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The loaded cages are then transferred to acid vats, where the scale is removed by slow, careful pickling, while the pipe is agitated to insure uniform action of the acid on all parts of the pipe. Special skill and care are required in this operation to prevent injury to the threads by the acid.

The pipe is next placed horizontally on inspection benches and all loose scale is blown from the inside by compressed air. The exterior is examined under powerful lights to detect any possible defects in surface or threads, and a light is placed at one end of each piece of pipe to enable the inspector at the other end to examine the interior for possible obstructions.

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Fenestra Reversible Ventilator Windows have the advantages architects have long hoped to find. They ventilate without draft. They are weather-tight, fire-resistant and always work easily — can never warp or stick.

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JANUARY, 1926.

ARCHITECTURE

F. O. Adams, Architect

Allen Sheet Metal Works, Rig. Contr.

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Our booklet, "Kelsey Systems of Heating and Ventilating, Gravity and Mechanical," is filled with information of value to architects. We will gladly send it upon request.

Our Engineering Department will furnish the Architect with detailed plans and specifications.

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Warm Air Generator

Dealers
Principal Cities

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When the architect and owners of the above building decided to use Kawneer Solid Nickel Silver Windows their verdict was based largely upon economy.

The original cost of Kawneer windows is the final cost. The sturdy mouldings which are formed from heavy gauge rustless metal are securely welded at all joints. Painting and finishing or future replacement due to corrosion, is eliminated.

In addition to this the interlocking of sash and jamb is so positive that the passage of cold air through these points is rendered impossible, thus reducing fuel costs.

These features tend to minimize the upkeep and operating costs of any building.

Information pertaining to Windows or Store Fronts will be gladly furnished.

United States Mortgage Bond Co., Ltd.
Featured at the left is one of the windows used in this building.

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An architect’s plan might be, to the unthinking, merely some lines on paper, and nothing more. To the intelligent mind, however, the plan represents years of education and experience.

To the unthinking mind, the Architect’s Painting Guide might, likewise, seem but a list of products. Every architect knows, nevertheless, that it represents the crystallized experience of many years.

The knowledge and resources of the largest paint and varnish makers in the world, Sherwin-Williams, are placed at your service through this Guide. You are invited to make full use of it.

For details of specifications see: The Sherwin-Williams Book of Painting and Varnishing Specifications (sent upon request). Also see Sweet’s Architectural Catalogue.

We invite correspondence—write to the Department of Architectural Service.

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Cleveland

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Armstrong's Linoleum for every floor in the house

Casa Romero in Oakland, Calif., has Armstrong's Linoleum floors throughout. The living-room floor is Marble Inlaid No. 74. W. W. Dixon, architect.

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Every few days some architect adds us to his decorative staff. He asks our Bureau of Interior Decoration for designs in Armstrong's Linoleum to help him produce a desired effect. He may even ask our decorator to suggest an entire color scheme for a home, a clubhouse, a smart shop.

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The next time you have a job that demands floors a little out of the ordinary, floors that ought to contribute their share to the architectural plan or to the color scheme, why not find out what you can do with this decorative linoleum flooring?

Just write to our Bureau of Interior Decoration. Send a blueprint, or outline briefly your requirements and what you have in mind. Our decorator will gladly give your inquiry her careful, personal attention, and her suggestions may prove a real service to you. And, of course, there is no charge or obligation. It's yours for the asking.

Armstrong Cork Company, Linoleum Division, Lancaster, Pennsylvania
In the New Saks Company Store

A Complete Installation of Art Metal Elevator Doors

BEAUTY as well as utility characterize every detail of this newest of Fifth Avenue’s palatial department stores. That this keynote of distinction and serviceability has been faithfully carried out in the design and construction of the elevator doors is obvious from the illustrations pictured above.

This installation not only adds another well known name to the long list of famous buildings equipped with ART METAL Hollow Metal Doors, but emphasizes again the intelligent co-operation of ART METAL Engineers and Craftsmen with the Architect. We ask that you consider this experience and skill at your service at any time.

Art Metal

Hollow Metal Doors and Trim, Steel and Bronze Equipment for Banks, Libraries, Public Buildings, Steel Office Equipment, Safes and Files

Jamestown, New York

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CALE IN ARCHITECTURE

SCALE, as any designer knows, is one of the most difficult aspects of architecture. The design is often marred, the effect ruined by a structure's seeming to be larger or smaller than it really is. Again, a discrepancy in scale between the different parts of a building is often apparent and annoying. These difficulties result frequently because the observer has no "measuring stick" by which he may evaluate the size of the relative parts. Therefore, as an aid in making sensible to the observer the scale of a building, material units of known sizes are invaluable. In this connection TILES, by means of their joint and texture, offer an effective method of writing indelibly into a design a sure means for measuring the size of the structure. Thus the designer, while introducing into his building the varied wealth of COLOR and PATTERN afforded by ceramic TILES, finds in this same resourceful medium the solution of this ever-present and troublesome problem of SCALE.

ASSOCIATED TILE MANUFACTURERS
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In the living room of Mr. A. R. Griswold's roof bungalow apartment, at 16 Park Avenue, New York. Floor of GOLD SEAL INLAID in warm browns and tans (Belflor Pattern No. 2047-3).

CLEVER idea—choosing a rather formal tile floor for this “homey” living room! Everyone admires how the rich colorings of the tiles combine with, and set off, the furnishings: the Oriental rugs, the maple Colonial furniture, the splash of quaint patchwork on the chair-back and the rambling pattern on the hangings.

Why not start with the floors? Many architects and interior decorators make the floor the keynote for the whole decorative plan—

in living rooms, dining rooms, sleeping rooms and service quarters. This means, of course, that they must have at command a great variety of designs and color combinations.

Small wonder, then, that America’s leading home-builders are turning more and more frequently to Nairn Gold Seal Inlaids. Ask to see full size patterns and “quality samples.”

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Minneapolis
New Orleans

GOLD SEAL INLAIDS

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How my wife and I built our home for $4.90

By STEPHEN LEACOCK

Here’s the way the story begins:

"I was leaning up against the mantelpiece in a lounge suit which I had made out of old ice bags, and Beryl, my wife, was seated at my feet on a low Louis Quinze tabouret which she had made out of a finnan-haddock fishbox, when the idea of a bungalow came to both of us at the same time.

"It would be just lovely if we could do it!" exclaimed Beryl, coiling herself around my knee.

"Why not?" I replied, lifting her up a little by the ear, "with your exquisite taste—"

"And with your knowledge of material," added Beryl, giving me a tiny pinch on the leg. "Oh, I am sure we could do it! One reads so much in all the illustrated papers about people making summer bungalows and furnishing them for next-to-nothing."

It’s an amusing tale, written by one of America’s foremost humorists. Drop a line to Bruce, get a copy of the recent August issue and finish the story. You’ll enjoy it.

The Bruce House Organ is not a comic publication, although each issue contains something to lighten a dull day. It is full of valuable and usually found facts on subjects of interest to architects.

Look over these subjects

Characteristics of Woods—Early Hardwood Flooring—Memory versus Judgment—Causes of Cupped or Shrunken Floors—When Special Flooring Lengths are Unnecessary—Waxed and Varnished Finish. These are but a few of many appearing in each number.

Free to you

Send us your name—we will be glad to put any interested architect on our mailing list. No obligation of any kind.

E.L. BRUCE COMPANY

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LARGEST MAKERS OF OAK FLOORING IN THE WORLD

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Because of its beauty and durable qualities Pink Georgia Marble was selected by Kensico for their new mausoleum.

Many stones were considered for this vault; but Pink Georgia Marble was chosen as the most suitable.

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Chambers & Thomas, Buenos Aires, Architects
York & Sawyer, New York, Consulting Architects
Stone & Webster, Inc., Boston, Supervising Engineers

CAST
Ferrocraft Grilles

and Registers are used exclusively in this handsome Buenos Aires Bank, the equipment needed constituting one of the largest orders ever exported.

Ferrocraft Bronze Metal Registers and Grilles are cast in Special Design No. 95.

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Please mention Architecture in writing to manufacturers
The Buildings of the Barnes Foundation at Merion, Pa.

Paul P. Cret, Architect

The Barnes Foundation is an educational institution in which is conducted research in art, more particularly modern art and its derivation from earlier art. As this research is made by study of actual painting and sculpture—as distinguished from study made from photographic reproductions of the actual examples—the buildings for the work of the Foundation consist of a museum or art gallery to house its collections, together with an administration building, service building, etc. These collections consist of numerous works by Renoir, Cezanne, Picasso, Matisse, and examples of the painting of every one of the "modern" school, as well as a very fine collection of negro sculpture from the ninth to the seventeenth centuries, with examples from the Sudan, the Ivory Coast, the Congo, and Gabon, as this art has had a large share in moulding the development of modern painting in France. But, unlike many buildings designed to house collections of paintings, the Barnes Foundation gallery is a windowed building—unlike the "blind" façades with long unpenetrated walls which indicate the hanging of pictures illuminated by top light. This gallery, therefore, does not give the usual aspect of an art gallery.

A study of the principal museums either in this country or abroad, and of papers published by museum directors in which their views on the ideals of museum construction are presented, brings out a wide range of conflicting opinions much more than it leads to a definite solution of the problem. There is, indeed, not a single subject on which the experts agree. Even on those points which, it seems, could be settled by experiment, one finds the most opposite views held and supported by plausible arguments. It is the case, for instance, for that most important question, the lighting of picture galleries, as well as for the intercommunication between the different rooms of a gallery, without mentioning those subjects on which personal tastes may well disagree, such as the proper amount of architectural decoration in the rooms, the color-scheme of the exhibition walls, etc. These contradictory views must be interpreted as an indication that, after all, the museum problem admits of more than one solution.

The very radical statements of the devotees of any particular scheme are so flatly contradicted by other authorities of equally good standing, that the ground is pretty well cleared for the planning on whichever lines are more particularly adapted to the needs of a given problem. We do not mean to suggest that nothing is to be gained by a careful study of national or foreign museums. Some points can be considered as definitely settled by general consent. However, it is mostly on questions of secondary importance that this agreement is to be found. If we are looking for a learned opinion on fundamental questions, such as the general scheme of interior arrangement from the point of view of the museum visitor, it is typical, for instance, that the extended inquiry of the commission sent abroad by the Boston Museum of Fine Arts should conclude from a visit to practically all the museums of importance, that the most pleasant to visit are the old Italian palaces, which were built for residence purposes and not for
their present use. A building of limited size, with a simple plan, comprising rooms with a sort of intimacy, may escape from that character that has earned for art galleries the definition of "cemeteries of works of art."

The theory of limiting the size of such a building is one that is gaining favor more and more among art lovers. It consists in assuming that such a number of rooms as can be visited without undue exertion are arranged and decorated in the best possible way. The collections are installed in these rooms. Then, as the years go by, and new acquisitions are made, a selection is constantly made, and the standard of excellence of the objects exhibited is raised, the best specimens being shown in the original suite of rooms, while the minor examples are put into storage rooms, where they are still available to the students of art or interested persons.

One advantage of this scheme is that it does not require constant enlargement of the building; another is that a gallery of small size, sheltering only material of high value, is always receiving better attention and fame than a more extensive collection, in which the necessarily limited number of good things is drowned in a flood of mediocre material.

In its general aspect the exterior of the buildings follows the style of the Italian Renaissance, and is of a pleasing color; it is made of stone of two kinds, both, appropriately
enough, imported from France, like the art contained in the building. The trim stone is "Pouillenay Brun," of a warm rosy color and granulated texture—a stone with distinct crystalline formation; the ashlar is of "Coutarnoux," a lime­stone, much warmer in tone than our Indiana limestone, almost yellow, in fact. Both stones are marked with irregular veinings of deep rust color; they are here used with a planed finish. The roofs of the administration and service buildings and the parapet of the gallery are tiled with un­glazed tiles.

At various places there are built in sculptural decora­tions by Jacques Lipshitz, also of the modern school in France, and the ironwork and other details give here and there a recall of the negro sculpture housed within. The semicircular loggia at the entrance is lined with "Enfield" tile modelled after the negro sculpture of the collections inside, bright in color, with Pompeiian reds, deep purple-blacks, picked out with glazes and enamels in red, green, yellow, black, and other primitive colors, against a background of pastel tan.

In addition to this entrance, where are the coat-rooms and stairs, there is a minor entrance under the portecochère connecting the gallery with the administration building. There are no corridors inside, circulation being through the exhibition rooms.

The exhibition rooms are interesting primarily, from what has been said before, from the effort to abandon the top-lighted room. Top-lighted rooms have in their favor that they provide a maximum of hanging space; but, like a good many efficient methods, they fail on some more subtle and no less important ground. For instance, there is no doubt that the aspect of such rooms is always gloomy; that on account of the height that they require to place their ceiling light in the most favorable condition, the height of wall

left above the single row of paintings makes the room look empty and dwarfs the painting, usually of a moderate size. Most of the experts agree, also, that direct light, coming from the side and high up, similar to the lighting of a painter's studio, is much better than light from the top, as it approxi­mates conditions under which the paintings were executed by the artist. Another reason why doing away as much as possible with the top-lighted rooms is desirable, is that the sky­lights of the roof give constant trouble on account of leaks, snow in winter, and concentration of summer heat in the room.

These rooms are therefore side-lighted, with two excep­tions only, the sills of the windows being a little over six feet from the floor; the result has been exceedingly successful both as to the cheerfulness of the room itself and its psycho­logical effect on the visitor, and as to the lighting of the paint­ings, for it has been found possible to hang paintings even on the window walls, below the sill of the window, the light diffused by the plaster ceiling being sufficient for this purpose. Sheer curtains are let down where windows face the sun, and these have been found satisfactory in keeping out the direct light of the sun but letting in enough diffused light to light the exhibits adequately.

The rooms have a treated burlap of warm putty color on the walls, covering the planking which serves for nailing the picture supports; above is sand-finished plaster, toned with flat oil paint; the trim is of oak. There is very little decoration, the decorative aspect of the rooms being secured mostly by the shape, proportion, and ceiling or vault. There are no interior doors. The heat is of the vapor-vacuum type, the radiators being placed under the windows and everywhere concealed.

As an experiment in the housing of a painting collection in side-lighted rooms, this building may be considered as a complete success.
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Paul P. Cret, Architect.
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LARGE GALLERY, FIRST FLOOR.

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TILE WORK IN ENTRANCE PORTICO.

THE BARNES FOUNDATION, MERION, PA.

Paul P. Cret, Architect.
FORTY years ago in this country there were but two commercial terra-cotta colors, red and natural buff. The same year eleven hundred negroes began the construction of the Ponce Hotel, at St. Augustine, while they chanted in unison their sonorous plantation melodies; this was the beginning of polychrome terra-cotta architecture in this country.

Eighty-five years before that, De Porceleyne Fles, in Holland, survived the atrophy of the faience industry, which in the seventeenth century had boasted twenty-eight potteries of distinction, all of which applied a variety of colors to clay tiles.

In the sixteenth century Trevisiano was appointed royal architect to Henry VIII of England, and from then the Italian understanding of the decorative value of red terra-cotta and blue ceramics became the prototypes for similar Tudor ornament, in conjunction with soft red brick.

Twenty years before the death of Henry VIII, the third and greatest in polychromy of the Della Robbias, Giovanni (b. 1469, d. 1527) died, and when his three brothers died the art was lost to Italy and to the world.

Lucca di Simone di Marco della Robbia, grand-uncle of the great Giovanni, was born in Florence in 1400, and as he invented the industry of polychrome terra-cotta in Italy, and died there ten years before the discovery of America, it may be said truthfully that four hundred and three years passed before his influence was felt in America. Giovanni’s bas-reliefs are still the best examples of the art extant, although his knowledge of its science, his palette, and his apparatus were elementary.

Fifty-four years ago Mr. John H. Sturgis delivered a masterful and instructive address on the subject “Terra-Cotta and Its Uses,” at the Fifth Annual Convention of the American Institute of Architects, in Boston, the first recorded effort of modern times to revive the industry. Since then there has been produced more progress in the chemistry and the mechanics of the polychrome terra-cotta manufacto-

Baptismal font in polychrome terra-cotta of the Della Robbia school, showing the freedom of the material as a medium either for sculptural enrichment or for architectural duplication.

ries than in all the intervening ages since “the sons of Noah, journeying westward, dwelt upon the plains of Shinar and said: ‘Let us make bricks, and burn them thoroughly.’”

So, here is an industry, potentially superior to-day to its historic successes, lying fallow. Why is it neglected, undeveloped except sporadically, misapplied? One must be cautious in answering such a question; it is so easy to err when one’s conclusions are based upon the conflicting evidence upon this interesting subject. This is an age of commercialism; it is very difficult to get facts adversely affecting industrial competitors. Literature in the shape of propaganda must be scrutinized with care to read between the lines; the flavor of some such utterances must be taken with the proverbial grain of salt.

It seems clear in life that the actuating influences of mankind are but two in number, each equally potent. They are the natural laws of balance and of tradition. When applied to architectural polychromy, the latter influence has caused the hiatus in the fashion of coloring buildings, a common practice among the mighty builders of all time, unless one includes the centuries succeeding the classical revival of the latter part of the fifteenth century, and also the later buildings.
ARCHITECTURE

of ancient Rome. The former law will swing the pendulum "back to normalcy"; for it is a fact that coloring buildings is a natural thing to do.

Professor Aitchison, R. A., in a series of delightful lectures upon this subject, before the Royal Academy, in 1903, aptly showed that every natural element has color and is made more beautiful per se; hence, he said: "It seems absurd to object to man's work being colored, too." But we are slaves to environment, and what Tom does generally determines what Dick and Harry shall do. It is easier to copy than to invent. Without good examples around one, exactly fitting the case of a current problem, the modern architect finds difficulty in persuading his client to blaze the trail anew.

It seems established that polychromy in architecture was an accepted practice among all of those great peoples of the ancient past who created what we call "architectural style." Professor Aitchison said: "The Egyptians, the Persians, the Assyrians, the Greeks, the Etruscans, the Chinese, the Japanese, the Mexicans, the Persians, the Arabs, the Moors, and Turks, all enriched their buildings with color; nay, I believe the Gauls, Germans, Scandinavians, the Goths, Huns, and Vandals did the same; and all that group of Western nations we call medieval made their buildings striking at least by the aid of color." It is doubtful if any of these peoples attained the beauty in the art of polychromy available to-day; it is certain that they could not do so in terra-cotta. Mr. L. V. Solon has recently shown that the


handicap of ignorance was no deterrent to a vigorous attempt by the Spanish Mexicans of the seventeenth century to advance the rightful use of durable terra-cotta colors as a pleasing method of elaborating architectural design: but, as he writes, "the technical resources of the potter of that day were very limited, amounting to nothing more than those practised in the peasant industries of Europe." They, nevertheless, had a virile sense of color, as did the continental rug-weavers of that day, and they would have aided the work of the modern terra-cotta manufacturer, owing to their original, serious, and masterful attempts to decorate unstructural elements of design with fresh and vigorous mosaics, bands, stripes, and diapers of ceramics and pieces of colored tile, had they known the methods of to-day.

To our modern Occidental minds such elementary attempts as theirs to beautify a building by the application of crude raw colors are unwarranted in art and wastefully expensive, but to-day such crudeness is unnecessary; who can deny that the "Parkhurst" Church, Madison Square, New York City, had charm in color? It was the first important building to use terra-cotta colors for almost four centuries. It so startled the modern architect, yearning for that durable color medium of decoration, that the industry took on an impetus which has revolutionized it. So far as I can learn, its advance has been greater in America than in any other country.

The Greeks of the Periclean age applied color skilfully from a fairly varied palette to the structural and decorated elements of all of their buildings. The many colors have been patiently restored and faithfully described by different archaeologists. They have established that practically all of the primary colors, if not all (some except green), in different shades and tints, as well as black, white, cream, flesh tint, purple, and browns of several sorts, were used with scientific skill in their chromatic importance, if not, as Professor Aitchison implied, in a manner which we of to-day would consider as pleasing as they did. The ancient Greeks used terra-cotta profusely, and indeed their kilns were close to many temples; but fired glazes were probably unknown to them. Their colors were, therefore, fugitive, mere traces remaining to-day. The palette of the Italian
polychrome terra-cotta architecture of the sixteenth century has come down to us without noticeable deterioration in intensity or texture, owing to their protective glazes, but the color-range was slight compared with that of the archaic ages, down to the fifth century, or that of to-day; the former would not have withstood great heat; the latter can withstand a sufficient heat to fuse their glazes.

In the year 1885 in the United States there were but two fired terra-cotta colors; to-day there are more than those required by the commercial demand. The first ambitious attempt to build in polychrome terra-cotta an entire architectural façade was the McAlinden hardware store building, at Perth Amboy, N. J., the bold prototype by Thomas Fox, architect, of the countless impressive structures throughout the country, such as the Madison Square Presbyterian Church (the Parkhurst Church), designed by McKim, Mead & White, architects; the Pan-American Union in Washington, by Albert Kelsey & Paul Cret, architects, and the Woolworth Building, by Cass Gilbert, architect. Until within a few months, there were decided limitations in the palette, and until within a few weeks the low-temperature reds, oranges, yellows, and metals were not available for out-of-door use, for they were not as hard as the countless shades and tints of every other common color, available after their permanent glazing in the higher-temperature kilns. Therefore, they were less durable. To-day, these low-temperatures colors are not only available, but every one of them is being used out of doors. Only time
will tell, however, whether they are as durable as the rest. While it is probably true that there are few colors or color derivatives which cannot be approximately matched in terra-cotta to-day, barring the limitations which glaze and texture produce in other mediums for decorative expression, the industry has not yet received its merited commercial demand; hence there is not yet the entire freedom in the mixing of pigments which obtains, for example, in the palette of the mural painter, or the “life” of a mosaic decoration, nor is the research yet warranted to vitrify them all. But to all intents and purposes of commercial architecture at any rate, it is fair to say that any color design appropriate to polychrome terra-cotta can be matched exactly by the best of our modern factories. Indeed, the condition of the art is such that it would justify our best sculptors to design for that medium of beautiful color expression.

Terra-cotta, or burned earth, is a clay, which shrinks to twelve-thirteenths of its original dimensions when fired at the tremendous heat needed to vitrify it. The heat required to glaze the high-temperature colors is greater than low-temperature colors can yet withstand, and no enamel has been produced which can protect them from it. Hence it is necessary to double-fire those pieces of polychrome terra-cotta which have a full range of color. As suitable kilns for that purpose are expensive and few, and as the demand has been small until recently, I think it is true that there are but two kilns in the country to-day capable of firing low-temperature colors applied to pieces of terra-cotta as large as those prepared for the higher temperatures. There is no reason except the lack of demand which prevents the erection and operation of similar kilns in all the best modern factories throughout the country, and there is no doubt that the demand will be manifested shortly, especially when sculptors, who object to small-piece jointing, become aware of the existence of the large kilns referred to and their actual present accomplishment.

Here, then, is at hand an industry, advanced as an art, a science, and a commerce to a degree greater than at any previous period of architectural polychromy, unique in its appropriate application, capable of higher development in colored sculptural architecture, distrusted, even ostracized, one might say, through the unwitting ignorance of two professions and one business—the ignorance of architects and mural sculptors concerning its actual present status and its potential possibilities, and the ignorance of the terra-cotta industry of the true demands of those professions. The illustrations of this article, being in black and white, cannot appropriately show the facility, adaptability, or advancement commercially of the industry; but it is hoped that they may help to stimulate investigation.
Another Year

ARCHITECTURE is intended to be a magazine of service, and our constant endeavor is to make it in the highest sense possible. Strive as we may, we unhappily find now and then that some of the things we hope will be of particular service seem to lack, to some of our readers, the qualities we fondly expected.

But editing a magazine is not an arbitrary one-man’s job. Not this kind of a magazine, at least. We are constantly dependent upon our readers for help, and needless to say to many of them we owe a debt of thanks for a number of the good things that have come to our pages during the past year.

If we could come and sit in your office and get the feel of being personally acquainted, we’d soon be able to convince you that we are far from the know-it-all editor sort. We are but the medium of exchange for your ideas.

We make mistakes, just like the rest of you, and when we do we are sorry and say things to ourselves that you probably wouldn’t like to say.

The added years make us want to paste an old saw in our hats. Knowledge is proud that it knows so much, wisdom is humble that it knows no more, or words to that effect; we haven’t our Bartlett handy.

With a circulation as large as ours, covering every state in the land, and going to many foreign countries, we are inclined to discount our own omniscience and give the other fellow the benefit of the doubt.

We try to make ARCHITECTURE for your benefit, giving in each of the twelve numbers something of real value to every one. If we had the space we might make every number just the one that especially met your needs; our problem is to spread the honey over each issue in such a way that at the end of the year you can look back over your files and find in one number, at least, the thing that pays you in practical returns many times over the modest cost of your subscription.

It is impossible to tell you what the menu will be during 1926, but we can say that we have a lot of good things in hand that deal with the intimate every-day needs of the profession, written by men who know what they are talking about.

We are especially anxious to have our readers in the Middle and Far West and South know that we are by no means an Eastern magazine. The Great Lakes are included in our geography, the big rivers of the Mid-West, the sunny country on the Gulf, where real estate is the big gamble, the wonderful Southwest, that is becoming more and more interesting architecturally, the coast from the land of sunshine and power to where rolls the Oregon.

No, we are not provincial, architecture is a universal art, and we are receptive to its manifestations wherever it seems worthy of notice. You can give us a helping hand now and then by telling us about some of the things you think we ought to know more about.

Please accept our grateful remembrances of every appreciative word we have received during the old year, yes, and for the knocks we have no doubt so justly deserved; we are, alas, but human, and to be that is to err, be it remarked again.

We sit here writing this, pouring it out on our convenient little portable, and as we write we can imagine the chimes that will ring the old year out, welcome the new, and we are conscious that old Daddy Time will set us back another one, and that life is mighty uncertain as the years gather about us. May we wish you—not as a mere matter of sentiment, but as the serious thought of one realizing the difficulties, perplexities, and discouragements we must meet—a year of greater wisdom, of good health, of the prosperity that all the wise predictors about the future of architecture are putting on record.

In Our Business Relationships

THERE is something reassuring in the evident appreciative attitude of great business toward the mere human relations that, after all, mean the success or failure of all business. If the more obvious mood of the day appears one of selfishness and indifference to the general welfare, it is perhaps because we do not always see beyond the surface or understand what is in the minds of the leaders of great modern industries.

We too easily overlook the fact that the successful man in large ways is by the very nature of his responsibilities prevented from coming in contact with minor units of an organization. His time and thought are spent in maintaining business at its highest degree of efficiency, not for his own profit alone, but for the welfare of those dependent upon his wisdom and foresight.

The successful man may easily become a very lonely man. We have been reading a recent address by President Gary of the American Iron and Steel Institute and some of the things he says seem to us especially appropriate as thoughts for the New Year.

"As men grow older they become more thoughtful of the best things in life; they realize more clearly that the successful man must appreciate more deeply the kindnesses which have been shown them; they appreciate the friendships which have been established, and they understand better than people of younger years do that in every department of human activities, of more importance than the making of money, the building up of fortunes, is the building up of character and the creating and cementing of friendships. These include business relationships as much as any other."

Winter Building

WHEN winter comes in these modern times, instead of construction stopping it seems to go on quite as actively as in the genial months. From statistics furnished by the George A. Fuller Company, covering a period of twelve years, the average loss of time a year on account of bad weather was only fourteen days!

In his recent address before the Building Congress, Alexander Trowbridge, president of the Architectural League, said that steam and electricity had made it possible to
carry on work without interruption all through the cold months.

Our neighbor to the north builds in a temperature far below zero.

“Canada has perhaps gone further than we have in winter construction, and in one case a whole building was erected when the temperature was 27 degrees below zero—one of the so-called mushroom types of reinforced concrete, in which the columns are carried up simultaneously with the floor. Tarpaulins were used in such a manner that the whole winter construction, and in one case a whole building was erected when the temperature was 27 degrees below zero.

The acme of this sort of construction was illustrated at the Lake Placid Club, when in order to carry on the work throughout the winter a wooden inclosure was built outside of the entire building. The same thing was done at Lake Louise in the Canadian Rockies, where the temperature goes as low as 40 and 50 degrees below.”

G. Richard Davis, contractor, said that his experience had been that there is no increase in cost connected with winter building, as there are practical ways of doing the work which will facilitate the final result of the construction.

That this means a tremendous advantage to the trades needs no stressing. Wages and work are no longer dependent upon weather, and there is employment possible all the year round.

Building and Labor Costs

HIGH wages that were for a time talked of as being a positive menace to building construction seem to have had practically no influence whatever on the development of the greatest era of building in the history of the country. There is nothing that can stop the tremendous demand for commercial and dwelling structures, and the cost that just after the war made many hesitate has been discounted by the high rents obtainable and the demand for speculative real-estate investments. No use to talk of what we used to be able to do, the thing is to accept present conditions and be prepared to go on with them indefinitely.

Wages in the trades were never so high and, strange to relate, building was never so prosperous or so in demand.

A recent statement regarding the minimum wage scales on the eight-hour basis gives the following earnings, estimated on a national survey:

Bricklayers throughout the country are receiving from $1 to $1.75 an hour; carpenters, 80 cents to $1.50; plasterers, $1 to $1.75; building laborers, 40 cents to $1.25; structural iron workers, $1 to $1.50; plumbers, 95 cents to $1.50; electricians, 73 cents to $1.50; lathers, 85 cents to $1.75; sheet metal workers, 75 cents to $1.431/4; painters, 65 cents to $1.50; stonemasons, $1 to $1.50, and hoisting engineers, 75 cents to $1.75.

What Is: Architecture?

RUSKIN’S definition was that “architecture is nothing but ornament added to building.” In a recent book, “Architecture,” by the late Sir Thomas Graham Jackson, Bart., R. A., Macmillan, appears the following definition:

“Architecture does not consist in beautifying building but, on the contrary, in building beautifully, which is quite another thing. The construction itself must be beautiful, irrespective of all ornament. To the definition of Architecture by Vitruvius, as ‘Building guided and directed by Reason,’ we only want to add the condition of beauty, and the inclusion of the aesthetic sense within the realm of Reason. As prose rises into poetry by the greater elevation of thought, the finer flow of language, the touch of sympathy, grace, and pathos, so does Building pass into Architecture with the superior grace of the main forms of the fabric, perfect expression of the conditions of the construction, and closer harmony between purpose and achievement. In a word—Architecture is the poetry of construction.”

And there you are. You will interpret the architecture you study in your own terms and the amount of poetry you find in it will depend upon your special training and temperament. The latter is largely an unknown quantity with which the so-called psychoanalysts are having a lot of fun.

To the average man in the street a building is a building, nothing more. If it is big enough, costs enough, is high enough, to make him stop a minute and take notice, the architect has achieved something, even though the name of the architect remain forever an unknown quantity.

According to Vitruvius, Architecture is a science involving much “discipline,” or mental training.

The “discipline” includes skill in drawing, in geometry, in arithmetic, some knowledge of optics, a wide acquaintance with history, and a diligent study of philosophy; to which he adds music, medicine, legal practice, astrology, and astronomy. Sir Christopher Wren might have qualified, but his was an extraordinary mind and his training quite beyond the possibility of most men.

The curious thing about all art is that some of the great things accomplished have been and always will be by men of very ordinary scholarship and little discipline in the way of general culture.

You may define and prescribe rules for the average man that may be helpful, but all the defining printable won’t make the artist. He is as surely born as is the poet.

The American Academy in Rome Competition for Prizes

THE American Academy in Rome has announced its annual competitions for Fellowships in architecture, painting, sculpture, and landscape architecture. These competitions are open to unmarried men not over thirty years of age who are citizens of the United States.

In painting and sculpture there will be no formal competition involving the execution of work on prescribed subjects, but these Fellowships will be awarded by direct selection after a thorough investigation of the artistic ability and personal qualifications of the candidates. Applicants are required to submit examples of their work and such other evidence as will assist the jury in making the awards.

The stipend of each Fellowship is $1,250 a year for three years, with some additional allowances for material and model hire. Residence and studio are provided free of charge at the Academy. All Fellows have opportunity for extensive travel.

Entries will be received until March 1. For circulars of detailed information and application blanks, address Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York City.
CITIZENS NATIONAL BANK, WAYNESBURG, PA.

Dennison & Hiron, Architects.
CITIZENS NATIONAL BANK, WAYNESBURG, PA.

Dennison & Hitons, Architects.
COTTON EXCHANGE, NEW ORLEANS, LA.

Favrot & Livaudais, Architects.
EXCHANGE FLOOR.

COTTON EXCHANGE, NEW ORLEANS, LA.

Favrot & Livaudais, Architects.
ARCHITECTURAL DETAILS
ENGLISH SERIES

OXFORD
DOOR IN GREAT QUADRANGLE
CHRIST CHURCH

MEASURED AND DRAWN BY
E. PICKERING
PARISH HOUSE, CHRIST CHURCH, RIDGEWOOD, N. J.

Wesley Sherwood Bessell, Architect.
ARCHITECTURE

THE CLOISTER, CONNECTING CHURCH AND PARISH HOUSE.

MAIN ENTRANCE TO AUDITORIUM.

PARISH HOUSE, CHRIST CHURCH, RIDGEWOOD, N.J.

Wesley Sherwood Bussell, Architect.
THE AUDITORIUM.

PARISH HOUSE, CHRIST CHURCH, RIDGEWOOD, N. J.

Wesley Sherwood Bessell, Architect.
AUDITORIUM.

CHURCH HOUSE FOR THE KINGS HIGHWAY M. E. CHURCH, BROOKLYN, N. Y.

Meyer & Mathieu, Architects
ARCHITECTURE

THE PRINTING-HOUSE OF WILLIAM EDWIN RUDGE, INC., MT. VERNON, N.Y.

George M. Bartlett, Architect.
ARCHITECTURE

ENTRANCE TO OFFICES.

THE PRINTING-HOUSE OF WILLIAM EDWIN RUDGE, INC., MT. VERNON, N. Y.

OFFICE WING.
LIKE an old English manor-house set in a garden, with green vistas of a park through the trees, is the printing-house of William Edwin Rudge, Incorporated, at Mount Vernon, New York. Here where the wooded Westchester hills slope to the tracks of the New Haven railroad, a printer who is imbued with the spirit of the old masters of his craft has built a workshop which combines utility and beauty and preserves in the midst of the bustle of modern life something of the old unhurried grace of the days when craftsmen loved their work and made the places where they wrought instinct with personality and charm.

Coming toward the printing-house on an autumn day through an avenue of flaming trees, my first glimpse was of a gray stucco end wall with a delightful chimney set between gables, a chimney of richly warm brick, as delicately modelled as a gothic tower, that lifted its perfect lines into the brilliant blue of the autumn sky.

The windows are adequate for light, but are subordinated to the rest of the design. There is no suggestion of the factory with rows of gleaming windows; but these deeply recessed openings with their dignified arches are pleasingly decorative features; and the wall in front, with steps leading up from the street, enhances the effect of seclusion.

The building is long and low and many gabled, of a soft weathered gray which blends with the landscape and is as restful as a tree. The arrangements are practical throughout—nothing has been sacrificed to effect; but technical knowledge and imagination have gone so happily hand in hand to the solution of this problem that the completed structure is a triumph of charm and personality and of fitness for the purpose for which it was designed.
The Alice Foote MacDougall Coffee Shops

In building up the Coffee Houses, it was Mrs. MacDougall's idea not only to serve the best coffee obtainable, but to serve it in an atmosphere of such restfulness that people would be more induced to take their coffee in her shops than in any other.

This was very largely influenced by the peacefulness and quiet of the Old World, the beauty of antiquity and the charm of Italian architecture.

When the 43d Street store was enlarged, in addition to the space already occupied, there was available a very narrow store with a mezzanine; and the architect treated this narrow store as an Italian street or court, so that one could step from the interior of the present Coffee House into the court, and from the court to the loggia or mezzanine. The decoration was carried out and especial attention was given to the lighting not only to get the effects of sunlight, but to have the light soft and subdued and as far away as possible from the glorified bathrooms which are specialized in some lunchrooms.

In the building of the 47th Street store there was an opportunity to duplicate a very charming piazzetta, and a complete façade of houses with windows, etc., was carried out to simulate the original piazzetta. In practically every piazzetta, or small plaza, in Italy, a church is a prominent feature at one end, and the show-windows were built up at the back to imitate a cathedral front, and by the use again of special lighting it was possible to give an excellent illusion and a complete rose window.

In the design of the latest store, at 46th Street, the architect utilized the mezzanine to build a replica of the famous Ponte Vecchio in Florence and the east wall is an exact copy of the famous Lungarno. The market place where china, glassware, coffees, teas, and cocoas are sold is copied from the famous Mercato Nuovo and people who have been abroad flock to the market place automatically to see what wares there are for sale. That people are longing for the charm, beauty, and color of the Old World, which here in America are more or less forgotten, is fully demonstrated by the fact that, starting with one small store in 43d Street, three years ago, containing about twelve hundred square feet, the company has expanded until it now occupies approximately fifty thousand square feet in four different locations, in the heart of the most populous district of New York City.

The public eye is appealed to by the picturesque, even if it is not conscious of the reason. Here there will be a scenic environment reminiscent of a leisurely little journey in Italy. The architect and decorator have succeeded in giving an effect of substantial truth to local color, creating an atmosphere of Old World somnolence and peace, at least in the environment. Perhaps this will have a beneficial effect upon the hurry-up Americans who will enjoy the hospitality of the place.
ARCHITECTURE

MAIN FLOOR, TOWARD MARKET PLACE.

THE EAST CORNER.

THE WELL.

IN THE MARKET PLACE.

"FIRENZE" COFFEE HOUSE (ALICE FOOTE MACDOUGALL), NEW YORK.

Designed by H. Drewry Baker. Scenic Artist, Frederick Sansevero.
THE MAIN FLOOR, TOWARD MEZZANINE AND STAIRWAY.

"FIRENZE" COFFEE HOUSE (ALICE FOOTE MACDOUGALL), NEW YORK.

Designed by H. Drewry Baker. Scenic Artist, Frederick Sansevero.
Acoustics—Sound Reflections

IIts Position of Importance in Every-Day Life; Acoustics Formerly a Gamble; Attacking the Subject Scientifically; a Definite Scientific Basis Established; Factors Governing Acoustics; Echo; Interference; Reverbemation; a Reverberation Problem Worked Out; Wire-Stretching; Other Fallacies

By George C. Hannam, M.E.

Sound Photographs made by Professor Foley, University of Indiana

TO the average engineer, the subject of acoustics does not loom large in the every-day matters of a practical world, but when it is realized that it is an important consideration in the design of practically every court-room, church, music-hall, theatre, auditorium, legislative chamber, bank, and even office building, the importance of a knowledge of the subject will be appreciated. Faulty acoustics might be found to be the real reason for the failures of some of the most capable actors, divines, and politicians, the world has never had a chance to know. Many a speaker and singer has been severely criticised, thereby suffering considerable loss of prestige, when the fault has been entirely due to the faulty acoustical conditions.

There are thousands of auditoriums in the world that are acoustic nightmares. The late Professor Wallace C. Sabine, of Harvard University, said that the reverberation which accompanies lofty and magnificent architecture increased until even the spoken service became intoned as a Gregorian chant, and that it is not going beyond the bounds of reason to say that in those magnificent churches in Europe, which are housed in magnificent cathedrals, the Catholic, the Lutheran, and the Protestant Episcopalian, the form of service is in part determined by the acoustical conditions.

Acoustics Formerly a Gamble

In the past, it has been customary in the vast majority of cases to design theatres, churches, and auditoriums in general, building them at considerable expense to secure strength, desired seating capacity, noble architectural lines, aesthetic illumination, wholesome ventilation, etc., and then gamble as to whether the acoustics in the resulting auditorium would be good or bad.

A Definite Scientific Basis Established

Before 1895 but little definite information was to be obtained by an architect on the subject. He was guided, in large measure, by his own limited experience or by studies made in existing buildings. The late Professor Wallace C. Sabine, of Harvard University, is to a considerable extent responsible for most of our knowledge on this subject to-day. He began his researches in 1895, and in 1900 published in The Engineering Record the results of his five years' work. This was the first real contribution on the subject, and due to the scope of the work and the fact that a mathematical basis was established, the former necessity of chance and guesswork was done away with. For eighteen years after the publication of this paper he continued his researches, following the programme of investigations there outlined.

The knowledge gained from these researches and from their practical application, augmented by contributions from other physicists, has made it possible to determine from the plans of an auditorium, with a knowledge of the materials of construction, what the acoustical conditions in the finished building will be, and to make such changes as might be necessary to overcome faults.

The simplest type of auditorium imaginable is a level plane with a single person as audience. In this case the sound spreads in a hemispherical wave, diminishing in intensity as it increases in size. If instead of one person there is a large audience, the intensity decreases more rapidly, due to the absorption occasioned by the clothing of the people. The upper part of the sound from the speaker in such an auditorium is entirely lost. The first improvement that suggests itself is to elevate the speaker. The next step is to have the ground or floor sloped so that each row of persons will be slightly elevated. Then, a wall should be placed back of the speaker to reflect that part of the sound toward the audience. We now have the design of the old Greek amphitheatres. With the addition of a roof to prevent the loss of the upper part of the sound waves, and the construction of galleries to elevate and bring further front part of the audience, we have the typical form of our modern auditorium.

Factors Governing Acoustics

The size and shape of an auditorium determine the distance travelled by the sound between reflections; while the materials used in the construction determine the loss at each reflection, for which reason it is possible for two rooms designed exactly alike to have entirely different acoustics. An illustration of this is the well-known case of Sanders Theatre, in Cambridge, and the auditorium of the Fogg Art Museum of Harvard College. Sanders Theatre is an old building noted for its good acoustical properties. When the Fogg Art Museum was designed, the architect was instructed to make the auditorium a replica of Sanders Theatre. It was taken for granted that similar design assured similar acoustical conditions. When the auditorium was completed every one was greatly surprised to find the acoustics almost impossible. As a result of the development of the subject since that time, the reason for the difference is well known. Sanders Theatre was constructed of comparatively soft materials. All seats were heavily cushioned. The other auditorium was of fire-proof construction. The change produced in the absorbing power of the various surfaces was mainly responsible for the difference in acoustical conditions.

Most people are acquainted with the wonderful acoustical conditions of the Mormon Tabernacle. From an acoustical standpoint the design could not be much worse. However, the building is constructed of wood, which has the highest coefficient of sound absorption of any building material, and it is due entirely to the presence of so much wood that the acoustics are satisfactory. The shape of the ceiling is responsible for the remarkable echo. A replica of this building with the use of hard materials would result in an acoustical horror.

If a sound be produced in an empty room, having exposed surfaces that are absolutely rigid, it will last almost indefinitely—that is, if we disregard the loss due to the viscosity of the air, which in practical cases is negligible. The sound will travel back and forth from one surface to another,
and if the surfaces are absolutely rigid, the original intensity of the sound would be maintained. Of course, no building materials are absolutely rigid. Taking an open window as being totally absorbent, and calling its coefficient 1.00, Professor Sabine in his researches determined the coefficient of sound absorption of most of the materials employed in building construction.

The coefficients of some of the more common materials are given below:

<table>
<thead>
<tr>
<th>Material</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open window</td>
<td>1.000</td>
</tr>
<tr>
<td>Wood sheathing (hard pine)</td>
<td>0.061</td>
</tr>
<tr>
<td>Plaster on wood lath</td>
<td>0.034</td>
</tr>
<tr>
<td>Plaster on wire lath</td>
<td>0.033</td>
</tr>
<tr>
<td>Glass</td>
<td>0.027</td>
</tr>
<tr>
<td>Plaster on tile</td>
<td>0.025</td>
</tr>
<tr>
<td>Brick</td>
<td>0.025</td>
</tr>
<tr>
<td>Concrete</td>
<td>0.015</td>
</tr>
<tr>
<td>Glazed tile</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Three hundred and seventy-four artists submitted five hundred and twelve designs drawn, painted, and modelled in the International Art Competition for a symbol to express the service rendered by modern retailing as exemplified in the career and history of Lord & Taylor, which is the only department store in New York which has been in business under the same name for one hundred years.

The designs came from every section of this country as well as from England, France, Germany, and Austria. The list contains the names of art students competing with artists of established reputation. The Jury of Awards, of which Mr. Robert W. De Forest is chairman, found a high average of artistic excellence. It considered the competition unusual for the type of talent which it attracted, and it is not to be wondered at that American artists won the major prizes, because of their familiarity with the subject and their closeness to the scene. But the competition has demonstrated that American artists think clearly in terms of beautiful symbols—which is the highest form of art.

Following is a list of the prize-winners, together with the amount of the prizes:

**First Prize:** $1,000—Herbert F. Roese, New York City.

**Second Prize:** $500—Edwin A. Georgi, New York City.

**Third Prize:** $350—David Seaton Smith, New York City.

**Fourth Prize:** $150—Bertrand Zadig, New York City.

**Fifth Prize:** $100 each—Helen Cresson Collins, New York City; Albert Frank Fove, Brooklyn, N. Y.; Robert Ward Johnson, Paris, France; Marguerite Kumm, Minneapolis, Minn.; Joseph E. Sandford, Brooklyn, N. Y.

This competition was somewhat unique in the annals of commerce, since it was sponsored and organized for a department store by the Art Directors Club, one of the affiliated societies of the Art Centre, New York. The purpose of this joint effort was to bring the art world and the business world closer together; they spoke a common language through this competition, the character of which is attested by the following names of the Jury of Awards: Robert W. De Forest, chairman; William Jean Beasley, Heyworth Campbell, Joseph Hawley Chapin, Royd Cortissoz, John de Vries, Doctor John H. Finley, Jules Guerin, Paul Manship, J. Monroe Hewlett, Samuel W. Reyburn, Walter Whitehead.

**Housing-Essay Prizes**

In an effort to encourage better housing for intellectual workers, the International Federation of Building and Public Works, with headquarters at 17 Avenue Carnot, Paris, France, announces the organization of an international essay competition, for which Willard Reed Messenger, of New York, has offered $1,000 in prizes. The first prize will be $500; the second prize, $300; the third prize, $200.

Participants should submit their papers typed in French or English, not exceeding four to five thousand words, which may be accompanied by sketches, not later than January 15th, and prizes will be awarded the following month.

Papers should include the four following divisions, states the official announcement, just issued from Paris:

I. Administrative or legislative measures for facilitating the construction of houses intended for the middle classes, or intellectual workers.

II. Financial policy—loans, amortization, etc.

III. New construction methods intended to reduce the cost of building, together with sketches.

IV. Conclusions.

The data submitted and sketches must bear some legend or pseudonym, and be sent with an enclosed plain, sealed envelope, bearing only the legend on the outside, and containing enclosed the name, address, and profession of the competitor, which will be opened only after the winners have been selected by the jury of judges.

The jury will include at least two American members, three members will be named by the International Federation, and three by the French National Federation, and three members will be named jointly by these two organizations. The jury will choose its own president.

The subject of better housing for brain-workers was given primary consideration at the biennial congress of the International Federation, held in Paris in June, at which forty nations were represented, and to which President Coolidge appointed several American delegates.
THE PORTE CHENIZELLE, LAON.
Disguised by ill-fitting roofs, stray vines, and gaudy posters, punctured by unintended windows, and crowded on both sides by houses which have sprouted up on a level with it, this old gate still serves as one of the principal arteries of traffic in Laon.

DOORWAY OF THE TOWER OF THE ANCIEN HOTEL-DE VILLE, BOURGES.
The exterior of this old stair tower is bedecked with a Gothic richness seldom excelled in France. The spiral stairway is only partly expressed by the window openings. The blank window with the warlike figure carved in it disguises one of the main supports. The doorway suffered considerably at the hands of the Revolutionists. The entire building has been turned into a school-house within recent years.
From drawings by Samuel Chamberlain.
A DOORWAY IN LAON.

All that remains of a feudal estate is this flamboyant portal, now used by an energetic tinsmith. It is such an ingenious adaptation that one cannot help wondering what it once gave entrance to.

DOORWAY OF THE MAISON JACQUES COEUR, BOURGES.

As in so many of the Gothic buildings in Bourges, there is a human touch to this doorway, especially in the two upper windows, where there are the busts of two servants, supposed to be anxiously watching for the return of their master. The door itself is a massive and elaborate piece of wood carving.

From drawings by Samuel Chamberlain.
Adoption of Administration Centre Plans
by Los Angeles County

By Edward G. Leaf

RECOGNITION of the spirit of broad community service on the part of the Allied Architects Association of Los Angeles, and of the months of intensive study and research on the part of the organization in the preparation of a great administration centre plan for Los Angeles has been shown by recent action taken by the County Board of Supervisors in the adoption of the association's plan as the official plan toward the consummation of which the county will work in future years.

After ten months of study of the question of the most suitable, the most logical, and the most feasible plan for the county to follow, during which time other plans were received by the board and considered, a formal resolution was passed by the County Supervisors, adopting the basic principles of the Allied Architects' plan, and reserving only the right to make such changes in its execution as changed conditions in the future might require.

The action of the Board of Supervisors was unanimous, with not a dissenting vote. The resolution which made the plan of the Allied Architects Association the official county plan, sets forth the fact that within the next few years the county must erect at least five great administrative buildings: a new $10,000,000 court-house for the superior courts; a junior court-house for the municipal courts; a public-welfare building, an administration building, and an addition to the Hall of Justice. The latter building, just nearing completion, will be one of the largest public buildings in the United States, but the county finds that, even before possession is taken, it will be overcrowded, and a new wing is now being contemplated. The exterior, lobbies, and court-rooms of this structure were all designed by the Association.

The resolution of the County Board further states that it is essential that these great buildings be located so as to form a harmonious group; that the cost of placing these buildings in such a manner will be no more than placing them without reference to a plan; that any plan adopted must conform to the recommendations of the Los Angeles Traffic Commission; that each building must have a large open space around it; that sufficient parking space must be provided not only for county employees, but for citizens transacting business with the county; and that the contour of the land to be used for the administration centre must be taken into account.

All of these requirements are met by the plan of the Allied Architects Association, and "The Board of Supervisors of the County of Los Angeles does adopt and approve the plan in principle as submitted by the Allied Architects Association of Los Angeles, reserving the right to make such changes as time and future conditions may require." While the Allied Architects plan, when first presented, aroused some opposition owing to the large area which it included, the conviction has steadily grown among county officials, and among the public at large, that the plan is none too big when allowance is made for the fact that the creators of the plan looked to the future, when the population of Los Angeles city and county will be much greater than it is now, and when the need for many great public and semi-public buildings will require large areas of ground, if these buildings are to be placed in suitable and beautiful settings.

In general, the association plan calls for the acquisition by the city, county, State and federal governments of approximately fifty square blocks, immediately adjacent to the central business district of the city. Normally this land would be prohibitive in cost, but in this instance Los Angeles is favored as are few cities of the country. The area which the Allied Architects propose to convert into a great administration and cultural centre comprises a long, narrow, gently rising hill, once the fine residence district of the city. When the hill, known as Bunker Hill, was in its prime, the business district of the city clustered around its northern and eastern end. During the past twenty or thirty years the business district has gradually moved southward, and the residence district has moved westward, leaving the old north end, and the hill area in their wake. In recent years this area has deteriorated sadly; it has become a district of cheap business houses and tenements, with the attendant decrease in property values.

It is this property which the county proposes to convert into a great beauty spot in the heart of the city. The Bunker Hill section will become a magnificent park, en-circled by broad boulevards, and providing sites for buildings of a semi-public and cultural nature. The administrative buildings of the various governments will be located in the area to the east of the hill, adjoining the original plaza of old Los Angeles, and the historic plaza church, both of which landmarks will be carefully preserved and greatly beautified in a park-like setting.

Nearly a year was devoted by members of the association, which includes seventy practising architects of southern California on its roster, in preparing this plan. Movement of traffic through the area, parking of automobiles, proper vistas for the great public buildings, the boulevard system, design and composition: all of these subjects were given the most careful attention during the preparation of the plan, which, following its presentation, received the unqualified endorsement of many of the leading civic organizations of the city.

The actual economy of such a plan, ambitious as it seems at first thought, is also making a wide appeal, for, since the execution of the plan will be spread over a period of many years, the burden on the taxpayer will at no time be excessive.


BOOK REVIEWS


SHOOTING-BOX, EASTHAM, MASS.

H. R. Shepley and A. F. Law, Associated Architects.
INTERIOR DECORATOR'S SHOP OF JOHN R. HUMMA.

Albert M. Bedell, Architect.
GIFT SHOP.

INTERIOR DECORATOR'S SHOP OF JOHN R. HUMMA, RIDGEWOOD, N. J.
FIRST FLOOR PLAN

HOUSE, W. S. McDANALD, TENAFLY, N. J.

SECOND FLOOR PLAN

COTTAGE TYPE, SUBURBAN FIRE STATION, SAN ANTONIO, TEXAS.

Harvey P. Smith, Architect.
The Effect of Gravity on Building Construction

By H. Vanderzoort Walsh
Professor of Construction, School of Architecture, Columbia University

ARTICLE V
THE DAWN OF THE MORE EXACT KNOWLEDGE OF CONSTRUCTION

Men had, for ages, observed the results of stretching a string or pulling a lump of clay apart. They watched the string lengthen, as it was pulled tighter and tighter, and jumped when it finally snapped with a resounding whack against their hands. They also had been fascinated by the change in shape that took place as they pulled a mass of wet clay apart, for the middle of it would thin down like a waist, and then finally become so attenuated that it would part, and in each hand there would have a lump, resembling a tear in shape.

Then, they had noted how a soft thing could be flattened out by stepping on it, or crushing it beneath their heel. A round lump of dough could be squashed to a thin pancake. A poor fellow's foot that had been caught beneath the wheel of a rolling cart showed similar flatness. A bit of gold could be beaten out by continued blows of the hammer into very flat sheets, so thin that their breath would blow them away if they were not careful.

Men had noticed these things from the earliest days, but no one had stopped to consider what was happening, nor had any the slightest idea that there was anything important about it. It required a mind like Galileo's to ask questions about such things, and try to answer them. He was the first to picture a body that was acted upon by outside forces, as consisting of minute particles that resisted these outside forces by working together as a unit. If the body was pulled apart, then all of the little particles of which it was made were described by him as acting together to resist this pull, just as a group of men can be trained to pull together on a rope. If the body was crushed, the particles resisted this action like soldiers resisting the onslaught of the enemy in closed formation. He observed, too, that when a body was stretched, it grew longer before it broke, and would often return back to its original length when the pulling force was removed. In these days, when elastic bands are so common, we are continually observing this fact, for we know how they can be stretched, and yet how they will spring back into their original length if they are released for a moment. Galileo noticed that a body was lengthened as the pull increased upon it, and that a body shortened as the crushing load increased. We can hardly realize how tremendous an idea this was when it was first conceived. His work, describing his crude investigations along these lines, was published in 1638, and attracted no attention, and yet it was the seed from which our very thoughts, to-day, about mechanics of construction grew. It makes us realize that we often do not appreciate how some of the obvious ideas were once upon a time tremendous discoveries. It is hard to believe that Galileo was the first man to state clearly the fact that a force produces two effects upon a body, either changes its motion, making it move faster or slower, or deforms it by changing its shape. This seems so obvious to us after we have heard it stated that we can hardly realize the magnificence of the idea.

But because a few great minds were able to state such truths which men had neglected to notice, because they were so obvious, it is possible for us, to-day, to have some abstract picture of the force of gravity. We are not able to see this mysterious thing, but we are able to know of it by its effects upon buildings and objects that surround us everywhere. And these effects are that it will either make a body move or change its shape. If we drop a stone from the top of a tower, we know that the force of gravity is working upon it, because it moves downward toward the ground. If we pile a load upon the top of a wooden post, we will notice that it bends, like an old man, under the weight, and will finally break, if the load becomes too big, because we say the force of gravity is working to pull down everything to the ground, and since the post cannot move, its shape is changed.

We have learned to visualize this force as a pull upon every little particle of which the body is constructed, acting downward toward the earth. We know this because, if we drop some stones into a well, they will all fall in the same direction, parallel with each other, and splash in the water the same distance apart that they were when they were released at the top. If we suspend these stones by strings, the strings will hang in the path along which the stones would drop if they were released. It is from these strings that we can get our mental picture of a force having a line of action. And, then, we learned from Archimedes that there is a point in the middle of every body where, if a string is fastened to
it, the body will be suspended in equilibrium. This point is
called the centre of gravity. In addition to this, we have
established a measure by which we can say that this or that
body is pulled downward, this or that number of pounds.
And so by one idea added to another, we have learned to
recognize the force of gravity by its actions, although it still remains a mystery
to the eyes and ears.

Now Galileo had contemporary thinkers who were also making observations
about forces, and one of the most important of them was Simon Stevius, a military
engineer for Prince Maurice of Orange. He published a book at Leyden, in 1608,
called “Mathematical Memoranda” (this, of course, was given a Latin name), in
which he summed up his own researches and the common knowledge of arithmetic,
geometry, statics, optics, and fortifications of his day. In this book Stevius
describes, indirectly, a method of determining the action of forces, which we now
designate by the name, “graphic analysis.” He defined forces on a sheet of paper
by a line, the direction of which was the direction of the force. He then pic-
tured the result upon a body if two forces acted upon it, which were not parallel to each other, but
pulled off at an angle. In other words, he raised the ques-
tion in what direction will a body move if it is influ-
enced by forces acting out from the centre of a body at an
angle similar to the sides of the letter V. He did not an-
swer this question completely, but he did suggest the answer
close enough to be credited with the discovery. It was not
developed and stated as a principle until about ninety years
later, when Pierre Varignon set it forth in a paper before
the Paris Academy, in 1687. In the same year Sir Isaac
Newton published his “Principia,” in which he established
this new method of computing the action of forces from his
observations and theories of moving bodies. This prin-
ciple is now known as the “triangle of forces.” Newton
offered the idea that if a body in space were acted upon by
a pushing force, it would move in a straight line, but if at
the same time another force acted upon it, at an angle to
the first force, the body would take an intermediate course,
called the resultant path. This path was graphically
determined by first drawing a picture of the two forces. They
were represented by lines which symbolized their direction,
like a V outward from the body. Their magnitude was
described by drawing them to a certain scale which corre-
sponded to the number of pounds of their action. When
this unequal-sided V was drawn, a parallelogram was con-
structed with it by drawing another V upside down, joining
the open ends. Now Newton deduced from his three funda-
mental laws of motion, that the diagonal of this paralle-
logram was the resultant path along which the body would
move when acted upon by the two forces. Its length also
was the magnitude of the resultant action of the two forces
along this line.

But Pierre Varignon, in his book, states this in a much
simpler way. Many of our modern text-books on mechanics
have copied his statements, and it is well to know some-
thing of what he says. Therefore we are giving here an in-
terpretation of one of his diagrams.

The body marked \( A \) in the diagram is acted upon by
two forces, suggested by the two hands with pointed index
finger. One of these forces pushes the body along the line,
on new brick. There are, however, thousands of buildings
number of torrid summers. By testing these bricks, when
ence to absorption and freezing and thawing. Practically
in this country in which brick has been subjected to the
all tests that have been made heretofore have been made
or methods of laying the brick, influence the strength of the
vary considerably. It has been found that different bonds,
the physical requirements for each purpose could readily
rain-walls, party-walls, fire-walls, and piers vary universally,
locality and suitable to appropriate conditions of use.
selection of the different grades of brick common to each
of the collective units when assembled under actual service
they are available, a knowledge of how freezing and thawing
is really affected brick might be obtained, and this
information used as another basis on which to interpret the
results of laboratory tests and arrive at a conclusion which
will be substantiated in actual practice.
Take as a well-known example Independence Hall,
Philadelphia. This building has been subjected to over a
hundred and fifty winters of freezing and thawing and the
bricks are apparently in perfect condition. It is not known
how laboratory tests might have classified these bricks, but
they might not have indicated this wonderful life and service
rendered to date with apparently centuries yet to go.

Swedish Architecture

THE exhibition of drawings of Sweden by the eminent
Swedish architect, Ferdinand Boberg, at the Brook­
lyn Museum, will continue until January 11, 1926.

Some of Mr. Boberg's work is shown in the book re­
cently published by Charles Scribner's Sons on "Modern
Swedish Architecture," together with important work by
other Swedish architects.

Announcements

The office of Arthur W. Angel, Architect, is now
located at 3400 East Fifth Street (Fifth and Lorena), Los
Angeles. Former address, 3404½ Whittier Boulevard.

Felix P. McKenna, Jr., and Thomas H. Irving beg to
announce the formation of the partnership of McKenna and
Irving, Architects, 15 Park Row, New York City, to con­
tinue their practice of architecture. They will give the same
undivided attention to all ecclesiastical work entrusted to
them as they have conscientiously done in the past when Mr.
McKenna was practising his profession in partnership with
Elliott Lynch and Mr. Irving was managing the New York

For a Better Knowledge of Brickwork

D. KNICKERBACKER BOYD, architect and member
of the firm of Boyd, Abel & Gugert, Philadelphia, is
chairman of the Committee on Promotion of Knowledge of
Brickwork of the American Society for Testing Materials,
and is therefore especially fitted to discuss brickwork.

According to Mr. Boyd, any requirements for an indi­
vidual brick should be based upon the performance expected
of the collective units when assembled under actual service
conditions in the form of a wall or pier rather than upon the
performance of the unit itself, and then such requirements
should be workable and elastic enough to provide for the
selection of the different grades of brick common to each
locality and suitable to appropriate conditions of use.

As bricks are used for foundations, bearing-walls, cur­
tain-walls, party-walls, fire-walls, and piers vary universally,
the physical requirements for each purpose could readily
vary considerably. It has been found that different bonds,
or methods of laying the brick, influence the strength of the
wall to a great extent. All of these things and many others
must be fully studied and considered before a specification­
al requirement can be considered final. Comparatively few
tests on walls have been made and many more are needed.

There is one factor which seems to have great bearing
on the interpretations of laboratory tests of brick in refer­
ence to absorption and freezing and thawing. Practically
all tests that have been made heretofore have been made
on new brick. There are, however, thousands of buildings
in this country in which brick has been subjected to the
rigors of a hundred and more severe winters and an equal
number of torrid summers. By testing these bricks, when

The Increasing Use of Color and Varying
Wall Textures

AMONG the many things which go to make a house in­
dividualistic is color. Home builders and architects
have long realized this fact, as has been demonstrated by
our continued use of color on frame houses. We painted to
preserve the exterior of our houses, but we also used color
because of the distinction and air of difference such painting
gave our homes. It is only natural, then, that color in
stucco houses should show development.

In the stucco house, the entire exterior surface is sus­
cceptible to color treatment. The relation of the color of the
wall to the color of the roof, and to the setting of the house,
are important. Through this use of color we give our home
an air of belonging to its site, give it an expression of our
own personality, accentuate the architectural beauty of the
structure.

But, unlike houses of other materials, use of color does
not exhaust the possibilities of treatment in the stucco house.
Combined with this wide range of color is textural treat­
ment. By the use of the steel trowel, the wood float, the
carpet or burlap covered block, even the hands, an almost
limitless variety of surface textures is possible.

Walls can be given lights and shadows, reliefs and tones
through a manipulation of the stucco coat. There are
delicate, concise textures, for the small cottage or bungalow,
and there are also bold, sweeping textures for the large or
rambling home. These various textures can be intimately
incorporated with the architectural style of the house.

To-day we are not surprised to see stucco houses of
pink, buff, green, red, black, even blue, and all the inter­
mediate shades and colors. Whole districts of stucco houses,
containing almost every conceivable color for houses, have
sprung up over the country. And without exception there
is no color or note to mar the beauty of the whole.

Yet even here the possibilities of stucco color and tex­
ture have not been exhausted, for these colors, these tex­
tures, these lights and shadows are permanent. There is
no need for annual freshening, no cause for worry because
of fading colors, no expensive maintenance, for with Port­
land cement stucco these features are as permanent as the
concrete dams, bridges, and buildings which dot the country.

New conceptions of home beauty have come into being
with this growing use of colored stucco. Color and texture
in stucco have brought into favor architectural styles long
considered impossible of transposition. This movement
ward more diversified architecture has brought forth Eng­
lish, French, Spanish, Italian, and many other Old World
styles of home architecture, and not only for large and pre­tentious homes, but for the smaller cottage and bungalow
these styles are now being adopted. The result has been an
increased beauty, more livableness, greater fire safety, and
more permanent homes.
For Your Information File—

These six pattern sheets have been prepared to give architects an idea of the all-round adaptability of floors of cork composition tile.

Each sheet reproduces eleven standard colors in which Treadlite Tile is made; shows three attractive examples of how the various colors of individual tiles may be combined; and illustrates a typical installation.

The architect will find this series of color sheets useful in many ways. It will help him to clarify his thoughts on floors and to visualize accurately how various combinations of Treadlite Tile look when installed. It will give him something tangible to show clients who have to be informed on the idea of artistic, colorful floors. It will help him to choose or create suitable floor designs for interiors requiring decorative floors.

We will be glad to mail you a complete set of these useful pattern sheets. Working specifications on Gold Seal Treadlite Tile are also available, if you wish.

BONDED FLOORS CO., INC.
New York * Boston * Philadelphia * Cleveland
Detroit * Chicago * San Francisco

Please mention Architecture in writing to manufacturers
"A Protection from Noise, Dirt and Accident"

The statement invariably made by building managers, where Ideal Elevator Door Hardware is installed. Ideal equipment possesses many exclusive features which contribute toward lower installation costs; greater ease of operation; greater safety, cleanliness and quiet; and lower maintenance. Write for a demonstration and full information on this superior equipment.

A. M. Gutterson, Manager, The Prince George Hotel, New York City, says:

"The central yet quiet location of this 1,000-room hotel is a feature that appeals particularly to our guests. Naturally, we make every effort to avoid all unnecessary noise inside the house.

"Richards-Wilcox elevator door hangers and closers insure our guests freedom from the annoyance of noisy, banging elevator doors. This equipment was installed 8 years ago on 64 doors and has rendered the most satisfactory service. Ball bearings, and an even distribution of weight which prevents sagging, result in doors that operate easily and quietly. Moving parts are covered, excluding dirt which would result in excessive wear, and protecting passengers and operators from dropping oil or grease. The door closers function effectively; and with the adjustable liquid checks, give us doors that close rapidly, yet without banging.

"The Inter-Lock feature cuts off all power from the car by breaking the circuit as soon as a door starts to open. This is the most efficient safety device of its kind that we know about, for it absolutely prevents starting a car until the door is entirely closed. Having only one switch for each shaft prevents trouble. These features make a substantial yearly saving for us in liability insurance premiums.

"The perfect operation of our R-W equipment not only contributes to the comfort and safety of our guests, but also saves us money. But little maintenance is required and repairs are almost never necessary."

Richards-Wilcox Mfg. Co.

"A Hanger for any Door that Slides.

AURORA, ILLINOIS, U.S.A.

New York Boston Philadelphia Cleveland Cincinnati Indianapolis St. Louis New Orleans Chicago Minneapolis Kansas City Los Angeles San Francisco Omaha Seattle Detroit Montreal - RICHARDS-WILCOX CANADIAN CO., LTD., LONDON, ONT. - Winnipeg

Please mention Architecture in writing to manufacturers
The Leanto Adjoining the Garage

With a Southern side available, the two bench Leanto against the garage has three distinct advantages. It is more economical to build than an even span house of same width. The protection of the garage from North winds makes it easy to heat. The one heating plant can take care of both, with very little additional fuel.

The row of frames along the greenhouse can also be heated, giving an equivalent of another compartment for growing the plants requiring less heat and attention, and for starting plants for early Spring setting out.

As for growing efficiency, the Leanto is entirely satisfactory for general uses.

This is number ten of a series of studies, each done in lino- graph by Vahan Hagopian. Every six months reprints of the preceding studies will be mailed to all who send their names.

Lord & Burnham Company
New York: 30 East 42nd Street
Chicago: Continental Bank Building
Detail of Terra Cotta windows, Palazzo Municipale, Piacenza, Italy, erected in 1281 A.D.

THE DURABILITY OF TERRA COTTA

In 1281 A.D. the Palazzo Municipale was erected in Piacenza in stone, brick and Terra Cotta. The Terra Cotta architraves start from the stone base, enclosing a series of similar windows throughout the entire facade and are in perfect condition after six hundred and forty-three years exposure.

Modern Terra Cotta in its perfected scientific process of manufacture retains all the durable properties of the earlier product. The problem of a corresponding durability rests in its appropriate structural relation with other materials under the differing principles of present day construction.

NATIONAL TERRA COTTA SOCIETY

19 WEST 44th STREET NEW YORK, N.Y.

Please mention ARCHITECTURE in writing to manufacturers
At last—wiring specifications entirely simplified

1. You simply copy from the Data Book the G-E Wiring System specifications for the particular class of house you are building—noting any additions or exceptions. Every piece of material needed in a complete wiring system is pictured in the book, and you get exactly what you are ordering without going into tiny technical details.

2. The contractor, guided by a Data Book that is a companion to the architects', bids on exactly what you order—and presents the bid on a new G-E Proposal Form that you can read at a glance.

3. You get truly competitive bids—on materials of highest quality—all guaranteed by General Electric. And the house you are planning is wired to the highest satisfaction of your client.

GENERAL ELECTRIC

A. I. A. File No. 31c

Please mention ARCHITECTURE in writing to manufacturers
CHICAGO will soon have another great hotel—the new Bismarck, now building. Rising eighteen stories and planned for the later addition of eighteen more, the Bismarck is an integral part, together with an office building and a theater, of a greater structure which occupies an entire city block in the heart of the “Loop.”

The Bismarck’s 492 built-in baths are of Kohler make and “Viceroy” pattern—a not undeserved tribute to the beauty and excellence of this ware, and, more particularly, to the exceptional quality and uniform, immaculate whiteness of the Kohler enamel.

KOHLER CO., Founded 1873, KOHLER, WIS.
Shipping Point, Sheboygan, Wis. · Branches in Principal Cities

KOHLER of KOHLER Plumbing Fixtures

Please mention Architecture in writing to manufacturers
WHAT IS NEW

IN MANUFACTURERS' SALES LITERATURE

Architects and every one interested will find here the latest and most up-to-date information on building equipment. These publications may be had by addressing SERVICE DEPARTMENT, ARCHITECTURE, 957 Fifth Avenue, New York, or by addressing the companies listed below, in which case please mention ARCHITECTURE.

A. C. HORN COMPANY

A handsome new book, the finest of its kind, has been published concerning Keramik. It shows a group of color plates and takes up in detail description of Keramik and Horn's Water-Proofing.

PLATE GLASS MANUFACTURERS OF AMERICA

"The Low Cost of Dignity and Beauty?" is the title of a booklet just published by the Plate Glass Manufacturers of America. The booklet shows by means of photographs and text the added architectural distinction achieved by the use of plate glass. An added feature of interest to all architects and builders is a glossary of terms used in specifications for plate glass.

MANHATTAN TERRAZZO BRASS STRIP Co.

This concern has now established its new plant and offices at 155 East 82dth Street, New York.

NATIONAL LUMBER MANUFACTURERS ASS'N

A survey of five houses in residences, prepared and made public by Robert Rock, president of the Longacre Engineering & Construction Company, New York. This survey covers many sections of the country and is perhaps the best of its kind that has been compiled up to this time.

PUBLIC RELATIONS, INC.

A new circular says: "It has been estimated that if one-third to one-half of the corners of medium-priced homes in the $5,000 to $10,000 class would insulate against the escaping heat units, their collective saving, at present prices of anthracite and bituminous coal, would be the interesting sum of $45,000,000 to $70,000,000 annually."

INDIANA LIMESTONE ASSOCIATION

"Cleaning a Stone Building with Steam" has lately been issued in conjunction with the Department of Commerce.

"COLD WEATHER MORTAR"

This new bulletin has just been issued by the National Lime Association. It describes the kind of mortar necessary for winter construction.

"THE MONOGRAM"

This very interesting house organ published by the Vendor State Company for use in detailing and illustrating of columns or the new Catalogue B-47.

CRANE COMPANY

The "Valve World" for December contains a contribution on the "Accuracy in High-Temperature Testing of Materials."

DU PONT TONTINE SHADE CLOTH

An interesting booklet and group of samples are available to the profession.

GENERAL ELECTRIC WIRING

The literature for the profession includes: "Data for Electrical Contractors," "Specification Data," "Special Electrical Data and Specifications for Architects."

STRUCTO SLATE

"Structural Slate in White or Any Color" is a new booklet published by the Structural Slate Co.

"SILENCE IS GOLDEN"

This catalogue explains the theory and practice of the Stevens System of Sound-proofing.

OIL BURNER BULLETIN PUBLISHED

A 28-page booklet, thoroughly covering the methods and procedure in oil-burner testing wherever the burners are fired under boilers or in warm-air heating plants, has just been issued by the American Oil Burner Association, New York. The bulletin discusses such theoretical considerations as are needed for the practical application of the methods and procedure given, which apply for both industrial and domestic burners.

HOME COMPLETE EXPOSITION

The Indianapolis Real Estate Board has published its plan for the Fifth Anniversary Exposition, April 1-17, 1926.

METTOWEE STONE

A unique and beautiful rock furnished exclusively by the Vendor Slate Company for use in garden-walks, terraces, porch floors, and interior flooring of all kinds. Their circular entitled "In the Garden" illustrates numerous installations of "Mettowee Stone."

STANDARD PATTERNS IN FLOORS

The Norton Co. are publishing a series of separate pages of standard body and border patterns of their ceramic mosaic floors.

"TRIANGLE NEWS"

This interesting house organ contains an article by A. C. Borner, A. I. A., in its November issue on "What One Architect Thinks About Our Stand on Fair Boiler Ratings."

DEPARTMENT OF COMMERCE

"The Progress in Eliminating Waste" has recently been issued.

STUDIES IN POLYCHROMY

"Atlantic Terra Cotta" contains this article, dealing with sculpture, by Leon V. Solon.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION

The "Report of the Technical Research Committee" was issued a short time ago.

AMERICAN ZINC INSTITUTE

The latest issue of "ZN" contains an interesting article by W. R. Ingalls on "Zinc, Its Present Position and Prospects."

U. S. GYPSUM CO.

Special booklet presenting over 70 designs including the 28 award winners in the recent Structo Contest will be sent to architects.

LORD & BURNHAM

Reprints of the studies in lithograph by Vahan Hageopian will be sent on request.

DAILSTROM DOORS

Several pieces of valuable literature, prepared particularly for the profession, will be sent on request.

CRESCENT CORN TILE

United Cork Companies have issued a folder describing their products.

"KELSEY ACHIEVEMENTS"

This book is chock full of pertinent information for the architects' files.

"ARMSTRONG'S CORK TILE FLOOR"

This booklet illustrates the floors in color and contains complete specifications.

H. B. SMITH BOILERS

"Guaranteed Heating Satisfaction at a Minimum Cost" is just off the press. It is a timely discussion of boiler ratings.

VENTILOURE CO.

The new catalogue on the Panelouvre is a wasy and should be in every architect's hands.

TANGLOUT AIR FILTER

The Cooling Tower Co. has recently issued a circular on their new air filter.

NEW YORK BUILDING CONGRESS

A newly issued statement reproduces the speech of J. L. Eyssenmann, delivered recently before the Congress.

WHAT IS AHEAD?

"What Is Ahead, More or Less Building?" takes up a survey of construction conditions. It is published by the Upson Company.

ELECTRICAL DRIVES FOR POWER PLANT AUXILIARIES

Electrical Drives for Power Plant Auxiliaries, a very opportune subject, is the title of a circular, recently issued by the Industrial Department of the Westinghouse Electric and Manufacturing Company.

HARTMANN-SANDERS

Catalogue B-47 of columns or the new Catalogue B-51 of Colonial entrances will gladly be sent on request.

EXTERIOR LIGHTING FIXTURES

Architects will find in this book complete information regarding exterior fixtures, produced by Smues-Royer Co.

BOOKLET L-242

G. L. Miller & Co. in this booklet tell how the Miller plan of financing operates.

WINDOWS FOR SCHOOLS

"Austral Steel Windows for Schools," published by the International Casement Co., is of decided interest to architects.

UNIVERSAL SAFETY TREATS

A new booklet explains the qualities and application of these treats.

BOYLE'S BAYONNE CLOTH

Sample book "I" gives the architect the opportunity of examining Boyle's Bayonne Roof and Deck Cloth.
WHERE Quiet Is Necessary

WHAT could be more distracting to the reader’s attention than flapping shades and direct drafts! On the ordinary window the resistance of the shades to the incoming air causes them to flap and tear. On the AUSTRAL WINDOW separate shades are attached to the upper rail of each sash, making it impossible for them to become loose. Shades may be adjusted at any point, cutting off direct rays of light but allowing free ventilation without draft.
Why H. B. Smith Boilers are "Business Insurance" at the Princeton Inn

A
N
INEFFICIENT heating plant in a private house causes money loss through wasted fuel, but the owner is not likely to move away even if he does have to stand a few chilly days.

On the other hand, an inefficient heating plant in a Hotel or Inn not only causes money loss through wasted fuel but may cause guests to depart in search of warmer rooms, resulting in a serious loss of business.

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Concrete floors will wear—when they are treated with this floor hardener

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