

COLOR IN ARCHITECTURE

A MATTER that has not been given the careful attention it needs is color in architecture. Towns and cities that are a patch-work of color are, perhaps, worse than cities that have practically a dead level uniformity of color owing to the prevalence of some local material, but there need not be either a riot of color or a poverty of color. The monotony of a prevailing material can be relieved by a judicious use of other materials that will give the needed color accent.

Color in architecture of course does not necessarily mean spots of brilliant hue, it may mean the general color of the material of the building, pleasing or otherwise. In any case it is a matter that needs more consideration.

In a paper on "Color in Architecture" recently read before the Royal Institute of British Architects. William Harvey presented the subject in a thorough and scholarly manner. Below we quote a few paragraphs of Mr. Harvey's paper from the report in the Journal of the R. I. B. A.:

the Journal of the R. I. B. A.: "In some way or another color is bound up in the appearance of all architectural works, and when not formally invited it is rude enough to intrude its presence unasked. The color of materials available at certain sites controls the finished effect of many works of architecture."

"In both Jerusalem and Tiberias the same type of design is adhered to in the old domestic architecture; but whereas the one city, built of creamy limestone, is full of charming color harmonies in relation to its surroundings, the architectural appearance of the smaller town is rendered dismal by the use of a local stone of sombre bleck-blue hue."

"It is the misfortune of England at the present time that some of the most generally useful and economical bricks happen to possess a hard, unpleasant tint of pink, whilst brick of a really beautiful color can only be obtained at much greater cost. Fashion has something to do with our taste in bricks, and the only thing to steady our judgment is to ask ourselves whether the color value of such and such a building material really goes well with the other things in the picture—the sky and clouds and foliage, if there is any in the neighborhood."

"Old London stock bricks, with their varied tints, including some black and red among the yellow, stand well under the gray skies and soot of London, and it is a pity that they were ever improved into dull informity. If anything, a little more variety would have improved them, and in the hands of architects who had an eye for color they were given dressings of richer tint or banded with diagonals of vitrified headers."

of vitrified headers." "The use of painting on ancient Greek architecture, where an inclement winter must have acted adversely to applied pigment, may have been encouraged by the example of Egypt, where painting had proved successful in a dryer atmosphere."

"Ornamentally-colored terra-cotta seems to have been used at the eaves of some primitive temples. Fragments of architectural painted tilework, supposed to date from the seventh century B. C. were found at the shrine of Artemis Orthia, the goddess of Sparta, in the excavations of 1908, and are described in the Journal of the British School at Athens as 'painted tile; tongue pattern in reddish-brown and a meander in white paint."

Mr. Harvey went on to describe in detail the use of color in the old buildings of Egypt and the Orient, as well as in Great Britain and Western Europe, revealing the rich store of suggestions for the use of color to be found in historic work—a profitable study.

THE SPECIFICATION NUMBER

THE issue of PENCIL POINTS for January, 1923, I will be the special Specification Number. That issue will be packed with material for specification writers contributed by specification writers. The opening article will be by Mr. Ward of the office of Carrere & Hastings. The big feature of the number will be a symposium on "The Practice of Specification Writing," in which specification writers in all parts of the country will describe their methods and give outlines of their specifications. Mr. Holske, in charge of the preparation of specifications in the office of McKim, Mead & White; Mr. Tallman of the office of Warren & Wetmore; Mr. Wessels of B. G. Goodhue's office, and many other able specification writers have already promised to contribute. There will be much other matter on various sides of specification writing in the special number for January, 1923.



Figure 169. Plan of the Villa Pia in the Vatican Gardens, Rome. From Letarouilly's "Vatican."

THE STUDY OF ARCHITECTURAL DESIGN

WITH SPECIAL REFERENCE TO THE PROGRAM OF THE BEAUX-ARTS INSTITUTE OF DESIGN

CLASS B. PLAN PROBLEM. PART X.

Entourage

BY JOHN F. HARBESON

In this series of articles, which began in January, 1921, Mr. Harbeson is explaining the method of working and how to get the greatest benefit in following the program of The Beaux-Arts Institute of Design. It is not intended as a substitute for personal instruction and criticism. The "Analytique" was treated in issues for February to September, 1921, inclusive.—ED.

E HAVE spoken of mosaic as something entirely within the plan. Of course a presented drawing must show the relation between the building, or group of buildings, and the site on which they stand; and if this site is a sloping one, requiring terraces and stairs, or is in a garden or park, the portion of the plan outside the walls of the building is frequently of as much importance and requires as much study as that within. In Figure 169, a plan of the Villa Pia in the Vatican Gardens at Rome, the small court is the heart of

the composition, the rooms in the casino a r e relatively of minor importance.

Even in such a plan as that which won the Grand Prix de Rome in 1913, Figure 170, though the rooms of this "Presidential Mansion in the Capital of a Large Republic" are large, ornate, and in imposing suites, it is easily seen of how much importance is the garden setting. The arrangement of this setting, the disposition of the site in relation to the buildings, is called the "entourage." This term is also used of the setting, the surroundings. of an elevation, of which we shall speak later.

Here again we have the same problem of a composition of fields and bands of grays, blacks, and whites, with accents of spots and points. As in the case of mosaic, *success depends upon getting an "effect.*" The average student leaves all question of entourage until the last days of a problem, frequently until after the drawings have reached the final paper, and then tries to jumble something together to make a presentation and frequently finds that the building he has designed fits very awkwardly on the given site. This is quite unsatisfactory. The entourage, like the mosaic, must be studied from the start, and



Figure 175.



Figure 176.

from the start, and carried along with the st u d y of the building, t h e big masses of the composition merely indicated on e a r l y studies a n d actual drawing left until toward the end. The effect may easily be studied by making rapid studies on tracing paper with charcoal and chalk. The entourage must help to explain the student's solution of the problem; the "big idea" must be

"big idea" must be kept in mind. It is well to re-

member that while your problem calls for plan, section, elevation, of a composition (whether building, arrangement of garden elements or what not) in *three dimensions*, these drawings are presented *in two dimensions*. The y are flat, and to look



Figure 170. "Un Palais de la Présidence dans la Capitale d'une Grande République. M. Roger Séassal, Pupil of M. Héraud, Grand Prize 1912-1913, Ecole des Beaux Arts, Paris.

well, to have a satisfactory' psychological effect on the jury, these drawings, as drawings, must be composed in two dimensions. It is for this reason that the study of entourage is of great importance.

Now the drawing of this entourage puzzles many students. They ask, for instance, the meaning of all the lines in the foreground of the plan shown in Figure 170, and when told that the bands of gray may represent plots of grass, or hedges, or lines of clipped trees, flower-beds, balustrades, that in some cases, in such a plan, almost any of these names might be ap-



Figure 172. The "Grand" and the "Petit" Palace. Paris, Photographed from an Air-plane.

plied to a given band or field, they are still more mystified.

But if we turn now to an air-plane photograph, the matter will be much clearer. Figure 171 is such a view of Versailles, and taken at sufficient height to be almost a plan. Compare this with the plan of Figure 170. We find the same fields and bands of white, black and gray, and the same points

and street, a perceptible gray; note in Figure 172 how the curb is given a shadow on one side of the street (as is frequently done in rendering by a ruling-pen shadow), and also how snap and life are given by the shadows cast by trees, lamp-posts, etc.

The plan of Figure 170 is, of course, a tremendous thing. Many small portions of it, about an inch square, would make a fair-sized Class B plan problem; for instance, the small music pavilion, and





Figure 171. Versailles, Photographed from an Air-plane.

the small garden theatre, and the cascade, all on the horizontal a x i s through the centre of the large garden.

It is because such a plan does have so many Class B plans within it, and also because the study of architecture will ultimately lead to such big compositions, that they may be of use as documents at this time, if one will only keep in mind the true scale of such a plan and its relation to the scale of plan on which one is working. (Con. on p. 40)

trees; between pave-ment, almost white,

Air-plane photo-

graphs have been com-

mon since the war.

Many of the important buildings of our

country and of Eu-

rope have been so

shown in recent news-

papers and magazines.

They are not only

good documents for

the study of plan,

especially of entour-

age, they are also ex-

cellent aids in render-

ing. In the view of

Versailles, and also in

that of the Grand and

Petit Palais at Paris,

Figure 172, note the

difference in value of

the grass and of the



PENCIL

POINTS

A VOCABULARY OF ATELIER FRENCH. PART VII

BY RAYMOND M. HOOD

This is the seventh installment of a vocabulary which Mr. Hood, Architecte Diplomé par le Gouvernement Français and Chairman of the Committee on Architecture of The Beaux-Arts Institute of Design, is preparing especially for this journal. It will be of special value to students in the ateliers in this country as well as to those who may later study at the Ecole des Beaux Arts in Paris, for there has been, we believe, no vocabulary published giving the special meanings of these words as used in the architectural atelier. As it is believed that an attempt to indicate the pronunciation would be fuile, no such attempt is being made here; the pronunciation should be learned from someone who speaks French correctly.-ED.

P—(Continued)

Punaise: n. f.; a bed-bug; also, a thumb-tack. Projet: n. m.; a project, problem, set of drawings.

- Quart: n. m.; a quarter of an object; quart (de *bière*), a small glass of beer, holding a quarter of a litre.
- Quaz' Arts: slang for quatre arts; the four arts, i.e., architecture, sculpture, painting and engraving.

Queue: n. f.; tail; faire la queue, to get in line.

Quinconces: n. m. pl.; a grove of trees regularly planted forming lines, up and down, crossways and diagonally.

- Rabiot: n. m.; slang, extra time as a penalty for time lost, or work not finished.
- Raclée: n. f.; slang, a volley of blows, a pommelling.
- Rafistoler: v.; to repair poorly, or clumsily.
- Rafler: v.; to take away rapidly, to clean out,-as in robbing or in winning at cards.
- Rallonge: n. f.; anything that serves to extend; arch., an extension bar of a compass.
- Rampe: n. f.; a flight of steps.
- Rapin: n. m.; a young student of painting.

Rasant: adj.; fatiguing, annoying.

- Raser: v.; to shave; slang, to bore, to annoy.
- Rater: v.; to miss, to fail, to be unsuccessful. Relevé: n. m.; arch., a restoration.
- Rendu: n. m.; the coloring of a drawing; also, the finished projet; also, the delivery of the projet.
- Repêcher: v.; to fish out of a hole, to bring out of danger.
- Retaper: v.; to retouch, or touch up a drawing or painting.

Rez-de-chaussée: n. m.; ground floor of a building. Ribote: n. f.; slang, excess in eating or drinking. Rigolade: n. f.; a happy time.

- Rigoler: v.; slang, to amuse one's self greatly.
- Rigolo: *adj.; slang,* comical, pleasant.
- Rinceau: n. m.; arch., a running decoration in the form of alternately reversing curved branches. Rond: n. m.; circle, ring; slang, a cent.
- Rosace: n. f.; a rose window, or a circular spot
- of ornament based in form on the growing flower. Rosse: n. f.; an ugly person; adj.; slang, ugly, mean
- Roublard: n. m. and adj.; a clever person, one who knows how to look out for himself.
- Roulant: adj.; rolling; also, comical, funny.
- Rouler: v.; to roll; also, to cheat, to get the best of.
- Roupiller: v.; slang, to sleep.

S

Sabotage *n. m.;* the intentional ruining of a piece of work, usually one's own.

Saboter: v.; to work quickly and badly, to ruin.

- Saillie: n. f.; a projection, something in relief.
- Salade: n. f.; a salad, also, a mixture.
- Salaud: n.; slang, a dirty, indecent person. Saleté: n. f.; filth; also, a vile action, a poor piece of work.
- Saligaud: n.; slang, same as salaud.
- Salon: n. m.; a reception room.
- Saloper: v.; slang, to do a piece of work badly.
- Saloperie: n. f.; slang, work badly or sloppily done.
- Sanguine: n. f.; a red crayon used for free-hand drawing.
- Saoul: adj.; slang, drunk.
- Saouler: v.; slang, to intoxicate.
- Saoulographie: n. f.; slang, a souse-party.
- Sapin: n. m.; a pine tree; slang, a public hack.
- Sauce: n. f.; sauce; also, a black, grease crayon
- used with a stump in making drawings. Seau: n. m.; a pail.
- Service: *n. m.;* service; *arch.,* (in the plural) the part of a building devoted to the services.
- Solive: n. f.; a joist.
- Sommeiler: n. m.; the waiter in a restaurant in charge of the wines.
- Sottise: n. f.; a stupidity.
- Soubassement: n. m.; the basement of a building. Sous-sol: n. m.; cellar.
- Symphyse: n. f.; a fixed articulation.
- Synchse: n. f.; confusion in the order of words.

т

- Tapage: *n. m.;* a racket, a din.
- Taper: v.; to tap, to strike; slang, to borrow from a person.
- Terrain: n. m.; plot of ground.

Tenue: n. f.; appearance.

Tête: n. f.; head; faire la tête, to get huffy, to pout.

Tire-ligne: n. m.; drawing pen.

Tire-rond: n. m.; twirlers.

Torchon: n. m.; a coarse towel.

Se tordre: v.; to be convulsed with laughter.

- Tracer: v.; to trace, to draw.
- Trait: n. m.; a line.

Tréteau: n. m.; a saw-horse.

Treillage: n. m.; a trellis.

Tricher: v.; to trick, to cheat.

- Tripoter: v.; to manipulate; of a drawing, to fuss up.
- Tuyau: n. m.; a pipe; slang, inside information, a tip.

TOPOGRAPHICAL CONTOURS

BY A. F. BRINCKERHOFF

In this article Mr. A. F. Brinckerhoff, of the firm of Vitale, Brinckerhoff and Geiffert, Landscape Architects, explains clearly the meaning of contours as shown on topographical maps, a matter that, though it lies in the field of the landscape architect rather than in that of the architect, enters into the architect's work insofar as the location of the building or buildings and the placing of rooms in relation to the views and to the landscape treatment are governed by the character of the site.

THE architectural draftsman is occasionally confronted with a topographical map and required to make a presentable scheme for the location of a dwelling or other structures, the means of approach to the buildings, and the necessities and requirements that go with the development of a project on virgin or open land.

To one who does not happen to have had experience with maps of the kind this may seem like some new kind of puzzle, and it will be the purpose here to help him in familiarizing himself with the use of contours and what they really mean.

As a starter he might take a day off and armed with a large roll of coarse twine or clothes line and a mason's level go to the open coun-

try where the surface of the area is rolling and fairly clear. Starting at any point on this area, except the highest or the lowest point, he should place his level on the ground in contact with the surface, adjusting it until the bubble hits the mark at the centre; before removing it peg the end of the twine to the ground at one end of the level and pay it out on the ground adjacent to the full length of the level. When this is done he should pick up the level and repeat the operation from the point where he last laid down the twine. By repeating this operation many times he will have exhausted his supply of clothes line, and can then stop to inspect what he has accomplished. He will see a wiggly line which may in itself appear without reason, but if he will stop to observe, he will realize that it is a tangible representation of a contour-contours being imaginary level lines in contact with the surface of the ground throughout. He will realize that if he were to repeat this process at varying levels on the same area that the string or contour must close on itself either within or without the area in which he is operating. If it closes on itself within the area of his operations either a summit or a depression will be represented. He will find that no portion of his clothes line has ever come in contact with an-



Graphic Diagram A.

other portion, except at such point as it may close upon itself. Where the slope of the ground is uniform he will notice that the successive lines of his twine will be at even intervals, providing he has been careful in starting each time at a uniform difference of elevation from the previous application of the line. He will see in crossing a valley that

his line has run toward the head of the valley at one side and turning at the stream or valley line has run b a c k on the other side.

Another tangible indication of a contour is the shore line of a lake or other still body of water, and the demonstration is h e r e accomplished less arduously by noting the various water level lines along the shore of the p on d where the water level has been lowered in successive stages.

Another method for beginners to adopt in starting the study of contours is to make a model to scale by the use of ordinary, every-day paste-board, one sheet being cut to the line of each contour as represented in the topographical survey. Each sheet should be numbered as it is cut to avoid confusion later. The sheets should then be built up successively, pasting each one securely as it is laid. The thickness of each sheet should correspond to the contour intervals. Ordinarily on a survey at a scale of one inch to twenty feet, the thickness of such sheets represents an interval of one foot. After all the sheets are in place and permanently secured the whole surface may be covered with some plastic material such as plastein. When this is smoothed and moulded to the line of the grade an area in miniature is created corresponding in its varied surface to the actual ground area which it represents. It may be made more realistic and complete by the addition of trees, walks, buildings and other physical features, care being taken that they are made true to the scale of the map.

The accompanying diagrams are intended to show in graphic form the characteristics which the experimenting designer may have already discovered for

himself by following the above process. Diagram "A" represents an actual bit of rolling land in perspective with two sides of the area sliced off to demonstrate in graphic form the roll or slope of the land. The contour interval represented in this case is five feet and each five foot interval is shown as a separate layer. Diagram "B" represents the same area laid off

in equal squares, each twenty-five feet or a multiple

thereof, with a section through the AE-00 line. This corresponds to the front edge of diagram "A."

Elaborating somewhat more, we have Diagram "C" indicating a larger area and including the proposed features such as house site, terraces, roadway and modified surfaces. The original or existing levels are represented by dotted contours, the proposed modified surfaces by contours in solid lines. The valley has been dammed, thus creating an artificial pond with a natural or curving shore line. The modifications of the existing topography is further represented by a section adjacent to the plan which represents a slice cut through the extended axis line of the house.

It should become evident that it is possible to calculate the amount of material involved in the proposed grading by running corresponding sections through the area, preferably equal distances apart. To make

such a calculation the areas in the section representing cut and those representing fill are measured. To obtain the average of the filled series of areas multiply the results by the total distance between them. The last section on each end should be averaged off to zero, or theoretically one-half the average distance between the sections. The results represent the cubic feet or yards to be cut and the cubic feet or yards required to accomplish the filled areas. In calculating for actual earth content judgment must be used in so placing the section lines as to cross the contours as nearly at right angles as possible.

Some day the designer may be called upon to establish the lines for a roadway on a hillside at a given or required percentage of slope. When he has reached this stage of his progress he will have learned that a roadway having a rise of one foot in 100 feet is said to have a grade of one per cent. If the rise is ten feet in 100 feet, it has a ten per

cent grade. To obtain, therefore, a ten per cent. roadway on a survey representing a hill side, he would take an ordinary pair of dividers, set them at an interval of ten feet, corresponding to the scale of the survey, and step them along from one contour to the next on the map, marking each point of intersection. By running a line through these points of intersection he would represent the centre line of the proposed roadway. The only grading in.



Diagram B.

volved in constructing a road thus located, would be the removal of sufficient material from the up hill side to cover the necessary and corresponding fill on the down hill side. He will realize, however, that it is rarely possible or desirable to adhere exactly to this theoretical location but as an aid, he will appreciate that the practice is very helpful and results in a location calling for a minimum amount of surface change, and resulting in an effect that will appear much more natural than if the road were established on an excessive fill or in a corresponding cut.

Sooner or later the designer comes to realize that contours may be used both as a mechanical aid in designing for effect only, and as a scientific aid in locating all required features, such as buildings, roads, walks, water courses, etc., and in calculating the amount of material involved in any change incident to their accomplish-

ment. He will, in fact, have become pretty well addicted to their use, and appreciate that designing with contours is not only a very necessary practice to secure the most satisfactory results but is a fascinating and pleasureable occupation. It is convincingly accurate as to the practicability of the grading scheme and offers a comprehensive method of designing expansive areas for effect and for use.

O STRENGTHEN interest in the "Own Your Home" idea a motion picture film will soon be released showing the building and furnishing of a home from the beginning. A beautiful lot in Glen Ellyn, Ill., was chosen as the site and the scenario is said to be strong in human interest. The film will be shown under the auspices of real estate boards, clubs and other organizations. Applications for bookings are now being received by The Atlas Educational Film Co., Oak Park, Ill.

ACROSS THE SEAS.

GREETINGS to Mr. S. H. Buchanan, Sydney, Australia, and to Mr. T. R. Hall of Brisbane. We hope that these two able architects from a far off land have completed their tour of inspection of architecture as she is done in America and that they are carrying back home with them at least some of the information they came here to get.

These visitors blew into the office one night just as we were locking the safe, carrying the message that PENCIL POINTS was going big in Australia. We knew we had quite a lot of subscribers there, but had never met any of them. We thought, after talking with Messrs. Buchanan and Hall, that it was altogether too bad that the architects and draftsmen of this country did not know more about what was going on in Australia and this led us to the further thought that things going on in architects' offices in other parts of the world covered by our subscription list would undoubtedly prove interesting to many of us here in America. Great Britain, India, South Africa, New Zealand, to mention first our English speaking points of contact, have all shown a keen interest in PENCIL POINTS. One venturesome soul, Mr. Fry of Liverpool, even had the temerity last year to enter the Birch Burdette Long Sketch Competition and was awarded one of the prizes. It is our hope that this year many more sketches will come to us from without the borders

of the United States in the sketching competition and we would also like to have our subscribers in various parts of the world let us know something about what they are doing. Occasional letters describing methods of work, office organization and ways of doing things generally will be gladly received, as will also interesting drawings and articles dealing with the drafting room and the problems centering there.

We should like to know something about the architectural clubs and schools and, in fact, we are distinctly curious regarding everything pertaining to the practice of architecture wherever readers of PENCIL POINTS are located. So we extend a cordial invitation to all of you who do not happen to be located within our borders, but who are, we feel, akin to us professionally, to take the same interest in contributing to the editorial columns of PENCIL POINTS as has been shown by members of the profession located in this country. After all, we in America are just as much interested in knowing what goes on in London or Cape Town or Paris or anywhere else as we are in what occurs in Chicago or New York, and we are frankly looking for ideas and suggestions and news items entirely apart from geographical considerations. It is our hope, therefore, that every reader across the seas will take this message as though it were a personal letter addressed to him and constitute himself a committee of one to start something in our direction.



Topographical Contours, Diagram C. See page 16.

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PLAN

PENCIL POINTS

PLATE XXXVII

RESTAURE



RESTAVRATION DV CHATEAV DE L'EAV IVLES



CHÂTEAU D'EAU AQUA GIULIA A ROME relevée et rentauration de Garmand-1864;

FOUNTAIN OF THE AQUA GIULIA, ROME FROM D'ESPOUY'S "FRAGMENTS D'ARCHIT&CTURE ANTIQUE"

The plate reproduced on the other side of this sheet from H. D'Espouy's "Fragments D'Architecture Antique" shows a restoration by Garnaud of one of the most interesting of the fountains that formed the chief architectural features of the great Roman system of water supply.

FLATE XXXVIII



CARTOON BY BARRY FAULKNER FOR A MURAL DECORATION IN THE EASTMAN SCHOOL OF MUSIC, ROCHESTER, N. Y. McKIM, MEAD & WHITE, ARCHITECTS.

The cartoon for a mural painting by Barry Faulkner reproduced on the other side of this sheet is one of a series made for the decorations at the right of the proscenium of the Eastman School of Music. These decorations were described on the back of Plate XXXIV in the September issue. VOL. III, No. 10

PLATE XXXIX



PENCIL SKETCH OF NOTRE DAME, PARIS, BY KENNETH CONANT

The remarkably sensitive and skilfully rendered pencil drawing of a portion of Notre Dame by Kenneth Conant, which is reproduced on the other side of this sheet is one of the finest examples of Mr. Conant's pencil work. It has been reproduced here at almost the same size as the original in order that the quality of the technique might be preserved as far as possible.

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PLATE XL



Courtesy of Kennedy & Co.

FIGURE STUDY BY TROY KINNEY

The figure study by Troy Kinney reproduced on the other side of this sheet at the same size as the original pencil drawing is one of the interesting sketches that this artist makes as preliminary studies for his etchings. They are made in order to fix an impression, and to serve as memoranda more or less complete in detail.

ARCHITECTURAL DETAIL PART XVIII

BY JOHN VREDENBURGH VAN PELT

This is the eighteenth instalment of an article in which Mr. John Vredenburgh Van Pelt, formerly Professor in Charge of the College of Architecture, Cornell University. Architecte Diplomé 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.

L AST month's article on brick courses gave a review of the common smoother textures. We had joints of 3/16 of an inch and saw that they can be reduced below that with repressed brick. A smooth enamel brick with a straight edge and flat bed face might be laid with a joint 1/16 of an inch wide. In such brick work the slightest spawl will show and great care must be exercised to prevent chipping. Furthermore the face of the wal! must be laid in a perfect plane as recessions or protrusions become marked and seem out of place.

Rough-texture brick present a direct contrast to all this. The rougher the brick the more uneven

may be and, within limits, the wider should be the joint. There is a relation between spawls and joints that all architects do not seem to have realized. These indentations along the edge of the brick fill with mortar and if such recurrent spots are equal in size to the joint they no longer remain accompaniments but usurp the principal role. Also the limited size of the brick itself may make a very wide joint Our old ugly. friend the law of contrast comes into play and demands that there shall be no uncertainty as to which dominates, brick or joint. To my way of thinking this point is illustrated in the Russell Sage Hall brick work, Ex-

ample No. 18, on



Detail of Brick Work, Town Hall, Clinton, Mass. Peabody & Stearns, Architects.

page 31, to which we shall refer later on.

On page 28 are six illustrations of rough-texture or tapestry brick. No. 7 is a red brick of varying shades with a $\frac{1}{2}$ inch gray joint, the joint scraped or "rough cut" flush with the face of the brick. It is part of the Auditorium Building of the State Normal College at Albany, N. Y., designed by A. Randolph Ross. Note that this joint looks wider than that of No. 8, which is also $\frac{1}{2}$ inch wide, but raked back a full half inch. Furthermore the contrast of value is that of a light joint between dark brick in No. 7, while in No. 8, the joint, which is gray, is as dark as or darker than the gray brick it separates. These brick are $\frac{21}{4}$ inch by 8 inch by $\frac{33}{4}$ inch. At the

bottom of No. 8. in the brick band, the joints look wider and the brick narrower. The brick of No. 9, the same size as No. 7 and No. 8, are much darker than the gray joint and make it contrast sharply in light, but the joint is slightly raked back and the brick fully defined, so that the joints look only slightly wider than those of No. 8, not as wide as those of No. 7. From the above we may fairly conclude that a flush joint looks wider than one raked back and a white contrasting joint wider than a dark one. This is not fully appreciated by many designers. Indeed brick contrasts are closely involved with many effects of optical



Details of Brick Work. See Text Beginning on Page 27.

illusions. This is one of the reasons why it is of such importance to lay up a sample at the site of the building before allowing the work to proceed.

Example No. 10 on page 28, is from the Brook-lyn Carnegie Library, Glenmore Avenue and Watkins Street, Lord and Hewlett, Architects, the brick, brown-gray, 81/4 inch by 21/4 inch by 4 inch, the white joint being 3/4 of an inch wide tooled flat. In the wall above the alternating bands of headers



30 per cent. red streaked with brown. The brick are 18 inch by 11/2 inch by 6 inch. The joint is 1 inch wide, gray, rough and cut flush. This example, from the Russell Sage Hall, Northfield Seminary, Delano and Aldrich, Architects, is said to be the most extreme combination of thin brick and wide joints in America. No. 16 is a standard size brick laid with alternating bands of five stretcher courses and a soldier course, the only headers be-

per cent. blue and

Detail of Brick Work, Draper House, Hopedale, Mass. Bigelow & Wadsworth, Architects.

and stretchers there are seven courses of stretchers, above this a band formed of three courses, header stretcher and header. Above this the seven stretcher courses and the band last described repeat.

Passing from the standard sizes, No. 11 on page 28 is a Norman brick from the Zeta Psi Club House, 181st Street and Andrews Avenue, New York, Squires and Wynkoop, Architects. These gray brick are long enough to take three headers which alternate with a stretcher in every third course. The raked gray joint is 11/4 inch wide. The middle header is dark and makes a diamond pattern in the wall. It might have been effective to let it project a little. No. 12 is a real Roman size 2 inch by 18 inch by 6 inch, a full range of varying reds. The gray joint, cut flush, is 1 inch wide.

On page 31, No. 18, the example to which we referred a moment ago is a peculiarly thin Roman, rough texture, the color varying from red to the dark blue flashing of that color group. The proportions are 55 per cent. red, 15

Note—In the text of the installment of this article which appeared in the September issue, the brick work of the Knickerbocker Club spoken of as being laid in Flemish bond should have been designated English bond, -J. V. V. P. ing in the stretcher course immediately over the soldiers where the place of every third stretcher is taken by two headers, doubtless for bonding purposes solely. It is from a restaurant on Sheridan Road, Chicago.

No. 17 is the rear wall of the Masonic Temple at Lafayette and Claremont Avenues, Brooklyn, Lord and Hewlett, Architects. The brick are $2\frac{1}{4}$ inch by 8 inch by 4 inch, laid up in an unusual manner, the execution of which involves overcoming a number of difficulties. Groups of two and four brick with a very close joint, at a distance look like enormous single brick contrasting markedly with the small bats of the broad band of headers laid with joints in line. The lack of good lateral bond-



Mantel in The Gainsborough Studio Building, New York City. C. W. Buckham, Architect.

ing is not logical brick work and the wide joint, $1\frac{1}{4}$ inch to $1\frac{1}{2}$ inch, necessary for the contrast has to be built up and the successive layers allowed to set or else wedged as it is laid and filled in as it is pointed. On the other hand I agree that the pattern is effective.

No. 13 on page 30 is the cross motive of the demolished Parkhurst Church of New York, McKim, Mead & White, Architects. The brick is a Norman, fire cracked, (Continued on p. 37)



Details of Brick Work. See Text Beginning on Page 27.



Details of Brick Work. See Text Beginning on Page 27.



Auditorium of The Capitol Theatre, Detroit, Mich. C. Howard Crane, Architect.



Auditorium of Loew's State Theatre, New York City. Thomas W. Lamb, Architect.

MOTION PICTURE THEATRE DATA, PART IV BY EMIL M. MLINAR.

In this serial article Mr. Mlinar, who is the New York associate of C. Howard Crane, Architect, Detroit, Michigan, is going thoroughly into the practical considerations in motion-picture theatre design, presenting the data indispensable in designing and making drawings for such theatres. Mr. Mlinar specializes in theatre work and was formerly of the office of Thomas W. Lamb.—ED.

H AVING considered in previous installments of this article the general requirements for a motion picture theatre and the special requirements to be met in designing the outer lobby, the inner lobby and the mezzanine, we come to the auditorium as next in order. This naturally is one of the most important parts of the building. In

planning the auditorium the owner's requirements as to seating capacity are of so great importance, in order that he may secure a proper return on his investment, that the architect must keep these requirements constantly in mind and is often obliged to sacrifice some of his ideas in order to secure the greatest possible seating capacity. It is, therefore, only just in judging



Lobby of The Capitol Theatre, Detroit, Mich. C. Howard Crane, Architect.

some of the theatre work recently completed to remember that, while these theatres may not represent, in every sense, the best architectural design, they are, nevertheless, regarded as highly successful solutions of the problem, inasmuch as they are good paying properties.

The Tivoli Theatre, Chicago, presents probably the most extreme of late theatre designs. The general arrangement of the auditorium of this theatre can be seen in the illustration. It will be noted that one of the important features is the horseshoe of boxes under the balcony. These boxes, of course, bring the highest prices-therefore, nothing has been left undone that would make them attractive and make their importance felt by the patrons. They have been supplied with draperies and "dressed up" in other ways. The balcony in this theatre may be criticized on the ground that it is very steep, but this was done for the purpose of obtaining a great seating capacity. Of course, the more shallow the stepping in the balcony, the fewer number of rows of seats can be had. I believe that in this instance the steppings are about twenty inches which is usual in a legitimate theatre where there is not a continuous passing of people during the perform-

placed in the front of the balcony, and a passage in the extreme rear of the balcony, make the most satisfactory arrangement, as this allows a sub-division of the people for the lower section of the balcony and the loges. During the time that the house is filled patrons can be made to walk to the rear of the balcony where the passage becomes a standing space, the same as in the auditorium, and this reduces the confusion. The tendency of people in leaving the theatre is to walk down to the lowest passageway and this allows those standing in the rear of the balcony to come forward and be seated.

ance. I believe that a more satisfactory balcony for

a motion picture theatre is the one shown in the

illustration of Loew's State Theatre, New York,

where the steppings are twelve and one-half inches,

of the Tivoli Theatre it is also well to note the loca-

In examining the illustration of the auditorium

as this makes the travel in and out very easy.

In the illustration of Loew's State Theatre it will be noted that two cross aisles are provided, one back of the loges and one seventeen rows back of this cross-over, the reason being that the house is of such enormous depth that a price change was provided for after the second cross aisle. The balcony, therefore, has three prices. This is also the case in the Capitol Theatre, New York. In both theatres, the distance from the curtain line to the rear of the balcony is about one hundred and sixtyfive feet.

The illustration of the Capitol Theatre, Detroit,

passages are continually interfering with the sight of those already seated. I believe, therefore, that a cross aisle located back of the loge boxes, which are ony, and a passage in cony, make the most this allows a sub-dilower section of the made to walk to the made to walk to the passage becomes a the auditorium and

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ous cross aisles in

the balcony.

While they are

good for the purpose of effecting exit in the short-

est possible time

after each per-

formance, there is

also the disad-

vantage that patrons coming up

from the various

shows it to be somewhat on the principle of the Tivoli Theatre with the horseshoe boxes under the balcony but, in this instance, only two cross aisles are used in the balcony proper. Here again the price change exists. In planning the balcony where such great depth occurs, it is essential to bear in mind the proper dividing lines of the seats. As a guide, I would say that a cross aisle nineteen rows back of the cross-over back of the loge seats is considered good practice. This usually allows about ten rows of the lowest priced seats.

The boxes under the balcony of the Capitol Theatre, Detroit, open out on the mezzanine promenade and this promenade connects with the stairs in the rear of the orchestra and also carries through to a stair in the outside lobby, as shown in the small illustration on page 33. A theatre planned in this way is adaptable to any kind of entertainment, inasmuch as the plan permits the division of the patrons in the main lobby and does not necessitate their entering the theatre foyer proper in order to reach the stairs leading to the balcony.

The mistake has often been made of designing a theatre without considering the fact that the house should be adaptable to different kinds of performances. The architects who specialize in this type of building always plan a motion picture theatre in such a way that it can readily be converted into a

theatre for legitimate speaking stage performances.

Although many theatres have been built in the West as far as Los Angeles and San Francisco which show a type of work that is well suited to the requirements in their own sections of the country, I believe that the ideas used in the Eastern theatres represent a more generally satisfactory type. The theatre-going public is daily being educated to an appreciation of good architecture and for that reason more and more money is being spent to obtain satisfactory effects.

It is a rather interesting fact that in every case the balcony of the theatre seems to contain the key to the design of the auditorium and the only explanation I know of for this is the fact that a special effort must be made to make the balcony attractive to the people—to overcome their feeling that the balcony is markedly a second-class part of the house. In the larger, more recent theatres, people are drawn to the balcony by the architectural treatment and in the case of the Capitol Theatre in New York I have observed that some of the patrons occupying orchestra seats make a special trip to the balcony to get a view of this portion of the house.

Some theatre owners believe that it is not necessary to give architectural treatment to the side walls (*Continued on page 39*)



Auditorium of The Tivoli Theatre, Chicago, Ill. C. W. & George L. Rapp, Architects.

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THE AMERICAN ACADEMY IN ROME.

FROM a letter recently received by Mr. C. Grant LaFarge, Secretary of the American Academy in Rome, from Mr. Gorham P. Stevens, Director, we quote the following: "The most important news of the month is Mr. Rocketeller's donation, practically unrestricted, of \$200,000. Although this gift does not increase our income, yet it must be a tremendous relief to all the trustees, for, if invested at five per cent., it continues indefinitely what the Rockefeller Foundation has been giving us for the last nine years for running expenses. "Mr. and Mrs. Charles D. Norton and their three chil-

"Mr. and Mrs. Charles D. Norton and their three chil-dren were in Rome for four days. They went through the studios and dined with us and they also had an inter-view with the Pope—that is, all but Mr. Norton, who was not well enough to go at the last moment. "When Mr. George F. Baker, Sr., visited the Academy, he liked a Greek head which Sculptor Jones has modeled. With Jones' consent I have had a duplicate made and Jones himself is to put on the finishing touches and pre-cent it to Mr. Baker in October in New York

sent it to Mr. Baker in October in New York.

"I am looking after the tombstone for Prof. Tracy Peck, a former director of the School of Classical Studies. He died in Rome last winter. The tombstone is a simple one, modelled after an old Roman one which Professor Peck had much admired. The grave is in the Protestant cemetery where Keats is buried and likewise the heart

of Shelley. "Miss Lily R. Taylor, of the Classical School, is in residence completing the term of her Fellowship. She has just given the first two hundred pages of her book on Etruria to the printer. She is a professor at Vassar and so much interested in the education of women that she is willing to try to collect \$100,000 for building a separate wing for women and endowing it. "The summer school organized at the University of Rome by the Italo-American Society of Pome is in full

Rome by the Italo-American Society of Rome is in full swing and a number of our Fellows are following the courses in Italian literature to their great profit. "A party of landscape architects, traveling under the auspices of one of the chapters of the American Society of Landscape Architects, has visited the Academy. We likewise had the pleasure of showing the Academy to a

Incevise had the pleasure of showing the Academy to a group of seventy university students who were being sent to Italy by the Italo-American Society of New York City. "Miss Leila Mechlin, the editor of the American Maga-zine of Art, (formerly Art and Progress) called. She wants photographs of the men's work sent to her regu-larly for publication in her magazine. She will get them! "Mr. and Mrs. Henry Morganthau have visited the Academy; he was the American Ambassador to Turkey during the work.

during the war. "I am still working on railroad reduced rates for the Fellows. The law will have to be changed, but this does

not seem to be impossible. We have united forces with the Pensionati of the Italian Government, who have been trying to get the reduction for some time.

"Matters are advancing in regard to the closing of the street between the main building and the recently pur-chased lot. Mons. Ubaid has lost his first suit—a suit to prevent the Janiculum Land Company from building two walls across the road—and he will have to pay the cost of the suit. The city of Rome has relinquished all claim to the street—this is a great step in advance. "The butler who stole some Academy silver last fall,

although he has not been caught, was sentenced to three

years and seven months imprisonment. "On Fourth of July evening we had a small celebra-"On Fourth of July evening we had a small celebra-tion for the students, consisting of fire works, ice cream and dancing. On the 29th of the month the celebrated Italian tenor, Gigli, sang for us. He has a very remark-able voice and everyone enjoyed him." From a letter received from Frank P. Fairbanks, Pro-fessor in Charge of The School of Fine Arts, we quote the following: "Eight of the Fine Arts Fellows still re-main in residence while four are travelling. To account

the following: "Eight of the Fine Arts Fellows still re-main in residence while four are travelling. To account for the domestic tendency of the majority it is necessary to realize that because of the lack of visiting students, only one having been in residence the last month, the Fellows find the Academy more attractive. They are able to concentrate more completely, with less interruptions, and most important to them, they find that they can more easily develop their knowledge of each other with a con-sequent deepening of friendships than is convenient when

easily develop their knowledge of each other with a con-sequent deepening of friendships, than is convenient when there is a dominating number of visiting students. "Of the architects in residence, James Kellum Smith is engaged on a careful study and rendering of the deco-rated vaulting by Pinturicchio of Santa Maria del Popolo. Smith's idea is to obtain in his second year's work a first-hand knowledge of at least one excellent example of decorative painting, ornamental sculpture—probably a fountain—and Renaissance architecture. For the latter, he has selected the Farnese Palace, the present French Embassy in Rome. Because he has found a scaffolding to the cornice of the palace already in place, erected by Architect Raffaelli who has charge of the repairs, and because we have succeeded in obtaining the rare privilege to circulate on this structure and take measurements, he feels that his opportunity is an important one. Thomas H. Jones, our senior sculptor, has assisted Smith in his measuring of the Farnese Palace and was much impressed with excellence of carving on the cornice details. He also remarked a decided concave wave in the wall of the front elevation as he looked along the facade. Jones, by the way, has been progressing with his final problem of a fountain with its surmounting female figure, three

basins and enrichments of cherubs and dolphins. "Our senior painter Lascari has taken advantage of Mr. Blashfield's visit to join him in Venice for a few days and travel with him to a number of important centres of mosaic industry and accomplishment. A reference is made to this trip in the very convincing language of Mr. Blashfield in a letter written to us from Venice in which he says: 'I cannot speak too highly of Mr. Lascari as a companion and of his consideration for and care of me. He takes every burden of travel off my hands. We inspected the mosaics in the baptistry of Florence together. Then, Mrs. Lascari remaining in Florence, Lascari and 1 went to Ravenna where we practically visited every mowhere we practically visited every mo-saic, climbed scaffolds by permission, and talked with the restorers and handled the tesserae as they were being placed. Then we went to Pesaro, motored next morning to Urbino and back to Pesaro, slept in Ferrara and arrived here yesterday at about 4:30 at the hotel. Mr. Lascari is an admirable companion. He is setting an unvibile acce with three large accuracy raises of the permisenviable pace with three large canvases going at the same time. Two of these contain arrangements of fine life-

time. Two of these contain arrangements of the life-size figures and the principal canvas contains about ten figures of the same dimensions.' "Griswold is well along with his study of the eleva-tion of the gardens of the Villa Mozzoni-Cicogna, the plan of which he showed in our spring exhibition. "Hafner's restoration of the Basilica of Constantine progresses and Ciampaglia has his decorative painting

well under way.

scene, with mounted figures, dogs and deer. "Amateis, our first year sculptor, has been too long on his job and at Dr. Bastianelli's suggestion, we are urging him to defer his work and avoid a nervous breakdown by recuperating away from Rome and work. "Chillman has just returned from England to France.

He has been much interested to observe the comparative influence of the Renaissance on the best of English work.

He hopes to go to Spain before returning to Italy. "Schwarz is engaged on his copy in the Pitti Palace, Florence, and is to work on his first year figure under the influence of that excellent environment.

"Our composers Sowerby and Hanson have not sent us any comprehensive reports of their activities but they are as far on their itinerary with Professor Lamond as Vienna.

"At the moment of writing Director Stevens and Mrs. Stevens are well on their way to England for their holidays and fortunately just in time to avoid being held up by the nation-wide strike that is in operation on the first day of With a civic regulation that prohibits all pub-August. hic service utilities—trans, taxis, public carriages and even bicycles—from circulating, we are fairly well anchored here at the Academy. The awkwardness of this situation comes home to us in our endeavor to get money to a bank across the town in order to provide for Professor Lamond's urgent need of money to purchase pianos in Vienna for his department."

T-SQUARE ATELIER, PHILADELPHIA.

THE twenty-fifth season of the T-Square Club Ate-Lier, Philadelphia, begins on September 23. At the first meeting Thursday evening, September 21, the pro-gram for the coming season will be discussed. At the

HOTEL PLANNING.

A N ARTICLE that contains much useful information appeared in the issue of "Hotel Management" for September under the title "Planning for Better Light and Air." This article is illustrated with plans and photo-graphic views of a number of hotels. "Hotel Manage-ment" is published at 342 Madison Ave., New York. Twenty-five cents a copy.

This article shows an appreciation on the part of hotel men of the desirability of a clean-cut solution of the architectural problem presented by the hotel as well as a practical arrangement. A number of the hotels illustrated are unusual in plan and all of them are interesting and well worthy of study.

O N THE evening of October 10, a joint meeting of the Illinois Chapter of the A. I. A., The Illinois So-ciety of Architects, and the Chicago Architectural Club will be held in the Assembly Hall of the Leiter Building, 15 East Van Buren St., Chicago. This meeting will mark the opening of an exhibit by the Associated Tile Manu-facturers. The Indiana Chapter, A. I. A., the Central Illinois Chapter, A. I. A., and the Indiana Society of Architects have been invited to hold a meeting in Chi-cago on the same date cago on the same date.

PERSONALS.

G. BULLER COLTHURST, Architect, has withdrawn from the existing partnership of the firm of Nichols, Sheppard & Colthurst, and has opened an office for the practice of architecture at 32 Sandwich Street W., Windsor, Ontario. A. C. FEHLOW, Architect, has removed his office from 7643 Stewart Avenue to 5637 South Justine Street, Chicago, T11.

GEORGE F. ROOT, 3RD, has opened offices for the general practice of architecture at 280 Madison Avenue, New York City.

JOHN SCOTT & Co., Architects, have removed their offices from 2326 to 2316 Dime Bank Building, Detroit, Mich.

KENNETH BELL, Architect, is now located at 2316 Dime Bank Building, Detroit, Mich.

SMITH, HINCHMAN AND GRYLLS, Architects and Engineers. have removed their offices from the Washington Arcade Building to the eighth floor of the Marquette Building, 243 Congress St., Detroit, Mich.

LESLIE A. LIBBY, Architect, formerly of Lancaster & Libby, has removed his office to Falmouth Gardens, Portland, Maine.

The cartoons shown below were made by Mr. Meyer of Meyer & Mathieu, Architects, Brooklyn, N. Y., to use as decorations on the walls of the drafting room. These drawings are about eight inches square and are in ink outline filled in with colored pencil. They are to be framed. The set consists of ten cartoons of which eight are shown here. Caricatures of the members of the firm are seen in the upper corners of this illustration, Mr. Meyer at the left, Mr. Mathieu at the right.





W. K. HARRISON

W. K. HARRISON W. K. HARRISON, winner of The Rotch Travelling Scholarship, was born in Worcester, Mass. He received his preliminary education in the public schools of Worcester and in the high school in that city. He worked two years in the office of Frost & Chamberlain, Architects, Worcester. In 1915 he entered the office of McKim, Mead & White. He served two years as Lieu-tenant in charge of a sub-chaser in the Mediterranean and Adriatic Seas. After the Armistice he served as an American Representative on the Disarmament Commis-sion in Austria. Returning, Mr. Harrison spent another year with McKim, Mead & White. He then went to Paris, and entered the Ecole des Beaux Arts, studying in the Atelier Umbdenstock. Returning to this country, he became connected with the office of Bertram Grosvenor Goodhue, where he is still employed.

Bertram Grosvenor Goodhue, where he is still employed. Mr. Harrison considers that he owes much to Mr. Corbett in whose Atelier he studied during the time he was employed by McKim, Mead & White.

THE program of the Arthur Gillender Lectures at the Metropolitan Museum of Art is as follows: Design —Its Application, by Walter Sargent, of Chicago Uni-versity, November 26; Design in Architecture, by A. D. versity, November 26; Design in Architecture, by A. D. F. Hamlin, of Columbia University, December 3; De-sign in Painting, by Edith R. Abbot, of the Metropolitan Museum of Art, December 10; Design in Objects of Daily Life, Huger Elliott, of the School of Industrial Art, Philadelphia, December 17; Interior Decoration in Italy, by Charles R. Richards, of Cooper Union, December 31; Interior Decoration in France, by William M. Odom, of the New York School of Fine and Applied Art, Jan-uary 7; Interior Decoration in England, by Francis Leny-gon, January 14; Interior Decoration in America, by Fiske Kimball, of the University of Virginia.

 ${f T}^{O}$ FILL vacancies on the Board of Directors of the Illinois Society of Architects the following were recently elected: J. C. Llewellyn, to serve two years as successor to George Beaumont, deceased; Perry W. Swern, for a period of three years to succeed John A. Nyden, resigned; Leon E. Stanhope, to serve for one year to succeed Chas. H. Hammond, resigned.

ARCHITECTURAL DETAIL, PART XVIII.

(Continued from page 29)

white enamel, with a gray tooled joint. Notice the spots punched into the intersections of certain joints to accentuate the pattern.

No comment is needed about Nos. 14 and 15, on page b. These effects are wonderfully beautiful. The half 30.

30. These effects are wonderfully beautiful. The half inch light yellowish gray raked joint with grit in the mortar like that of No. 14 seems to be the most effective. On page 27 is some interesting pattern work, the ele-vation of the Town Hall of Clinton, Mass., Peabody and Stearns, Architects. The brick of the wall body are $2\frac{1}{2}$ inch by 12 inch by 4 inch, brownish gray, all the brick being of the gray group. The joint is gray, $\frac{5}{8}$ of an inch wide, tooled smooth. The basket pattern is that used in the Colombier at Boos, France. Notice the differences of projection of the bands around the windows and of the panels under the windows.

the panels under the windows. The mantel shown on page 29, is from the Gainsbor-ough Studio Building, 222 West 59th Street, New York, C. W. Buckham, Architect. The basket bond of the Colombier at Boos, appears again with excellent effect. The joint is white and 1 inch wide, rough cut, and the brick tiles are 6 inch by 6 inch, the brick themselves being really tiles 2 inch thick. The colors are red, brown, copper and blue. The faience picture tile makes an attrac-tive point of interest and in its special characteristics appears to have been selected with excellent judgment.

The deductions we have just made apply to all of the rougher types of brick, heavy rain-washed, rug mixture, tapestry and their kindred, as much as do those of the installment of this article in an earlier number about color harmonies. An interesting brick of this class with characteristics that differ somewhat from those of the more generally known makes is shown on the upper part of page 29. The detail is from the Draper House at Hope-dale, Mass., Bigelow and Wadsworth, Architects. Close scrutiny of the reproduction will disclose a marked dif-ference between individual brick, entirely unmechanical and without repetition. This is obtained by mixing ground brick-bats and clinkers known as grog into the clay which drops from the pug mill into the brick maclay, which drops from the pug mill into the brick ma-chine and out through a special die. The clay bar comes out endwise on what will become the flat side of the brick and passes between two vertical wires, taut and tuned so that they vibrate at different pitches under the impact of the grog and thus cause the varying textures that make one of the chief beauties of the finished prodthat make one of the chief beauties of the finished prod-uct. The clay bar continues on to the cutter and then the brick are run onto the off-bearing belt where an edger turns them up on edge. This last operation through the weight of the brick, presses the under face slightly and by laying the finished bricks partly with the rough and partly with the smoother face out, the texture contrast in the wall is increased. These brick are stacked for burn-ing without series of the brick are stacked for burning without special care, which brings about some dis-tortion in their shape and breaks along the edges. By a special process the brick in the hotter parts of the kiln, under a temperature as high as 2600 degrees Fahrenheit are flashed with a perfectly mat or unglazed surface. The total range of color is broad and harmonious.

In the detail shown these brick have been laid up with In the detail shown these brick have been laid up with a pressed-in joint and the patterns between the timber work are varied and interesting. Personally I should prefer a slightly raked joint giving more crispness. In passing, it is worth while to notice the adzing of the timbers, rough enough to be in keeping with the brick texture yet not forced or theatrical. With this we are going to leave the interesting domain of texture and turn to that of moulded and sculptured ornament. Although a good deal has been said on that subject in the last fifty years, there are still some points that may be accentuated and some new drawings that will doubtless interest the readers of PENCIL POINTS.

HE Iowa Chapter of the American Institute of Architects will hold its annual convention in Chicago on October 23 and 24. October 24 is the date of the regu-lar meeting of the Illinois Society of Architects.

THE SPECIFICATION DESK

A Department for Specification Writers

MISCELLANEOUS ITEMS OF CONSTRUCTION

PART VII.

By Otto Gaertner.

In this series of notes Mr. Gaertner of the staff of McKim, Mead & White, Architects, will treat of a number of the minor matters of construction that are troublesome unless the architect happens to have met a similar problem previously—matters of a more or less special nature.—ED.

Squash Court Construction (Continued)—All the necessary condensation gutters and outlets should be provided, and the steel core bars should be painted with black asphaltum before being covered with galvanized iron or copper. The skylight should be protected by heavy wire mesh screens below, unless it has wired glass and is so high above the playing height that the balls will not reach it. The local laws and ordinances may require that it be protected by such a screen above also. There should be a ridge or other type of ventilator on the ridge of the skylight if no ventilating sashes are provided. If there is to be no skylight, or other ventilation, a large ventilator of an approved type should be placed in the ceiling, so located that a good circulation of air is assured, its location being dictated by the source of the fresh air supply, which as already mentioned is generally in the tell-tale. Some scheme of controlling dampers or other regulators should be installed to control the ridge and roof vents, and they should be wired to prevent birds from entering. A fine wire mesh, accessible for cleaning, may be needed to guard against snow if they are in an exposed position. A room should be provided adjoining the rear wall of the court, with steps leading to a portion of the upper

part of the room which forms a spectators' gallery. the court is provided with such a gallery, a sill is placed on the rear wall at a height of nine to ten and one-half feet above the floor of the squash tennis court and at a height of eight feet above the floor of the squash racquet height of eight feet above the floor of the squash racquet court. In the former the sill is made to match the wood-work of the court, while in the latter a plate of dressed spruce about three inches thick and about eight inches wide can be used to form a sill and nosing. The depth and height of the gallery, the seating, etc., must be arranged to suit the height of the room and all the other condi-tions involved in each particular case. Care must be taken and all of the particular case. to allow for the necessary headroom at the door to the court, otherwise the gallery floor may be made as low as possible consistent with the level of the sill as determined by the heights given above. In the racquet court, the gallery sill is very close to the gallery floor so that a railing with a top rail, intermediate rail, and standards must be placed upon it. This railing is made of galvanized steel pipe having an inside diameter of one and onehalf inches, together with all the necessary galvanized flanges, beadless fittings, sockets, etc., rigidly set in place. The railing is three feet high including the top rail, and the standards are placed not over three feet apart. To protect the spectators from the balls, a stout woven rope guard is placed in the space between the floor, ceiling, and the side walls, suitably framed and fastened on all sides. Sash cord woven and knotted in such a way that the cord can not slide and let the balls pass through the openings, is sometimes used, the mesh being not over one and one-half inches.

Heating need not be provided in the court, but the adjoining spaces may be heated so that the chill can readily be removed from the court by leaving the door open for a short time. The same applies to the spectators' gallery. If desired, some method of indirect heating and ventilating may be installed, but a warm court is not desirable.

If denicely some method is a warm court is not desirable. If there are several courts adjoining each other, the upper parts of the dividing walls above the wall heights already given, namely, sixteen, twelve, and eight feet respectively for the play wall, side walls, and rear wall of the cement lined racquet court, and fourteen, twelve, and nine to ten and one-half feet respectively for the same walls of the wood lined tennis court, may be of heavy wire mesh. This also applies to walls other than dividing walls of the courts if there is a passage or other suitable space on the other side. Enough of the wall surface, however, should be carried up to the ceiling to give the walls and other parts of the structure the necessary rigidity, or steel channel and tee-iron framing should be used, assuming that roof supports are already provided. Such screens will increase the circulation of the air, diminish the echoes, and help to give the court a feeling of spaciousness. It is well to erect this wire mesh in units of from four to six feet in width. The wire of the mesh should be galvanized number 10 United States standard gauge, woven into square or diagonal mesh, three-quarters of an inch or one inch spacing, set into frames of one inch galvanized steel channels and clinched. The frames are then set into the openings provided for them, or they are fastened to the channel and tee-iron construction.

the channel and tee-iron construction. If any of the court walls are outside walls they may be provided with windows outside of wire screens placed as mentioned above. In this case, the screens are absolutely necessary to guard the windows from being broken and since the thickness of the wall does not permit the windows to open inward on account of the screens, they must be made stationary or preferably either double hung or to open outward in which case they must be operated from the playing walls even if their heights to the ceilings permit, as the glare into the players' eyes may at times be too intense.

The finished surfaces of the courts are treated as best suits the materials of which they are constructed. The wood lined courts are sometimes finished natural but generally they are stained a light suitable color, after which, they are given three coats of the best white shellac, the first two being lightly sandpapered and rubbed smooth whereas the final coat is especially rubbed with fine steel wool or other suitable rubbing material. Some people prefer to use a hard varnish for the finishing coats, in which case one coat of the shellac and two coats of varnish are applied.

The cement courts are usually given an enamel finish. For this, two coats of white lead and zinc paint and three coats of a good brand of enamel are applied, each coat being allowed to dry thoroughly before it is lightly sanded and rubbed to an even smooth surface ready to receive the succeeding coat. The final coat is given a flat finish by rubbing it with finely powdered pumice stone and oil. The cement floors are treated the same as are the cement walls but sometimes for economy they are painted with two or three coats of prepared cement paint. It is well to delay the painting of the cement walls and floors for six months or a year after the completion of the court. This gives them time to dry out thoroughly and allows time for any imperfections due to settlement or shrinkage to appear so that they may be repaired before the court is finished, thereby not necessitating a second finishing a short time after the first.

The play lines of the wood courts, if not made by an inlay of differently colored wood from that of the walls as already suggested, must be stained or painted on before the finishing coats are applied. In the cement courts they are painted on with enamel. The play lines are usually one and three quarters of an inch wide and are generally placed twelve feet above the finished floor on the side walls and six feet above the finished floor on the two end walls. The tell-tale is generally painted with one or two coats of red lead and oil paint and then finished with two coats of colored white lead and oil paint or with enamel as specified above for the cement paint or with enamel as specified above for the centre walls. The colors of the ceilings, window frames and sashes, wire screens, skylights, et caetera, may be any that are suitable, but those of the walls, floors, tell-tale and play lines should have special consideration and it is well to consult with the owner before the final selection is made. In the wood finished courts, the floors and walls are often the natural color of the wood and often they are a light brown or mahogany color. In the cement courts the floors are often a light gray and while the walls are often white a light cream color that is almost white but is not so glaring, is preferable. The color for the tell-tale, though sometimes black, is generally light green. The play lines are also generally light green. But, in any event, all colors should be such as will con-trast with the colors of the balls. Individual players trast with the colors of the balls. Individual players sometimes prefer some colors to others for this reason.

The door leading into the court is colored and finished on the court side to match the walls. The materials and finishing of the ceilings, window frames and sashes, skylights and wire screens may be such as are generally specified in good work.

There are innumerable methods for finishing the courts above the playing heights and any number of designs using face brick, tile, stucco, et caetera, can be worked out to suit the owner's fancy. Usually, however, the utilitarian and not the aesthetic aspect dominates the situation and the courts are finished in the plainest and most substantial method which is generally also the most economical.

MOTION PICTURE THEATRE DATA, PART IV. (Continued from page 34)

as they say these walls cannot be seen, but I know of no house of any size or importance where the lighting effects fail to disclose even the minutest details. It will be noted in the illustration of the Capitol Thea-

tre, Detroit, that instead of an architectural colonnade, the side walls have been treated with silk panels and that the stage box portion and the sounding board have been the stage box portion and the sounding board have been carried out to a greater distance than in any of the other theatres. This was done for the purpose of bringing the front of the theatre to the people in the balcony as much as possible, in this way avoiding the necessity for any additional treatment. It will be noted that the ceiling pat-tern is carried right in with the sounding board, whereas in the Capitol Theatre, New York, the dome and the colonnade were particularly designed for the balcony. Side aisles along the walls of the balcony should be avoided and, where the plan permits, the best arrange-ment is to have five seats along the walls then the aigle

ment is to have five seats along the walls, then the aisle and the banks of seats of thirteen and fourteen as per-mitted by the building ordinances. This will also permit the vomitory passages to come along the side walls which is a more desirable arrangement as the tendency of the people is to sit in the centre of the balcony and, if a vomitory passage is placed in the centre or directly off the centre, the people occupying seats are annoyed by the the centre, the people occupying sears are annoyed by the continual passing of patrons through their line of sight during the performance. If the vomitory passages are placed at the sides, only those seated along the side walls will have their view of the screen obstructed by people passing and even this annoyance can be minimized by proper handling of the people. It is, of course, not with-in the province of the architect to dictate the distribution and the handling of the people in order to reset the sea and the handling of the people in order to meet the requirements of the plan, but I have noticed that in theathe patrons are permitted to enter the balcony from the first cross aisle, these seats are made undesirable, but if the people entering the balcony were handled from the second cross aisle and forced to walk down to the higher priced section or walk up to the lower priced section, this annoyance would be largely overcome. It is, therefore, not necessary to give any great weight to this permanent defect.

As a rule, it is very hard to seat people in the orchestra floor along the side walls as these are considered the worst seats in the theatre, but several theatres, such as the Capitol Theatre, New York, have overcome this difficulty by placing boxes along the side walls adjoining the aisle, and furnishing them with very large, comfort-able chairs handsomely upholstered. By making this change these seats have come to be considered by many patrons the most desirable in the house. This is a very extingence of a difficult problem and should be satisfactory solution of a difficult problem and should be employed in any house over one hundred feet wide.

HE co-operation of Harvard University, The Massa-chusetts Institute of Technology, and the Atelier of the Boston Architectural Club in furthering professional education among the men employed in the offices of Boston architects, together with the interest shown by the architects in this movement sets an excellent example.

PUBLICATIONS OF INTEREST TO THE SPECIFI-CATION WRITER.

Any publication mentioned under this heading will be sent free, unless otherwise noted, whon request, to readers of PENCIL POINTS by the firm issuing the publication. of PENCIL POINTS by the nrm issuing the proceeding for any of these items please mention PENCIL POINTS.

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Southern Pinc—What it is, what it is used for. Hand-somely illustrated Brochure discussing the pines of the south, their properties and uses. 32 pp. Southern Pine Association, New Orleans, La.

Association, New Orleans, La.
Corrugated Wire Glass—Illustrated technical bulletin No. 8 covering the application of wire glass in various types of construction. 20 full page drawings of details with specification data. 8½ x 11. 44 pp. Pennsylvania Wire Glass Co., Pennsylvania Bldg., Philadelphia, Pa.
Corcoran Tanks—Illustrated catalog of tanks for all uses, towers, windmills and accessories. Tables of di-mensions, capacities, etc. with typical installations. 24 pp. 7½ x 11. A. J. Corcoran, Inc., 756 Jersey Ave., Jersey City, N. J. pp. 7½ x 1 City, N. J.

Modern School Lighting—Technical treatise on the sub-ject. Tables, reflection factor of colored surfaces and other engineering data useful to the architect. $6 \ge 9$, 36 pp. Holophane Glass Co., 342 Madison Ave., New York.

Lunken Window Portfolio—A portfolio designed espe-cially for the architect, draftsman and specification writer. Data with typical installation details of both light and heavy construction including full size blue prints. Special treatise on windows for hospitals. 8½ x 11. The Lunken Window Co., Architectural Dept., Cincinnati, Ohio.

Cincinnati, Ohio. Ash Removal—Booklet No. 190 showing results of tests of equipment for removing large quantities of ashes and handling other loads between floors. 6 x 9. Gillis & Geoghegan, 548 West Broadway, New York. Chains—Catalog No. 11 covering sash and other chain used in building construction, together with padlocks and a variety of other specialties. Smith & Egge Mfg. Co., Bridgeport, Conn. Hand Power Elevators and Dumb Waiters—Catalog O. Complete line of hand operated equipment for ver-tical conveying. Dumbwaiters, elevators, invalid lifts, automobile elevators, sidewalk lifts, etc. Data for speci-fleations. 52 pp. 4½ x 8. Sedgwick Machine Works, 158 West 15th Street, New York. French Drawing Fapers—Price list with descriptions

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In this department PENCIL POINTS will endeavor to answer questions of general interest pertaining to Architec-ture and allied arts, giving the best available information from authoritative sources. We desire that you feel free at all times to make use of this service, inviting your co-operation in making the department both interest-ing and valuable. Should you desire an answer by mail, enclose stamp for reply. Address queries to The Editor, PENCIL POINTS, Metropolitan Tower, New York City.

Question-I wish to buy a copy of "Geymuller." Have you any information that will assist me in obtaining this book? R. B. *Answer*—It seems to be quite impossible to secure a copy of "Geymuller," we understand that as much as \$1,000 was offered for a copy this summer without result.

Question-Will you please recommend some good books on Gothic architecture: H. H. Answer—We would sug-gest the following: "English Church Architecture," on Gothic architecture: H. H. Answer—We would sug-gest the following: "English Church Architecture," Francis Bond-Milford, Publishers; "Mediaeval Figure Scu'pture in England," Prior & Gardner, published by Cambridge University Press; "Study Book of Mediaeval Art"; "Monuments Historique"; "Les Cathedrals de France," Baudot-Henri Laures & Dabot, publishers; "Farm Houses, Manor Houses of France," R. A. Cram; "Gothic Architecture," Sir T. G. Jackson, published by Cambridge University Press; "Mediaeval Architecture," Kingsley Porter, published by Baker & Taylor Co.; "Spain," Cal-vert published by Lohn Lane vert, published by John Lane.

Question-Please let me have the names of some books useful to a commercial artist. M. S. M. Answer-We would suggest that you examine "What Every Advertis-ing Artist Should Know," and "Art in Advertising."

COMPETITION FOR THE DESIGN OF A SMALL HOSPITAL

A COMPETITION for the design of a small hospital is announced by The Modern Hospital Publishing Co., Inc. The first prize is \$500, second prize \$300, third Co., Inc. Co., Inc. The first prize is 5000, second prize 5000, thit prize \$200. There will be two honorable mentions. Rich-ard E. Schmidt of Schmidt, Garden & Martin is the architectural advisor. The final date for submitting de-signs is January 15, 1923. Requests for full particulars and program should be addressed to The Modern Hos-pital Publishing Co., Inc., 22 East Ontario St., Chicago, Ill.

ST. LOUIS ARCHITECTURAL CLUB.

THE St. Louis Architectural Club has offered a prize of one hundred fifty dollars to be awarded for the most meritorious work done in the Summer Sketch Class. most meritorious work done in the Summer Sketch Class. The judgment is to be made on the basis of quality of work, versatility of treatment and degree of progress made during the course. The prize is to be used toward de-fraying the expenses of a two weeks' sketching trip to some architecturally interesting locality. The members of the jury of award are: Prof. Paul Valenti, Instructor of the Sketch Class; Prof. Gabriel Ferrand; Mr. Lugo K. Graf. Evening courses in architecture will be conducted jointly Evening courses in architecture will be conducted jointly

by Washington University and the St. Louis Architec-tural Club, beginning October 5 at the Club House. A life class will be held at the Club every Monday evening.

The Opening Reception and Exhibition of the Club is set for Thursday evening, September 21. Architectural drawings by St. Louis architects and sketches by students the Sketch Club Class will be on exhibition.

The Club quarters have been re-decorated during the summer.

THE STUDY OF ARCHITECTURAL DESIGN. (Continued from page 13)

In Figure 100 (Oct. 1921) we see in the plan for a State Historical Society a successful handling of the question of entourage for a small building; Figure 113 (Dec. 1921) is also a simple and direct treatment, though quite formal in its lines.

Even where a building occupies most of the lot, the arrangement of what is left should be carefully studied. Figure 173 is such a plan—there is only a small strip of ground left at the sides: in this case, this is well handled. The treatment in Figure 102 (Oct. 1921) of the plan of the small art museum is also happy: it is in such a case, where the building takes up almost all the lot, leaving unsymmetrical spaces here and there, that one realizes the value of giving a thought to the entourage early in the study of a problem.

But the entourage is not necessarily formal; Figure 97 (Oct. 1921) shows a particularly satisfactory arrange-ment of formal lines, but very simple in detail, befitting the subject of the program. An extreme example of simplicity of entourage is shown in Figure 174 where in the plan for a small dairy farm the rectangular cow yard ties the buildings together, and a road parallels the long axis of the group. This extremely simple plan guite axis of the group. This extremely simple plan, quite appropriate to the program, would seem ugly if poorly presented, even granted it would look well built. The texture given to the grass just above and at the sides of the buildings is of more use than one would at first suppose. Figure 116 (Dec. 1921) is another sort of simplicity-a utilitarian variety.

Simplicity depends after all on the character and scale of the problem. From this point of view, in a plan, a hedge or a stone wall may be represented by one line, or by two lines, or three, or four lines or more, depending on the effect necessary. Any possible stone wall, or hedge. Any of these could represent a hedge. The important thing is to express scale and get an effect.

There is also the question of entourage in elevation. This being more pictorial, less conventionalized, is more generally understood. One should not forget, however that the elevation itself is a conventional drawing and that the arrangement of setting should not be too naturalistic, for that reason, except for small structures, or garden buildings, as in the "spring house" of Figure 99 (Oct. 1921), and then *only if well done*. A real study has to be made of the setting of trees and foregrounds. It cannot be done at the last moment, and it should not be "too clever." If a drawing has such an appearance, the involuntary reaction of a jury is immediately to hunt for flaws, and if they are found, the penalty is the more severe because time has been spent on "cleverness" that was needed in further study of the architecture. One hint may be of value. If the lines of a building

are stiff, and the program is not one requiring formality in character, it is sometimes well to break these lines, in presentation, by means of some planting, as in Figures 175 and 176 or by a shadow on the foreground, shown fore shortened.