PENCIL POINTS

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ART AND SCIENCE

A CLEAR and helpful statement of the parts art and science play in the designing of a building was made recently by Professor Edouard Arnaud before the Franco-British Association of Architects. This subject is so important and Professor Arnaud's statement of the interrelation of art and science embodies so well the principles we are endeavoring to follow in the selection of the material we are presenting to the readers of PENCIL POINTS, that we feel that we may well devote this space to the quotation of the following extracts from Professor Arnaud's "Report on the Teaching of Construction, at the Ecole National et Superieure des Beaux Arts," as reported in a recent issue of the *Journal of The Royal Institute of British Architects:*

"Having thoroughly studied the program, having mastered it, having examined not only the material conditions to which it is necessary to conform (the work must be adapted to its practical object), but also the theoretical conditions (the work must bear the character which is most perfectly appropriate); having classified the dominant, the secondary, and the accessory elements of the program, the student, having thus grasped the true conception of the subject, finally takes up his pencil or charcoal.

"By means of a number of sketches, mostly free-hand work, which enable him more rapidly to embody his thoughts by making instinctive use of the interrelations between mind and senses, he endeavors to give form to his thoughts by appropriately suggestive lines, which he combines and proportions in conformity with the nature of the program, and refines by successive tracings, striving to preserve in the entire work not only the character which he has conceived, but also a spirit of lucidity and unity.

"He proceeds from the vague to the definite, from the general to the particular, from mass to detail, each point to be solved at the proper time, each element of the programme placed with the emphasis and character suitable.

"If his solution of the program is true, and if the expression of it which he has found is correct and individual, he would obtain what we call a successful 'parti.'

"This is, briefly, the work of composition as taught and practised in the ateliers of the school.

* * *

"A knowledge of science, no less than of art, is a necessity for the architect. If he knows little or nothing about it, his scope of expression must be considerably restricted. * * *

"Every architect, therefore, must be an artist and a scientist.

"But since his work must be capable of actual construction, his scientific knowledge must be applied even during the period of composition, although this belongs to the domain of pure art.

"But in what manner must his scientific knowledge be applied?

"It is essential to define it here, because many schools are still in error, and can never produce students capable of achieving success.

"During the period of composition the scientist must remain in the background, and yet always within the reach of the artist, to remind him of material possibilities. The scientist must not at every moment wish to control what proceeds from the artist's brain: by so doing he would quickly clip the wings of inspiration. Above all, he must not take the lead: that would be disastrous. The mind of an artist must move in the realm of construction; but in order to create, he must jealously preserve his liberty in combining units, placing them in proportion to their value, and seeking the most characteristic expression of the idea, without every moment looking to see whether what he is doing will or will not have to be modified by calculation. The scientist must for the moment only supply the instinctive selection of those forms which are capable of realization with the materials available, and this until the solution of the problem is found. Only then will the scientist resume control with all mathematical checks. And if he has rightly exercised his rôle of informing the artist, without disturbing him, during the creative phase, the final result will not be modified by such control.

"This solution, checked and drawn in detail, must, with a view to execution, be completed by means of specifications, priced quantities, estimates of cost, and tenders. Afterwards comes the realization: execution of works, checking and settlement of accounts, etc., all these things being within the realm of experience and professional practice."

Composite Photographs Showing Proposed Henry Stambaugh Memorial Auditorium, Youngstown, Ohio. Helmle & Corbett, Architects.

ARCHITECTURAL MODELS OF CARDBOARD PART I

BY HARVEY W. CORBETT

This is the first installment of an article in which Mr. Harvey W. Corbett of the firm of Helmle & Corbett, Architects, New York, will tell exactly how he makes cardboard models of buildings; how he uses them for study in the process of designing and as a means of presentation. Mr. Corbett will go into the most minute details of the making of these models and will illustrate his descriptions with photographs showing the tools used and the various operations. There will also be numerous interesting photographs of models and of details of models. The making of landscape features, trees, hedges, lawns and other parts of the entourage will be described, also such incidentals as automobiles and figures.—ED.

THE value of an accurate model as an aid to study while designing a building is, I believe, beyond question. Such a model, enabling the architect to see his design as it will work out in three dimensions, supplies the deficiencies of his imagination. I, for one, cannot visualize a design as clearly as my eyes can see it in a well-made model. Furthermore, I believe that many other men are in the same class as myself, for if the architects of some of the important buildings I have seen could have clearly imagined in advance of construction just what their buildings would look like, I am sure they would not have built them quite as they did.

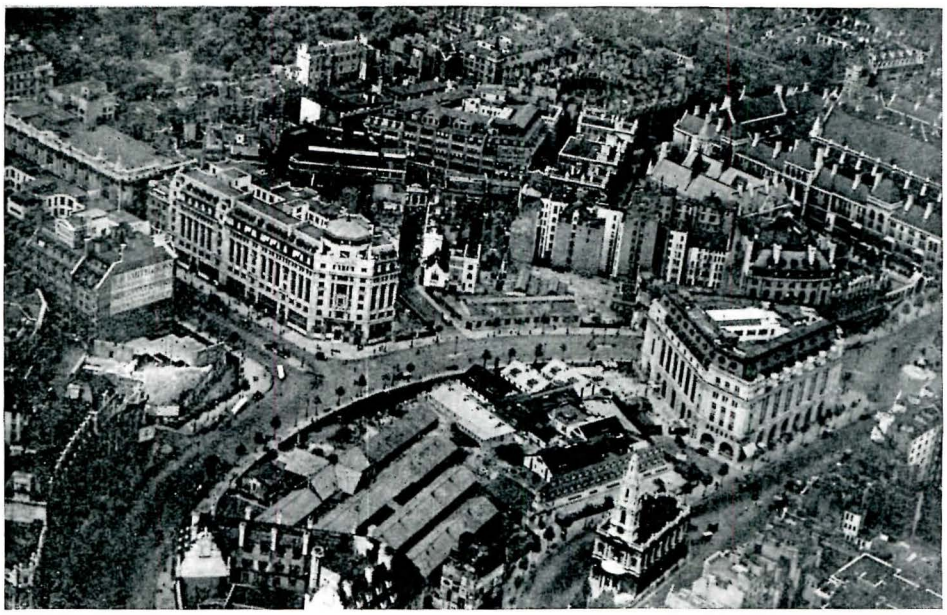
That the architects of the Renaissance considered models of great importance in studying and in presenting their designs we know, for we have remaining models of that period—marvels of skill and patience. While the architectural models of the Renaissance were, at least very often, of wood; we have today a much less costly and entirely satisfactory material for model making—cardboard.

When I first began making cardboard models, I made them at comparatively large scale. After a time I discovered that the purpose could be served equally well by models of smaller scale with most of the detail simply rendered in place of constructing much of it, as was necessary when working at the larger scale. Pilasters, for instance, that had to be made from a thickness of cardboard applied to the body of the large-scale model, could, I found, be represented satisfactorily by rendering, if the scale of the model was small. Such features as free-standing columns and some details that have a very considerable projection must, of course, be constructed, even on the small-scale models. The saving in time and labor effected by adopting a small scale is, nevertheless, very great. Of this I shall say more later.

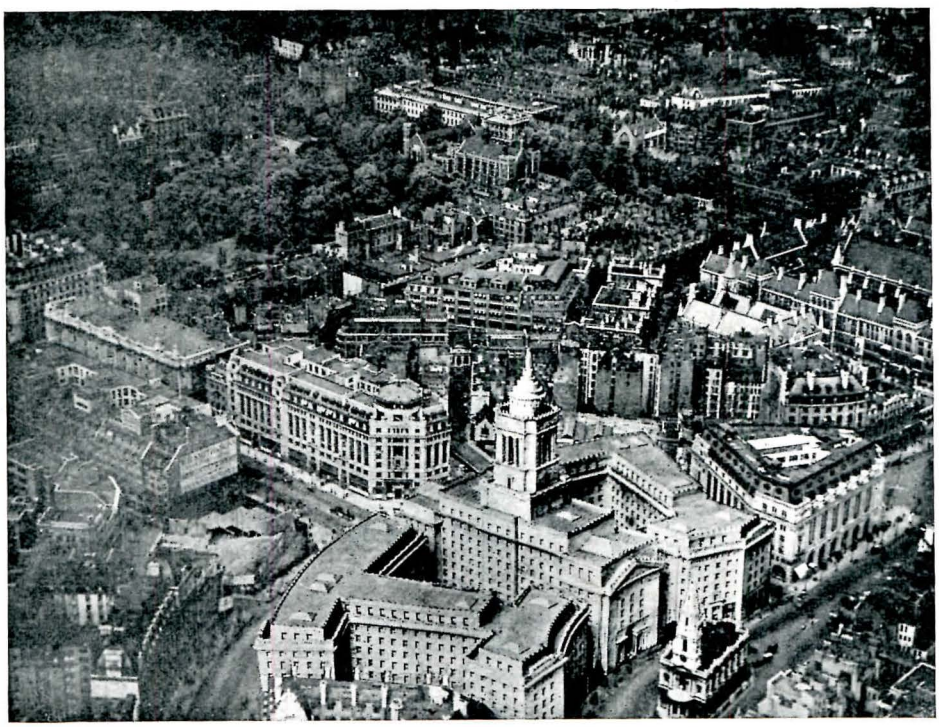
Composite Photograph Showing Model of Bush Sales Building, New York City, and Neighboring Buildings. Helmle & Corbett, Architects

Besides providing a most desirable means of studying the design of a building, cardboard models make a strikingly effective means of presentation. This is especially true when they are employed in the making of composite photographs in which a photograph of the model of a proposed building is combined with a photograph of the site and its surroundings. Several photographs of this kind are shown here. In the case of the view in the upper part of page 10, a photographer was instructed to take a view down the street towards the site, placing his camera as far from the site as possible, in this case about 200 feet. With the resulting photograph in hand, the next step was, of course, to make a photograph of the model, placing the camera at a distance equivalent, in the scale of the model, to that between the site and the camera when the view was taken. Right here an unforeseen difficulty was encountered, for at the scale of the model the camera lens must be placed only a few inches from the model, and a lens will not work properly at such close range. A way out was found by discarding the lens and using in its place a "pin hole," a perforation of extremely small diameter made with the greatest care in a metal plate. This gave a photograph of the model which was cut out and pasted upon the photograph of the site, and the whole photographed again, producing the picture shown here.

In the views on pages 12 and 13, showing the site of Bush House, London, and the building as it will appear when completed, are seen further examples of the making of composite photographs with the aid of a cardboard model. In these cases it was necessary to first determine with considerable accuracy the point over which the airplane was when the photograph of the site was made, also the height at which the plane was flying. I found that lack of accuracy in this matter caused most unsatisfactory results—the lines of the building simply would not fall in with those of the surrounding buildings. I was



Airplane Photograph of Site of Proposed Bush House, London, England. Looking Towards the Northeast.



Composite Photograph Showing Photograph of a Model of the Proposed Bush House, Combined with the View Shown Above. Helmle & Corbett, Architects.

Airplane Photograph of Site of the Proposed Bush House, London, England. Looking Towards the Thames.

Composite Photograph Made by Combining a Photograph of a Model of Bush House with the View Shown at the Top of This Page. Helmle & Corbett, Architects.

obliged to consult the carefully drawn official maps of London and with their aid, to compute carefully the position of the airplane. The camera was then placed at such a horizontal distance from the model and at such a height above it, that the lens occupied the same position in relation to the model that the airplane had occupied when the view was made. In these cases there was no difficulty with the lens, for the distance was sufficient for its proper working.

On page 11 is a composite photograph of the Bush Sales Building on Forty-second Street, New York City. This photograph was made in the same general way as the others already described here. The fidelity with which this method shows in advance what the appearance of the building will be when completed, can be seen by comparing this photograph with the building.

In following issues I shall endeavor to describe briefly but in sufficient detail to enable anyone who wishes to do so to construct cardboard models of buildings by the methods I have found practical in my own work.

OFFICE FORCE OF GUILBERT & BETELLE HOLD GET-TOGETHER PARTY

A GET-TOGETHER party which was so great a success that it will undoubtedly be followed by other occasions of a similar nature, was held on the evening of February 18 by the office force of Guilbert & Betelle, Architects, Newark, N. J. The purpose was to foster a spirit of co-operation and good fellowship between the members of the firm and the members of the office force, also among the men themselves.

At twelve o'clock noon all hands turned to and cleared one of the large drafting rooms of drafting tables, horses and the instruments of torture. The various committees attended by the *nouveaus* bearing crêpe paper, table covers, pots of paste, nails, etc., proceeded to decorate the room and erect the "amphitheatre" and stage. Palms and flowers were then arranged about the room to complete the transformation. The other drafting rooms and offices were turned into cloak room, smoking room, refreshment emporium, etc.

At five o'clock the entire suite of rooms was in readiness. Seven-thirty found those who were to participate in the festivities assembled, and the deck cleared for "active service."

The first action encountered was the bombardment of "big eats" by the colored gunners, ably captained by "Our Ever-hungry Kit-Kat." Sustenance disposed of and the remnants cleared away, the following program was rendered: "Program—Divers Sketches Dug Up From Davey Jones' Locker for the Occasion of the Gathering of the Force of the Office of Guilbert & Betelle, Together with their Better 99.9 and Friends, Sisters, etc. Eats (Not imperative, but helpful to the following). Sketch No. 1, A Few Remarks by the Pilot of the Ship, Mr. J. O. Betelle. Sketch No. 2, Monologue—'Her First Visit to the Butcher,' Miss Lewellyn P. Lansing, Daughter of Our Lansing. Sketch No. 3, Our Lansing at the Piano. Sketch No. 4, 'Saving a Seat at a Benefit,' Miss Lansing. Sketch No. 5, Clothes-pin Practice for Home Usefulness. Sketch No. 6, Solos by Mrs. C. M. Reinhardt, 'The Lilac Tree' and 'The Crow's Egg.' Hornpipe alias Jazz. *'Punch* Brothers *Punch.'* Stand by for two minutes for Part Two. More Sketches. Sketch No. 7, Declamation, 'Casey at the Bat,' by Mr. Robert Sands (Wan of the Min). Sketch No. 8, Doings in the Hive of the Three Busy B's, Betelle, Bauer, Behee,' by Messrs. Elsasser, Lindsley, Sands and Ferriss. Sketch No. 9, Duet: 'The Force,' Mr. Fred Kuchler, with piano background by Mr. Lansing. Sketch No. 10, Chorus, by the Office Singing Society; Herr Sands, leader, Herr Kuchler, Herr Kuglemann, Herr Heinerwald, Herr Lindsley, Herr Elsasser, Herr Ferriss, Herr Langmann. Sketch No. 11, Peanut Practice for Persistent Pencil Pushers (Contest). All hands on deck—prize, the peanut. Hornpipe 2. More Punch. Also Hornpipe 3. Ad Lib. Go as far as you like. Ladies are cautioned not to rush the Pilot for Dances, we need him in the business. Mr. Bauer dances but is indifferent about it. Mr. Behee does not care for dancing at all. Station B-B-B, Located at Newark, N. J. We are signing off. Good Night."

A feature of this program that brought great applause was "In the Hive of the Three Busy B's," by Fred A. Elsasser, Girard Lindsley, Robert J. Sands and John T. Ferriss. In this sketch the members of the firm, James O. Betelle, Charles Bauer and Grant A. C. Behee were caricatured. "The Force," a duet, the words of which were written by Fred Kuchler, was made up of amusing verses about the various members of the office force, and caused much merriment.

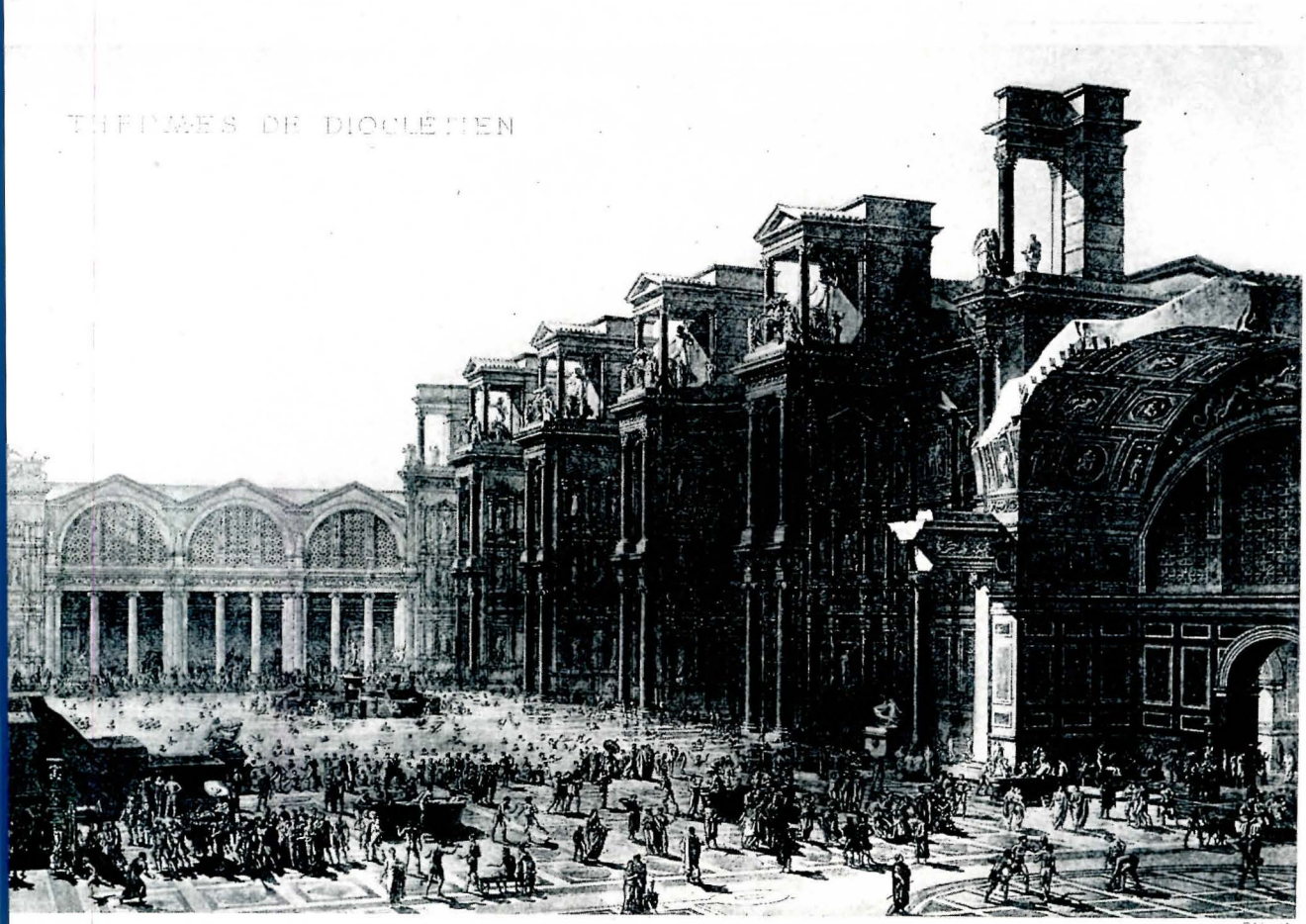
After the rendering of the program there was dancing into the "wee sma'" hours of the morning, during which "Jimmy" made it a point to dance with every lady, one of the ways in which he showed his good fellowship and hearty co-operation in making the party a success.

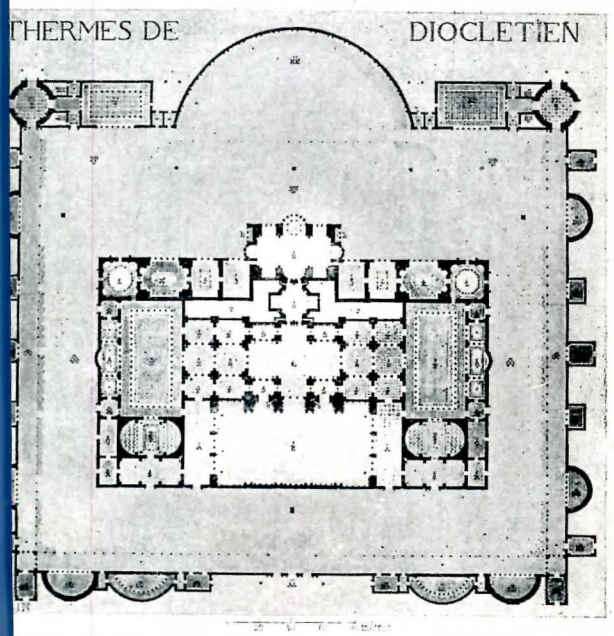
TRAVELLING EXHIBITION

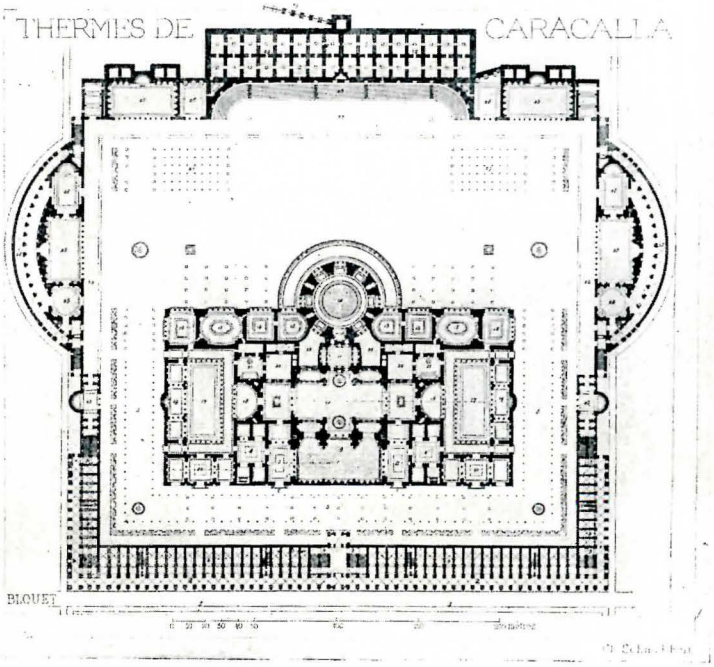
THE travelling exhibition of sketches selected from among those submitted in the Birch Burdette Long Sketch Competition for 1921 has already been shown at the Architectural League of New York; Massachusetts Institute of Technology; Harvard University; Pratt Institute; T-Square Club, Philadelphia, and at State College, Pa.

These sketches will be exhibited by Ohio State University, April 3-8; Thumb Tack Club, Detroit, April 12-20; University of Michigan, April 26-May 3; Cincinnati Architectural Society, May 8-14; St. Paul Chapter of the A. I. A., May 18-25, and at other places.

The reports received indicate that this exhibition of sketches has aroused a great deal of interest wherever shown, because of the variety of subject matter, method of treatment and media. In addition to pencil sketches there are sketches in which pencil and washes of water-color are combined, some in which gouache has been used and others in lithographic pencil and in pastel.



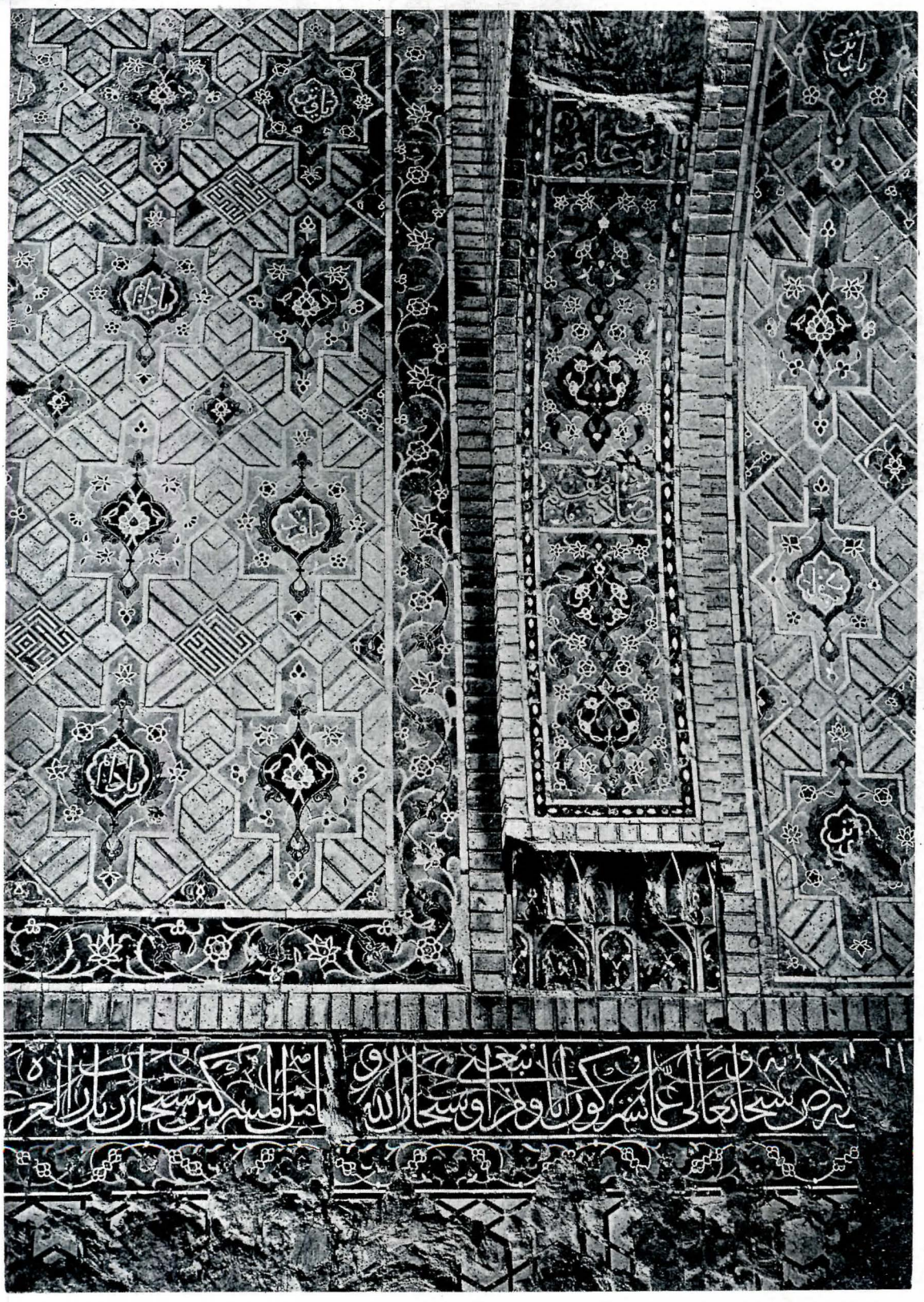




THERMAE OF DIOCLETIAN AND OF CARACALLA, ROME.

FROM D'ESPOUY'S "FRAGMENTS D'ARCHITECTURE ANTIQUE"

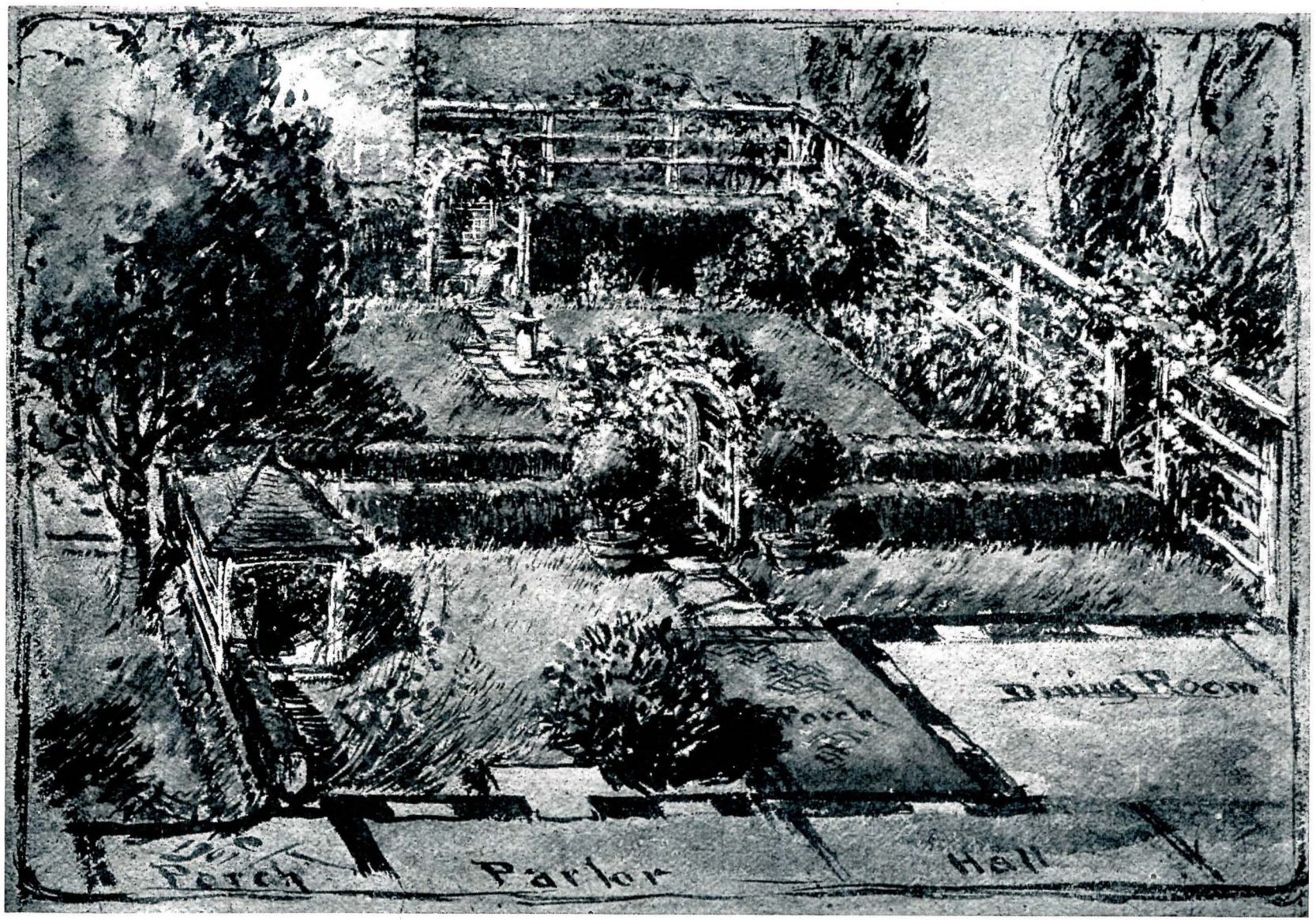
The thermæ of Caracalla and of Diocletian, restorations of which are shown in the plate reproduced on the other side of this sheet, represented the highest development of the Roman bath and were striking expressions of the love of luxury and of magnificence that marked Imperial Rome. The central portion of the Baths of Caracalla occupied an area approximately 380 feet by 730 feet. The central portion of the thermæ of Diocletian was approximately 480 feet by 750 feet, and the outer enclosure was about 1,100 feet by 1,200 feet, with exedræ, a rotunda, etc., extending beyond this area.



DETAIL OF THE BLUE MOSQUE, TABRIZ.

FROM SARRE'S "DENKMAELER PERSISCHER BAUKUNST."

The Blue Mosque, at Tabriz, a detail of which is shown in the plate from Sarre's "Denkmaeler Persischer Baukunst," reproduced on the other side of this sheet, is one of the most interesting of the old examples of Persian architecture. The chief beauty of these buildings lies in the colored glazed tiles with which the walls were revetted. Almost as much of the pleasing character of this work was due to the cleverness and taste with which the patterns of this tile work was designed as to the charm of the coloring.



WATER COLOR SKETCH BY WILSON EYRE FOR GARDENS NEAR PHILADELPHIA.

The water color sketch reproduced on the other side of this sheet is drawn with a brush in a rich, dark brown on a rough, light brown paper and colored with washes of transparent water color with touches of gouache, particularly on the treillage, and on the climbing roses. It is rich, colorful and free in manner. The suggestion of the plan of the house is a very practical means of giving the client a clear idea of the outlook upon the garden from the various rooms.

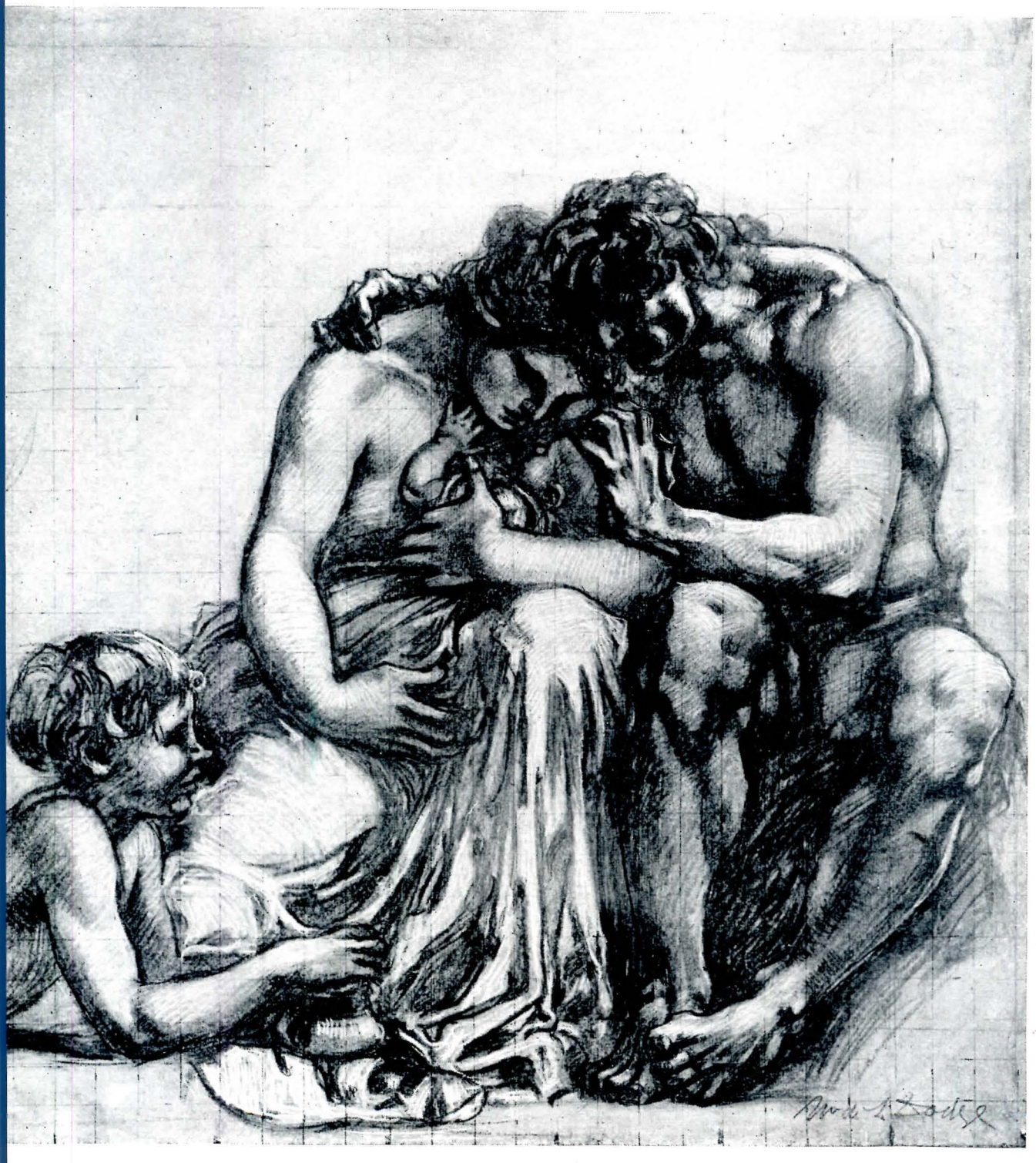
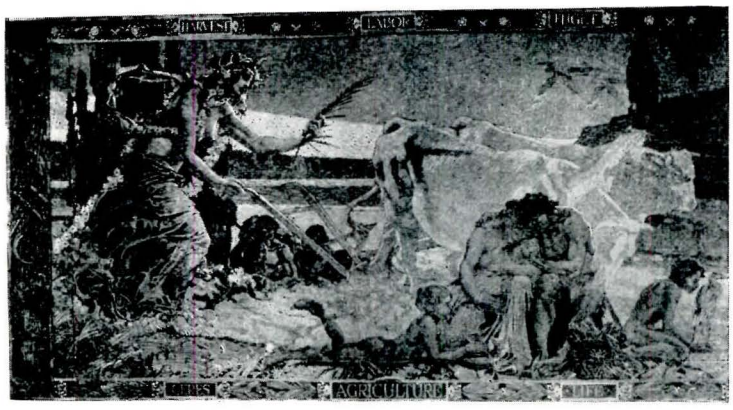


FIGURE STUDY BY WILLIAM DE LEFTWICH DODGE FOR A MURAL PAINTING
IN TEACHERS' COLLEGE, CEDAR FALLS, IOWA



The life drawing reproduced on the other side of this sheet is one of the studies made by Wm. deLeftwich Dodge in the process of designing one of the panels of his mural decorations in the large reading room of Teachers' College, Cedar Falls, Iowa. A small reproduction of the artist's study for the general composition of this panel is shown above. The subject of this panel is "Agriculture." Ceres is represented at heroic size as is also "Labor" typified by the shadowy forms of oxen. The group in the foreground typifying "Life" has primitive strength and simplicity. The technique of the study for this group is appropriately vigorous and virile. In this drawing the artist, reserving the refinement of details for the final painting, has formulated his conception of the massing, action and character of his group in a masterly way.

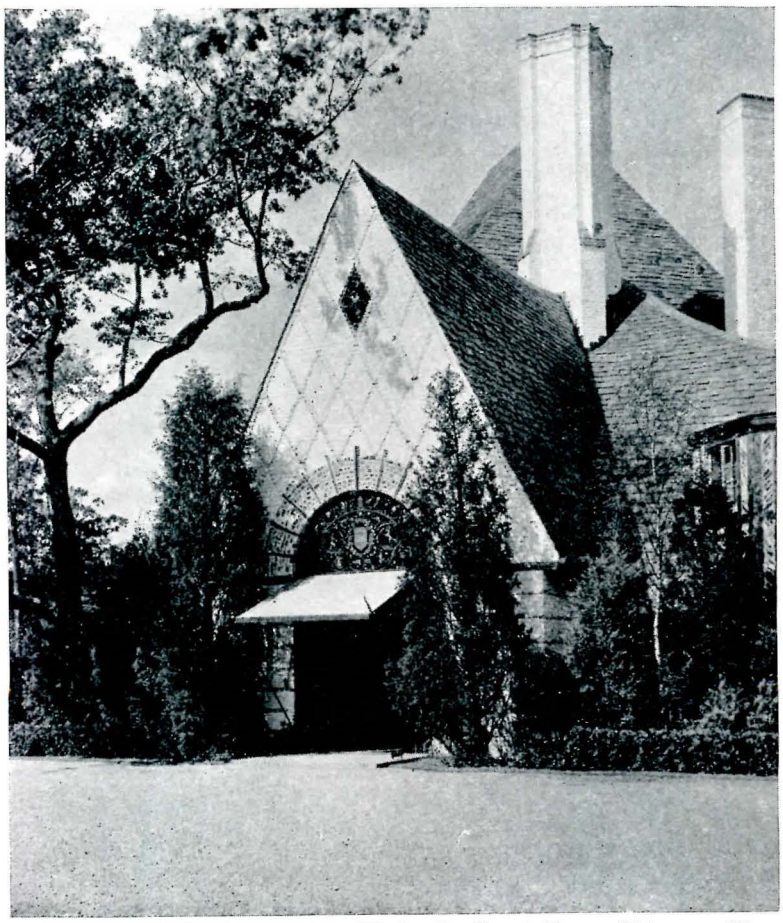
ARCHITECTURAL DETAIL PART XII

BY JOHN VREDENBURGH VAN PELT

This is the twelfth 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.

FROM the point of view of texture, brick is divisible into several classes. Ordinary or common brick if hard burned may make a very good looking wall. The principal difficulty is that, handled in bulk and shunted from cart to ground, the edges become broken and spawled and in the wall the joints look ragged. A raked out or sharply weathered joint relieves this somewhat. Some manufacturers sell a selected quality of what is really a common brick, treat it carefully, and scale up the price in proportion. The usual brand of common brick is so porous that many architects will not use it on the face of a wall even though both price and appearance be attractive.

Harvard brick, so well adapted to Colonial work, is first cousin to the common brick, but deeper red in color and less porous. Swelled bricks of this general type with bumps and projections taken as they come from the kiln or even from the cull pile have been used very effectively in some of the modern work. Look back at the Lamont house on page 30 of the September, 1921, number of PENCIL POINTS and notice the charming play of light and shade in the wall surface, and how perfectly it is in harmony with the roughly tooled limestone. The same charm is apparent in the garden wall of the residence of L. H. Sherman, James W. O'Connor, architect (page 26). In the latter a course of stretchers alternates with one of headers which somewhat augments the irregular effect. This wall appears to be but eight inches thick and brings out the interesting fact that an eight-inch wall cannot from the bricklayer's point of view be "faced on both sides." It is because bricks differ slightly in length and the variation causes projections or recessions on at least one face of a wall when the headers must do duty on both. It is important to check the length of any brick against its height and width, adding in the width of the joint selected, as some brick given certain joint widths will not lay up in anything but running bond. In the walls of the Shearman house the average header build joints appear slightly wider than the stretcher and bed joints. If this is not marked in a rough wall the difference is immaterial, but if noticeable, the white vertical patches of mortar in the header courses become most objectionable. In using swelled brick it is important to avoid the appearance of an effort to do something "stunty."



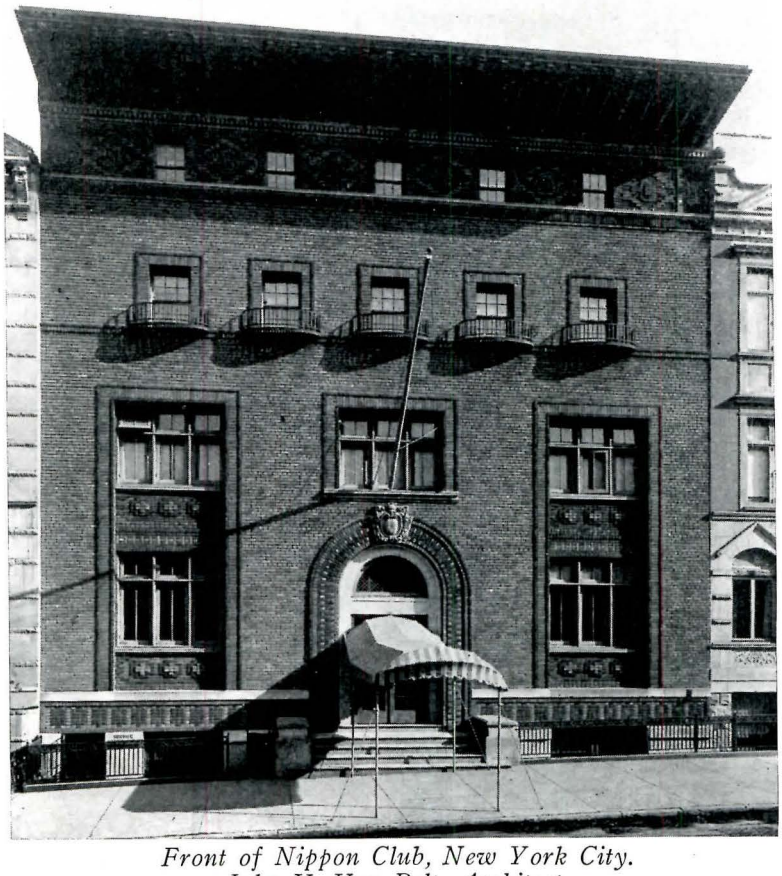
Portion of Residence for Clyde F. Carr, Esq., Chicago, Ill. H. T. Lindeberg, Architect.

Turning again to the garden wall, we have been discussing, it seems to me that the lower portion at the left of our illustration is really more beautiful than the higher part. In the latter, rather abnormally ill-formed stretchers project so suddenly that the result is somewhat lacking in the entirely natural and unpremeditated charm of the former. Doubtless the workman prided himself on having reserved the most *outré* of his brick for that part of the wall that would be most visible.

In burning brick those in the hottest part of the kiln are the most warped or swelled and are usually the darkest in

color. Those at the cooler parts of the kiln are softer and in common brick furnish the objectionable "salmon" brick. Both "salmon" and "swelled" brick are cheaper and the badly swelled brick go to the cull pile, the rustic architect's happy hunting-ground. It costs more to lay up swelled brick, as more mortar is required and it takes more care. The wall made of them is really stronger than that of the best selection of the kiln, provided the mortar is strong. In general good hard brick ring when struck together.

Like the small boy who wanted to get through his breakfast food first and save his orange till the end, I am disposed to take up and get rid of the subject of re-pressed brick. They are usually hard and non-absorbent, can be laid up easily and make a strong, durable wall. In twenty years' practice, I cannot remember having used a single one, although I might like to do so for a small city house with the delicate restrained Colonial detail carried out with white marble casings and trim as were some of those of old Philadelphia. In such an event it seems to me the joints should be narrow, $\frac{3}{16}$" to $\frac{3}{8}$", and white, finished flush or with only a very slight weathering. The color of the usual Philadelphia re-pressed brick is a good red, although its uniformity lends no sparkle to the wall surface. I am not very partial to the yellow brick of this type. Some manufacturers spatter them with black spots or manganese, which relieves somewhat their dominating color. A black joint may look well with yellow brick.

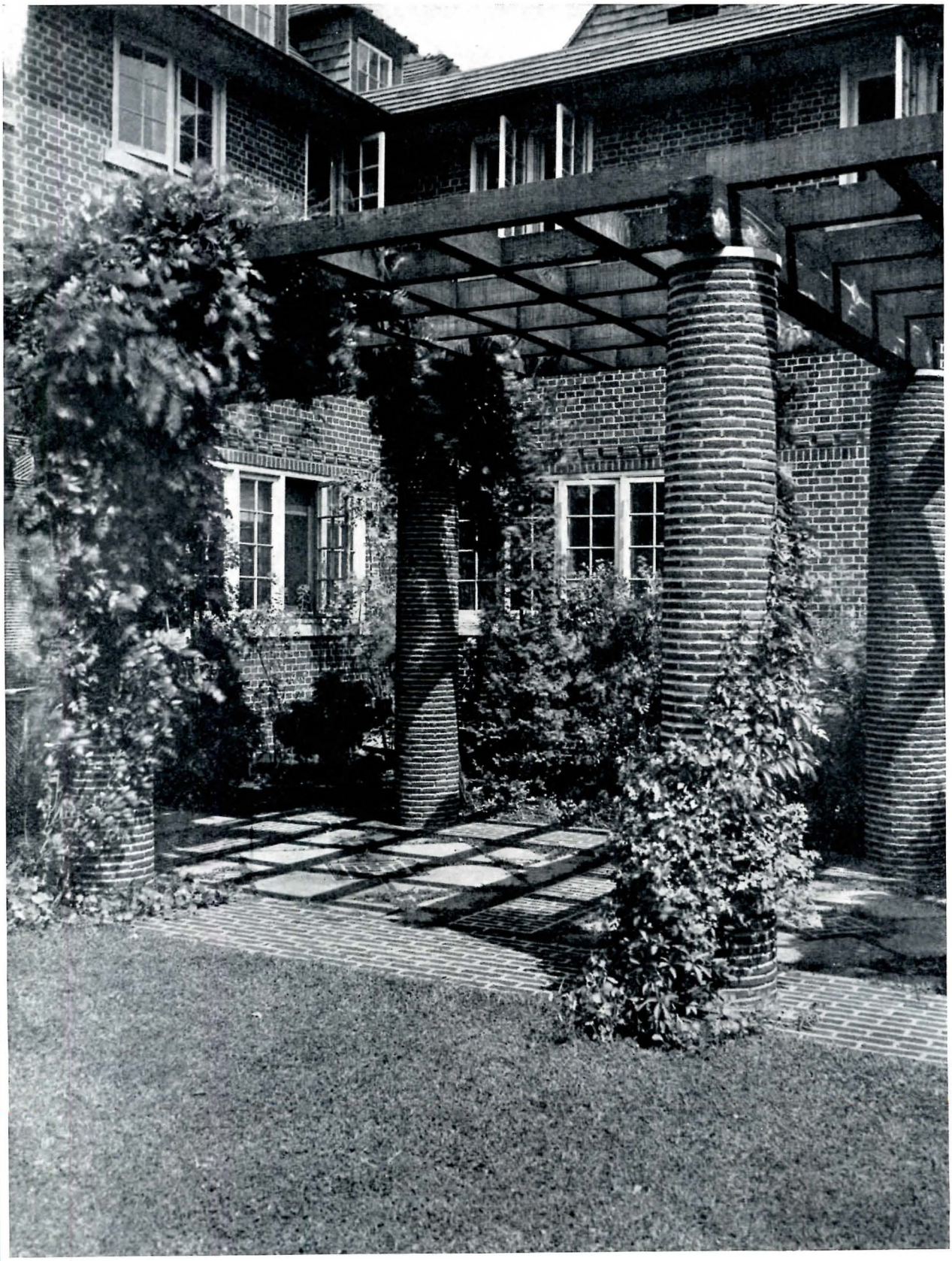


Front of Nippon Club, New York City.
John V. Van Pelt, Architect.

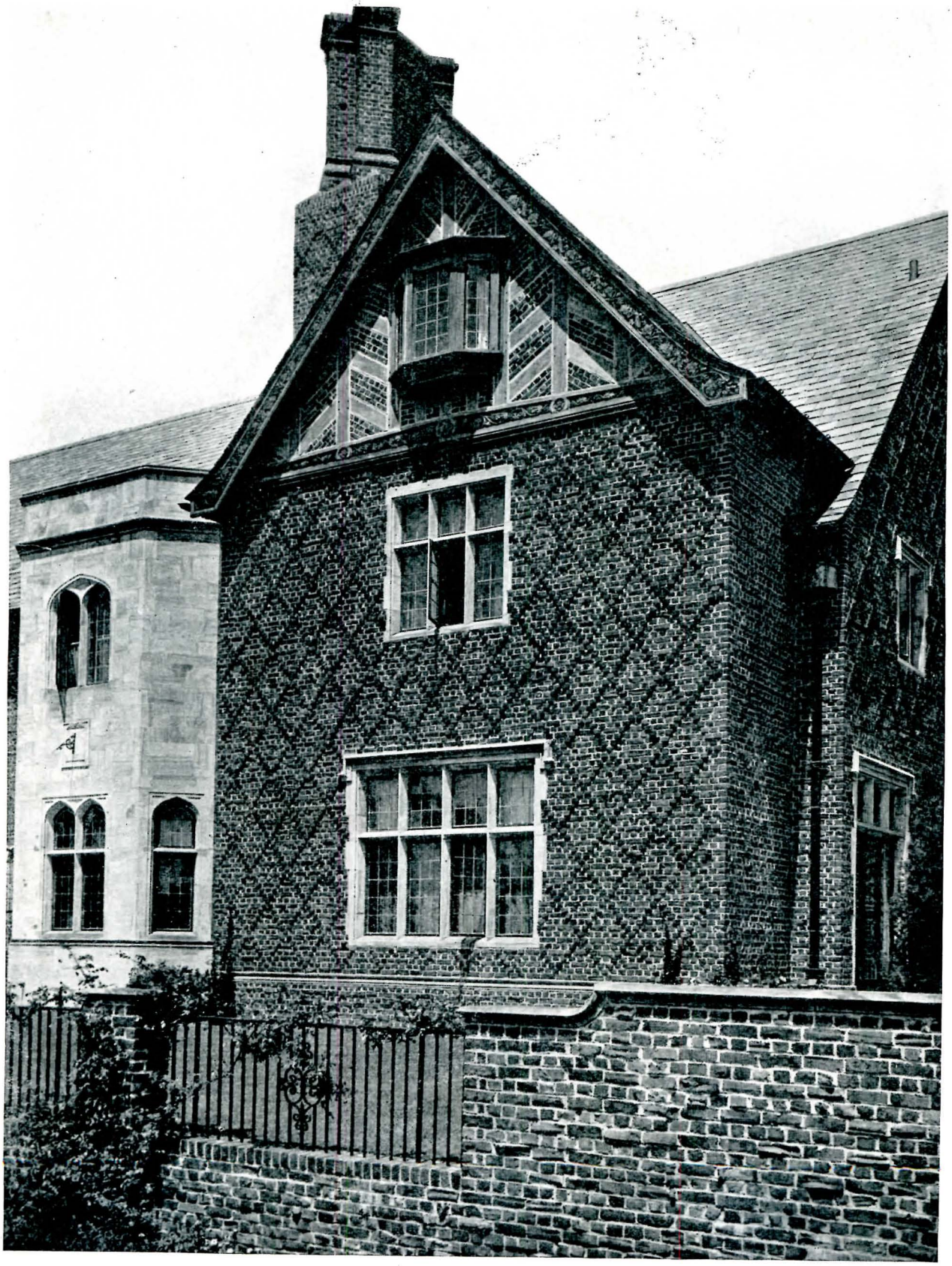
One advantage of the re-pressed brick is its cleanliness. All wall surfaces, even enamelled brick and glazed terra cotta, accumulate a coating of dirt under the prevailing conditions of urban dust, smoke and soot. But the rough textures naturally offer better lodgment for small floating particles, and a porous absorbent brick tends to draw them into the exposed face whenever it rains after a dry spell.

In contrast with the re-pressed brick, are the rough surface or rough texture bricks that are commonly called "tapestry," despite the fact that this is a trade name for a kind of brick made by a particular manufacturer. The same general type of brick is made by a great number of brick factories in different parts of the country. Differences in the clays give underlying differences to the colors, and each clay or mixture has a scale of color varying from light grey, light pinkish red, or light amber, to a dark grey, flashed purplish blue, or dark brown, respectively. My own experience leads me to think it rather difficult and even dangerous to mix the colors of markedly different tonal scales, although all the varying shades obtained from the same clay harmonize most beautifully with each other. Despite this I made one combination of brick from different factories that I believe to have been successful. The façade of the Nippon Club, shown on this page, is laid up in a warm grey rough-texture brick quite free from the assertive yellow note that so often mars large masses of wall surface. But this brick did not furnish a wide range of color for pattern work. Fortunately one of the color groups of another manufacturer happened to harmonize with it and the yellower note of the lightest pattern brick was only the next step up from the ground color of the wall.

Rough texture brick are usually made by squeezing the clay through an opening or die which may be either their cross section or longitudinal section. This is then cut to the other dimension by a wire cutter. The wire cut face has a smoother texture than that produced by the die and as stretchers make up more of the wall surface than headers, end-cut brick are more prized. This is not the only reason for their costing more than side-cut brick, as it really costs a little more to make the end-cut. The long run of soft clay only furnishes one or if they are done in pairs, at most two brick, which have to



Detail of The Detroit Golf Club, Albert Kahn, Architect.



Detail of House for L. H. Shearman, Esq., at Lakeville, L. I. James W. O'Connor, Architect.

run lengthwise, while by cutting them the other way one machine may turn them out about four times as fast. In some factories the rough textures are made by a series of teeth in the machine which produce parallel lines up and down the face of the stretchers and headers.

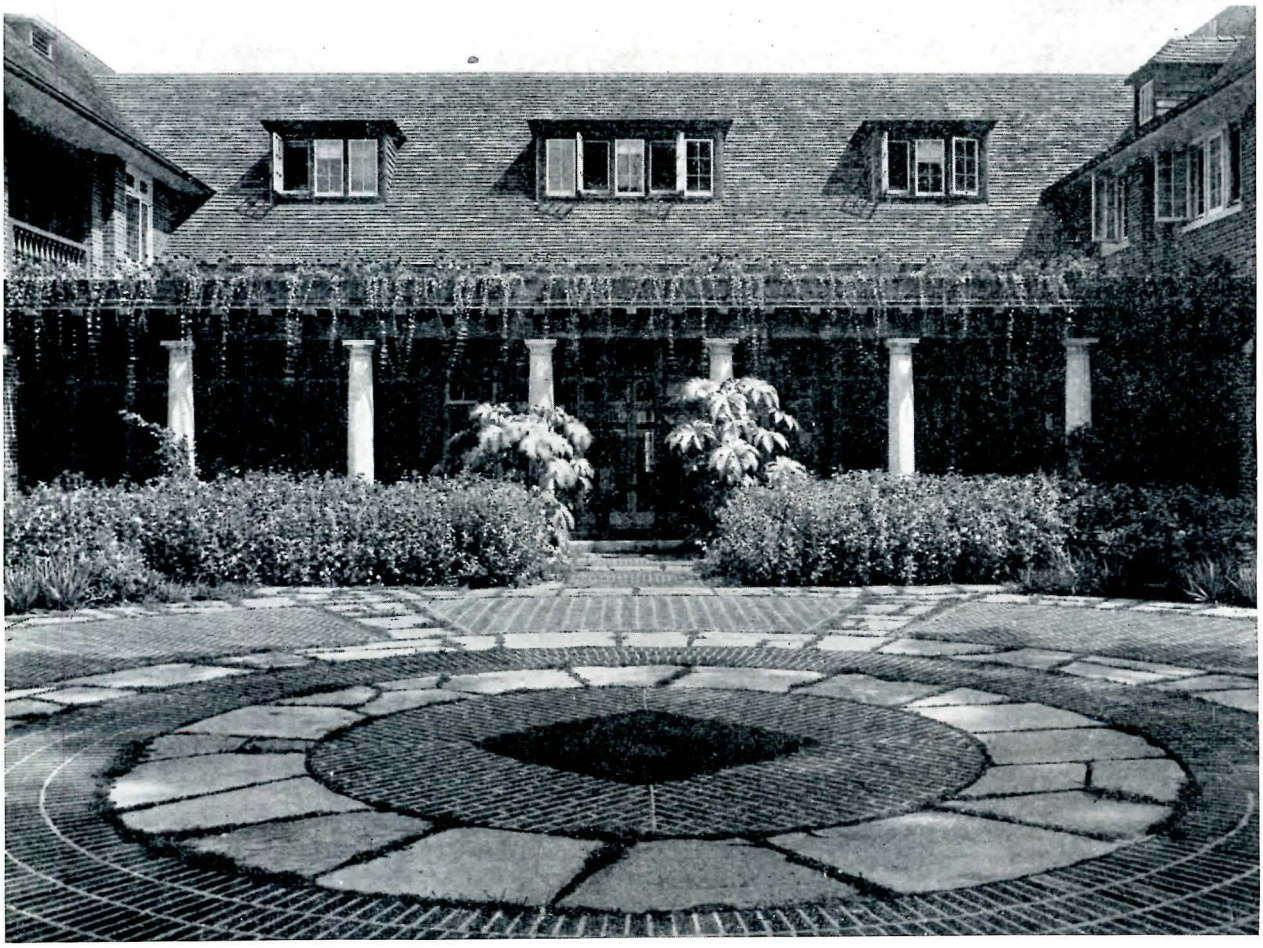
To give a drier wall, hollow brick were made with holes running through them lengthwise. Evolution has now developed what might be called terra cotta wall block except that when laid up they aim to imitate a solid brick wall, usually of the rough texture variety. Those that I have seen are less accidental than real brick and have a somewhat mechanical appearance.

Brick always have had and still offer increasing possibilities for beautiful design through the patterns that may be carried out in laying them up. The joints are sufficient to bring out patterns, and if headers are darker than stretchers as is often the case, the design is more apparent. The usual bonds, "running bond with every sixth course a course of headers," "English bond," alternating courses of stretchers and headers as in the garden wall of the Shearman house (page 26) or "Flemish bond," alternating stretchers and headers in each course with the headers over the middle of the stretcher below. By setting some of the brick out from the wall an accentuation of the pattern may be obtained. In Flemish bond a usual figure shows little crosses or, by projecting every third stretcher, crossing diagonals of stretchers, make diamond-shaped panels with or without a central projecting header. The pattern of the main wall of the Shearman house is more complicated. Starting with an intersecting point of the diagonal lines we have a header course, next four headers and a stretcher, then a header course, then alternating stretcher and header course, after this the sequence reversing back to the header course of the alternate intersection. There are twelve courses to a diamond in the figure.

Other more complicated figures may be obtained by building up the brick so they are not laid on a horizontal bed. The old Persian designs are full of this kind of work and most beautiful some of it is. In Plate XIV in this issue is a combination of tile and brick in the Blue Mosque at Tabriz. We hope to show more of these next month, for the art of Persia is fraught with suggestions for modern architects.

English and Flemish brick-filled half-timber also furnishes a great number of motifs. In the gable of

(*Continued on page* 42)



View Showing Patterned Pavement of Brick and Stone, Detroit Golf Club. Albert Kahn, Architect.

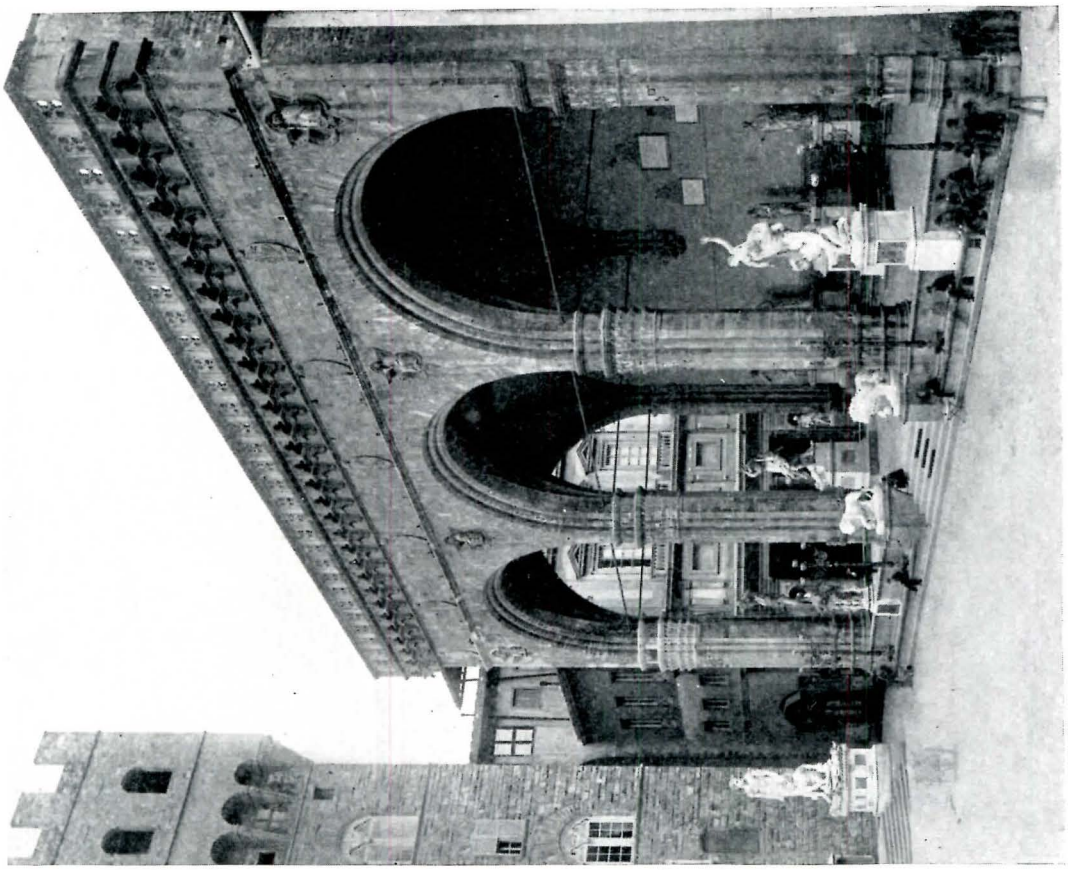


Figure 145. Loggia dei Lanzi, Florence.

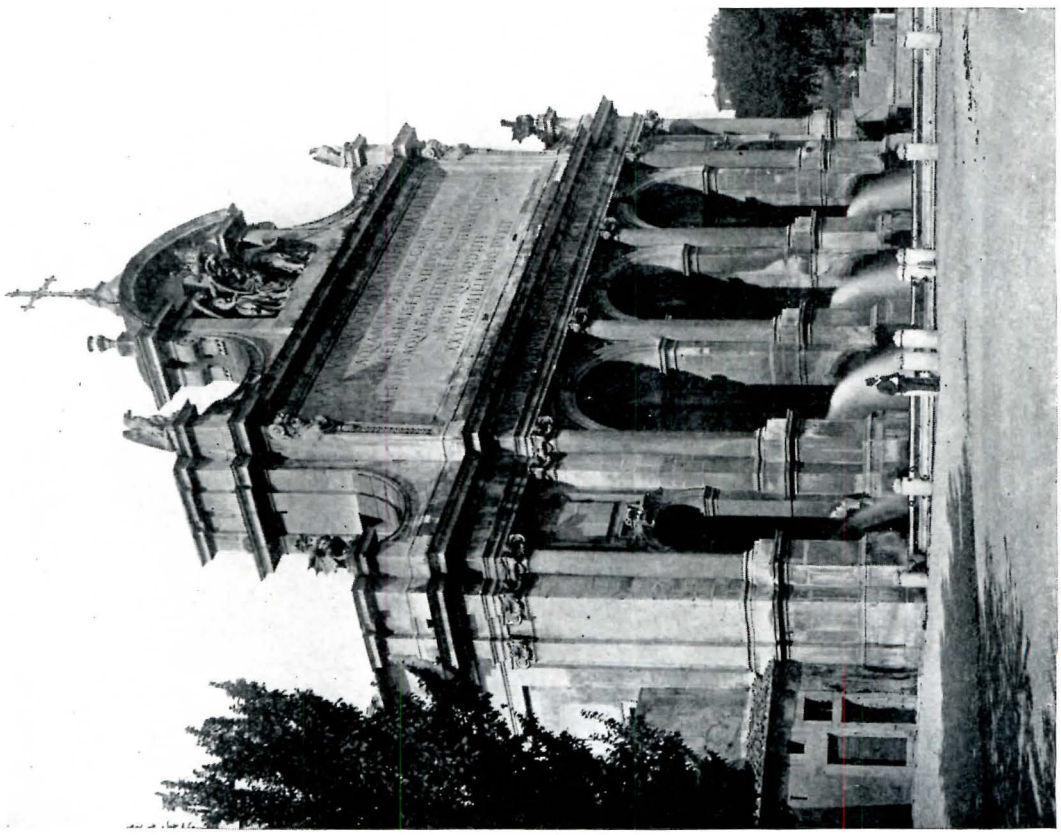


Figure 146. Fountain of the Acqua Paola, Rome.

THE STUDY OF ARCHITECTURAL DESIGN

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

CLASS B. PLAN PROBLEM. PART VII.

Size, Scale and Proportion—(Continued)

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.

WE HAVE seen examples of the spacing of columns and the effect of this spacing on the size of motives. When we examine arched motives, we find a new scale of sizes. In general, we may say that *arched motives are larger than those of lintel construction*, and, consequently, that fewer can be used in a given length of façade. This is probably the result of the search for monumental effect as affected by the limitations of construction.

From time immemorial when man has wished to give the idea of grandeur, mere size has been one of the means of attaining it—size of mass, size of motive, size of element. When Cheops built his great Pyramid 760 feet square at the base and 485 feet high, he doubtless made it as large as possible with slave labor and forced levies.

But when this desire for size was applied in antique times to lintel openings, there was a limit imposed by construction: while the height could be increased at will, the width could only be made as large as the available stone for the lintel would allow. It is for this reason that the *height of monumental doors in antique times is always great in comparison to the width*. Exceptionally large stones are needed for doors even eight feet wide. For the largest opening of the Propylæa at Athens there are pieces of marble 20 feet long—an extraordinary dimension for stone.

However, such limits could not long satisfy man's aspirations for size in architecture, and so finally the arch was discovered, in several places at about the same time, probably. As its reason for being was to make possible openings greater than could be covered by a single piece of stone, so its real function is in covering big openings—it is therefore a bigger motive than the lintel.

And while the lintel opening in becoming monumental becomes high without widening in the same proportions, the arch, on the other hand, has no limits of width, while its height is regulated by such considerations as the height of floor or rooms, possibility of inclosing with glass, etc. Therefore, *in arch construction the monumental aspect exists largely in its width*. The niche, the small arch motive,—is always narrow and tall; the big arch is usually very wide. Compare the arches of the "Caroussel" of the Louvre, Figure 141, with those of the Garden of the Palais Royal, Paris, Figure 142. These arches are the same height. One easily sees which is the more monumental. Extreme width is reached in the bridge, the widest expression of the arch motive.

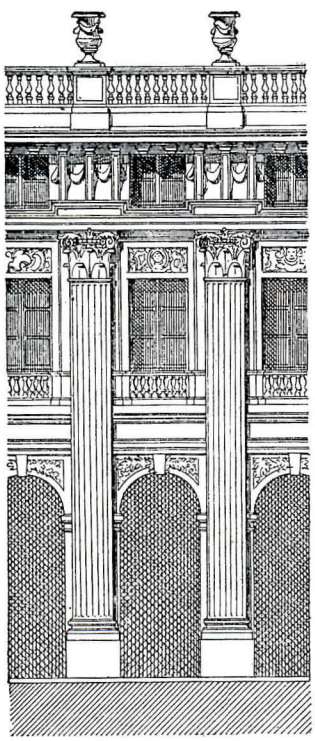


Figure 142. Detail of the Palais Royal, Paris. From Guadet's "Eléments et Théorie de l'Architecture."

The triumphal arch is an exception to this rule, and while it may be wide, the height is usually about twice the width. Guadet explains this in saying that such arches are made to idolize a single man, and therefore retain the proportion of a small arch, although increasing it greatly in size, while the usual arch of great size is accommodated to a crowd. (See table on page 33.)

Frequently one uses in the same building both lintel and arch motives. As already pointed out the arch is the form for the bigger openings, the lintel for the smaller ones. This does not apply to the decorative use of the lintel motive applied against a wall, where, as in Figure 139 (March issue), it may frame an arch.

Let us now examine some buildings with arch motives and see how many motives occur in a given length of façade. To start with a big example, the Loggia dei Lanzi at Florence, Figure 143, is 130 feet wide, in which there are three arches, each 32 feet, 6 inches wide in the clear. The Loggia of the Piccolomini at Siena, Figure 144, much smaller, has three arches in the width of 63 feet, which

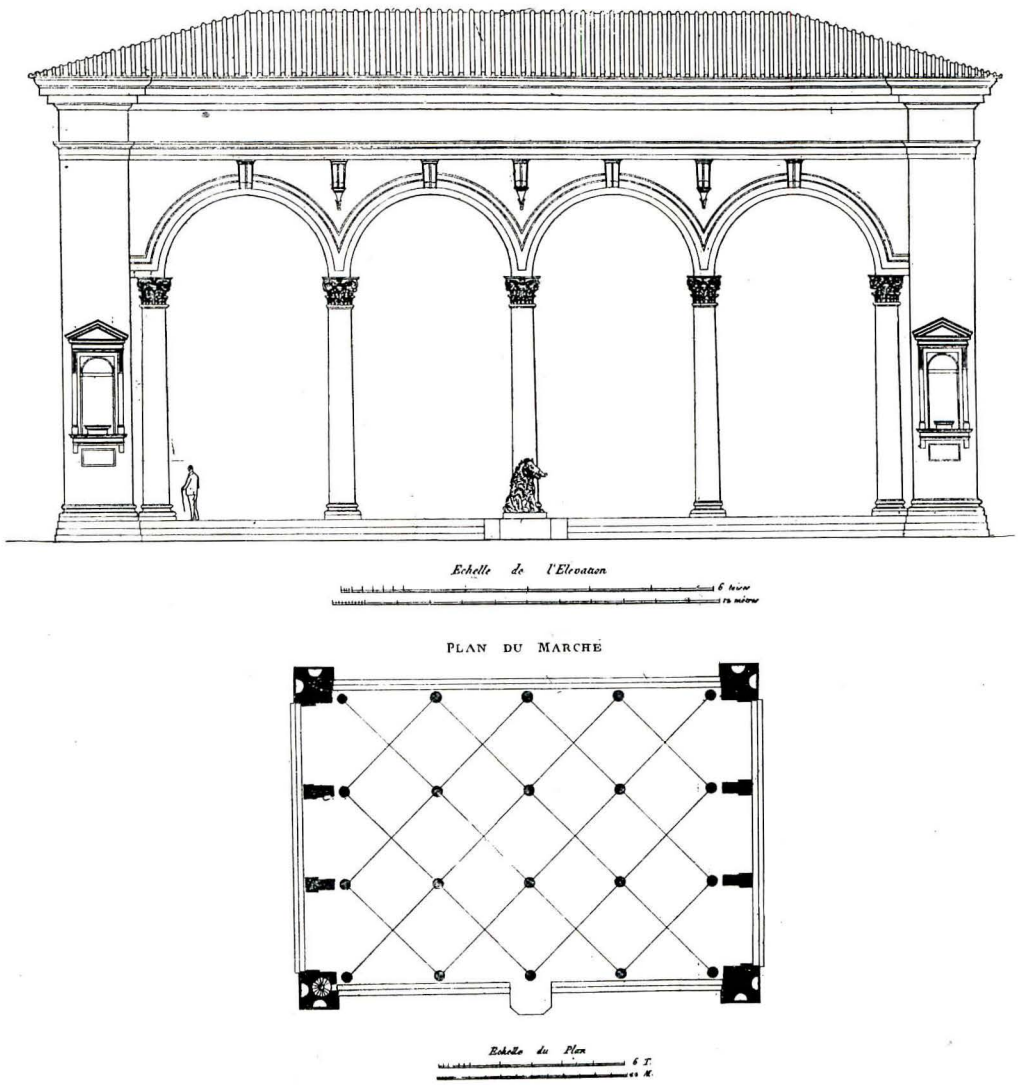


Figure 145. The Mercato Nuovo, Florence. From "Architecture Toscane," by Grandjean de Montigny et Famin.

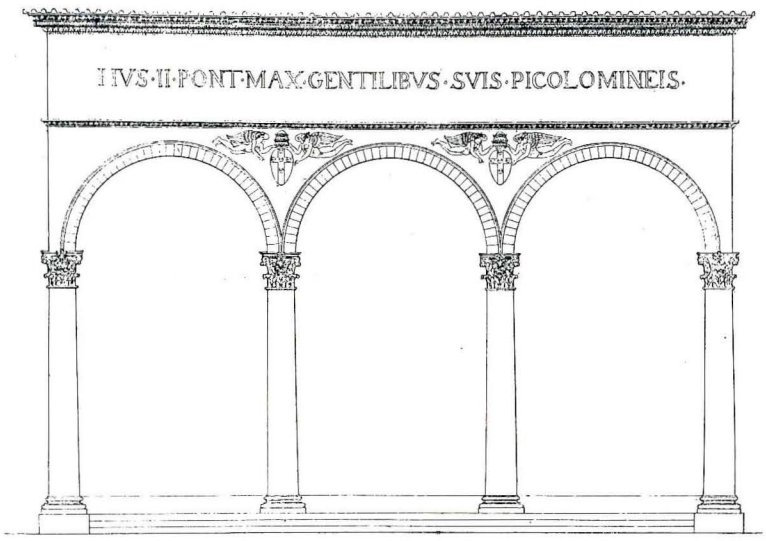


Figure 144. Loggia of the Piccolomino, Siena. From "Architecture Toscane," by Grandjean de Montigny et Famin.

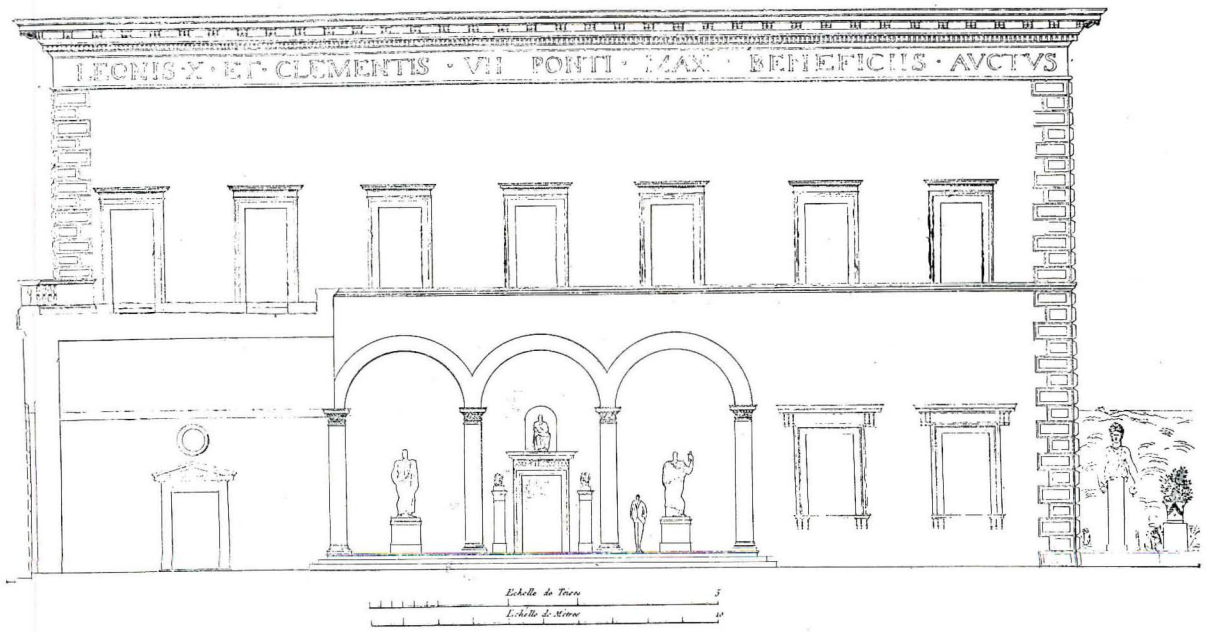


Figure 147. Elevation of the Pandolfini Palace, Florence. From "Architecture Toscane."

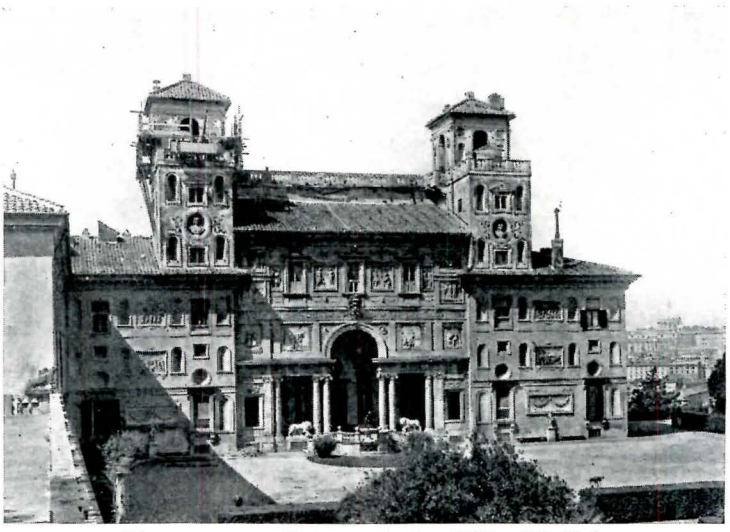


Figure 149. Palace of the Villa Medici.

Figure 141. Arches of the Caroussel, the Louvre, Paris.

gives 20 feet, 6 inches from centre to centre of column. The Mercato Nuovo at Florence, Figure 145, has four arched motives in a total width of 91 feet, 4 inches; 18 feet, 6 inches from centre to centre of columns.

The Acqua Paola at Rome, Figure 146, is a three motive composition in 186 feet, 8 inches, and of the central portion the arches are 40 feet, 8 inches from centre to centre of column. From these examples, it can be seen that the arch, especially when used as an opening, is a big motive in composition. In court yards it may well take a small scale. (See note No. 2 on page 33.)

In the Court of the Pandolfini Palace at Florence, Figure 147, the loggia is 13 feet from centre to centre of arcade, while in the cloister of the church of S. M. degli Angeli at Rome, Figure 148, the distance from centre to centre of arcade is as little as 10 feet, 11 inches; and in the little individual gardens of the monks (shown in the upper corners of the same illustration) it is only 7 feet, 4 inches, from centre to centre, a quite impossible size for arches, except in such a tiny and intimate court.

Figure 150. Detail of Basilica of Vicenza. From Gromort's "Eléments d'Architecture Classique."

It is interesting to compare such figures with some in which the so-called "Palladian motive"—an arched opening between two lintelled ones—is used. Perhaps the best known is that of the Villa Medicis, at Rome, Figure 149, in which the arch opening is 16 feet, 10 inches from centre to centre of column supports and each lintel opening 12 feet from centre to centre of columns.

In the Basilica at Vicenza, Figure 150, where Palladio himself used this motive, the arched opening is 13 feet from centre to centre of column supports, and the lintel opening 5 feet from centre to centre of column. In the Morgan Library in New York, by McKim, Mead & White, the arch motive is 14 feet from centre to centre of column supports, the lintel motive is 9 feet from centre to centre of column.

(To Be Continued)

Sizes of Courts With Arcaded Motives.

Court	*Length of Court*	*Number of Arched Motives*	*Center to Center of Motive*
Cancelleria Palace, Rome	108	8	13′
College Piceno, Rome	36	5	7′ 6″
Angelo Massimi, Rome	28	3	9′ 6″
Pitti Palace, Florence	165	7	22′ 9″
Strozzi Palace, Florence	59	5	12′
Boston Public Library	106	9	12′

Dimensions of Arches.

Arch	*Height of Structure*	*Width*	*Depth*	*Height of Opening in Clear*	*Width in Clear*
Arc de l'Etoile, Paris	160′	146′	72′	67′	46′
Porte S. Denis	81′	82′	16′	50′	26′
Arch of Titus, Rome	50′	45′ 6″	20′	26′ 6″	17′ 6″
Arch of Septimius Severus, Rome	75′	82′	35′		
				Central Opening	*Side Opening*
				39′ 8″	22′ 2″
				25′ 2″	9′ 8″
Washington Arch, New York City	74′	57′ 6″	18′ 9″	48′	30′
Washington Arch, Valley Forge	62′	54′	23′	33′ 6″	20′ 6″

EUROPEAN THEATRES

INTERESTING architectural developments in the theatre abroad are described in the April issue of *Theatre Arts Magazine,* published at 7 East 42nd Street. Illustrations show a plan and section of Strnad's design for his "ring theatre," containing many innovations in theatre planning. This design shows a circular auditorium with the stage curving around the greater part of the interior. Provision is made for narrowing down, on occasion, the portion of the stage to be seen by the audience. Columns that divide the stage from the auditorium are hollow and provide a means of entrance and exit for actors. Strange as these ideas may seem, they are in line with the striking progress being made in play production abroad, which makes greater demands than our theatres with their traditional form and equipment could possibly meet. A theatre in which the stage floor is moved from side to side on a track, permitting a scene to be set on one-half while the other half is in view of the audience, is described in operation, as is another theatre in which the stage is lowered into the basement to change the setting while another stage fully set rolls into place.

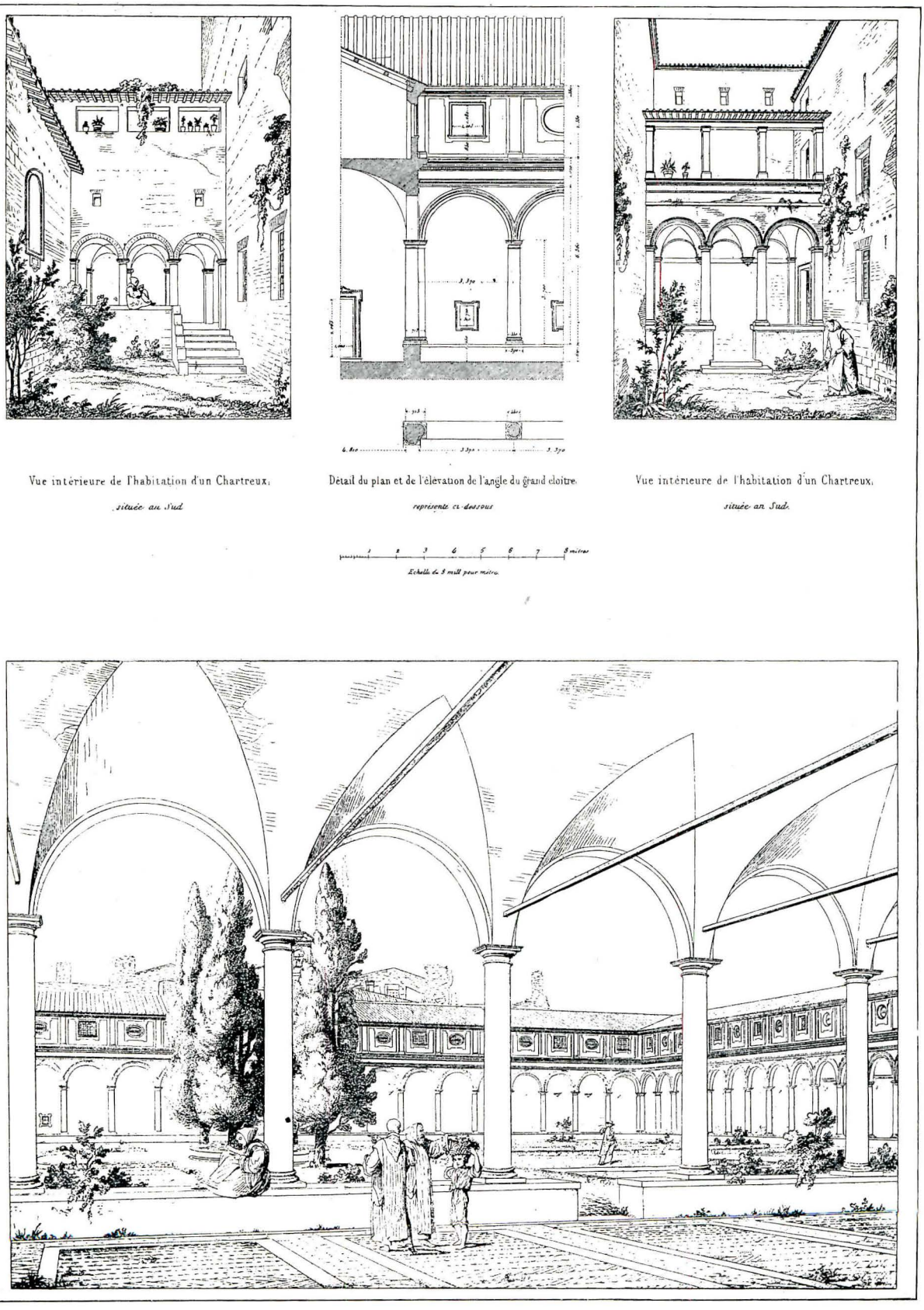


Figure 148. Cloister of the Church of S. M. Degli Angeli, Rome. From Le Tarouilly's "Edifices de Rome Moderne."

A VOCABULARY OF ATELIER FRENCH

BY RAYMOND M. HOOD

This is the first installment of a vocabulary which Mr. Hood, Architecte Dîplomé 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 futile, therefore, no such attempt is being made here; the pronunciation should be learned from someone who speaks French correctly.—ED.

THE American who enters an atelier of the Ecole des Beaux Arts in Paris immediately begins to hear many words that are unknown to him or that are unfamiliar in their application, even though he may have a fairly correct and intimate knowledge of conversational French.

The strangeness of the conversation is as perplexing to him as would be the ordinary baseball parlance of the United States. Imagine, if you can, a Frenchman trying to understand what was meant by, "He poled a long single past third, but died trying to stretch it into a two-bagger." Nothing in his school English or that he ever had read in Shakespeare would give him the slightest clue to the meaning of this strange sentence, and yet nearly all of the words taken by themselves are of good Anglo-Saxon origin. In the same way the American hears nothing but "Barboter" and "Boulotter" and rarely the usual and more correct words "Voler" and "Manger" that his college teachers and Mr. Moliére taught him. He is at times led to wonder if the language that he studied there and that he has read in literature is really French or some dead language.

It is not intended to make this vocabulary comprehensive of any particular category of words—but merely to present a practical working list. The abbreviations used are as follows: *n.*—noun; *m.*—masculine; *f.*—feminine; *pl.*—plural; *adj.*—adjective; *adv.*—adverb; *prep.*—preposition; *v.*—verb; *arch.*—architectural.

A

Abside: *n. f.;* apse of a church.
Accès: *n. m.;* access.
Accessit: *n. m.;* distinction given to those who are close to a prize winner in a competition.
Adossé: *adj.;* back to back, placed against.
Amocher: *v.;* to spoil, or ruin.
Analytique: (a) *adj.;* analytical; (b) *n. m.; arch.* a projet which is the study of the elements of architecture.
Ancien: (a) *adj.;* old, antique; (b) *n. m.;* an old student, a senior.
Appui: *n. m.;* support; *point d'appui,* point of support.
Applique: *n. f.;* ornamentation that is applied to an object.
Aquarelle: *n. f.;* a painting in water-color.
Arête: *n. f.;* (a) the bone of certain fishes; (b) *arch.,* a projecting angle, as of a roof.
Argot: *n. m.;* slang.
Armoire: *n. f.;* a high clothes-press in the form of a piece of furniture.
Arrière: *adv.;* in back of, distant, late.
Arrivage: *n. m.; arch.,* the condition of drawings on completion.
Atelier: *n. m.;* a work shop, a studio, a drafting room.
Avant: *prep.;* or *adv.;* before, in front of.
Avant-corps; *n. m.; arch.,* that part of a construction that projects in front, as the projecting wing of a building.
Avant-cour: *n. f.;* The first court of a building.
Avant-scène: *n. f.;* (a) the part of the stage in a theatre that is in front of the curtain; (b) the box or loge nearest the stage.
Axe: *n. m.;* axis.

B

Balade: *n. f.;* excursion, trip, outing.
Balader: *v.;* to wander about aimlessly.
Barbant: *adj.;* (*slang*) annoying, unpleasant, disagreeable.
Barbe: *n. f.;* beard, (*slang*) nuisance, annoyance.
Barboter: *v.;* (*slang*) to steal, swipe.
Basse-cour: *n. f.;* (a) barnyard; (b) the ensemble of animals living in the barnyard.
Bateau: *n. m.;* a boat; (*slang*) a joke, an untruth.
Bâti: *n. m.;* an assemblage of millwork or carpentry.
Bâtiment: *n. m.;* a building; also a naval construction, as *bâtiment de guerre,* warship.
Bâtisse: *n. f.;* the masonry of a building; also a building.
Bavard: *n. m.;* one who talks too much.
Bazar: *n. m.;* a bazaar; (*slang*) a collection of small objects, as stuff, junk, truck.
Bazarder: *v.;* (*slang*) to sell.
Beaux-arts: *n. m. pl.;* fine arts.
Bégueule: *n. f.;* a prudish person with an exaggrated reserve.
Berceau: *n. m.;* a cradle; *arch.,* a barrel vault.
Bizut or Bizuth: *n. m.;* (*slang*) a beginner or a first-year student.
Blague: *n. f.;* (a) an exaggeration, a lie; (b) a joke, a deception, something badly done.
Bombe: *n. f.;* a bomb; (*slang*) a spree, a bust; *faire la bombe,* to go on a spree, to raise the devil.
Bosquet: *n. m.;* a small clump of trees.
Bossage: *n. m.; arch.,* coursed ashlar with a roughly dressed or projecting surface.
Bouffer: *v.;* (*slang*) to eat, to feed your face.
Boulotter: *v.;* (a) to get along easily, to live simply; (b) to eat.
Bourse: *n. f.;* (a) a purse; (b) a stock or money exchange; *bourse de voyage,* a purse or prize for travelling.
Broche: *n. f.;* (a) a broach; (b) a stick or rod of iron or wood; *en broche,* a form of punishment inflicted by the students on one another in the ateliers of the Ecole des Beaux-Arts.
Brûle-gueule: *n. m.;* a pipe with a short stem.

PERSPECTIVE DRAWING, PART XXII

BY PAUL VALENTI

In this series of articles Mr. Valenti is taking the student step by step through a course in the direct construction or perspective plan method. Mr. Valenti, who is Instructor in Architecture at Washington University, St. Louis, Mo., is a graduate of The Royal Academy of Fine Arts of Brera, Milan, Italy, where he received the degree of Professor of Architecture. Mr. Valenti studied under Professor Ferrario, principal of the school of perspective at the Academy and scenographer at "La Scala," theater in Milan, and under other distinguished masters. Upon the investigations and the ripe practical experience of these men, he has based the course which he is presenting to the readers of this magazine. The method shown here, once it has been mastered, saves time and gives increased accuracy over the usual practice in laying out architectural perspectives instrumentally.—ED.

PROCEEDING as in Figure 51 and 51A, find the two measuring points *M I* and *M II* by first centering in point *X* with radius *X Y*, rotating this arc until it intersects line *X Z*, at point *P*, then conduct a straight line from point *A* through this point *P*, and prolonging this line, find point *M I*, or Measuring Point No. 1. In like manner, by centering in point *Z* on the opposite side, with radius *Z Y* and rotating this arc until it intersects line *X Z* (which is the line of demarkation between the geometric plane and the perspective plane) to point *Q;* by again conducting a straight line from point *A* through this point *Q* and prolonging this line until it intersects the Horizon Line, find point *M II*, or the second measuring point. This measuring point *M I* will be used for all measurements pertaining to this side of the building or relative in the geometric plan to line *Y Z* (See Figure 52) which, as it will be observed, is the long side of the building. In the same way will measuring point *M II* be used for all measurements pertaining to the short side of the building represented in the geometric plan (See Figure 52) by line *X Y*. For further information regarding method of finding measuring points, see Figures 46 and 51, with text relative thereto, found in previous issues. One more point is necessary, that is the vanishing point of the diagonal, and this is found by bisecting the right angle at point *V* formed by lines *X Y* and *Z Y* (as is shown in Figure 52) by line *Y T*. This line starting from point *Y* passes through the bisecting arcs at point *W* and continues until it intersects line *X Z* in point *T*. From point *A* conduct a straight line through this point *T* and prolong it until it intersects the Horizon Line at point *P D*, or vanishing point of the diagonal. Now we have obtained the necessary points, all located on the Horizon Line, which will serve us in laying out the *entire* perspective, without the aid of the geometric plan above or below the picture plane; without points far removed from the picture and with a *mathematical certainty* that our operations are correct, under conditions actually possible physically and already established in fact.

Proceeding to lay out the perspective of the building in question according to the conditions established in Figures 53 and 54, we will notice that line *A C* in Figure 52, is in reality an imaginary line, formed by prolonging line *F M* (in Figure 52A) until it intersects a line drawn tangent to the maximum projection represented in plan by the steps. (See Figure 52A). Observing the diagrams shown in Figures 53 and 54 we will notice that this imaginary line *A C* is tangent to the transparent plane and is consequently both in the geometric as well as in the perspective plane, and may be used, therefore, as the measuring line for all vertical dimensions. For this reason line *A C* in Figure 52 as already established (See Figure 54) represents this imaginary line and is found as is required by this particular problem, *A* being 30'-0" above the Horizon Line and *C*, 10'-0" below the Horizon Line. The process of finding the perspective with this system is, as explained above, as though the object were hewn from a solid block. Having established line *A C* (Figure 52) correctly, (this, as has already been pointed out, representing the left-hand corner of the solid containing the building, and representing the plane in contact with the transparent or picture plane and being consequently in the scale of the picture plane), we shall proceed to find the different units and set-backs constituting at first the *mass* of the building. Using the measuring points respectively, and observing in Figure 53 and 52A, that it is the steps in plan that form the maximum projection on the front elevation and are located 28'-6" from the left-hand corner and are 27'-0" wide. Consequently measuring 28'-6" to the *right* of point *A* on line *R S* in Figure 52 (which has been explained above, in the scale of the picture, to be found on the upper and left-hand limit of same, and relative to the dimension shown in plan in Figure 52A) conduct a straight line from this point *a* to measuring point *M II* on the Horizon Line. This line, it will be found, intersects line *A—V P II*, which is a straight line conducted from point *A* to the vanishing point of this side of the building, at point *a'*. From point *C* conduct another straight line to vanishing point *V P II* which represents the lower front limit of the solid containing our building, and lowering a perpendicular from point *a'* to this line, we will have found the corner of the steps nearest the observer. On line *A C* measure up the distance of 8'-0" representing the height of steps indicated on the elevation in Figure 52B. Conducting a straight line from this point to vanishing point *V P II* (or using the method of shortening this distance, by using the curve and perspective T-square as already explained in Figure 47 with relative text in a previous issue), it will intersect the perpendicular just found, representing the left-hand front corner of the steps at point *a"* (Figure 52), at exactly the same height in perspective, or 8'-0" high in perspective. Continuing, on line *R S* (Figure 52), measure 27'-0" more to the right point *a* to point *b* corresponding to the width of the steps, and repeating the operation as before, conduct *first* a straight line from this point *b* to measuring point *M II*, intersecting line

(*Continued on page* 39)

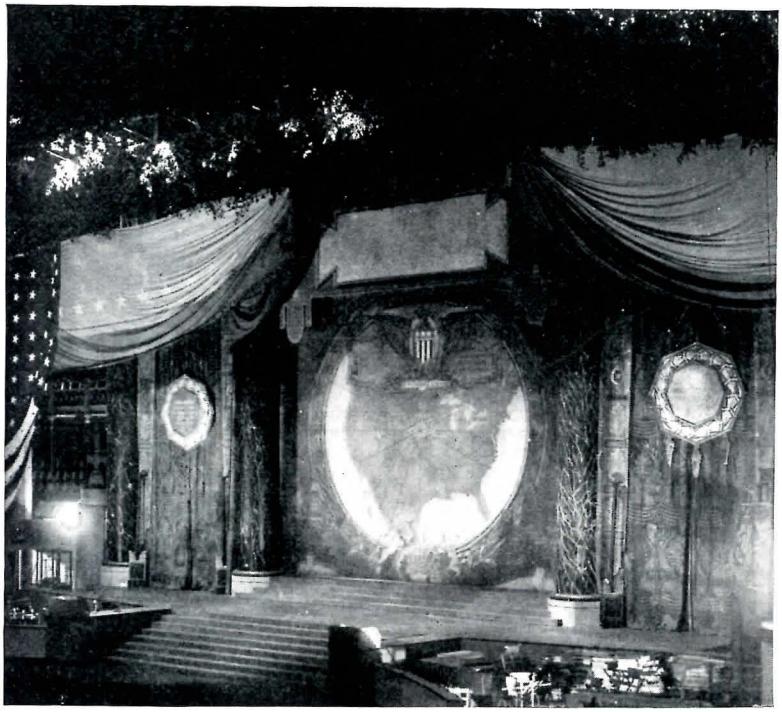
PAGEANTRY AND ITS RELATION TO ARCHITECTURE

BY HOWARD GREENLEY

Presented to The New York Alumni of The University of Pennsylvania.

I HAVE always maintained the existence of a practical relationship between Architecture and the art of the theatre in which pageantry must be included. If, in the opinion of the cognoscenti the productions of the architect may be considerately referred to as architecture we can then hopefully assume on my hypothesis that the architect is qualified to effect an easy transition into the realm of the theatre and to develop his contact with pageantry, and, I further maintain, to the infinite advantage of both.

We are, therefore, gentlemen, attempting to develop the theme of the relation of one great art to another equally great art. If the definition of unity can be applied as a term in the final resolution of all the arts, then the relationship is at least theoretically established. Perhaps to establish this relationship of Pageantry to Architecture by indirection, I might say that Pageantry is directly what Architecture ought to be and too frequently, alas, is not, the art of self expression. And this is one of the great dangers associated with the profession of architecture that so many fall into; its conception merely as a study of archæology translated into terms of expediency and with the harassing accompaniment of an eternal routine of difficulties to be resolved or of compromises to be anticipated.



Setting and Decorations for the Pageant of "America's Making." Designed by Howard Greenley, Architect. Executed in the Studios of J. M. and A. T. Hewlett.

I am consciously drawing the worst side of the picture so as to stimulate you to a revolt against a situation which some of you have experienced, and to prevent, if possible, others of you from experiencing by suggesting various alternatives of self expression as a remedy against discouragement.

For as Mæterlink says in one of his plays—I think it is "Aglavaine and Selysette": "By dint of concealing that which is best in you from others you will end by not recognizing it yourself."

Nothing that I know of contains a greater degree of truth than this observation and this is the theme which I want to discuss and develop as the remedy which I have referred to. You may wonder how I shall ultimately get away with it when I describe this remedy as being nothing more nor less than pageantry. Pageantry viewed in its broadest sense.

We have referred to pageantry as an art of self expression. Let us see if it be taken periodically in accordance with the capacity of the individual who accepts it as a remedy, whether it is practical in the sense of a mode of self expression. Will it furnish an outlet for that which is best in you; for all those stored up creative energies which are not only going to bring satisfaction and efficiency to you in your work but also a corresponding measure of joy and satisfaction within the larger circle of the community. Of course, what I have said is predicated on your inclination to do a day's work. There is little advantage to be gained in talking to anyone who doesn't regard it as a heaven sent opportunity or to the class who consider it vulgar. Let us proceed on the supposition that we do not belong to these classes and continue. It is a fact that all of you will average seven hours of leisure daily over and above office, meal and sleeping hours. Potentially there is a lot of energy going to waste in those seven hours if you do not use some of them creatively and constructively. For many of you, a part of the time is devoted to golf or riding or swimming, or dancing as the case may be—excellent and essential activities to whatever extent indulged in, but superlatively valuable if you undertake them with mind and muscle consciously coordinated toward the attainment of perfect style and form and rhythmical action. Now put a little of this same effort and resultant style into your work and see what happens as a result. More

(*Continued on page* 40)

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THE AMERICAN ACADEMY IN ROME

FROM a letter received by Mr. C. Grant LeFarge, Secretary of the American Academy in Rome, from Mr. Gorham P. Stevens, the Director, we quote the following: "January was an unusually eventful month. First in importance comes the death of Pope Benedict XV. As a result Professor Lamond postponed the first recital in his department. I am sending you a copy of the program and you will note that Mr. Sowerby, first Fellow in Music, was to have presented three of his compositions. As I write, a new Pope may be elected any minute.

"General Allen, present Commander of the American forces on the French front, came to Rome, with a company of American soldiers, to place on the grave of the Unknown Italian Soldier the medal which the Congress of the United States voted to give Italy in recognition of her great services during the war. There was a very impressive ceremony at the national monument, where the Unknown Soldier is buried, and General Allen made a very good impression.

"A third matter of particular interest to the Academy is that Mr. Mead has been spending the whole month in Rome. He began by calling upon the American Ambassador, Mr. Child, and then he buckled down to work at the Academy. He was present at our Faculty Meeting, and both Mr. and Mrs. Mead attended a Sunday lunch which we gave to them at the Academy, and at which between fifty and sixty people attended; Mr. Mead made a very fine speech telling us how the Academy originally started and what its aims are. He had discussed thoroughly with me many questions including such matters as the Summer School, the Visiting Students, the Memoirs, increase of salaries, permanent Professor in charge of the School of Classical Studies, the compromise with Monsignor Ubaid in regard to the closing of the street between the Main Building and the newly acquired lot, the situation of the tenants now living in the little white house on the newly purchased property. He had discussed many of these matters with both Mr. Vitale and with lawyer Del Frate. He has likewise been over all the properties, and in this connection he has taken up the question, with estimates, of transforming the Villa Aurelia into a four apartment house. Mr. Mead has certainly worked very hard, and he is now well posted.

"I am sorry to report that Professor Fairbanks has had a touch of pneumonia and pleurisy combined. He is sitting up for the first time today, and he is getting along as well as can be expected.

"Mr. Lamond has been suffering from a bad cold, and he is now in Nice for a change of air. He is planning to give his first recital on February 13th.

"The students in the School of Fine Arts have had a particularly strenuous month, wrestling with their Collaborative Problem. They have worked like Trojans, but have enjoyed it immensely. I think your Committee on the School of Fine Arts will find the results most interesting.

"We have obtained estimates upon the cost of reproducing Michelangelo's model of the dome of Saint Peter's. The total cost, including packing and shipping to New York, will come somewhere in the neighborhood of $3,300. We have a scheme on foot for the raising of this money. Painter Lascari has been specializing in mosaic painting. He has now written an account of how to proceed with such work, which will be of tremendous assistance to future students of this subject. I hope that he will read his paper at a conference here at the Academy.

"I take pleasure in reporting the gift of 5,000 Lire from Prof. T. Leslie Shear, a registered student in the Classical School, who has found our Library of great assistance to him. His donation is given for the purchase of books on Greek and Ancient Roman Art and Literature.

"The financial situation in Rome has not been straightened out. The present Ministry has just fallen due to the banking situation; the financial situation has weighed more heavily upon our Visiting Students than our own Fellows. A number of them have every cent they own tied up in the Banca di Sconto, but, little by little, we are, I hope, helping them to straighten out their affairs."

COMPETITION FOR TWO SCHOLARSHIPS

TWO scholarships of three hundred dollars each are offered in the scholastic year of 1922-23 for special students in the fourth year of the course in Architecture at the Massachusetts Institute of Technology. They will be awarded as the result of a competition in design under the direction of the Committee on Design of the Department of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least two years of office experience. Competitors must, however, present satisfactory evidence of a knowledge of descriptive geometry.

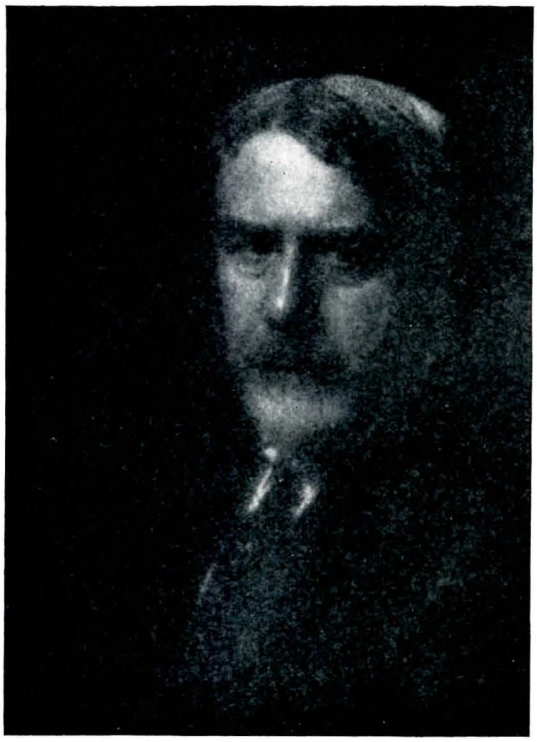
The competition will be held in July, 1922. Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the Committee, but these drawings must be sent to Boston for judgment.

Applications should be received before May 15, addressed to Professor William Emerson, 491 Boylston Street, Boston, Mass.

EXHIBITION OF ETCHINGS AND ENGRAVINGS

THE American Academy of Arts and Letters is exhibiting in the Academy Galleries at 15 West 81st Street, New York, modern American etchings and engravings with the object of showing the best American work in the graphic arts.

Howard Greenley, Re-elected President of the Architectural League of New York.



WILLIAM DE LEFTWICH DODGE

WILLIAM DE LEFTWICH DODGE, whose mural paintings have made him an important figure in the world of art and architecture, was born in Bedford County, Virginia. He entered the Ecole des Beaux Arts, Paris, at the age of seventeen, and passed number one the examinations to enter the Atelier Gerome. He received three mentions, two third class medals, and one of the first class (Prix de Atelier). He studied under Gerome and under Raphael Collin, also at Berlin. Mr. Dodge exhibited at the Paris Salon and he also received medals in this country, including one at the World's Fair, Chicago.

His first important commission was for decorations for the dome of the Administration Building at the World's Fair in Chicago. Among his many important works are decorations in the following buildings: Library of Congress, Washington, D. C.; Empire Theatre, New York; Academy of Music, Brooklyn; King Edward Hotel, Toronto, Canada; Hotel Auditorium Annex, Chicago; Hall of Records, New York. Mr. Dodge has painted mural decorations in innumerable public and semi-public buildings, in residences, and in steamers. His work was also seen in the "Tower of Jewels" at the Panama-Pacific International Exposition in San Francisco. Among his more recent works are decorations in the library of Teachers' College, Cedar Falls, Iowa, and the Mothers' House, Rice Memorial, Pelham Bay Park, New York. One of Mr. Dodge's studies for a group in one of his mural paintings is shown on Plate XVI of this issue. He is now engaged upon mural decorations for the Flag Room in the State Capitol, Albany, N. Y. Mr. Dodge's work is marked by virility, thoroughness of study and effectiveness of technique, and his decorations are admirably conceived.

In addition to mural painting, Mr. Dodge has done decorative cover designs for "Figero Illustre," Paris, and for leading magazines in this country. He has taught at the Art Students' League, and now has a class at Cooper Union. In painting Mr. Dodge has not entirely confined himself to mural work, he has produced many pictures of distinguished character. He believes that a mural decoration is of no value unless it harmonizes with the room, unless there is a unity evolved from the work of the architect and the painter.

PERSONALS

R. K. KNOX, formerly of Champaign, Illinois, has opened offices for the practice of architecture at 215-216 Liberty Life Building, Cape Girardeau, Mo.

GEORGE E. TRENT, Architect, has opened an office for the practice of architecture at 613½ Ninth Street, Huntington, W. Va.

CHARLES SORBER, of the Department of Architecture, Carnegie Institute of Technology, has been awarded the Pupin Prize by the Beaux Arts Institute of Design, New York.

WALTER F. MARTENS, formerly a partner of the firm of Stuebe & Co., Danville, Illinois, has opened offices at 212-14 Boyd Building, Charleston, W. Va., for the practice of architecture and landscape architecture.

PENNSYLVANIA STATE COLLEGE

THE title of the Department of Architectural Engineering at the Pennsylvania State College has been changed to "The Department of Architecture." A course of study has been approved which will be known as "A Course in Architecture." This will be in addition to the existing course in architectural engineering.

As a means of arousing a greater interest in the sketch-type of architectural rendering the Scarab Architectural Fraternity at the Pennsylvania State College has instituted a traveling exhibition of small pencil drawings and water color drawings, to which The Massachusetts Institute of Technology, University of Illinois, University of Kansas, Washington University, Armour Institute of Chicago and the Pennsylvania State College have contributed. This collection will visit the various colleges and universities where the Scarab Society is installed.

PERSPECTIVE DRAWING, PART XXII

(*Continued from page 36*)

A—VP II at point *b'*, then lowering a perpendicular from point *b'* until it intersects line *C—VP II* at point *b''*; prolong line from point *d* on line *A C* to vanishing point *VP II* until it intersects the perpendicular lowered from point *b'*, and at point *b''*, we will have found the height of 8'-0" as measured off on line *A C* in the scale of the picture, first on line *a' a''* and next on line *b' b''* all equal in height *perspectively*, the first being exactly 28'-6" away from the picture plane, and the second 27'-0" more, as indicated on the plan in Figures 52A and 53.

The next step is similar to the preceding one. It will be noticed that the next plane back from and second nearest the transparent plane is the front face of the centre unit of the building, and according to the plan in Figure 53 is *b' b''* distant from this plane. Note: As shown in Figures 52A and 52B we are always considering a solid containing the entire building including its maximum projections in plan and elevation. This means cornice projections in elevation. Consequently repeating our operation as before, first notice that the corners or projection of the cornice of this centre unit on the front are directly behind the points previously found with relation to the steps. (See plan in Figure 52A and elevation in Figure 52B.) This being the case, the two upper corners of the centre unit of the building will be found directly behind points *a'* and *b'* (see Figure 52) and instead of being found in a plane which on the extreme left-hand corner is tangent with the transparent plane, is on the contrary *b' b''* back from this plane. To obtain this depth, measure off *b' b''* to the *left* of point *A* on line *R S* and (using measuring point *M I*) conduct a straight line from this point to point *M I* until it intersects line *A—VP I* to point *h* which is the vanishing line to *VP I* (vanishing point No. I) or the vanishing point for all lines and planes pertaining to the short side of the building. Connecting this intersection or point *h* just found with vanishing point *VP II* you will intersect line *a' VP I* at point *h'* just *b' b''* behind point *a'* in *perspective*. In other words the distance of *b' b''* found to the *left* of point *A* on line *R S* in the geometric plane representing the distance of this face of the building back from the transparent plane as shown in the plan in Figure 53, is equal to the distance shown on line *a' VP I* between point *a'* and the intersection just found in point *h'*. The first is a *geometric* dimension and the latter is in perspective. It can be readily seen that by prolonging the straight line from point *h'* to vanishing point *VP II* until it intersects line *b' VP I* at point *h''* we shall have obtained the upper limit of the centre unit of the building 27'-0" wide as indicated on the geometric measuring line *R S*, and *b' b''* in back of the transparent plane as just shown by the recent operations. It will be clearly seen also that by lowering perpendiculars from points *h' h''* to the ground plane, and conducting straight lines from points *a'' b''* to vanishing point *VP I*, at the intersections *w y* will again be found 8'-0" in height in perspective required by the problem, and uniting these points with straight lines we will find the solid containing the steps as a result.

BUILDING SUPERINTENDENCE AND SPECIFICATIONS

A RECENT book that contains much useful information is "Modern Building Superintendence and the Writing of Specifications," by David B. Emerson, published by Charles Scribner's Sons, New York. ($1.75)

The book follows through the construction of a modern office building which, it is assumed, is to be built in one of the larger cities, a building twenty stories high and 150 feet by 200 feet, the construction to be of the best class and modern in every detail.

Part II deals with writing specifications for a small house, and other matter of interest to specification writers.

QUERIES

In this department PENCIL POINTS *will endeavor to answer questions of general interest pertaining to Architecture 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 interesting 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 shall greatly appreciate your giving me a list of books on moderate-size houses, with plates, floor plans, and general description, also names of publishers. Will you please do so? L. A. L. **Answer**—We suggest the following books on moderate-size houses: "Low Cost American Homes." by Hodgson (illustrated). Published by Frederick J. Drake & Co., Chicago. Perspective views and floor plans of one hundred low and medium priced houses. "Practical Bungalows and Houses," by Hodgson (illustrated). Published by Frederick J. Drake & Co., Chicago. Perspective views and floor plans of three hundred low and medium priced houses and bungalows. "Modern American Homes," prepared by H. V. Von Holst, Architect, Chicago (illustrated). "The Plan Book of American Dwellings," published by Glenn L. Saxton, Architect, Minneapolis, Minn. A compilation of original home designs and showing actual photographic exteriors and floor plans of moderately priced bungalows, cottages and residences. "The Livable House, Its Plan and Design," by Embury (illustrated). Being volume one of the "Livable House Series," edited by Aymar Embury II. Published by Moffat Yard & Co., New York. "The Book of Bungalows," by R. Randal Phillips. Published by Country Life, Ltd., England. (Chas. Scribner & Sons)

Question—Will you please advise us what books would be valuable in the monument business? J. H. S. **Answer**—Replying to your inquiry relative to works on memorial art we would recommend the following books: "Memorial Art, Ancient and Modern," by Harry A. Bliss. Illustrations and descriptions of the world's most notable examples of cemetery memorials. "Arte Funeraria Italiana" in two volumes (Preiss Bestetti & C., Milan). This is a set of beautiful plate pages.

PAGEANTRY AND ITS RELATION TO ARCHITECTURE

(*Continued from page 37*)

quality, more speed and more time at your disposal.

What I am getting at is this; the greater and more varied your activities, the more you can do, and the more opportunity you will have to exercise your creative faculties along varied lines of self expression. Some of the spare time you have unscheduled you can use to advantage in discovering the latent talents and aspirations within yourselves and developing them. That they will be along lines of artistic endeavor is more than probable in view of the training and education you have been privileged to receive.

Art has been described as the quality of being able to express an emotion beautifully. Now if we get to the point of applying this principle to as many of our activities as we can we become after awhile able to inject beauty into our own lives and into the lives of others as well. We become all of us potential figures in the pageant of the world's progress. It makes no difference what we are doing, so long as we do it well and understandingly, for without that understanding, we are little better than slaves. Now all of this is preparatory to this subject of pageantry and its architectural relation. If art is the quality in the individual of being able to express an emotion beautifully, pageantry is nothing more, nor less, than a collective expression of the same thing. The word pageant comes from a late Latin word "pagina" meaning a stage, and pageantry is described as a spectacle, or a kind of continuous performance.

Since Shakespeare has said that all the world's a stage, he had a fairly clear notion of pageantry. In the largest sense it is the theatre of life, and the theatre is an all comprehensive art. It has by assimilating the inner rhythms of many arts into the service of a new structure created new beauty.

The applicability of the definition to architecture must be apparent to you, and further examination will develop additional conformity. The same elements enter into the structure of a stage production, or of a pageant as in an architectural construction. Both must proceed with a plan, call it a scenario or a program as you like; the plan must be derived from it.

You have the periods of history covered by the Pageant paralleled in the historic style of your architectural design. The stage settings, embellishments, accessories and properties required in the presentation of a pageant, correspond to the decoration, the furnishings and other equipment of a building, and furthermore are all architectural in source of design. Again the composition of your pageant groups and the design and color of the costumes are all reflected in the composition, ornamentation and color treatment of your building.

But you may accept this and still say that after all, architecture is static as compared with the rhythmic movement and kaleidescopic color changes in your pageant. What then? Let me ask if you have observed what the life of the majority of buildings is in New York. Due to changing conditions of zoning, trade centers, occupancy or of many other demands one can say that twenty years is a fair average. Is there not something of a passing spectacle or a fleeting show about this comparable to pageantry? But let us disregard this impermanency and look at it from another angle. Is there nothing rhythmic about a tremendous colonnade in the orderly spacing and dimensions of its columns and the swing and sweep of its soaring mass. Have none of you observed the color changes in a building under various conditions of light or of darkness or of other atmospheric effects. Of course you have, but you may never have been impressed by its relation to pageantry. A magnificent building is not only the background of a pageant; in itself it represents the pageant of architecture. Look at it not merely as a mass of stone and of steel, but visualize it as living and filled with color. Observe the dramatic dominance of its scale, and then you get within your imagination something of the relation between these two expressions of pageantry and architecture, and something of its emotional appeal.

And no other group of men in the world today is so singularly well equipped as you architects. You are trained in all of the things which the art of the theatre in the larger sense of pageantry implies. You have the knowledge of design, of composition and of color. You are susceptible to qualify of rhythm whether expressed musically or in the orderly sequence of architectural plan and elevation. You bring to bear on the subject resourcefulness, ingenuity and a systematic procedure into the working out of a project from its inception to its completion and in my own experience, gentlemen, I have found this my most valuable asset as compared with others outside of our profession who are engaged in this kind of work. And last but most importantly, you have the knowledge of suitability and of taste and of scale and there is where you are triumphant.

Now I do not tell you to all go out and become masters of pageantry or of decoration, but I do say this; that if there is anything I have told you that makes an appeal to your imagination go to it. Put in some of your spare hours thinking about these things. Put some of them in practice on any scale you may select. It is not necessarily a question of dimension. Spread the information. Carry the torch. You have had the advantage of education that many others have not enjoyed. Watch them absorb it. No other factor in the lives of individuals is as psychologically profound.

Grace of mind and of body go together and the desire for better things. And I have the firm conviction that any community or group of individuals which has watched or participated in pageantry production must react in a very definite way to the appeal to its beauty and formulate a creative desire to make its own surroundings approach the ideals which have been set before it in the pageant.

THE SPECIFICATION DESK

A Department for Specification Writers

MISCELLANEOUS ITEMS OF CONSTRUCTION PART II.

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.

Weather-tight Fire Doors—In public buildings, where fire and building laws or safety require exit doors opening outward, it is difficult to make them weather tight if they are single double-acting doors, or if they are erected in pairs. If they are erected in pairs they must be treated so that they can open independently of each other, both if double-acting and if opening only outward. The following is a practical solution of the problem involved.

For single doors, make the striking stile so as to come to within three-quarters of an inch, of the frame at the jamb, and for pairs of doors make the edges of the meeting stiles come within one and one-half inches of each other. The stiles should have square edges and not the customary curved ones, which, in this case, will be formed by the rubber covered curved face of a piece of hardwood attached to the stile. This piece of hardwood should be made slightly more than one-half of an inch thick and slightly narrower than the thickness of the door stile on which it is to be placed. Its face should be curved to a radius of about four inches; its edges should be rounded to a radius of about one-quarter of an inch, and its back should be flat to fit against the stile.

In order to facilitate the replacing of the rubber covering when it is worn out, the piece of hardwood must be removable. This can be accomplished by placing screws about twenty inches on centres vertically on the edge of the stile, leaving their heads projecting so as to engage slots in brass plates, three-quarters of an inch wide and two inches high, screwed to the back of the hard-wood. Use wood screws for wood doors and machine screws for metal doors, the latter being reinforced with additional metal if necessary to permit tapping and threading for the screws. The slots should be similar to a keyhole; that is, they should be made large enough at the bottom end to fit over the screw heads, but small enough at the top end so that the screw heads will hold the plates and hardwood in place when the piece of hardwood is pushed downward.

The pieces of hardwood should be applied and adjusted so as to have the proper projection and so as to allow for the thickness of the rubber. This can be done by perforating the hard-wood at the screw heads, putting them in place, and screwing the screws in or out as may be necessary. Then the wood can be removed and covered with the rubber which is tacked to the back.

The rubber should be at least one-sixteenth of an inch thick and it should not be drawn tightly over the wood. There should be a clearance of about an eighth of an inch behind the outer face to permit the rubber, when striking that on the other door or the frame, to be pressed back to make an air tight joint with the least possible friction, and also to allow for warping or swelling of the doors.

The dimensions can be varied slightly to suit different thicknesses of doors.

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER.

Any publication mentioned under this heading will be sent free, unless otherwise noted, upon request, to readers of Pencil Points *by the firm issuing the publication. When writing for any of these items please mention* Pencil Points.

Brixment—Brochure illustrate in color on the subject of Brixment Mortar. 16 pp. 5½ x 7 in. Louisville Cement Co., Louisville, Ky.

Webster Modulation System of Steam Heating—Profusely illustrated Brochure explaining the Webster System and its adaptability to residences, apartment buildings and hotels, office buildings, educational buildings, churches and religious institutions, hospitals and sanatoriums and public buildings. 88 pp. 8 x 10 in. Warren Webster & Co., Camden, N. J.

Webster Vacuum System of Steam Heating—A Bulletin illustrated with line drawings and sections. Complete technical exposition of the subject. 36 pp. 8 x 10½ in. Warren Webster & Co., Camden, N. J.

Artists' Materials and Draftsmen's Supplies—Complete catalog of everything required in the drafting room. Revised prices. Instructions for ordering, etc. 558 pp. Substantial cloth binding. 6 x 9 in. F. Weber & Co., 1125 Chestnut St., Philadelphia, Pa.

Exterior Lighting—Catalog H. Profusely illustrated showing various types of lanterns and other fixtures for all exterior lighting uses. 96 pp. Smyser-Royer Co., 1609 Sansom St., Philadelphia, Pa.

Magic Service Pipeless Heater—Illustrated booklet showing construction, sizes, capacities and complete specification data. 20 pp. 6 x 9 in. Somerville Stove Works, Somerville, N. J.

Book of Views—Illustrated booklet showing work accomplished by Cement Gun Construction Co. Various types of buildings erected by means of Cement Gun System. 32 pp. 6 x 9 in. Cement Gun Construction Co., 537 So. Dearborn St., Chicago, Ill.

The Heart of the Heating Plant—Illustrated booklet explaining Minneapolis Heat Regulator with various applications. 6 x 9 in. 20 pp. Minneapolis Heat Regulator Co., Minneapolis, Minn.

Cabot's Creosote Stains—Technical report setting forth fully the methods of producing genuine refined creosote. Fully illustrated. Samuel Cabot Inc., 141 Milk St., Boston, Mass.

"No-lus-plug" Type of Standard Receptacles—Illustrated circular showing details of design of this new device. Machen Electric Mfg. Co., 4639 E. Thompson St., Philadelphia, Pa.

The Proper Treatment for Floors, Woodwork and Furniture—Booklet profusely illustrated in color giving information on the treatment of wood surfaces, both coloring and finishing. 32 pp. 6 x 9 in. S. C. Johnson & Son, Dept. P. P., Racine, Wis.

Corrugated Wire Glass—Bulletin illustrated with 12 plates of detail drawings, standard specifications and full engineering data, covering the application of this material for various types of buildings. 24 pp. 8½ x 11 in. Pennsylvania Wire Glass Co., 1507 Chestnut St., Philadelphia, Pa.

Casement Windows—Illustrated booklet showing applications of modern casement window hardware. 16 pp. 4 x 9 in. Monarch Metal Products Co., 5020 Penrose St., St. Louis Mo.

Harrisburg Star Water Tube Boilers—Illustrated catalogue. Tables of dimensions, capacities, etc. Detail drawings. Sections. 6 x 9 in. 32 pp. Harrisburg Star Boiler Corp., 50 Church St., New York.

Hand Power Elevators and Dumb Waiters—Catalog "P." Illustrated hand book covering hand operated dumb waiters for all uses, book and fuel lifts, hand operated elevators for industrial plants; invalid lifts, automobile lifts, sidewalk lifts ash cranes, trunk lifts, etc. Sections showing construction, tables of dimensions and sizes, and complete specification data. 52 pp. 4 x 9 in. Sedgwick Machine Works, 150 West 15th St., New York.

Frame Construction Details—Book containing 28 plates dealing with practical problems arising in the construction of frame buildings; to serve as a guide to those engaged in actual construction work, to prospective builders, to architects, and to students of architecture and building construction in the preparation of drawings. 8½ x 11½ in. Price $1.00. Published by the National Lumber Manufacturers' Assn., 750 McCormick Bldg. Chicago, Ill.

The Modern Method of Ash Disposal—Illustrated booklet, 6 x 9 in. 8 pp. Published by the Sharp Rotary Ash Receiver Corp., Springfield, Mass.

Composition Flooring Specifications—Covering Sanitary floor, base and wainscoting. Franklyn R. Mueller & Co., Waukegan, Ill.

Asbestone Composition Flooring—Booklet containing illustrations and color suggestions for Asbestone Composition Flooring. 8½ x 11 in. 8 pp. Franklyn R. Mueller & Co., Waukegan, Ill.

Asbestone Everlastic Magnesite Stucco—Booklet containing illustrations and specifications. 4 x 9 in. 24 pp. Franklyn R. Mueller & Co., Waukegan Ill.

Windmills and Water Tanks—Illustrated catalogue showing various types of equipment for country estates, industrial buildings and business buildings. 7½ x 11 in. 24 pp. A. J. Corcoran, Inc., Jersey Ave. and 13th St., Jersey City, N. J.

UNIVERSITY OF MICHIGAN

A PROMINENT architect of Detroit, Mr. Ernest Wilby, has joined the instructing staff of the Architectural School of the University of Michigan. He comes as a visiting instructor three afternoons a week to help relieve the pressure on the regular staff due to the rapid growth of the school, which is now the third largest architectural school in the United States. He is teaching a class in design, primarily for seniors and students who have completed the graduation requirements in design.

F. S. Laurence of New York recently gave an interesting talk on the uses and production of terra cotta for architectural purposes. The lecture was illustrated by films and lantern slides made in one of the plants of the National Terra Cotta Society and was given under the auspices of the University Architectural Society.

The speaker was for many years connected with the Rookwood Pottery Company of Cincinnati and has travelled extensively abroad. He gave an historical sketch of the evolution of terra cotta and showed illustrations of modern applications including the Woolworth Building of New York by Cass Gilbert, and the Wrigley Building of Chicago.

The films showed the entire process of production beginning with full-size details made in architects' offices and shop drawings: the making of moulds, modelling of ornamental work including decorative figure sculpture, various kinds of kilns for firing, and the application of color. The actual setting of the finished product and special requirements in construction were shown and discussed.

An exhibition of architectural etchings by Addison B. LeBoutillier of Boston, drawn in the French war zone, has been hanging in the Architectural Corridor until recently, when it was replaced by a collection of Persian and Chinese textiles. Earlier in the year groups of water color paintings by Sears Gallagher, Edith Park, and Teodora Bissegger were shown here.

Other exhibitions were collections of pencil drawings by Mr. Albert Kahn of Detroit and Herbert G. Wenzell, also of Detroit, and photographs of some of the more important of the Trocadero architectural collection in Paris. Mr. Kahn's sketches showed interesting wood and iron work from the South Kensington Museum, London, a drawing of Chartres Cathedral, and of the portal of St. Gilles. Mr. Wenzell's drawings were travel notes in France and Italy. The photographs were loaned by Mr. George G. Booth of Detroit.

The Holbein prints loaned through the American Federation of Arts, and an exhibition of reproductions of paintings by old masters, modern American painters, and illustrators have just been taken down.

Frank Burton, Commissioner of the Department of Buildings and Safety Engineering of the City of Detroit, spoke on "Problems in Building Construction" on Tuesday afternoon, March 7.

ARCHITECTURAL DETAIL

(*Continued from page 27*)

the Shearman house the compartments are all alike, but in some designs one finds herringbone opposed to soldiers and these neighboring with simple stretcher work. The pavement of the Detroit Golf Club by Albert Kahn (page 27) is a continuation of this idea. In the center, stretchers radiate in four directions. After the interlude of flags there are four concentric circles of brick. Then comes the main border of the design made up of panels of brick laid in herringbone and framed by a line of headers inside the bordering flags. Also notice the brick panels of the walk, the diamond and the bordering headers.

The patterns we have been discussing are formed by brick of one color, but if shades of different colors are used, wonderful effects may be obtained. Furthermore these designs may be accentuated by setting certain brick out from the wall. On page 24 is shown the front of the Nippon Club of New York. In the panels under the first floor windows, the light brick in the center of each of the three motifs project ⅝ of an inch beyond the darker line outside them, which in turn projects ⅞ of an inch beyond the ground, while the outer dark border line projects ⅝ of an inch beyond the ground.

Past experience has led me to feel that in rough texture brick work, a projection of less than five-eighths or three-quarters of an inch does not count and to obtain a marked shadow as much as an inch or more may be necessary. Nevertheless, I understand that the diagonal pattern of the Shearman house projects only three-eighths of an inch. It is pertinent to remark that the shadows in this photograph happen to be accentuated.

Apparently all rules can be broken at times to advantage, still it is good to remember in colored panel work that the important or focal points of the design should be of the brighter or most noticeable colors and that the lighter brick would better be in projection as the planes that recede will have a shadow cast upon them. One reason why this rule cannot be followed thoughtlessly is that the darker brick are often the most colorful as well.

Another use of brick is that of the projecting cornice or other bands the building out of corbels and finally moulded brick. On page 25 is shown another part of the Detroit Golf Club with some very interesting specially formed brick columns and a charming little line of corbels of thin brick over the headers set on edge that form the window lintels. Also notice the brick panel in the center of the walk.

Combinations of brick with other materials may be productive of the happiest effects. The residence of Clyde F. Carr, Esq., H. T. Lindeberg, Architect, is one of these. Here a brick arch is divided into voussoirs by slate separations and the spring line of the arch and eave line are also marked by a heavy bed of slate. Below this line, every fifth course has a projecting course of rough brick and the steep gable is decorated by a pattern somewhat like that of the Shearman house, but enhanced by a more markedly projecting brick at each intersection. In this house, the main wall surfaces are painted white and give contrast with the less thoroughly whitened arch and projecting courses of the lower wall. The chimneys are also noteworthy and we shall refer to this house later on when discussing slate roofs.

There is one more point to touch upon that makes for good or bad brick work, namely the jointing. Narrow joints of a quarter of an inch or three-eighths of an inch are characteristic of Colonial architecture and suit the smoother bricks. Joints of five-eighths to three-quarters of an inch are good for rough texture brick and this brick looks well with a yellowish-grey joint containing enough grit to make it rough, raked out about half- or three-quarters of an inch. Joints from three-quarters of an inch to one inch wide are expensive because each course has to be plastered over and allowed to set up slightly before the next brick is laid upon it, else the weight of the bricks will squeeze the mortar out.

Projecting joints are not used as much as in the days of repressed brick work and the "flush" "struck" or "raked" joint are more usual. I like the "weathered" joint inclining sharply back at an angle of sixty to fifty degrees. From below it gives somewhat the effect of a raked joint, is very good structurally, keeping the weather out, and can be finished in the one operation as the brick are laid up. The build joints should be slightly raked if a weathered joint is used although this can be attained by a double stroke of the trowel point, first left then right.

At the regular meeting of the Pittsburgh Architectural Club on February 24 an impromptu sketch competition was held for the design of a dovecote. The winning sketch, by W. Bergen Chalfant, is reproduced below.