48 states, for millions at home and abroad. With due respect to the wonders of Dublin, such has not been the privilege of any one of its handsome buildings.

The SAH President is absolutely correct when he writes that we look to the taste of J. P. Morgan, Stanford White, Edith Wharton and Lady Mendl. And so will all Americans who desire to see the qualities and standards of the American Renaissance once again in the land.

This is only natural on our part. J. P. Morgan is the greatest name in American collecting and he has passed into history to join such men as Cicero, Lorenzo de'Medici and Cardinal Mazarin. Stanford White was a partner in our greatest architectural firm. Edith Wharton is our greatest woman novelist and Lady Mendl helped found the profession of interior decorator, a profession which the architect, for some strange reason today, has seen fit to surrender. We will be inspired by what they have given us to reach new heights.

Let the SAH President be warned that another American Renaissance is in the offing for the public is growing restless. The embassies, the Manufacturer's Trust Co. banks, the Seagram's Building and other structures which he admires are but so many nails, chiefly glass ones, in the coffin of the Modern.

HENRY HOPE REED, JR.
Secy. Treas. New York Chapter
Society of Architectural Historians

EDITOR, *Journal of the AIA:*

As a young architect having only two years experience with my own practice, I felt reluctant to write a letter to the editor of our Institute's publication. However, I felt compelled to do so after reading the fine editorial by Mr. Henry H. Saylor entitled "Have Fun!".

I have attempted to establish my practice basically in keeping with Mr. Saylor's comments and can sincerely say I have experienced much of this "fun" to which he refers. I feel that this has been possible only through my training as an architectural engineer. I feel further that architects of the coming years can avoid being replaced by this "robot" only if they themselves are qualified engineers. In my opinion this matter should be given intense study by the Institute with possible recommendations to educational institutions reflecting the Institute's opinion.

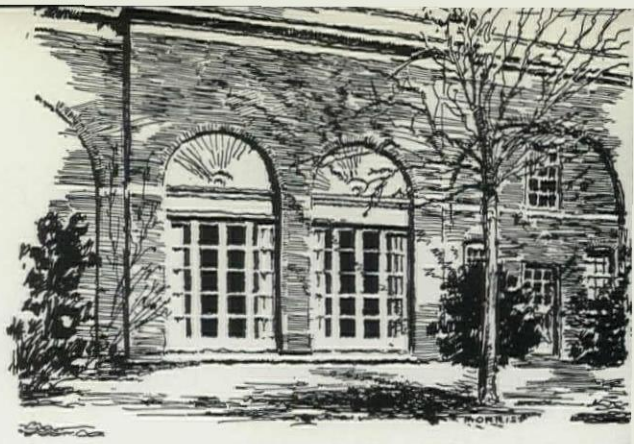
This matter is of tremendous importance to Wisconsin architects since a state law has recently been passed allowing all professional engineers to practice architecture. The subject is close to my heart because I am currently completing a church with a thin-shell concrete roof. My original intention in regard to this project was to engage a consulting engineer but found that there were none available in this area that were equipped to handle this type of project. I felt compelled to do the necessary research myself and after much reading, several conferences with Mr. Alfred Parme in Chicago and one with Mr. Felix Candela in Mexico City, I struggled through the necessary calculations and the project is now nearing completion. As Mr. Saylor mentions, this has placed me in a lower income tax bracket (I hope temporarily) but I also feel it has inspired me.

A practicing architect with thorough training and knowledge in both the fields of art and engineering is, in my opinion, in a unique position to contribute tremendously to our present day troubled world, for as he integrates aesthetics and structure he is also merging emotion and intellect; or if you will, religion and science.

Is this not today's basic problem?

WILLIAM P. WENZLER
Milwaukee, Wisconsin

# Library Notes



WHEN THE INEXORABLE DEADLINE for this page seemed to arrive more suddenly than usual, I sought a topic of interest but one not requiring extensive research. Sitting at the desk of Thomas U. Walter and handling his drawing instruments, my thoughts turned to him, and the idea came that it might be appropriate to record the various mementoes that the Institute possesses of its second president. A hasty check revealed that this is the fiftieth anniversary of our receipt of his bust so with this added coincidence the die was cast.

The bust was presented by Walter's daughters, Olivia and Ida, late in 1907, having been tendered by them in September and acknowledged at the convention in November that year. The natural query as to the name of the sculptor apparently must remain unanswered for the sisters wrote Glenn Brown, Institute secretary, on that occasion that they had been unable to learn his name. Contrary to what one might expect the bust depicts Walter as a young man in his prime rather than as the elder statesman of the profession in which role we are more accustomed to seeing him in photographs. From its niche in the Octagon fifty years ago this piece of sculpture has been moved and now stands between the two French doors in the Library reading room where it keeps watch over the readers as they come and go.

Next of the Walter mementoes received by the Institute is a rosewood box containing drawing instruments. Although the set is now incomplete it is interesting to realize that they might even be those he used while working on the Capitol extension, for the box bears a metal plate inscribed "Tho. U. Walter, Washington, D. C." These were received from the estate of Alfred Kelsey, FAIA, in 1950, although unfortunately the record does not show how he received them.

Walter's desk, accompanied by its chair, and a piece, probably some kind of a drawing board, were received from Mrs. Walter Cook and J. Glenn Cook of Baltimore just last year, 1956. We are particularly grateful to them for their generosity which was undoubtedly inspired by the late Walter Cook's suggestion a few years ago that there might be established a Thomas U. Walter room at the Institute. Here could be gathered together various drawings, papers and other records. Unfortunately space limitations at that time precluded any possibility of the Institute's acting on the suggestion.

The date of the furniture is unknown but it seems to be of the second half of the last century and it undoubtedly was secured by Walter in the latter part of his life. The desk is a double one with four cupboards, each different in its contents—one with drawers, one with no divisions, one with a shelf and the fourth with small square compartments. These pieces are now housed in the librarian's office where I find the spaciousness of the desk of great advantage.

Turning from the objects important because of association with Walter let us consider briefly those written materials of a research nature. Walter was the secretary of the short-lived American Institution of Architects in 1837 and at the second meeting of the Institute he presented the records of its predecessor to the new organization. Few of these have survived the vicissitudes of the years, including fire, but bound in a volume of the AIA *Proceedings* is the printed announcement of the Institution signed by Walter as secretary, and four letters received by him. These were from Robert C. Long, Nov. 6, 1836; Isaiah Rogers, March 30, 1837; Minard Lafever, March 30, 1837; and James H. Dakin, April 30, 1837.

Of more direct interest is a long letter he wrote March 27, 1837 on a sheet bearing the Institution's printed announcement to a Doctor Cohen in Baltimore, soliciting his aid in contacting Mr. Long as well as touching on other matters. This letter was a most welcome centennial gift from Edward X. Tuttle, AIA.

Finally there is a volume of drawings entitled "Extension U.S. Capitol, North Wing," most of the drawings being signed by Walter. This was received in 1906 from a W. D. Windom, architect, to whom it had been presented by a Mr. O'Neill.

Mention should also be made of another Walter descendant, Clark Walter, through whose interest there has been received from Glenn Cook Walter a print of a photo taken at the 1883 convention which shows Walter in his later years.

The Institute is gratified that it has been entrusted with so many relics of one of its honored leaders and hopes that perhaps some day other drawings and records may come to join the items which already form a good nucleus for a Walter room.

GEORGE E. PETTENGILL

# BOOK REVIEWS

RALPH WALKER, ARCHITECT. By Ralph Walker. 264 pp. 9¾" x 11½". New York: 1957: Henahan House. $25.00

The title should be, "RALPH WALKER, HIS BOOK." Upon laying it down I felt like one returning from a stimulating conversation with him; my understanding of his philosophy and his thoughts about many phases of the planning professions, greatly enriched. The book is really a series of notes made by a busy, gifted and thoughtful designer. Throughout all of its beautifully designed pages there moves his restless, inquiring search for the answer to the problem at hand; his sharp criticism of the absurdities being practiced in our already congested cities. We sense the vital and joyful way in which Ralph Walker approaches and accomplishes each day's work,—to his satisfaction, or perhaps not to his complete satisfaction.

The book leaps from subject to subject. It pours out ideas, perhaps unrelated at times but always exciting active response in the reader. The ideas are presented with gusto and relish. He has tackled the meal, young in spirit, hungry and eager. He has enjoyed every course and incidentally has commented on how the various dishes might have been improved.

He begins with the Barclay-Vesey Building, his first and perhaps his greatest contribution to the American scene. He must have approached this project with a strong feeling that it be American. One of our most consistent critics of eclecticism, you sense his preparation for this work, which included a strong liking for the structural conviction of Louis Sullivan; an earnest effort to carry forward the attempts of Sullivan and Bragdon to free architectural ornament from the captivity of tradition. This building, and The Daily News Building by Raymond Hood, stand as beacons which have done much to sever our bonds with derivative forms and to show the way for America to use the bountiful pallette which American technology has provided. The Barclay-Vesey Building, The Irving Trust, The Massachusetts Tech Library all show development of this idea.

Mr. Walker has studied cities, here and abroad. He is charmed with the cities of the Old World. He has admired the fine civic art, the public buildings and squares, the waterside development, parks and sculpture. Such contributions have made some cities treasure houses of art for the enjoyment of the people. After noting past philosophy about city planning and viewing today's mistakes, he looks forward. You feel his concern about the future.

Finally he concentrates on Education. He has seen the glory of Chartres and Hagia Sophia and the Parthenon. He longs for a comparable attainment in America. Possibly the answer is Education. He was brought up in New England, with its elm shaded streets and its lack of congestion which leads one to feel that architectural beauty must be accented and leavened by beauties of nature. He has done his best and continues his effort.

Mr. Walker has given time and devotion to the finer objectives of his profession. This service has meant long journeyings away from the office, but has all been part of this stimulating and rewarding occupation. The book has a kick. It warms up the old practitioner and sends him back to his office determined to do better. More important it points the way for the student and the young architect. It sets the task for tomorrow and invites the youngster to give it a toss.

LORIMER RICH

SOLAR CONTROL & SHADING DEVICES. By Olgyay, Aladar & Olgyay, Victor. 208 pp. illustr. 8½ x 11. Princeton University Press, Princeton, N. J. $12.50.

The Hungarian trained twin-brother architects who are the co-authors, are both Prix de Rome and have become well known in this country for their research and writing. As architects they have designed the Hungarian exhibit for the New York World's Fair, also apartment houses, hotels, factories, and exhibition buildings in several European countries. They have taught at Notre Dame, have done research at M.I.T. and have worked as practicing architects and consultants. Under Guggenheim Fellowships they continue their work at Princeton Architectural Laboratory, combined with teaching.

Building upon their earlier work, the book is organized to proceed from Theory (Part 1) through Technical Considerations (Part 2) and Practical Application (Part 3) to a wealth of photographs (Part 4).

In addition to charts, diagrams, drawings and photographs in the first three sections, there are in Part 4, 180 illustrations of 13 different building types showing buildings in 16 countries and 13 states.

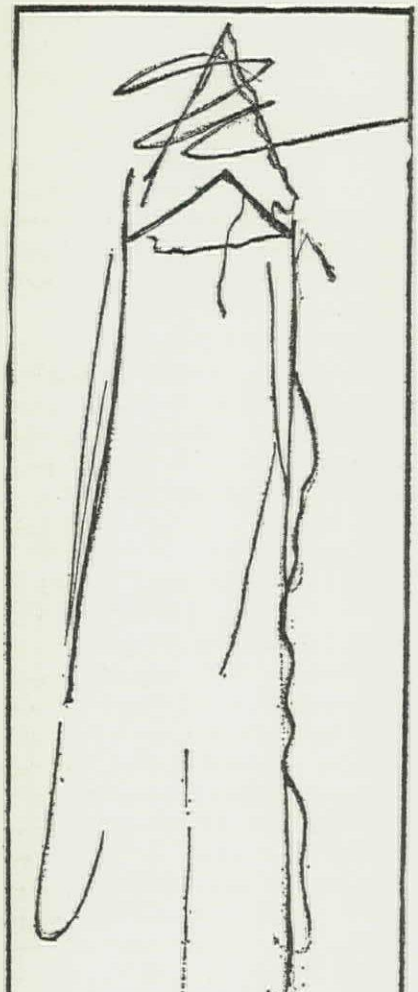
In text and illustrations there is a reasonable balance between the aesthetics of contemporary architecture and the functional basis of the problem. The new architectural elements are regarded as major resources of the contemporary aesthetic which is described as "an adjustment of the discipline of related sciences" in which "abstract thinking forms a basis for the emotional content" in contrast to the Renaissance when "feelings were dressed with a coat of logic."

These new elements are not regarded as panaceas or as the whole vocabulary of design. "The architectural appearance of the sun control is not an effect in itself—it is the result of several other developments—the direct consequence of the glass pane which in turn was born from structural possibilities. Nevertheless none of these chain reactions would have evolved at such a rapid pace if the climate of analytical thinking had not—(led to)—a separation of the distinct roles played by each element of the wall."

The book is the most complete presentation of the subject in which the authors are pioneers.

W. A. T.

# The Editor's Asides



Frank Lloyd Wright reminds us of Foxy Grandpa, the *enfant terrible* of the funny papers years ago—no pun intended, he was always right. The above sketch appeared in the *Washington Post* the last time wrathful Wright was in town. He was showing delighted reporters how he would alter the Washington Monument. The point is, of course, as every amateur historian knows, that FLW's silhouette is exactly the way Robert Mills designed it in the first place—which we are sure Mr. Wright also knew very well.

Horace Peaslee, FAIA, with a chortle of glee, has called our attention to a boner in Edwin Bateman Morris' August article on the tour to Williamsburg. On page 244, second column, he refers to seeing "one of the original copies of the St. James version of the Bible." Since when did St. James authorize the translation of the Bible into English? It slipped by everybody in the *Journal* office—wonder how many other readers noticed it?

The HHFA has announced that the United States has reached the magic total of 50 million households. Housing Administrator Albert M. Cole presented a certificate to the 50 millionth householders, Mr. and Mrs. Edwin B. Lawless, III, of Vienna, Virginia. Think of it, that is double the number of households in 1920, and a 15 per cent increase since 1950. Fifty million households can't be wrong! And they want good houses, good communities, good schools—but there it breaks down, for the householders are beginning to balk at paying for good schools. We assume many of our readers saw the article "Do School Children Need Costly Palaces?" on page 37 of the September *Reader's Digest*. Basically it was pretty good, but there was an undertone which has made many architects bristle. We've received only one letter and one phone call about it; we're surprised there weren't more. Please write in if you have any comments. Douglas Haskell wrote a good editorial about it in the October *Architectural Forum*.

Nowadays we frequently see the term "the New Palladianism." This is faintly irritating to those to whom there is nothing new about Palladianism. Palladio has been a guide and friend to generations of architects, including many now living. The inference from the phrase seems to be that the current generation of younger contemporary designers have just discovered him—which doesn't speak well for their schools. Or does it mean that they have just discovered that they can be taught by a Renaissance teacher? There is no *new* Palladianism. The beautifully balanced masses of the gentleman from Vicenza have always been there, ready to instruct and inspire, no matter what idiom the architect works in. If this is rediscovery of an old master, good but we blush for those to whom h is a new discovery.

Much more than the art o beautifully balancing masses can b learned by a study of the Renaissanc masters. For the magnificent en closure of space, for instance, w must turn to them too. For interio space to, let us say, Alberti's S Andrea in Mantua or Mansart' Dome of the Invalides in Paris o Warren & Wetmore's Grand Centra Station; for exterior space we ca turn to Michelangelo's Capitol o Bernini's embracing arms in th Piazza San Pietro in Rome or Héré' Place Stanislas in Nancy—there ar so many. To be sure, many of to day's designers have discovered o rediscovered the Renaissance, an more should follow their lead—bu *not* in the literal manner our es teemed correspondent Henry Hop Reed, Jr. advocates!

Belatedly, we salute th Architectural League of New York which celebrated its seventy-fift anniversary earlier this year. Sinc 1881 its club rooms have bee smoke-filled chambers full of discus sion and fellowship among the bes men in the art professions in th East. Long may she prosper!

While handing out congratu lations, let us also hand a bouquet t the National Trust for Historic Preservation for the new size an format of its quarterly *Historic Pres ervation*. To throw this bouque accurately, it should be aimed a Mrs. Helen Duprey Bullock, edito of the magazine. Its format is hand some, its offset printing and repro ductions are excellent, and its con tent is absorbing. Long may i prosper, too!

This is the last time th "editorial we" will appear in thi column. It gives too much trouble There will be a few more change in the new 1958 *Journal, too*—a new cover and a few typographica improvements. We hope you lik them.

# The Community Hospital—1967

## *We're All Different—An Editorial*

ERIC PAWLEY, AIA

*THE ABOVE TITLE was the subject of one of the panels at the recent convention of the American Hospital Association in Atlantic City. The group included representatives of public health, hospital administration, state health departments, medical education, hospital planning and architecture. Eric Pawley, AIA Research Secretary and staff executive of AIA national Committee on Hospitals and Health, participated on behalf of the Institute. One of his contributions, printed here, was in the form of a fictitious editorial in an as yet non-existent magazine—not entirely in jest.*

ARCHIMATION! That's what we've been thru in these last 10 years since 1957.

About 1960 the antiquated specialist-consultant-team concept of the 50's broke down and there was complete mechanization of design processes. Factors for hospital design were fed into electronic calculating machines by punched-cards and tapes and came out the other end at the wrapper-postal scale and Pitney-Bowes stamp machine for mailing to decentralized fabricating units.

The architect's function became that of the TAPER, the highly skilled translator of design concepts and specifications into the punch-language of tape and cards. For some time there was a question of spelling of TAPER because of the TOPER tradition in the profession.

And what happened to the client? ADMINIMATION of course!

Adminimation abolished the old obsolete midcentury concepts of hospitalization-insurance for members of organizations and merely made provision for human maintenance, repair, depreciation, obsolescence and terminal survey and salvage—all lined up in punched-card sequences for activation at appropriate dates. Look Ma, no hands!

We had a little trouble for awhile with one electronic memory unit that twitched its tape and flashed its pilot light everytime a certain blonde born right after World War II went past—gosh, are we getting that old! But by running the tape thru a clearing gadget this unscientific quirk of exhibitionistic behavior was erased.

By 1965 some of us were fed up! HOSPITALATION was a failure.

Although every attempt had been made by conscientious ARCHITAPERS to feed cards and tapes for regional and climatic characteristics and color scheme variety into the designing machines—everything began to have a monotonous perfection that was out-of-line with recent discoveries about the unique physiology and individual treatment-reactions of patients. It seemed that hospitals were not turning patients out cured—once they got in the works they went right on thru to salvage!

There was one significant case where several cards stuck together and one underweight female patient spent 5 years hand-forging horseshoes as OT.* She was rather *arbitrarily* moved to psychiatry and her tape punched for tranquilizing when she yielded to temptation and threw a ringer around the neck of a scrawny administrator.

A few sensitive architects and administrators began studying the archimation machines. Some developed a more esthetic touch in their work by loosening and tightening a few transistors in a random fashion and one even had a lovely technique of blowing variable warm and cool air currents thru the unit—creating quite delightfully subtle variations. Several critics worked their rocking chairs right off the deep end about this. Patients became more hopeful and some found they could leave the system.

Now, in 1967, we are in a crisis. The old ways of strict archimation are an obvious failure. Only a few frightful old institutions are clinging to their unamortized and corroding machines and processing patients right thru to terminal surveys and salvage.

But, we have learned something. There *IS* something in the individual design approach and human values in buildings. No amount of consultant group-decisions about regional characteristics—or schedules for depressing the ingenious error-button on the machines from time to time—can equal the therapeutic effectiveness of good design or even a few honest human mistakes built into the job: the lovely variation of too much sun in some seasons and resulting restful changes of illumination—the stimulation of atmospheric differences when the ventilation goes on the fritz and the windows have to be opened—or other good routine-busting effects. We now see the positive values of a design concept by a thinking individual in command of the job rather than design-by-committee. Someone has said that a camel looks like an animal put together by a committee!

Now in 1967, a few architects are even letting it be known that they have never done a hospital . . . and there is some discussion of whether they can be brought up on charges of taking an unethical advantage of fellow professionals.

Well, you're bright enough to get the idea—there's no substitute for built-in human TLC*!

* *occupational therapy*

* *tender loving care, an often-used prescription for hospitalized children*

# BRI Reviews Plastics For Roof Construction

*Selected Papers Dealing with Plastics for Roof Construction*

In mid-September 1957, the Plastics Study Group of the Building Research Institute held an open meeting in St. Louis, Mo., on the subject of Plastics in Roof Construction. Nearly 350 people came from 31 states and Canada to attend this meeting, to hear the papers on plastics in roofing on the first day, and to hear on the second day a review of the design, construction and engineering of the new Inorganic Chemicals Laboratory constructed near St. Louis by Monsanto Chemical Company. The meeting was concluded by a tour of this new building and a first-hand view of the many uses of plastics in it.

This meeting, with its record turnout of research men from all branches of the construction industry and a sizable complement of architects, engineers, contractors, etc., is a tribute to the work over the past two years of the members of the BRI Plastics Study Group. As many know, the increasing interest of the construction industry in plastics as building materials resulted in the scheduling in October 1954 of a research correlation conference on "Plastics in Building" by the Building Research Institute. Organized with the aid of the Society of the Plastics Industry and the Manufacturing Chemists Association, this conference drew an attendance of more than 500 industry representatives. So much enthusiasm was engendered, and so many questions were posed to which answers were not yet available, that a number of BRI members, including architects, engineers, construction and plastics industry representatives, decided to form the BRI Plastics Study Group, so that they could explore other facets of this rapidly developing field.

The meeting in St. Louis was the fourth held by the BRI group. The first, held at the University of Michigan in November 1955, went into such subjects as plastics in housing, plastics in the building skin, and plastic building products. Two meetings in 1956 developed the subject further, with such topics as weathering of plastics, plastics as insulating materials, for gasketing and sealing, for interior surfaces, the new SPI building code chapter on plastics, etc.

Proceedings of each of these meetings were subsequently published by the Building Research Institute, as will be the proceedings of this meeting. Each of these gatherings has made an important contribution to the scant amount of literature on the subject of plastics in building construction. At St. Louis, the maturing of plastics as materials of construction was much in evidence. Speakers got down to cases on costs and construction experiences with plastics in roofing, as compared to costs of conventional materials. Reports of actual field experience with these products, including skylights, should be of real value to architects in their consideration of future uses of such materials.

For the future, the BRI Plastics Study Group plans to hold two meetings in 1958, the first to be scheduled early in the year, possibly in Texas. Architects who would like to participate in the programs planned by this group are invited to contact Harold Horowitz, BRI Technical Secretary, for further information.

Below are digests by Mrs. Jean H. Houtchens, BRI Associate Editor, of selected papers dealing with plastics in roof construction. A report of the second day's activities, which highlighted talks by the engineers and architects concerned with the design, engineering and construction of the Monsanto laboratory building, will be carried in a subsequent issue.

## Phenolic Foam as Thermal Insulation in Roofs

*by Robert P. Courtney, Bakelite Company*

THERE ARE TREMENDOUS possibilities for the future development of cellular plastics as building materials, and particularly of phenolic foam. One of its major advantages is that, being made of the older of the synthetic plastics, it is competitive with the lowest cost cellular plastics.

In roof construction, phenolic resin foam serves best as the core of a sandwich panel. With loading evenly distributed on a rigid surface panel, it stands up extremely well and takes terrific abuse. Adhesion between the foam and the surface panel can be obtained at low cost. As it expands, the surface remains sticky for a finite period of time, and the adhesion is much stronger than the strength of the foam. Adhesion to metals is quite good if the metal surface is primed with some other inexpensive material.

As to corrosion resistance, phenolic foam was used in a section of our laboratory erected six years ago. In checking back, we found no visible evidence of corrosion on electrical conduits or on galvanized and black iron pipes buried within the section.

For the future, we plan to put into production 4′ x 8′ standard sandwich panels with facing of asbestos cement board or hardboard using the phenolic resin foam.

## Thermoplastic Foams as Thermal Insulation in Roofs

*by Robert N. Kennedy, The Dow Chemical Company*

IN THE PAST, cost and structural strength have been primary considerations in selecting roof insulation. Today, while these factors are still important, more recognition is being given to thermal conductivity values, water resistance and flammability. Lightweight foams made from such thermoplastics as cellulose acetate, polyvinyl chloride, silicone, polyethylene and polystyrene can compete effectively with present roof insulation, since they all have low thermal conductivity, resistance to water and structural strength, and can be made flame retardant or self-extinguishing. With one exception, however, they are not available in large sizes or at costs sufficiently low to consider them as insulation on roofs.

The exception, polystyrene foam, has been commercially available for several years in the form of rigid, lightweight boards. Recently polystyrene beads capable of being formed in a mold to various sizes and shapes became available, and several manufacturers have used this material to mold boards. These have become known as the "molded type," while the former are the "extruded type." Both may be used in roof construction, and properties of the two are quite similar.

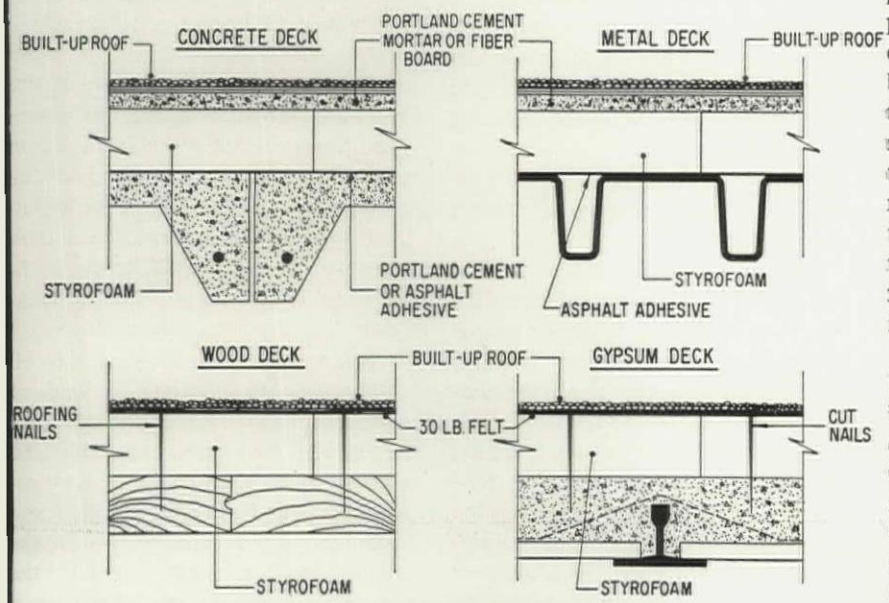
Polystyrene foam boards compare favorably in most properties with fiberboard and fibrous glass, and offer considerable improvement in water resistance. Also, this material is not porous, thus there is less moisture-laden air free to move between the roof deck and the built-up roofing. It also has high resistance to solvents and to heat distortion.

Field-proven techniques for using polystyrene foam boards include bonding to various decks, and methods of protection against the high temperatures of molten bitumen materials. Three-eighths of an inch of Portland cement applied as a protective layer is effective in preventing distortion of the foam from the heat of molten bitumen. However, a full ½″ is usually specified to insure a full ⅜″ thickness on the job. As in bonding, this thickness is regulated by using screeds.

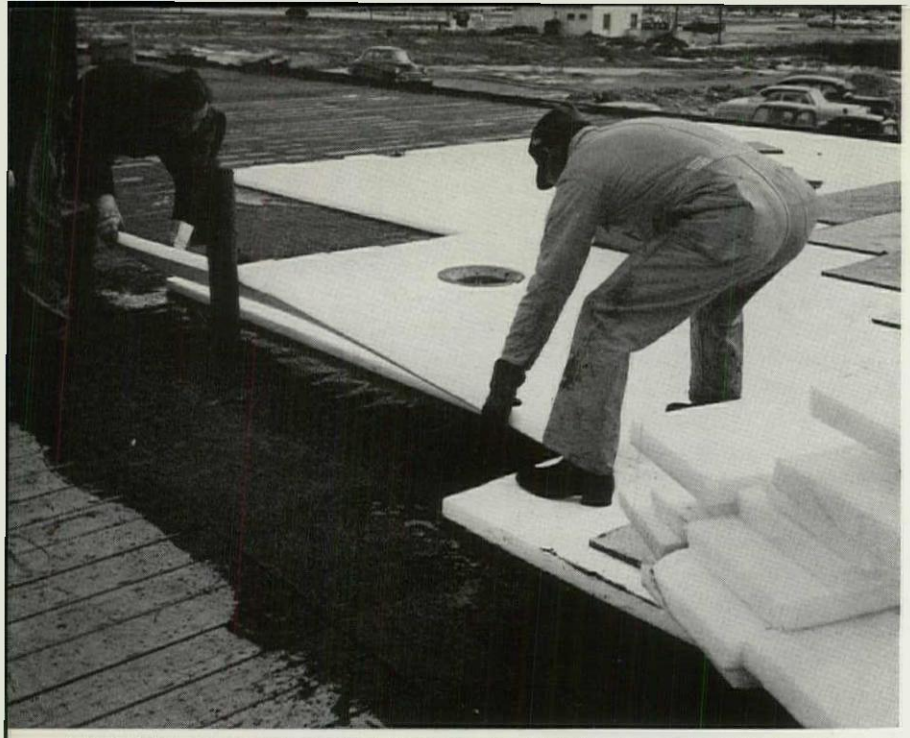
Using Portland cement, however, presents the problem of freezing during winter months, and also in many areas brick masons or cement finishers are required to handle the work, which has resulted in unrealistic costs and general disapproval of the technique. Hot asphalt or pitch as a bonding agent, and a 30 lb. felt or fiberboard as the protective layer do not present unusual problems either of weather or trade unions. (Figs. 1 and 2.)

Polystyrene foam boards are applied to a metal deck with hot asphalt. The deck is previously covered with hot bitumen and a felt barrier. Then an area the size of the boards to be laid is carefully mopped and the boards are placed as the adhesive cools. This technique requires careful workmanship, since the bitumen must not be hot enough to distort the foam, yet it must be fluid enough to provide good bonding.

Fiberboard or 30 lb. felt can be bonded directly to the foam boards by applying a layer of hot bitumen and then placing the material on the foam. Mechanically fastened felts may also be used where insulation is to be put over a nailable deck, with nails and washers used to fasten the felt through the foam to the deck. In this case, 36″ wide felts are lapped




APPLICATION OF POLYSTYRENE FOAM BOARDS TO VARIOUS TYPES OF ROOF DECKING



WORKMEN LAY POLYSTYRENE FOAM BOARD IN ½" ADHESIVE OVER FELT OR FIBERBOARD AS A PROTECTIVE LAYER.

approximately 4" and nailed on 6" centers along each lap with two other nailing strips at the third points, approximately 12" apart. After the protective layer is in place, regular procedures for applying built-up roofs are used.

With their excellent resistance to water, polystyrene foams do not need an additional water vapor barrier when used as roof insulation, nor are water stops required. However, a barrier may be desirable in certain cases to prevent molten bitumen from dripping through the deck joints in case of a fire underneath the deck.

Cost-wise, polystyrene foams compete economically with conventional roof insulation materials, as proved by data obtained from roofing contractors and other sources.

Considerable work is being done on the use of polystyrene foam boards as core material in sandwich construction for roof decks. Panels 2′ x 8′ and 4′ x 8′ of varying thicknesses, using a variety of skins—reinforced concrete, metal, fibrous glass reinforced plastics, wood, etc. —have been produced and tested. Light translucent insulating panels with transparent skins are being evaluated for weather resistance. In hot arid climates foam is being considered as the insulation of a roof over the waterproof membrane, with a covering of Portland cement.

## Vinyl Film as a Roof Vapor Barrier

*by Frank W. Curtis, Lexsuco, Incorporated*

VINYL FILM for use as a roof vapor barrier has been proven to be fire retardant in conjunction with steel deck roof insulation. It provides an excellent vapor barrier with monolithic type roof decks and wood decks, but its effectiveness as a fire retardant is less important. In addition to its fire retardant qualities, vinyl film has a perm rating of 0.1 perms., is .004 in thickness, black, and is supplied in rolls 32" wide containing 1,080 sq. ft. per roll. It has been compounded for toughness and age resistance, with good tear strength and abrasion qualities. From the standpoint of savings on handling costs, a ten square roll is one-tenth the weight of the roofing felts required for a 2-ply mopped asphalt vapor barrier.

Methods of application of vinyl film as a vapor barrier divide into two categories, the manual and the mechanical. On smaller jobs, a roller coater is used to apply the nonflammable adhesive to the deck, onto which the vinyl film is rolled, sealing the laps with the same adhesive. Ribbons of adhesive are then applied on top of the film to secure the insulation. For larger jobs, an applicator has been developed which applies the vinyl film and both coatings of adhesive at the same time. This applicator has been helpful in furthering the use of vinyl film, since it regulates the amounts of materials to be applied, and decreases labor costs.

Relative to applied costs, the vinyl film and adhesive will vary in comparative cost from nothing more, to $2.00 per square more than a 2-ply mopped asphalt vapor barrier. The difference is largely influenced by the size of the job, location, labor rates and labor requirements relative to the use of mechanical equipment.

## Service Criteria and Performance Requirements for Plastic Flashings

*by Orrin F. Lau, Industrial Roofing and Sheet Metal, Inc.*

THE USE of plastic materials for base flashing would require such material to withstand the temperatures at which built-up roofing bitumens are applied. And, also, they should have a coefficient of expansion approximating that of built-up roofing materials. Joints must be made completely watertight by either solvent weld or suitable cement, and the material should be flexible to allow for movement between the roof structure and the intersecting plane. Roof collars may be most satisfactorily flashed with a flexible type of flashing material that will adhere tightly to the projecting surfaces.

For use as eave flashing, plastic materials should be colorful, have sunlight stability and good weathering resistance. They should be rigid to form clean, straight lines, and yet be easily formed to fit the configurations designed by the architect. They must also be compatible with built-up roofing materials and have a similar coefficient of expansion. Plastics used for eave flashing should be designed with proper fastening details to overcome disfiguration of the surface due to expansion.

The use of plastics for coping covers requires a rigid type of plastic which will need the smallest amount of back-up blocking, such as metal or wood. For thru-wall flashings, there are a variety of materials on the market, some ranging into the flexible vinyl films and other plastic combinations. Both roof ex-

pansion joints and vertical wall expansion joints lend themselves well to the use of plastic materials, but in all of these cases, particular attention must be paid to the coefficient of expansion in designing the plastic materials. Spandrel and masonry flashings fall into the same general classification as thru-wall flashing.

Of the flashings on today's market, copper can be installed for about $1.65 to $1.75 per pound; aluminum sheet for about $2.90 per pound, and galvanized steel for about 90 cents per pound. The cost of plastic flashings could be maintained on a competitive basis through proper design and standardization of details. Simple fastening methods could be developed, and standardized sections for cap or counter-flashings, simple fascias and intermediate girt flashings, which would contribute to the lowering of field erecting costs.

## Sprayed Vinyl Roof Coatings

*by A. Leigh Taylor, R. M. Hollingshead Corporation*

THE USE of sprayable vinyl plastics as a roofing material has a history of 11 to 12 years in quite an impressive number of applications in a wide variety of roof types and temperature conditions. During the early stages of its development, it became obvious that vinyl coatings had a number of advantages over conventional types of materials, including elasticity, adhesion to practically any dry surface, a non-porous, jointless seal, fungus resistance, impact and resistance, a one-coat application, versatility and long life.

The vinyl plastic to which I refer is not a paint, even though it is applied by spray gun. The product contains vinyl resins carried in highly volatile solvents, blended with stabilizers and plasticizers. It is color stable, dries to the touch in one hour and is completely dry in 72 hours. It is self-extinguishing and will not support combustion. Its vapor transmission rate is .90 perms at 15 mils thickness; .55 perms at 25 mils; and .20 perms at 35 mils. (Fig. 5.)

These vinyl coatings are applied with the standard commercial spray gun, however, a large compressor is required to deliver not less than 25 cu. ft. of air per minute at 90 lbs. pressure. Use of the proper and recommended equipment is very important. Also, an adequate vapor barrier on the warm side is essential, since blistering can occur if moisture is getting through. The material can be applied by either hot or cold spray, and should be applied at climatic temperatures of at least 60° F. on clean, dry, finished surfaces.

Tensile strength of these vinyl coatings is about 1,200 psi, and it has an elongation factor of 200%. This takes care of minute settlement or shrinkage, but does not eliminate the necessity for expansion joints where movement is expected due to temperature changes.

From the cost standpoint, the application of the sprayed vinyls is about 2 to 2½ times that of a built-up roof. However, due to the spray gun application, vinyl coatings can effect tremendous savings in tying the flashing in with the roof coating in one continuous seal, and thus effect a considerable saving on flashing. It is also a very economical means of repairing existing roofs, metal caps on parapet walls, cornices, sills, etc., since it can be sprayed over existing material to provide a completely waterproof repair at a fraction of metal replacement costs.

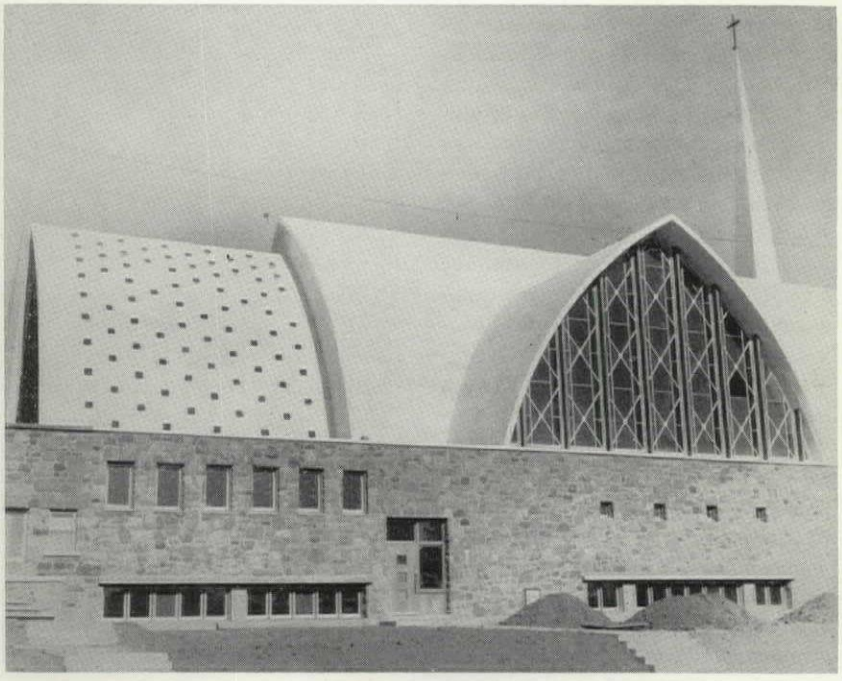
## Elastomer Modified Asphalts

*by Frank P. Reynolds and James W. Jackson, Jr., Bird & Son, Inc.*

MOST TYPES of flat roofing on larger buildings contain either asphalt or tar pitch as the waterproofing medium. We began with the premise that the qualities of such materials could be improved by elastomeric modification. Likewise, the flashings which join the flatter roof areas to side walls and to structures which extend through the roof areas are subject to great strains and, consequently, elastomer modified asphalts and pitches might help them to better withstand such strains.

The asphalt used in the development which this paper describes was exclusively of Venezuelan origin, and we are also concerned only with blown asphalts of the type used in roofing production. The principal form in which the rubber was introduced into the asphalt was as a dry powder containing approximately 25% rubber and 75% barytes or inert mineral. Generally the rubber component of the blend is limited to 3% of the asphalt.

Softening point, penetration and ductility tests have been made according to ASTM procedures, and the results noted for various different compositions. Most rubbers are de-



SPRAYED VINYL COATING WAS USED ON THE ROOF OF THIS RECENTLY CONSTRUCTED CHURCH IN MONTREAL, DESIGNED BY DUPLESSIS, LABELLE & DEROME OF MONTREAL.

polymerized, or partially destroyed by prolonged exposure to heat about 400 degrees F. Processes have to be used which do not have these conditions. The dispersion of rubber in asphalt significantly increases viscosity, and this change must be considered in manufacturing processes. We have not found increased weather resistance from GRS modified asphalts.

The cost increase from rubber modification is appreciable, and for GRS in the form of mineral detackified rubber is approximately 0.6¢ increase for each per cent of rubber added, over the assumed asphalt price of 1¢ per pound. For example, a 3% rubber modified asphalt would cost 2.8¢ per pound. However, if latex is used, the increase is roughly halved so the 3% rubber modified asphalt cost becomes roughly 1.9¢ per pound.

There are many more tests, such as viscosity and torsional recovery which have not been included in this paper.

## Neoprene as a Roof Coating

*by D. R. Kuespert, E. I. du Pont de Nemours & Co., Inc.*

ALTHOUGH MANY MATERIALS have been used to roof industrial, commercial and residential buildings down through the ages, none seems to answer all of the demands of modern building techniques. One solution to the problem might be incorporating the roof surface on the sheathing in the factory, and then shipping it as one package to the site. These, various large pieces could be fitted together to produce a tight concourse. Any such solution should not require additional crafts on the site, and should minimize field labor. The roof system itself should be flexible, have a texture visible from the ground, and be highly colorable. It should be able to give better than 20 years of maintenance-free life, be easily treated to prolong this life indefinitely, and be fire-resistant.

Of these requirements, the hardest to meet would be those placed on the exposed wear layer of the unit, which should be an extremely durable, preferably flexible material, light in weight to reduce shipping and handling costs. Most of the materials that could conceivably be prefabricated into such a wear layer fall far short. Certain types of elastomers, however, are known to have excellent weather resistance. Neoprene compounds, for instance, will not become brittle until temperatures well below –40 degrees are reached, and will resist temperatures as high as 250 degrees F. This elastomer will not support combustion, nor soften and flow under extremes of temperature.

Another type of synthetic rubber which has shown outstanding weatherability is chlorosulfonated polyethylene, which has been trademarked "Hypalon." This material appears to age as well as neoprene, and has the further advantage of not discoloring on exposure to sunlight. However, at present it costs two to three times as much as other synthetic elastomers.

Neoprene solutions have been used since 1938 for extra heavy duty maintenance coatings where the maximum in protection is desired. Conventional plywood sheathing is calked, nailed in place and coated with approximately 20 mils of neoprene. It is also used in Puerto Rico to coat over concrete slab, galvanized or asphalt roofs. Built-up roofs have a fairly short life in this area due to extremes of temperature, and a top coat of neoprene helps to extend this life considerably. Recently, a large church in Puerto Rico was roofed with several coats of Hypalon solution, sprayed in place over reinforced concrete. Three passes produced a coating six mils thick at a total cost for the roof of only $8.30 per square.

Until recently all of these applications were made in the field, which made them somewhat more expensive than built-up roofing. The first step in streamlining the application was the production of a prefabricated roof panel for the 1957 NAHB Research House. For this roof, 4′ x 8′ panels of plywood were coated with 12 mils of Neoprene in the factory, and neoprene granules were sprinkled into this coating for texture. It was cured before it left the factory. At the site, panels were nailed down through the coating with special nails, seams calked with a neoprene calking, and then the entire roof was coated with one coat of a light blue Hypalon solution. (Fig. 6.)

The applied cost of the system

HYPALON SOLUTION WAS FIELD APPLIED WITH STANDARD PAINT ROLLERS TO THE NEOPRENE-COATED ROOF USED IN THE NAHB RESEARCH HOUSE.

used in the NAHB house depends on a number of factors. If made by the applier or purchased in large quantities, the coating material should cost about $12.50 for a square of roofing 12 mils thick, which should have a life of at least 20 years and probably longer. Labor involved in application is nominal, since 5 to 7 mils can be applied per pass on a horizontal surface. Application can be made my spray, roller or spreader.

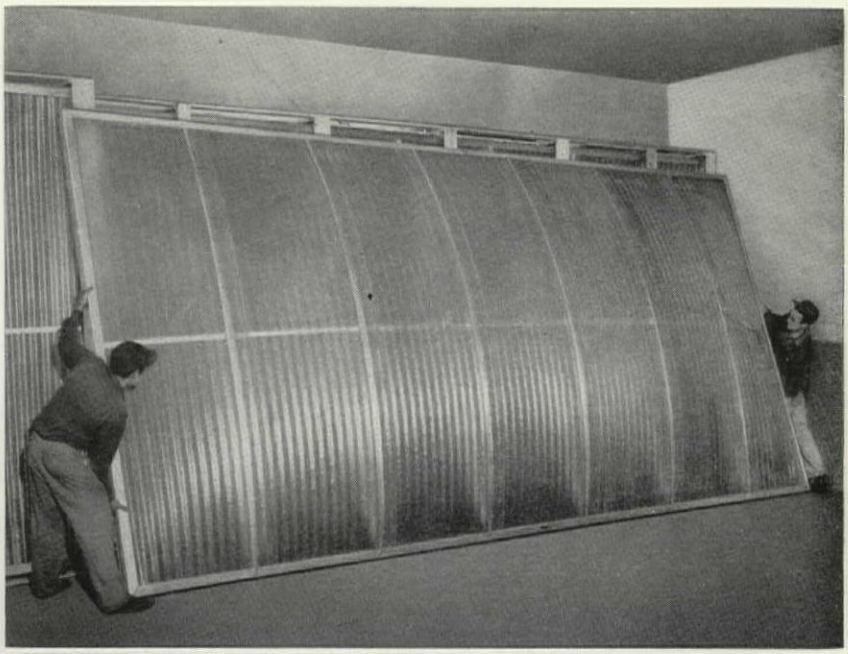
To solve problems entailed in nailing and calking, we are considering the fabrication of panels 2' x 12' or longer which would lap over the lower panel on the horizontal seam. Calking could be factory applied along this edge in a rabbet. Clips beneath the rabbet could pull this edge snugly into place, and nailing need then be done only at the ends and under covered areas. The vertical seams could be covered with a good weathering tape. Another approach, somewhat more long range, would be to bond each panel in place with a super-strength adhesive and then seam all the joints with a ribbon of calk.

## Thermosetting Plastics in Skylighting

*by Robert Slater, The Marco Company*

THE NEWLY GAINED stature of skylights during the past few years can be attributed in good measure to the development of certain thermosetting and thermoplastic materials. Of the thermosetting resins processed into plastic materials, only the polyesters have proven to have the properties necessary for skylighting. Perhaps by weight of predominant research, the combination of polyester resin and fiberglass has emerged as the principal, if not the only, thermosetting material used successfully for this purpose today.

Fiberglass reinforced translucent structural panels will be produced in a quantity projected at 35 million square feet in 1957, of which 12 to 14 million square feet will be used for some type of skylighting application. The material itself requires no maintenance and no replacement due to cracking or breaking. It is an excellent diffuser of light, and some types provide an effective thermal barrier, as well as outstanding weathering characteristics. Due to its shatter-proof nature, over-screens and under-screens used with glass skylights are not necessary. Newly developed resins have also made it self-extinguishing. (Fig. 7.)



ONE-PIECE SKYLIGHT, 9' x 20', USING EXTRUDED ALUMINUM FRAME AND REINFORCED FIBERGLASS PLASTIC PANEL. COMPLETE UNIT WEIGHS ONLY 282 POUNDS, APPROXIMATELY 1½ POUNDS PER SQUARE FOOT.

There are two general categories of application of fiberglass plastic for skylighting: 1) its use in the form of sheeting material, either corrugated or flat, in conjunction with other non-transparent building materials, or as glazing in roof monitors or sawtooth construction; 2) the use of sheeting or molded shapes as component parts of prefabricated skylight units. Manufacturers of metal buildings with pitched corrugated roofs are prime users of fiberglass plastic. By this means they are able to offer large skylighted areas at comparatively low cost. The sheets are usually placed with a one-corrugation overlap and mechanically fastened to supporting members. Material for this type of installation is usually a polyester reinforced with a 2-ounce fiberglass mat, which sells for 65¢ to 75¢ per square foot, as a rule. Installation costs of course vary throughout the country, but on the average, fiberglass plastic sheets installed in the applications just discussed would cost about $1.50 per sq. ft. in place.

There is also a major market for fiberglass plastic in repair and replacement work on existing buildings, such as the replacement of sash units or glazing in roof monitors or saw-tooth roof construction. As glazing, the cost per sq. ft. should run approximately $1.10 to $1.25, and approximately $2.00 per sq. ft. installed. Although the cost is more than glass, the many advantages of the material far outweigh the cost.

In connection with built-up roofing on flat or semi-flat roof construction, skylights designed as complete units with integral flashing and drainage provisions give the best results. There are skylights available for use with constructed curbs, and also types which have curbs and flashing members as integral parts of the unit itself. With the latter, no curb construction or vertical flashing is required.

The small, dome type skylights are fabricated of one-piece molded fiberglass plastic shapes, generally without metal framing. One major producer has a process whereby the fiberglass panels are curved during manufacture and held in place on an ex-

truded aluminum frame with aluminum retaining members. Units come in a wide range of stock sizes up to 6′ x 12′, and larger units can be specially fabricated. In popular sizes, the model for use over curb ranges from $3.75 to $4.25 per sq. ft. Installation costs run from 10¢ to 20¢ per sq. ft., approximately. Ceiling panel units and blackout shades are also available for use in conjunction with these skylights.

In addition to these, there are skylights which have two plastic sheets with a core material between them, creating a sandwich panel. Core material may be honeycomb of paper, rubber, aluminum, or formed aluminum sections. In these panels the insulating values are of prime importance. One recently developed preassembled skylight uses two flat fiberglass plastic skins laminated to an extruded aluminum grid core to create a unique combination of very high load strength and extremely light weight. The high insulating value of this unit virtually eliminates condensation and, since it is absolutely watertight, can be installed with safety at roof level, as well as over curb construction. Cost of these units is about $6.00 to $6.25 per sq. ft., and are prefabricated in one-piece construction up to 4′ x 20′ in size.

Other widely accepted uses of fiberglass plastic are in roof scuttles or hatchways with fiberglass plastic tops; as automatic fire venting and smoke exhausting units which remain closed except in emergencies; and ventilating skylights which combine the functions of ventilation and lighting.

## Thermoplastic Materials for Skylighting

*by John J. Kemendo, Plastic Products of Texas*

VISUAL COMFORT and efficiency depend on establishing and maintaining maximum and minimum brightness differences between the visual task and areas of high and low brightness within the vision of the occupant. To answer this problem, the acrylic sheet manufacturers have developed a variety of translucent materials with a range of light transmittance values that offers a selection of illumination level and brightness control.

To test three acrylic materials with different light transmittance values, our company constructed a scale model classroom and conducted tests of daylight distribution and diffusing qualities, as well as brightness ratios under typical outdoor weather conditions. Two of the skylighting materials used were white translucent, and the third was an acrylic translucent material with embedded metallic strips, recently introduced for top lighting.

The designer also has a wide selection of skylight sizes and accessory items to choose from. Square and rectangular shapes are available ranging from a 20″ square unit to a large 99″ x 119″ rectangular unit. In the circular shape, there are 7 sizes, running from 30″ in diameter to 96″. These units are constructed with a completely assembled prefabricated curb, ready for easy attachment to the roof deck. Other multi-use designs available are the hatchway, the light and heavy duty power ventilating units, and manually operated gravity ventilating units. Accessory items are the ceiling dome, darkening shades and adjustable metal louvers.

To give some idea of the cost, a popular size containing about 9 sq. ft. of acrylic material was priced at $58.00 in 1953; today it costs $36.00. This reduction in price has been accomplished by development of more efficient manufacturing techniques and the reduction in the cost of acrylic sheet. As regards the cost of the acrylic dome skylight in the completed cost of the building, it can run as low as $7.50 per sq. ft. in some areas, and as high as $12.00-$15.00 per sq. ft. in others.

The major influence exerted by the dome skylight on costs is the reduction of ceiling heights. In a recent case, a building code regulation requiring 15′ ceilings was waived in favor of 9′ 8″ ceilings using the acrylic dome skylight. A scale model study was used to convince the building commission that it would both provide good daylight environment and reduce the cost of the project considerably. Use of the acrylic dome can also make possible construction of classrooms back-to-back, without the expense of corridors or separate wings, and a reduction in the perimeter of the outer walls.

## A Plastics Flashing Material

*by Donald R. Gray, The Dow Chemical Company*

WE HAVE SOLVED many flashing problems with the use of an elastic plastic sheet. About eight years ago, our company installed experimentally a vinylidene chloride copolymer thermoplastic sheet in a number of conventional flashing applications at our Midland, Mich., division. Based on the successful performance of these test installations, a development program on plastic flashings was undertaken. This resulted in the use of plastic flashings as direct replacement for other materials in conventional applications, and also in some new and highly effective installation techniques. Installations have now been made in other Dow plants in Texas, Oklahoma, Louisiana, Missouri and Virginia. A number of scattered residential installations have also been made. All of the industrial installations were made by local roofing contractors in each area, and the use of the product and its method of application have been enthusiastically received.

This plastic flashing material is waterproof, weather resistant, and is pliable and conformable to nearly any contour on the job with a minimum of time and effort, eliminating the prefabrication required with many conventional flashing materials. Its elasticity makes it excellent for use where expansion and contraction of buildings sections soon destroy the effectiveness of other flashings. It has good chemical resistance to gas, oil, acids and alkalies, and is easily adhered to building materials by a water resistant adhesive or with regular hot melt roofing asphalts. It is quickly joined to itself by solvent activation methods to form weatherproof joints, and its elasticity allows it to form a waterproof seal around nails driven through it.

The material has a paintable surface; is a non-burning composition; has good abrasion resistance; is tough and tear resistant, but can be easily cut to size on the job with a sharp knife or heavy duty scissors. The versatility of plastic flashing makes it adaptable to all types of installations for industrial or residential use.

Some of the flashing uses to which we have put this material are:

1) Flashing of vent stacks
2) Flashing the juncture between a corrugated dock roof and vertical corrugated siding
3) Flashing a roof sump or drain
4) Flashing of a steel fascia
5) Covering of wooden fascias
6) As a weather seal where wall panels meet the foundation
7) Flashing a wooden ventilator base
8) Flashing of a corrugated roof ridge
9) Flashing of pipe lines entering buildings
10) Flashing of a parapet wall from coping to roof deck
11) Flashing of residential vent stacks and chimneys

In our practical experience with this product, we have had no flashing failures due to the weathering degradation of the plastic. Its physical properties include a tensile strength of 950 psi; an elasticity which permits a 93% return to original length after being elongated 50% for 10 minutes; a specific gravity of 1.52; a hardness of about 65; a weight of ½ lb. per sq. ft. in the 1/16" thickness; and it is non-burning. (Fig 3 and Fig. 4.)

A comparison of costs is difficult to make because of variation from one area of the country to another, but taken on a cost per square foot, they are roughly as follows:

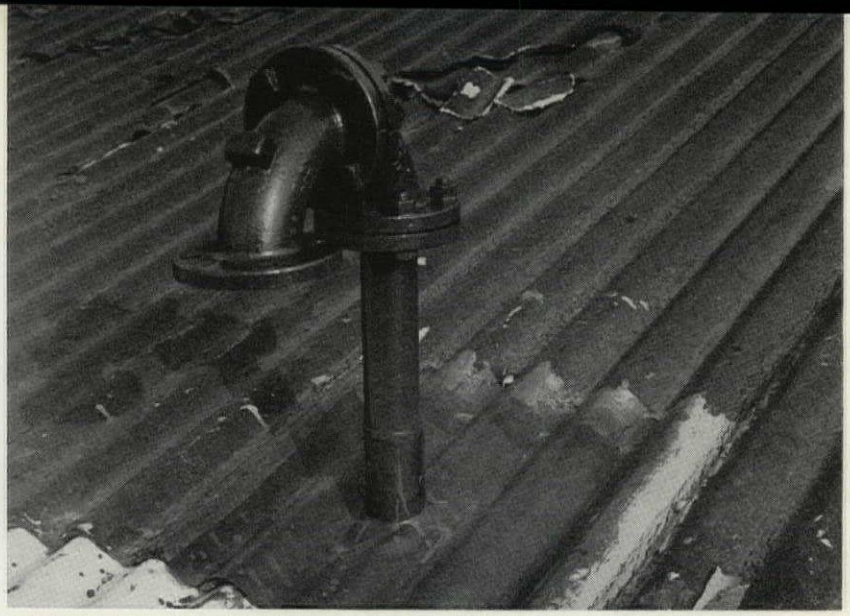


FIGURE 3. VENT STACK FLASHED TO CORRUGATED ROOF WITH PLASTIC FLASHING

FIGURE 4. VENT STACK FLASHED TO ROOF WITH CONVENTIONAL LEAD FLASHING

| | Material | Installed |
|---|---|---|
| Ventilator base (24 sq. ft. of flashing) | | |
| Built-up, 4-15#, 1-90# | $ 3.60 | $10.00-15.00 |
| Plastic, 1/16" | 12.00 | 15.00-18.00 |
| Vent Stack (1½' high) | | |
| 4" lead | 4.80 | 12.00-15.00 |
| Plastic, 1/16" (base sheet only) | 1.20 | 2.20- 3.50 |
| Plastic, 1/16" (completely enclosed) | 2.00 | 3.50- 5.00 |
| Asbestos-cement Corrugated Roof Ridge (per lin. ft.) | | |
| Half round ridge roll (filler strips, etc.) | 1.07 | 1.50- 1.70 |
| Plastic, 1/16" (with adhesive) | .55 | .85- 1.00 |

## Concluding Remarks

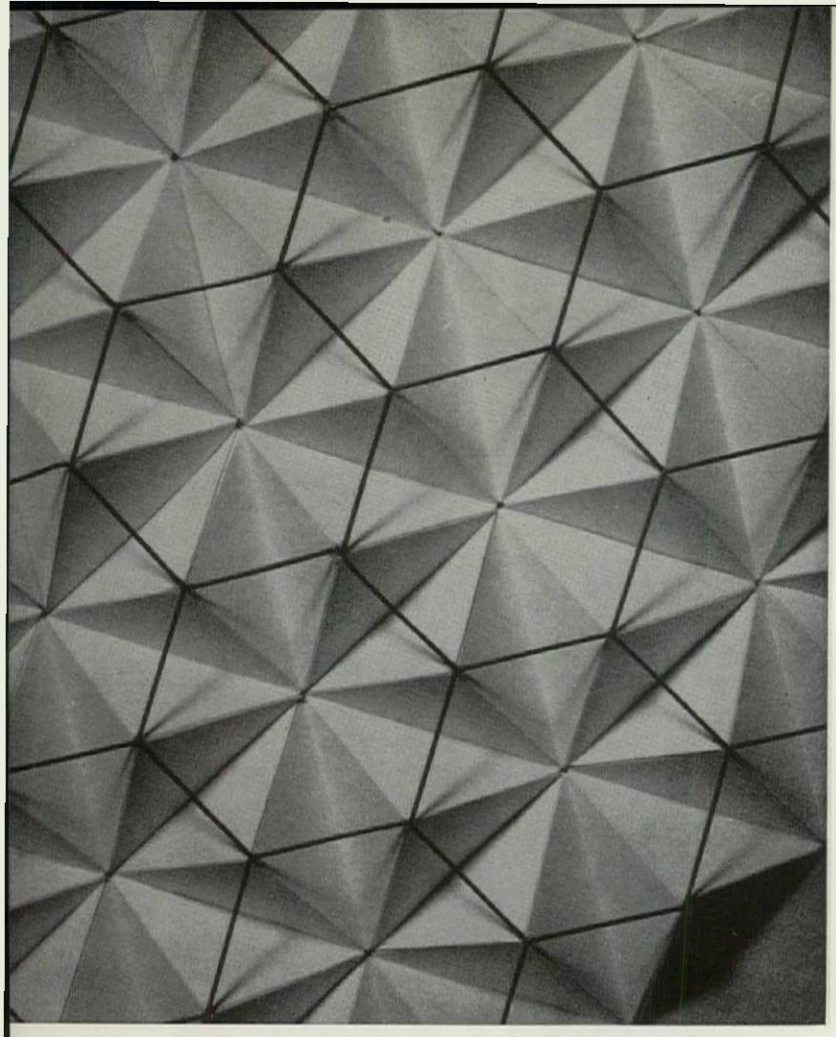
BY EUGENE J. MACKEY

*Murphy and Mackey, Architects*

IN SUMMING UP the papers presented today, I am impressed with the fact that we can think of the roof over our heads not merely as a roof, but also as a floor. And, when it is not restricted to a ground floor, but is viewed from the air, it becomes very important. So, too, we have seen the roof become a window; and in other concepts it becomes a wall.

Of all the considerations discussed, however, I would emphasize one item, and that is appearance, because we are all interested in the end result. The serviceability, the cost, the ease with which a roof or component can be repaired are extremely important, but appearance is the level at which our job as architects and as builders, too, is to be considered successful.

*Proceedings of this meeting including full text of each of the papers presented will be available after December 15, 1957, at $2.00 per copy from the Building Research Institute, 2101 Constitution Ave., Washington 25, D. C.*



# Roof Structures

FIGURE 1. A ROOF MADE UP OF PYRAMIDS OF SHEET PLASTIC TIED AT THE TOP BY STEEL RODS, DEVELOPED BY THE AUTHOR

IT WOULD HAVE BEEN an excellent idea to have for this conference a full scale test model of a plastic roof structure, one in which the building surface is the actual load carrying element. We would have liked to set up one of the beautiful structures developed by Buckminster Fuller, but unfortunately this proved impractical.

I have developed roof structures which, I believe, make effective use of plastic materials, although in their development I was more interested in their configuration than in the material of which the structure is made. We shall discuss these ideas with the aid of models.



A teacher may not be out of place in this program. By virtue of being a teacher for the past two years and having been taught by my pupils, I have become a minor authority on plastics. Students of architecture are enamored of a very fine plastic material, the like of which even you have not seen. It is easy to recognize on drawings; it is generally indicated by lots of dots. When you see these dots, you are reasonably sure that you are in the presence of this plastic. At Washington University we have even given it a name. We call it *Elasto-masto-plast.*

This extraordinary material in its various forms has an excellent range of qualities. It is cheap, cheaper than concrete. It is native to most areas of the world, from the tropics to the arctic. It comes in a wide range of colors and a number of interesting textures. It is impervious to water, to sunlight (except in its transparent and translucent forms), and to acids. It weathers well. It has excellent insulating value and is completely fireproof. It has an ultimate strength somewhat greater than high carbon steel. It is extraordinarily abrasive resistant. It can be extruded, cast in place, sawn, molded and fused, either on the job or in the shop, at moderate cost. In one of its forms it has a negative specific gravity, so that in buildings made of *Elasto-masto-plast* the columns are in tension rather than compression. This eliminates buckling problems. Except for my experience with *Elasto-masto-plast,* my knowledge of plastic is small.

## Sheet Structures

I am talking to you this afternoon in the hopes that I can encourage in you some of my own interests in sheet structures. Sheet structures have the characteristic that their strength comes more from their geometry than from the quality of the materials from which they are made. As an engineer I am interested in such structures because of the wonderful elegance (using the word in the mathematical sense) with which they transmit loads to the ground, and because of the challenging analytical problems they pose. As an architect I am interested in these structures because as you know, an old order of architecture is passing and a new order is taking its place. While some people consider the search for a new archi-

# Constructed of Plastic Materials

BY JOSEPH E. PASSONNEAU, *Dean, School of Architecture, Washington University, St. Louis, Missouri.*

tecture a search for freedom, it is actually a search for more valid disciplines. One of the disciplines on which the new architectural order will be based is the discipline of structure. Sheet structures provide some of the most eloquent forms available to modern architects.

A few simple demonstrations illustrate the action of structures in which the surfaces are the load-carrying elements. A piece of paper in sheet form has little load-carrying capacity, but if it is rolled and held in cylindrical form by a rubber band it will hold a heavy book easily. The same paper folded will also support considerable loads. Note that absolutely nothing has been done to change the property of the material. Its geometry has been radically altered and therein lies the secret of its strength.

In a true sheet structure the load transfer is omni-directional. An arch for instance, even a very flat arch, is not a sheet structure in the strictest sense of the word. An arch is weak because it can change its geometry substantially under modest loads, thus losing its strength. Models can demonstrate this difference. The shell is stiffened along its free curved edge. While it is not substantially different from the arch in appearance, it has stiff ridges at the edge that make it far stronger than the unstiffened arch. Load transfer in a cylindrical shell can take place in all directions, but in general, the loads are transferred to the curved edge. In a long barrel shell the load transfer is largely toward the diaphrams that stiffen it.

Sheet structures can be made of adjacent flat planes mutually supporting each other. They can also be formed of surfaces with a single direction of curvature stiffened at their free curved edge, or they can be surfaces with two degrees of curvature. Surfaces of double curvature are particularly stable and no stiffening ribs are necessary. Their stiffness depends on the geometric fact that they are not developable.

The advantages of sheet structure are:

(1) The entire structure works in a sheet structure. There is no lazy material lying around doing nothing.
(2) As the structure can be made quite stiff, the modulus of elasticity is generally not a critical consideration.
(3) Working stresses are generally small so that the strength of the material is not critical.
(4) Sheet structures are extremely economical of material.
(5) The geometric forms of well designed sheet structures make for very exciting buildings.

Sheet structures also have certain disadvantages:

(1) They are extraordinarily difficult to analyze because all elements cooperate in carrying loads and the entire structure has to be analyzed as a unit. The various elements in the structure can-

not be isolated and analyzed in the normal manner. As for calculations on shell structures, even using very complex mathematical methods, only the very simplest shell forms can be analyzed, and these can be analyzed only partially.

(All of my engineer's mathematical equipment is useful for only certain shell conditions, conditions not likely to be encountered. I feel like the White Knight in "Alice in Wonderland" who always carried a mouse trap in his saddle bag. One time, Alice inquired as to the purpose of the mouse trap, "Why to catch mice with, of course," was the White Knight's reply. "But," said Alice, "you never have mice in your saddle bags." "Of course not, silly," said the White Knight, "but if there ever *should be* mice in my saddle bags, I shall certainly be ready for them.")

(2) The second serious disadvantage of sheet structures is the complexity of fabrication. The geometric intricacies that make them both interesting visually and difficult to analyze also makes them difficult to form.

(3) The surface in such structures becomes extremely important visually. This is a disadvantage only in the sense that it makes the choice of surface both difficult and expensive.

(4) The material used must be resistant to all kinds of weathering conditions, if the inherent advantages of the structure are to be realized.



## Analysis and Fabrication

The problems of analysis and the problems of fabrication suggest that the only way in which sheet structures can be developed economically is by factory fabrication and by repeated use of identical elements. The reason that many factory produced products with very complex stress patterns can be designed accurately is that proto-types can be studied at length. Full size mock-ups can be load-tested to eliminate any uncertainty. If structural elements can be developed which can be used for a wide variety of purposes, we can afford this very laborous and expensive kind of analysis. We can also afford such things as die-presses and expensive molds because the cost of presses and molds will be spread out over a number of separate items. Based on these considerations, let us write a specification for an ideal material for sheet structures.

(1) Because stiffness is generally not a critical consideration and because working stresses are likely to be small, the strength and the modulus elasticity of the material are not particularly critical.

(2) But the strength-to-weight ratio should be fairly high because we will probably want to use pre-formed sections which will have to be shipped from factory to site.

(3) It would also be convenient if the material could be strengthened at isolated spots (such as next to the supports) either by thickening the sections or by actually changing the quality of the material.

(4) While we are certainly looking for an inexpensive material, the structures will be extremely efficient, and we will get a lot of work per dollar from any material we use.

(5) The material should be easily formed either in sheets or in molds, or preferably both. The equipment required by this forming may be expensive, but the forming operation itself should be inexpensive.

(6) The material should be impervious to water and it should stand up under a wide range of temperatures.

(7) It should not deteriorate with time.

(8) Sections should be easily joined or fused.

While a material is not at the moment available to precisely satisfy these specifications, it is obvious that we are not going to have to resort to *Elasto-masto-plast*. It would be remarkable if such plastics were not available in the very near future. As a matter of fact, glass fiber resinous laminates already come very close to meeting these specifications. Rough investigations of shipping costs indicate that glass fiber roof materials and roof sections made in St. Louis could be shipped either to San Diego or the farthest tip of Maine at an additional structural cost of about 8 cents per square foot of floor area.

## Models

The models here illustrated, of roof structures and building structures in which the surface is the load-carrying element all have these characteristics in common: They are made up of identical and repeating elements, and they are extremely stiff and strong in proportion to the amount of material used.

The first model (Fig. 1) shows a roof structure in which the surface carries all of the shears and compression stresses and which has rods which carry all tensile stresses. The structure will take stress reversal without serious effect, but it is better to keep the rods in tension and the surface in compression. This particular roof is designed for a sixty foot span, and in a fiberglass laminate most of its area is about a quarter of an inch thick.

The second and third models show multi-story structures. In the second structure (Fig. 2) all elements are identical except the roof element; however, the wall surfaces would be increased in thickness in the lower floor of the building.

The other structure (Fig. 3) is similar, but has added advantages. Each black rod is a sort of "structural bootstrap." In simplest terms it is the purpose of a structure to transfer loads to the ground. Stress transfer is accomplished by shears and direct stresses. The flexural stresses, which are generally the most critical stresses, do no useful work. They occur in equal and opposite pairs, and thus accomplish no stress

transfer. But these rods introduce stresses which are opposite in sense from the flexural stresses produced by gravity loads and thus tend to cancel out the useless flexural stresses. As many of you know, these flexural stresses will change in sense from point to point in the structure. By a simple and elegant method the stresses which we are introducing into the structure reverse in sense when the load stresses reverse. So far, we have not been able to design a building with no stresses whatsoever. That is our next project.

Another design is for a two-story building in which the floor surface is the structural element. The roof is of a similar but slightly modified design. The profile of the floor structure looks very much like a moment diagram of the structure under gravity loads and is, for this reason, extremely efficient. The roof structure is modified by reducing the scale of the folds in the center to half that of the floor structure. This is done to simplify the drainage problem and also because we want to introduce sky lights in the roof in a pattern that reflects the second floor plan. We also are doing it because we like it that way. The architects of this building are Professors Maki and Pickens of the Washington University School of Architecture.

Another model (Fig. 4) shows a very exciting church structure designed by Hellmuth, Obata and Kassabaum. This building is being erected for a Catholic boy's school just west of St. Louis.

The first three models are essentially "structural doodles," or research, to use a fancier description. The last two designs are for buildings to be built in the near future. They are going to be formed of a common plastic material called concrete.

These models show that surface structures by their nature lead to an architectural idiom quite different from that with which most of us are familiar. The emphasis is on pattern rather than overall form; an emphasis, incidentally, consistent with current trends in both science and philosophy.

The elevations reflect a shift from an emphasis on fenestration to an emphasis on structure. The elevations are markedly three-dimensional. As a louvre is visually rich in comparison with a flat surface, so all of these structures change continuously with changes in light conditions and with changes in the position of the observer.

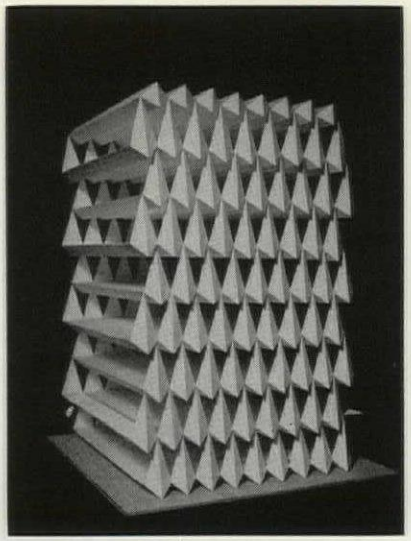


FIGURE 1

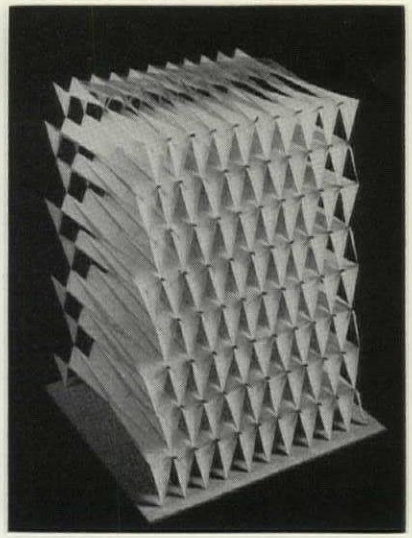


FIGURE 2

In these structures there is no trace of the rectilinear patterns of familiar buildings. Stresses abhor a right angle. In structures shaped by subtle changes in stress pattern, sharp angles and discontinuities in the direction of stress transfer are very unlikely to occur.

All of these structures could be built tomorrow with existing plastics and the day is not far off when such structures will be common. In order for plastic structures of this type to become common, two situations must obtain. First, of course, the price of plastics must be reduced; and if the history of other building materials is any guide, we can expect the price of plastic to be markedly reduced in the next fifteen to twenty years. Second, there must be a standardization of building components, and architects and owners must agree on standard space requirements. Such standardization is both inevitable and a consummation devoutly to be wished.

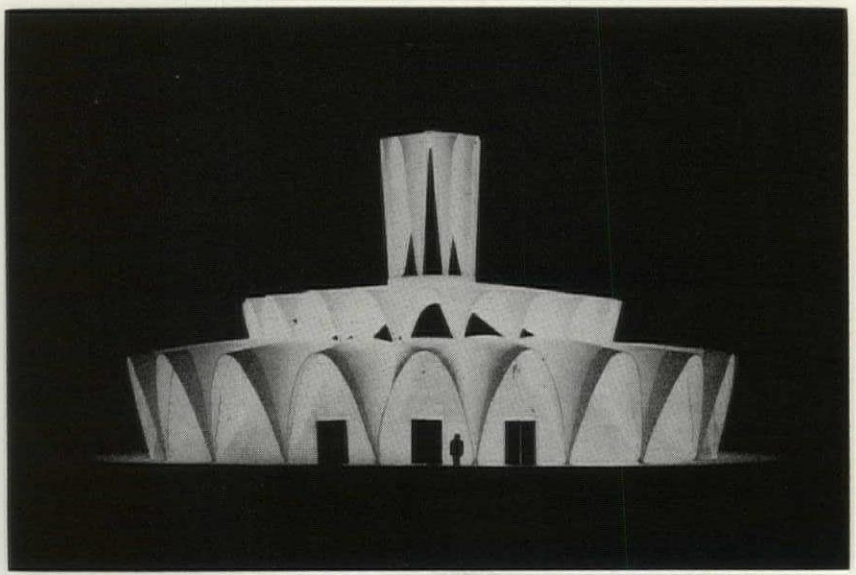
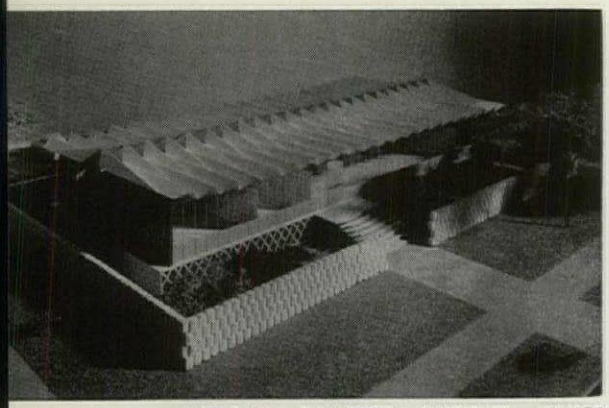


FIGURE 3 *Photo by Mac Mizuki*



AMERICAN CONCRETE INSTITUTE OFFICE BUILDING, LEINWEBER, YAMASAKI & HELLMUTH, ARCHITECTS *Lens-Art Photo*

# Architectural Requirements for

FROM THAT DAY in architectural school, when the professor of strength of materials illustrated to us that loads in a structure had to be considered as fluid as cake batter, spreading evenly over floors and running down through supports or columns to a reacting force from the ground, I have had a continuing interest in materials, particularly new materials. When I tell you that in those days, new materials were distrusted and, if used at all, were usually a cheap immitation of an expensive traditional material, I will be giving away my age. But, I can well remember how outraged I was at the use of substitutes for marble, imitation travertine, and all the others. I had the feeling then that something was wrong, particularly when some of those imitations were good honest materials in their own right.

Today, however, all this has changed, both in architecture and in the field of building materials. Modern architecture with its new solutions, its new forms and patterns, requires materials which will honestly express these new ideas. Modern architecture can only progress as modern materials are developed which will overcome the handicaps of the past, and permit these exciting structures of new form and graceful lines to be erected, without the fear of faulty workmanship, poor weathering, or unsightly deterioration.

As an architect, I am hopeful that plastics will fill this need. Here is a whole new group of materials which give promise of opportunities unlimited. Take just the field of roofing and flashing as an example. In a letter to the editor, in *Progressive Architecture*, August 1957, John W. Taussig Jr., of Owens-Corning Fiberglas, states in part—"While most other forms of construction have improved their design, products, application techniques, and the like, the roofing industry (as a whole) has remained complacent."

Most architects present will say "amen" to this. Why shouldn't they be complacent? They have sold themselves, and their clients as well, on the magic of a piece of paper, called the "20 year bond," and so thoroughly that they have had no time to look around or think ahead. One would almost think that their motto is—if it can't be bonded, it shouldn't be built.

At the Plastics Study Group Planning Committee Meeting, I requested the addition of another topic for discussion today—Use of Extruded Plastics for Flashing, Gravel Stops, and Partition Joints. In the use of plastics, would what we know as flashing be flashing? Or can we bind roof against wall in some other form —say plastic miracle tapes and then spray another plastic on it? Would there be gravel to stop? Or would we just need an extruded plastic border, preferably in color, around the top of a flat roofed building? Why could not the roof be covered with plastic granules or some other texture, all in color, bound together as roofing?

How does an architect design a building? How does he start? Well, some of us do indulge for a few hours with a soft pencil in schemes we know are blue sky but soon we begin to consider a legion of restrictive items. I shall mention only a few of the principal ones. These items must be divided into two categories —the ones that are mandatory and the ones that, by study and research, can be reconciled. In the first category come such mandatory items as:

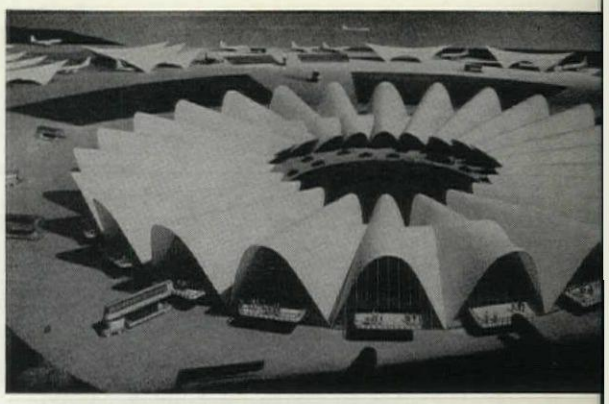
- the use of the building
- the budget
- the site
- the building code

Through these mandatory items are introduced the second set of conditions which, when we analyze them, have a direct bearing on the mandatory conditions:

- excellence in planning, resulting in suitable use of the building by the client
- interior and exterior esthetic qualities of the building
- use of materials

I have used only three words in this last item but they bear a vast connotation. Of all the items I have mentioned, this is the one that is responsible for the scrapping of the major designs produced by the creative thinking of most architects. Why? Because available materials cannot meet the challenge. As examples of what architects are creating today consider: the winning design for Sydney, Australia, Opera House, the creation of the 36 year-old Danish architect, Joern Utzon; the proposed Civic Auditorium for Pontiac, Michigan by Smith, Hinchman and Grylls Associates, of Detroit; the design of an airport as published in an advertisement for cement and designed by Victor Gruen Associates; and a *Progressive Archi-*

# Roofing Materials



"TOMORROW'S AIRPORT" DESIGNED BY VICTOR GRUEN ASSOCIATES *Photo by Robert Damora*

By Anthony Ferarra, *Partner, McLeod & Ferrara, Architects, AIA*

*tecture* design award winner, an office building for American Concrete Institute, the creation of Yamasaki, Leinweber and Associates.

All four of these designs have most unusual roofs, two of them shell forms without demarcation between walls and roof. Also, all four designs are visionary and in their model stage. The opera house and the airport building are almost impossible to construct at this time because roofing materials, guaranteed to do the job, are nonexistent. I do hope I am wrong. It is my earnest wish that I will be corrected.

The fourth presentation was the subject of the seminar on awards held last January, at the School of Architecture of Tulane University, and published in the August issue of *Progressive Architecture*. Architect Yamasaki was asked, "What kind of roofing are you going to have?" His answer was: "About the roofing: We have been checking on plastic roofs, which we wanted to use because, although we know there may be problems involved, if you used a plastic roof on this building and it worked it would make a concrete roof like this much more valid. We figure that this concrete roof might cost about $3. to $3.50 a square foot, and with a plastic roofing, that would add only a cost of 50 cents a square foot, which would make the total roof construction within the realm of possibility. The other way to do it would be to be really sure and put on an aluminum roof, which would immediately add at least $1.75 per square foot, which might throw this kind of roof construction out of the picture. So, we went to the Building Committee of the American Concrete Institute and told them that we had checked on plastic roofs and that although we have assurances we can't guarantee a thing. We told them that we thought they should experiment before other people do and they agreed and we are going to use a plastic roof." I may add that with all due respect to the aluminum industry, an aluminum roofing on this building would not only "throw this roof construction out of the picture" financially but, in my opinion, it would also impair the esthetic quality of the design.

I believe that the greatest contribution the plastic industry can make to the architectural profession and the building industry is a guaranteed plastic roofing material. Such an event would revolutionize the design of buildings in general—gaining:

- superior esthetic forms
- architects' freedom from restrictive conditions
- stimulation of the use of other more economical materials in a free manner

These three items could be the immediate effects, but I am sure their impact on modern construction would be such that we cannot fathom all of their advantages.

I do not know what plastics are in their chemical compounds. I do know what I see as a finished product. These finished products stimulate my imagination and I can see a myriad of uses in construction. However, a note of warning—many new materials and new forms of old materials have been innocently promoted by the manufacturers to the point where these materials have become an abomination to good design. Again, these materials have been sold in the open market for indiscriminate use, with the result that the material loses prestige in the eyes of the general public. It is my opinion that new materials should be introduced by the architect under precise specifications of the manufacturer so that such materials may be shown at their best and perform to the ultimate expectation. Now, you say to me, architects are notorious for not wanting to try new materials. In answer to that, I will say that architects *are* anxious to try new materials provided the manufacturer will work along with them and in the event of failure be willing to replace the defective material. To expect an architect to go out on a limb and give his personal assurance to an owner that this material is the proper one to use, which in effect is exactly what an architect does when using any material, is too much to expect in the name of progress. If a manufacturer is willing to spend millions on advertising a new product, is it asking too much that he spend a few thousand to protect his own good name and that of the architect concerned.

If I have seemed to be a little rough on manufacturers in general, I have done so simply to issue a challenge to all manufacturers, to develop products which will be of benefit to all and a source of pride to those concerned with their use.

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VOLUME XXVIII — MAY-DECEMBER, 1957

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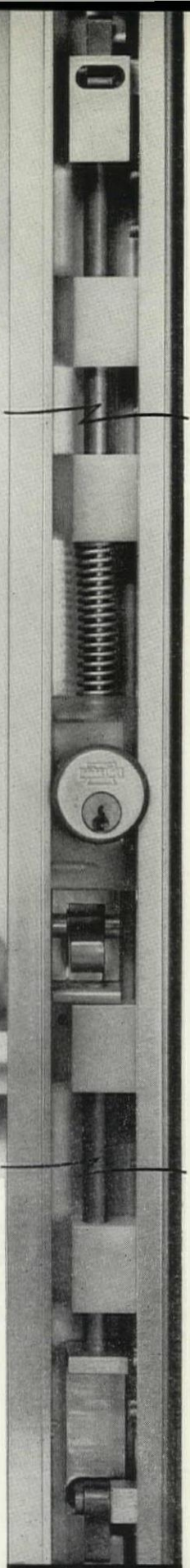

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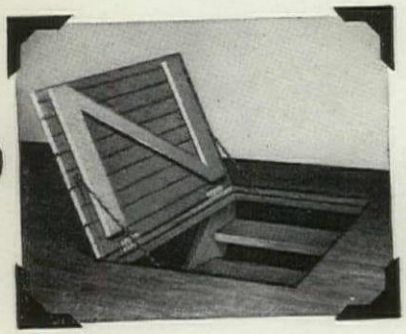

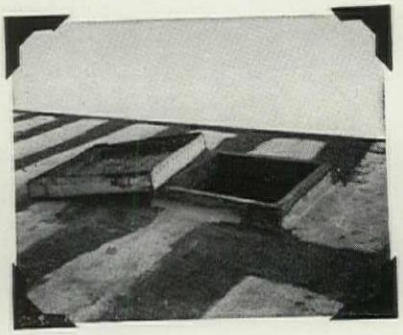

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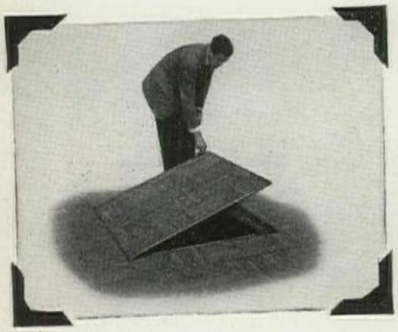

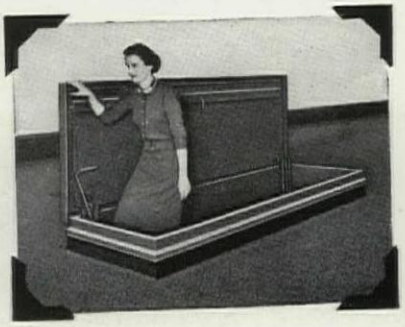

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## JOB DATA

*Architects:* Willson & Berg, Bozeman, Montana

*Engineer:* Ben F. Hurlbutt, Billings, Montana

*Contractors:* Haggerty & Messmer Company, Bozeman, Montana

- Diameter of dome 300 feet
- Rise of dome 50'-8⅞"
- Seating capacity 12,500
- Number square feet all floors 138,080
- Total cost $1,453,115
- Cost per square foot $11.10
- Ventilation: exhausts air in arena every 15 minutes when filled to capacity.
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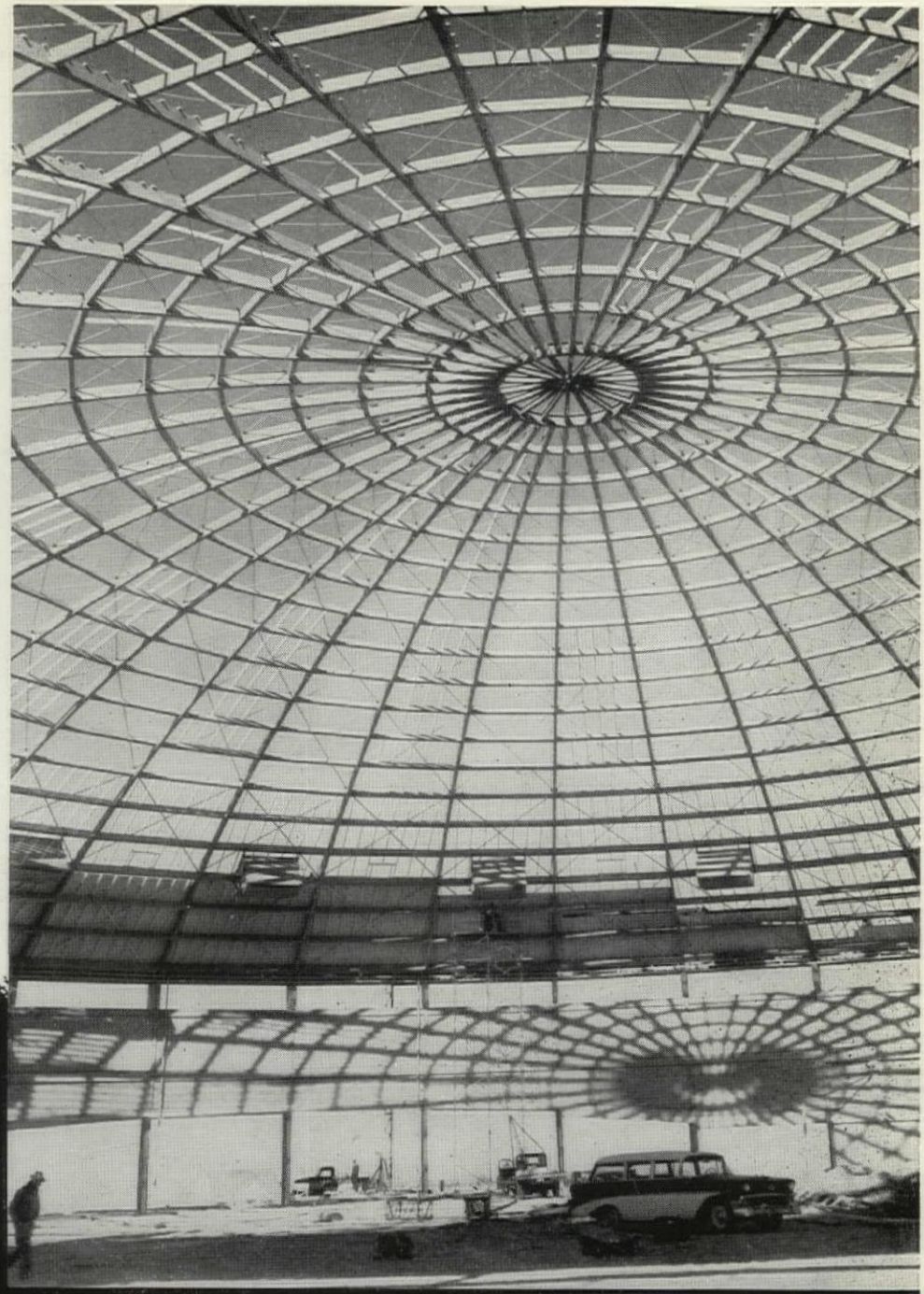
- Arena Floor: earth with portable backstop and basketball floor.
- Roof: built-up surface over Tectum decking.
- Sidewalls: curtain wall of colored concrete blocks.



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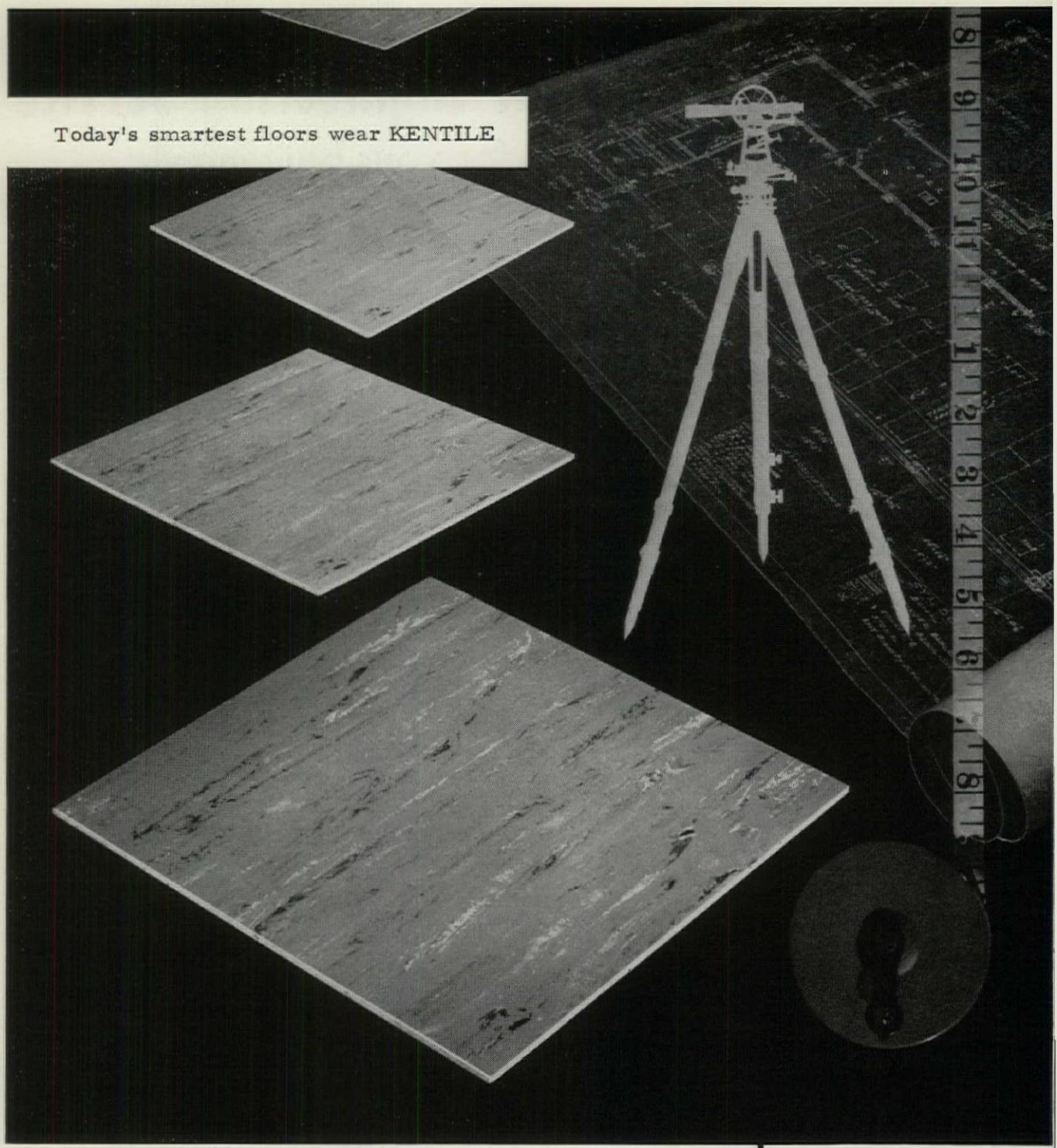


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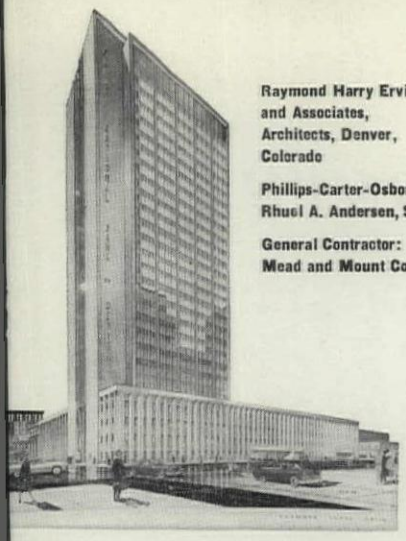

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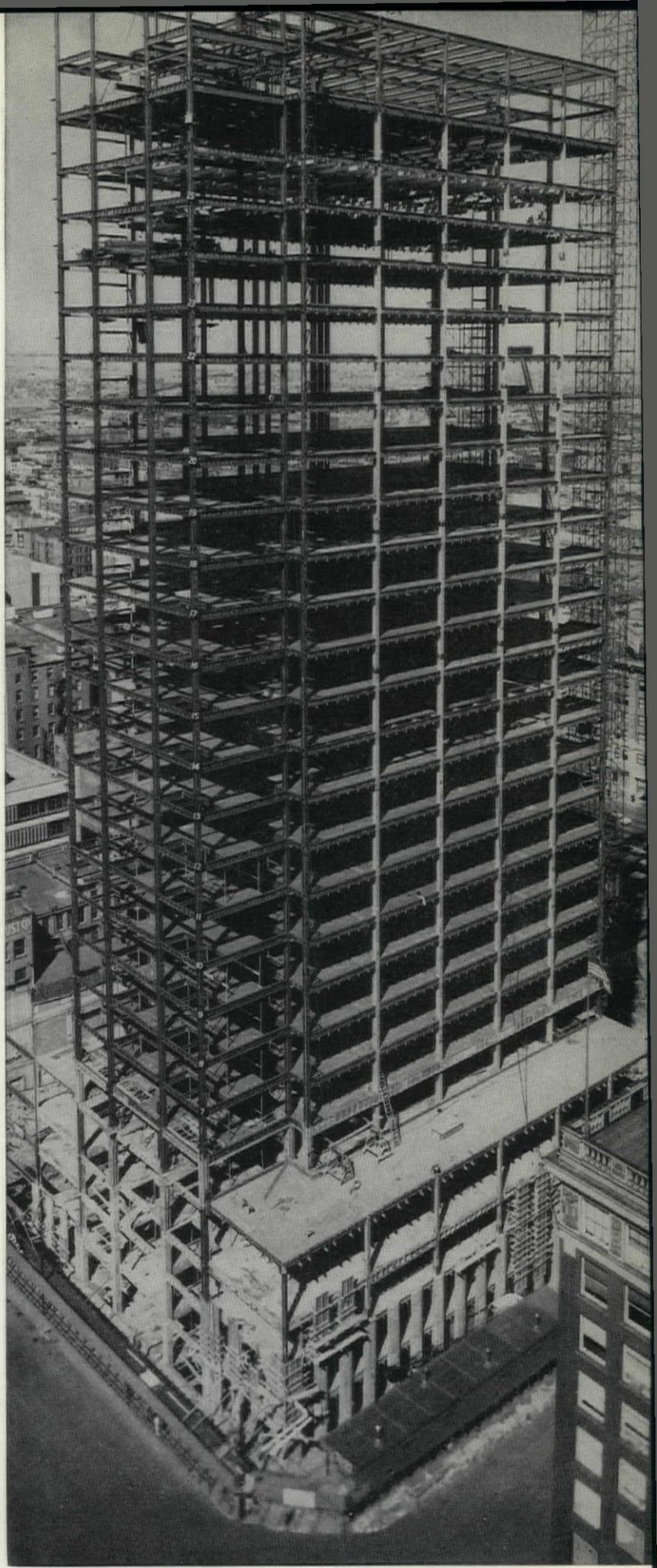

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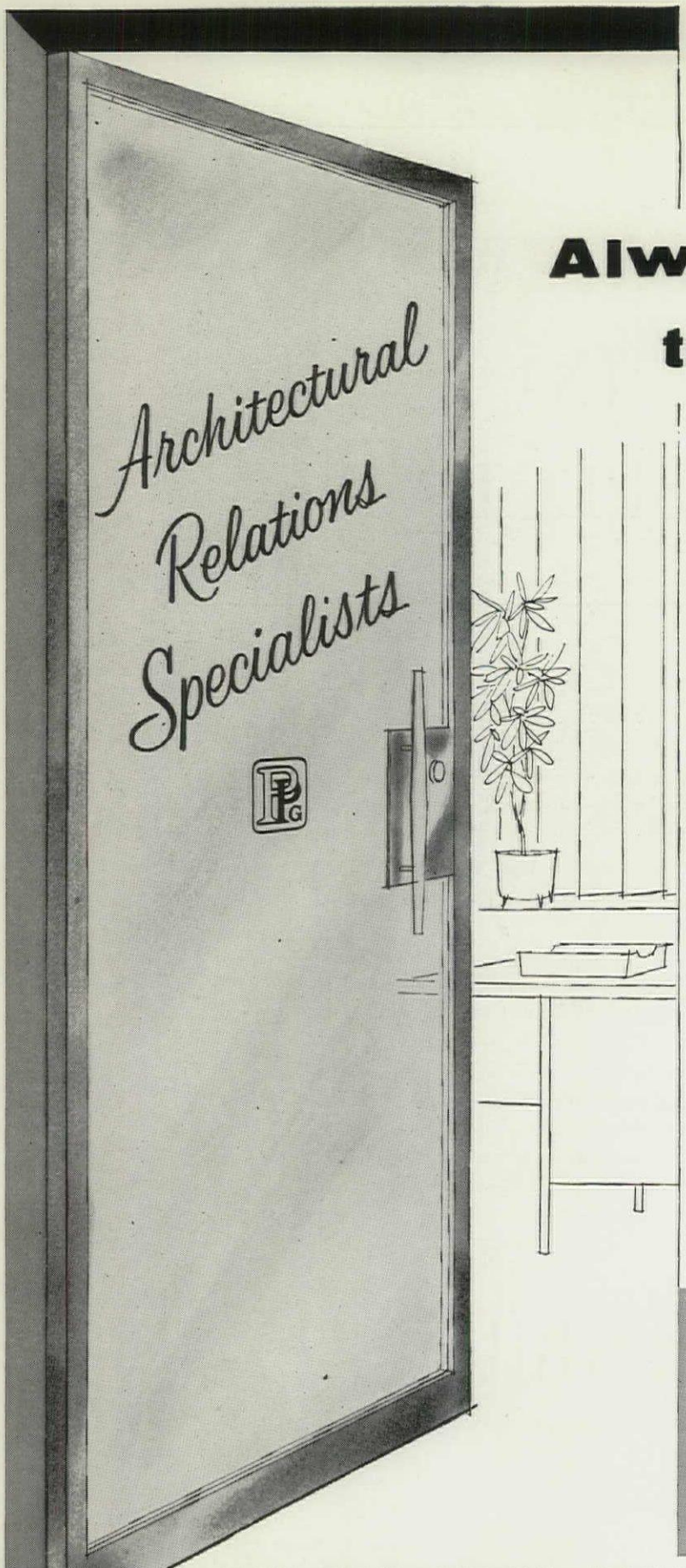


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