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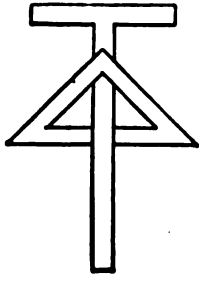
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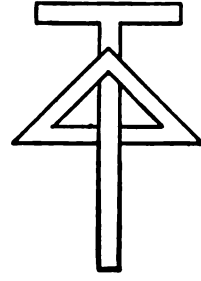
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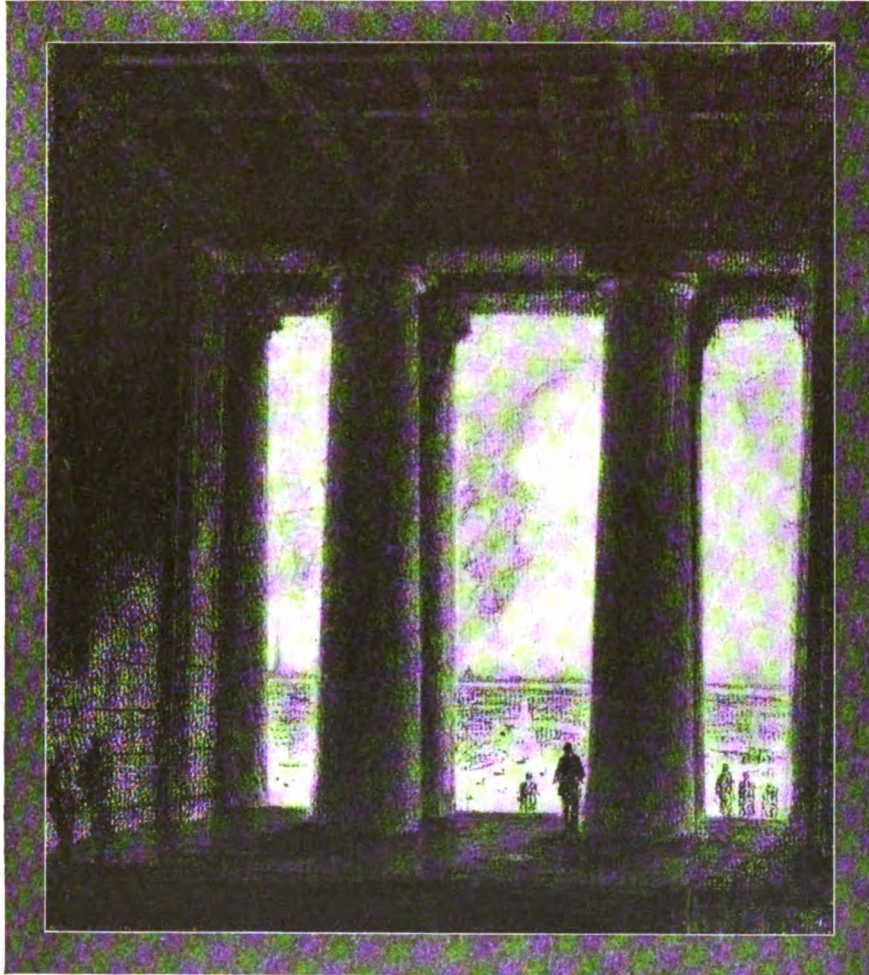
MAY 13 1922

PENCIL POINTS



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A Journal for the Drafting Room



Crayon Drawing by Hugh Ferriss.
View Looking Outward from Portico of Proposed George Washington Masonic National Memorial, Alexandria, Va.
Helmle & Corbett, Architects.

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In This Issue:—Architectural Detail; Models of Cardboard; The Class B Plan Problem; Perspective; Atelier French. Plates:—Antique from D'Espouy, Detail of Medresse—I—Chan at Shiraz, Detail of Mosque of Safi, Ardebil, Pencil Sketch by Andre Smith.

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Hall in House for F. S. McIlhenny, Esq., at Chestnut Hills, Pa. Mellor, Meigs & Howe, Architects. (See text on the opposite page.)

ARCHITECTURAL DETAIL PART XIII

BY JOHN VREDENBURGH VAN PELT

This is the thirteenth instalment of an article in which Mr. John Vredenburg Van Pelt, formerly Professor in Charge of the College of Architecture, Cornell University, Architecte Diplômé par le Gouvernement Français, and author of "Essentials of Composition," will discuss the designing of good architectural detail and point out the means by which the ability to produce good detail can be developed. Reproductions of detail drawings from some of the best architectural offices will accompany this article and the publication of this series of drawings will be continued after this discussion of the subject has been completed—making a valuable feature of this journal indefinitely.

A FRIEND asked me recently, "What is the difference between pottery and faience?"

He might as well have added enamelled terra cotta to the list. I did so in passing the question on to divers manufacturers and experts and finally to one of the professors at an important university that has a whole department devoted to the study of the art. After receiving a somewhat non-committal answer from the last gentleman, I said, "Well, then, which term ought one to use for all of these beautiful objects?" "If you are talking to the trade," he answered, "you call it 'Ceramics,' but if you are addressing an amateur, you weigh heavily on 'Keramics'."

Truth to tell there is really no very good dividing line between pottery and faience except that the former derives its name from pots and the latter seems to suggest plaques and tile.

Differences in the clays are really matters of convenience or whim in manufacture. There are two general distinctions termed "white body" and "red body," but each plant uses its own mixture and many plants make both white and red tile, the white being usually somewhat softer than the red. The effect of the body on the appearance of the finished tile is only noticeable in the thinner and more transparent enamels or, of course, in the partially glazed tile.

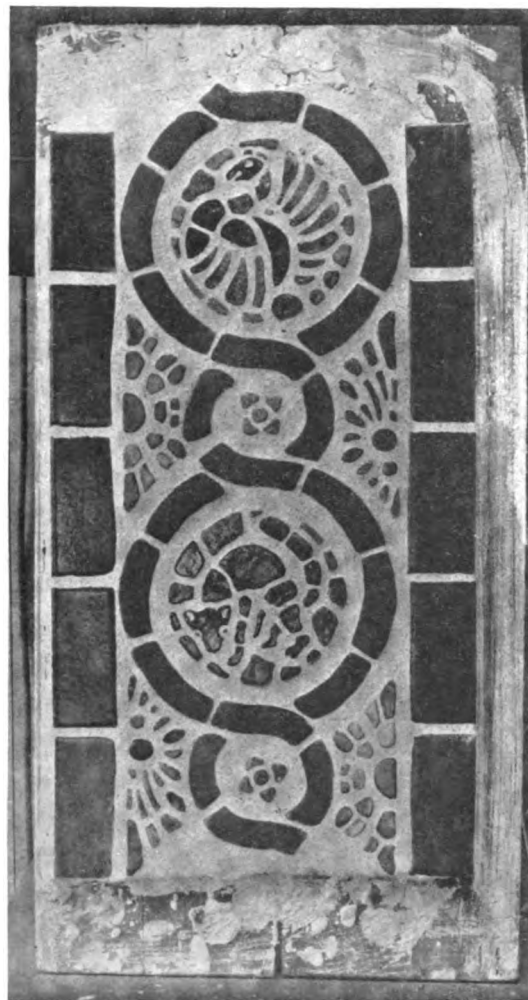
As architects and decorators we have less to do with pottery *per se*, although urns and vases may play an important part in a composition and unquestionably do in furnishing. The hand painting of this more intimate work may run from miniature to the broadest kind of free design. In pottery, faience or terra cotta, the modelled body is so often associated with the colored design that it seems hardly worth

while, in a curtailed review, to try to study it separately. Perhaps no other comment is needed than the reminder that a background should be less brilliant in color and perhaps darker in value than a motif. The Della Robbias reserved their bright yellows or whites for the subjects of their plaques. Many of the old Persian tiles were painted on a flat surface, but examination of the illustration of the faience decoration Medresse-I-Chan, at Shiraz, Plate XVIII of this issue, and of the exterior of a portion of the Mosque at Safi at Ardebil, Plate XIX, will reveal intricate examples of both painted and modelled patterns on the same individual tile. The detail of the Blue Mosque shown on Plate XIV of the April PENCIL POINTS was tile mosaic.

There is a certain quality of broad decorative modern vase painting made at some of the English pottery works that would be most appropriate for wall tile decoration. It seems a pity that it is not imitated by our American tile manufacturers. Perhaps one objection may be that painted designs are not so readily fired at high temperatures and are, therefore, not as good for exterior work. But exterior work has to carry to a distance and is usually large enough in scale to be made up of small tile, a variety of mosaic. At any rate, the different colors may be separated by incisions or little ditches to keep them from flowing into each other while molten.

This firing of tile is perhaps the best distinction between pottery, faience and enamelled terra cotta. Decorated china, hand-painted plates, etc., are often painted on the underlying white glaze and fired at low temperature in a small decorator's oven.

The next group, pottery and faience, are fired in kilns at a higher temperature, the body first, usua-



Contrasting Textures Obtained by Setting Tile in a Background of Cement.

PENCIL POINTS

ally, the enamel separately afterward. They are enclosed in a coverless terra cotta box called a saggarr, each successive box forming the lid of the one below it in the kiln. Where the tile, which have been moulded or cut out like cookies and dried out, are not to be enamelled, the saggars have small openings cut down an inch or less into the sides to allow the gases of the kiln to enter and produce the beautiful accidental fire flashings that are so much prized for certain work.

Terra cotta is burned in kilns with double walls so that the inside of the kiln is really a big saggarr. It is fired at a still higher temperature. 2250 degrees, as structural strength is needed.

Different layers of slip or enamel are usually put upon the dried clay and all fired with the body in one operation. For enamelled terra cotta a material or slip that will close the pores is sprayed on and then one or two successive glazing materials are applied, one perhaps a flux and the other the real enamel color. All enamel contains a mixture called the "Base" which is the element that holds the color and forms the adhesive glaze. It must be of such a nature that it will unite with the body, else it will craze and perhaps crack off. The other distinctive parts of the enamel are the mineral that gives the color and a flux. Of course in many enamels the distinctive color may be a result of the influence of the color mineral on a particular base, and then the base has to be varied. For certain effects a tile is fired at a high temperature. Then a second glaze is painted upon certain portions and it is refired at a lower temperature that does not affect the first color. This may even be repeated a third time at a still lower temperature.

A more usual process in blending colors is to place a layer of one color on the tile and when this is dry,

dip it in another color or paint, or dab the other color on pre-determined parts. When the enamels melt they mix together and produce very beautiful, more or less accidental, effects. If the heat is sufficient, they boil and bubble up together and when they have cooled there may result points where the under color has taken precedence of the upper. Usually the upper color predominates and the under color softens or tones it. Furthermore, some colors in drying will crackle or draw apart and may introduce an interesting texture contrast. See the panels on this page.

The designer of colored faience or terra cotta decoration must bear in mind that accidental colors are the rule. Even the intensity of a plain color is more or less uncertain. Of course before it is fired, no color gives any suggestion of the final appearance. In one factory that I visited lately, all the enamels were made up with a red lead flux, and the tiles, set out to dry before firing, had a thick coating on the top, no more beautiful than a piece of structural iron just come from the shop.

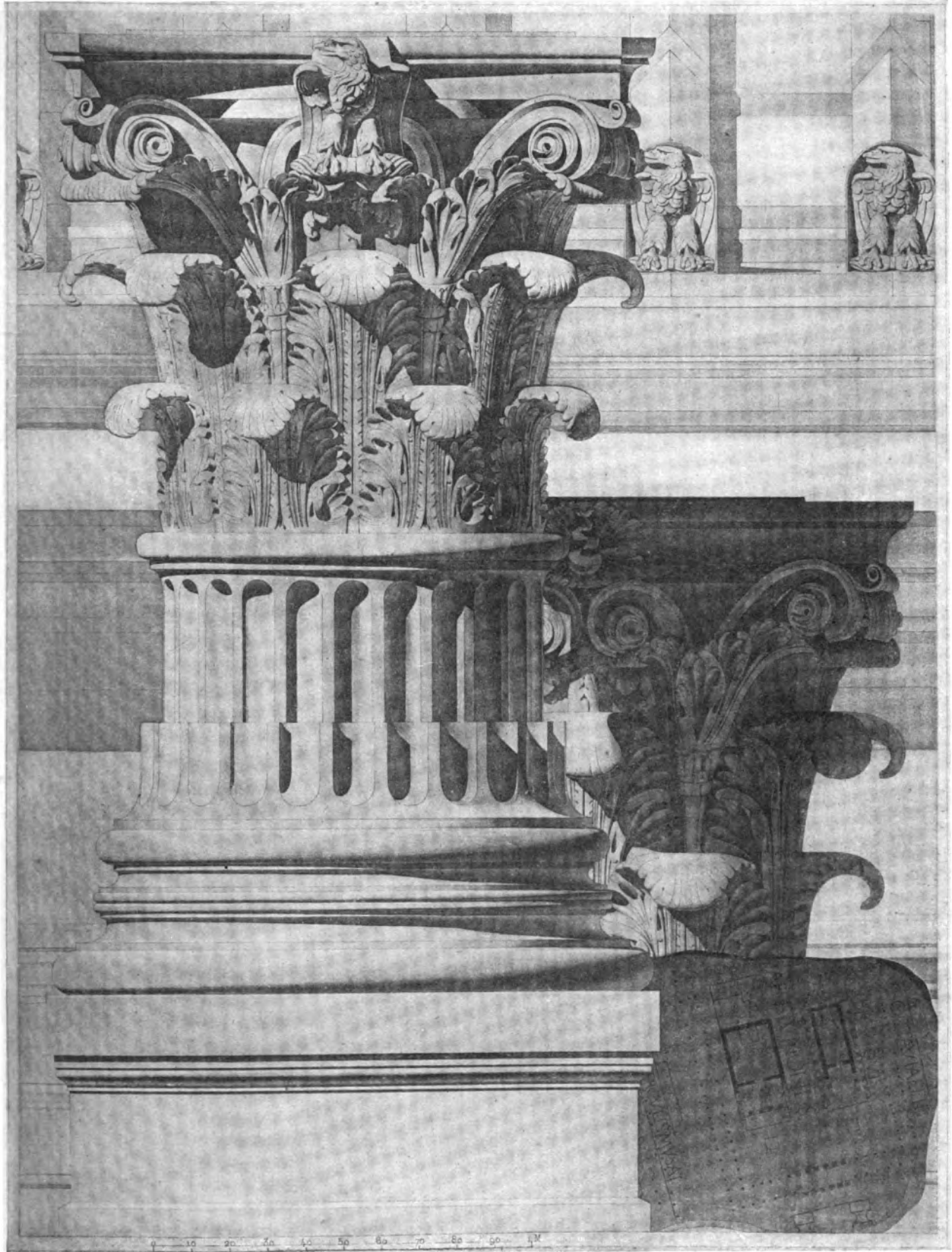
Past experience in the use of colored faience on the exteriors of buildings makes me feel that small tiles, forming a mosaic, are safer than large tile of a single color, even though the decoration is to be seen at a great distance. To illustrate: If a blue band, four inches wide, is required, it would be better to build it up of smaller triangular tile of slightly varying shades of blue than to set in four inch by four inch tile side by side, this despite variation of shade on each of the four inch tile.

I realize the process can be carried to excess and at times one may feel the need of a space filled by a simple, more even color. but the usual fault is in the direction of too great smoothness and too little

(Continued on page 37)

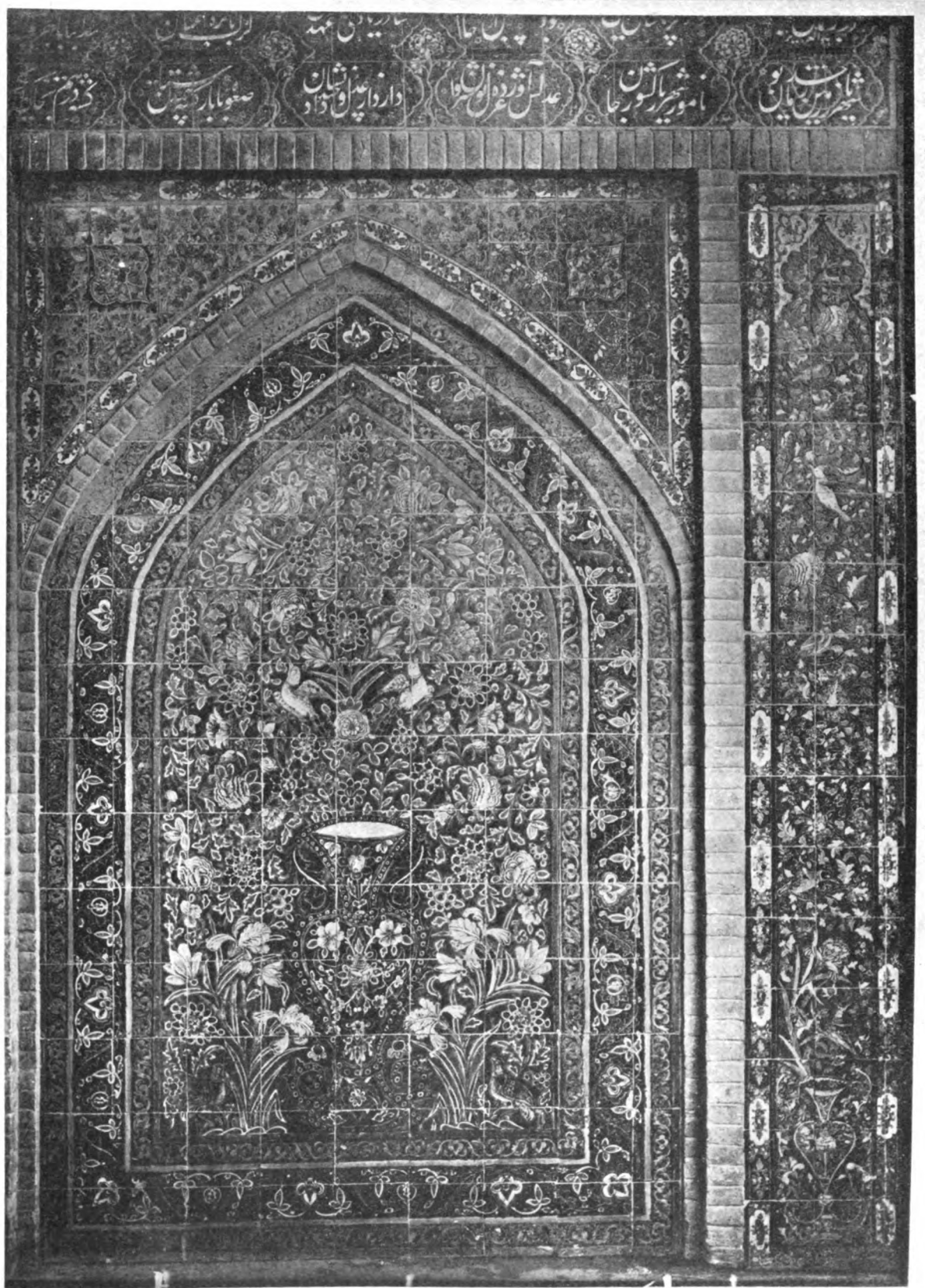


Tiles That Show an Interesting Crackle Texture.



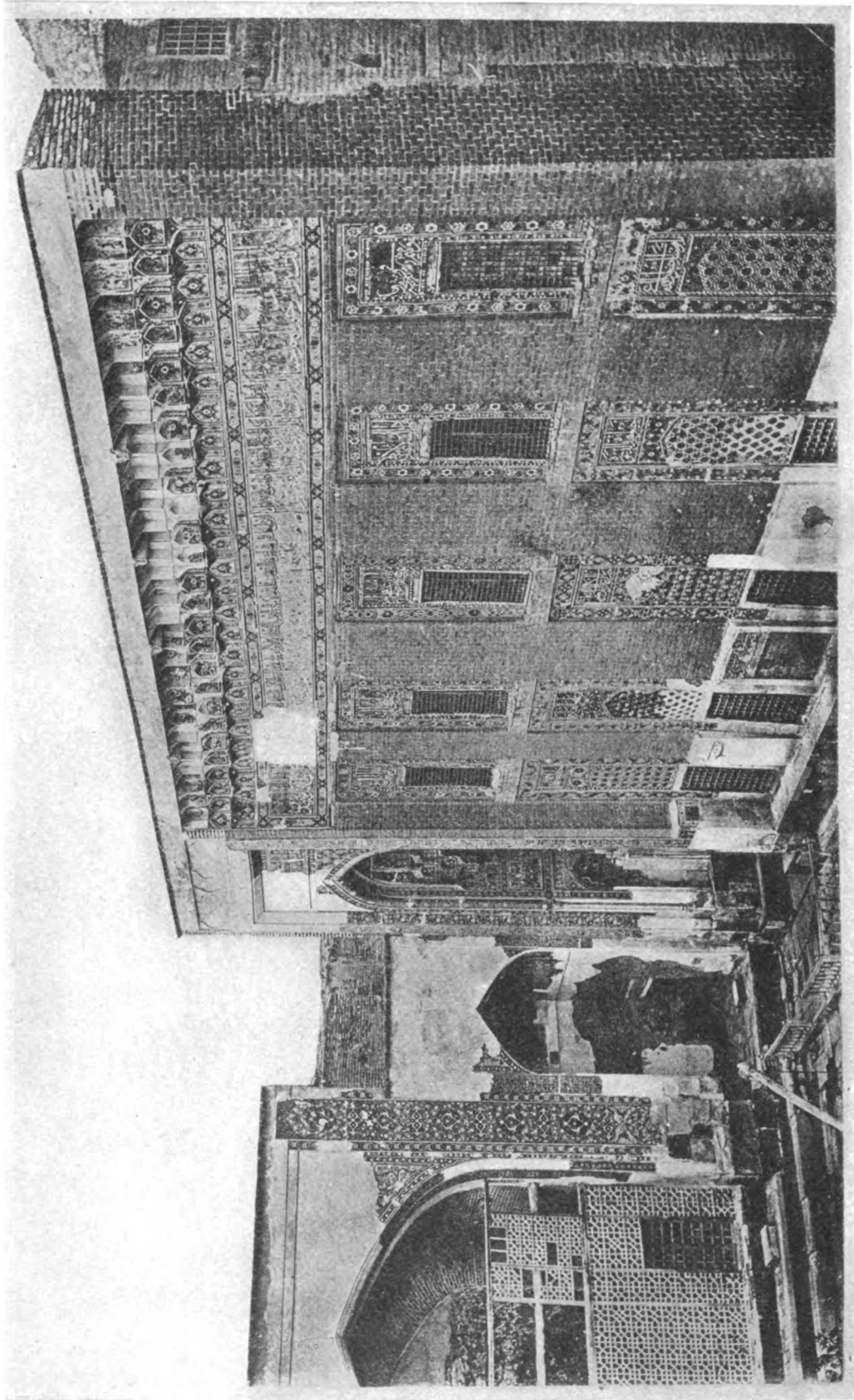
DETAIL OF PORTICO OF OCTAVIUS, ROME.
FROM D'ESPOUY'S "FRAGMENTS D'ARCHITECTURE ANTIQUE"

The details of the portico of Octavius at Rome, reproduced on the other side of this sheet from a restoration by E. Paulin, are among the most virile of the many, well-chosen details of Roman architecture included by H. D'Espouy in his "Fragments d'Architecture Antique." This sheet is also an example of masterly rendering.



FAIENCE DETAIL, MEDRESSE-I-CHAN AT SHIRAZ.
FROM SARRE'S "DENKMAELER PERSISCHER BAUKUNST."

The detail of faience decoration from the main entrance of the Medresse-i-ghan at Shiraz shown in the plate reproduced on the opposite side of this sheet is typical of the finer faience work of Persia. The skill of the designer in making a well distributed pattern of forms that are conventionalized, with an appreciation of the character of the material, and made to express the spirit of the people and the times while conveying the essential characteristics of the natural objects from which these ornamental forms were derived, commands admiration and affords a wealth of suggestions to designers in modern faience.



PORTION OF THE MOSQUE OF SAFI AT ARDEBIL.
FROM SARRE'S "DENKMAELER PERSISCHER BAUKUNST."

The façade of the prayer room of the Mosque of Safi at Ardebil shown in the plate reproduced on the opposite side of this sheet is a most interesting example of the combination of faience with brick work, the former used as an enrichment, for which the simple brick surface provides an excellent foil.

ARCHITECTURAL DETAIL, PART XIII.

(Continued from page 12)

color vibration. Especially is this true of enamelled terra cotta where the individual pieces are larger than in tile faience.

The surface of faience or terra cotta body may contribute greatly to the vibrant quality of the finished enamel. A firm of faience manufacturers, unfortunately no longer numbered among the producers of this beautiful material, had recourse to a very uneven hand-pressed surface for the body of some of their tiles. When the enamel was thin and transparent such dimpling permitted the color to puddle and a difference in value ensued. This went even further in their multiple glazes (one color over another, fired simultaneously). More-over when viewed at an angle the shine, to be found in all high glaze enamels, gave high lights throughout the slightly billowing surface, white caps on the crests of the waves, and enhanced the effect. Too little work like it is done now-a-days; possibly because the architects appreciate too little the capacities of the material, and do not demand it.

There is a marked difference between high-glaze, semi-gloss, and matt enamel, just as there is between the color effect of polished and honed marble. I have not had experience with the use of the two finishes together, but I believe a successful contrast might be obtained by using a hand finished, uneven body with high glaze and more brilliant color for the motif of a design and a mat finish for the darker backgrounds. Contrasting surface texture of this kind is well known in the half-glazed red body tile where the unglazed body of the subject projects to the upper surface and a deep blue, a green yellow, or other colored glaze is filled into the depressions.

Within the last few years, another contrasting of textures has been obtained by setting red or enamelled tile, flat or modelled, in a background of cement. See the illustration on page 11. This has been further developed by making depressions in a single tile, to be grouted full of cement. The last saves the expense of setting up smaller elements of a design where several fall within the limits of a single tile size. The projecting portions appear to be small tiles set like their larger fellows in the same cement background. That is an "imitation," same conscientious reader will exclaim. Doubtless the answer will be that cloisonné is also an insert and that the real cement joints are the ones at fault, not the cement run into the depressions of the tile to mark the design. In any event, when done well, the result has charm.

This brings us to the important role joints play in tile composition. A general rule is that large tile requires wide joints and small tile narrow ones. Uneven tile require wider joints than those having straight edges and a uniform dimension. The old fashioned, smoothly shaped and colored encaustic tile of fifty years ago, were usually laid without apparent joint. Modern encaustic tile can be had already set up, glued to paper sheets, with a comparatively narrow border. The two inch to four inch soft, red body tile of the hand-made variety, similar to the old Moravian, are usually given a three-sixteenths to five-sixteenths inch joint, a quarter of an inch being good practice. Ordinary quarry tile, 4 in. x 4 in. or 6 in. x 6 in., may have a joint varying from a quarter of an inch for the smaller size to five-eighths of an inch or even three-quarters of an inch for the 6 in. x 6 in., if a somewhat rougher effect pervades the accompanying architecture. A wider joint than this, unless perhaps for 9 in. x 9 in. quarries, looks forced. The enamelled quarries, say 4 in. x 4 in., should ordinarily have a quarter or even three-sixteenth inch joint, but it must be kept in mind that the width of the joint is just as much a part of the design as any other element. Indeed it sometimes affects the final appearance more than the tile itself. To push this matter further, it may be that one part of the design will require a narrow joint and another part a wider one. I have in mind a walk laid with a one-inch joint between large Dutch tile or brick that are 8 in. x 14 in., while the border is of 2½ in. x 8½ in. brick laid on edge and spaced five-eighths inch apart.

Except for very regular machine-cut tile, or for tile bedded in a cement background and having a flat surface, the joint is usually slightly depressed. Hand-made tile having a rounded edge require a depressed joint. Otherwise bits of the cement would creep up over uneven parts of the edges. It is not usual to rake the joint out or to depress it much, as that does not contribute to a feeling of security. Indeed it would be unwise to depress the joint markedly with a thin tile and in a floor it would leave spaces in which dirt could collect and which would make walking unpleasant and even dangerous. For the same reasons, in floor design avoid tile with deep depressions. It may be worth while to note that if joints were depressed, glazed tile would have to be specially enamelled on the edges. This is also true in turning corners or in fireplace openings when no frame is used.

The color of the joints is also very important in the final effect. White joints may retain their brilliancy in a wall, but not in a floor. Indeed, too white a joint is likely to be staring, although the red of ordinary red quarries looks well in contrast to a moderately white joint. At one time, it was quite customary to lay floor

tile in a dead black joint. If the tile are waxed or oiled (glazed tile should never be either waxed or oiled as a film forms on them and collects dirt), the black takes on a luster and may also become too prominent. Therefore some tile men advise a dark grey joint and others the natural color of a cement joint, which, after repeated oilings becomes almost black and has an old antique look that is quite pleasing.

The concrete under-bed of floors should be made of cement one part, sand three parts, and hard boiler cinders or small stone six parts, set down so the surface of the tile when bedded will finish flush with a surrounding floor. Spread a thin layer one-sixteenth inch thick of neat dry cement on this under surface just before bedding the tile. For wall tile, the thin neat cement can be brushed on as a sort of cream. It must not be allowed to stand. To bed floor tile wet them, set a section and on it lay a board, tapping it down to the right level. The bed is usually one-half inch thick when finished. Bed the tile in cement mortar one to two, or one to two and one-half, and if the joints are to be white or if the tile are enamelled or oiled, a floor may be grouted. An excellent way to clean a newly laid floor is with wet excelsior, waiting until the joints are sufficiently set up not to come out, but not long enough to allow the cement to set into the face of the tile. Over night may be about right, but cold will extend the period considerably.

Another method is to rub the tile with damp sawdust and wads of burlaps, but one must be careful the sawdust does not stick in the joints. After cleaning unglazed tile with the excelsior or sawdust, if cement continues to stick, go over it with muriatic acid and water, one to ten or one to fifteen parts. Obtain a good sharp, coarse grained sawdust and never use chestnut as it stains the floor. The mortar for joints should be not fatter than one part of cement to two parts of sand, else it is likely to chip, and not leaner than one to two and a half parts. Some authorities advise oiling unglazed tile with raw linseed oil before filling the joints and this is best done by wiping them over after they have been bedded. Exercise great care that no oil runs down between the joints, else cement put in later will come out. Other practical tile men advise against oiling tile at this stage on account of the danger from oil run into the joints and also because they claim certain unglazed tile are subject to a white efflorescence which may come up under the oiled surface and can then not be washed off. If black joints are specified and the tile have not been oiled, the joints must be carefully pointed with a narrow pointing trowel or jointer. Prevent the black mortar from touching the face of the tile. Make such mortar with one part of cement, one-sixth to one-eleventh of a part of fine powdered oxide of manganese, and two parts sand. The mortar is usually made up first and the manganese worked in till it is the right color, although it is really easier to mix if the manganese is put into the dry sand and cement and the water added afterward. For that samples must be first made and dried and the proportions noted. Manganese is less dirty than lamp black.

If the tile have not been oiled before pointing, wait a month before oiling, to allow any efflorescence to come to the surface. Then scrub with muriatic acid and water, one to six, and wash this off with three rinsings of clean water, wiping up between rinsings. Wait a day to see if the tile remain clear and then if no efflorescence appears, wash over with clear water and mop up so the surface will be quite dry, but the tile damp below. Immediately put on pure raw linseed oil and turpentine in equal parts and soak for twenty minutes. Take burlap or rags and rub absolutely dry. Repeat the oil application every three months for a year and then once a year. In place of oil, beeswax dissolved in turpentine may be used, or prepared floor wax. Good results have been obtained by using a prepared cement floor filler and then waxing. The last method gives a high gloss.

Another means of applying the later oilings is to dampen sawdust and fill it with raw linseed oil. This can be swept over the floor, some authorities say, at intervals of a month. Unglazed wall tile may be oiled or waxed with a cloth. Waxed tile should be well polished with a brush and woolen cloth, as are waxed oak floors.

ARCHITECTURAL MODELS OF CARDBOARD.

(Continued from page 32)

a replica of the Masonic lodge room at Alexandria in which George Washington presided as master. Full data concerning this room have been preserved and the reproduction will be faithful in every particular. The room will be furnished with old pieces and it will contain original records treasured by the lodge in Alexandria.

The model of the memorial itself is so constructed that the tower portion can be lifted off in three sections. Other models for this portion of the memorial were carefully made and tried out and the design shown in the illustration on the lower part of page 28 finally adopted. This view shows only a part of the grounds represented in the model and the painted landscape background. In the next issue I shall go more deeply into the process of making models of this kind.