

JANUARY 1958

JOURNAL

OF THE AMERICAN INSTITUTE OF ARCHITECTS

OUR NATIONAL CAPITAL

By Ralph Walker, FAIA

THE YOUNG ARCHITECT'S ROLE
IN MASS HOUSING

By Herman H. York

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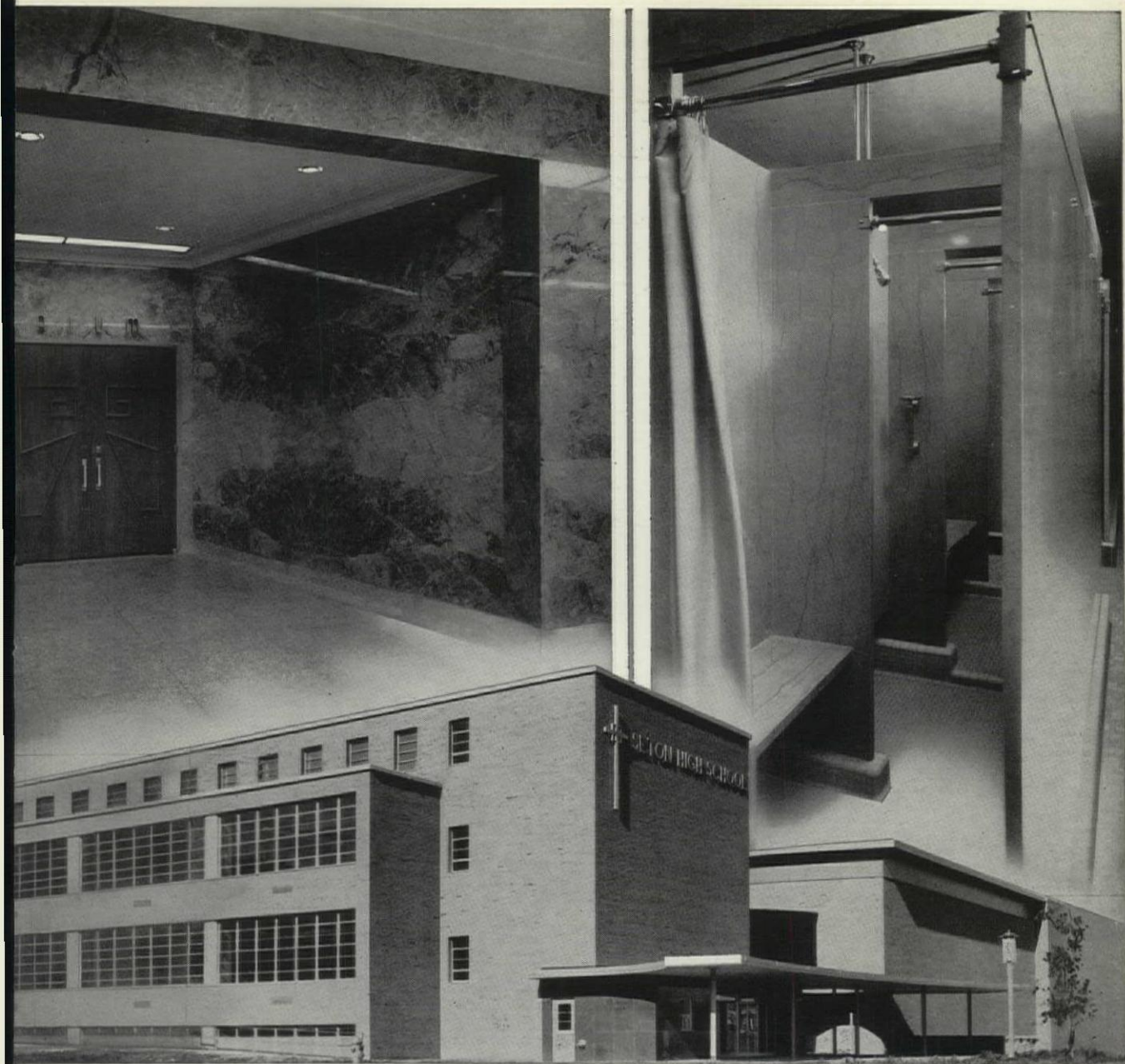
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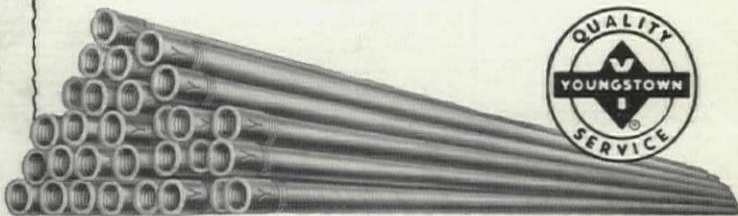
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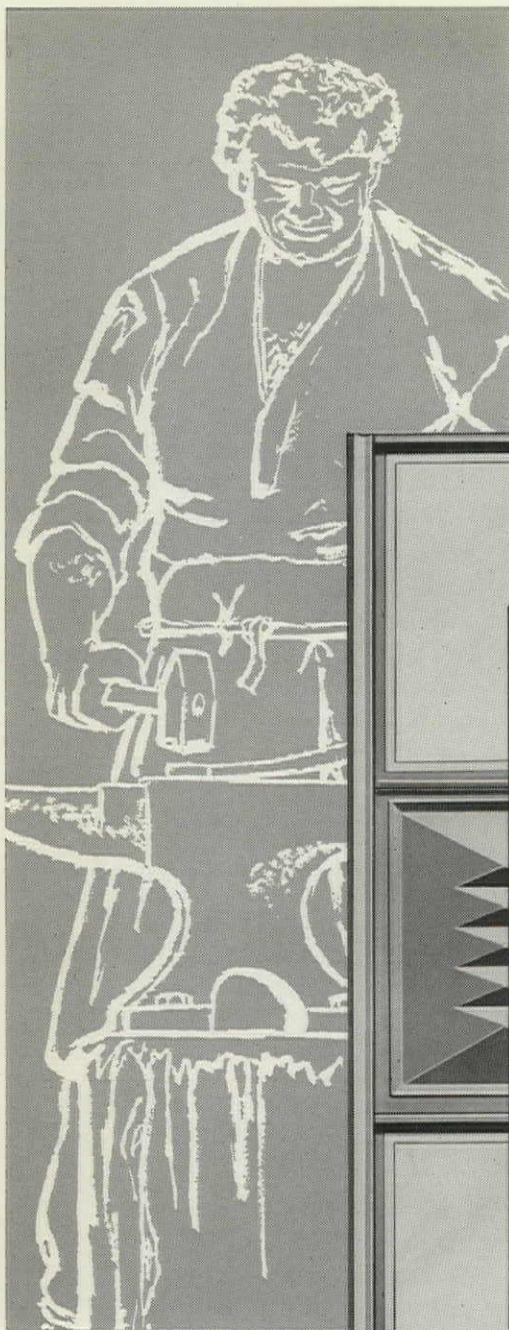
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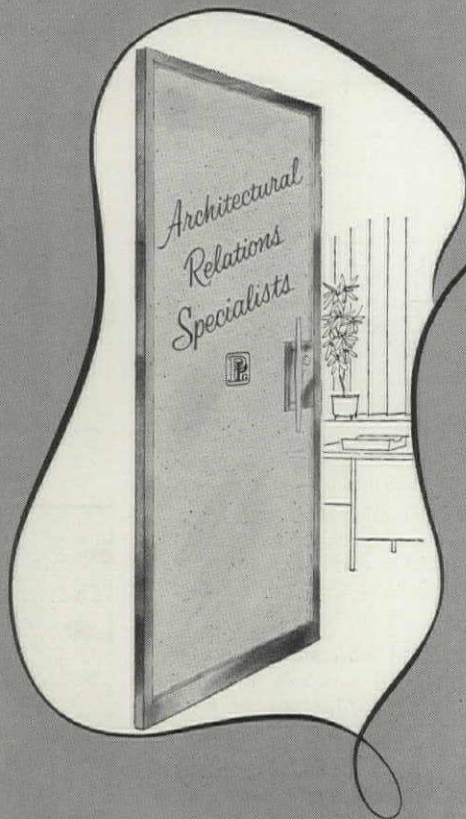
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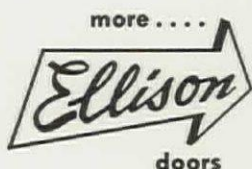
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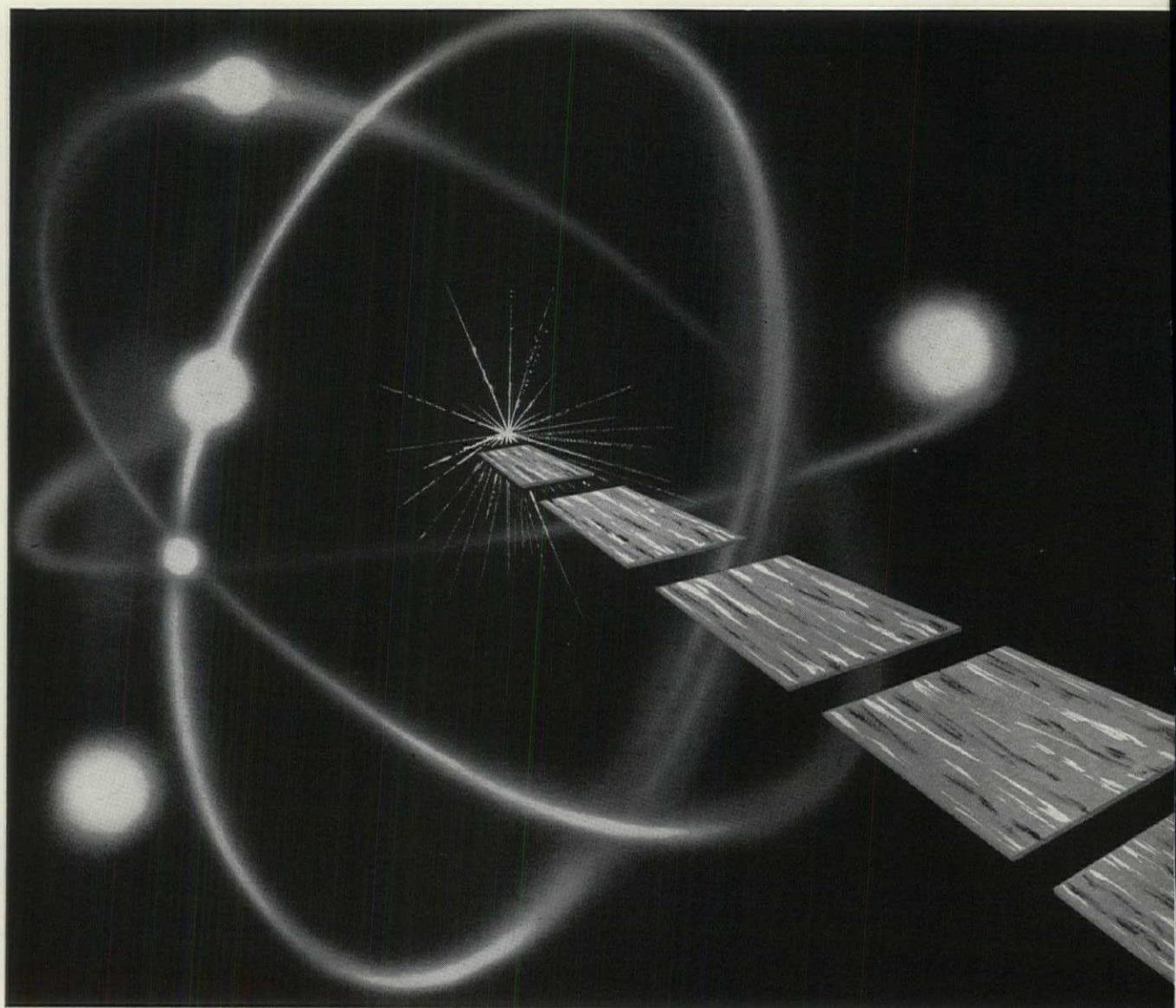
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JOURNAL

OF THE AMERICAN INSTITUTE OF ARCHITECTS

VOL. XXIX, No. 1

JANUARY 1958

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THE AMERICAN INSTITUTE OF ARCHITECTS
PAST PRESIDENTS' CENTENNIAL RESOLUTION
on the DEVELOPMENT of the
NATIONAL CAPITAL

Whereas the members of The American Institute of Architects, meeting in the Capital of the Nation, may look back over the first century of their organization with some pride in the Institute's share in the development of the Federal City, and

Whereas that share included the rediscovery of the L'Enfant Plan adopted by General Washington, Thomas Jefferson and the other founders of our Capital City:

the inception of the McMillan Plan of 1901, based on L'Enfant's vision and adapting his plan to the needs of a rapidly growing people;

the formation of the Commission of Fine Arts and the National Capital Planning Commission;

the preservation of the Mall, backbone of the L'Enfant plan, from serving as a site for the Union Railroad Station and again from intrusion by the Department of Agriculture Building;

and from the fancied economy of narrowing the Mall from the designed width of 890 feet to 600 feet;

the saving of the White House from the desecration of unskilled remodelling in 1900;

the discovery of Pierre L'Enfant's bones in a forgotten grave in a Maryland farm and establishing his monument on the heights of Arlington, overlooking the city of which he had the first prophetic vision; and

Whereas The Institute, by its emphatic protests, have repeatedly prevented the ill-advised location of important buildings—the Lincoln Memorial among them—now therefore be it

Resolved, That The American Institute of Architects reaffirm its conviction that this Capital City is the heritage, not only of those who dwell in or about the District of Columbia, but the heritage of all the people of this country as the seat of their Government, a capital which has been expanded in a manner that calls for the exercise of the utmost wisdom and skill our one hundred and seventy millions of citizens can muster; and be it further

Resolved, That The Institute believes the time has come when the people and their Congress should grasp the outline—not necessarily the details—of the next half century's development of their National Capital, a slowly rebuilt Capital City worthy of the United States of America; and be it further

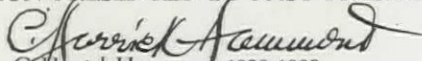
Resolved, That to these ends The American Institute of Architects has the honor to memorialize the President and the Congress and urge that closer attention be given to the recommendations of those agencies of Government which have been made responsible for the comprehensive planning of the Nation's Capital;

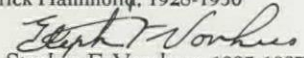
that this planning be entrusted to those truly representative of the architectural and other planning professions;

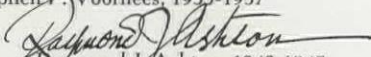
and that more effective respect and conformity be observed for these plans and for the procedures established by law to obtain the broad objectives of a plan commensurate with the Nation's Capital.

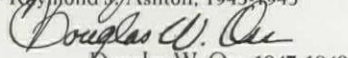
To that task, The American Institute of Architects pledges its aid in the century that beckons!

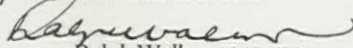
RESOLUTION PRESENTED BY PAST PRESIDENTS:



C. Herrick Hammond, 1928-1930

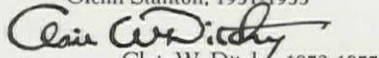

Stephen F. Voorhees, 1935-1937

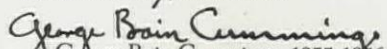

Raymond J. Ashton, 1943-1945


Douglas W. Orr, 1947-1949



Ralph Walker, 1949-1951


Glenn Stanton, 1951-1953


Clair W. Ditchy, 1953-1955


George Bain Cummings, 1955-1956

ADOPTED May 16, 1957, at
the Centennial Meeting of
The American Institute of Architects


Leon Chatelain, Jr., President



Photograph by Katherine Young

Our National Capital

BY RALPH WALKER, FAIA

WASHINGTON, D.C., is one of the most unusual cities in the world. It was planned on a very ample scale and has met the ideals of national symbolism in an amazing way. Not only is the plan in general a fine one but the preservation of the natural river banks and the many buildings form in themselves a fine monument, and the memorials to George Washington and Abraham Lincoln and others have given a sense of nobility to the entire city. One feels as one visits it that this is truly the capital of a great nation.

The American Institute of Architects can take a great pride in the work it has done in the past to create and revive interest in the L'Enfant plan and especially in the creation of those commissions, such as the MacMillan, which made the L'Enfant plan once more a matter of national concern, and for the Fine Arts which has helped to preserve and continue a sense of fitness to all parts of the Washington scene.

Men like Charles Follen McKim, Daniel Burnham, and others devoted in the past a great deal of their time, efforts and influences to maintain Washington as a great city. McKim suggested the purchase of the Octagon, so that the AIA became one of the first non-governmental organizations to appreciate the advantages of having a headquarters in the National Capital.

Not only has the L'Enfant plan been revived and given strength through the efforts of the AIA, but the buildings which have come down to us as a heritage from the past have also been thought of as particularly precious and under our guardianship. Convention after convention has given its approval and concern either for or against changes that had been suggested.

The AIA is therefore in the unusual position of being a watchdog with a long understanding of the spirit that makes Washington the city it is. Every member of the AIA, regardless of his personal feelings toward individual buildings (and we will all readily admit that most of them would not be done the way they are today; but, nevertheless each one in the past has been of real worth), should consider that the preservation of our National Capital is worthy of his own concern and should be willing to use his influence on the legislators from his area so that a proper growth in appreciation can be maintained.

One of the recent failures in protecting the city from the ravages of the practical-minded has been the bridge just north of Memorial Bridge and the Lincoln Memorial. This of course should have been a tunnel, and the fact that the bridge is being built in a position where it will destroy some of the char-

acter of the Memorial Bridge indicates a shameful lack of appreciation of what good city planning means. (Perhaps this defeat is only momentary, for it looks as though the battle may be engaged again and the Memorial Bridge may be left without competition.) I said the bridge should be a tunnel and probably the extra cost of the tunnel made it seem an extravagance. When one remembers the many extravagances in our central government (I believe they are known as "pork" barrel) one may well question whether the cost of this tunnel, which would have lastingly improved the appearances near one of the great memorials of all time, may not have seemed small indeed. We are therefore about to see, but not quite so serious in effect, an arrangement similar to that at 14th Street where the juxtaposition of three bridges makes one of the ugliest river crossings that you can find anywhere in the world. Evidently no one in government cares, from the President down, whether a fine effect is ruined; nor did we architects, who jointly and in powerful chorus might have preserved the present beauty.

Recently we have been concerned by the desire on the part of the Architect of the Capitol to take down the east front and move it so as to supply a supposedly better foundation for the cast iron dome above. The cost of this move is one which brings little actual return of space within the building, and without a proposed lengthening of the wings to the north and south it will destroy one of the finest forecourts in existence and one which gives a magnificent background to the inauguration of our presidents.

In the past, every three or four years in fact, there has been a successful fight against the vandalism suggested in the moving of this noble part of a great structure. Recently however, a bill was put through Congress without public hearing, so the Institute did not have the proper opportunity to combat the project, making the movement of the east front obligatory. It was therefore with a fait accompli that the architectural profession was confronted. However Congress had included within the legislation the desirability for having a consulting body, and one of eminent architects was appointed to work with the Architect of the Capitol. This committee unfortunately took the position that the law had been passed and all they could do, therefore, was to try to make the best of it, although it is my belief that each member, had he been asked for his comment before the passage of the law, would have decried the project. It was moreover the suggestion of this consulting body that if the east front were to be moved then the north and south wings should go along in proportion so as to maintain the qualities

of the forecourt as it now exists. This of course would add tremendously to the cost of the entire project.

There is a great question as to whether the reconstruction of the east front, which does need repairs in many places, can ever be done and capture the same quality that now exists. The east front is no ordinary example of eclecticism but an outstanding piece of original design, one of the best of the federal period.

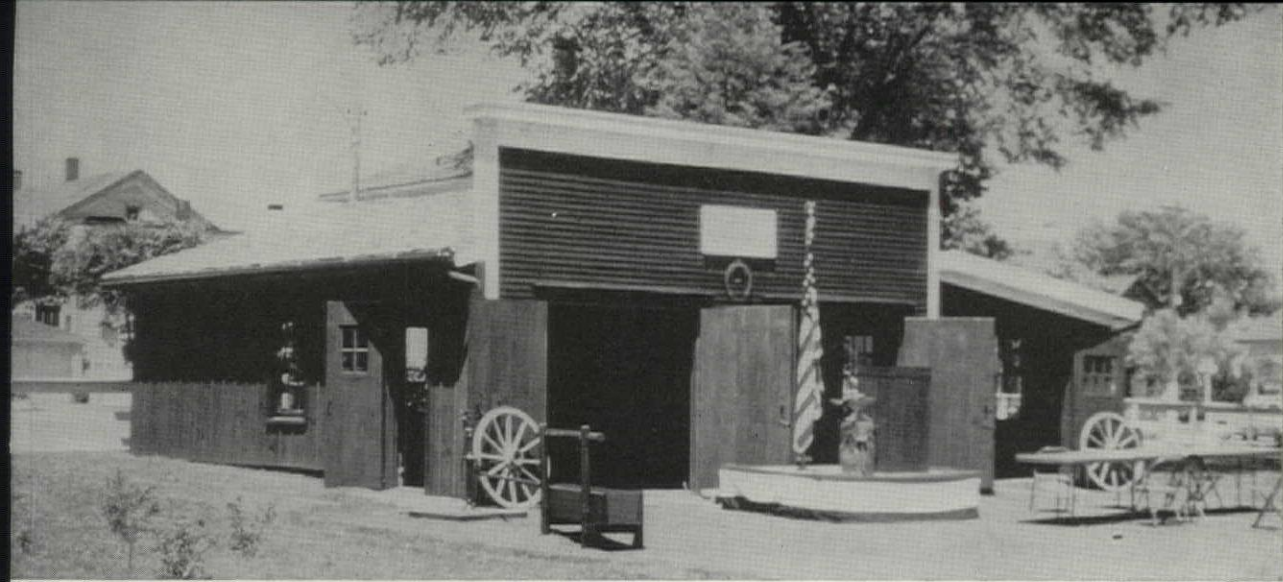
Another suggestion was made that everything that would be obtained by the predetermined plan under the legislation, i.e., that of moving the east front and also extending the wings, could be accomplished much more pleasantly, esthetically and efficiently by the reconstruction of the west front which has no great historic significance.

The fight to stop this somewhat stupid project after what seemed to be an apparent victory for the Architect of the Capitol, and whose final report seemingly twists, in his favor, the report of the consultants, was taken up again by Douglas Haskell of the *Forum*, who has done a magnificent job, as well as a group of architects, including Lorimer Rich, William Foster and several others. They were able to create an interest among several Congressmen for the preservation of the east front as it now exists, and in the last Congress a bill was presented by Congressman Ruess, and new ones will be placed before Congress at this session. The new bills are: H.R. 9238 to be introduced by Congressmen Ruess (Wisconsin), Schwengel (Iowa) and Widnall (New Jersey), and S. 2883 by Senators Smith and Case (New Jersey), Clark (Pennsylvania), and Humphrey (Minnesota). You will note they are all men of known ability.

The purpose of all these acts is to free the consultants so that they can make a definite recommendation as to what *is* the best manner in which to gain the needed space and at the same time to preserve the beauty of the Capitol. Moreover they will develop once again the position of the real architect as being more than a rubber stamp.

Here then is an opportunity for the members of the Institute to write their Congressmen and Senators and voice their opinion against the destruction of a fine piece of architecture. May I suggest that you do so—individually as well as chapters.

Mr. Walker has been asked to take, and has accepted, the Chairmanship of the Joint Committee of Professional Societies Engaged in Preserving the National Capital.



Restoration of the Hoover Blacksmith Shop

BY WILLIAM J. WAGNER

The author is associated with the Des Moines firm of Wetherell and Harrison, and is Chairman of the Committee for the Preservation of Historic Buildings of the Iowa Chapter.

THE IOWA CHAPTER of The American Institute of Architects, through its committee on Preservation of Historic Buildings, this year completed the restoration of the blacksmith shop which had been operated by the father of Herbert Hoover at West Branch, Iowa. The restored building stands a few rods from the cottage in which the former president was born, and both buildings are on approximately the same spots they occupied during the time the family was in West Branch.

Herbert Hoover's father, Jesse Hoover, was a blacksmith and operated it a year before his death, a few years after the birth of Herbert. The shop later was torn down. The cottage, however, was not destroyed and later became attached to a residence on the property. Fifteen years ago the cottage was moved back to its former location, and restored to its original condition.

The cottage then became the chief building on a 28-acre "Birthplace Park." The restoration of the shop as a companion to the cottage completes the historical part of the park. These were the only buildings connected with the Hoover occupancy, and while the Hoover Birthplace park has other features, they have to do with other aspects of the Hoover career and tradition, or the conveniences and attractions of a public place.

The shop was in use during the boyhood of Herbert Hoover, and he recalls a small seat within on which he was allowed to sit and watch his father at the forge or shoeing horses. The father died during Herbert's early boyhood, and a few years later the mother passed away. Herbert then went to live

with an uncle in Oregon.

He revisited West Branch while campaigning for the presidency and the citizens of the town began working toward the restoration of the birthplace and park during the next decade, organizing a Birthplace Society.

Later the interest in the restoration of the shop came—during the past two years, after a nationwide Hoover Birthplace Foundation had been established, with some 70 trustees in all parts of the country. This foundation was formed after Herbert Hoover had returned to the cottage and park for the observance of his 80th birthday August 10, 1954.

The executive committee of the Foundation contacted the Iowa chapter of the AIA, and the author cooperated with the committee on plans. He then assumed responsibility for the restoration, working with William Anderson of West Branch, chairman of the executive committee of the Foundation. Architectural services were furnished without charge, and the people of West Branch contributed assistance to the project to such an extent that the total cost of the restored building was but \$5,200.

The author had three items of historical material from which to make the plans for the building. The three items were:

1. A rough floor plan sketch showing various items made from memory by Theodore Hoover, brother of Herbert Hoover.
2. A very faint small photograph showing a small portion of the shop.
3. Memories of some of the older people of West Branch. The sketches were made and



AT THE DEDICATION OF THE BLACKSMITH SHOP ARE (LEFT TO RIGHT) ALLAN HOOVER, GOVERNOR LOVELESS OF IOWA AND ADMIRAL LEWIS STRAUSS.

revised until these people felt it was as they remembered the old shop.

A search was then made for material that would be the same age as the original shop would have been. A barn of pegged construction was located and carefully torn down. This was on the Lloyd Henderson farm, near West Branch. Splices and joints were marked so they could be re-assembled as originally planned. The ruins of an old blacksmith shop four miles away provided brick for the forge. Local carpenters and a bricklayer did the work. Old glass was located for the windows and cut nails were used wherever exposed to view.

It was felt the blacksmith shop would be visited during winter months and would need insulation. Originally the shop was constructed of boards and battens. Today this would not be easy to heat.

Originally the only source of heat was the forge. The forge is so constructed that it can be used, and will be on occasions. Additional heat will be provided by a coal burning stove. The shop is 36' x 30', and the front is 15' high.

The old boards from the barn were approximately 85 years old and were weathered accordingly. It was felt these should not be used again, exposed to the outside, and since the building was to be insulated a sandwich panel was devised—the old boards exposed inside, then a ¾" "Celotex" insulating board, and on the outside new pine rough-cut boards the same size as the old, and battens over the joints. All old wood was toxic treated and the new was treated with stain and preservative.

The floor presented a problem in that the original was dirt, which was undesirable. Clay from the site was used, stabilized with Portland cement.

A blacksmith made hinges and other hardware which was felt would be more related to what was possibly made by Jesse Hoover 85 years ago than something bought in a store.

The area directly in front of the shop was cindered and around the building was located the usual blacksmith shop 'graveyard' equipment. Landscape planning was limited to native plants and those most likely to have been used 85 years ago

In excavating and regrading the site a considerable number of old horseshoes, worn out blacksmith tools and other scraps of material were salvaged. These are exhibited in the building.

As a matter of fact, the superintendents of the park have received so many historical pieces for the shop that one man was kept busy for weeks labelling and placing them. This supply has kept up during recent months. Nearly every day some visitor to the park, cottage and shop brings some small tool or implement of the mid-century period.

The shop was dedicated on June 20, 1957, with Allan Hoover, younger son of the former president, present to represent his father. The dedication address was made by Admiral Lewis L. Strauss, chairman of the Atomic Energy Commission, and president of the Herbert Hoover Birthplace Foundation. Admiral Strauss had been secretary to Mr. Hoover during the period the latter headed the European relief organization in 1917-1919. Others speaking in addition to the Admiral and Allan Hoover were the governor of the state, Herschel Loveless, and Mr. Anderson. Fred Maytag, a trustee, presided over the blacksmith shop anvil, using the hammer as a gavel. Guests were the national trustees and their parties.

The Birthplace park, 28 acres in size along the picturesque Wapsinonoc creek, is managed by the Birthplace Society, made up of local persons. Funds come from the Society, the Foundation and a small appropriation by the state. Several full-time employees maintain the area and buildings and guide the daily visitors through the two buildings and to the remarkable statue a few rods from the cottage.

This statue is that of Isis, the Egyptian goddess of plenty, which was given to Mr. Hoover by the citizens of Belgium out of appreciation for his relief organization work in the first world war. The huge bronze piece was kept at the Hoover library at Stanford, California, until a decade ago, when it was brought to West Branch, and now sits in a shaded nook near the little creek, facing the cottage.

Other buildings in the park are a caretaker's home and a shelter-house for picnickers, erected by the Boy Scouts of Iowa. Plans now are being made for another somewhat similar building to be put up by the Girl Scouts, whose national head for several years was Mrs. Hoover.

The park is located on a paved road a few miles from a federal highway, and when the national super-highways are constructed it will be a mile from a cross-country artery of that system.

The visitors' book in the cottage shows visitors from nearly every state in the union visiting the park and cottage and shop every week.

Public Relations —

tv and radio publicity

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

ALMOST NOTHING, with the possible exception of being flattered over cocktails by a companion of attractive design, is as gratifying to the ego as appearing on television.

Mike fright often looms as a bogey-man before the program starts. But it's remarkable how fast the average non-professional performer can shake it off and begin to enjoy himself. Sometimes, he tends to enjoy himself too much and winds up in a fashion faintly recalling the late Billy Sunday.

Aside from personal satisfactions, however, the utilization of radio and television as AIA chapter public relations outlets is too often neglected. Sometimes this occurs because of lack of understanding of how to cope with the twin "air" mediums; sometimes because of timidity, and sometimes because of just plain inertia.

Radio and TV participation is a lot of work; make no mistake about it. However, it can pay off handsomely in educating the public about architects and architecture, and, as such, it is a natural adjunct to working with newspapers and magazines and speaking before public groups. Your chapter's chances of obtaining air time for publicity purposes range all the way from station use of twenty and sixty-second "spot" announcements on special occasions to participating in panel discussions on community affairs, making guest appearances on interview shows, or filling half-hour public service programs.

Basically, there are three different kinds of shows in which the chapter may become involved. These are (1) the news program, (2) the interview or "personality" program, and (3) the public service program.

The station news director and news commentators are interested in anything of an immediate news nature—the fact that the chapter recommended today that the council tear down city hall; a speech which says the community is spending too little on schools and too much on fancy cars, gambling, etc.;

a chapter statement about its views on a controversial civic situation and so forth. You can treat the radio and TV news editors much as you do newspaper editors. (We covered the latter subject in our *Journal* article last month.) The same type of release you deliver to the newspapers should be delivered to the "air" editors with the same respect for timing.

The interview or "personality" program is often the easiest for the non-professional performer and requires the least preparation. Most stations have some type of feature interviewer. It may be a man or a woman. Such programs often have a high mortality rate. This seems to ebb and flow according to the success of station advertising sales, the needs of the parent network, and so forth. Yet, they almost invariably have a strong local audience, thus possessing what broadcasters call good "exposure." There is a marked similarity today in the formats of so-called male and female shows, since women interviewers in the past several years have leaned increasingly to matters of community interest, rather than simply fashions, cooking, and travel. Such shows are excellent spots for guests with a story to tell, since the interviewers are generally quite skilled at putting the visitor at ease, striking a casual conversational tone, and drawing out pertinent information in understandable terms.

What is public service then? Every applicant for a radio or television license is required to state in his application to the Federal Communications Commission (the Olympus of broadcasting) that his station will devote part of its time to the public service. Every year, when it renews its license, the station must be prepared to demonstrate that it has devoted a satisfactory portion of its air time to this kind of programming.

Promotion of a building product or breakfast cereal is not a matter of public service—although very occasionally it can pass if it affects a cunning disguise. Generally speaking, information which

enlightens and educates the public with the purpose of improving its welfare represents the broadcasting meaning of the phrase "public service."

For example, the ways in which a community can get good schools at a fair price, a discussion of the community's redevelopment needs, a talk or panel on what a prospective home-owner should know about buying a house—these are valid contributions to the public welfare. It would be relatively easy to compile a substantial list of architectural topics which would be clearly in the public interest and therefore quality for public service time.

This does not mean, of course, that you can or should go to the station program director and demand public service time. The purpose of this explanation is simply to define one of the station's responsibilities so that your chapter may be able to suggest a program that fits into the station's programming.

Basically, the chapter public relations chairman or his committee or delegate should approach a station program director much as he would treat a prospective client. This implies sound advance preparation of what is to be said, done, and shown. Naturally, little or nothing will result if he simply goes to the station and asks for program time without having something constructive, interesting, and specific to suggest.

What kind of programs should the chapter suggest? Let's consider a few case histories. It helps to have a "hook" or "news peg" such as an award week or community renewal month on which to hang such a presentation. This isn't a necessity by any means; it just helps. On both the national and local level, the Centennial did a fine job in this respect. Naturally, something of this sort hardly comes along every day, but several examples of what happened may help to demonstrate what *can* be done.

During the Centennial week in Washington, the key Brinkley-Huntley television news show on NBC responded quickly to a suggestion to film a staged tour of Washington architecture by a prominent architect. The result was that a mobile TV crew followed architect Charles Luckman to several well-known buildings, taping conversation between Luckman and Dave Brinkley later at the studio. The film and sound track were spliced together for nationwide showing several evenings later. The highlight of the program, perhaps, was Mr. Luckman's classic remark that the famous and grotesque War, State, and Navy building reminded him of a roadside stand he had seen in the south. It read, he said, "Kosher Hungarian Goulash—Dixie Style."

The Omnibus program, then on the ABC network, sent architectural writer Brendan Gill and a

camera crew to the Museum of Modern Art in New York City and did an excellent audio-visual review of the museum's exhibit of new buildings. The technique employed filming of the models, continually moving the camera to create an illusion of movement; keying the lighting to create an impression of sunlight and shadow; splicing sound effects into the narration to lend an aural flavor of traffic noise and masses of people to a skyscraper—even using airplane engine sounds as the camera panned slowly about and over the St. Louis airport model.

A quite different but equally valuable program involved a panel discussion on NBC's Home show in which several leading architects talked informally about residential architecture of the past, present and future. This 20-minute segment of Home was broadcast from Washington.

There were many more examples of good local Centennial programming than could be mentioned here. To cite but one, three officers of the West Kentucky chapter approached their Louisville station and won acceptance of a proposal to be interviewed about the architect, what he does, and his explanation of such mysterious terms as "modern" and "contemporary." The audience response, according to the station, was "excellent," and the chapter was invited to return for a panel on residential architecture.

In Philadelphia, the chapter, aided by local public relations counsel, has participated periodically in radio-TV shows for the past several years. The local programs employ chapter members armed with models, photos, and other visual "props," and consist of interviews on both general subjects and individual building types. In New York City, architect Jeffrey Aronin personally conducted on radio station WNYC a series of interviews with other architects entitled "Architecture for the Good Life." The premiere program received one of the largest mail responses ever received for a local program of an adult nature.

In Denver, Colorado, the chapter embarked on an ambitious chore a year ago which involved preparing a "live" lecture series for presentation on Denver's new educational TV channel. The TV opportunity grew out of an audience lecture series conducted at a Denver school. To quote Olga Jackson, personable publicist for the Denver chapter: "In the case where the scripts were not written for (the architects), we still held to a rigid outline. When a man speaks easily and can explain his subjects in others' terms, it is best. We had a preliminary go-round with the speaker, working the visuals into his talk.

"Then we had a studio rehearsal and this is

where the men were separated from the boys. While most of the men had been on TV before, their previous appearances were guest spots with an experienced interviewer guiding them. Carrying a full half-hour is a much bigger job. At the close of each of the eight shows, we left two minutes for questions from the audience. Viewers were invited to write in questions on each lecture. The current speaker answered the questions on the topic of the previous week. We furnished our own master of ceremonies. The second lecture—Paul Rader’s—was especially well-received. He worked from the blackboard a great deal and also with pictures and cartoons his wife drew.”

Miss Jackson’s comments illustrate some of the practical points which the amateur should remember in radio and television appearances. The basic differences in the two media, of course, is that, while the public receives only an aural impression in radio, television is geared to visual impressions as well. Thus, movement is desirable and static programming is avoided. Television requires the kind of visual action that is satisfied by use of charts, photographs, slides, three-dimensional models—better still, chalk-talks and on-the-spot drawings.

The most common error of the amateur performer is visible stiffness and strain. In the Oct. 12 issue of *Business Week*, the magazine counseled the TV-aspirants among its executive readers to “treat the camera as you would a person sitting a few feet away, varying your tone of voice and your

glance as you would in casual conversation.” The magazine also made an excellent point in pointing out that the guest should *not* “assume technical knowledge or specialized interest on the part of the audience. Omit verbal ‘shorthand’ known only to specialists.”

Glance at notes if you must, but use them as little as possible. Do not, please, try to hide them. The camera will spot the attempt at deception and the audience will remember little else. If you need reference to written material during a talk, the program director will often have key words or lines written on cue cards or provide a teleprompter.

By way of explaining the “spot” announcements mentioned in the beginning, they are brief messages, usually running 20 or 60 seconds, which radio and TV stations use between programs—in station “breaks”—to inform the public about special events of a worthy nature. These take the form of Community Chest pleas, community clean-up campaigns, or salutes to various professional groups who are celebrating something. This might be applicable to chapter activities if the chapter is celebrating a special anniversary or has promoted a community-wide event of a civic nature. Usually, the messages are written, timed, and placed on mimeo sheets—a different message for each day of the week. Television stations also use slides on which a symbol of the event and a few key words are printed.

(Next month: *Setting Up A Speaker’s Bureau.*)

Necrology

According to notices received at The Octagon between September 26 and November 26, 1957

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|---|--|
| ALLAN, JAMES T.
Omaha, Nebr. | HOBSON, HUBERT BYRON
Northridge, Calif. |
| BACHMANN, GEORGE JOHN
Flint, Mich. | HOLMES, NICHOLAS H.
Mobile, Ala. |
| BALDEZ, JOSEPH D.
Louisville, Ky. | JAMIESON, W. GORDON, FAIA
Denver, Colo. |
| BIEGALSKI, CASIMIR JOSEPH
Washington, D.C. | JOHNSON, WILLIAM T., FAIA
San Diego, Calif. |
| CLARK, WILLIAM JEROME
Los Gatos, Calif. | KEOUGH, HENRY J.
Birmingham, Mich. |
| COLETTI, CARROLL
Boston, Mass. | MORIN, ROI L.
Portland, Ore. |
| DEAN, CHESTER E.
Kansas City, Mo. | MUNSON, ORLIE J.
Lansing, Mich. |
| FRANK, J. HORACE
Philadelphia, Pa. | NIEMEYER, JAMES C.
St. Paul, Minn. |
| HEENAN, LEO JOHN
Pontiac, Mich. | PETERSON, EVERETT I.
Kansas City, Mo. |
| HEFLEY, WILLIAM T.
Dallas, Tex. | SCOTT, FITZHUGH, FAIA
Milwaukee, Wis. |

- | |
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| SIBLEY, ERNEST
West Hartford, Conn. |
| SILBER, PAUL G.
San Antonio, Tex. |
| STAAB, WILLIAM F.
Glen Ridge, N.J. |
| STUBEE, HENRY A.
Houston, Tex. |
| TAYLOR, HOWELL
Ann Arbor, Mich. |
| TINDALL, ROSCOE C.
Wilmington, Del. |
| VAN KEUREN, EDGAR B.
Birmingham, Ala. |
| VAN NUYS, JAY C.
Somerville, N.J. |
| WELLER, JOHN T.
Memphis, Tenn. |
| WOOD, HART, FAIA
Honolulu, T.H. |
| ZILLMER, EMIL GUSTAVE
Grand Rapids, Mich. |

ONE RESPECTED and established title, "engineer," has been weakened officially by diffusion and unofficially by prostitution. Nineteen kinds of engineering degrees are recognized by E.C.P.D., the engineering accrediting agency, while others illegally appropriate and hyphenate the term (management-engineer, human-relations engineer, etc.)

Architects who may be concerned about this might better worry about the term "planner," which is so widely misused that its chances of achieving professional dignity and legal status are rather slim. Everybody is getting into the act, from sociologists to sanitary engineers, from bankers to bull-dozer operators.

The gist of the matter is that creative three-dimensional design of suitable human environment cannot be done by slide-rules and IBM cards manipulated by those who have no design training or competence.

Some order may be brought out of the chaos by classifying the assortment of professional types who call themselves "planners," all of whom have important functions in the total planning operation:

THE ANALYSTS, the diagnosticians and program writers: economists, sociologists, political scientists, etc.

THE TECHNICAL RESOURCE EXPERTS in transport, highways, sanitation, utilities, etc. Many in this group have training and experience in physical planning in terms of their specialties, usually not voluntarily coordinated with the plans by other specialists.

THE SYNTHESIZERS, the coordinating, creative designers, the real planners. A survey would probably show that those now functioning in this category, as planning commission staffers or consultants, are by original professional training (in numerical order) architects, landscape architects, civil engineers and, a rapidly increasing minority, graduates of professional schools of city and regional planning.

The few good professional planning schools are graduate or semi-graduate schools, and they reasonably accept students whose undergraduate backgrounds are in the social sciences as well as the design professions, but they are usually closely associated with schools of architecture, use the project method of instruction and teach *three-dimensional creative design*, which is not and should not be taught in departments of law, sociology and economics.

"Planner" is a common noun in the dictionary, and there is probably no way to prevent everybody including housewives, from calling themselves such. However, the occupation of designing human environment on a broad scale is an essential and rapidly growing field and if the practitioners and schools of this art wish to be assured professional status they should be searching for a more distinctive and descriptive title.

If the non-design planner says that his end product is a new tax base or a new land use plan, that is still a step toward the true end product, the optimum physical 3-dimensional created environment for human habitation and use.

If, as indicated by some, the planners see a need for hyphenated specialists; planner-analyst, planner-lawyer, etc., then the final link in the functional chain is the planner-designer, which is a synonym for architect.

Outside the good schools of planning, the closest to the optimum training for the planner-designer is the well-rounded curriculum in architecture, some of which now provide training in comprehensive planning. It will be some time before the planning schools can meet the demand for graduates. The role of the architectural profession is clear: More active participation as citizens and consultants, or retreading for full time planning practice. Will the architectural profession, including the educators, let still another splinter specialty evolve and slip through their fingers?

W. A. T.

ANALYSIS

SYNTHESIS

RESOURCES

DIAGNOSTICIANS PROGRAMMERS

Anthropologist
Geographer
Sociologist
Economist
Financier
Industrialist
Lawyer
etc.

CREATIVE EXECUTIVE COORDINATORS



TECHNOLOGISTS

Geologist
Surveyor
Hydraulic Engr.
Sanitary Engr.
Highway Engr.
Transport Engr.
Power Engr.
etc.

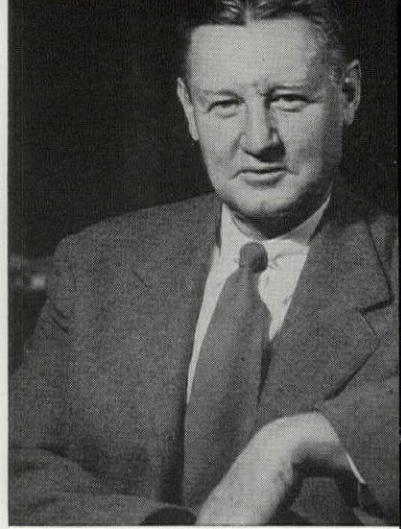


Reynolds, Inc.

WILLIAM SPACKMAN RESIDENCE
BOULDER, COLO.

Favorite Features of Recently Elected Fellows:
JAMES M. HUNTER, FAIA

From the Executive Director's Desk:



Photograph by Van Tassel

IT SEEMS THAT ALL PEOPLE, including the Russians, enjoy a modicum of whimsy in themselves and in others. When whimsy manifests itself, it takes on a variety of forms, the least expensive of which are writing or amateur theatricals. When whimsy goes architectural, the result can be pleasant, and generally is, and what is more important to its entrepreneur it can be lucrative, such as is Carcassonne in France and Disneyland in our country. The architectural manifestation, germinated by sentimentality, often results in monumental make-believe.

Architectural whimsy appeared in the days of classic Rome; certainly it did in the Renaissance period in Italy and in Germany. In England it blossomed in the 18th Century; and it was brought back forcibly in France in the 19th Century by Napoleon III, who engaged Viollet-le-Duc (a profound scholar) as his restorer of romance. Today the gauntlet has been picked up by us.

Now you can not have a successful architectural whimsy which is contrary to the predilections of the people. So the examples which we have produced and on which wealth has been lavished are enjoyed by the people. The blatant vulgarities that desecrate our countryside—brown derby hats for the purveyance of expensive or not-so-expensive food, twenty-foot milk bottles serving as dairy bars, or revolting hot dogs blown up to obscene proportions, which, despite their night-marish and nauseating appearance, still seem to attract cash customers, are not to be confused with monumental make-believes. Such monstrosities are generally ephemeral and serve no useful purpose but to occasionally relieve the grimy severity of the industrial background. The real subjects are of a more enduring character and are derived from scholarly approach.

Perhaps our most monumental example is Williamsburg. The research that went into that doubtless exceeded that which produced the Chateau of

Pierrefonds. I cannot help but wonder sometimes why all that money was lavished on building a reproduction of something which originally was without the historical significance comparable to other American shrines. Any number of 18th Century American buildings in New England or Philadelphia, or elsewhere for that matter, could successfully challenge Williamsburg on that score. There is nothing inviting about the landscape, but then in the exercise of whimsy, landscape is seldom important, except perhaps in Bavaria where the Mad King gave us Neu Schwanstein. Ludwig could not help himself in the matter of scenery; it was there.

That Williamsburg is enjoyed by many is legend, for even the Queen of England was persuaded to enter into the spirit of the occasion and played her part with charm and grace.

It is regrettable that time did not permit Her Majesty to journey at greater length and see more of our progress and aspirations.

Recently in our own southwest, and again in a most undistinguished bit of landscape, I came upon a phenomenally striking example of the juvenility that sometimes strikes the creative mind.

An imaginative developer seized upon a singularly dull piece of desert landscape as a site on which to erect a completely phony western setting. A crossroads and a filling station marked the spot on an otherwise desolate, dusty plain. The old filling station has long since disappeared and now there are blocks of imitation of the old West, appropriately labelled with names reminiscent of Mark Twain and Bret Harte, or even Robert W. Service. (Just how the Yukon came to Arizona is a bit of geographic magic that eludes my comprehension.)

It is fairly good fun for a short time to sit on plush divans in bits of stage scenery, to eat expensive steaks, preceded by libations of a composition calculated to send an old-time Westerner howling to the

desert with indignation. The ensemble of the town is a perfect movie setting for a gun fight. But there will be no gun fights. The natives may be less blood-thirsty, but the victimizing has the old bite. The dollars that go over the counters for the luscious steaks, high-priced liquor, the Navajo blankets, the exotic stained glass, the Dior creations, are very real dollars. Present day robbery in the western phony is accomplished with grace. It is not sanguinary, in fact it is painless.

Now I mentioned Carcassonne earlier in this paper. I recall that years ago, when I was small, my mother who at that time never had been there, used to read a poem to us which repeated the line "I have not yet seen Carcassonne." My mother, who was sentimental, read it with emotion and tears in her eyes. Both she and I finally saw Carcassonne. What the effect might have been on her I do not know, but on my part it took some doing to give that monument

to the Paris-Lyon-Méditerranée Railroad interests, the mystic adoration with which the poet endowed it.

Without tears in my eyes, I can say that I have not yet seen Disneyland, nor do I ever expect to see it, but at least I imagine that it is an honest piece of fantasy—its sole purpose to amuse children and to take in dollars. I have no doubt but that it succeeds in both of its objectives. On the whole, I think I approve of it and while one should not begrudge the sinking of dollars into the resurrection of nostalgia, one cannot help but feel that while we do not wish to see the old destroyed, and while the preservation of historic buildings is very real and very useful, that American dollars are far better spent in improvement and progress—let us say Urban Renewal.

Edmund D. Purus

Current Competition

For the purpose of "promoting and encouraging accomplishment in the arts and professions represented in the membership of The Architectural League and rendering them of greater use to the community," the Arnold W. Brunner Scholarship was established in 1941 by The Architectural League of New York. The League now invites applications for the 1958 award.

Any citizen of the United States is eligible to apply. Each applicant is to submit an outline of a project, study, or similar undertaking which bears on the field of Architecture or, in their aspects related

to Architecture, the fields of City Planning, Crafts, Design, Education, Engineering, Landscape and Site Planning, Painting, Photography, and Sculpture.

Within a maximum of \$2,500, a cash award, suitable to the project proposed, will be paid to the applicant making the winning submission.

Application forms will be mailed upon request, or may be secured at the office of the League at 115 East 40th Street, New York 16, New York. Applications must be returned to the League not later than February 15, 1958. The winning applicant, if any, will be announced about March 15, 1958.

CALENDAR

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.

February 4-6: The Society of the Plastics Industry, Inc., 13th Conference of the Reinforced Plastics Division, Edgewater Beach Hotel, Chicago, Ill.

February 11-12: Building Research Advisory Board, Washington, D.C.

February 24-27: Annual Con-

vention of The American Concrete Institute, Morrison Hotel, Chicago, Ill.

April 17-19: South Atlantic Regional Conference, Sarasota, Fla.

April 17-October 19: Brussels World's Fair, Brussels, Belgium.

April 18-19: Great Lakes Regional Conference, Morris Inn, Notre Dame, Ind.

May 18-21: American Institute of Decorators' 27th Annual Conference, Sheraton-Plaza Hotel, Boston, Mass.

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, Mass.

July 7-11: AIA Convention, Hotel Cleveland, Cleveland, O.

October 2-4: North Central Regional Conference, St. Paul, Minn.

October 8-10: Gulf States Regional Conference, Biloxi, Miss.

October 9-12: Northwest Regional Conference, Harrison Hot Springs, British Columbia, Canada.

October 30-November 2: California Council Conference.



Arden

The Young Architect's Role In Mass Housing

BY HERMAN H. YORK

The author is a member of the Long Island Society Chapter and has offices in Jamaica, L. I., N. Y.

He is also active in the NAHB and a member of their Technical Committee.

He has designed many hundreds of development houses on Long Island and in the New York area.

A PHILOSOPHER ONCE SAID that man is prompted to progress only by the forces of war or want.

The eloquence of this truth with all its ramifications is indelibly documented in the history of mankind where his struggle for survival so clearly parallels his many contributions to destiny.

Today, the home building industry is engaged in a monumental contest for economic stability. The tight-money policy, periodic increases in the cost of labor and materials, the spiraling rise of land values, the growing scarcity of prime building sites within a reasonable proximity to industrial areas and centers of commerce have all acted, individually and collectively, to disturb the growth of a heretofore expanding housing industry. Furthermore, the skyrocketing percentage of second home buyers who are now seeking new dwellings present a much more demanding market than was extant several years ago.

A need to counterbalance the detrimental effects of these unstabilizing influences has become obvious to merchant builders. The means of accomplishing this end is still a subject of much conjecture and debate. But the one concrete proposition that is rapidly gaining currency amongst these builders is the advisability of recasting the role of the architect into one of much greater substance and responsibility.

The new role which is being created for the architect should prove to be both interesting and challenging to many of the younger men in our profession. It offers a freedom of creative expression which was somewhat stifled during the post-war housing boom. It requires a more intimate knowledge of the many merchandising and sales promotion techniques employed in developing housing because much of the material for these programs can be

fashioned on the drafting boards of enterprising architects. It demands a comprehensive understanding of home buyers' preferences and interests so that new and advanced designs will not outdistance popular appeal and acceptance.

All this is in marked contrast to the stereotyped duties we merchant architects performed in the late 1940's and early 1950's. Then, when housing sales were booming and a "desperation" housing shortage existed, we were pretty much confined to designing homes which readily lent themselves to mass production and economy construction. Little time was devoted to creative or constructive planning. Frankly, builder clients outlined what they wanted in terms of design and we functioned to translate these ideas into finished working drawings.

This is not meant to suggest that incentive and ingenuity were being stagnated in a pool of complacency. They were not. But the forward motion of intelligent planning had been slowed to a trickle in a sea of mediocrity. During a period such as this, it is easy to understand why many of our younger brethren, imbued with the drive of youth, looked to more fertile areas to invest their talent.

Now, all that is changing. The nature of this change and its potential positive contribution towards better housing and a revitalized industry can be evaluated in terms of the services now performed by merchant architects. Let me set forth the procedures and methods as practiced by this office.

We recommend to our builder clients that they consult with us before consummating purchase of a building tract. However, compliance with this request is still the exception rather than the rule.

In any event, during our first formal conference an inspection of the site is made to analyze the problems peculiar to the area. This is important not

only to ascertain the general character of the area, but also to ascertain the type and style of house design that would best conform to that particular locale.

Either at this time or at a second meeting the builder's sales agent, advertising agent and public relations representative are present to consider the many factors which will eventually determine the saleability of the offering and the success of the job, i.e., the location of the showcase house, the price class, the style and design and the anticipated audience.

Preliminary sketches, normally 1/8" scale floor plans, are then prepared for submission to the client subject to the receipt of an adequate retainer and acceptance of our agreement outlining the fee arrangement, responsibilities and services.

We agree to perform the following:

1. Conduct conferences with client in our office.
2. Prepare preliminary sketches.
3. Prepare working drawings. These include details required by government agencies, village building departments, etc.
4. Prepare short form FHA-type specifications which are used primarily for commitment application and mortgage purposes.
5. Obtain the building permits with fee paid by the client.
6. Furnish blueprints for construction purposes.

The following services we do *not* perform:

1. We do not obtain the certificate of occupancy from the village building department. Should the builder not perform in accordance with village requirements the certificate may be difficult to obtain.

2. We do not make the actual submissions to the FHA and VA, although we are in close touch with these agencies. In our area mortgage brokers perform this service.

Our fee structure is scaled as follows:

1. We do not accept commissions for projects of less than 50 houses except where a former client is involved.
2. Assuming a medium size development to be 75 to 100 houses and that before completion four model houses will be required, the overall fee for 100 houses will approximate \$6,000.00 or about \$60.00 per house.
3. This is based upon a fee of \$300.00 for working drawings and \$45.00 per unit for "repeat" use of the basic design.
4. The \$300.00 difference between \$5,700.00 and \$6,000.00 represents possible charges for changes to working drawings.

It has been a long educational process to erase the practices of former years when a set of "blueprints" could be made up by the high school boy next door. However, there are still too many who think that anybody can design a house for mass acceptance.

It is a challenge which our young colleagues should not permit to go by the drafting boards.

Corrigenda

THE *Journal* regrets that the account written by Edwin Bateman Morris, Sr., in the August issue, entitled "The Post-Convention Tour to Williamsburg and Jamestown," neglected to mention the fact that the tour was originated, arranged and sponsored by the Committee on Preservation of Historic Buildings as its contribution to the Convention. Charles E. Peterson, Vice Chairman of the Committee, obtained the speakers and was in charge of arrangements, assisted by Orrin Bullock, Preservation Officer of the Virginia Chapter; A. Edwin Kendrew, Vice President of Colonial Williamsburg; Stanley Abbott, Superintendent of the National Historical

Park, Yorktown; and Leslie Cheek, Director of the Virginia Museum of Fine Arts.

In introducing August Heckscher, the author of "The Architect Today" in the November issue, the statement was made that Mr. Heckscher's address was given at the Centennial Dinner of the New York Chapter. This was incorrect. The address was delivered on the occasion of the dinner commemorating the one-hundredth anniversary of the founding of the AIA, given by the joint Committee on Centennial Observance of the Five New York City Chapters, AIA.

Chicago Dynamic



Chicago Dynamic was a series of events designed to dramatize Chicago's architectural heritage and focus attention on its architectural potential in the coming building renaissance. The program was sparked by the United States Steel Corporation, and sponsored and assisted by an impressive list of local corporations and associations, including the Chicago Chapter of the AIA.

Out of the many events and speeches, the Journal presents two which should be of interest to architects all over the country. One consists of excerpts from a conversation between Frank Lloyd Wright and Carl Sandburg, guided by Alistair Cooke; and the other is Mr. Sandburg's poem and reading entitled "Chicago Dynamic." Undoubtedly some AIA members saw and heard them over TV, but this presentation should bring them to a wider architectural audience.

The Conversation

ALISTAIRE COOKE: Ladies and gentlemen, my role in this evening's performance has been grossly exaggerated already—in any suggestion that I will get in even one sharp remark. This is probably the last speech I'll be allowed to make, so I'm going to make the most of it.

Now, the idea of having an Englishman—even an ex-Englishman—introduce Carl Sandburg and Frank Lloyd Wright to a Chicago audience strikes me rather like importing a Russian peasant to explain Bing Crosby to Bob Hope.

I just want to say that they are both great men, whom all Americans revere, who honor individualism and the arts, and they're both sons of Chicago.

Now aside from that, I know that they are both very formidable monologists, and I'm told my function is to guide them into the more restrained form of social intercourse known as a *conversation*.

I say no more. Mr. Wright and Mr. Sandburg: converse!

FRANK LLOYD WRIGHT: How do you do, Mr. Sandburg.

CARL SANDBURG: We are good monologists. He is afraid we will not be dialoguists tonight, sir.

MR. WRIGHT: And I'm afraid we won't be. Can you think of anything to talk about?

MR. SANDBURG: The present Chicago Dynamic movement is one of a *series*. The town has had 'em. It began when Chicago was being built on a mud-hole of a swamp, and—I wouldn't say with every generation, but at regular intervals the good historian who did his research properly could chart a series of Chicago Dynamic movements. One of the most illustrious, of course, was the world's Columbian Exposition, which had a nightmare of architecture, but nevertheless had its influence on America and the world.

MR. COOKE: How do you feel about the dynamism of the skyscraper, Mr. Sandburg?

MR. SANDBURG: Well, it's reached a point where one architect has, on a 22-foot length, outlined a mile-high building.

MR. COOKE: Why do you think they came about, Mr. Wright? I mean, here they are, and the whole world imitates them and feels grand in having them.

MR. WRIGHT: Well, originally, of course, they were a great economy, and I guess they're a great economy now.

But to build them in cities at this time is pushing the city to its end, and stating its doom a little too early perhaps; for they have no business in the city; they never did have. They belong out in the country where they can cast their own shadow on their own ground. They are, in themselves, of course, now a cliché. They are all very much alike. They are made in the same way. They are all built from the outside in—a steel framing—of steel outside—and then they hang a curtain on it of some kind that they devise—some pattern or other.

I don't think they're wrong, so far as the facades they do are concerned for the city, but I don't like to see them called architecture. I doubt if they are, and I doubt if they're ever going to be considered so in future.

MR. COOKE: If you could take over the future of Chicago, by which I mean you might be able to destroy it and start again, or go from where it is today—suppose you were given absolute power and money, and the blessings of the state legislature, what would you do with it?

MR. WRIGHT: Well, I think I would do what the people themselves would dearly love to do if they could: Decentralize the entire affair, and send the people back to greenery, where they belong—most

of them—and maybe build a “mile-high” or two for those brain workers who have to get together, no matter what, whatever the situations might be; build them a mile-high, or two or three, and then let them live in the country; perhaps create a commodity belt around the tall buildings, about a mile or so away. MR. COOKE: But you’d still have tall buildings in the country.

MR. WRIGHT: I’d have tall buildings in the country because the tall building is in itself essentially a poetic, beautiful thing; but not in the city, not while they’re eating each other up—competing with each other, casting their shadows down on the less fortunate neighbor who can’t build a skyscraper. They eat up his ground. They have taken to themselves an unethical privilege; and if you look at New York, from off, when you come in from the harbor, you see a great series of fingers threatening the sky—all there for one single purpose—rent—all competing with each other for one sole benefit—rent. None of it planned.

It has no organization, no thought, no feelings. It has been a negation of all the human attributes that should make buildings beautiful, because buildings are not humanly expressive, beautiful; and if they don’t mean that when you see them, if they look cruel, rattraps, mantraps, just facades advertising something or other—soap or whiskey, or what have you—then I think we shouldn’t call them architecture.

MR. COOKE: Mr. Wright, thank you for that. I’m going to ask Mr. Sandburg if Mr. Wright is correct, and all the human attributes have been obliterated by these great cities, how come that you’re still at it, Mr. Sandburg, writing poetry? What do you find that is worth celebrating in the human individual who lives in cities?

MR. SANDBURG: Well, I’ve lived with skyscrapers so long that I’ve come to accept them just like some people.

MR. COOKE: But you don’t find that men are crushed into ants, or unrecognizable, or . . .

MR. SANDBURG: Oh, Northwestern Railway station of a morning, and of an evening, is something hideous to look at. They’re like cattle. For all that’s said of the suburbs and life in the suburbs, the way they herd themselves into the suburban trains—there’s a pathos about it, there is something animalistic that ain’t so good to look at.

MR. COOKE: I am interested to know how you, as a poet keep your equanimity and your interest in human beings, and your good nature, through all this terrible thing that Mr. Wright has been telling us we’ve been going through.

MR. SANDBURG: I’m aware of it; I know what he’s talking about. I’m an old socialist. I’ve had my dreams, and I still have them, but I don’t allow them to dominate me. If I improve the present layout a little, then that is all right.

MR. COOKE: What would that entail? Suppose we dream a while.

MR. SANDBURG: Well, I’m not sure, but aren’t there cities—what are the cities in Europe that regulate the heights of the skyscrapers?

MR. WRIGHT: Oh well, they all do.

MR. SANDBURG: They all do, and we don’t.

MR. WRIGHT: Paris is the most beautiful city in the world just because it has space. It’s resisted these tall buildings, dumping thousands down into the street.

MR. SANDBURG: I’d like to hear more about that and see movements toward that end in this country.

MR. COOKE: Is Washington a good example?—because there’s a city with compulsory space.

MR. WRIGHT: It would be. All other things being equal it would be a very beautiful modern city, but of course it’s only a museum piece as it stands now, they’re all reminiscent, all old-fashioned buildings not at all representing our ideas—sovereignty of the individual, freedom of the individual. Not a building there I think expresses it; certainly not the Capitol.

MR. COOKE: But they were built by Americans. If Americans want to look like Greek wedding cakes, that’s their privilege.

MR. WRIGHT: You see, the Americans cannot claim a culture of their own.

The difficulty with America is when it came over here it had too much of the English on it as it came. It didn’t have anything on its own culture then, and it has very little, if anything, of its own much now.

MR. COOKE: Are you going to let that pass, Mr. Sandburg?

MR. SANDBURG: I’m going to ask: What about Walt Whitman? What about George Ade out of Chicago?

MR. WRIGHT: Oh well, you were talking about the English influences that our ancestors came over with—lace at their wrists and buckles on their shoes. The culture they had was all we had to go on—except various other cultures which came in and made the situation a little more hybrid, but not ours.

MR. COOKE: But don’t you think that the hybrid situation is the American situation?

MR. WRIGHT: Well, it’s an American characteristic, yes; but I hope to see America evolve, perhaps the freest, noblest, greatest culture of its own that any nation ever had just because we have such great facilities—because we can build these skyscrapers.



The Reading by Mr. Sandburg: *Chicago Dynamic*

IF I HAD NOT WRITTEN many poems, good, not-so-good, or rather bad, about Chicago, if I had not written about Chicago as a great world city, the fourth largest city in the free world of today, proud and strong for all of the ugly and brutal, if I had not loved Chicago as Victor Hugo loved his Paris, as Charles Lamb loved his London, I would not be here tonight saying, "Cheers! and more cheers!" to the Chicago Dynamic Committee and their immediate target, works and aims.

In the evening there is a sunset sonata comes to the cities.

The skyscrapers throw their tall lengths of walls into black bastions on the red west.

And who made 'em? Who made the skyscrapers?

Man made 'em, the little two-legged joker, Man. Out of his head, out of his dreaming, scheming skypiece,

Out of proud little diagrams that danced softly in his head—Man made the skyscrapers.

With his two hands, with shovels, hammers, wheelbarrows, with engines, conveyors, signal whistles, with girders, steel,

Climbing on scaffolds and falsework with blue-prints, riding the beams and dangling in mid-air to call, Come on, boys—

Man made the skyscrapers.

When one tall skyscraper is torn down
To make room for a taller one to go up,
Who takes down and puts up those skyscrapers?
Man—the little two-legged joker . . . Man.

Stand on your tall haunches of
checkered windows with your
spikes of white light

Speaking across the cool blue of the
night mist:

Can we read our writing?

What are we saying on the sky-
line?

Tell it to us, skyscrapers around Wacker Drive
in Chicago.

Tall oblongs in orchestral confusion from the
Battery to the Bronx,

Along Market Street to the Ferry flashing the
Golden Gate sunset.

Yes, who are these on the harbor skyline,
With the sun gone down and the funnels and
checkers of light talking?

Who are these tall witnesses? who these high
phantoms?

What can they tell of a thousand years to come,
People and people rising and fading with the
springs and autumns, people like leaves
out of the earth in spring, like leaves down
the autumn wind—

What shall a thousand years tell a young tumultuous
restless people?

They have made these steel skeletons like
themselves—

Lean, tumultuous, restless:

They have put up tall witnesses,
to fade in a cool midnight blue,
to rise in evening rainbow prints.

I have heard this week elaborate and searching discussions of architecture and city planning. I have heard men who build cities talk about architecture beyond economics and into the realm of people and how they have to live with architecture, good or bad. I see a degree of vision and will that I believe cannot fail of good results.

I have seen an awareness and an anxiety about how Chicago builds today and tomorrow in booklets and brochures far surpassing anything I have known in past generations. I have listened to what Chicago is saying on its skyline, writing proud with new tools and materials, slender shafts of stainless steel rising many floors with ease and grace, steel structures in gay porcelain robes gathering the colors of the rainbow into the skyline to flash with the silver, bronze, copper and gold already there.

I talked with two men who stood in front of a 40-story apartment building facing the Chicago river from the south side. They were sure they would get tenants for every one of the forty floors. They could easily crowd into that building the whole population of Chicago of 140 years ago, about as long a time as the lives of two grandmothers of 70 years each. They were sure the 40-story steel-walled structure would outlast them and would be standing beyond the lives of their greatgreat grandchildren.

In his famous House Divided speech in 1858 Lincoln's opening sentence ran, "If we could first know where we are and whither we are tending, we could better judge what to do and how to do it." In the past sixty years we have seen large-scale slaughters of human beings, diabolical shames and outrages, almost inconceivable violations of human dignity of a kind and on a scale never before known to the Family of Man around the earth. Yet in this same sixty years, runs the chronicle, in transport and communication, in mass production, chemistry, preventive medicine and other fields man made greater advances, more startling discoveries than in all the preceding five thousand years. Conservative men of science now tell us that the next sixty years will be as original and daring in new discoveries and inventions as the period we have just passed. Across that same period of time they have in the steel industry found uses for stuff they used to think was of no use. To me it was a little dramatic to ride with General Superintendent John Vohr past the ovens where they make coke out of coal. He explained a gas is made in the process. And it may be funny or unfunny to recite the names of the products derived from this gas, the estimated two hundred thousand useful products—that in the old days were burned up and lost in beehive ovens. To name only a few: Sulfa drugs come out of coal chemicals, also

aspirin, novacaine, barbiturates, certain vitamins and antiseptics, colors and flavors in soft drinks and foods, nylon, and toluol which is the basis of the explosive TNT. And this is only part of the funny or unfunny roll call of what the steel works make that ain't steel at all.

Everything in the past died yesterday; everything in the future was born today. The future so terribly real waits where it cannot be seen and sometimes comes rushing at us like a wind. What does history say of tomorrow? History says tomorrow waits with a big broom.

When man broke from the Stone Age into the Iron Age there were traditions shattered; they refused to be satisfied with a stone hatchet and experimented till they had an iron hatchet. They were men refusing to conform, refusing to bow down to those who told them it couldn't be done. And the men who discovered electricity and brought on the use of electro-dynamic force, they were quiet men with inquiring minds, men unafraid of the Unknown, an international partnership in several nations, Ben Franklin in our country, Ampere in France, Volta in Italy, Ohm in Germany, Farraday in Britain synthesizing their findings. They all had the freedom of mind and the independence of spirit which was to be seen in one of the men whose work led to the discovery of atomic energy. Early in his career when Albert Einstein was asked why there was such a commotion about his theory of relativity, he answered, "I challenged an axiom."

The Phi Beta Kappa fraternity has a toast that goes back many years: "Here's to pure mathematics—may it never be of use to anyone!" And curiously enough it has been the professors, the men of learning so often the butt of cheap jokes who have originated and laid the way for the Atomic Age and all its threats and promises. Who is the man of war today? Who is Mars? He is the professor, the mathematician and physicist, the man of books, equations, laboratories, test tubes—he is the creator of nuclear weapons, radar, intercontinental ballistic missiles.

Man the stumbler and finder, goes on,
man the dreamer of deep dreams,
man the shaper and maker,
man the answerer.

: :

The hammers of man from stone to steel,
the fire of man from pine flare to blowtorch,
the lights of man from burnt wood to flash bulb,
clew readings of man from hill bonfire to radar
shadings,
the fights of man from club and sling
to the pink mushroom of Hiroshima,

the words of man from spoken syllables
to rushing rivers of books begetting books,
to speech and image transmissions
crowding the day and the night air
for the looking and listening Family of
Man—

the tools of man ever foretelling tools of new
faces to be given new names—
ever the prophets are a dime a dozen
and man goes on a moon shooter.

We live in the time of the colossal upright oblong. We are meeting in the city where the skyscraper was born. The first one, the Home Insurance building of more than seventy years ago and its later companion of that early period, the Rookery, they are now overtowered by far taller ones who laugh at how far they gaze and what they can see in the daytime across Lake Michigan and the Illinois prairie. Chain supermarkets from coast to coast, concrete highways spanning the continent for a motorized America, millions of horses vanished into horizons of thin air to be replaced by millions of steel tractors, skyways and airport timetables, towels and kerchiefs of tissue replacing linen and cotton, millions of outdoor privies banished in behalf of indoor plumbing and flush toilets, the candles of the early Lincoln generation and the later kerosene lamps replaced by the Edison light bulbs, the sweated trades and slum needle workers amalgamated and moving into middle class comforts. And now the people, the vast millions by printer's ink and billboards, by neon signs and show windows, by radio and TV mandates over the airways night and day, the vast millions told to live better, to want more, to live more easy, to have more fun and comfort and even luxury.

And now there is a material prosperity, a fat-dripping prosperity, surpassing any previously known to the American people, even though there is an estimated fringe of some twenty million persons on or close to the poverty line. And now there is complacency and conformity among the young people to such an extent that several eminent educators on last Commencement Day felt called on to tell these young people in effect: "Beware of being satisfied with things as they are! Beware of conformity in ideas!"

This time of nuclear weapons and the cold war is one crisis, the latest one. There have been many others in the making of this nation. The call to hardship, toil and combat runs like a blood-scarlet thread over and through the story of our American people. It has cost to build this nation. Living men in struggle and risk, in self-denial and pain, in

familiarity with sacrifice, wounds and death—those living men of the past paid that cost.

Long before this time of ours America saw the faces of her men and women torn and shaken in turmoil, chaos, and storm. Not yet amid all the dark possibilities of war with nuclear weapons have I met so desperate an outcry as the Union army brigadier-general in the spring of 1864, troubled and shaken because of fearful blunders and the reeking stench of corruption, writing to his wife, "May God save my country, if there is a God and if I have a country."

Always the path of American destiny has been into the Unknown. It was never more true than now. With each new test and each new time it cost and there were those prepared to pay the cost. At Plymouth and Jamestown there was the Unknown of a vast continent of wilderness to be faced. At Philadelphia in the writing of the Declaration, and later amid the cold and filth of Valley Forge, there was the Unknown again, no precedents, no fore-runners to guide. Later in the trials of crossing the Great Plains and pioneering the West coast and in the bloody sectional struggle that hammered national union into a finality, there was ever the Unknown. And never was it more true than now—the path of American destiny leads into the Unknown. And Chicago has always had its fate interwoven with the American Union of States.

Portentous came those words from Lincoln in a message to Congress Dec. 1, 1862: "The dogmas of the quiet past are inadequate to the stormy present. We must think anew, we must act anew. We must disenthrall ourselves." When you disenthrall yourself you break from bonds that hold you. You cut loose from old traditions and begin to make new ones. This Chicago has done in previous dynamic periods. Daniel Burnham, who was part of a Chicago Dynamic of a former time, is unforgotten out of his work and his saying, "Make no little plans . . . Aim high in hope and works."

In Chicago's testament for the present and future there belong in deep faith the words of Mayor Carter Harrison in 1893: "Genius is but audacity and the audacity of Chicago has chosen a star. It has looked upward to it and knows nothing that it fears to attempt and thus far has found nothing that it cannot accomplish."

In the book *Remembrance Rock* an affirming character says: "Man is a changer. God made him a changer. You may become the witnesses of the finest and brightest era known to mankind. The nations over the globe shall have music, music instead of murder. It is possible. That is my hope and prayer—for you and for the nations."



Student Forum Photos by Amato

Third Annual Student Forum — at the Octagon



THE OCTAGON SMOKER, STUDENTS IN A DISCUSSION WITH WALTER NETSCH (ABOVE) AND PHILIP JOHNSON.



Each year on the three days prior to Thanksgiving, the Institute has invited student representatives from each of the 65 schools teaching architectural courses in the United States to come to Washington to participate in a three-day forum of Institute activities.

The stated purpose is "to give a student representative from each school an opportunity to familiarize himself with the operations and functions of the Society which will represent his interests at the national, regional and local levels through his professional life."

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

In anticipation of the three days of activities, a large majority of the students arrived early for registration on the first day. Many delegates were accompanied by fellow students which brought the registration total to 119 by the time of opening remarks by Paul Hunter, AIA Chairman of the Chapter Affairs Committee and the welcoming address by AIA President Leon Chatelain, Jr. Robert Harris, graduate student at Princeton University and last year's Vice President of the student organization, shared the welcoming honors.

The Institute's Second Vice President Philip Will, Jr., FAIA, set the keynote for the Forum by emphasizing the need for additional exchange of information between practitioners and students in order that students might more fully prepare themselves for their professional role to follow academic training.

Edmund R. Purves, FAIA, Executive Director of the Institute, described the organizational structure of the AIA, the role of Chapter and Regional officers and committees within the National organization, and outlined headquarters activities in addition to introducing staff members charged with the responsibility for administering specific parts of the many services. A discussion followed, prior to adjournment for an all-student buffet luncheon held in the Octagon.

Closed sessions gave students an opportunity to become acquainted with delegates from other parts of the country as well as students from near-by schools in their own regions. Regional acquaintances made in these sessions were acclaimed by the students as a vital mechanism by which an interchange of ideas between schools can be continued throughout the year.

At 4 PM on the first day, informal talks were given by Walter A. Netsch, Jr., AIA, Skidmore, Owings & Merrill, on the Air Force Academy Chapel and by Philip Johnson, AIA, project partner with Mies van der Rohe on the Seagram Building. Discussion following the talks was continued during an evening session in the Octagon. The accompanying photos transfer the air of intensive interest which surrounded the two speakers and their projects.

The first half of the second day was devoted to student discussion with Bergman Letzler, AIA, Regional Director from the Great Lakes district and chairman of the AIA Special Committee on Student Activities, James M. Hunter, FAIA, chairman of the AIA Education Committee, and Paul R. Hunter, AIA, chairman of the Chapter Affairs Committee under the discussion leadership of George Pierce of the AIA Chapter Affairs Committee. Since student activities is a charge of the Chapter Affairs Committee, the full committee was in attendance for the entire Forum. The vertical structure of this committee will enable personal reports at Chapter and Regional meetings throughout the year.

The principal outcome of this session was a proposal by the students to create a permanent student delegate organization for the purpose of extending the exchange of information between students throughout the year. Traveling exhibits of student work and continuation of the student ANNUAL were proposed.

The cover for next year's ANNUAL shown below was selected from 32 entries by a jury composed of Philip Johnson, Walter Netsch, and Byron Bloomfield of the AIA staff with last year's Annual Editor, Donald R. Roark, as advisor.

E. B. Morris, Jr., AIA, Assistant to the Executive Director, conducted an afternoon discussion with the following authorities as panel members: Robert R. Denny, H. J. Kaufman and Associates, public relations counsel for the Institute; William Stanley Parker, FAIA, contributing author to many Institute documents including the AIA General Conditions; Clinton H. Cowgill, FAIA, co-author of "Architectural Practice" and editor of the AIA Handbook of Practice, currently under revision; and Edward L. Wilson, FAIA, Secretary of the AIA, known for his service to society as well as the profession.

Questions on ethics such as the need for a society to represent the professional interests of architects were freely and aptly discussed by Mr. Denny. Mr. Parker explained the evolution of the AIA documents and their validity in courts of law over the years. Mr. Cowgill gave the students a glimpse of the current status of the profession and an outline of what can be expected in terms of office organization upon entering a firm of practicing architects after graduation. Secretary Wilson explained the role of practitioners as influences on the committees which they serve.

In the evening, Eric Pawley, AIA Research Secretary, delivered an extremely stimulating illustrated lecture on "Architecture and the Neglected Senses," identifying the senses of smell and touch, as frequently omitted design factors and the senses of hearing and seeing as seldom used to their optimums.

WINNING STUDENT ANNUAL COVER BY EUGENE EDWARD AUBRY, UNIVERSITY OF HOUSTON. ALSO SHOWN IS LAST YEAR'S EDITION, COPIES OF WHICH ARE AVAILABLE FROM THE EDITOR, DONALD ROARK.

George Lohr





THE NEWLY ELECTED STUDENT REGIONAL DIRECTORS AND OFFICERS. FROM LEFT TO RIGHT, VICE PRESIDENT EUGENE E. BURR, ANTHONY GENDUSA, JR., JAMES B. TUNE, LEONARD VOLK, A. FREDERICK KOLFLAT, SECRETARY-TREASURER ALLEN ROTH, PRESIDENT PAUL RICCIUTI, JAMES E. WHEELER, NEWSLETTER EDITOR FRED TOWERS, JACQUES DEBRER, AND ANNUAL EDITOR JOHN CREMONA.

After introduction of newly elected student officers a report on redevelopment and the architect's role was brought to focus by Carl F. Guenther, AIA, Outcalt, Guenther and Associates of Cleveland, Ohio, by explaining his firm's participation in the Cleveland Redevelopment Plan. He also surveyed student interest toward formulating the student program for the next Annual Convention.

Harold D. Hauf, AIA, Dean of the School of Architecture at Rensselaer Polytechnic Institute, former practicing architect, editor, and AIA staff member presented the concluding remarks in which he stressed the vital role of the AIA "Architect-in-

Training" program and specifically the "Logbook" record of trainee experience toward fulfilling the role of better integration of students into the profession.

Even though the Institute paid the principal transportation expenses for one delegate from each school, many additional students through their own initiative, found funds available from local AIA Chapters to attend the conference. Many students reported that they also received support for hotel and living expenses and travel from Chapters.

Congratulations to all members that have helped support the students toward attending this year's Forum!

Tricky Words

THE VISCOUNT HAILSHAM, Minister of Education for Great Britain, has said, "Traditions are like lampposts which furnish support to drunks unsure of their own stability." Lampposts support lights which diminish darkness and are invaluable in designating the direction of your journey and establishing from whence you have come. So much for lampposts.

Tradition has become a term of condemnation, an ugly word in the field of arts and design. Unfortunately through misuse, it has come to mean any form used before the introduction of modern architecture, or more accurately any past form with which the modernist chances to be familiar.

This usage has placed in the minds of the very young and a number of older but ill-trained practitioners, the idea that each creation must be something entirely new, something completely different from anything done heretofore. In this mad scramble for the new and different, no time is left for the perfection of ideas. Each thing must spring from the

mind of its creator in its final perfect form to be admired for an instant then cast aside for the next exciting creation.

Students are drilled in things called "abstracts" to excite and stimulate their imagination during that portion of their training once dedicated to the study of traditional things.

I have no brief for Tradition as such but much respect for a critical criteria. Without such criteria there can be no great rebels in the field of Art and Architecture for there remains nothing to defy. Thus we are unable to distinguish between the creative designer and one who has but traded the traditional forms of architecture for those of an egg crate.

I think of good design as an emotional experience intellectually received and I refuse to accept someone shouting "boo" in my ear as a fulfillment of this definition. There are so many people who shout "boo" startingly and so few who design buildings beautifully.

HUBERTUS JUNIUS



LIFE IN A MARTINI GLASS:

The Art of Bullfighting is better expressed by Baedeker, Hemingway, Barnaby Conrad and a host of others; drawn by Goya, Picasso and Zuloaga; and set to music by deFalla, Debussy and others. If you wish to read about it there is a long bibliography. But the true architect must see and feel his problem, and get the true spirit of bullfighting. I visited Mexico, Spain, Portugal, France and the frescos at Knossos.

All these countries have bull fights at regular intervals and the land is filled with oval rings varying in character from a village square enclosed with wagon barriers to the great bowls. There seem to be three schools of thought on attaining the "moment of truth" in bullfighting and they are equally boring. Most of the actors in this drama are Gypsies, who, to this moment have never had a great reputation for truthfulness. The Spanish are supposed to be the artistic fighters, Mexicans the rough guys, and the Portugese "do not keeling the bool but only teasing him to death." Therefore, in designing a bull ring, you must recognize the facets and nuances and maybe express the spirit of the sport in motifs, being careful to copy the garlanded bull skulls from the Parthenon.

The basis of a simple bull ring is an oval, maybe that wide or perhaps a little wider, all depending, and about twice as long as wide or in some instances a little shorter. This harmonious achievement of a shape follows nature's immutable law that the egg or oval is the symbol of fertility, death, life, beauty and bull rings. The oval is enclosed by a barrier or barrare or barrera, about leaping-over height and four feet wide which gives the handlers a place to pass out swords, barbed sticks, capes, and pics because "the moment of truth" don't come easy and requires lots of prodding, blood-letting, fancy foot work and distracting cape weaving. This barrera serves the additional purpose of providing a hasty exit in case the bull decides that the moment has arrived sooner than the fighter thinks so. At that precise moment the bullfighter may hurdle the barrera showing his sequined seat to the fierce animal, or in some instances, the bull, seeking the truth, may hurdle the barrera and even come up into the stands looking for his adversary.

Around the enclosure of the rings rise the stands which hold the public. They come every Sunday afternoon at tea-time to witness eight bulls being massacred by gypsies in fancy pants and ladies' hats. It is very difficult to give you the exact dimensions so that Cy Silling could devise a modular system for bullfight rings and take all the business.

DEAR BOSS: The other day we arrived in Paris, after a long European search to see if modern architecture had made the great strides I had been reading about in all the better architectural journals, which of course, are European and far superior to our own achievements, we're such a young country, you know. We saw a lot of modern and, while it's all right for these youngsters to go concreting everybody into little cell blocks, as we rolled into Paris, I wheeled directly to St. Germain des Près to see if all this hard-boiled culture had wrecked what was the center of civilization when I was a dumb boy, misled by the Beaux Arts beards.

For everybody over forty I may now say that it is all still there, the Deux Magots, Lip's, Carboni's, the aging patrons and the newsstands. The great unwashed swirl past the Flore half way up the block missing the plaques marking the spot where Skidmore, Stone, Landefeld, Roorda and a couple thousand more giants of the profession cut their teeth on Pernods and "demi-blondes."

The mail which I hadn't seen for two months, contained letters of praise from my faithful readers and four back issues of the *Journal*, which I devoured. I am now up on "A New Architecture For Man," "Modular Pep," "Art and Society," backbiting and forward looking. The profession seems full of gentlemen who take pen in hand to state simple truths and go haywire waving their fingers at me for not producing the Parthenon in concrete or Notre Dame in glass.

So, to do something progressive for the profession and give you the benefit of my wide and varied experience in traveling about, finding new forms for the boys to copy, I thought I could study and measure the Architecture of the Bull Ring.

Our Spanish and Portuguese ancestors discovered that "the great moment of truth" is at the end of a bullfight and they have devised an "ordered space environment" (Kump) which you can't find dimensioned in "Ramsey and Sleeper."

In the first place it takes a maximum of courage and considerable fancy footwork to go right out there into the ring and make an accurate measured drawing of a perfect oval. You could, at least, get the major and minor axes. But even this is not so simple. I took a tape along. There was the beautiful sand, flat, lovely and golden and washed down clean and smooth by the Seville Fire Department. I looked, in vain, in my Spanish-English dictionary to try to explain to the guard that what I wanted was permesso to go out there and stretch a tape which he could hold onto. At the very idea that I would jump the barrera and ruin that smooth sandy surface he screamed and six cops grabbed me and said it was a jail sentence for twenty-four hours.

I waited all afternoon. By the time eight bulls had met their truthful end, the ring was a soggy mass of the remains of dead bulls, gored horses, sequins from tossed bullfighters, pillows which had been thrown by the over-wrought, cigars, flowers, bottles, broken lances, colorful busted banderillas, torn capes and the general untidiness of a battlefield. As the last bull was dragged away, I pushed my way down to the barrera to get my tapes across, but nobody would help me and I couldn't bring myself to ask Betty to slog across there in that new pair of red leather high-heeled pumps made especially for her by a Madrid bootmaker to the King, so I just ran my eye carefully across, holding my HB pencil at arm's length and guessed. I put that note somewhere but it has eluded me in a mad search of my baggage. Anyhow, when the time comes, I guess the Fullbright Commission will finance some young thing to go to Rome for three years and make measured drawings of the amphitheater at Nimes where they now hold bullfights. By the time the savants agree, it will be long past my bedtime. I wrote it all down in feet and inches which were probably all wrong. I had transposed them into meters and centimeters but just then some picador came along and I asked him for his signature which was a big X right across my main axial measurement.

Completely sunk I thought I could at least get a measurement of a single seat and then figure a number which could fill a row and multiply that figure by the number of rows and so determine a module. I did find a notation of meters and centimeters, cryptically scribbled on a bar check but I think that was the measurement of my weight in a broken machine in the Tuilleries gardens. I asked a Spanish gentleman to find out how many people the bull ring at Madrid held and he came and spent a whole afternoon describing bullfighting to us and late at night it came out that it was hard to tell, because when Manolete was fighting, one hundred

thousand people crowded in and stood in the hot sun packed body to body, but with the present day fighter nobody goes and the attendants have to throw pillows so that on television it looks like a good fight. A seat is the width of a pillow and the accuracy is further complicated by the fact that even if they did number them the greedy landlords sell seats in the aisles and on the parapets and the best seats are on top of the barrera.

From what I read in the papers there are many brave bulls running loose in America right now. It seems a pity that the great Architectural profession has not provided a proper environment for them to assert themselves.

I thought that, maybe, I would suggest altering the Capitol building in Washington, D. C. to incorporate a bullring, but I hesitated when I saw a lot of giants of The American Institute of Architects bleeding profusely, if not always profoundly, before television and microphone in favor of preserving unchanged, that untouchable white elephant.

But I just got a magazine with the modest title of *Architectural Forum*. They violate the confidence of an "off the record" interview with Arthur Brown which they printed after he died. The *Forum* feels that this "makes the time more ripe to put the Capitol into top architectural hands, free and ungagged."

Well, as a top flight architect, I better get my bull ring before the proper authorities, quick, because that old east front of the Capitol would look good, like a bull ring should.

The present consultants could use my scheme free without any help from the *Architectural Forum's* stable of "top architectural hands."

My solution would be to run an oval-shaped bull ring around the sacred east front. This could be studied to incorporate the necessary cafeterias, walkways and areas to keep Senators and Representatives away from the lobbyists and hoi polloi. In addition, it could be an exedra, a gathering place for the multitudes to witness any spectacle from bullfights to inaugurations. I think it could be done without disturbing the serenity of the existing buildings and really enhance the present top-heavy solution.

As I am supposed to be only the floor show, I expect a lot of nasty remarks from the smart-pants so I confess I got this idea from looking at a picture post-card of Bernini's beautiful colonnade which makes Saint Peter's look good. If some foreigner suggests this scheme of mine years from now, and the minds fall over trying to translate it into English and build it, I am going to be sore if they call it Bernini's colonnade and not Bendiner's colonnade.

August Bendiner

SIGNING BUILDINGS—Boston Style

EDITOR'S NOTE: *Our request in the September issue for a retelling of the old McKim, Mead and White-Boston Public Library story brought forth several replies. The most entertaining one appears below. It is from Dr. Louise Hall, Associate Professor of Architecture at Duke University. Our most gracious bow to Miss Hall.*

EDITOR, *Journal of the AIA*

Your editorial teaser about the Boston Public Library acrostic on McKim, Mead and White has doubtless netted you a sackful of references to Thomas E. Tallmadge, FAIA, "The Story of Architecture in America." Alas, sad sackful.

"I have taken great pains," wrote the disarming Mr. Tallmadge, "not to verify" the frieze story. Just one small pain, just one glance at a photograph, and Mr. T. would never have written "frieze" for "tablets."

The names on the tablets visible from Copley Square today number at least 230; other elevations *pro rata*. Four variant selections and arrangements of the names were illustrated in the official "Supplement to the 37th Annual Report of the Trustees of the Public Library, 1889." And not one of them resembles either the display now to be seen or the one "a reporter" claimed to have seen in 1892.

Whatever the source of the story—whimsically true, or simply a summer space-filler in "the Boston papers"—herewith is the version attributed to that source by Ticknor & Co. of Boston and published in their *The American Architect and Building News*.

I have chosen this reference, without taking time (any more than did Mr. T.) to hunt up "the Boston papers," because of its immediate effect on British-born Alfred J. Bloor, FAIA, of New York, Secretary of the Institute. Enclosed also is his plea to the Editors for recognition of the architect, acrostic or no: "Signing Buildings."

The topic having lost little of its timeliness during the 65 years since Mr. B.'s letter appeared in print, perhaps we can afford once again to remember—bolstered by Henry Saylor's "First Hundred Years"—that we ourselves are not the minters of all the coins held out to us in the Beckoning New Century's other hand.

LOUISE HALL
Durham, North Carolina

FROM: *The American Architect and Building News*, Vol. XXXVI, No. 860, June 18, 1892.

A TEMPEST in a teapot has been raging, according to the Boston papers, among the people interested in the new public library building, which, it will be remembered, is the work of Messrs. McKim, Mead and White. Operations on the building have been nearly at a standstill for some time, owing to the failure of appropriations, but, a few days ago, it was determined to go on with the inscriptions intended for certain tablets on the front. The wish of the Trustees was to fill the tablets with names of distinguished authors, musicians and artists, but the unfortunate idea occurred to them to select six hundred names, and send the whole collection to the architects, to be arranged in such a manner as might impart the most artistic appearance to the tablets. Architects will readily imagine what the busy professional men did with the names. According to the most probable account, they turned the list over to a daughtsman, recently graduated from college, who might be supposed to have some judgment in such matters, to make a suitable arrangement. Instead of this, however, it occurred to the youth to arrange his first list in such a way that the initial letters of the names spelt the words "McKim, Mead, White." If the silly joke had been carried out with more care, it might not have attracted attention; but the facetious youth began his tablet with the names, "Moses, Cicero, Kalidasa, Isocrates, Milton." The people of Boston are tolerably well accustomed to jumbles of literature and theology, but to see Moses, Isocrates and Cicero lumped together in a tablet in front of their most important building, carefully drawn in red chalk, in preparation for cutting, startled even them; and their astonishment was not allayed by discovering, on the tablet below, the names of "Wren, Herrick, Irving, Titian, Erasmus." The most indifferent lover of art and literature must feel some qualms at such a ridiculous hodgepodge as this last group, and when the penetrating intellect of a reporter had "analyzed" the inscriptions, and his penny newspaper had held up to the righteous indignation of the public the "cheap advertising acrostic" which, as it informed its readers, had been "put on the tablets by direction of the architects," there was a very general expression of disapproval of the joke. It is hardly necessary to say that the names were speedily erased, by direction of the Trustees,

but it will be many days before one or two of the Boston papers, when they have vacant space to fill, will tire of reiterating their comments on the sin to which the architects of the Library were led by their anxiety to bring their names before the public.

FROM: *The American Architect and Building News*, Vol. XXXVII, No. 864, July 16, 1892.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

DEAR SIRS,—I have had no opportunity lately to keep *au courant* with such serial literature as comes to me; and it is only to-day that I see (although I had heard of it) what you say in your issue of the 18th ult. about the arrested inscriptions for the tablets on the new Public Library building in your city.

That draughtsman evidently desired to do honor to his *alma mater*, (you give us no information as to which college he graduated from, but we may doubtless rest serenely in the conviction that it was not Harvard), by showing the extent of its biographical library, if not the thoroughness of its tuitional methods as regards the formation of clarifying and proportion-heeding powers; or else he is a born Joe Miller, with the super-imposition of enough Ameri-

can independence not to draw the line even at one professional principles, when an opportunity offers for the display of one's facetiousness.

But I really think the trustees in question (though I know nothing whatever about them—the are simply an abstraction to me), might do much worse than to take the hint furnished by our doubtless well-meaning if somewhat sophomoric draughtsman (who however deserves no slight sympathy under the avalanche of the six hundred names you say they furnished for selective processes), and set the example to other trustees, and to building committees generally, of giving the architect the same privilege accorded to the painter, the sculptor or whatever other artist, as well as the literary man of affixing his name to his work and earning thereby such honor or dishonor, such praise or blame, as it may command. The privilege has been and still is not infrequently accorded to the architect in the Old World, and indeed is not wholly without precedent—if my memory serves me—in this hemisphere; and the granting of it would come with special grace from those whose trusteeship includes the interests and honor of art, education, as well as of literature.

A. J. BLOOR

BOOK REVIEWS

CALIFORNIA HOUSES OF GORDON DRAKE. By Douglas Baylis and Joan Parry. 92 pp. 8¾" x 8¾". New York: 1956: Reinhold Publishing Corp. \$6.50

Gordon Drake was a young designer—not yet licensed—who died suddenly in 1952 at the age of 34. The small amount of executed work he left showed an extraordinarily profound and perceptive mind. He was obsessed with the idea that architecture was for *people*, and that it was possible to design and build houses which by their simplicity and straightforwardness would inevitably be economical and thus available to thousands of people. His own few houses are beautifully thought-out examples of his theories.

THE EARLY ARCHITECTURE OF GEORGIA. By Frederick Doveton Nichols, with photographs by Frances Benjamin Johnston. 312 pp. 12¾" x 9¾". Chapel Hill: 1957: The University of North Carolina Press. \$15.00

A sumptuous volume of beautiful photographs of the mansions of Georgia—and not only photographs, but plans, details and historical information; and not only mansions, but a few churches, halls and civic buildings. This is another source-book on the gracious architecture of our forebears, one to be studied and cherished. The author is head of the division of architecture in the McIntire School of Fine Arts of the University of Virginia.

A GENERAL HISTORY OF ARCHITECTURE. By Bruce Allsopp. 248 pp. 6" x 9¾". New York: 1955: Pitman Publishing Corporation. \$6.95

Why another history of architecture? As the author says in his foreword, it seems as though the whole of architectural history has acquired a Victorian tinge; the Victorian concept of art still colors our thinking. Furthermore, many new discoveries and new interpretations have been made since the standard histories were written. There is need for a complete reassessment. This book is meant as a foundation for a more detailed history of architecture in several volumes which are to follow.

Library Notes

IN PRESENTING this subject list of the Library's holdings we have endeavored to select those books which pertain to the site and the building element most influenced by the site. Surveying is a necessary preliminary to site planning. Study of soil conditions is likewise essential before final planning can be completed. Excavating, while not of such direct concern to the architect, is included as an important element of site work. Although foundations might do with framing, this subject has been included here because of their direct dependence on soil conditions. Landscaping has not been covered in the present list.

It is planned to present similar lists dealing with other phases of the building project. All books listed are available on loan to corporate members of the Institute at the usual fee—fifty cents for the first volume and twenty-five cents for each additional.

GEORGE E. PETTENGILL, Librarian

Surveying

BIRCHAL, HAROLD FRANK

"Modern Surveying for Civil Engineers." 2d ed., rev. London, Chapman & Hall, 1955. 528p.

MIDDLETON, REGINALD EMPSON

Middleton & Chadwick's "A Treatise on Surveying." New York, Philosophical Library, 1956.

Site Planning

CLABER, EUGENE HENRY

"Housing Design." New York, Reinhold Pub. Corp. 1954, 247p.

NEUTRA, RICHARD JOSEPH

"Mystery and Realities of the Site." Scarsdale, N.Y., Morgan & Morgan, 1951. 64p.

PARKER, HARRY AND JOHN W. MACGUIRE

"Simplified Site Engineering for Architects and Builders." New York, Wiley, 1954. 250p.

Soil Mechanics

BOUGH, BENJAMIN K.

"Basic Soils Engineering." New York, Ronald Press Co. 1957. 513p.

HUNTINGTON, WHITNEY CLARK

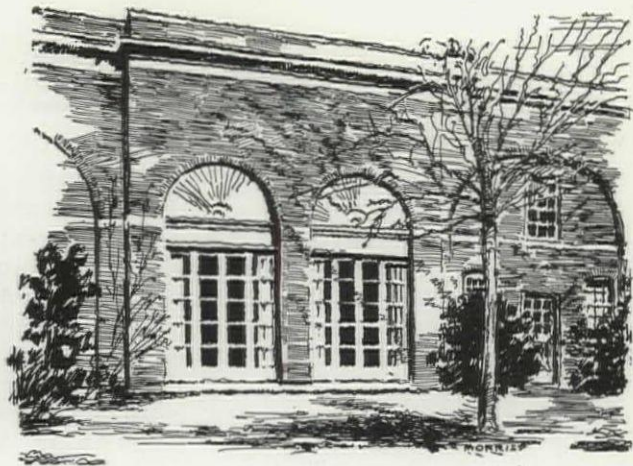
"Earth Pressures and Retaining Walls." New York, Wiley, 1957. 534p.

KING, JOHN H. AND DEREK A. CRESWELL

"Soil Mechanics Related to Building." London, Pitman, 1954. 168p.

LAMBE, T. WILLIAM

"Soil Testing for Engineers." New York, Wiley, 1951. 165p.



SPANGLER, MERLIN GRANT

"Soil Engineering." Scranton, International Textbook Co. 1951. 458p.

TAYLOR, DONALD WOOD

"Fundamentals of Soil Mechanics." New York, J. Wiley, 1948.

TERZAGHI, KARL AND RALPH B. PECK

"Soil Mechanics in Engineering Practice." New York, J. Wiley, 1948. 566p.

Excavating Machinery

NICHOLAS, HERBERT LOWNDS

"Moving the Earth; the Workbook of Excavation." Greenwich, Conn., North Castle books, 1955.

Foundations

CHELLIS, ROBERT DUNNING

"Pile Foundations: Theory, Design, Practice." New York, McGraw-Hill, 1951. 681p.

DUNHAM, CLARENCE WHITING

"Foundations of Structures." New York, McGraw-Hill, 1950. 679p.

ELGAR, W. H.

"Foundations for Houses and Other Small Structures." London, Architectural Press, 1951. 92p.

HAMMOND, ROLT

"Foundation Engineering; A Survey of Modern Practice in the Solution of Foundation Problems of all Kinds." London, Odhams Press, 1955. 191p.

HENRY, FREDERICK DENIS CAMERON

"The Design and Construction of Engineering Foundations." New York, McGraw-Hill, 1956. 547p.

PECK, RALPH BRAZELTON AND OTHERS

"Foundation Engineering." New York, Wiley, 1953. 410p.

SEELYE, ELWYN EGGLESTON

"Foundations: Design and Practice." New York, Wiley, 1956.

Letters to the Editor . . .

EDITOR, *Journal of the AIA*:

To ask members of The American Institute of Architects what Architecture fundamentally is, may seem absurd; nevertheless, if all of us were lined up and forced to reveal our personal definitions, I am certain those of many of us would prove in radical opposition to each other.

What does the dictionary say?

"1. The science and art of designing and constructing buildings or other structures; 2. a style or system of building; 3. buildings, etc. collectively. See illustration on next page." This next page shows nineteen well executed pen and ink perspective sketches: (one or two of the best might have been done by Eddy Morris).

Number 1. Doorway of Fontainebleau; 2. St. Sophia; 3. Shanghai Pagoda; 4. Amiens Cathedral; (lack of space precludes listing all of them) 11. the Parthenon; 14. a Japanese shrine; 15. Taj Mahal; 16. a log cabin; 17. interior of an Eskimo igloo; 18. Canterbury Cathedral; and (though on a New York Street we never see it as depicted) 19. the Woolworth Building. All of them have a definite claim to beauty—the last, the least.

"But!" you say, "This fancy list of buildings doesn't cover the great mass of other buildings (each with special requirements) that we hope to secure as jobs. We hold inviolable the sacred formula: 'Form follows Function.'"

Truly, Germany in its disrupted indigence after it had been torn to shreds by war, served us an evil turn. We ourselves, dispirited by the depression of the thirties and actuated by our characteristic tendency to adopt whatever is sufficiently lauded, were quick to seize the Bau Haus' slogan, "Form follows Function" became our guiding battle cry. We quoted it, we boasted of it, we still do, as though the principle had never been discovered before; all without investigating the meaning of "Function."

First, I am going to assert that the climacteric function of Architecture is the stimulation of Empathy through the architect's productions. Here lies the difference between an architect and a structural engineer.

Ralph Walker, in closing his acceptance of the AIA Centennial Medal, said: "While I have little hope that I may live to see them realized, I would in closing, salute those of you now living, and those yet unborn, who will work to achieve our dreams; our dreams which we, as architects, should ever enclose in lasting beauty. May we be worthy of our opportunities, so that we may say with Shah Abbas the Great: 'God hath planted beauty in our midst like a flag in the city.'"

In sharp contrast to this is the following quotation from another address delivered at our Centennial Convention:

"There is no question that the competence of the architect as a professional specialist is steadily improving. His prestige will be further enhanced when he will not think of himself merely as a maker of Beauty (with a capital B); but rather a serious interpreter who aims to convince as much as to please."

Here is a charge that our architects of former days were irrational dreamers. It was made if you please in the City of Washington, where the speaker had before him: Henry Bacon's Lincoln Memorial; Paul Cret's Folger Library; Jack Pope's Scottish Rite Temple—each perfectly fulfilling the use for which it was built.

The author of the condemning article I quoted last appears unaware that each really great example of architecture of the past, as a necessary condition for greatness, in addition to Beauty (with a capital B) had to comply fully with all practical requirements.

"Form follows Function" was not a new spark of genius. Even I had it dinned into me by my old *patron* Deglane nearly seventy years ago.

Of course all structures cannot be beautiful. Where a factory is the aim, unless there is an ulterior motive, advertising perhaps, it should not look like a factory. It should not be placed where it can injure the beauty of its surroundings—in city or countryside. On the other hand every building that is inwrought with the majesty of our United States, the dignity of one of our states or cities or even that is conjoined to our human endeavors—a school, hospital, gas station, and especially, now they are sprouting like weeds, a house in which to live—should respond in appearance to its use as well as to the region in which it is situated. Above all it should not lack beauty (big C little B).

A building has of late been constructed as the City Hall in a new Civic Center for historic New Orleans. Here in past days flourished southern aristocracy. Here still are its beautiful balconies, the Mecca of the lovers of graceful ironwork, the Vieux Carre's old houses of exquisite charm, and such buildings as the Saint Louis Cathedral, the old Louisiana Bank and "Royal Street."

Look at this curtain-walled packing-case, the factory-building that is to house the City Hall of New Orleans. It is an eight million dollar "functional" legacy of the Bau Haus. Thank God our New York City Hall was designed by an architect untainted by the rituals of some of our modern schools of architecture.

I recall one of Frank Joannes' stories reminiscent of his days at the Beaux Arts. He and some fellow Americans were lounging in the tiny parkway that runs from the Luxembourg Garden to the Observatory. One of them spoke enthusiastically of the impressive entrance and grand staircase of Garnier's Opera House.

Another in the group, an aggressive fellow of German extraction from Chicago, broke out with:

"So you think it's a fine staircase in that Opera House, hein?—Well what is an opera house anyway? It'

to get to your seat as quick as you can, isn't it?"

I suspect we have some of his ilk nowadays.

I have a serious question to ask followed by a comment that I hope you will accept sympathetically, even though you may not agree. The architectural profession has enjoyed a really stupendous Convention, successful beyond all hopes. At times I have wondered: "What for?" Was it to stimulate better, greater, more beautiful architecture? Was it to advertise the business of architecture? Was it to advertise any individual or group of architects? Or was it to develop a true comprehension of architecture by the government and by our countrymen in general, to impress upon them what good architecture should be? Certainly some of these would be high aims.

Looking through the Centennial number of the *Journal* I note the following addresses that plead for beauty in architecture: Edwin A. Weeks, Editor of the *Atlantic Monthly*, who closes his address with moving insistence on beauty in our future buildings; Lillian Gish, who urges a Secretary of the Fine Arts, presumably in the Cabinet; Howard Mitchell the musician says: "As work days shorten and life expectancy lengthens, the arts, I am confident will play an ever increasingly important role in the life of all our citizens, and thus in our nation as a whole"; Leo Friedlander, a sculptor, explores the relation of government to art.

I hope you have noted that these our pleas are made by noted representatives of other arts than ours, not by architects at all. Do you realize that only one of all the other listed addresses was by an architect—whom I have already quoted on the subject of beauty and who says farther on "I wish I could please my audience by assuring them everything is going to be all right with the profession that is ready and raring to go, but I hope you will not think me rude if I should express some doubts."

Thus (if we omit an orchestral presentation conducted by Howard

Mitchell) out of twenty-four serious addresses there were only four that championed what my dictionary selected as the hallmark of great, of true architecture.

So we have celebrated a centennial of Architecture; but in closing the hundred years we have no present-day examples of great architecture to extol. In the past there have been American architects of outstanding ability: McKim, Richardson, Goodhue, Bacon, Kendall, Sullivan, Cret to pick out only a few, and they have left us really great examples of their work. They are gone and we seem bereft of any to match them.

Two important medals were awarded during the celebration of the Centennial. According to what President Chatelain announced, one was given because the recipient's concept of architectural practice is large and his firm has grown to match it. The man who received the other medal was chosen for the unstinting use of his talents and energies in many fields of public service.

I do not question the ability of these men as designers of beautiful and moving architecture but I believe the suggestion that such important rewards of merit could have been bestowed for anything other than attainment of the highest expression in the art of architecture, the most important of the fine arts, was a serious mistake.

Such a defection at such a publicized convention can hardly fail of injury to the future of the art we pretend to serve.

What can we do about it?

I think we ought to revise and strengthen our ideas about the majesty of our profession. In the firm of McKim, Meade and White, McKim and White dominated their firm and were fundamentally artists, Meade was the business man that kept the H-bombs from exploding. Today, from results, it would appear that many architectural firms are not dominated by great artists; in some one might conclude there is no artist involved.

To put this more frankly, in our profession there are too many structural engineers and too few real architects.

At the end of our hundred years we seem to have come to the lowest stage in the pursuit of art, in the greatest of the fine arts. We talk about progressive architecture, are flooded with advertisements, articles, even books about pre-cast concrete, curtain-walls, revolving glazed aluminum windows, everything required for "functional" buildings but not much about "beautiful" buildings.

While there was little in the Centennial to offset this, there are brighter gleams in the succeeding numbers of the *Journal*. I note "Toward a Reunion of Art and Architecture" by Donald De Lue in the July number, and I am cheered by what Edgar Williams says in the August number . . . "the practice of architecture is more than a complex matter of business and technical knowledge. It is essentially a matter of spirit, of creative genius."

We must hold that spirit before the coming architects of our schools.

JOHN V. VAN PELT, FAIA
Patchogue, Long Island

EDITOR, *Journal of the AIA*

I noted in *The Editor's Asides* in the November *Journal* your comments on Mr. Brostrom's request asking what offices do with old drawings. Your story of bleaching linen drawings points up the dangers that historical documents often face.

You might wish to note that over the last few years several individuals have been vitally concerned with the threat to architectural archives. As a result of their activity the AIA Board of Directors last year fostered the formation of a Joint Committee on Architectural Archives with representatives from eight organizations. Samuel Wilson, Jr., FAIA, of New Orleans represents AIA and is chairman.

The Committee has held several meetings. Although the problem is a tremendous one, it hopes soon to have proposals to offer which will offer a partial solution. I will be glad to transmit to the Committee any suggestions you receive or that may be sent direct to the undersigned.

GEORGE E. PETTENGILL, LIBRARIAN
American Institute of Architects

THE EDITOR'S ASIDES

THIS PAGE—my first over my own signature—almost didn't get written. The last day for copy to go to the printer I was laid low by a flu bug (*not Asiatic*), and today I have crawled into the office and tried to finish up the Chicago Dynamic collage with one trembling hand and write this with the other. It ain't easy.

During the recent AIA Board of Directors meeting in Scottsdale, Arizona, we were able to get in a little sight-seeing, too. This included a visit to Taliesin West—my first trip there. Somehow, nobody had told me that it had started as a work camp, built largely by FLW's students, so my first reaction was one of shock at the crudity of the workmanship and the lack of maintenance. The strange forms of the older part of the house have a slow beauty—by that I mean, it creeps up on you slowly, after the first fumbling incomprehension, and there are a few spots and vistas which are breath-taking. But the roof timbers are all coming apart at the joints, beams are slipping off their bearings, the woodwork is checking and warping, and the general impression is that it is held together with a few rusty nails and wire. There was a plague of caterpillars on the place—crawling all over the terraces and steps, and they were crawling all over the living room carpet and furniture too.

The theater is one of the newer additions to the building, and it has a much better finish and an air of permanence, in fact it is a very rich and warm little building.

We were guided around by one of the students, a very intelligent and mature sort of chap with a handsome red moustache, who was very helpful. While in the living room we were joined for a while by another boy, this one with the unshaven peach-bloom of extreme youth on his cheek. One of the ladies—I think it was Mrs. Roy Carroll—engaged him in conversation, and found that he was in his first year there and that he had come there di-

rectly from high school. When she asked him if he was going on to college, after he completed his four years under the Master, he looked down at her in a lofty manner and said, "Oh no, I consider that would be detrimental." Touché!

Later, as the sunset flamed red back of the mountains and the lights were turned on within the house (with the effect of hiding the structural defects and the caterpillars and casting a beautiful warm glow over everything), Mr. Wright met the group in the living room. Sitting before the open fire he talked, in his slow and charming manner, for thirty or forty minutes. He talked about things in general—repeating much of what he had said at Chicago Dynamic a few days before. And then he told of his grudges against the AIA, the times he had been slighted and ignored, and why he would never become a member. To give the old gentleman credit, he did make some passing mention of the Gold Medal. Seated right opposite him, of course, was President Chatelain, other officers and Directors were ranged all around. Nearly everybody took it with a smile, a few stirred peevisly in their seats, one or two walked out into the next room. After all, we ought to be used to his barbs by this time—and they never sound so badly coming directly from him.

I didn't mean to devote this whole page to Frank Lloyd Wright, but there is more to come, something which took the bad taste out of my mouth left by the shoddy craftsmanship of Taliesin.

Saturday morning we were taken to see the Price house, designed by FLW, which I understand is owned by the same H. C. Price for whom he designed the tower in Bartlesville, Oklahoma. This house is quite new, and exhibits beautiful detailing and exquisite craftsmanship. It is built entirely of cinder block, in its natural gray state, each block handled and laid up with as much care as though it were imported marble.

There is much fine detail in the house, in wood, copper, brass and

steel, and a richness of texture and color that is very beautiful. The entrance to the house is into a atrium, Roman fashion, with square opening in the roof over square pool in the floor. This also serves as the family living porch with dynamic views across the mountains. The approach is through long and narrow outdoor passage, so that you are thrilled when you finally climb up the last steps and walk into this high and open space. It is actually located in the center of the house, separating the living room and kitchen on one side from the family bedrooms on the other side. It is very dramatic architecture.

THE RECENT DEATH of Bernard Maybeck, recipient of the Gold Medal of the Institute in 1951, has taken away one of the great creators of beauty in the American scene. We shall pay proper homage to him in the next issue of the *Journal*. For myself I just want to say that years ago, while still fiddling around my father's office as a boy, I picked up a copy of a book entitled "The Art of the Exposition." The photograph of the buildings at the San Francisco Exposition entranced me, and especially Maybeck's Palace of the Fine Arts. I thought it the most beautiful and poetic classic group I had ever seen—and I still think so. Years later I was in San Francisco on war business, and one day I was being whirled around town by an associate. Suddenly I realized I was being whisked past the Palace of the Fine Arts, standing there in its crumbling glory. Only a fleeting glimpse, but a deep thrill. This group of Maybeck's is the living refutation of the often-repeated phrase "dead classic architecture." These buildings are not dead architecture. They are alive, because they are the creation of a true master, a true poet of architecture.



Figure 1. Entrance canopy for Monsanto laboratory building.

McCrea

A Case Study—Plastics in New Architecture

Ed. note: Under title of "BRI Reviews Plastics for Roof Construction" the December issue of the JOURNAL carried a report of the papers presented on the first day of a recent 2-day meeting of the Building Research Institute's Plastics Study Group in St. Louis, Mo. This article deals with proceedings of the second day of the meeting, which was devoted to a study of the new Inorganic Chemicals Laboratory of the Monsanto Chemical Company, located in suburban Creve Coeur, Mo.

Designed by the architectural firm of Holabird & Root & Burgee of Chicago, Ill., this new three-story building, encompassing 75,000 square feet, incorporates more than 120 applications of plastics materials, many used for the first time. Reports digested below by Jean H. Houtchens, Associate Editor of BRI, include those presented by the architects, the building contractor, the building commissioner of Creve Coeur, Mo., who is also an architect, and the key members of the Monsanto organization responsible for the planning, engineering and erection of the structure.

Plastics as Materials of Construction

by M. F. X. Gigliotti, Manager of Structural Plastics Engineering, Monsanto Chemical Co.

Faith in plastics as material of construction today is the theme of the three-story laboratory building completed in the summer of 1957 to house the consolidated research departments of the Inorganic Chemicals Division of Monsanto Chemical Co. It is an example of an endeavor to creatively design plastics into every conceivable, sound application within the framework of conventional building construction and existing data. Its construction took three years from concept to completion.

From the entrance canopy, supported by a molded plastic frame, to the exterior and interior walls, floors and ceilings, there is hardly a surface which is not plastic. Under the surface, in insulation, moisture carriers, pipe, fans, ductwork, etc.,

the same story is true. Design and construction of the building have produced a wealth of information, and also have enabled us to set up a continuing monitoring program to inspect and evaluate these applications throughout the life of the structure.

Architectural Design and Coordination

by Attilio Forte, Project Manager, Holabird & Root & Burgee, Architects

When we set out to design this research building, three points were settled at the start:

- 1) The structural frame would not be plastic.
- 2) The exterior walls would consist of plastic sandwich panels.
- 3) The design and construction period was scheduled for the building to be completed in a normal length of time.

Knowing that many plastics materials have already proved their worth,

we began by scheduling floors, ceilings and interior wall surfaces in these already accepted materials: vinyl floors and walls, styrene tile walls, melamine walls, luminous ceilings of acrylic, etc. Then we set about to add further to this list.

One of the first things brought to our notice was a new acrylic louver panel which had the quality of illuminating the interior of the rooms by permitting passage of ground light, while excluding the direct sun-rays. These were selected for the main windows, and they give directly onto a corridor which in turn is open to the laboratories, an area in which usable light was of greater importance than total visibility.

Our attention was next attracted to a concrete block faced with a thin layer of reinforced polyester, and to a similar unit faced with a slurry of sand and polyester resin. Both had excellent color depth. After testing and investigation, the former was specified for interior use, and the lat-

ter for exterior use, to relieve the wide expanses of sandwich panels. Fadometer tests were used to determine the most stable colors under exposure to ultraviolet rays.

The manufacturer of an unusually well designed sheet metal roof ventilator with low, horizontal louvers around all four sides and uninterrupted at the corners, was induced to apply reinforced polyester sheets, formed to the proper contours, in place of the sheet metal. The ventilator as used, therefore, presents no maintenance problem, and in its final form is uninterrupted for almost 100 feet in length.

As a keynote for the building, we decided on a large plastic canopy (Fig. 1) at the main entrance, to display the load carrying or structural ability of plastics. It consists of three members in the form of an inverted U, designed of triangular cross-sections, the walls of which are $\frac{1}{2}$ " thick reinforced polyester with rigid connections at the corners. The "bent" placed 20 feet from the building acts as one support for aluminum bars spanning between it and the building which in turn carry the flat polyester sheets of the canopy.

The 165 lineal feet of office partitions and 10 doors we designed ourselves. The partitions have a wood strip core and faces of melamine and vinyl; are 7 feet high with a continuous clear acrylic transom to the ceiling. The doors are 3" thick at the center and less than 1" thick at the sides. Faced both sides with translucent polyester sheets over a hollow core and edged with colored acrylic strips, they are pivoted top and bottom and have magnetic latches and closers.

A new styrene tile of trapezoidal shape presented an interesting challenge in attempting to use it in a manner compatible with its size and shape. We finally set it up in a somewhat free-form pattern in both color patterns and outlines which worked out very satisfactorily. One drawback, however, is its glossy finish. The material would be more usable in an eggshell or semi-flat finish to reduce glare under certain lighting conditions.

The exterior sandwich panel is at

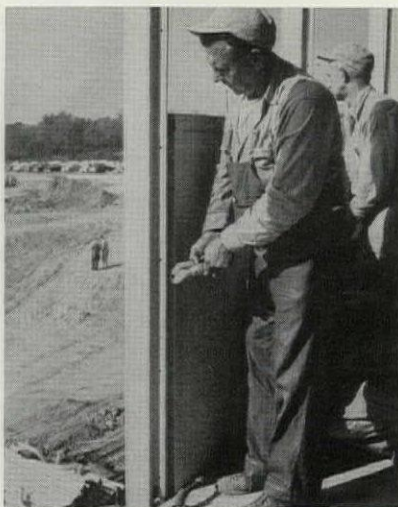


Figure 2. Weighing only 76 pounds, the sandwich-type curtain wall panels can be lifted into place by two men.

one time a finished exterior surface, a finished interior surface, an adequate insulation and a structural entity within itself. Due to its light weight, one man can lift up, carry and set down 30 sq. ft. of this building enclosure. (Fig. 2) We believe it is deserving of wide acceptance.

The louver panels used as windows are worthy of utmost consideration in any air conditioned commercial or industrial building. With custom tailored sunlight control built into the shape of the panel, the louvers, which also act as reinforcements, resolve themselves into a straight edge for simple retention without seams or joints. The light reflected into the building is soft and brilliant, shadow free, and highly satisfactory for working purposes. In the 20 sq. ft. size which we used, the louver panels can be picked up between the thumb and forefinger of one hand.

Other fertile fields for future development are the use of plastics for simple structures such as porches, entrances, and as coverings for exterior surfaces to afford easier maintenance; and in the development of new and different decorative effects such as the "Teraise" plastic wall covering or in the execution of pure design such as was conceived for the decorative screen in the entrance lobby of the building.

From an architectural standpoint, it was our purpose to make use of those characteristics of plastic which

would in some important way prove superior to their conventional counterparts. At the same time, it was necessary to exercise a strong restraint over the almost limitless colors, textures and imitations which are available in plastics. Inherent in these materials are factors which with greater development and wide acceptance, will unquestionably lead to drastically reduced costs for the construction industry.

Management Objectives and Supervision

by Herbert S. Tumin, Research Engineer, Monsanto Chemical Company

Monsanto's objective in constructing this building was two-fold: demonstrate faith in the plastics industry as a whole, and to provide a proving ground for plastics products. For that reason, we have not limited or excluded a product because our own ingredients were not used in it. Our Plastics Division was continuously in close consultation with both the architects and the Inorganic Engineering Department, to whom the task of completing this structure was assigned.

A yardstick was first established to determine the economy of the use of a plastic construction material as well as its practicability. Three categories were set up:

- 1) If the plastic material was approximately the same cost as conventional building material it would be used.
- 2) If the plastic material cost up to twice as much but evidenced superior quality or the possibility in the future of reduced costs with improved production methods, it would be used.
- 3) If the plastic material cost up to three times as much as the conventional material but opened new usages heretofore not demonstrated and met the Category 2 requirement, it would be well considered for usage.

After our study of possible applications was completed, the plastic products were further subdivided into three classifications:

- 1) A readily obtainable or marketed product used in a conventional manner, or in the manner for which it was intended.
- 2) A readily obtainable or marketed product used in a manner which the manufacturer had not intended.
- 3) Entirely new usages of plastics materials.

The first classification, which includes floor coverings, wall coverings, upholstery, etc., requires no discussion. The second classification enters the realm of test, but only minor testing was required. In the third classification, complete and exhaustive tests were performed to obtain design criteria to produce the article required. Into this category came the styrene core polyester face wall panels, the polyester exhaust fan, the polyester molded drawers, etc. In the case of the panel, where the solid sandwich effect was desired, numerous core materials were tested and, after a series of exhaustive investigations at Southern Research Institute, the full-scale panel was accomplished. Tests included a normal bending, shearing, compressive test, as well as accelerated aging tests under all conceivable conditions of moisture, heat and cold.

Further tests were made on the full-scale panel at Pennsylvania State College in the identical frame used in final installation, and various calking compounds were used to ascertain which gave the best results.

The plastic exhaust fan for the fume hoods (Fig. 3) was tested in the Texas A & M fan laboratory. These fans went into operation late in May 1957 and to date no distortion, warp or failure has occurred. Accelerated light and weathering tests were performed on the polyester face concrete block equivalent to about 10-12 years of normal exposure.

Exclusive of company personnel's time, over \$30,000 was expended in all on testing, and since much of the test work was done in our own laboratories, the actual cost could have exceeded double this amount. In addition, I am sure that the pioneering of the plastics was an additional burden to the architects which would be most difficult to evaluate.

Comparative Costs of Plastics and Conventional Materials

by Normal Smithson, Project Construction Engineer, Monsanto Chemical Company

More than 80 different and distinct plastic materials were used in this building, many of which were manufactured by fabricators using Monsanto products. Some of these fabricators were not familiar with the requirements of the construction industry, and this project has been a liberal education for both the tradesmen and the fabricators in the use of plastics as a material of construction.

A good example of this is the problem faced in the use of PVC

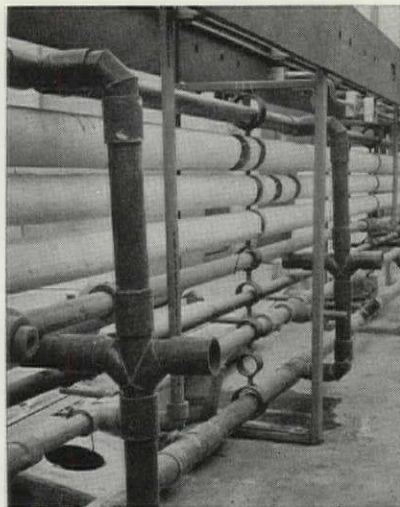


Figure 4. Extensive use has been made of plastic pipe in the complex system typical of a chemical research laboratory, as shown above in Monsanto Chemical Company's Inorganic Chemicals Division. Many of the intricate joints were welded on the job.

pipe used for the treated water system, the chemical waste and vent line, and the downspout and drainage system. (Fig. 4) The fabricators of these fittings were completely unprepared to supply us with long radius fittings, or fittings made with a built-in slope. But in spite of the problems encountered, the installed costs of the plastic materials are very competitive with conventional materials, and in some cases were even less. For instance, unit cost data sheets for plastics and conventional materials show comparisons of this type:

Curtain Wall Construction in Place—

- a) Aluminum framing with plastic sandwich panel consisting of two outside plastic sheets with core of styrene foam insulation 2" thick—\$6.67 per sq. ft.
- b) Comparable alternate, aluminum framing with porcelain enamel panel consisting of two outside porcelain enamel sheets with core of glass fiber insulation 2" thick—\$6.72 per sq. ft.

The saving in this case was largely effected in labor. The plastic panels weigh only 76 lbs. while the steel wall panels used on our Headquarters Building weigh approximately 600 lbs. each.

Figure 3. In new type all-plastic fan vanes are mounted perpendicular and parallel to the axis around which they spin, but no spill off or turbulence zone is created. Rotation of bullet-like cone keeps air moving in direct line.





Figure 5. An unforeseen financial gain developed through the use of plastic coated plywood as form material. Greatly expanded re-use, plus reduced cement finishing after forms were removed, offset higher cost of form material. Smooth surface ceilings, as above, requiring no additional finishing are typical.

Windows—

- c) Acrylic plastic louvered windows, 4' x 5' panels—\$59.17
- d) Comparable alternate, aluminum sash, glazed DSB with venetian blind—\$51.50

In this case, the plastic cost more, but in terms of the end result achieved, we feel that the additional cost was well spent.

Masonry in Place—

- e) Concrete block exterior walls, 10½" to 13", plastic single face block—\$2.85 per sq. ft.
- f) Conventional alternate, face brick with block backup—\$2.45 per sq. ft.
- g) Plastic double face block interior walls—\$3.20 per sq. ft.
- h) Conventional alternates
 - Concrete block painted two sides—\$1.10 per sq. ft.
 - Ceramic glazed tile, double face—\$2.50
- i) Waterproofing membrane, polythelene sheeting 40 mils thick—\$36.00 per M sq. ft.
- j) Conventional alternate, other membrane material—\$36.00 per M sq. ft.

Damp-proofing—

- k) Vinyl plastic coating, 40 mils thick—\$0.50 per sq. ft.
- l) Conventional alternate, asphalt coating, 40 mils thick—\$0.30 per sq. ft.

Although the plastic coated plywood used for form plywood cost 45¢ per sq. ft. as compared to plain plywood at 27¢ per sq. ft., there was considerable saving in the over-all total cost, due to the additional num-

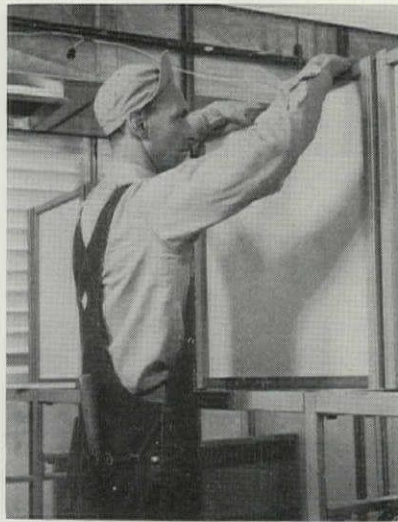


Figure 6. Plastic partition panels are of easily fabricated high impact styrene extrusion, which slips into steel frame channels and provides snug fit for polyester sheets.

ber of uses of the plastic coated plywood, and the savings effected in rubbing and brushing the exposed concrete. (Fig. 5) Based on a fair average for the entire job of 8 uses for plastic coated and 4 uses for plain plywood, and adding the cost of finishing the concrete to obtain comparable, smooth concrete, costs are as follows:

- m) Plastic coated plywood, labor and material—\$0.63 per sq. ft.
- n) Uncoated plain plywood, labor and material, plus cost of brushing and pointing concrete—\$0.76 per sq. ft.

There are approximately 40,000 lin. ft. of piping in this building, and here a substantial saving was effected by using plastic pipe in place of chemical resistant wrought iron pipe

or copper pipe. However, cost of plastic valves ran from \$25.80 to \$69.65, depending on size, where brass valves would have ranged from \$5.20 to \$21.65. It is debatable whether the plastic valves will prove to be more economical in the long run, due to the fact that some are installed in remote and hard-to-reach places, and the maintenance cost of replacing the metal valves would have been considerable.

The plastic ductwork, based on 14" rd. x 12' long size, including on elbow, cost \$18.00 per lin. ft. as compared to aluminum ducts at \$12.00 per lin. ft. (Fig. 7) In this case, however, only the plastic material could have been used, due to the corrosive nature of the fumes removed by this installation. This duct is made of fiberglass reinforced polyester and is used in the fume hood plenum chamber and exhaust system.

The plastic wall covering cost considerably more than a conventional painted wall surface, but the maintenance costs may be less. The interior office partitions (Fig. 6) of wood framing and plywood covered both sides with melamine laminate or fabric backed vinyl film with clear acrylic in an aluminum setting from top of partition to a height of 8'8" cost \$5.97 per sq. ft. as compared to standard metal office partitions with glass from top of partition to ceiling at \$5.68 per sq. ft. The custom built plastic doors were, of course, considerably more expensive than standard metal office doors or wood doors.



Figure 7. Workmen fit plenum chamber, first stage of duct system made of reinforced polyesters.

ne plastic doors cost \$256.00 each. Our complete cost analysis revealed that, although there was a great use of custom built plastics, the unit cost per sq. ft. was only .16 greater than the unit cost of conventional materials that would have given us the same quality building.

Job Management and Organization of the Work

by William H. Cunliff, President, William H. and Nelson Cunliff Co., General Contractors

The many different applications of plastics in the Monsanto laboratory were made with great enthusiasm by the workmen, as well as by the various contractors. Our management and organization for this particular job was the same as for any standard building, but careful selection was made of all skilled mechanics in order that they might be trained in these new uses of plastics.

There were only one or two plastics found impractical in the way they were used. For instance, we found that clear acrylic sheets cannot be puttied solid in metal sash, because temperature changes bulge the sheets. Also, the reinforced polyester inside mullion covers have a different coefficient of expansion than aluminum, necessitating the re-setting of these covers without bulges after the normal temperature was established within the building.

The use of plastic phenolic coated plyform proved most satisfactory for forms for concrete work. This material cost 15½¢ per sq. ft. more than standard plywood but because of its durability, we used the plastic plyform an average of 15 times with excellent results, amounting to an extra cost of only 1¢ per sq. ft., and we saved more than 10¢ per sq. ft. of surface area in labor costs for rubbing and finishing.

Special techniques were developed to weld and fabricate intricate connections in the plastic pipe. Four men without previous experience in handling plastics were trained by the plastic pipe supplier for this job, and the welding was performed through the use of a torch burning nitrogen. The rigid PVC pipe is one-half as heavy as aluminum and one-fifth the

weight of steel. It was easily handled, and joining was done with solvent cement or by welding.

We had excellent cooperation from the various trade union representatives and jurisdictional questions were resolved without even a threat of work stoppage. The use of the particular plastic material was thoroughly discussed and explained to the union representatives, and the selection of the trade or combination of trades was determined before any of the work was started. Our labor costs were much less than we anticipated in our original estimate for the installation of the plastic materials. Although many of the materials were new and hard to get at the time, the construction work, which was started in January 1956, progressed exactly as planned and the work was completed the first of June 1957.

Building Code Acceptance

by Kenneth E. Wischmeyer, AIA, Building Commissioner of Creve Coeur, Mo.

As an architect, as well as the dollar-a-year building commissioner of Creve Coeur, Mo., I find myself on both sides of the fence in attempting to administer the building code in our community of 3,000 people.

Speaking as a building commissioner, I can say that most of us feel that our building codes in general are not up to date with modern construction methods. They are inadequate, confusing, very difficult to interpret, and they fail to recognize the introduction of new materials. In addition, most of our building codes lack uniformity throughout the country, and often are influenced by pressure groups. Their formats are also often influenced by material suppliers and manufacturers, union, labor and local restrictive practices. For this reason, they can cause excessive costs in our buildings, adding to the inflationary trend which we are already facing.

Our building codes at the present time are restrictive of architectural design and of structural design, and are forcing us to waste vast quantities of materials. Most of them seem to be designed primarily from the insurance underwriters' viewpoint.

As an architect, I was enthusiastic when Monsanto decided to build in our community. This is a pioneering building that will assist architects throughout the country and around the world in the application of plastics, and will eventually help cut down building costs.

The city of Creve Coeur operates under the BOCA code, which makes no provision whatsoever for the use of plastics. It would have been impossible for me to have given Monsanto a permit based on this code. Therefore, I told them that I would like to approach the city counselor or board of aldermen and explain the facts, and made a recommendation that they pass an ordinance which would allow Monsanto to use plastics in their building, providing they would adhere to one requirement; i.e., where plastics were used in the building, they would conform to any restrictions of the Missouri Inspection Bureau. In this, we were concerned with the safety of the occupants and the number of exits.

The board of aldermen was amenable to the suggestion, and an ordinance was passed which allowed Monsanto to go ahead. It is a broad ordinance with a restrictive proviso so that the city health department had a safeguard against possible disaster due to a wrong use of plastics.

There is a real need for the construction industry to get together and form an organization representing the entire industry and come up with some type of code that would be all-embracing, that would eliminate the conflicts which exist between the testing laboratories, the underwriters, the building officials, etc. If such an organization existed, the new materials proven by tests could be quickly included in codes, the industry producing them could expand, and all of this would strengthen our economy. It would give designers more flexibility and the public better buildings.

Proceedings reported in "BRI" Reviews Plastics for Roof Construction" in the December Journal are available at \$3.00 a copy (price incorrectly stated in December issue) from the B.R.I., 2101 Constitution Ave., Washington 25, D. C.

What the Architect Can Expect of Paints

The following article is a paper presented by Waldron Faulkner, FAIA, of the Washington Metropolitan Chapter, before the Sales Forum of the National Paint, Varnish & Lacquer Association. The paper refers to the Report of the ISCC Subcommittee No. 17 on the color of Indiana limestone. The report is published following Mr. Faulkner's paper.

IF I were asked to outline what is expected of paints today, I would say that the ideal paint should have the following qualities: It would be easy to apply by man, woman or child; it would have immense coverage and hiding power; it would dry quickly, give complete protection over an indefinite period of time; it would not fade, crack or blister; it would be odorless, washable, heat-resistant and fire-retardant; could be applied over any surface, for any purpose at any time; would come in absolutely uniform colors, all of which would be guaranteed to be exactly what Mrs. America would like for her kitchen walls. And finally, it would be available immediately at little or no cost!

Now I realize that this is a somewhat facetious exaggeration. As the Irishman said when he first saw the hippopotamus in the zoo, "There ain't no such animal!" However the really remarkable thing about this is that modern paints do come closer all the time to fulfilling these ideal requirements. This they must do if they are to compete successfully with the other available materials.

But I will not dwell on the technical aspects of paints, because this is out of my field. Instead, I wish to turn your attention to other problems of the architect in regard to paint and color generally.

Although I happen to be a graduate mechanical engineer, I know very little about the inside workings of a modern car. I assume that any car I select will drive well, ride comfortably, give me good mileage, and will require only moderate maintenance over the years. What is of more interest to me is what the car looks like; its design, styling and color. The same thing is true of paints. I assume that they must perform acceptably in order to stay on the market. What is of vital concern to me as an architect is how they will look.

Although I am aware of the importance of paint, I am more directly interested in the whole question of color in architecture, and this is a fairly complicated matter.

To my mind color in architecture depends on the selection of certain building products from a wide choice of materials, each of which can contribute its own qualities to the appearance of the completed building. There are about twenty groups of these materials, each having a different range of color, texture and other characteristics all of which are of importance.

What are the characteristics that must be considered in deciding what material to use in any particular situation? To my mind they would be the following:—

1. Ruggedness, or the ability to take punishment.
2. Durability; the length of time that a material can be expected to last.
3. Cleanliness; either how long material will look well without cleaning or how easily it can be cleaned.
4. Maintenance; or how often material requires repair or upkeep.
5. Cost. This includes not only first cost but also the cost of maintenance.
6. Appearance, which includes color, texture and other surface qualities.

These six items vary in importance, with the use of the material in question. For instance, let us consider wall surfaces for different uses to see where each of these properties is most desirable.

Ruggedness would be essential for certain walls in an industrial plant. In a private residence, however, where ruggedness is not important wall paper could well be used.

Durability would be necessary in a monumental building, where marble would be appropriate. In an office, on the other hand, painted plaster would be durable enough to meet most requirements.

Cleanliness would be essential in a hospital operating room, where

amic tile walls might be used. In storage basement, where cleanliness would not be important, a rubble masonry wall would do.

Maintenance should be least in a monumental building, where materials should be selected which will require a minimum of upkeep.

Cost. High first cost should be allowed in a project where appearance and durability would be the prime considerations. Granite walls might be appropriate in a public building, but unpainted slag block may be necessary where first cost must be kept to a minimum.

Appearance must depend on the selection of the material most appropriate to its use for any particular situation.

Some building materials are natural products, such as wood and stone. These have a somewhat limited color range and their color depends largely on selection.

Some of the manufactured building products such as brick have a color range which is fairly limited, and can be controlled only within rather broad limits. Others, such as paints, display an immense range of colors which can be controlled accurately as the condition demands.

One of the most difficult problems for the architect is to set up color schemes in terms of all these building products which will harmonize with the finished building. This consists of selecting materials and of specifying them in such a way that their appearance will turn out to be just what he has in mind. No easy problem.

It may be of interest to you to know just how an architect makes these selections, or at least how they are made in my office. There is no mystery about this process. This is how we do it.

In making our preliminary drawings we consider what materials will, in our opinion, be best for the purpose, or perhaps what our client will be willing to pay for! The preliminary drawings are prepared with certain materials in mind, but the color, texture and color are usually left to be decided later.

While the working drawings and

specifications are being developed we go through this process again and study the various available materials more carefully, sometimes making important changes in our selections. Or perhaps our client does this for us! By this time we must know rather definitely the makes or brands of materials we are to use, but the colors are not yet determined.

The choice of colors of our materials is not fixed until all the contractors submit samples of the materials they propose to use on the project. The reason for this is obvious. Different brands of asphalt tile all have somewhat different color ranges; and it is clearly impossible to know what color to choose until we know what colors to choose from. Also it is next to impossible to work out a harmonious color scheme among various materials until all the materials can be assembled and compared.

As a general rule we begin first with the materials which come in standard colors and last of all choose the paints, which can usually be made to match or to harmonize with the materials whose colors are fixed.

Now this is how we select colors and materials. But very often the tile contractor calls up and must have a decision on the color of his tile immediately or the whole job will be tied up until after Christmas!

Architects must make these selections from catalogues, from samples or from color chips. Catalogues are often inaccurate in their reproductions and the color of a finished surface is difficult to estimate from a small sample. I shall have more to say later about color chips. But the real difficulty lies in the fact that the color of many building materials is unknown because their colors have never been accurately measured or specified. This can be done today.

The increased use of color has brought with it a better understanding of its possibilities, but it has at the same time made the consumer more critical in his demands. This in turn requires more accurate control of the color of the product than has been possible in the past.

Color Control, as I understand it, means:—

1. Accurate measurement and specification of the colors of the product.
2. Selection of colors to be used as standards.
3. Setting up tolerances for these colors.
4. Instituting techniques to insure that the standard colors will be produced within the agreed tolerances.

Today, color control plays an essential part in such industries as:— paints, dyes and printing, plastics, ceramics and textiles, lighting, photography and now television. It is only a question of time before color control will extend over the entire building industry.

The need for this is evident today. A few years ago my office was working on a building for the George Washington University. The exterior was to be of limestone in order to match one of the adjacent buildings. We realized that this was not an easy thing to do. So we talked with the local representative and showed him the building we wanted to match in a general way. He said that he understood what we wanted, but how was he to make it clear to the man who would select the stone at the quarry?

First, we thought of getting him to come to Washington to see the building we had in mind. But this proved to be impractical. Finally, we agreed on a certain mixture of buff, gray and variegated stones based on selected samples and showed on our shop drawings how they were to be distributed. When the building was completed and the limestone was steam-cleaned, we found that the new building came nowhere near matching the building we had in mind—nor the other limestone buildings we had designed in that area!

As a result of this experience I put the problem before the Inter-Society Color Council. The Council is a group of twenty-seven national organizations, including the National Paint, Varnish and Lacquer Association, who are interested in the measurement and specification of color and helps its member-bodies to find solutions to their color problems.

The Council decided to study the whole problem of "Color in the Building Industry" and to set up a committee. As so often happens, because I had brought up the matter, I found myself chairman but was fortunate in getting some of the top colorists in the country on my committee, including one of your own members, Mr. Francis Scofield.

After some consideration, we decided to make a "pilot study" of the color of Indiana Limestone in order to see what we could learn which might be applicable to other building products.

Indiana Limestone comes in two colors, buff and gray. These colors vary from quarry to quarry, and depend also on the depth from which they are quarried. Being a natural material the control of its color depends entirely on its selection at the quarry. Beyond the designations given above there was no accurate color specification possible because the range of colors available had never been accurately measured, which was the first task of this committee. This gave us a feeling of pioneering in an unknown field!

In order to make this study it was necessary to assemble a collection of representative samples of Indiana Limestone for measurement and study. This was made possible by the cooperation of the Indiana Limestone Institute, which arranged to have a large number of samples sent to us from various quarries.

So as not to bore you with too many details of this study I will say that we measured by instrument the color of about forty samples of limestone and charted them accurately. To our surprise we found that some of the samples called "buff" by the industry were grayer than others called gray, and vice versa. It seemed logical to the committee to reclassify all the samples and to rename them so that those that looked gray would be called gray and those that looked buff would be so called. We were also interested in arranging them in value from light to dark.

In order to designate the color of limestone more accurately, according to its appearance, the Committee

finally recommended that it be classified in six groups. Instead of being called merely buff and gray, they would be designated as light, medium and dark buff and light, medium and dark gray. This could be done simply by changing the present names.

This study took two or three years and it is far from complete even now. When you realize that there are at least twenty groups of building materials whose color is of importance in the finished building, you will see that it will not be completed in the lifetime of the present Committee. However, if more accurate color controls are to be set up by the building industry, much of this work will have to be done by the producers themselves. This will involve time, effort and expense to the producer which he will not wish to undertake, unless he can see real benefits to his industry. But the resulting advantages are easy to imagine.

1. Accurate knowledge and standard nomenclature of the color of the product would form a basis of agreement between producer and consumer.
2. A proper color specification would be a permanent record
3. Limitation to a standard color range would reduce problems of production and inventory.
4. Color tolerances agreed upon beforehand would cause fewer errors and possibility of rejection.

These advantages also benefit the consumer, the builder, and the architect. The more general adoption of color control in the building industry is bound to come but the producer will be reluctant to assume this burden unless he is forced to do so. However, this process can be hastened if the producer, the consumer, and the architect can be made to see its advantages to all concerned. Perhaps this is an opportunity for us all to work together!

In almost any line of manufacture the tendency for producers, over a period of years, is to make products in ever-increasing numbers of styles, shapes and colors because of competition. A relative of mine who was connected most of his life with the

production of plumbing and pipe fittings, was called to Washington during the last war to help to reduce the number of plumbing fittings on the market. The vast number of plumbing fittings made it almost impossible to equip the army or navy with all the parts needed for replacement. This simplification was necessary to the "war effort," but also resulted in economies to the plumbing industry.

The reduction in the number of standard parts or standard colors of benefit to producers and consumers alike, provided that they were well selected. It would also be helpful to architects. Until a few years ago many of the government agencies in this country had different color standards for the ready-mixed paints which they used by the ton. The Post Office required a certain green for mailboxes (now Red, White and Blue). The Navy needed gray paint for its battleships. Although many of these colors were nearly alike, they had to be just a little different in order to meet the traditional requirements of each agency. The total number of colors seemed much larger than necessary.

As you know, the National Bureau of Standards was given the assignment of trying to reconcile the demands of the different agencies and of getting them to accept a reduced number of standard colors. This was both a scientific problem and a feat of diplomacy. Each agency wanted to keep all the colors it had used before and there was considerable jealousy involved in seeing that no agency had more colors in its collection than any other agency. In fact, I understand that toward the end of the battle one department found it had one less color in its collection than its rival and insisted on adding two more colors to its list in order to retain its self-respect! In any case, the contending parties bowed to the inevitable and the Federal Color Specification became a reality in 1950. It was published by the Government Printing Office and has filled a real need.

When a manufacturer wishes to reduce the number of colors in which his product is to be made, the fi

question is what colors shall they be and how many. This is no easy question to answer because it would be an advantage to the producer to have as few as he can. On the other hand, he is afraid that the consumer and the designer will want to have as many to choose from as possible.

A striking example of how this problem was solved was demonstrated in England, not long ago. This also had to do with ready-mixed paint to be used in large quantities, and is of special interest to us because the architects played an important role.

The paint industry was faced with an ever-increasing tendency to meet the demand for special colors from a continually widening number of available color ranges. In 1952, the Paint Industry Color Committee approached the Royal Institute of British Architects to help solve this problem, and proposed a range of 20 or 60 standard colors to replace any other ranges then on the market. The representatives of the paint industry were eager to have the architects help to select a range which would be acceptable to them. The Royal Institute of British Architects set up a committee.

It was a difficult question to decide. There were some good arguments in favor of a wide color range, but sometimes the very limitations on the artist prove to be his best friend, and it was decided that a rather limited palette would be an advantage. After careful consideration the RIBA Committee arrived at a selection of about 100 different colors. These were resubmitted to the Paint Industry Committee in place of those originally suggested. After certain modifications, 101 samples were finally approved and sent to the British Standards Institute as a proposal for a new standard. On March 1, 1955, this became B.S. 660:1955.

Like our Federal Color Specification the new British color range for building and decorative paints is available in the form of an inexpensive and useful color card. How well this range has been selected will be shown only by the test of time. It is

planned to review the range at intervals in order to see how well it meets the needs of the architectural profession. The test will be not how much paint of a given color is sold, but how often it has been specified and effectively used. The important point for us is that the RIBA and the paint industry have taken a courageous step forward in selecting a limited range of colors for the use of architects which might well be applicable to other building products.

Much of what I have said so far is only indirectly connected with the paint industry. It is only fair to say that paint manufacturers do know the color of their paints. They have set up their own color ranges and can control these colors with a high degree of accuracy. These color collections are often beautifully selected and are presented in a form that is of great value to the architect.

On the other hand, the vast array of manufacturers' ranges is positively bewildering to the architect today. Each producer has his own collection which is, we are told, just a bit better than the next. What are we to do?

It seems to me that the situation is similar to the one in England I mentioned above. The architect must choose from an ever-increasing number of color ranges, each different from the other. Suppose he develops a color schedule on the basis of the color card of one manufacturer and finds, as he does quite often, that the painting contractor on the job has based his estimates on paints made by another manufacturer. Where does he go from here?

To my mind it would be of immense value to architects, to owners, to painting contractors and to the paint industry generally if a color standard could be adopted by the whole industry for ready-mixed paints which are used in large quantities. Special orders for custom paints could still be made as they are now when the situation warrants it. However, I feel certain that architects in this country, would welcome such a proposal, as they have in England.

If this idea should be adopted the next question would be, what standard will we use and who will choose

it? My answer to the first question would be to adopt the Federal Color Specification for ready-mixed paints which have already been carefully selected, measured, and specified. It has been used so successfully in this country for several years that the Color Card has had to be reprinted already. My answer to the second question would be that if the Federal Color Card in its present form is not exactly what is needed, a revised standard might be developed. Although I have no right to say this, I might even propose the possibility of having the paint industry do this in collaboration with The American Institute of Architects. If you are interested in presenting paints in their most useful form to architects, I suggest that you give this proposal your serious consideration.

Report of Subcommittee on Problem 17:

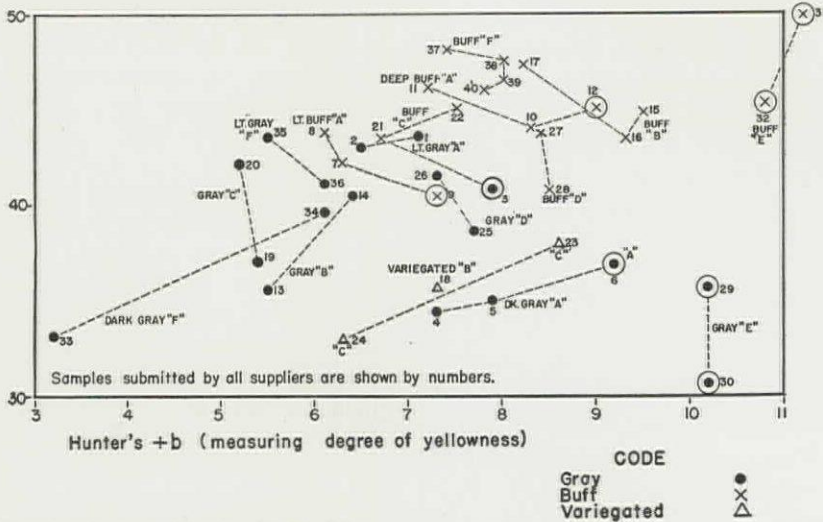
Color in the Building Industry

When the Subcommittee began its work in 1951 it was faced with the task of deciding where to begin. The building industry covers a wide range of materials of so many different kinds that they are positively bewildering. In view of this dazzling assortment it was decided to make an intensive pilot study of one product that should be fairly simple from a color point of view, and might eventually prove useful to the building industry, to architects in particular, making at this time only a general research into the classification of other materials.

In 1952 the Subcommittee agreed to make Indiana Limestone the subject of its special study. This is a natural stone extensively used for the walls of monumental, institutional and commercial buildings because of its permanent nature, its pleasing appearance and its relatively low cost. If a way can be found to provide a useful standard color terminology for the building industry in this relatively simple problem, we

COLOR OF LIMESTONE..(INDIANA)

To show interpenetration of colors called Gray, Buff, and Variegated.



Rough samples enclosed in circles.
Dotted lines represent range for each supplier.
Number beside each measurement indicates +a (redness - greenness factor).

then can go further and try to find a method for making the information available to those in the building industry who need it.

Indiana Limestone comes in two colors and in six standard grades; statuary buff, select (buff or gray), standard (buff or gray), rustic (buff or gray), variegated (buff and gray in the same stone) and Old Gothic.

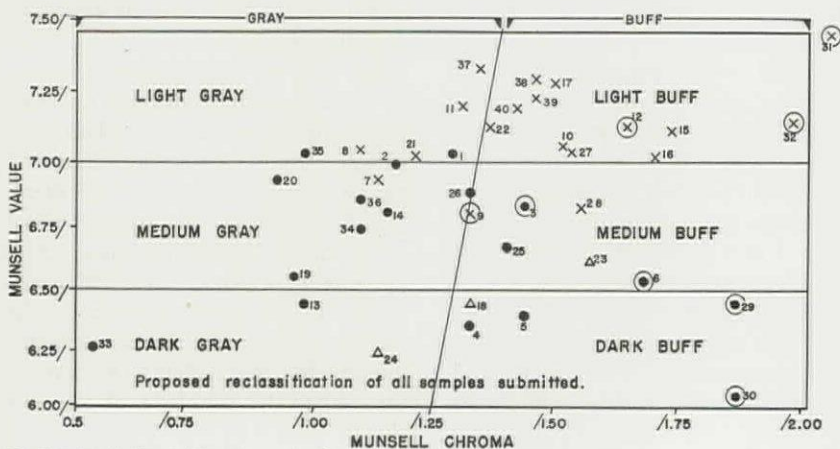
At the first Subcommittee meeting, after the samples were received, there was a good deal of discussion and differences of opinion as to what should be done. There was agreement, however, that the first thing we needed was a set of color measurements of the samples themselves. It was the suggestion of one of the subcommittee members that the Nickerson-Hunter Cotton Colorimeter might cover the range of these samples and if so would be the quickest instrument to use for initial measurements. The samples were heavy and awkward to handle.

Nevertheless, Miss Nickerson reports that the first set of measurements was made in a matter of about 10 minutes. This included a plot of the data that were presented to the subcommittee at its next session. There was still discussion, for it was thought that perhaps the hue factor, which was not measured on the Cotton Colorimeter, might be of importance. It was also evident that at this first stage there were not enough samples supplied by the Limestone Institute. Additional samples were requested and the entire series was then measured on the Hunter Color and Color-Difference Meter in which the scales of R_d and b are the same as on the Cotton Colorimeter. Since the Hunter 'a', or red-green factor, seemed to give a reasonably constant hue (when combined with the b readings) it has been omitted in plotting the samples although it is given in the tabular data. All samples had to be washed before measuring.

The Subcommittee wishes to note that initial measurements on the stones could be made by any one of a number of color-measuring instruments. If the instruments were accurately calibrated it would have been possible to come to the same final conclusions on the basis of color versions made from measurements in terms of other instrument scales. *Chart (1)* This chart gives a composite picture of the entire range of all the samples measured. In this chart the numbers represent the number of the sample and not the redness factor, as before.

Having gathered together this information and charted it, the next question was how to reclassify the samples as the result of this study. It was quite obvious that the names used by the industry did not bear any clear relation to the location of the charts. According to these charts all the gray samples should be at the left and all the buff samples at the right. However, no line could be drawn which would divide those samples called "gray" from those called "buff." According to the present nomenclature some of the "buffs" are grayer than the "grays" and vice versa. This is one significant point brought out by this study. It would then seem logical to reclassify the samples and to rename them so that all the grays will be on one side and all the buffs on the other side of the chart.

The next question was how many classifications to suggest. How many shades should we have from dark to light? And how many grades should there be from gray to buff? In order to relate these to visual estimates, the samples were numbered and arranged in piles according to various suggestions made by different members of the Subcommittee. It was recognized that too many grades would result in too small tolerances and that too few grades would defeat the purpose of this study. Several possible classifications have been suggested and the final recommendation is still open for discussion. If any of the members of the I.S.C.C. have any ideas on the subject, they will be welcomed, although they may not be accepted!



Graphs by Indiana Limestone Institute

TECHNICAL BIBLIOGRAPHY

art (2) This chart shows a suggested classification with three shades from dark to light and with only two shades of yellowness; gray and buff. This makes six classifications in all; light, medium, and dark gray on one side and light, medium and dark buff on the other. This gives a simple and orderly arrangement which follows the present hue classification used by the industry; gray and buff. This can be accomplished by changing the present designations.

This chart shows the samples arranged as before, but designated in terms of Munsell Value and Chroma. Through the courtesy of the Munsell Company, chips have been prepared which fit nicely on the diagram of the six suggested classifications. The Subcommittee is indeed grateful for its interest and courtesy. This makes possible to illustrate what we believe is an easy and accurate method of classifying these samples visually. It should be of great value in the future, if the limestone people should wish to go further with this work.

This concludes the Subcommittee report on Indiana Limestone. It still leaves many problems unsolved, such as the effect of texture on the color of limestone; what happens to its color after it has been exposed to the weather. We know that it becomes soiled in the city, but not how much. And we know that the very dark stones become lighter in color after exposure, but we do not know how rapidly this takes place. However, we need to get agreement with the limestone people on the practicability of the work to date, for we need their close cooperation if anything further is to be done with limestone.

Our work to date clearly indicates that before useful color information can be made available to users of any building material, the color range in that particular material will have to be known, also any related factors of importance. Further plans of the Subcommittee will depend upon how far we can carry this work with this fairly simple problem of limestone, and what general principles can be worked out on the basis of this work that can be applied to other materials.

Following are available from Superintendent of Documents, Government Printing Office, Washington 25, D.C. (stamps not accepted)

Military Standard Architectural Symbols MIL-STD-14A 3 September 1954.
Superseding JAN-STD-14, 23 May 1949. 7 $\frac{3}{4}$ " x 10 $\frac{1}{4}$ ", 7p, 20¢

Military Standard Electrical & Electronic Symbols MIL-STD-15A. 1 April 1954.

Superseding JAN-STD-15, 19 October 1948. 7 $\frac{3}{4}$ " x 10 $\frac{1}{4}$ ", 70p, 45¢

The above Standards approved by the Department of Defense for use by the Departments of the Army, the Navy, & the Air Force.

Fifteen-Year Exposure Test of Porcelain Enamels. BMS Report 148

National Bureau of Standards, US Department of Commerce. 1957. 8 $\frac{1}{2}$ " x 11", 13p, 15¢

Complete Report of the research cited under "weathering of porcelain enamels," TECHNICAL NEWS, p. 319, Sep. '57 JOURNAL.

The National Fire Codes, 1957

National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass. 6 Volumes, 5 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ ", cloth bound, \$6.00 each (all 6, \$30.00)

Vol. I Flammable Liquids & Gases, 35 standards, 896p

Vol. II Combustible Solids, Dusts, Chemicals & Explosives, 34 standards, 624p

Vol. III Building Construction & Equipment,

31 standards, plus an informative discussion of building codes & references to model codes, 736p

Vol. IV Extinguishing Equipment, 33 standards, 1088p

Vol. V Electrical.

The National Electrical Code, 1956 Edition, including interpretations & interim amendments to July 30, 1957, plus 6 other NFPA electrical standards & a digest of the electrical provisions of 69 other NFPA standards, 704p

Vol. VI Transportation & Miscellaneous.

28 standards on air, marine, bus & truck transportation, & salvage, plus a comprehensive review of applicable government regulations, 672p

Specifications for Glazed and Unglazed Structural Facing Tile

Facing Tile Institute, affiliated with Structural Clay Products Institute, 1520—18th St., N.W., Washington 6, DC Revised September 1, 1957. 5 $\frac{3}{4}$ " x 8 $\frac{3}{4}$ ", 21p t

Describes characteristics, dimensions, permissible variations, & physical requirements.

Nailing of Subflooring

George Stern, Research Professor. Virginia Polytechnic Institute, Blackburg, Virginia. Sept. 1957. 6" x 9", 12p

A comprehensive report on the effectiveness of plain-shank, barbed, & threaded steel nails used for fastening subflooring.

Air Conditioning—Refrigerating Data Book 10th Edition, Design Volume

The American Society of Refrigerating Engineers, 234 Fifth Avenue, New York 1, N.Y. September 1, 1957. Cloth bound, 800p, \$10.00, dgt

This is the official reference work of The American Society of Refrigerating Engineers.

Includes authoritative information on physical data, application design, basic equipment, auxiliary & self-contained units, operation, codes, standards, abbreviations, symbols, definitions.

Each of the 39 chapters has been written with design considerations in mind.

The 800-page text is supplemented by more than 400 charts & diagrams, plus 117p of charts & tables.

Timber Design & Construction Handbook Timber Engineering Company. 1956

Available from F. W. Dodge Corp., 119 W. 40 St., New York, N. Y. 6" x 9", 622p, cloth bound, \$12.75, gpst

A well arranged & comprehensive Handbook (Awarded Honorable Mention in The 1957 Building Products Literature Competition) representing the collaborative effort of 25 engineers & specialists in various fields of design & timber engineering. Provides design & engineering Specifications & tabular data in simplified form permitting easy conversion for particular grades & species.

Building Code Requirements for Reinforced Concrete

American Concrete Institute, P. O. Box 4754, Redford Station, Detroit 19, Michigan. 1956. 5 $\frac{3}{4}$ " x 9", 75p, \$1.00

This ACI Standard, approved as American Standard ASA A89.1-1957, covers proper design & construction of buildings of reinforced concrete, including general design considerations; flexural computations; shear & diagonal tension.

Standard Millwork Specifications Work Sheets

Architectural Woodwork Institute, 332 South Michigan Avenue, Chicago 4, Illinois. 8 $\frac{3}{4}$ " x 11"

A series of work sheets for the specifying of interior and exterior millwork, with recommended specie & surface descriptions for highest class, medium, & lowest class work.

Series contains information of technical value in the writing of Specifications for millwork.

Guide Specifications for Typical Low-Pressure Commercial Heating Plant

Bituminous Coal Institute, Southern Building, Washington 5 DC. 1957 8 $\frac{1}{2}$ " x 11", 53p, plus 5 installation drawings

Comprehensive guide covering fuels, boilers, stokers, coal handling equipment & storage, ash handling equipment, incinerators & boiler room ventilation for low-pressure commercial heating plants, suitable for schools, factories, large apartment buildings, warehouses, etc. for design loads: 3,000 to 24,000 EDR, 750,000 to 5,500,000 Btu per hour.

Earth Pressures and Retaining Walls

Whitney Clark Huntington, Professor of Civil Engineering, Emeritus, University of Illinois 552pp. 9 x 5 $\frac{3}{4}$ b,d John Wiley & Sons, Inc., NY \$11.50

The book is intended to bridge the gap which often exists between retaining wall design and that part of soil mechanics which deals with earth pressures and foundations.

Since a large portion of retaining wall failures are due to faulty foundation design and since the published material on foundations for retaining walls is thought to be inadequate, that phase of retaining wall design has been considered quite fully.

Basic Soil Engineering

B. K. Hough (Professor of Civil Engineering, Cornell University) 536p. 6 x 9 d,g,t, 1957. The Ronald Press Company, N.Y. \$8.

The text has been designed to present primarily the basic material required for dealing with common problems in general practice and is intended to serve as a reference work for those who, initially at least, do not intend to specialize in any aspect of the field.

Includes chapters on:

Soil moisture, soil structure, compressibility and consolidation, shear strength, stress analysis, unrestrained earth slopes and embankments, lateral earth pressures and retaining walls, soil bearing capacity for spread foundations, pile foundations, settlement calculations, subgrades and pavement thickness, soil compaction and stabilization, site investigation, and soil testing Appendices: Fundamental properties of clays; City of Buffalo, Building code provisions for field loading tests; typical piling specifications; unified soil classification system; typical specifications for earth-fill construction; quantities and cost of chemicals for continuous surface stabilization; typical specifications for subsurface investigation by borings.

Handbook of Standard Structural Details for Buildings

.By Milo S. Ketchum 127pp. 7" x 10" Prentice-Hall, Inc., Englewood Cliffs, N.J., 1956 \$4.65

The author, formerly a professor of Structural Engineering at Case Institute of Technology, is now a consulting engineer in Denver, Colorado.

This is essentially a book on drafting. As noted in the preface, "the term 'standard structural details' is used to indicate details of design and methods of presentation of details which have stood the test of use in many design offices —. Obviously, structural details will never be completely standardized." Another concern of the editor and author is to suggest the optimum amount of information. "The full story has to be told, but putting too much information on the plan can make it unintelligible." The scope of the work does not include architectural details,

shop details on structural steel reinforcing steel nor does it include the common structural elements & details given in standard handbooks.

Following the introductory chapter, each of 6 chapters is devoted to one typical building shown simply in plan and line drawing elevation perspective, with a total of 75 structural details framing plans and schedules, all shown at one-half size original drawings at appropriate scales, each with descriptive text on the same or facing page.

This should be useful as a text book and for drafting room reference.

TECHNICAL NEWS

committee appointments:

Theodore Irving Coe, FAIA, Technical Secretary of the Institute, has been appointed AIA's representative on the Standing Committee for Commercial Standards CS214-57, Glass Fiber Reinforced Polyester Corrugated Structural Plastics Panels.

James B. Newman, AIA, & Frederick C. Genz, AIA, both members of the New York Chapter, have been reappointed as the Institute's Representative & Alternate, respectively on the ASA Construction Standards Board for a 2-year period beginning January 1958.

new members of producers' council:

Tectum Corporation
105 S. 6th St.
Newark, Ohio
*E. W. Douglass, Dir. of Marketing
National Representative*
Dodge Cork Company, Inc.
Manor & Laurel Streets
Lancaster, Pennsylvania
*Richard K. Dodge, President
National Representative*
Timber Structures, Inc.
3400 Yeon Avenue
P.O. Box 3782
Portland 8, Oregon
*Elon E. Ellis, Vice President
National Representative*
Wheeling Corrugating Company
Wheeling, West Virginia
*E. B. Carter, Vice President
National Representative*

ardless entrance

The new device, under the trade name Air Curtain, does away with conventional doors and allows the entrance to remain open during business hours. It keeps heat inside in winter, keeps air conditioned and fresh inside in the summer, and acts as an "insulating" barrier against wind, dust, dirt, rain, sleet, snow, and fumes.

The principle was developed in Switzerland and the first installation was made in that country in 1952. The first US installation was made in 1955 in a suburban Cincinnati supermarket. Package and custom installations have been used by US business firms since 1955 with a total of 310 front feet put into operation in supermarkets, department stores, banks, factories and a Nevada gambling casino.

Standard units are 8 feet high by 4, 6, 8, 10, and 12 feet wide, which may be placed in new or existing buildings. Aluminum or enamel finish is available. It can be equipped for steam, hot water, or gas heat, and may be had with either folding doors or sliding panels for night closing. In operation, directional air nozzles send clean air downward from the top of the entrance. At the floor level the air is drawn through a floor grill into a pit where dirt, paper and debris are collected and washed away by periodic water sprays. The air is filtered and a blower returns it to a plenum chamber for recirculation through the nozzles.

Minimum light for living standards

general requirements:

1. All interior fixtures shall provide adequate shielding to prevent glare unless placed out of the line of vision.
2. A minimum of one ceiling fixture shall be controlled by a wall

The above minimum standards for 1957 have been approved by the American Home Lighting Institute, working with lighting engineers, utility representatives and other authorities. To provide good lighting they must be laid out correctly . . . for maximum effectiveness and beauty. Remember, these are only minimums—a starting point toward genuine light conditioning.

switch at the room entrance. Where ceiling fixture is not installed a minimum of one wall bracket, valance, cove or cornice lighting unit must be wall switched at the room entrance.

3. Where traffic pattern into a room is from two directions and more than ten feet apart, three-way control on general lighting is desirable.

4. Recessed fixtures to accommodate 150 watts of incandescent or 80 watts of fluorescent tubes may be substituted where ceiling fixtures are required in these standards.

• living areas

Living areas within the scope of this standard include the living room, dining or dinette area, recreation, den, bedroom, study, library, reception hall, sun room, enclosed porches and other living areas not specifically covered. One of the following methods of illumination shall apply to each of the above areas:

- A. A minimum of one ceiling fixture to accommodate at least 150 watts of incandescent;
- B. A minimum of 60 watts (approximately 6 feet) of fluorescent lighting in valance, wall brackets, cove or cornice;

*A combination of A & B is desirable.

*Separately switched lighting for planned work, dining and recreation areas are desired.

• kitchen area:

1. A minimum of one ceiling fixture to accommodate at least 150 watts of incandescent or 80 watts of fluorescent tubes.
2. One wall bracket or ceiling fixture above eating area within the kitchen.
3. One fixture above the sink.
4. Over the range and under cabinet lighting is recommended if these areas are not properly lighted from other sources.

• halls—passageways:

For each hall or passageway a minimum of one ceiling fixture, wall bracket, or 20 watts of fluorescent lighting shall be installed. One such

**Items marked with an asterisk (*) are desirable and will add safety and comfort in addition to the sale and resale value of the home.*

fixture is required for every 15 feet of hall or passageway.

*A recessed fixture to accommodate 100 watts of incandescent is acceptable.

• bathroom and lavatories:

1. One of the following methods for illumination should be used:

- A. One fixture located on each side of grooming area and one fixture located on ceiling or wall over grooming area;
- B. When wall to wall mirrors are installed adequate illumination should be used over full length of mirror.

2. A vaporproof fixture should be installed in the tub or shower area when in separate enclosure.

• laundry-utility-workshop-basement areas:

A minimum of one ceiling or wall fixture for each principal work area.

• stairways:

A wall or ceiling fixture shall be installed to provide adequate illumination for each stair flight.

• full door closets:

A minimum of one fixture for each full door closet where arrangement permits.

• accessible unfinished attic and storage areas:

A minimum of one ceiling fixture or wall bracket.

• garage or carport:

A minimum of one ceiling fixture or wall bracket.

*One fixture for each parking area is recommended.

• outside the residence:

A minimum of one or more fixtures at each entrance of the residence.

*One or more directional fixtures or post lanterns are desirable for protective lighting, yard and driveway entrance areas. These should be controlled inside residence.

*One or more weatherproof outlets are desirable for yard maintenance, holiday lighting or for outside appliance use. One or more of these should be controlled inside the residence.

Deterioration Prevention Is Conservation*

By Carl J. Wessel, *Director, Prevention
of Deterioration Center, National Academy
of Sciences—National Research Council,
Washington, D. C.*

48

DETERIORATION IS A NECESSARY PROCESS in nature. Without deterioration, life on earth would not exist as we know it. To improve their material lot in life and thus to cause material civilization to progress, men have always pursued the policy of trying to arrest deterioration, or at least to delay its rate. For example, we cut down trees to make lumber, convert this to shelters, paint or otherwise protect the wood to make it last longer, and attempt to keep it dry; in short, we try every means known to delay the process of decay of the cellulose back into carbon dioxide. We change minerals into cement and concrete and take every precaution to prevent the breakdown of the material. We use natural rubber or synthetic elastomers in tires, but add antiozonants and anti-

*This article, here somewhat condensed, appeared in the July-August 1957 *News Report* of the National Academy of Sciences—National Research Council.

oxidants to keep them stable. All these, and many more examples, typify our efforts to overcome nature for our own justifiable benefit.

Conservation of natural resources is not often thought of as including the effort to prevent deterioration of materials. In the United States, "conservation" has long connoted economical and judicious utilization of resources, especially natural resources. Conservation of forests, water, coal, petroleum, and minerals has always attracted attention, but only special groups have given consideration to other aspects of husbanding our material wealth. America was once considered a nation of practically inexhaustible resources. In the last several decades, however, the United States has come to realize that resources are not inexhaustible. World War II demanded lavish use of natural substances and reduced the

supply of many, such as the non-ferrous metals, copper, zinc, and lead, to a dangerous level. Today we import many materials which were, heretofore, in adequate domestic supply.

Although natural resources are diminishing, populations throughout the world are increasing at a rate of more than one per cent a year. To confound the situation, the materials things in our civilization continue to become more complex. Thus, technology continues to grow and demand more and more materials while supplies decline. In 1952, the President's Materials Policy Commission reported: "Consumption of almost all materials is expanding at compound rates and is thus pressing harder and harder against resources which, whatever else they may be doing, are not similarly expanding."

Conservation and National Defense

The United States now finds itself in possession of more material wealth, both military and civilian, than ever before in history, but with steadily-diminishing amounts of natural materials for the future.

Under these circumstances, the idea of "conservation" takes on the meaning not only of the wise use of remaining natural resources, but also of the care and preservation of materials and manufactured goods already in existence. This pertains equally well to industry, the government, and civilian life. The significance of the problem was emphasized officially in 1955 by the Honorable Charles E. Wilson, Secretary of Defense. He stated: "It is not enough for us to accumulate stockpiles and open new mines. Frugality is also necessary . . . Industrial decisions today as to choices of materials and manufacturing techniques can influence greatly the size and composition of the volume of materials consumed in war. Wholehearted cooperation of American industries in conservation is vital to our security in materials for the long range future."

Supplies are short, conservation is needed, prevention of materiel deterioration is a form of conservation

though deterioration has been going on for a long time, it was never known forcibly to organized attention until the widespread military operations of World War II, with their extreme ranges of climatic conditions, brought the problem into focus as an urgent one. The resulting work has gradually built up a reservoir of knowledge and principles, and "materials deterioration prevention" has emerged as a science of its own.

What is Deterioration?

Almost all materials, manufactured goods, and equipment have an established life expectancy. In the normal course of usage, they decay and wear out after a certain period of usefulness. There is often superimposed upon this predictable loss an unduly rapid degradation, or general loss of value, resulting from the influence of unfavorable environmental conditions; this can greatly shorten the useful life of materials and manufactured items. The latter is described by the term "deterioration," as distinct from the slower and more predictable loss of usefulness due to ordinary wear and tear. Material things follow natural laws of reverting to lower energy states (chemically and physically more stable states) under the influence of natural forces in the form of heat and cold, sunlight, water, insects and microorganisms, wind, soil, dust, etc.

One type of goods is useful only as long as it maintains its integrity, like buildings or shelters, machines, furniture, armaments, communication equipment, and scientific apparatus. A second type is useful only in the absence of a loss of structure (i. e., by being consumed). We are concerned here primarily with class one materials, i. e., things which must maintain their integrity in order to be useful.

Deterioration by the Billions

The Prevention of Deterioration Center estimates that the annual loss in the United States by deterioration of all kinds of materials, exclusive of drugs and foodstuffs, totals more than \$12 billion, or about six to seven per cent of the total national income. American railroads replace over 40 million ties a year at a cost

of about \$4 per tie. Termite damage costs this country about \$100 million annually. The yearly national cost of corrosion is estimated at between \$5 and \$6 billion. The loss in buried pipe alone is placed at from \$50 to \$600 million. Yearly losses from marine-borer attack on wooden structures in waters around the United States amount to \$50 million. It costs annually \$225 million to replace lumber destroyed by decay, exclusive of labor. About \$500,000 are spent annually for preservatives for water-base paints. It has been estimated that we now have a total of 1.5 billion tons of steel and iron products which have gone into the building of our industrial and domestic facilities. It has further been estimated that about 2.5 per cent of all steel and iron in use corrodes away every year. This amounts to 37.5 million tons, or approximately one third of our national output.

These losses may be attributed in part to the failure of technology to develop protective measures as fast as it applies old and new materials to new uses or different climatic conditions. Apathy or ignorance on the part of users of materials and equipment may be to blame. The situation is influenced partly by economics and partly by differing tastes and demands for goods. Wherever responsibility may lie, deterioration losses are now quite staggering.

Dollar losses due to deterioration, important as they may be, represent only a small part of the problem. Probably more important are strategic losses during war-time and even loss of lives. The malfunction of a corroded electric switch, structural failure of a corroded aircraft assembly, or erroneous indications by deteriorated instruments may determine the fate of a vital mission. Man-hours needed to recondition deteriorated materiel raise serious personnel problems.

Organized Deterioration Prevention

To meet the urgent need for emergency measures during World War II, a project designed to combat the impairment of materials was established under the wartime Office of Scientific Research and Develop-

ment. The Tropical Deterioration Information Center was established at The George Washington University. The peacetime continuation of that activity, which dealt with investigative work and exchange of information on deterioration problems, has been embodied since 1945 in the Prevention of Deterioration Center, a group maintained by contract between the National Academy of Sciences—National Research Council and the U. S. Office of Naval Research through the joint cooperation of the U. S. Departments of the Army, Navy, and Air Force.

Deterioration Prevention Pays Off

Many examples can be cited where efforts aimed at preventing deterioration have disclosed opportunities for substantial savings in critical materiel.

A railroad using 1 million ties can save \$150,000 by increasing the life of ties by a single year. It has been estimated that savings of more than \$236 million could be effected over a period of 12 years by using treated wood in the bituminous industry and anthracite mines in the United States. It has further been estimated that the losses of materiel not prepared for long-term storage are approximately 50 per cent in the first three years, half of what is left the fourth year, followed by rapid loss of the remainder.

Unfortunately, preventing the deterioration of materials does not always mean simply the application of known scientific principles to a given problem. The considerations in any given case are usually complicated by external factors of one kind or another. Of these, over-all economics is often one of the most important. The usual limiting factor is that the cost of preservative measures must not exceed the value of the losses avoided by the preventive effort.

EDITORIAL NOTE: *The above is focussed on military materiel and on industry in general. Architects and consulting engineers, the design professions of the America's largest industry, have analogous responsibilities for conservation and retarding of deterioration of materials used in building.*

ARCHCROSTIC II

By WILLIAM D. MERRILL, Honolulu

DEFINITIONS

- A. Pulpit, platform.
- B. From (2 words).
- C. Architect of Massachusetts State House, other late 18th Century examples in the area.
- D. A student of the science of the races and families of men.
- E. Hindu prince; Malay or Javanese ruler.
- F. The musical instrument with which our author would choose to accompany this quotation (2 words).

WORDS

197 110 19 118 3 76 99
 143 194 75 94 187
 119 170 25 218 55 206 34 95 154
 15 204 88 144 50 171 166 126 24
 215 13
 73 18 109 130 4
 107 11 202 39 137 184 84 150 198
 191

DEFINITIONS

- G. Largest, finest and most famous example of word, J. London 1399 (2 words).
 16 196 79 115 49 209 44 157
 21 10 36 31 207
- H. Chronological rating of Architecture among the professions (2 words).
 59 183 104 203 83 54 188 96
 30 214
- I. Distinguishing feature of the carpenter's hammer.
 103 217 89 23
- J. A late Gothic form of roof without a direct tie (2 words).
 129 210 17 169 2 68 178 152
- K. A hood over a door.
 58 155 145 70 120 100 87 159
- L. Small French city on the upper Moselle.
 216 156 41 165 133 205
- M. A trading town in the Punjab, India.
 22 172 64 193 131 6 112 211
- N. Building containing the public offices of a town and used for meetings of the town council and other official business (2 words).
 186 33 192 141 38 149 78 208
- O. Fringe or tassel worn on the tallith during prayer.
 42 46 81 148 167 61
- P. Distinction claimed for Everest, Empire State Bldg., the Redwood.
 173 5 91 189 74 160 20
- Q. A partition to block the draft from an open door of a Scottish cottage.
 161 97 139 51 12 101
- R. Site of word V.
 201 92 48 37 180 213 108
- S. Adapted to more than one use or type of service; describes many areas in a contemporary residential plan.
 142 179 66 35 124 1 71 153
 146 128
- T. Clerk-of-the-Works (2 words)
 56 158 106 174 93 7 40 168
 32 53 127 69 14
 136 195 82 147
- U. A seaport in S.E. Carmarthenshire, Wales.
 164 90 62 114 105 132 122 140
- V. Temple at word R, one of the Seven Wonders.
 86 80 102 125 27
- W. Enmity; malevolence (2 words).
 65 163 77 45 121 190 26
- X. A mixture of low-boiling hydro-carbons between gasoline and benzine.
 85 8 29 116 60 176 162
- Y. Roof structure characterized by supporting or masking ogives at intersections of arches (3 words).
 9 212 43 72 200 57 98 133
 117 185 182

INSTRUCTIONS

To solve this puzzle you must guess twenty-seven words, the definitions of which are given in the column headed Definitions. Alongside each definition there is a row of dashes—one for each letter in the required word. When you have guessed a word write it on the dashes, and also write each letter in the correspondingly numbered square in the puzzle diagram. Black squares indicate ends of words; if there is no black square at the right of the diagram, the word carries over to the next line. When all the words are filled in, their initial letters spell the name of the author and the title of the work from which the quotation was taken.

						1	S	2	J	3	A	4	E	5	P	6	M	7	T								
	8	X		9	Y	10	G	11	F	12	Q	13	D		14	T	15	D	16	G							
17	J	18	E	19	A	20	F	21	G	22	M		23	I	24	D	25	C	26	W		27	V				
28	S	29	X	30	H	31	G	32	T		33	N	34	C		35	S	36	G	37	R						
38	N	39	F	40	T	41	L	42	O	43	Y	44	G		45	W	46	O	47	Y	48	R					
49	G	50	D	51	Q	52	M	53	T	54	H			55	C	56	T	57	Y	58	K	59	H				
60	X	61	O	62	U	63	H			64	M	65	W	66	S	67	G			68	J	69	T	70	K		
71	S	72	Y	73	E	74	P			75	B	76	A	77	W	78	N			79	G	80	V	81	O		
82	T	83	H			84	F	85	X	86	V			87	K	88	D	89	I	90	U	91	P				
92	R	93	T	94	B	95	C	96	H	97	Q	98	Y	99	A			100	K	101	Q			102	V		
103	I	104	H	105	U	106	T	107	F	108	R			109	E	110	A	111	Y	112	M	113	L	114	U		
				115	G	116	X	117	Y	118	A			119	C	120	K	121	W	122	U	123	H	124	S	125	V
126	D	127	T			128	S	129	J	130	E	131	M	132	U			133	Y	134	T			135	J		
136	T	137	F	138	M	139	Q	140	U	141	N			142	S	143	B	144	D	145	K	146	S	147	T		
148	O	149	N	150	F			151	T	152	J	153	S	154	C	155	K	156	L	157	G			158	T		
159	K			160	P	161	Q	162	X	163	W	164	U			165	L	166	D	167	O			168	T		
169	J	170	G	171	D	172	M	173	P	174	T			175	G	176	X	177	S			178	J	179	S		
180	R	181	T	182	Y	183	H			184	F	185	Y	186	N			187	B	188	H	189	P	190	W		
191	F	192	N			193	M	194	B	195	T	196	G	197	A			198	F	199	J	200	Y	201	R		
				202	F	203	H	204	D			205	L	206	C	207	G	208	N	209	G	210	J	211	M		
212	Y	213	R	214	H	215	D	216	L	217	I	218	C														

Solution next month

Cutaway section of Amarlite door stile discloses a precise assembly ordinarily concealed from view. Special metal alloys and nylon bearings are combined into a panic system that will work as smoothly after its first million children as it does today for this one.



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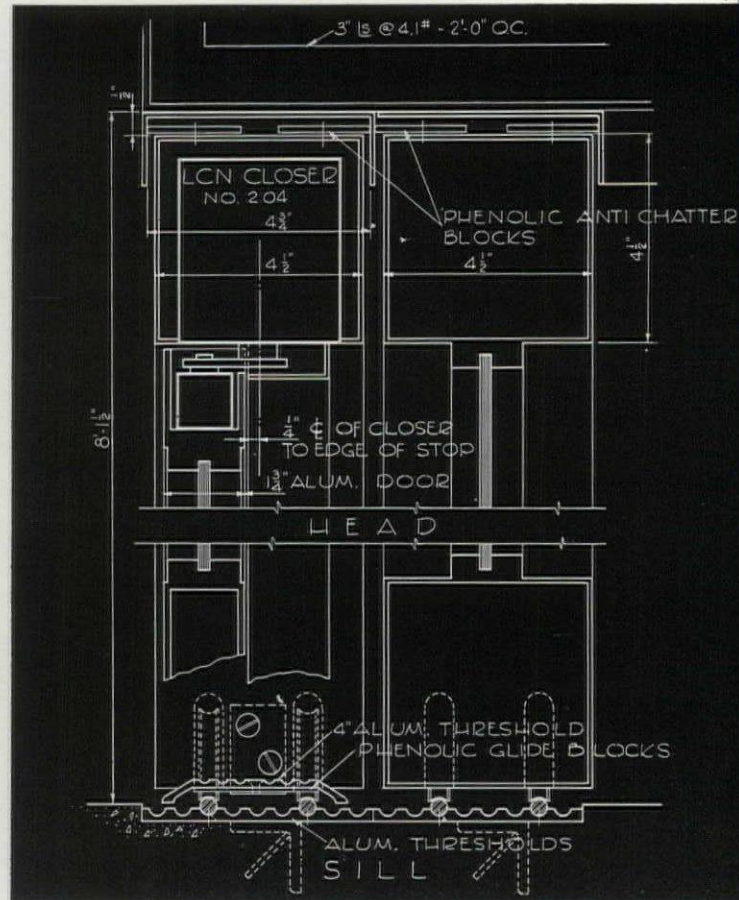
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CONSTRUCTION DETAILS for LCN Overhead Concealed Door Closer Installation Shown on Opposite Page

Each pair of doors is self-contained in a rigid frame. One pair slides to the right, one to the left, of the opening. The fixed glass panel, in its own frame, slides to the left on its own track into pocket back of the left pair of doors. The LCN 200 Series Closers are inside the head frames, arms folding into stop, out of sight. An ideal closer for this requirement.

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario



Store Open, Air Curtain Operating

Lankton-Ziegele-Terry and Associates
Architects and Engineers
Dean M. DuBoff, Architect

Modern "Air Curtain" Entrance . . .

Normal Access Doors Controlled by *LCN* Closers Concealed in Head Frame

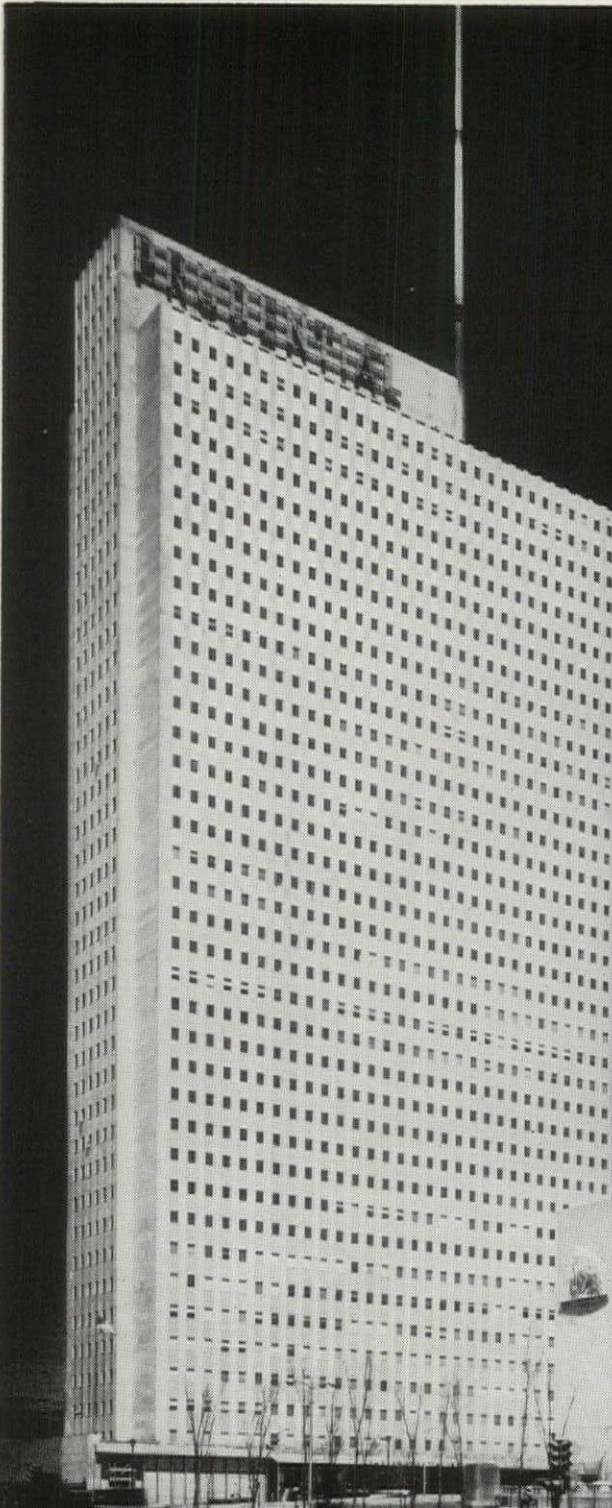
BERGNER'S DEPARTMENT STORE IN SHERIDAN VILLAGE, PEORIA, ILLINOIS

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page



Store Closed, Doors in Place



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“the strength
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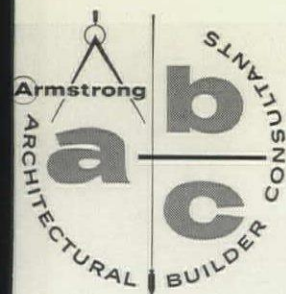


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Which floor goes where?

Armstrong floors and adhesives for use over different subfloors

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- Cork Tile
adhesives: S-214 Waterproof Cement
or S-130 Resilient Tile Paste
- Custom Vinyl Cork Tile
adhesive: S-214
- Corlon® (Sheet Plastic)
adhesive: S-128 Paste
- Custom Corlon Tile (Homogeneous Vinyl)
adhesive: S-130
- Excelon® Tile (Vinyl Asbestos)
adhesives: S-160 Emulsion, S-90 Asphalt
Cement or S-700 Brushing Cement
- Linoleum
adhesive: S-128
- Linoleum Tile
adhesive: S-130 or S-128
- Linotile®
adhesive: S-130
- Rubber Tile
adhesive: S-130
- Asphalt Tile
adhesives: S-90, S-160, or S-700

On-Grade Floors

- Asphalt Tile
adhesives: S-90, S-160, or S-700
- Cork Tile*
adhesive: S-214
- Corlon with Hydrocord® Back
adhesive: S-235 Cement
- Custom Corlon Tile
adhesives: S-104 (Chemical-Set Water-
proof Cement**) or S-235
- Custom Vinyl Cork Tile*
adhesive: S-214
- Rubber Tile
adhesives: S-104** or S-235
- Excelon Tile
adhesives: S-90, S-160, or S-700

Below-Grade Floors

- Asphalt Tile
adhesives: S-90, S-160, or S-700
- Excelon Tile
adhesives: S-90, S-160, or S-700
- Rubber Tile
adhesive: S-104
- Custom Corlon Tile
adhesive: S-104

How moisture conditions affect the choice of resilient floors

Moisture in the subfloor as well as surface moisture can have a harmful effect on resilient floors, unless the proper selection of flooring materials and adhesives is made. Here is a résumé of common moisture problems and, at the left, a chart showing the types of Armstrong floors recommended for use on various subfloors.

Concrete subfloors—New suspended concrete subfloors should always be tested for moisture content before the installation of linoleum and other types of resilient floors that are harmed by alkaline moisture. Moisture below the surface may still be rising and evaporating long after the concrete appears dry. This is particularly a problem with slow-drying concrete mixes. When this is the case, the installation of resilient flooring prevents or retards the moisture evaporation, and an alkaline solution will collect under the flooring material. On-grade and below-grade concrete subfloors always contain alkaline moisture to some degree. Only resilient floors that are highly resistant to alkaline moisture should be installed on these subfloors.

Wood subfloors—Any Armstrong floor may be used over suspended double-wood subfloors in good condition. Crawl spaces with adequate ventilation underneath the floor should be at least 18" high and cross ventilated to prevent warpage of the wood and possible damage to the resilient floor. Resilient floors should not be laid over wood subfloors which are constructed over sleepers laid on concrete on or below grade, due to inevitable moisture damage.

Surface moisture—When excessive moisture is spilled on a resilient floor, it may seep through the seams and attack the adhesive. Where surface moisture is a problem, the floors recommended at left for on-grade installation will give good service when installed with the proper waterproof adhesives. In the case of Cork Tile, excessive moisture may damage the flooring material itself.

Technical assistance for architects—Where unusual conditions exist, Armstrong Architectural-Builder Consultants will be glad to advise the architect and, if need be, refer the problem to the Armstrong Research and Development Center. Because Armstrong makes all types of resilient floors, these consultants can make unbiased flooring recommendations. Call your Armstrong Floor Division District Office or write direct to Armstrong Cork Company, Lancaster, Pennsylvania.

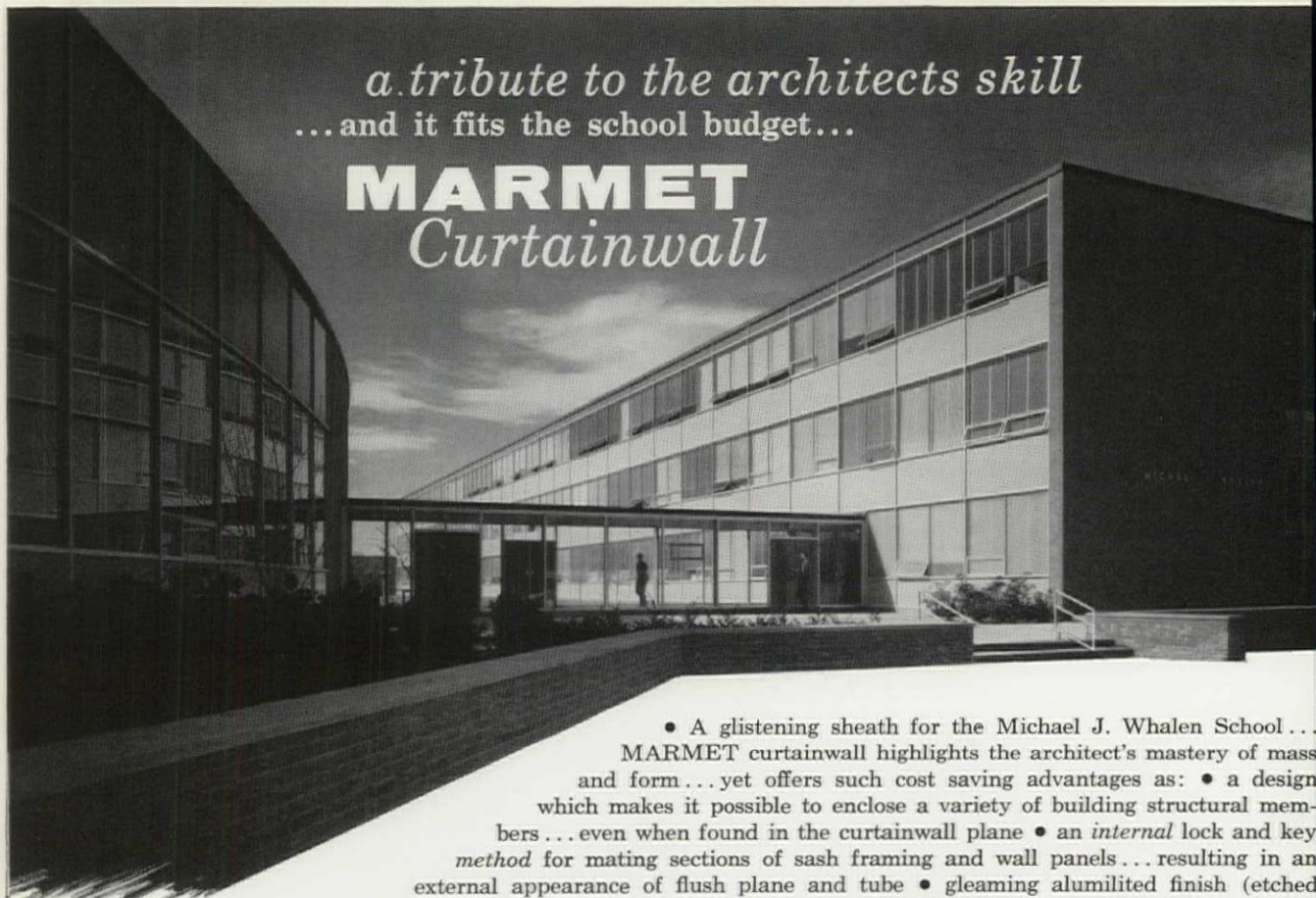


FLOOR DIVISION • LANCASTER, PENNSYLVANIA

* One foot above grade drainage away from floor.
** When concrete slab is new or not completely cured.

*a tribute to the architects skill
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MARMET Curtainwall



Series 600, Curtain Wall

Michael J. Whalen
Junior High School,
Hampden, Conn.
Architect, Warren Ashley,
Hartford, Conn.

• A glistening sheath for the Michael J. Whalen School... MARMET curtainwall highlights the architect's mastery of mass and form... yet offers such cost saving advantages as: • a design which makes it possible to enclose a variety of building structural members... even when found in the curtainwall plane • an *internal* lock and key method for mating sections of sash framing and wall panels... resulting in an external appearance of flush plane and tube • gleaming aluminited finish (etched in a special dip treatment) ... that "stays new" indefinitely ... never requiring painting and • complete engineering and fabrication by MARMET... saving the architect many precious hours both in the construction and design phases. Sash members are designed to expand or contract in coincidence with the vertical mulls... maintaining a tight seal against water entry with vinyl gaskets and newly developed double weatherstripping. For successful execution of *your* next curtainwall assignment... consult MARMET.

A typical Marmet
Stock door and
Entrance installation

SERIES 1100



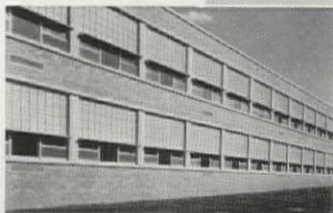
Longfellow Junior High
School, Wauwatosa, Wis.
Architect, Ebling,
Plunkett & Keymar,
Milwaukee, Wis.

SERIES 200



Pacelli High School,
Stevens Point, Wis.
Architect,
Robert W. Surplice,
Green Bay, Wis.

SERIES 401



MARMET stock doors and entrances

Marmet's Series 1100 Narrowline door's slim beauty is achieved thru a special deep penetration, Full-Weld process. This "thru-welding" combined with tubular extrusions, provides great strength without clumsy bulk or visible screws. Matching entrance sections are available in a variety of modular sizes... which simplifies the modernization of old entrances as well as fitting components into new construction.

MARMET ribbon windows ideal for classrooms

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The heavy wall sections of this series assure maximum strength and rigidity... allowing large areas of glass to be projected, or opened for ventilation. Projected glass can be arranged to open either outside or inside... in a variety of hopper sash arrangements.

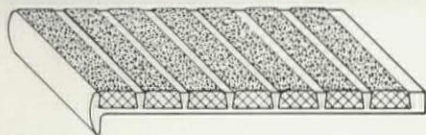
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File No. $\frac{3a}{Mar}$... or write to MARMET for Catalog 58a, 58c and 58d.

MARMET Corporation

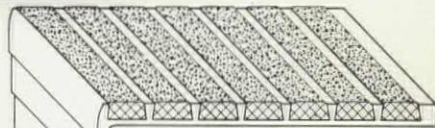
304-P Bellis St., Wausau, Wisconsin

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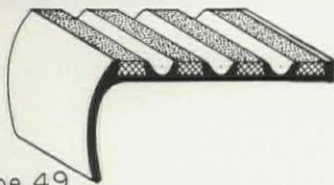


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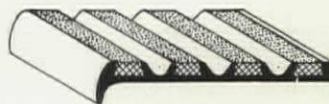


Type 142

SAFE GROOVE TREADS



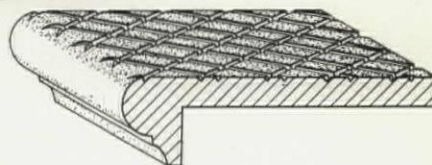
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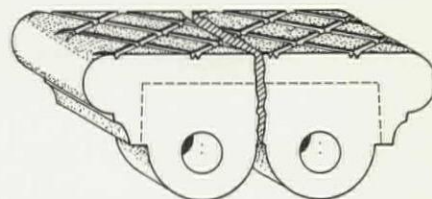
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Type 103



Type 106

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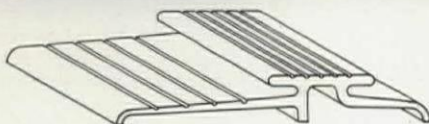
Spruce St.

Wooster, Ohio

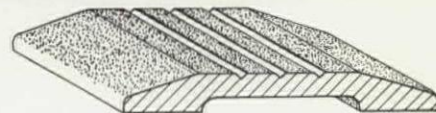


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ABRASIVE CAST & EXTRUDED THRESHOLDS



Type 322



Type 115

The Finishing Touch that ASSURES CLIENT APPROVAL

Beverly Hilton Hotel—Beverly Hills, California
Architect: Welton Beckett & Associates—Los Angeles, Calif.



specify HILLYARD Floor Treatments for final Clean-Up and Initial Finish

The floors you have so carefully selected for color and design will be a sorry-looking sight by the time the interior trades have completed their work.

Final clean-up and initial finish are crucial.

Specify safe cleaning with Hillyard neutral chemical Super Shine-All to be sure that ALL the dirt is gone before the finish is applied.

The local Hillyard "Maintaineer®", a trained floor treatment specialist, will be glad to serve as your own expert consultant, without charge or obligation.



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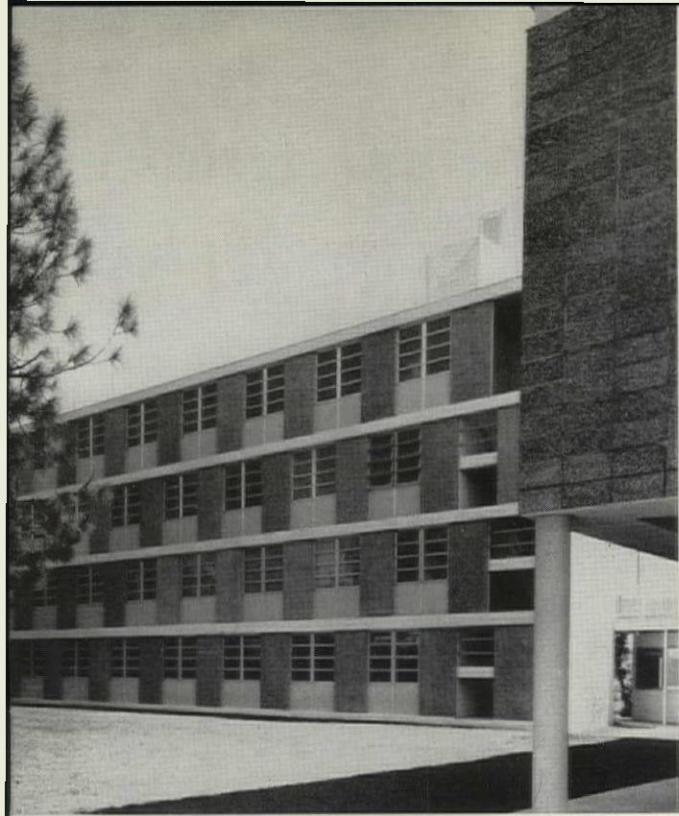
Be sure color and texture are not damaged by harsh, so called "quick" cleaners.

Specify Hillyard Super Hil-Brite 100% Carnauba Wax to bring out to the full the natural beauty of the flooring material—cover it with a tough, lustrous film of protection that will add years to the floor's life, pleasure to the client's eyes as the floors reflect the beauty of a new building.

Ask him to survey the floors on your boards, recommend treatments, serve as your "Job Captain".

Ask him also for A.I.A. numbered files containing Architect's information on treatment of all types of floors, and detailed step-by-step treatment instructions for use by your contractor.

*The Hillyard Maintaineer is
"On Your Staff, Not Your Payroll"*



3

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TO ARCHITECTS

in **LUDMAN**
Curtain Wall

OF MIAMI LAW BUILDING *Architect: Robert M. Little, Miami, Fla.*
by Ludman *Contractor: Fred Howland, Miami, Fla.*

TECHNICAL CO-OPERATION

Ludman drawing board to on-the-spot supervision of installations, an architect can always rely on Ludman Engineering Service for assistance at any stage of planning or construction.

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Ludman products are subjected to the most rigid laboratory and field tests for the perfect performance of every integral part of every Ludman product, before release.

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Ludman was one of the first to enter the field of curtain wall construction. As a result, hundreds upon hundreds of Ludman Curtain Wall installations today give tested proof of the superiority of Ludman engineering and Ludman know-how. When you specify Ludman, you specify experience!

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Ludman Curtain Walls match architectural vision with superb engineering that reduces construction time and costs, practically eliminates maintenance, yet is always beautiful, strong and flexible.

From basic wall treatment of integral wall units that combine window and wall in one easily handled, quickly fastened labor-saving unit, Ludman Curtain Walls are easily adaptable to any treatment desired, offering a wide range of materials, colors and textures for interior and exterior walls.

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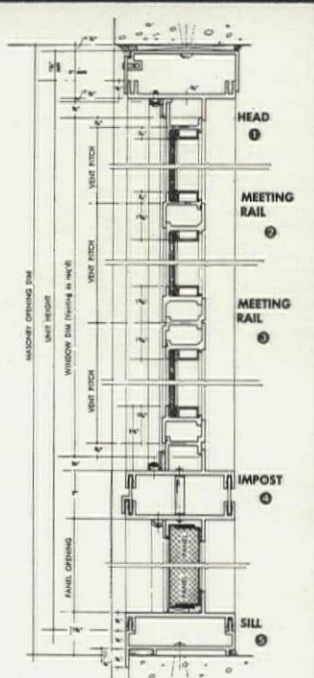
- AN AUTO-LOK ALUMINUM AWNING WINDOWS
- AN INTERMEDIATE ALUMINUM PROJECTED WINDOWS
- AN WINDO-TITE ALUMINUM AWNING WINDOWS
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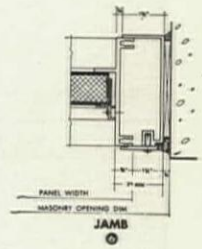
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Typical example of one of many Ludman Curtain Wall Units.



Detail showing one of many choices available of Ludman Curtain Wall Systems.

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