

THE BROAD VIEW

THE necessary concentration of attention on one's own small part of the world's work during the greater part of the day, has a narrowing tendency that must be offset if one is to reach full development and achieve real success—the broad view is necessary to growth and happiness.

To the man who has not a broad view mole hills look like mountains, he often seems hemmed in by insurmountable difficulties and travels round and round in an ever-contracting circle.

It is most important to counteract this tendency, by putting oneself in contact with other departments of one's work and with other interests in one's spare time. The concentration on one's own work need be no less, it should not be, but will probably be more effective because the mind is refreshed.

To the draftsman it is helpful to get the point of view of the designer, the superintendent of construction and the specification writer, as fully as possible, in order that he may grasp the relation of his part of the work to the whole. It is also well for him to come to know the spirit of the life of the people of each of the great historic periods, the spirit that found its most enduring expression in their architecture. That is a very different thing from the usual dry, academic or merely superficial knowledge—it makes one see the architecture of the past as a living human expression, and it gives one a clearer conception of the relation of present-day architecture to that of the past and of the relation it should bear to the life of today.

If the superintendent of construction gets the point of view of the designer, his work will take on an added significance and incidentally he will be better able to see that the building as constructed embodies the conception of the man who designed it, that as much as possible of the spirit of the design is retained through sympathetic translation into the materials of construction.

If the specification writer looks up from his close application to detail long enough to grasp the conception of the building as a whole, as the architect visualizes it and as the design was conceived, he will find his work more interesting and will see his opportunities to preserve the integrity of the con-

ception in many refinements that come within his own province.

The architect who gets the view points of the engineer and of the business man not only refreshes his mind but counteracts certain narrowing tendencies of his profession. If in addition, the architect gets the view point of the musician and of the painter, and the sculptor, he develops his power of aesthetic appreciation, judgment and conception. He also achieves a realization of the inter-relation of these arts of expression, gets a keener sense of the place of architecture in the world of the arts—he strengthens himself and makes himself more responsive to the fine things of life.

With the understanding of the relation of our own part in the work and in life that comes with the broader view, there comes also a new sense of the dignity of our part, however small it may be. There comes a sense of co-operation in place of the merely habitual, servile or unwilling discharge of duties.

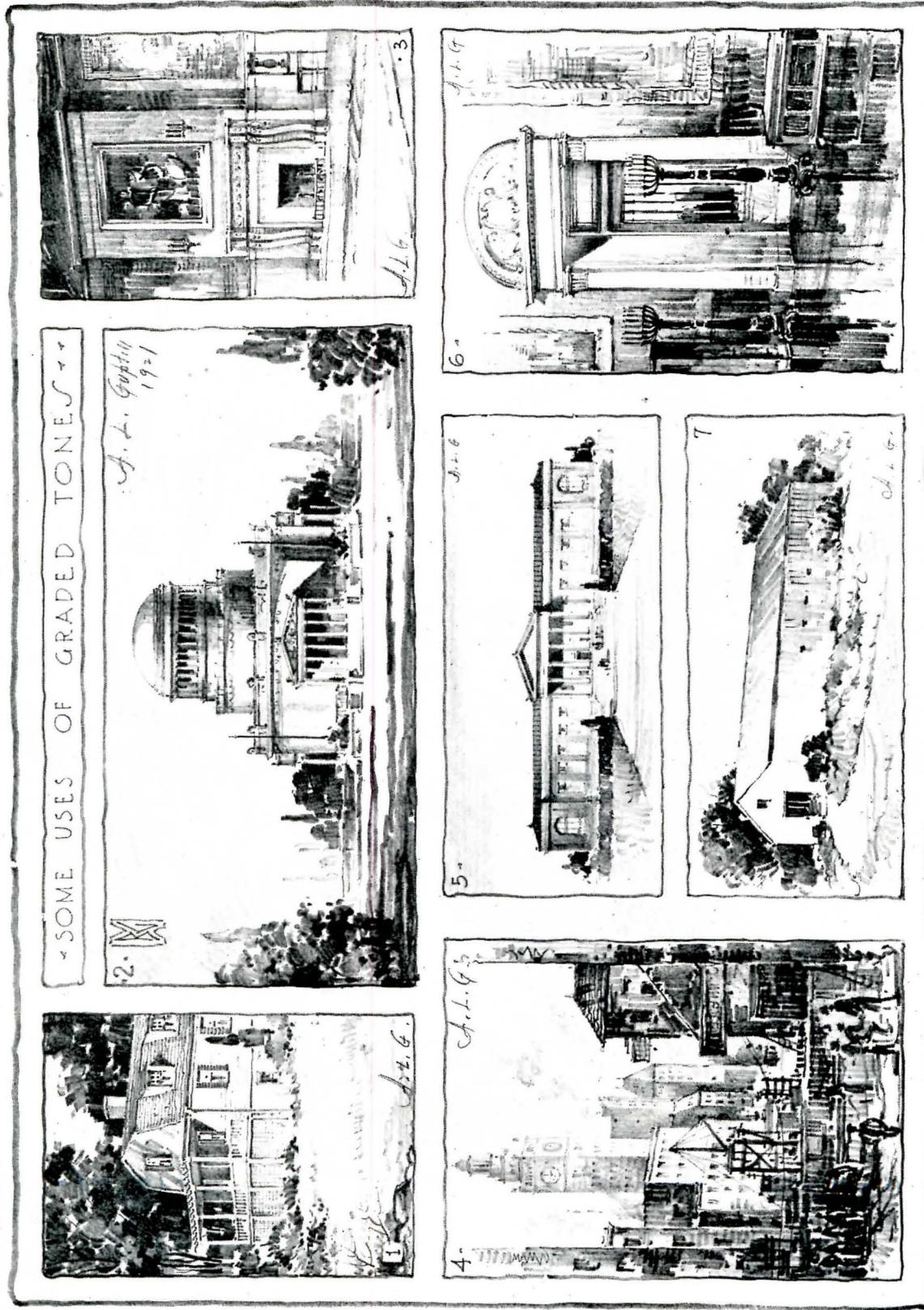
The thing that has made the achievements of civilization possible is organization, the banding together of men in communities and in working organizations. In an organization there are of necessity many men who are extensions of the personalities of other men, in the sense that they carry out work they are deputized to perform.

If this arrangement is taken in the wrong spirit, if the man thinks of himself as an automaton, he becomes an automaton—and he is not only unhappy but of little value. If, on the other hand, he sees himself and the man above him and the work in a broad way, he knows that he is a factor, and he lends his personality to the work, developing and making himself valuable.

Probably one of the reasons most men have hobbies of one kind or another is that they feel the necessity for a change of thought from their daily work to some other field. It is probably the reason architects and draftsmen make ship models, do etching, design medals or take up other hobbies that may be more or less related to architecture.

If a man has not the broad view, he is stalled, if he has the broad view, the degree of his own intelligence, energy and persistence will be the measure of his success.

PENCIL POINTS



Sketching and Rendering in Pencil. Figure 18, illustrating varied uses of graded tones.

SKETCHING AND RENDERING IN PENCIL, PART VIII

BY ARTHUR L. GUPTILL

In this series of illustrated articles the first of which appeared in the August issue of this journal, the technique of pencil sketching and rendering is being taken up step by step, carrying the architectural draftsman or student through a systematic course of study which has been gradually developed and put into practice by Mr. Guptill in his classes at Pratt Institute, Brooklyn, New York City. The illustrations are not merely copy plates, but each is drawn to illustrate some principle of composition or some suggestion for technique given in the text. Although these plates are primarily intended to assist the student in freehand work, they will prove helpful as well to those making pencil renderings of subjects prepared instrumentally.—ED.

Gradations of Tone (Continued)

JUST as graded tones prove of value in innumerable ways when representing small details, they are of use, too, in composing entire drawings. Occasionally compositions grade from dark at the top to light at the bottom as do "1" and "3," Figure 18; sometimes they are light at the top and dark below like "4" and "6" on the same sheet. These are all rather extreme examples, however, though it is frequently the case that drawings combine grades in two or more directions. Sketch "2" in Figure 18, for example, shows dark masses of foliage behind the building which grade away to light. At the end margins there are opposing dark masses causing a sharp contrast which seems to set the building back into the middle-distance. Sketch "5" also shows two sets of grades, the one on the building itself, going from light at the center to dark at the ends; the other on the hedge, which, by grading in just the contrary direction, gives contrasts which carry the eye towards the center of the composition. Sketch "7" is a further illustration of forcing the attention to a given point, in this case the near end of the building, by so grading the walls that they are left light at the end to form a strong contrast with the trees. Drawings are sometimes graded off into distance in just the opposite way—that is, they are carried from dark in the foreground to light in the background.

In fact there are so many places in which graded tones are found and so many uses to which they may be put, it has been our main purpose simply to call attention to their beauty and enough of their uses to give the student a realization of their importance. It is not our intention to give the impression that flat tones should never be used, for there are instances in which drawings have been wholly done with flat tones with a remarkable degree of success and in nearly every good drawing and in nature itself many flat tones are found, and are helpful in keeping the effect from being monotonous. There seems to be a tendency, however, among beginners to avoid graded tones, and it is hoped that these few suggestions will encourage such students to study them in nature and to make frequent use of them in their work.

The Representation of Small Buildings

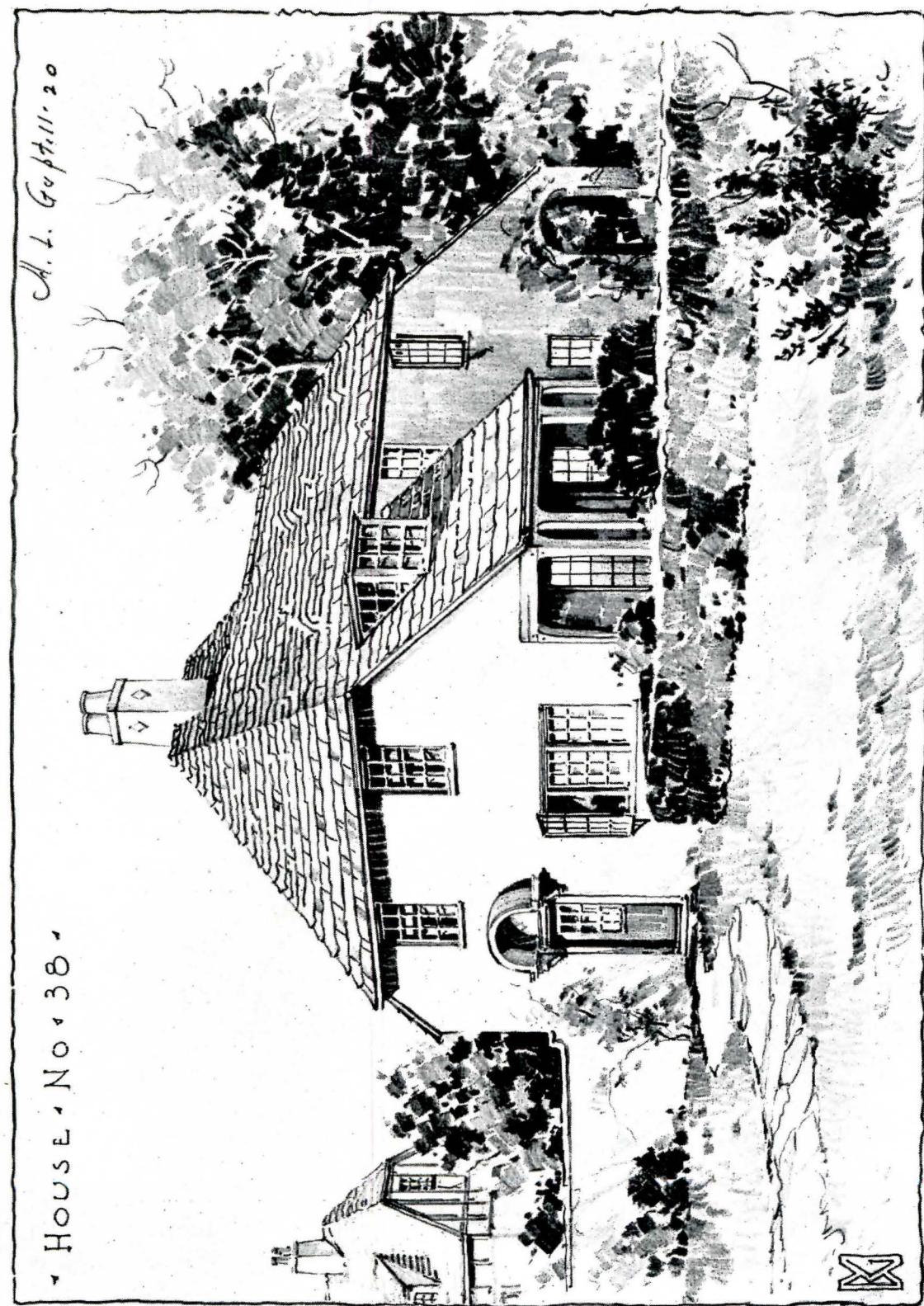
We have already pointed out in the introduction to this series of articles, appearing in the August, 1920, number of *PENCIL POINTS*, a few

of the many advantages to be gained through practice in pencil sketching and rendering. It is our present purpose to further explain some of the reasons why a knowledge of such work is of value, especially to the draftsman anxious either to better his position or to build up a practice of his own, and to offer as well some practical suggestions as a help towards this end, these suggestions relating especially to the representation of the simpler sort of building such as the small house.

It should be remembered that the average client who comes to an architect's office builds but once or twice in a lifetime; and for this reason is, as a rule, entirely unfamiliar with the drawings employed in carrying on such work. The instrumental plans mean little to him, though he can read them, perhaps so far as the general layout of the rooms is concerned, and can understand the elevation drawings if the building is simple in form, but let it be broken up into an irregular mass with numerous projections and varying roof pitches and he finds it impossible to visualize its finished appearance. This is not to be wondered at for even experienced designers and architects are sometimes surprised when they see one of their own buildings taking definite form on the site. With all their training they are not always able to judge beforehand just how the completed work will appear in relation to its surroundings. Doubtless one of the main reasons why clients are sometimes disappointed with their buildings when finished is that they prove entirely different from what they expected them to be, for they have not really understood the architectural drawings and so have been unable to judge until too late whether or not the submitted designs were satisfactory. Unwilling to admit this inability or overconfident because of the architect's words of assurance that everything would come out all right, they have approved the designs and given word to go ahead with the work when they actually had very little idea as to how the completed structure would appear. When such a building is finished it is only natural, then, that the client may be displeased, but if so he is much more likely to condemn the architect than to admit any error or lack of understanding on his own part.

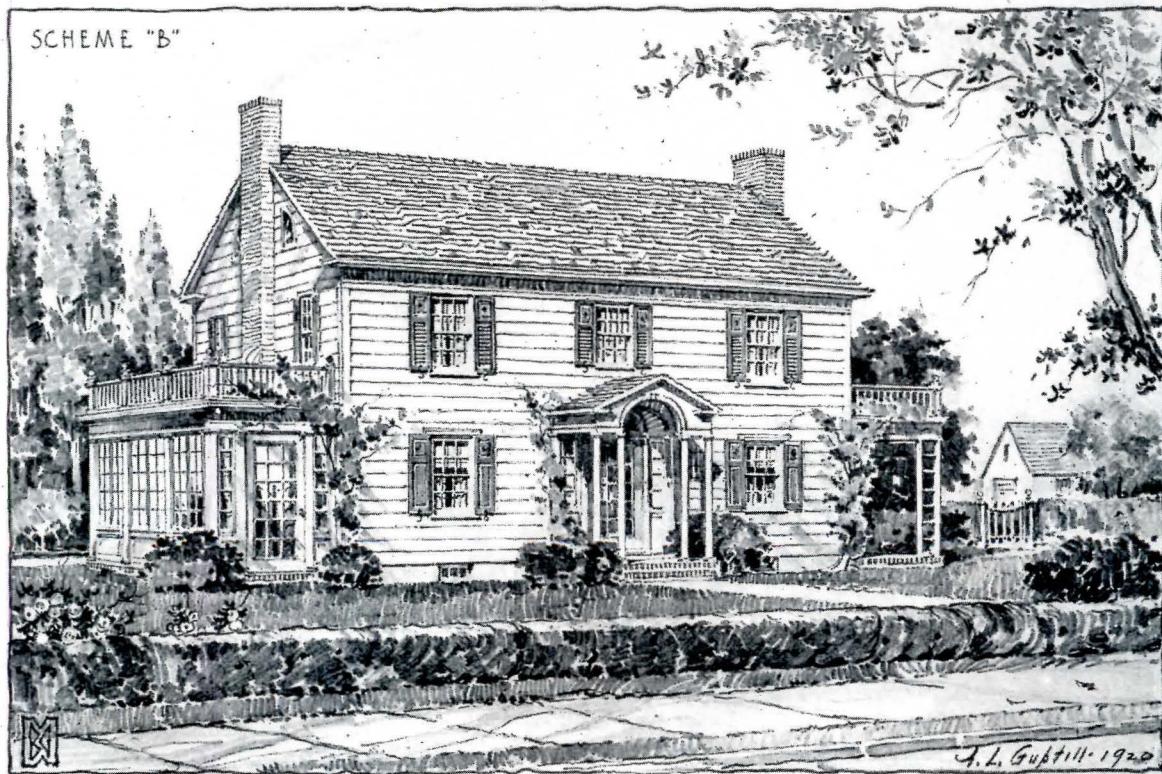
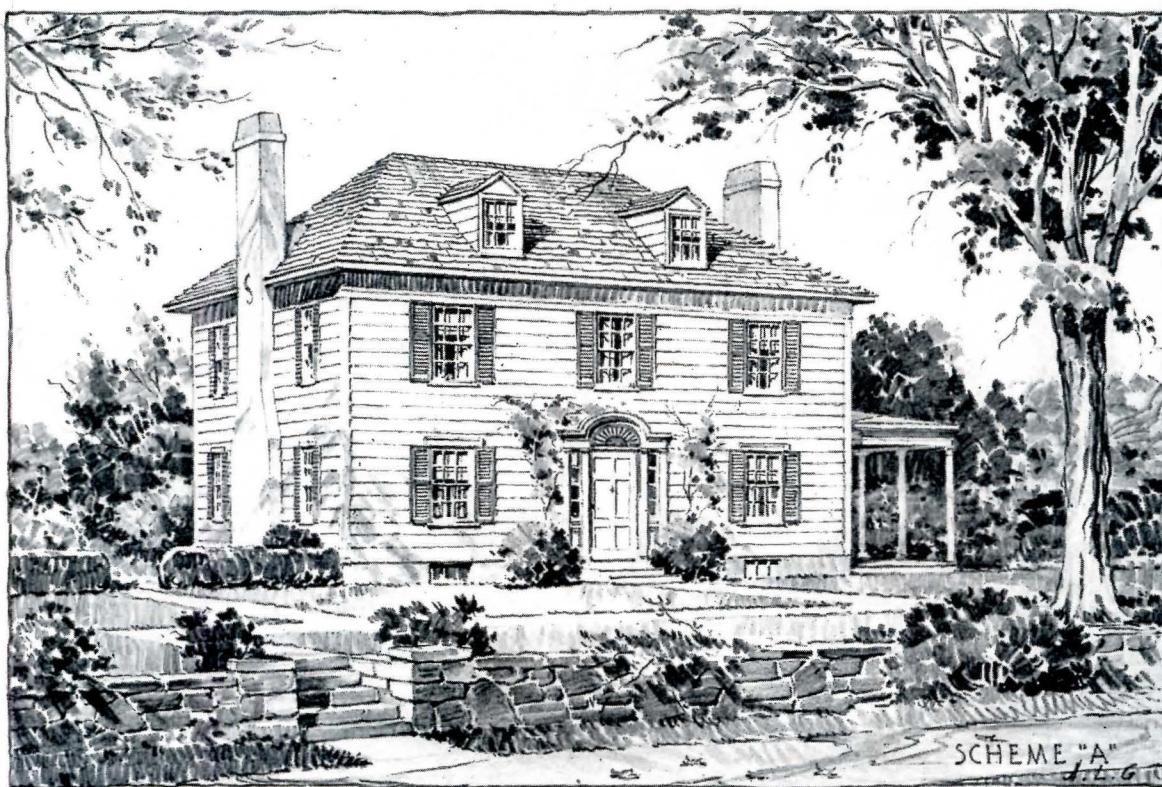
It is largely because of this difficulty of expressing a building adequately by the plans and elevations alone, in such a way that the client will fully understand the scheme, that the practice has grown of preparing rendered perspective drawings which show in a very clear manner

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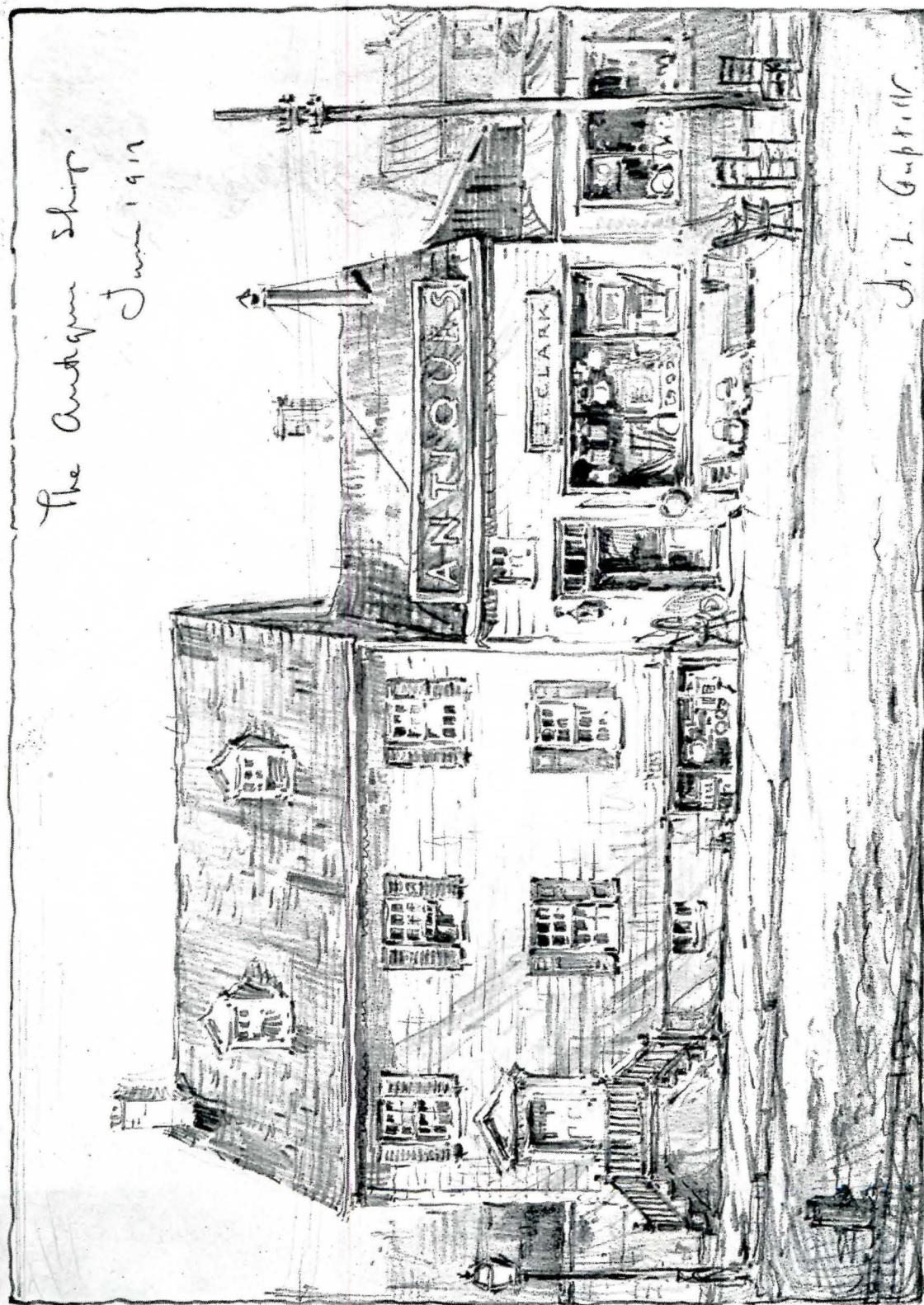
Sketching and Rendering in Pencil. Figure 19, typical rendering of a small house.

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Sketching and Rendering in Pencil. Figure 20, renderings showing two exteriors developed from the same plan.

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Sketching and Rendering in Pencil. Figure 21, a sketch made to convey the general character of a building.

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exactly how the completed structure will appear. Such perspectives are of value to the architect in many ways for they not only serve as a convincing expression of the problem to the client but are of equal use in his own drafting room as a means of studying the design. In addition to this new jobs are often brought to the office because of such renderings, submitted, sometimes in competition with work from other architects, to some possible client. Again, when an attempt is being made to raise money to finance the erection of some building, such a perspective, submitted along with the plans and specifications, may prove of the greatest service in obtaining the necessary loan.

These are only a few of the uses of perspective drawings, but enough to show that they are of immense value to the architect, and this being true it is only natural that there is a constant demand for draftsmen who are able, in addition to doing the usual instrumental work on plans and details, to make such renderings. Men with the skill to sketch and render well are almost certain to advance rapidly as they soon come to the notice of their employer and are able to serve him in many important ways. First of all, when a new project is conceived many little sketches are needed as a means of study. These are usually done freehand, in pencil. Then as the design takes more definite form, accurate but simple instrumental perspectives are sometimes laid out and over these, on tracing paper, the designs are given further study, a few of the main lines being perhaps drawn instrumentally and the rest freehand. With these designs quite definitely settled a carefully finished drawing is often made to show the client, done instrumentally and rendered in any desired medium. After this perspective, with its accompanying plans, elevations, sections and the like has been approved and the final contract drawings started, freehand studies are frequently made of such details as chimneys and dormers. Then, after the contract is let, another accurate rendered perspective is sometimes worked up, showing all the corrections and changes. Even while the building is being erected sketches are occasionally needed — perhaps to explain matters to the client — often to make some detail clear to a contractor or workman, or again simply as a means of giving further study to a doubtful point. It should not be supposed that so many renderings and sketches are needed for every job, for naturally everything depends on the cost and nature of the work. Often no finished perspectives are made and few sketches, on the other hand there are buildings of complex design which require, in addition to several perspectives, both of the interior and exterior many ornament drawings, including such details as carved stone or wood, wrought iron, leaded glass, etc., as well as carefully lettered inscriptions. All of these offer work for the man who can sketch and render. There are, to be sure, many professional delineators who are sometimes

called upon to render the drawings of large or unusually important buildings, but there are many smaller jobs, such as suburban houses, in which the architect's fee is not sufficient to warrant the expenditure of any great sum for renderings. It is such jobs as these which usually fall to someone in the office and the man who is capable of doing them is often advanced to a position of greater responsibility with its corresponding increase in salary.

There is another important advantage which often comes from having skill in making sketches or renderings of small buildings, for it is true that such drawings are frequently the principal means by which a draftsman is able to obtain his first commissions as an architect. Many a draftsman has learned to his sorrow that it is much easier to open an office calling himself an architect and with his name on the door, than it is to induce clients to enter. When we consider that even the cheapest of buildings usually cost a number of thousands of dollars, we can hardly blame the public for failing to patronize young and comparatively inexperienced men when older and better known architects with many buildings to their credit are willing to accept the work for the same fee. But the young architect must get his start in some way and unless he is so fortunate as to have wealthy and influential friends to shower him with their favors he is often wise to remain associated, perhaps as draftsman or designer, with some fairly well-known firm, and to gradually build up a clientele of his own. This may be done in a number of ways, one of which especially concerns us. Some of the larger firms do not care to bother with small houses and the like and so frequently turn any clients that desire this sort of work over to some draftsman or designer. If such a draftsman is able to impress the client favorably he is quite likely to get the work for even though his experience as an architect may be limited his connection with the well-known firm will give him a certain standing. There is perhaps no surer way of creating such a favorable impression than by submitting attractive rendered drawings showing just how the proposed building will look when completed. Somehow people seem to feel that if sketches are nicely done the job itself will be executed as well, and many times the man submitting a pleasingly rendered drawing done in perspective will be given work when blue-print plans and elevations from other architects, showing a scheme of equal merit, will be ignored.

Perhaps you are one of those draftsmen with a desire to learn to make renderings of a quality suitable for the average job but with the feeling that it will never be possible for you to do so. If this is the case you should be offered encouragement, especially in regard to pencil rendering. It is not easy, of course, to become an artist in the true sense of the word and a half dozen lessons or a bit of study will not make one an expert, but on the other hand it is not difficult

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to master the few principles of composition and tricks of rendering which are needed to enable one to do a creditable sketch for the ordinary building. The writer has seen many students of only fair ability turn out excellent drawings of simple buildings after a comparatively brief period of training, though they often lacked at first the confidence which is necessary for success in this work.

Pencil rendering of architectural subjects really is, after all, comparatively simple. One does not encounter the same difficulties as when working in color for there are only the values of light and dark to consider; neither is it difficult to make changes as in work with the pen. Originality is not looked for as it is in some forms of art work, nor is it necessary to strive for a decorative effect. As the small drawing does not often need figures or animals it is not absolutely necessary to be able to draw them; even if figures are to be shown they are usually so small in scale as to need little detail.

The most convincing sort of pencil technique for the usual architectural subjects is the conventional type such as is employed in most of the offices, published examples of which appear from time to time in all of our architectural magazines. The student should collect such reproductions as seem excellent and study them with care. Better yet, if opportunity offers to see originals of this work in the offices or the architectural exhibitions analyze them thoroughly. Notice the way in which the various details are indicated such as the doors and windows. Study the methods of suggesting different materials—shingles, clapboards, brickwork, stone, stucco, etc. Look at the way the foliage is shown. Copy either the whole or portions of some of these, trying at the same time to memorize the methods of expression. It is valuable also to compare the drawings with photographs of similar subjects or even with buildings themselves and sketch directly from the buildings, too, trying small drawings of doors and windows or other similar portions first. Photographs of small houses will offer many suggestions for surroundings which can be copied to advantage. As a help to the student we expect to publish in these pages from time to time drawings showing certain methods of representing details of various sorts, but it should be remembered that it is always well to study the work of a great many different people in order to adapt those ideas which appeal most strongly to you.

After considerable practice has been given to the drawing of details, a real rendering of some small house may be undertaken. It is perhaps well to remind the student that a rendering is a more carefully finished production than a sketch; that whereas a sketch is usually made rather hastily a rendering is more in the nature of a study—this in spite of the fact that many such drawings appear at first glance to be hastily done. In order to gain an accurate result the

subject to be rendered is first laid out instrumentally directly from the plans and elevations. This work of course demands some knowledge of the science of instrumental perspective. The few facts necessary for drawing the usual type of building can be acquired easily, however, even though one does not go deeply into the theory of the subject, and many men learn simply a few "rule of thumb" methods which really answer all general requirements. It is not within the scope of these articles to give instruction in instrumental perspective but there are a few points which it seems essential to cover as they relate to both instrumental and freehand work, and concern especially the composition of the entire sheet. First of all, it is wise when starting a perspective to decide where to stand in order to obtain the best view. Though this position varies with different buildings it is usually well to look directly at the main façade and if the plot be flat to take the eye level or horizon line about five feet above the ground, as the eye is actually approximately this distance from the plane on which the building rests. If, instead, it is to be on a hill so it would be natural to look up at it, that is the way it should be drawn, and in this case the horizon would be way below the house as it is always level with the spectator's eye. Contrarily if we are to look down on the building from above, as in a bird's eye view, the eye level or horizon will be towards the top of the picture. Now it seldom that we do actually see houses from above and even if we should from a mountain or airplane it is not generally wise to show them that way, but there are cases where the building is very irregular in plan or where we have a complex group of buildings to picture and under these conditions there is sometimes no other means of expressing the entire subject adequately. Another point worth remembering is that it is best not to stand too close to a building when making the perspective as this causes the receding lines to become so acute as to seem unpleasant. A little experience will teach the correct distances for various types of buildings. Again, if you are to make a perspective and the plot has already been purchased, obtain either photographs or sketches of the site to help you in drawing the surroundings. A plot plan or survey showing the contours of the land, location of rocks, trees, etc., is always of immense help, too, in getting a layout correct. If no plot has been selected, photographs showing houses of a similar nature to that which you are drawing may offer valuable suggestions, especially for the entourage. It should be remembered that a pleasing relation should exist between a building and its environment—the house should seem to belong to the spot. If, for instance, you are drawing a little English cottage of informal nature, do not arrange your landscape in too formal a manner. Have curved walks, irregular hedges, a quaint garden, etc. A Colonial

(Continued on page 25)

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PLATE IX

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FRAGMENTS OF ROMAN ARCHITECTURE

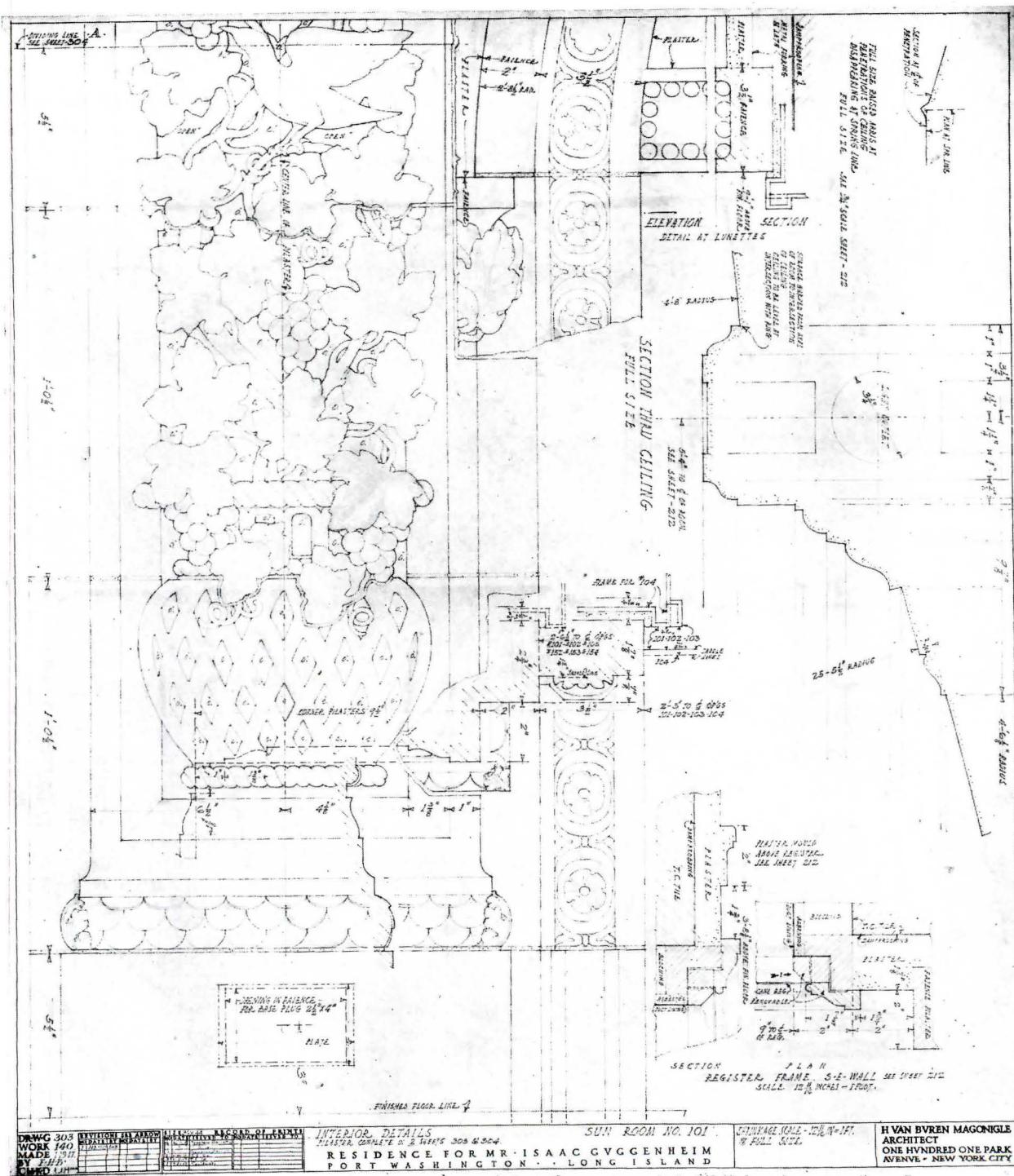
RESTORATIONS BY G. ANCELET, FROM H. D'ESPONY'S "FRAGMENTS D'ARCHITECTURE ANTIQUE"

The various examples of Roman work of the best type which are shown grouped together in the plate reproduced on the other side of this sheet, from D'Espouy's "Fragments d'Architecture Antique," afford many suggestions that are useful in the drafting room. The designs show a keen appreciation of the nature of the material. They are marked by refinement combined with a certain amount of vigor and the modelling is clean-cut. The capitals provide inspiration more especially for interior detail, perhaps, where a degree of refinement and delicacy is required. The large piece in the centre affords good suggestions for running motives, while the frieze ornament shown in the lower part of the plate is excellent in character. The tripod at the left is interesting as a translation of the idea of a bronze tripod into marble, with due recognition of the character of the material.

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PLATE X



Drawn by Oliver Reagan and F. H. Barry

INTERIOR DETAILS, SUN ROOM

HOUSE FOR ISAAC GUGGENHEIM, ESQ., AT PORT WASHINGTON, L. I.

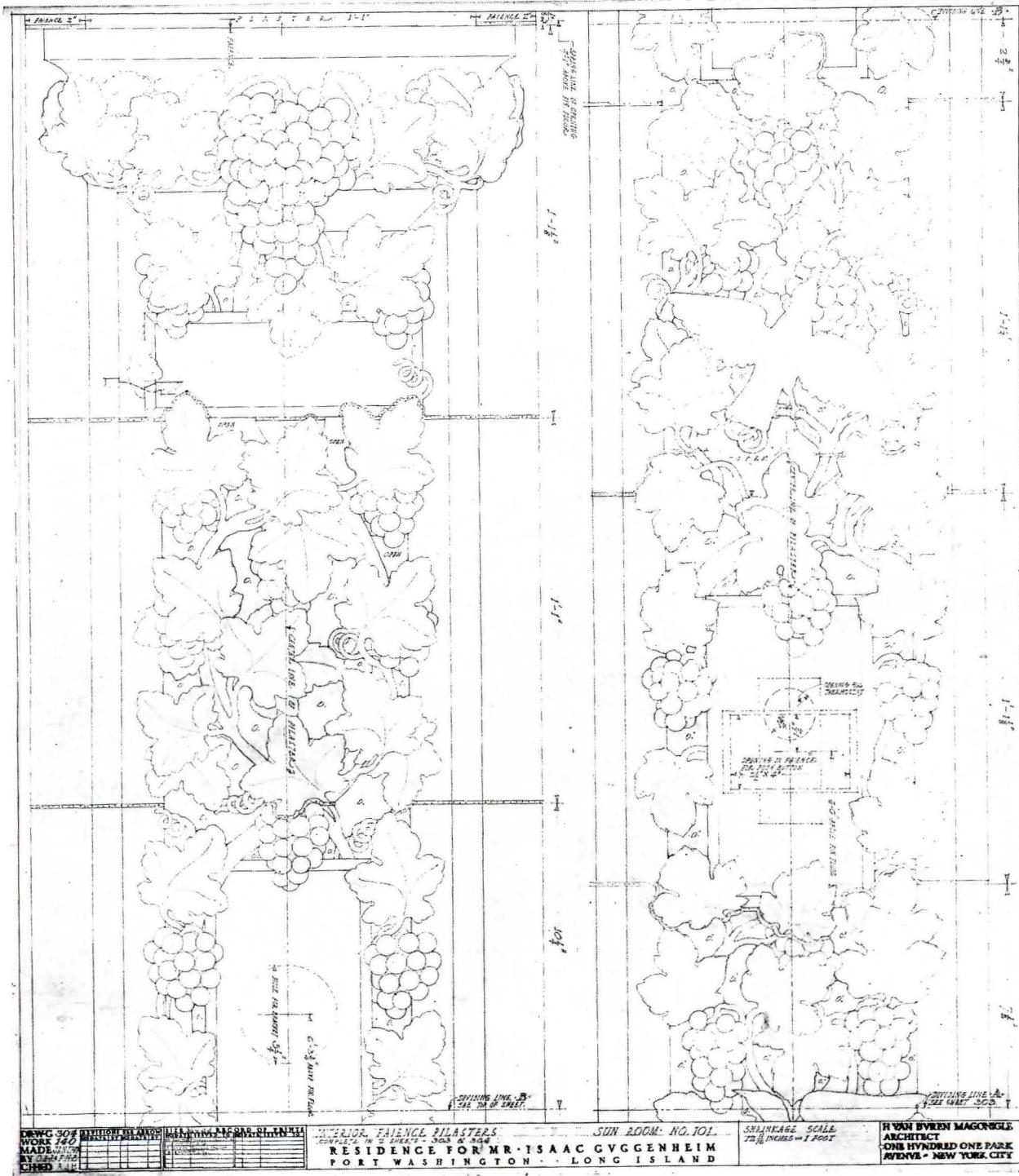
H. VAN BUREN MAGONIGLE, ARCHITECT

The details shown on the other side of this sheet are from the full-size working drawings of faience and plaster work in the sun room of the house for Isaac Guggenheim, Esq., at Port Washington, L. I., of which Mr. H. Van Buren Magonigle was the architect. This room has a vaulted ceiling, the pendentives of which rest upon faience pilasters. A portion of one of these pilasters is shown in this drawing and is completed in the sheet reproduced on Plate XI. This drawing was made to shrinkage scale.

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PLATE XI



Drawn by Oliver Reagan and F. H. Barry

INTERIOR FAIENCE PILASTERS

HOUSE FOR ISAAC GUGGENHEIM, ESQ., AT PORT WASHINGTON, L. I.

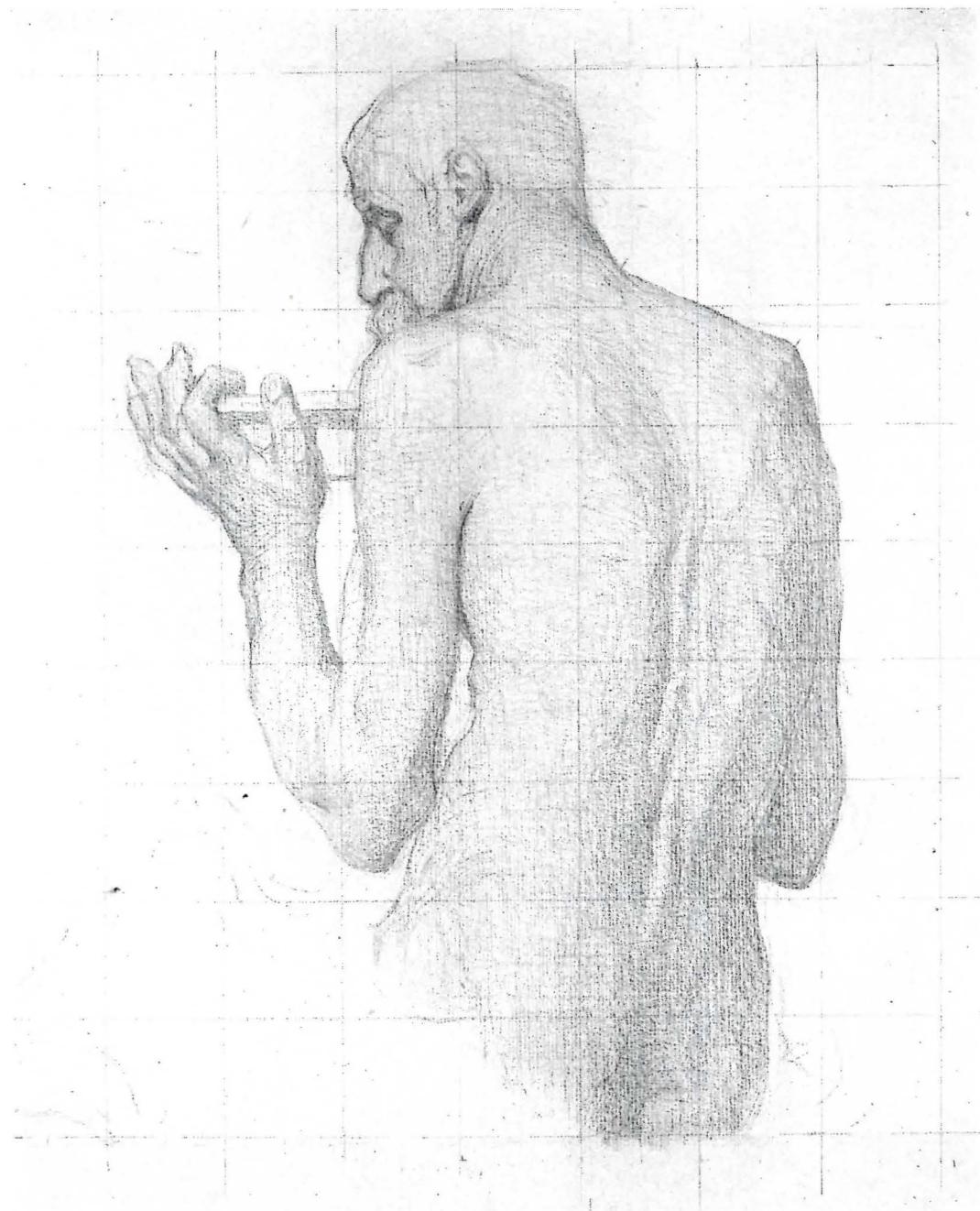
H. VAN BUREN MAGONIGLE, ARCHITECT

In the plate shown on the other side of this sheet are further details of the sun room partly shown on Plate X. Between the pilasters are wall panels of plaster with painted decoration, the lunettes above these panels also have painted decoration and the ceiling is decorated in the same manner. The design character of the painted decorations is similar to that of the pilasters and the color scheme of the room takes its key from the coloring of the pilasters, which have vine leaves and grapes in subdued natural colors against a ground of buff that carries a suggestion of pink. The whole treatment is rich and harmonious.

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PLATE XII



STUDY BY JULES GUERIN FOR ONE OF THE SYMBOLIC FIGURES IN ONE OF HIS GREAT
MURAL DECORATIONS IN THE LINCOLN MEMORIAL, WASHINGTON, D. C., OF WHICH
HENRY BACON WAS THE ARCHITECT

An unusually interesting example of technique and of characterization is the figure study by Jules Guerin which is reproduced on the opposite side of this sheet. It is reproduced directly from one of Mr. Guerin's original studies for the series of figures in his mural decorations in the Lincoln Memorial, Washington, D. C. The drawing is in pencil on gray paper.

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SKETCHING AND RENDERING IN PENCIL

(Continued from page 16)

house of dignified proportions demands, on the other hand, a more symmetrical treatment with formality extended throughout the scheme. A rustic camp in the forest should show a real forest character and not look like a suburban cottage, and if a house is to be in Florida do not use trees found only in the North, and likewise avoid hills and mountains if the location is in a level country. These are of course only matters of common sense and may seem too simple to mention, but they are, nevertheless, extremely important. There is something else, too, which helps a composition immensely and this is some line or group of lines such as a path or drive or shadows on the lawn or perhaps a succession of bushes, which will serve to lead the eye into the picture. In Figure 13 published in the December number it will be noticed that all four of the sketches have paths which cause the attention to be directed gradually to the center of interest. It helps a drawing, too, if there are little vistas to draw the eye out of the picture again. A glimpse of some distant lake or down a pathway to the garage or of a neighboring building seen through the trees will add value to the picture, though naturally care must be taken not to make these incidentals too prominent, otherwise they will take interest from the house itself. In this connection we refer the reader to Figures 19 and 20 in this issue. The end of the distant house in 19 and the garage in 20 add to the effect. When a definite plot has been chosen such buildings as may be visible should of course be correctly represented if shown at all.

Leaving the subject of composition for the present, let us return to the consideration of practical points relating to the laying out of the drawing. Now after the station point at which the spectator is to stand has been decided upon and the eye level or horizon determined the various vanishing points are correctly located and the work is under way. As most perspectives are drawn directly from the working drawings and as these are often at the scale of one quarter inch to the foot this same scale is frequently used for the perspective. There is no rule about this, however, but it is sometimes difficult to show enough detail if a smaller scale is chosen. The English house in Figure 19 was done at the scale of one eighth inch to the foot and is reproduced here at the exact size of the original, so this gives a fair idea of about what can be easily done at that scale. The two houses on Figure 20 were also made at one eighth inch but are reproduced at about one-half that size. Once the scale is decided, the work of the layout can be pushed right ahead and as soon as this is completed we are ready for the rendering. There are several customary methods of proceeding with this. Sometimes the layout is on common paper and then the rendering done on tracing paper placed over the other. One advantage of this system lies in the fact that there is no special need to keep the paper

clean when drawing the layout—again there are no hard mechanical lines to show in the final result, and if the rendering is spoiled in the making for any reason it is easy to begin once more. When the drawing is completed the tracing paper can be smoothly mounted on heavy cardboard. Another method and the more common one, is to make the layout right on the final paper, using a fairly hard pencil such as a 3H, and drawing not only the outline of the large portions, but also all the window mountings, clapboard lines and other such details as well. When this is completed go over the whole with a soft eraser until the lines are just visible as a guide for the freehand work. This final rendering may vary in style somewhat, according to the subject to be drawn. An English cottage of hewn timbers and rough brick or stucco, roofed with thatch or uneven slate, can be done with a rather sketchy line, as this will satisfactorily express the irregular surfaces. If a formal house of cut stone is to be pictured, smoother tones and straighter lines are often better. This does not mean that it is impossible to nicely represent such a house by a very sketchy sort of line, but it is certainly wiser for the beginner to render a building of this character in a painstaking way. With these facts in mind you are ready to start work, considering carefully the direction of the light, casting the shadows with care. A knowledge of the subject of shades and shadows is of course of great help here, while photographs of similar buildings offer many suggestions. Then a preliminary sketch is often made on tracing paper and the values carefully worked out on that. If this is done it often seems best, when making the final drawing, to render from the top down, for it is possible by this means to keep the paper clean quite easily. In theory it is better to work from the center of interest out towards the edges, as we have stated in a previous article, or to put in the darkest tones first, all over the drawing, later adding the half tones. If no preliminary is made, one of these methods should be followed unless the student has had a great amount of experience. In any case there is no excuse for untidy work and if reasonable care is used to keep the drawing brushed off and the pencil wiped clean, with a paper always under the hand to protect the surface, there should be no difficulty from that source.

Finish the drawing to the best of your ability and if you are not satisfied with it, and you are not likely to be, try another of the same or a similar subject. It is only by such practice, and by learning to look for your own mistakes and to profit by them, that success will be gained, but have in mind always that it is well worth the effort.

The illustrations, Figures 19 and 20, are given simply as typical of the sort of renderings which can be quite easily and quickly done. These drawings show little individuality or originality, in fact they are very similar to dozens of drawings which we see from time to time. In both instances they were drawn to accompany sketch

(Continued on page 40)

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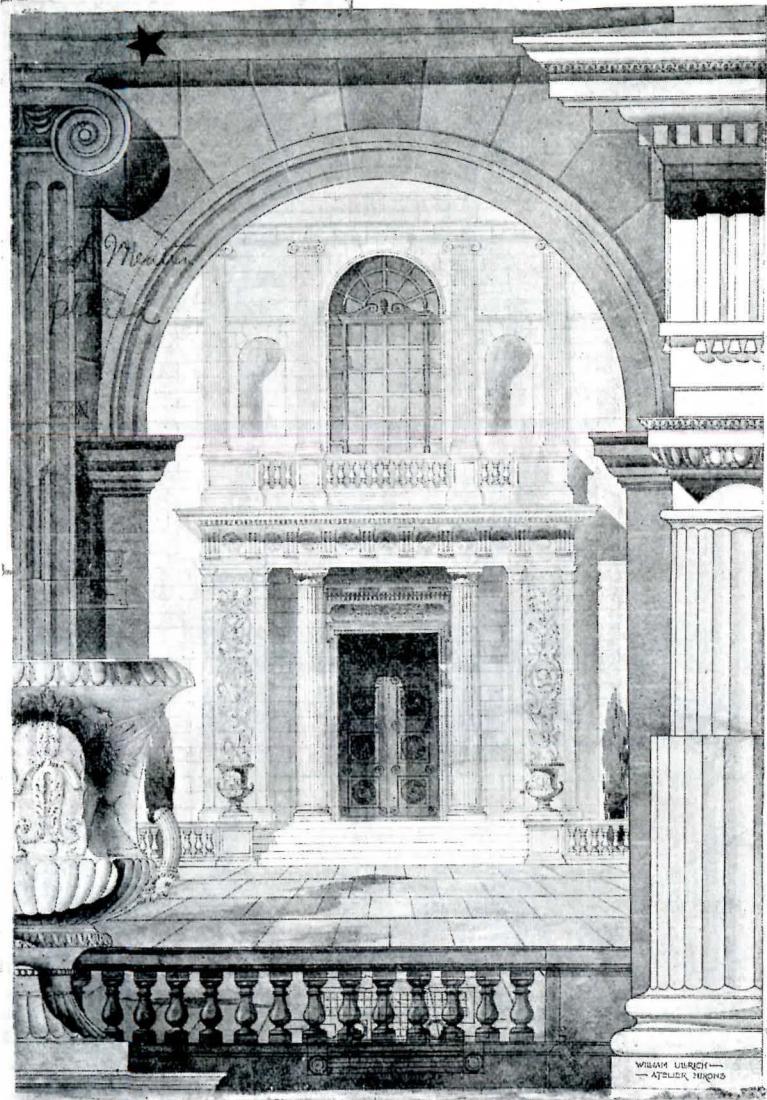


Figure 9. Analytique, "A Doorway," Wm. Ullrich,
Atelier Hirons.

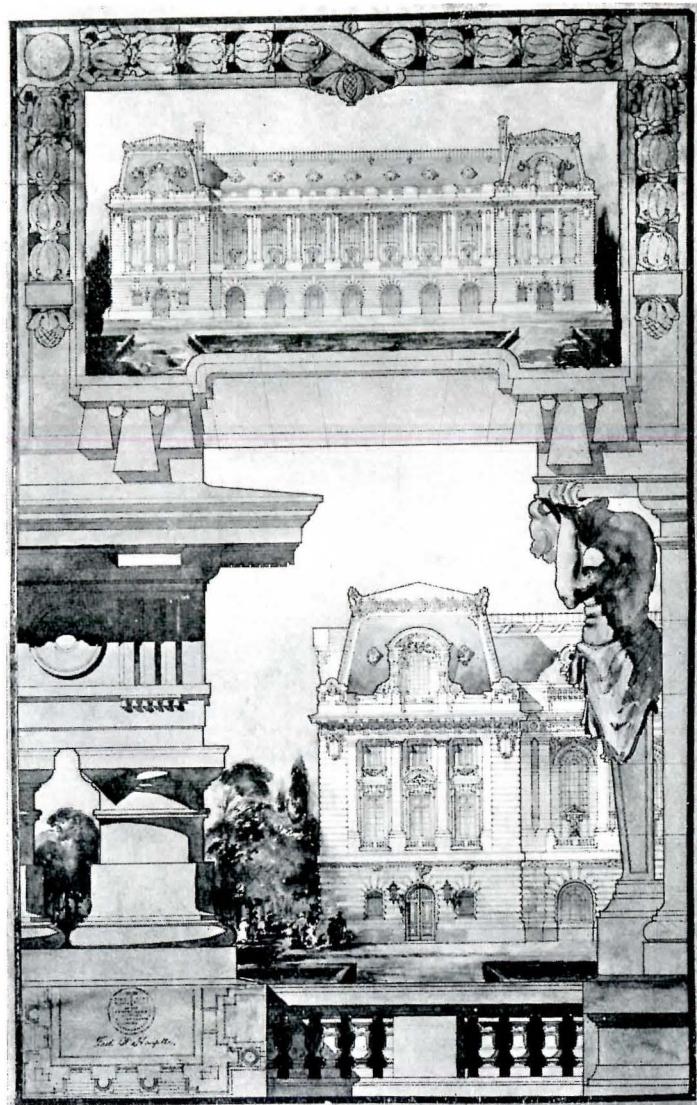


Figure 10. Analytique, "A Pavilion in a Public Place,"
Fred W. Hauptle, T-Square Club Atelier, Philadelphia, Pa.

THE STUDY OF ARCHITECTURAL DESIGN

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

THE "ANALYTIQUE" OR ORDER PROBLEM. PART II.

Preparing for the First Criticism and Laying-out the Schedule

BY JOHN F. HARBESON

This is the second of a series of articles in which 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. This series is designed to cover matters of method and leave the time of the instructor and the student free for the individual problem. It is not intended as a substitute for personal instruction and criticism.

IN beginning the study of your analytique there are two steps to be taken. One is to prepare for your first criticism; and the other is to lay out a schedule for the problem, disposing of the time at hand. The esquisse is taken on a Saturday, and the next day or two are usually spent in thinking over the problem and visualizing one's ideas about it, rather than in actual drawing. We may consider the time schedule first as being properly a part of this analysis.

For the first problems, this time disposal must be consciously—and conscientiously—done. Later it will become a sub-conscious process, revived, most likely, for any prize competition or scholarship problem. To really learn the lesson of planned disposal of time is of the greatest value, not only in project work in the atelier; but in office practice, either for competitions, or where a client has fixed a date by which a set of drawings must be completed.

The character of the problem will make a great difference in the way the time is apportioned. For instance, where the "parti" or solution is given in the program (such as "A Circular Temple of Love" of doubled

columns), the work should be advanced rapidly to final scale, and the time spent on the study of profile, detail and presentation. And the time allowed to the problem will naturally make a difference.

Let us take as example an analytique for which five weeks are allowed—esquisse called for at $\frac{1}{8}$ " scale, and final drawings at $\frac{3}{4}$ " scale, with the usual details at larger scale. We visualize the time best by putting down the calendar days in a table—one under the other. Then we can start at both ends of this table. The problem begins with a $\frac{1}{8}$ " scale esquisse, so the study logically begins there,

and we end with the rendering, which requires a certain time. (By the end of the first problem we shall have a good idea of how much time is required for that.) From the ends we work into the middle of the table and dispose of the remaining time. Such a chart would look like Figure 11.

If the time is longer—sometimes six weeks are given—the extra time may be divided all along the line, or added entirely to that portion where the student knows he is weak (for the chart will vary with each student's ability and experience) or it may be added to the

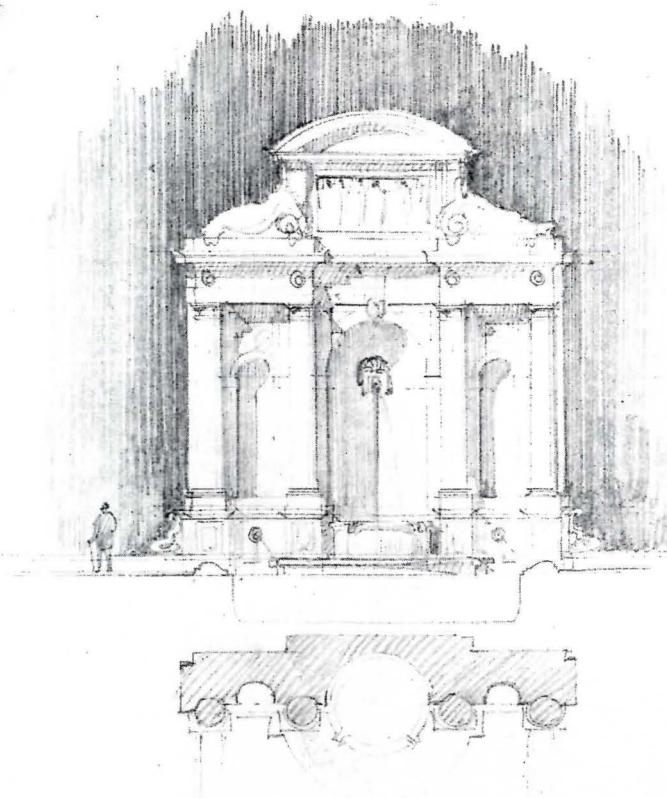


Figure 13. Study for "Decorative Treatment of a Wall Fountain to End a Vista."

Nov. - 1 Sat. ← Esquisse,
 2
 3 Start Studies at 1/8" Scale
 4
 5
 6
 7
 8 Sat. ← Take drawings to 1/4" scale and make
 9 thumb sketches of frame arrangement or
 10 composition on sheet.
 11
 12
 13
 14
 15 Sat. ← Take drawings to final scale-3/4", and
 16 after getting first criticism at this
 17 scale, start to lay out details at
 18 large size called for.
 19
 20
 21
 22 Sat. ← All small-scale drawings, 3/4", should
 23 now be in final shape, time being spent
 24 on moulding profiles and "character" in
 25 ornament. Block out sheet arrangement
 26 with charcoal on tracing paper.
 27 ← Start final drawings.
 28
 29 Sat.
 30
 31 ← Start inking final drawings.

Dec. 1
 2
 3
 4 ← Cast shadows.
 5 Sat. Render
 6 "
 7 Mon. • Problem due 10 A.M.

Figure 11. Time schedule for Analytique for which five weeks are allowed.

Nov. - 1 Sat. ← Esquisse
 2
 3 ← Start studies at 1/8" scale
 4
 5
 6 ← Take drawings to 1/4" scale, make small
 7 sketches of sheet arrangement.
 8 Sat.
 9
 10 ← Take drawings to final scale.
 11
 12 ← Lay out details at large scale and
 13 make sheet composition.
 14
 15 Sat. ← Start final drawings.
 16
 17
 18 ← Start inking final drawings.
 19
 20
 21 ← Cast shadows.
 22 Sat. Render
 23 "
 24 Mon. Problem due 10 A.M.

Figure 12. Time schedule for problem to be completed in three weeks.

PENCIL POINTS

time allotted to rendering, so that India ink may be used, as the time given in the table would not be sufficient for an India ink rendering—a process which must be slow because the washes do not take their final value until they have dried, and because it is difficult to make alterations, as an India ink wash can not easily be lightened or removed.

It should also be explained that this schedule has in mind the atelier man, who, because he can devote only evenings to the work during the week, finds his most effective working time on Saturday afternoon and Sunday. The time should be re-arranged slightly for the man at college, with part of every day at his disposal, but the principle is equally good in his case.

Figure 12 is an example of a three-week problem given for comparison. It will be seen that the rendering must be given as much time, the final drawings almost as much; the difference comes mostly in the body of the problem—in the time spent in what we call "studying" it. It will be well to remember that when time is limited, studies should be kept at a small scale until everything excepting detail of ornament is determined. A drawing at $\frac{1}{2}$ inch scale is four times as large in area as one at $\frac{1}{4}$ inch scale. If you are held back in the early part of your problem, because of illness or for any other reason, the schedule for

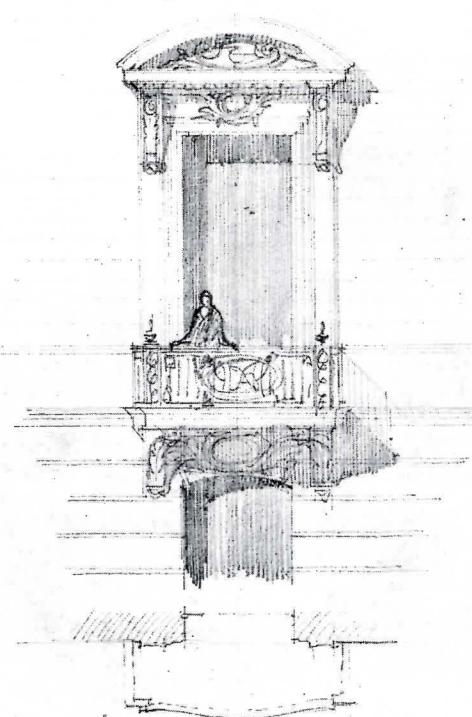


Figure 14. Study for "A Window with a Balcony."

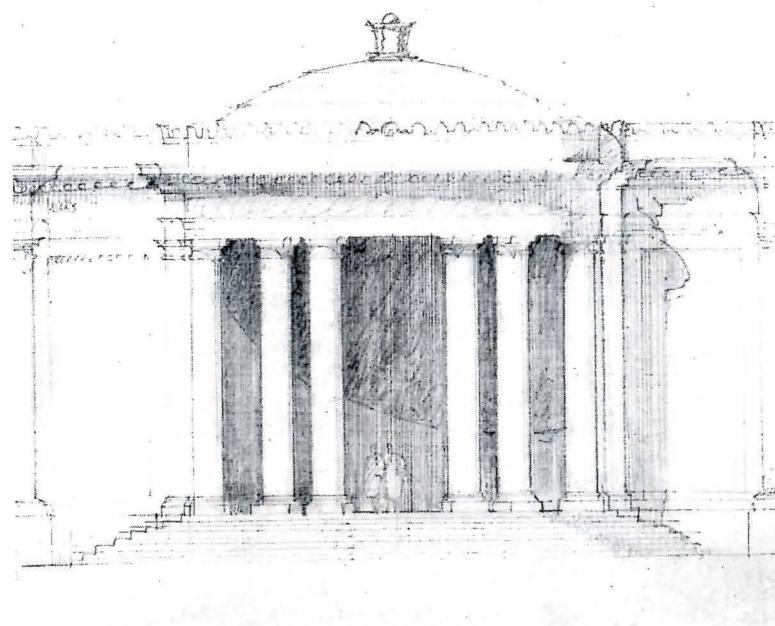


Figure 15. Study for "A Semi-circular Portico."

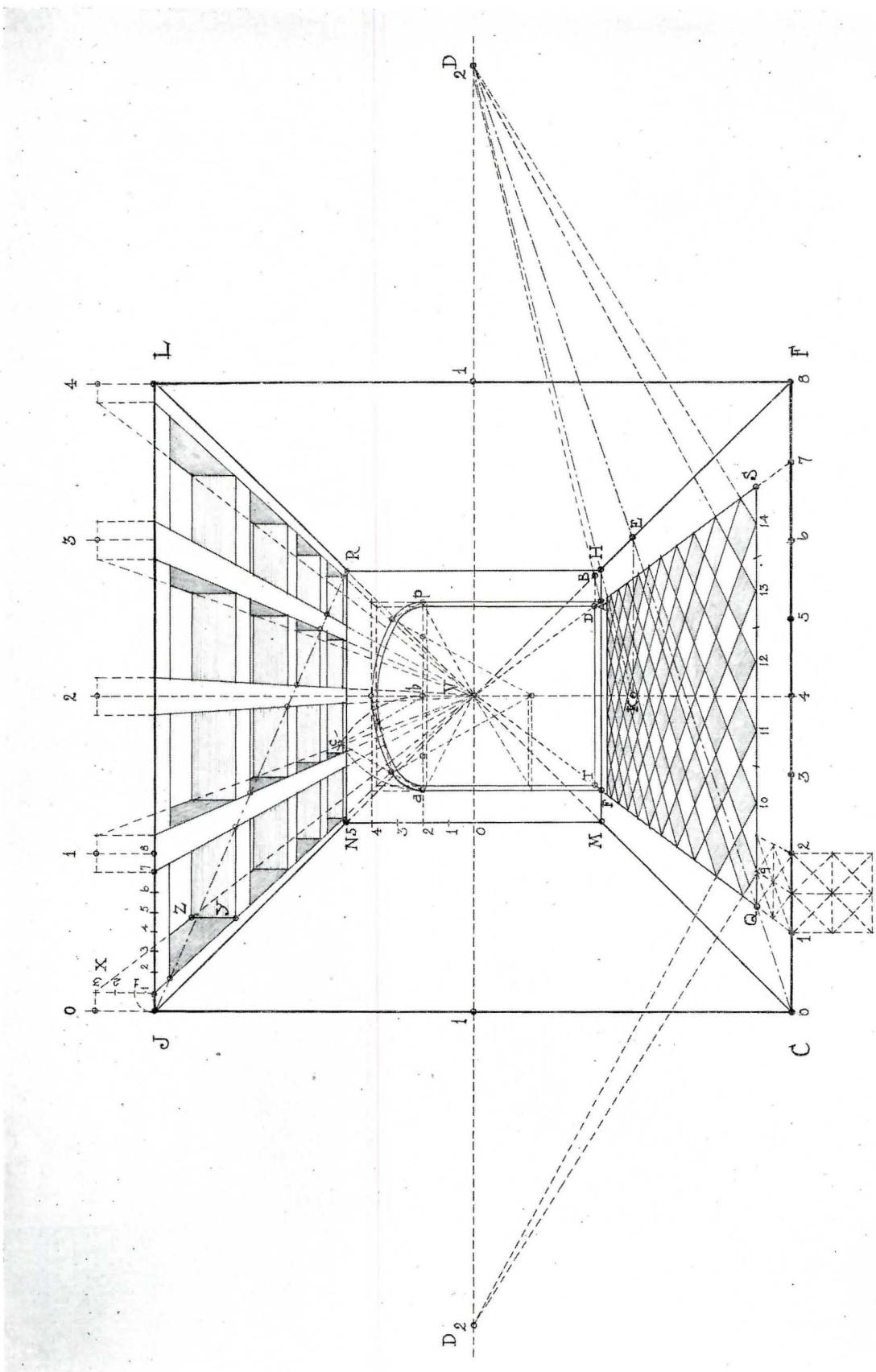
the time remaining should be recast, and allotted just as it would be for a problem of shorter duration.

Let us now prepare for the criticism. When your critic comes for the first time you should be ready to show him something more than the esquisse, as that is somewhat conventionalized, and is purposely not too definite. The value of this first criticism is to have the main proportions of your solution corrected. Therefore, your first studies should aim to show these proportions in as striking a manner as possible.

For that reason it is good to black in your openings—doors and windows. The actual door and glass divisions are properly studied later—at present they would only confuse. For the same reason all shadows should be cast to give the "relief" of projecting members. The detail of profiles is not important now: in indicating cornices, etc., what is important is to have the proper projection of the principal members—i.e., those that cast shadow—and it would be a waste of time to bother with ornament or careful drawing of figures, vases, etc. The idea is to determine, at this small scale, when it is most visible, what is good proportion between openings and wall—voids and solids—between masses in projection and in retreat, between features, and between all of these elements when related to each other.

(Con. on p. 40)

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Perspective Drawing. Figure 26, See text on the opposite page.

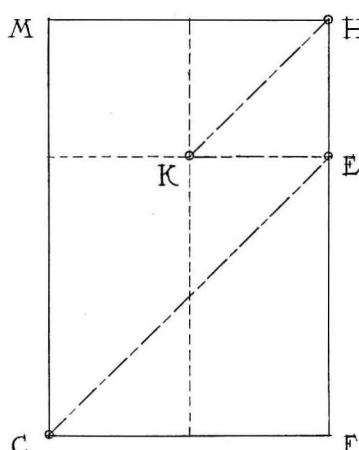
PERSPECTIVE DRAWING, PART X

BY PAUL VALENTI

THE diagram, Figure 26, illustrating an interior shows the layout of a room with tiled floor and beamed ceiling, also with an arched opening in the back wall—conditions frequently met with—and offers an interesting practical example. The conditions established are as follows: The observer is standing directly in front of the subject with the back wall normal to the visual axis, and the vision point V exactly in the center of the picture or at the intersection of the diagonals CL and FJ . This means that the ground line CF and the top of the picture JL are equidistant from the horizon line. In other words the horizon line passes exactly through the centre of the picture. In laying out this diagram, in order that the operation may be clear to the student, it is advisable to construct a perfect square representing the picture plane $JLCF$ about 6 in. square. Next, draw diagonals CL and FJ , then vertical and horizontal axes, extending the latter to the left and right of the picture indefinitely, this line representing the horizon. In order that we may obtain a greater development of the operations in this perspective we will place the observer closer to the picture and consequently establish D (distance point) $2 \times \frac{1}{2}$ width of the picture, or $1 \times$ width. Wishing to establish the back wall at a depth equal to $1\frac{1}{2} \times$ the width of the picture from line CF , conduct a line from point C in the opposite direction to distance point D , intersecting line FV at point E , then a horizontal back from point E to central axis to point K thence a straight line again to point D intersecting line FV once more, at point H . Note: In order to check up these operations and make them clearer to the student compare Figure 27 and Figure 28 with Figure 26. It will be noticed that the distance FE is equal to CF , the former being in perspective (See Figure 28), EK being equal to $\frac{1}{2}$ of FE and EH being equal to EK , it will

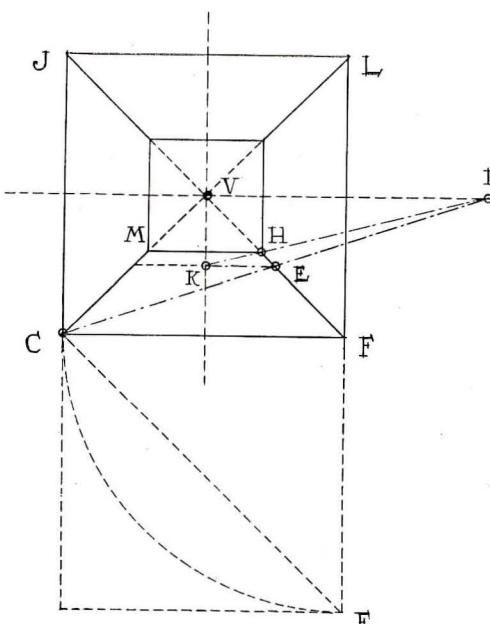
be found that line MH , representing the ground line of the back wall in our picture is exactly $1\frac{1}{2} \times$ the width of said picture from line CF , this representing the depth of the room. Mark off on line CF eight equal spacings and conduct a straight line from each of these points to vision point V , dotting these lines where indicated in diagram. At intersection of line i and line j respectively with line MH raise perpendiculars. Now mark off five

spacings on line MN above horizon line (See Figure 29, giving operations of back wall at large scale) and at point q conduct a horizontal uniting these two perpendiculars, thereby forming rectangle within which we shall find the arched opening. From point e conduct another horizontal which will determine the spring line of this arch. To construct this arch with three centres, first construct triangle abc (See Figure 29) by centering first in point a with radius ab and describing arc bc . Then with same radius centering in point b describe arc ac . Unite points ac and points bc with straight lines and we shall find we have an equilateral triangle in acb . Centering in point b with radius be , describe arc cf intersecting line bc at point f and conduct a straight line from point e through point f until it intersects line ac in point g . Mark off distance ai on spring line equal to ag and uniting point g with point i we will find we have another triangle similar to the preceding one. Extending line gi until it intersects the central axis at point z we shall thus find the three centres necessary to construct our arch. Mark off on opposite side distance h_3 equal to distance ai on spring line and construct triangle zhp equal to triangle agi . Centering in point z with radius ze describe arc hea . Then centering successively in points i and z describe first arc ag , then arc ph , thus completing arch $aghph$. In order to obtain depth of arch or, in other words, the thickness of back wall



GEOMETRIC PLAN

Figure 27



PERSPECTIVE SHOWING $FH = \frac{1}{2} \times CF$

Figure 28

PENCIL POINTS

let us assume this to be equal to the width of one tile or spacing in the floor, 7-8 on line *CF* for instance. Thus (see Figure 29) from point *A* on line *MH* conduct a straight line in opposite direction to distance point *D*, intersecting line *HV* at point *B*. Thence a horizontal back intersecting line *FV* at point *T*. From points *T* and *D* respectively raise perpendiculars, and from points *a* and *p* conduct straight lines to vision point *V*. At intersections of these lines and aforesaid perpendiculars find points *a'* and *p'*. From these points draw horizontal uniting same, this being new spring line. Construct from points *i* and *z* respectively straight lines to vision point *V* and at intersections *i'* and *z'* find new centres. For third centre refer point *z* on central axis to line *Fa* in point *m* and from thence a line to vision point *V*. From intersection *n* reconduct a horizontal to central axis, and in point *z'* find new centre. Conduct from points *g* and *h* respectively, straight lines to vision point *V* and proceed as above, forming new triangles *a'g'i'* and *z'p'h'* similar to triangles *agi* and *zph*. Centering in point *z'* with radius *z'e'*, describe arc *h'e'g'* and centering first in point *i'* with radius *i'g'* describe arc *a'g'*. Then centering in point *z'* with radius *z'p'* describe arc *p'h'*, thus completing the second arch representing the thickness of the back wall.

To form beamed ceiling (Figure 26), first mark off four equal spacings on line *JL*, raising a perpendicular from each of these points. Divide the first section into eight parts. Measure off two parts for width of beams on line *JL* and three parts for height of same. From the points on line *JL* representing the width of beams (allowing $\frac{1}{2}$ beam at sides) conduct straight lines to vision point *V* as indicated in diagram. Draw diagonal *JR* and at intersection of these lines and said diagonal *JR* draw horizontals corresponding to bottom face of cross beams. Proceed to construct beams by conducting straight lines from top of same to vision point *V* as shown in figure. For example line *XV*, and from bottom face of beam at intersection *Y* raise a perpendicular and so on until beams are complete.

For pattern in floor first make geometric design below line *CF* as shown in Figure 26. At intersection of line *CD* and line *IV* draw a horizontal *QS* and from points *9, 10, 11, 12, 13* and *14* on this

line conduct straight lines alternately to distance points on each side of the picture. This will form pattern as shown. Leave margin on all four sides representing border. In the next instalment of this article we shall take up the reduction to a minimum of the area of our operations. The advantage of this is, of course, clear, and the inconvenience attendant upon the use of points far removed is recognized as one of the things men who are engaged in the practice of perspective drawing constantly wish to avoid. The difficulty encountered in working with distant points has led to the use of many expedients, some of them of a makeshift character, others of a more scientific nature and more reliable, but all much less

convenient than working with points close to the field of operations, by the methods to be explained in the next issue.

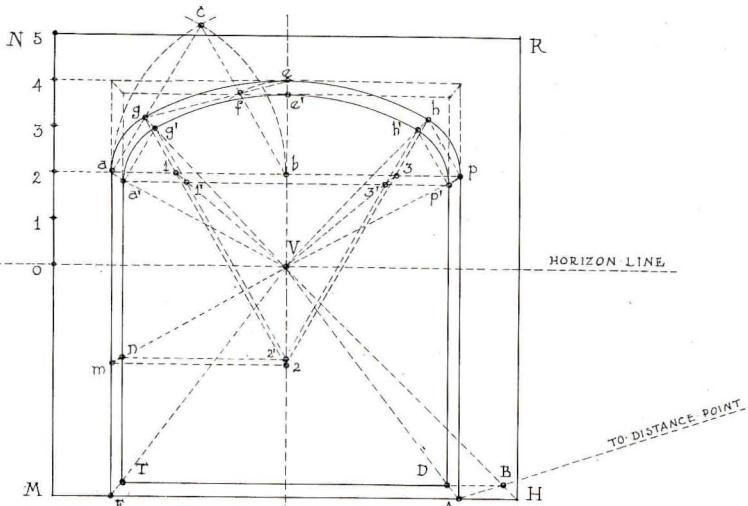


Figure 29

THE EXHIBITION OF THE ARCHITECTURAL LEAGUE OF NEW YORK

THE annual exhibition of The Architectural League of New York will be held in the new wing of the Metropolitan Museum of Art, April 1 to April 30. The large space available will make possible a better display than in former years. An admirable scheme for the decorative treatment of the exhibition has been designed, and an effective color note will be introduced by the treatment inspired by the polychrome tile work of the West Asiatic ancients. Opening ceremonies, which will recall the days when the arts rendered service in signalizing every important event, will be directed by Mr. Howard Greenley. Mr. J. Monroe Hewlett, President, who has the general direction of the exhibition, is being assisted by well-chosen committees.

ANNOUNCEMENTS OF CLUB ENTERTAINMENTS.

SOME clever announcements of entertainments given by architectural clubs have been sent in and published in PENCIL POINTS from time to time, but we would like to publish more of them. Let the other fellows see what your club is doing, both in the arrangement of programs and in the way of announcing your entertainments.

PENCIL POINTS

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RESULTS OF THE LE BRUN SCHOLARSHIP COMPETITION.

THE jury in the Le Brun Scholarship Competition for 1920-21, conducted by the New York Chapter A. I. A., has made the following awards: Traveling Scholar, Oliver Reagan, New York City; First Honorable Mention, Robbins L. Conn, New York City; Second Honorable Mention, Edward S. Lacosta, New York City; Third Honorable Mention, Charles J. Irwin, Brooklyn, N. Y.

The following men, whose names are given alphabetically, were mentioned by the jury for the excellence of their work: Howard Stanley Atkinson, Philadelphia, Pa.; John S. Burrell, New York City; Louis Fentnor, New York City; J. Harold Geisel, Philadelphia, Pa.; Owen L. Gowman, New York City; Carl W. Lason, Boston, Mass.; Benjamin Moscovitz, New York City; John G. Schuhmann, New York City; Edgar F. Stoeckel, New York City.

The interest in the competition was very gratifying, forty-one sets of drawings being presented, representing thirteen states, widely distributed throughout the country. The committee was as follows: Charles Butler, Ernest Greene, R. H. Hunt, William M. Kendall, Louis Ayres, Chairman.

EXHIBITION OF APPLIED ARTS, ARCHITECTURE AND LANDSCAPE DESIGN.

THE annual exhibition of applied arts, the annual architectural exhibition, and an exhibition of landscape and garden design under the auspices of the Woman's National Farm and Garden Association will be held at the Art Institute of Chicago, sometime in March. To stimulate interest in landscape and garden design the Woman's National Farm and Garden Association is offering prizes for garden designs, garden sculpture, model bird houses, etc., and for the decorative treatment of the entrance to the exhibition.

ARCHITECTS and engineers of Jamestown, N. Y., have organized the Jamestown Engineering Society. Meetings are held on the first and third Wednesdays of each month excepting July and August. Officers have been elected for the year as follows: President, Walter F. Shaw, Associate Member of the American Society of Civil Engineers; Vice President, E. C. Dollard, City Engineer; Secretary, H. Grover Garlock, Chief, Contract

Department, Dahlstrom Metallic Door Co.; Treasurer, F. A. Irvine, former City Engineer. C. O. Hultgren of the architectural firm of Rulifson & Hultgren, is a member of the executive committee, and J. W. Rulifson is a member of the program committee.

PROFESSOR ALBERT C. PHELPS, Cornell University, gave a talk on "The Modern Conception of Baroque Architecture," at the Metropolitan Museum of Fine Arts, in New York, on February sixth. These lecture courses at the Museum are given by the members of the faculties of Princeton, Yale, Harvard, Brown, Columbia, Cornell and by members of the Museum staff.

THERE are many more opportunities than most of us realize to see interesting drawings and other art works that are helpful, either directly or indirectly, if one happens to live or work in New York City.

There are exhibitions up and down Fifth Avenue, paintings by Hubert Robert that combine architecture and landscape in one gallery, etchings of architectural subjects by D. Y. Cameron at another, designs for trivets in pierced iron and other metal work by Hunt Diedrich, pencil drawings made in France and Spain by Kenneth Conant, figure studies by Troy Kinney in still other galleries. A collection of beautiful cast iron balcony rails from old houses in New Orleans, bronzes, marbles, drawings, exhibitions of fine art and of applied art—and most of us let them go by without a glance when even fifteen minutes spent in any one of these galleries would be sufficient to give us several new thoughts and much pleasure. It is largely a matter of habit, the habit of running in at these places or the habit of not going on the plea of lack of time.

From month to month exhibitions are noted, in advance or while they are still open, in the pages of this magazine for the purpose of keeping our readers informed in regard to at least a few of the interesting things.

Then, too, there are the exhibitions at the galleries of The National Arts Club, The Art Alliance of America, and the wonderful facilities afforded for study by the Metropolitan Museum of Art, both in the special exhibitions and in the galleries where the regular exhibits are on view. Not nearly so many people know the museum at Cooper Union as should know it—it contains remarkably fine collections of drawings, original documents of the greatest value, as well as many objects of interest including examples of wrought iron work, furniture and interior decorations of the historic periods.

GET A GREEN CARD.—*Adv.*

ART DIRECTORS CLUB EXHIBITION.

AN interesting exhibition of current advertising art, including color, black-and-white design, pen-and-ink drawings and drawings in wash and in pencil will be held in the galleries of The National Arts Club, 119 East 19th Street, from March 3 until March 31, under the auspices of The Art Directors Club of New York. The jury of awards is made up of Joseph Pennell, Robert Henri, Charles Dana Gibson, Edwin H. Blashfield, Prof. Arthur W. Dow and the retiring president of the club, Richard J. Walsh.

THE proceedings of the Eighth National Conference on Housing, held at Bridgeport, published by the National Housing Association, contains the papers read before the conference on the subjects of taxation, mortgages, proposed Federal building-loan bank system, co-operative housing, standardization of parts in house construction and America's readiness for the garden city. Mr. Lawrence Veiller, Secretary, cites the English experiences. A paper by Mr. George B. Ford, City-plan Consultant, author of the plans for the new Reims, in "Housing in France," relates the French experience in government housing. The discussion related to the same phases of housing, the matter of loans, and the elimination of waste by standardization of construction.

PENCIL POINTS

IN SPECIFYING TELESCOPIC ASH HOISTS.

THE following notes will prove of interest to the specification writer: To specify the type of telescopic ash hoist to be used, it is necessary to determine whether a manually or electrically operated hoist is necessary. 1. Learn the number of cans of ashes that will be produced by the boiler installed or to be used. Every hundred horse power of boiler produces eight cans of ashes, based on a twelve-hour operation period. Each can weighs approximately 175 pounds. 2. Determine the number of these cans to be moved at one period. The location of the building and the facilities at the command of the owner of the building, will determine this. Let the number of cans to be removed at one period be designated by C. Let H be the height in feet, that the cans are to be lifted. Then $H \times C$ will be the foot-can-unit power.

Up to 100 there is need for a manually operated hoist. From 100 to 200 either a manually operated hoist or an electrically operated hoist can be used. From 200 and over, electrically operated hoist is required.

For example, if after study of 1 and 2, 14 cans are required to be lifted, and the hoisting height is 7 ft. 0 in., then $H \times C = 98$. Specify manually operated hoist. If, however, 20 cans are to be lifted at one period. Hoisting height 8 ft. 0 in. $H \times C = 160$. Either manually or electrically operated hoist will give satisfaction. If 40 cans are lifted at one period, hoisting height 12 ft. 0 in., $H \times C = 480$, specify electrically operated hoist. Should the boiler produce 14 cans of ashes per day and they be removed but once every seven days, hoisting height 7 ft. 0 in., $H \times C = 686$, specify electrically operated hoist.

It will be recognized that there are instances where, if ashes are to be removed daily, a manually operated hoist will give satisfaction, but if an accumulation of ashes is permitted, the labor involved will be such a large factor that only an electrically operated hoist has the necessary speed and features of easy operation. In specifying the proper model for the work to be done, the specification writer renders a very great service to the owner.

For overhead crane models, figure heights from basement floor to point over cart. Usually about five feet more lift than to grade level. Then provide a 4 ft. x 4 ft. area, because it gives the necessary room and is standard size. Smaller or larger areas require special equipment and will cause the owner unnecessary expense.

Specify complete equipment to be installed as a unit under one sub-contract (hoist, sidewalk doors—either checkered steel or vault light—with spring guard gates, automatic door-opening and closing device, swing bail hoisting cans, electric warning gong, operator's ladder and ash can truck) so that the owner will obtain the most efficient service from its operation, and to comply with municipal regulations for the protection of pedestrians, school children, etc.

GET A GREEN CARD.—Adv.

DESIGNS FOR THE THEATRE.

AN exhibition of designs for the theatre by Herman Rosse is being held at the Arden Gallery, 599 Fifth Avenue, New York City, and will remain open till March 16th. The exhibition is held under the auspices of the Netherlands Committee for Arts, Commerce, Science and Friendly Relations.

Mr. Rosse achieved distinction as a mural painter before turning his attention to the art of the theatre. He is an architect and a native of Holland. Among his earlier works are the decorations in Peace Palace at The Hague, including the mural paintings, stained glass and decorative tiling. He was in charge of the work of decorative installation of the Netherlands Section at the San Francisco Exposition. Mr. Rosse has done notable theatre and stage decorations in this country since that time.

THE CINCINNATI ARCHITECTURAL SOCIETY.

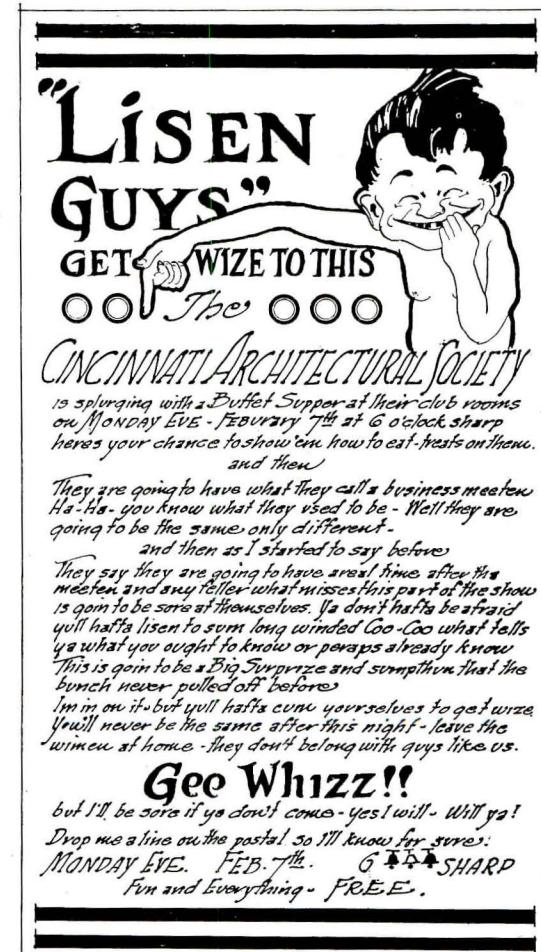
THE Cincinnati Architectural Society which had practically gone out of existence as a result of the late war, has been revived and re-organized by a number of the old members who see the need of such a society among the draftsmen of the city, and the great mutual benefits to be derived therefrom. As a result of the efforts of these men, excellent quarters have been obtained in the Arian Building, at Fourth and Sycamore Streets.

Club rooms having been secured, the next thing in order was the election of officers; they are as follows: President, Charles Cellarius; Secretary, Laurence J. Lefkin; Treasurer, Wm. B. Ward. The Board of Directors consists of: Charles R. Strong, Rudolph Tietig, Harry Hake, Earl Carlton, Gus Linder, George Frankenburger.

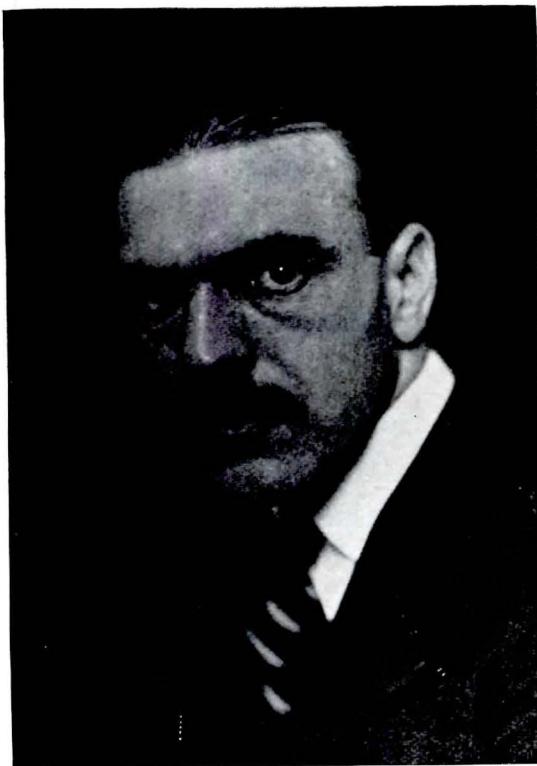
Beaux-Arts programs have been obtained and a goodly number of the members have interested themselves in this work. Classes in construction in steel and concrete, and sketching of various kinds have also been arranged for. Great interest has been shown by the local architects, three of whom have been chosen as patrons; they are Fred H. Garber, A. Lincoln Fechner, and H. E. Hannaford, Sr.

The initial meeting of the Society in the new club rooms was celebrated with a buffet supper and entertainment, which was largely attended and thoroughly enjoyed by the members and their guests. The poster announcing the meeting is shown at reduced size on this page. It was made by Charles R. Strong.

Below is reproduced the poster announcing the first meeting held by the re-organized Cincinnati Architectural Society in the new club rooms. Size of drawing 5 3/4 x 10 1/4 in., on tracing cloth. Drawn by Charles R. Strong.



PENCIL POINTS



OLIVER REAGAN

OLIVER REAGAN who has just won the Le Brun Traveling Scholarship was graduated in Architecture in 1912 from the Rose Polytechnic Institute. He worked in architects' offices in Louisville, Ky., and in Columbus, Ohio, in 1912 and 1913. Since January, 1914, Mr. Reagan has been with Mr. H. Van Buren Magonigle, excepting for a short time with Messrs. York & Sawyer, and the period spent in the Service. He was in the U. S. Air Service, A. E. F., 1917, 1918, and 1919. Three months of this time were spent at the A. E. F. Art Training Centre at Bellevue, France. Mr. Reagan studied from 1914 to 1917 under Mr. H. Van Buren Magonigle, and in the Atelier Corbet and the atelier of Columbia University.

GET A GREEN CARD.—*Adv.*

HARVARD SUMMER SCHOOL

THE Harvard University Summer School will be in session July 5 to August 13. The courses of instruction include architecture, engineering sciences, fine arts among the subjects that may be studied.

Credits can be obtained towards the degrees of Bachelor of Arts, Associate in Arts, Bachelor of Science, Master of Arts, Master of Education, and Doctor of Education.

The freshman dormitories—Gore, Standish, and Smith Halls—will be reserved for Summer School students. Rooms and board will be provided at moderate rates.

A detailed announcement can be had by writing to the Director of the Summer School, 19 University Hall, Cambridge 38, Mass.

THE Architectural Alumni of Cooper Union will hold their annual dance at the Academy, 109 West 79th Street, New York City, on the evening of Saturday, March 19th, at 8:30. The subscriptions are one dollar

each. All graduates of Cooper Union are invited to attend. Tickets can be purchased at the door. This is an opportunity for old graduates to get together again.

A Special Architectural Exhibition will be held under the auspices of The Joint Exhibition Board of the Philadelphia Chapter, A. I. A., and the T-Square Club, in conjunction with the Real Estate and Building Exposition, in the First Regiment Armory, Broad and Callowhill Streets, Philadelphia, from March 28 to April 2. Admission will be free. The emphasis will be placed on civic improvements and domestic architecture, particularly the small house. Last day for return of entry slips March 14. exhibits collected March 17 and 18. The chairman is Mr. George Howe, 205 South Juniper Street, Philadelphia, Pa.

GET A GREEN CARD.—*Adv.*

PERSONALS

WILLIAM F. WISCHMEYER AND OSCAR MULLGARDT have become associated with the firm of Mauran Russell & Crowell, St. Louis, Mo. Both Mr. Wischmeyer and Mr. Mullgardt have been with the firm many years.

BERNARD WISELTIER, Landscape Architect, has opened offices at 15 East 40th Street, New York City. Mr. Wiseltier, who is a Cornell University graduate, a member of the American Society of Landscape Architects, and a member of the Architectural League, was for a long time with Vitale, Brinckerhoff & Geiffert.

JOSEPH HUDNUT, Architect, has removed his offices from 41 Union Square to 51 West Tenth Street, New York City.

WILLIAM CRUTCHFIELD II, WILSON A. GOSNELL AND GORDON L. SMITH, architects, have become associated for the practice of architecture under the name of Crutchfield-Gosnell-Smith, Associated Architects, with offices at 1239-40-41 Volunteer Building, Chattanooga, Tenn.

J. G. LEGEL & Co. have opened an office for the practice of architecture at 511 Wilson Building, Clinton, Iowa.

ROBERT C. DERRICK, Architect, formerly with Messrs. Murphy & Dana, New York City, has been admitted as a partner to the firm of Brown & Preston, and the new firm has been incorporated under the name of Brown, Preston & Derrick, Architects and Engineers. The officers are: J. Martin Brown, President; Robert O. Derrick, Vice-President; and Martin A. Preston, Secretary and Treasurer. The present offices will be retained in the Empire Building, Washington Boulevard, Detroit, Mich.

WILLIAM E. IRVING, for some time connected with the firm of Brown & Preston, Architects, Detroit, Mich., has been made director of business promotion with the new firm of Brown, Preston & Derrick.

JOHN P. KINGSTON & SON, Architects and Engineers, Worcester, Mass., whose offices were destroyed by a fire that recently swept the business district of the city, have opened offices in the Park Building, Worcester, Mass. The firm's business was established thirty years ago in the building recently destroyed.

LEONARD SCHULTZE AND S. FULLERTON WEAVER, C. E., have formed a partnership for the practice of architecture, under the firm name of Schultze & Weaver, and have leased the entire seventh floor of the Elliman Building, 17 East 49th Street, New York City. Mr. Schultze has been for the past twenty-two years with Warren & Wetmore, architects. Mr. Weaver has erected and owned many important apartment houses on Park Avenue and has been prominently identified with the development of that section.



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, PENCIL POINTS, (Attention of E. M. Urband), Metropolitan Tower, New York City.

Question—Can you give any information that will assist with Log Cabin Design and Construction for a Club? J. H. H., Wilmett, Ill. **Answer**—“A Bungalow Adaptation of the Swiss Chalet,” *Architect and Engineer of California*, vol. 51, Nov., 93-98; *Bungalow Magazine*, Los Angeles, 1909-1910, vols. 1 and 2; *Bungalow Magazine*, Seattle, Wash., vol. 3, pages 227-240; “Bungalows, Camps and Mountain Houses,” Comstock, W. F., 1915, publishers, W. T. Comstock Co., New York; “Bungalows and Cottages,” (100 designs for Bungalows and inexpensive Cottages), Max Keith, see *Keith's Magazine*; “Bungalows, Their Design, Camps and Summer Houses,” McBride, Nast & Co., 1913; “Rustic Cabins,” Gustav Stickley, *Craftsman*, vol. 27, pages 312-316, Dec., 1914.

Question—Will you kindly give me a list of publications dealing with School Gymnasiums, the building, equipment, etc. G. D. T., Montreal, Canada. **Answer**—“The Public Gymnasium,” *Brickbuilder*, 190, vol. 19, Special No. pp. 1-48; “Their Plan and Equipment,” *Brickbuilder*, vol. 18, pp. 23-26, 45-49, 67-75, 89-94, 114-119; “Plan of Flagler Gymnasium, Florida Architectural College,” *Architectural Review*, vol. 9, June, 1902.

Question—Please give me a list of text books on Concrete Construction. H. J. S., Fresno, Cal. **Answer**—Since so many text books are available on this subject, we would advise you to write to Wm. T. Comstock, 23 Warren Street, New York, for catalogue for Architectural, Scientific, Industrial and Technical Books and also to John T. Wiley's catalogue on Technical Books. The synopsis given of these books will permit you to make proper choice for your use. We cannot advise text books without knowing what phase of the subject you are interested in: whether theoretical, practical, designing, or engineering. We would advise you also to write to cement firms, The Atlas Portland Cement Co., for instance, and obtain from them catalogues and other literature which they mail gratis to those connected with architectural work.

Question—I have for several years been looking for a magazine on mechanical drawing. Can you suggest a magazine that is printed for this type of drawing? McA., Beloit, Wis. **Answer**—We find that there are several magazines published that might suit your needs and they are as follows: *The Industrial Arts Magazine*, published by the Bruce Publishing Company, 354-369 Milwaukee Street, Milwaukee, Wis.; *The School Arts Magazine*, published by The School Arts Magazine Co., 25 Foster Street, Worcester, Mass., three dollars a year; *The Junior Instructor* can be had from Brentano Publishers, 27th Street and Fifth Avenue, New York City.

Question—Can you advise me as to the most up-to-date treatise of Library Requirements, Planning and Construction? A. T. B. **Answer**—“Libraries,” an index to the pictures and plans of library buildings to be found

in *The Congressional Library*, by J. L. Whitney; *Bulletin of Bibliography* (Boston Book Co.), vol. 1, No. 7, Oct. 98; “The Modern Public Library,” Hamilton Bell; “Designs for a Library in a Suburban Town,” *Architects' and Builders' Magazine*; “Library Building Plans,” Albany, N. Y., State Education Department; *Library Journal*, a monthly magazine; “Some Recent American Libraries,” by Russell Sturgis; “A Portfolio of Carnegie Libraries,” 117 pages, by T. W. Koch, Cesar Daly, Bibliotheques.

OWN YOUR HOME EXPOSITION.

MODEL houses of brick, frame, and concrete, erected from the prize winning plans of “The Small House Competition,” will be among the features of Own Your Home Exposition to be held in the Twenty-second Regiment Armory, New York City, April 16 to April 30. It is planned to surround these houses with suitable landscape treatments and the interior walls of the armory will be covered with panoramic scenes to carry out the impression that the houses are situated in the open country or in pleasant suburban sections.

This exhibition should do much to stimulate interest in building for there is nothing quite so effective as the presentation of an idea in concrete form, the house actually set up in material, the shrubs planted, even if only on the floor of an exhibition room. It crystallizes hopes and intentions that have long been little more than dreams. It gets action on the part of many who would go on indefinitely “intending” to build. The prize-winning designs in the competition will be published in book form and complete sets of working drawings are being made, which will be obtainable at a moderate price. While many people may build from these designs, it seems likely that they will be most used as starting points in the planning of houses just enough different to meet individual requirements and suit the tastes of the owners.

The designs to which awards were given are simple in exterior treatment and convenient in plan, as they should be. They will make very attractive little homes.

A. I. A. CONVENTION.

THE fifty-fourth annual convention of The American Institute of Architects will be held in Washington, D. C., May 11, 12, and 13. Among the subjects for consideration are competition practice, registration laws, schedule of charges and, it is announced, in recognition of a well-defined sentiment in favor of devoting more time to architecture as an art the program will be so arranged. The National Architectural Exhibition, initiated at the Fifty-third Convention will again be a convention feature.

ARCHITECTURAL ACOUSTICS

CHAPTER VIII

AKOUSTOLITH—WHAT IT IS, AND ITS USES.

DURING the past seven months we have presented to you in the pages of this journal a series of chapters on architectural acoustics, pointing out briefly the fundamental principles of sound absorption and reflection, especially as applied to auditorium acoustics. It now seems desirable to describe akoustolith material and to describe briefly its uses.

For more than thirty-five years the name of GUASTAVINO has been identified with masonry tile construction or the building of TIMBREL TILE ARCHES throughout the United States.

As the construction of American churches progressed to a point comparing favorably in size and design to the ecclesiastical structures of Europe, it became more and more apparent that in order to meet the needs of our modern ritual, some method of acoustical treatment would have to be employed. In order to harmonize with the spirit of the many wonderfully designed buildings of the Gothic and Romanesque periods being constructed, it seemed essential that any acoustical treatment should be at once substantial, or of masonry character, dignified, and amenable to varied control of color and texture.

With this problem before him, Mr. R. Guastavino, in collaboration with the late Prof. Wallace C. Sabine of Harvard University, succeeded in producing RUMFORD acoustic tile which was used in its earliest development as a soffit course in the ceiling only of the new St. Thomas Church, New York, and in its fullest development on the ceiling and side walls of the First Congregational Church at Montclair, N. J. As this material is a ceramic product, and not easily controlled as to color and accuracy of form, it seemed necessary to produce a material of a wider range of adaptability suitable for use in connection with any architectural treatment. We therefore developed a new cast masonry material known as AKOUSTOLITH.

DESCRIPTION: AKOUSTOLITH (from the Greek Akouotlkos relating to hearing, and lith, Greek meaning stone) is a masonry material having a sound absorbing or acoustical value approximately ten times that of ordinary plaster (see graph) and comparable with best felt treatment as usually applied. Its acoustical value has been demonstrated by laboratory tests made by the late Prof. Wallace C. Sabine of Harvard University, the importance of which cannot be underesti-

mated, and places this product in a class entirely by itself.

TEXTURE: AKOUSTOLITH is made in a variety of textures, usually of a fine granular appearance, and can be made to closely resemble the usual building stones employed for interiors.

COLOR: AKOUSTOLITH is manufactured in a wide range of colors—ranging from grey white through various shades of buff, brown, or any colors resembling those of building stones.

STOCK SIZES: AKOUSTOLITH is manufactured in any size from the smaller tile dimensions, 3x12 in., 4x8 in., 5x10 in., 6x12 in., 6x15 in., 8x16 in., 10x20 in., all about one inch thick, to the larger ashlar forms up to 12x30 in. by 1½ in. thick. It can be moulded or carved in usual ornamental architectural forms.

WEIGHT: Owing to the extreme lightness of AKOUSTOLITH (about 4 lbs. per board foot), it can be used in places where the use of heavier material of stone ashlar would be impracticable.

ADAPTABILITY: Owing to its light weight and facility of manufacture, AKOUSTOLITH is easily adapted to plain or elaborate architectural forms. Its adaptability as an acoustical agent is unique and of a wide range starting with the more obvious purpose of insuring correct acoustics in churches, auditoriums, and banks. It is being used in rooms wherever a quiet and dignified atmosphere is desired. Its success where installed has been proven conclusively.

PERMANENCY: The permanency of AKOUSTOLITH owing to its composition of masonry character will not disintegrate or warp, nor has moisture any effect on its structure. It is genuine masonry and non-combustible.

HOW IT IS INSTALLED: AKOUSTOLITH used on ceilings has primarily been installed in connection with our regular Guastavino arch construction, using it as a soffit course of tile and backing up the same with two or more layers of rough tile. It is, however, being largely used by applying it directly on the soffit of the concrete floor slabs, or wire lath and cement plaster ceilings.

For side walls the installation can be made directly on any of the many masonry surfaces without scratch coat if surface is reasonably true, or applied on a wire lath backing as described for ceilings. In the latter case the material can be purchased f.o.b. factory and set by either the general contractor or his tile layer.

If interested in this subject a sample of AKOUSTOLITH and booklet containing reprints of the seven articles on architectural acoustics, with complete specifications, will be sent to any reader of PENCIL POINTS.

R. GUASTAVINO COMPANY,
We contract for operations anywhere
in the United States or Canada.

40 Court Street,
Boston, Mass.

Fuller Building,
New York.

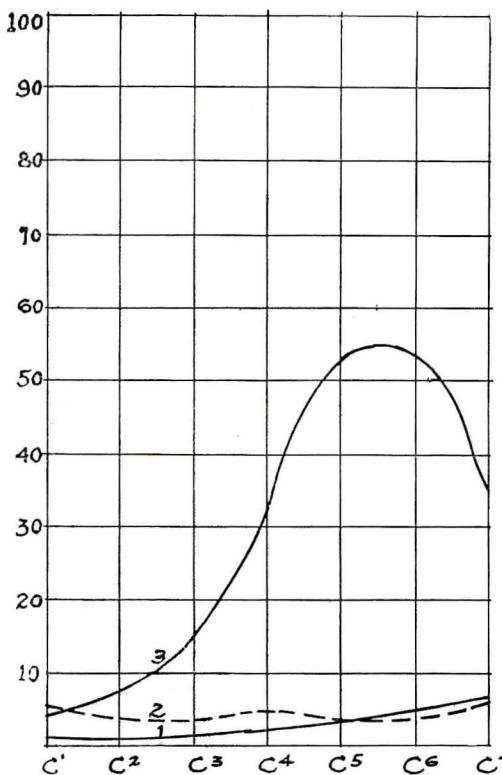


FIGURE 1

The above graph shows the variations of absorbing power for reflected sound with the musical pitch. Curve 1 shows the absorption of unpainted brick surfaces. Curve 2 shows the absorption of soft plaster on wood lath. Curve 3 shows the absorption of Akoustolith sound-absorbing stone. The figures at the left show the percentage of absorption, while the letters at the bottom indicate octave intervals of pitch, C³ being "middle C." Most of the audible energy of the voice, as well as other sounds, lies in overtones above C⁴. It will be noted that in this region the absorbing power of AKOUSTOLITH is from seven to sixteen times greater than the most favorable of other types of construction. The advantage over glazed tile, concrete or hard plaster on metal lath is even greater.

THE SPECIFICATION DESK

A Department for Specification Writers

WHAT THE SPECIFICATION WRITER WANTS TO KNOW.

By LOUIS R. HOLSKE.

In following out the purpose of this series of articles, begun in the August issue, notes are presented this month on a feature of many modern buildings, namely hollow metal work. In the next issue the finish for hollow metal work and other allied matters will be taken up.

Hollow Metal Work—If the use of brass or bronze is contemplated it is important to know the composition of the metal and its finish. If contemplating the use of iron, an analysis of the metal to determine just what impurities it might contain and their relative quantities will be required. In using steel, which is the common practice, it is well to know something of its manufacture, its levelling and annealing, also how it is protected against rust in transit, is it oiled thoroughly? As to the work itself, one needs to know the gauge of metal to be used in doors, panels, sash, frames, trim, base, etc., and some details of construction. In what manner are the stiles and rails of doors locked together? What is the construction of the panels and what is the insulating material used in them? What sound-deadening material is used in the stiles and rails and how much is there of it? How are the frames for doors and partition windows secured to the bucks? How is the trim secured in place? Are screws used or snap springs? How are base, picture moulding, cornice, etc., secured, and, if they are used as wireways for telephone or call-bell system, can they be arranged to give ready accessibility to the wires? In the case of combined buck, jamb and trim, which is much used nowadays, what is the gauge of metal to be used? What is the gauge and size of the anchor members and what is the interval of spacing? Are they fixed or movable? Is there a tie member between the jambs on the arch? Will the head be reinforced to carry the partition blocking? When used for elevator doors, what steel reinforcement will be used over the head to carry the weight and to receive the door hanger? What reinforcement will be provided to receive hardware? Regarding the manner of assembling the parts, it should be required that joints be made as far as possible by spot welding using the oxy-acetylene process, and where rivetting is unavoidable, it should be done cold and set hard and tight by hammer blows, and the heads of the rivets should be chipped off and filed smooth. When rivets are used they should be spaced close enough to prevent any distortion of buckling in the work. The work throughout should be free from all roughnesses, mitres true and perfect, and arrises sharp and straight.

Note—The purpose of this department is to afford an opportunity for the discussion of matters of interest to specification writers and to stimulate such discussion. Letters of a helpful nature from readers are wanted, relating either to points the specification writer wants to know regarding the materials he specifies, or to any other subject of interest to specification writers.

Among the subjects upon which it is hoped that we may have expressions from readers are the following: Ways of filing data from manufacturers' catalogues and similar sources. Methods of compiling specifications. Data of interest to specification writers.

While nothing of an advertising nature can be published here, information regarding various classes of materials or equipment is regarded as suitable material for publication in these pages if of a nature interesting and helpful to specification writers. The notes regarding the points to be kept in mind when specifying telescopic ash hoists is an example of this type of matter. It is published on page 34 because of lack of space on this page.

PUBLICATIONS OF INTEREST TO SPECIFICATION WRITERS.

Any publication mentioned under this heading will be sent free, upon request, to readers of PENCIL POINTS by the firm issuing the publication.

Cabot's Quilt—A book of sample quilt, single, double and triple ply waterproof and fireproofing quilt, and with illustrated catalog showing this type of lining which insulates against change of temperature, sound and moisture. Detail drawings for various conditions of construction, for wall, floor and roof insulation are shown with tables. The size is 6x8½ inches, and contains 32 pages. Published by Samuel Cabot, 141 Milk Street, Boston, Mass.

Hoffman Valves for Every Service—Description of the Hoffman Venting Valve, and its functions, construction and operation. The text and section drawings explain the construction and operation of the valves; the heating diagrams show installation of The Hoffman Specialty Heating Equipment. Booklet of 48 pages, size 4¾x7¾ inches, published by the Hoffman Specialty Co., Waterbury, Conn.

Solry One Hundred Per Cent. Non-slip Travel Surface Tile—This four-page pamphlet contains interesting matter on Travel Surface Tiles. It describes the sanitary, and wear-resisting qualities of Solry as a non-slip tile. Photographic illustrations of the ramp in The Grand Central Terminal and stairway of The Union Station, Richmond, Va., are shown. Scale detail drawings of stair and floor work with specification notes for use of the specification writer are given. It is published by the Solry Tile Manufacturing Company, Inc., 155 Classon Avenue, Brooklyn, N. Y.

Robertson Glazing Construction—Booklet, illustrated. Types of construction used in industrial, commercial and educational buildings, residences and hospitals, giving description, diagrams, tables of sizes and details of construction. Size 8x10½ inches. 40 pages. Published by H. H. Robertson Company, 1st National Bank Bldg., Pittsburgh, Pa.

The Fire on the Hearth—Illustrated booklet. Diagrams and description of Covert "improved" and "old style" dampers for fireplaces, cranes, andirons, dumps, and specifications for installation. Size 5½x8½ inches. 11 pages. Published by H. W. Covert Co., 351 Lexington Ave., New York.

California Redwood Homes—Illustrated booklet of homes of Redwood, with specification notes of the uses of Redwood Lumber for various places and conditions in the building of the home. Size 6x9 inches. 16 pages. Published by California Redwood Association, 766 Exposition Building, San Francisco, Cal.

Creo-Dipt Stained Shingle Homes—Portfolio, illustrated. Forty-seven attractive homes where Creo-Dipt stained shingles have been used. Size 6x9 inches. 47 sheets. Issued by Creo-Dipt Co., Tonawanda, N. Y.

Cornell Rolling Steel Shutters and Doors—Illustrated catalog. Shows types, describes operations, construction, advantages of protection, with illustration of doors and shutters under various conditions of use. Size 6x9 inches. 16 pages. Issued by Cornell Iron Works, 26th Street and 11th Avenue, New York.

The Uses of Mineral Wool in Architecture—Illustrated booklet. Properties of insulation against heat, frost, sound, and as a fireproofing, with section drawings and specifications for use. It gives rule for estimate and cost. Size 5¼x6½ inches. 24 pages. Issued by United States Mineral Wool Co., 280 Madison Avenue, New York.



Stimulating Public Approval of the Architect's Work

HABIRSHAW national magazine and newspaper advertising builds confidence in the architect as the insurer of owner satisfaction in new structures or extensions, and in this way creates public demand for the work of qualified men. Still further, Habirshaw stimulates the interest of the readers of these advertisements in the home which is completely electrified, pointing out that only through highly trained professional men can the maximum results of electrical convenience be obtained. This broad co-operative policy develops consumer good will toward Habirshaw products, which in turn gives the architect the benefit of owner appreciation when Habirshaw is specified and used.

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HABIRSHAW

"Proven by the test of time"

Insulated Wire & Cable

Plus Western Electric Company's Service

PENCIL POINTS

THE STUDY OF ARCHITECTURAL DESIGN.

(Continued from page 29)

In all these studies a figure, drawn to proper scale, should be shown. It is indispensable as a standard of "scale," and is of great use in showing proper sizes for steps, balustrades, benches, etc.

The analytic problem frequently being described in terms of elevation, you should keep clearly in mind, whether you draw them at this time or not, what plan and section you are working with. For the convenience of your critic it is better to draw them—and, on this first study, best to draw them on the same sheet as the elevation. The plan and section should be blacked in to get the proportion of masses, the extent of projections and reveals.

The illustrations in the text show several studies as prepared for a first criticism. Figure 13 is for a "Decorative treatment of a wall fountain to end a Vista." As the program stated the silhouette of such a structure to be of first importance, the sky is blackened to show this silhouette. Note that the shadows are cast; that the figures are only indicated roughly, all that is necessary being to show the size and direction of mass intended.

Figure 14 is for a "Window with a balcony." The shadows of the cornice and brackets, of the balcony, and of the frame on the window show the scheme completely. Here the window is darkened, and the shadow on the window is shown still darker. If the problem were of a larger motif, at a smaller scale, and containing a number of openings, these would simply be blackened in at this stage, and the amount of reveal, as indicated by the shadow of the frame on the window, would properly be studied after the size, shape, and relation of the openings had been determined.

Figure 15 is a semi-circular portico. Here the space between the columns is blackened in; openings in the wall behind would be studied after the intercolumniation had been settled.

Note that in all these drawings the detail of cap and cornice is left until the proportions of masses have been studied and that ornament is shown only as a conventional "gray." Generally speaking, it is well to make the first studies at the scale of the esquisse. If time is short, or the final drawings required are at an unusually large scale, start directly at a scale twice the size of the esquisse.

Try in these first sketches—it is better sometimes to make several—to express your ideas fully to your critic. He wants to develop your ideas, not his own; and he would like to correct, at the start, any ideas that you may have that are fundamentally wrong. So, beginning with the esquisse develop your ideas of the problem as much as possible before you place your work before him. You will be better able to make use of his criticism, and you will *develop your own initiative of reasoning*; he can only help develop your knowledge of design and proportion and your sense of taste.

And one word more. When he comes to criticize, in order that his mind may not be diverted from consideration of your problem by petty discomforts, it is well to see that you have: One study tacked down on a board—if it is over an old drawing put a piece of opaque paper between. All shadows cast; openings blackened in. Plan and section at hand, or profile of important parts indicated on elevation. A figure, drawn to scale, 5 ft., 6 in. or 6 ft. high. A roll of tracing paper of convenient size or several sheets of convenient size—a sharpened pencil or two (not too hard) and a soft rubber. This thoughtfulness on your part will make the short time he spends with you of much greater value to you.

SKETCHING AND RENDERING IN PENCIL

(Continued from page 25)

plans before any definite site had been chosen. Figure 20 may have some additional interest to the student as it shows two different compositions for the same house, for Schemes "A" and "B" are both developments of the one plan. Figure 21 is a sketch done directly from nature and by comparing this with Figure 20 the difference between a sketch and a rendering of a similar building should be very evident, for the old antique shop is drawn very hastily and in a free manner, no use being made of instruments, and with no attempt to more than express the general character of the building.

In the next issue and the one following, Mr. Guptill will show methods of representing chimneys, roofs, cornices, dormers, windows, etc.—Ed.

AN EVENING ON ARCHITECTURAL POLYCHROME.

AN exhibit of tiles and architectural polychrome, assembled by The Associated Tile Manufacturers was a feature of the "Evening on Architectural Polychrome," at the Hotel Adelphia, in Philadelphia on February 11. Architects of Philadelphia and vicinity, the men in their offices, and all architectural students were invited. The exhibit constituted a comprehensive display of colors, patterns, glazes and finishes produced in this ceramic art.

Interesting talks were given by Mr. J. Monroe Hewlett, architect and President of the Architectural League of New York, who spoke on "The Decorative Value of Clay Products"; Mr. Leon V. Solon, who gave a short lecture, illustrated by lantern slides, on "Architectural Polychrome"; and Mr. Albert Kelsey, architect, who discussed the use of tiles in both of the Pan-American Buildings in Washington and in the group of buildings for Carson College near Philadelphia.

The addresses were followed by open discussion, led by Mr. Frank R. Watson, Chairman of the Committee on Allied Arts, Philadelphia Chapter, A. I. A.; Mr. Wilson Eyre, of the same Committee, and Mr. George Howe, of the T-Square Club.

The members of the committee were: Albert Kelsey, W. L. Plack, Frank R. Watson, Horace W. Castor, A. L. Nicholson, Ralph E. White, Nicola D'Ascenzo, H. L. Duhring, Ellery K. Taylor, and D. Knickerbacker Boyd, Chairman.

A FORMAL exhibition of work done by the Architectural Departments of the State University of Texas, Rice Institute, A. and M. College and Southern Methodist University was held under the auspices of the Dallas Architectural Club at the Arts Club Building, 108 N. Poydras Street, February 7-21 inclusive.

NEW features of architectural interest at the Metropolitan Museum of Art are the pediment from the recently-demolished Madison Square Presbyterian Church, by McKim, Mead & White; a memorial tablet of admirable design to John Pierpont Morgan, and a model of the Roman Forum.

ANNOUNCEMENT

Competition for Two Scholarships

TWO scholarships of three hundred dollars each are offered in the scholastic year of 1921-22 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 three years' office experience. Competitors must, however, present satisfactory evidence of a knowledge of descriptive geometry.

The competition will be held in July, 1921. 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 1, addressed to Professor William Emerson, 491 Boylston Street, Boston, Mass.