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PONT ST. BENEZET, AVIGNON

AVIGNON

Sketches and Casual Observations by SAMUEL CHAMBERLAIN

THE de luxe expresses which whiz Northward from the Riviera make their first stop at Avignon, walled city of warring Popes, once the seat of a Kingdom and now sadly shorn of its power. Consequently, in the Spring-time its streets are so often colored by chic tourists, sunburned countesses and knickerbockered Anglo-Saxons that the Avignonais have ceased to stare. As a further consequence there has been developed "the" hotel of the town, which gives as perfect an example of open faced robbery as can be witnessed in France.

Place Carcassonne "hors concours" and you have in Avignon probably the most dramatic mediaeval site remaining in the Midi. The majesty of this Gothic stronghold is best observed from a narrow wooded island in the middle of the Rhone. Especially is it impressive if one's vantage point is on the terrace of the rustic cafe-restaurant, sheltered by sighing sycamores, with a cooling "vermouth cassis" tinkling on the little green iron table and the promising odor of a roast-
ing goose wafting in faintly from the country

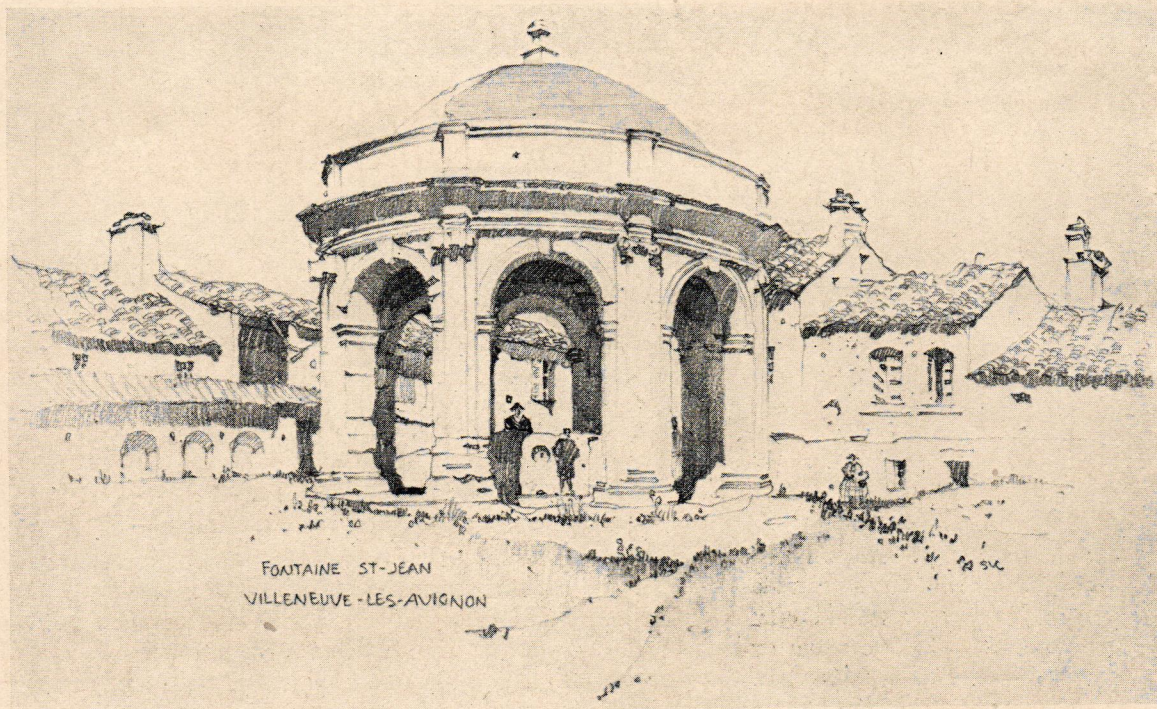
kitchen. Before you, in the foreground, are the far-sung remains of the Pont Benezet, studded by a lonely chapel. The bridge strikes forth boldly over the muddy Rhone for a few spans and then stops abruptly and mournfully short of its original twenty-two arches. There is not a child in France who has not sung:

"Sur le pont,
D'Avignon,
On y danse!
On y danse!"

yet the town historians swear such a thing never took place. The bridge is overshadowed, however, by the distant sun-stained walls of the Palace of the Popes, a massive golden silhouette, punctured by parapets and turrets. It is spotted with many blind arches, blocked windows and sealed doorways, while new ones have been gouged out in unintended places. Painters have recorded its magnificence in cubism, dadaism and gawky, primitive woodcuts. One of the wildest interpretations, strangely enough, hangs in the Luxem-

bourg. But no eccentricity of technique seems devastating enough to rob the Palace of the Popes of its noble mass. It is decidedly the "piece de resistance" of Avignon. The interior, bleak, empty, enormous, has not yet recovered from the effects of being used as a barracks for generations. But a squad of antiquarians is busy on it, peeling off coats of whitewash in search of old Italian frescoes, of which they have found many traces, and some day it may assume some of its former grandeur. Looming beside it is the conglomerate though not unpleasing cathedral, crested with a gigantic gilded figure. This termination of the tower, completed within the last century, might well shock the builders of its sturdy old base, could they be brought back to life to view it.

Avignon, filled though they are with intriguing fragments. One of the most toothsome of these is the Ancien Hotel des Monnaies, once a mint and now a school for doleful debutantes at the piano, which will startle all but the hardest of hard boiled observers. It resembles a Florentine palace in proportions, and the rusticated ground floor is quite consistent. But above that the riot begins, and two tremendous and terrific festoons of magnified fruit bloom forth, dangling from the jaws of four squinting lions, whose rippled faces have the approximate area of an upright piano. In this loop of plenty a grape becomes the size of a large apple, a peach assumes the proportions of a pumpkin, and a pineapple quite foils any attempt at comparison. While the poor human figure, when compared to the rest, has about the



FONTAINE ST. JEAN, VILLENEUVE-LES-AVIGNON

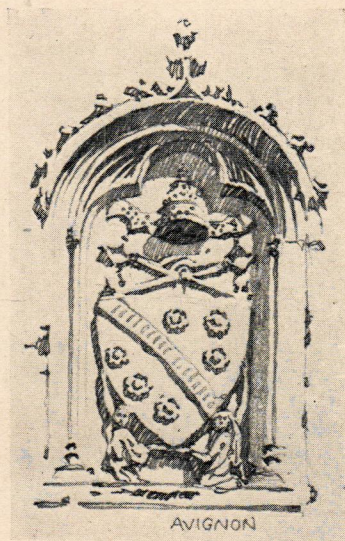
Finally, in the middle distance, skirting the river and half hidden by flamboyant trees, are the fourteenth century ramparts, now restored so that they form a ragged oval girdle around the town as they did in mediaeval times. They seem a bit reminiscent of the movies; rather too dramatically fuedal, one feels, although it is dangerous to question the authenticity of their restoration. One wonders whether Viollet-le-Duc had one of his good days or one of his bad ones when he did this.

Such is the panorama. Nothing so inspiring is to be found by wandering about the cobweb of narrow streets which spreads over the map of

significance of a large green worm. Above there is the spectacle of two huge terpsichorean cupids in elfish poses, and the final touch comprises four pompous and arrogant griffins whose chest measurements quite coincide with those of a well developed buffalo.

Among the many churches of moderate interest in Avignon is a very pure, unaffected one, St. Pierre. It rejoices in a novel yet dignified late Gothic façade, rich in ideas for one of our present day churches squeezed into a crowded city block. It possesses two carved wood doorways as well which are almost as rich as those of Beauvais or Saint Maclou. There is a colorful little square

behind this church. Around the moss-grown walls of the choir, plastered with gaudy posters proclaiming the virtues of tires, aperatifs and bouillon cubes, the sun splashes through a leafy arbor, splotching the stone with patches of gold and violet. There is another rather appealing church façade, here sketched, tucked away on a side street. No amount of inquiry could reveal its name, but a genial house-painter offered up the information that it housed a convent. Furthermore, he boasted that he was the only male human being who had been behind those walls for twenty years. The good nuns had needed someone to touch up their dusty murals, and it was with a vast amount of pride that the overalled dauber spoke of this unique tribute to his art.



DETAIL OF DOORWAY, PALACE OF THE POPES

Many a fascinating hour can be squandered in tramping through the slender streets of Avignon, streets vaulted with verdure; some are mere alleyways, ragged with grimy old houses, and decidedly picturesque; others are dreary and soulless. Occasionally a neglected Gothic tower or a forgotten doorway will loom up to reward one's patient wandering. Or perhaps a downtrodden antique shop, usually laden down with quite worthless junk but almost always offering a few rare bargains to a modest collector. And of course, there is the endless lure of the small town shop windows. The bookshops with yellow stacks of paper backs and colorful displays of gay and most unconventional magazines, the provision stores with windows stacked high with the most alluring of liqueurs and



ROMAN RELICS
CAVAILLON

ROMAN RELIC, CAVAILLON

Burgundies and Ports, the "patisseries" glittering with delectable sweets such as only a fluent gourmet can describe, these prove the most irresistible drawing cards. But though they are a treat unforgettable to the eye and a tremendous trial for the moistened palate, the windows of the provincial photographers have a far subtler appeal. Here indeed, the art of photography is young. The bare baby on the bear rug, the bride and groom with the blushing one clutching the man's upholstered shoulder, the gay fellows in the canvas automobile and the startled character who wasn't expecting the flash just then, all of them are in evidence wherever a photographer's sign pokes forth into the street. And there is an oculist's shop, before which there majestically sits a fluffy orange cat, calmly and with dignity surveying the passing crowd through miniature spectacles.

As is inevitable in any French town as large as this, there is a vast, smoke-filled cafe, where the intelligentsia, the "sportifs" and the merely affluent gather to hear a moody Italian orchestra

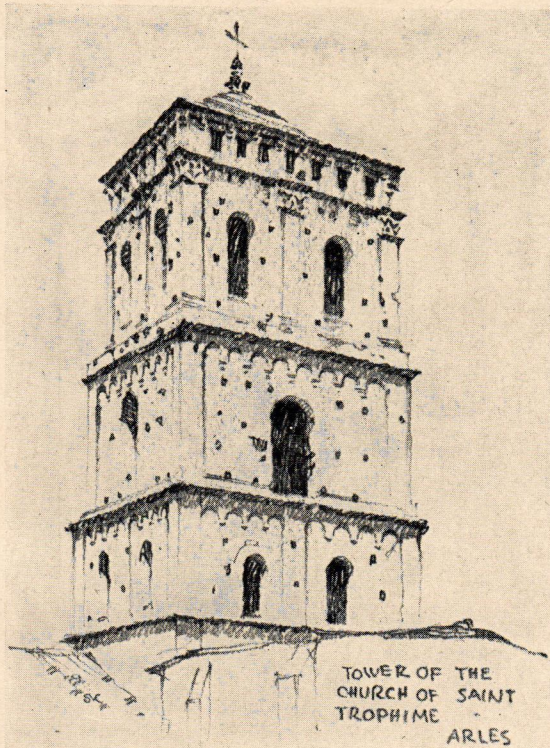
render the most popular tunes. They play many American songs, but never once does the English title appear correctly printed on their programs. The garbling to which an inoffensive song title can be subjected is unbelievable. One of the favorite selections seems to be "Ave yow fro Dxiyee?," if you can decipher that! The chief attraction of this estimable estaminet, however, is a huge, sad-eyed dog, who has lived his entire seven years in a gay cafe and become vastly bored with human attentions unless they involve something to eat. He devours

camembert, spinach, bread crusts, cherries and fish bones with equal dispatch. And his name is Philosophe.

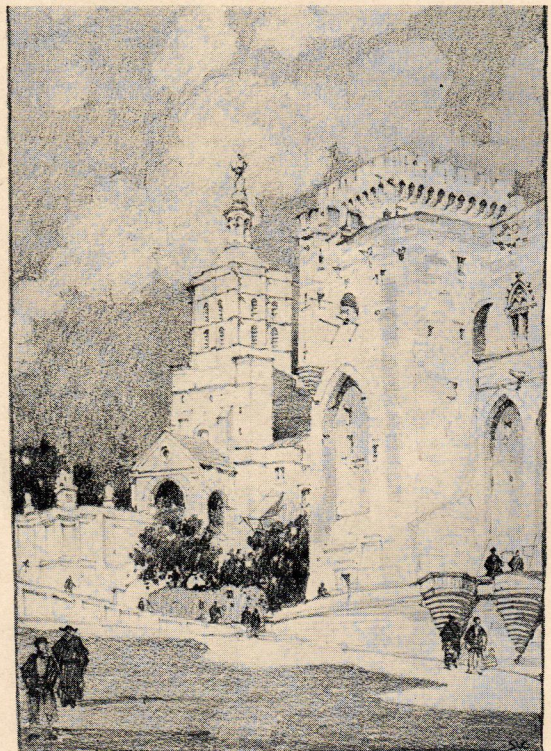
Villeneuve-les-Avignon, relatively a mere hamlet, is a comfortable half hour's walk over the bobbing suspension bridges that cross the Rhone. This modest little place, once its curiosities have been explored, proves to be a worthy rival of its brilliant competitor across the way. This sleepy settlement retains its mediaeval atmosphere also, being dominated by three crumbling towers. One



A FRAGMENT FROM ARLES



TOWER OF THE CHURCH OF ST. TROPHIME, ARLES



PALACE OF THE POPES AND THE CATHEDRAL, AVIGNON

of these, the Tour Philippe le Bel, furnishes the subject for one of Louis Orr's most brilliant etchings. The church tower is rather stubby but none the less pleasing and peaceful. Finally there are the plump golden cylinders which frame the heavily guarded doorway of old Fort St. Andre. These are in an amazingly good state of preservation. Within the walls there is a view, a superb one, and a clan of slinking cats. The rest of the

closing weed-grown courtyards, exquisite old doorways with the details half gnawed away by the elements, and a fine little chapel into which the sun pours through a vanished rose window. The old circular fountain is still intact, although it has long ceased to fulfill its purpose. Vagrant patches of grass sprout from every gutter, from the top of every wall and cornice. It is difficult to recall a more restful and unmolested spot.

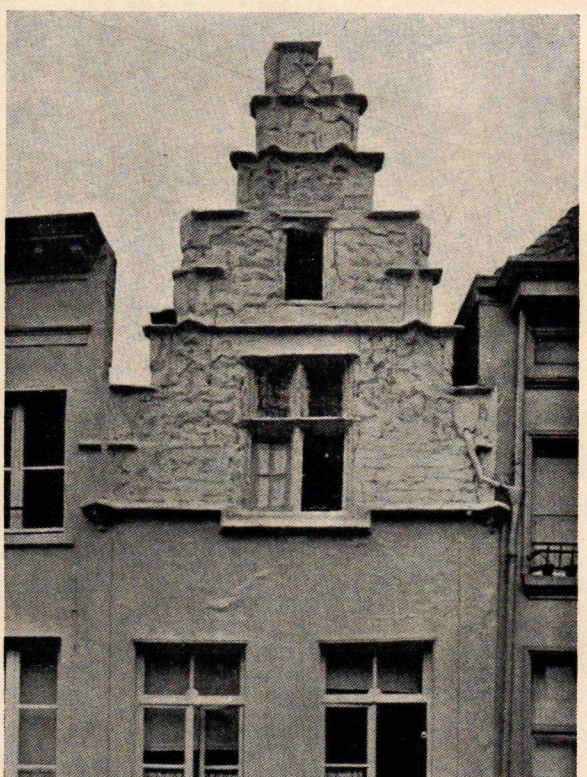
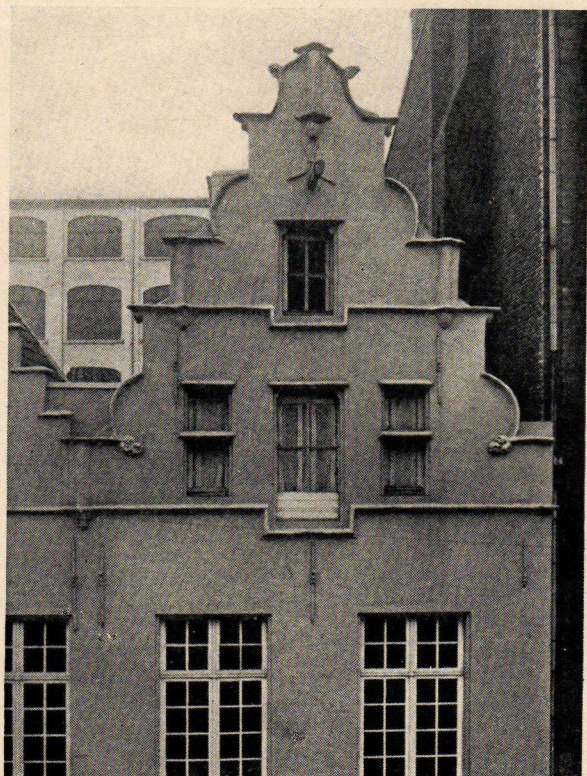
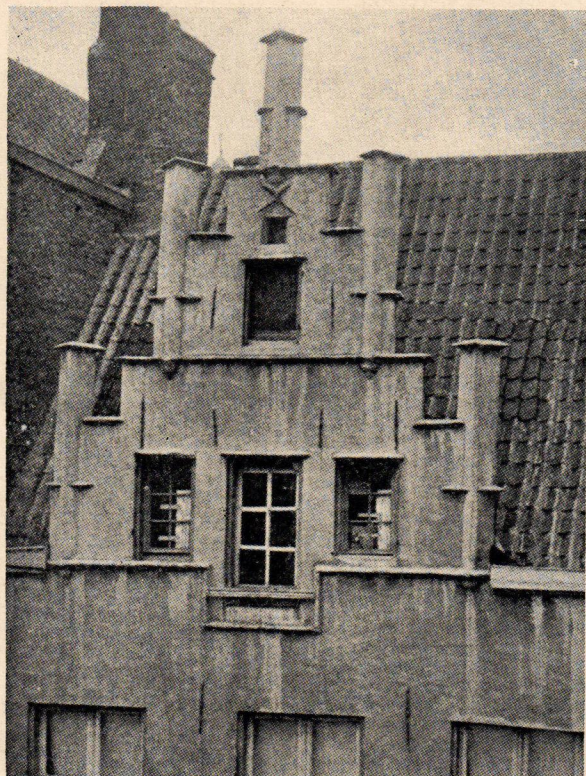


FROM THE ORIGINAL SKETCH BY SAMUEL CHAMBERLAIN

enclosure is monopolized by another forbidding wall which encloses the country house of some very fortunate Frenchman.

Most interesting of all, however, are the rain-washed remnants of an old monastery, referred to as the "Chartreuse." Such casual and unexploited ruins they are; not fallen into utter decay, but sufficiently neglected to preserve their reminiscent charm. There are crumbling cloisters, en-

To wander far outside the limits of Avignon would mean the addition of pages and pages of rapturous ravings about Nimes and the Pont du Gard, Orange, Saint-Gilles, Les Baux, the incomparable Arles, and a score of fascinating villages. For, from the architect's point of view, Avignon is the heart of one of the richest happy hunting grounds in Europe. Rapturous ravings are quite justifiable.



EXAMPLES OF XVI AND XVII STEPPED GABLES IN ANTWERP

(From *L'Emulation*)

PORTLAND CEMENT STUCCO—Part II

BY SAMUEL WARREN, Associate Member American Society of Civil Engineers

STUCCO BACK PLASTERED OR WITHOUT SHEATHING

THIS is a much better construction than when the stucco is placed over sheathing. Cracking due to the sheathing is eliminated and the lath is given better protection against corrosion as it is completely imbedded.

Framing—Studs spaced not to exceed 16 inch centers should be run from foundation to rafters without any intervening horizontal members. The studs should be tied together just below the floor joists with 1 x 6 inch boards which should be let into the studs on their inner side, so as to be flush and securely nailed to them. These boards will also act as sills for the floor joists, which, in addition, should be securely spiked to the side of the studs. The corners of each wall should be braced diagonally with 1 x 6 inch boards let into the studs on their inner side, and securely nailed to them.

Bridging between the studs at least once in each story height is recommended. The bridging should be of the same size as the studs (usually 2 x 4 inch). It should be placed horizontally, and 1 inch back of the face of the studs, in order that the backplaster coat may be carried past the bridging without break at this point.

Furring—In back plastered construction, galvanized or painted $\frac{3}{8}$ inch crimp furring, not lighter than 22-gauge or other shape giving equal results, should be fastened direct to the studding, using $1\frac{1}{4}$ inch x 14-gauge staples, spaced 12 inches apart, or wood furring may be used.

Lath—Metal lath should be galvanized or painted expanded lath weighing not less than 3.4 lbs. per square yard.

Wire lath should be galvanized or painted woven wire lath, not lighter than 19-gauge, $2\frac{1}{2}$ meshes to the inch, with stiffeners at 8-inch centers.

Application of Lath—Lath should be placed horizontally, driving galvanized staples $1\frac{1}{4}$ inch x 14-gauge not more than 8 inches apart over the furring or stiffeners. Vertical laps should occur at supports and should be fastened with staples not more than 4 inches apart. Horizontal joints should be locked or butted and tightly laced with 18-gauge galvanized wire.

Corners—The sheets of metal lath should be folded around the corners a distance of at least 3 inches and stapled down as applied. The use of corner bead is not recommended.

Insulation—The air space in back plastered walls may be divided by applying building paper, quilting, felt, or other suitable insulating material

between the studs, and fastening it to the studs and bridging by nailing wood strips over folded edges of the material. This insulation should be so fastened as to leave about 1 inch air space between it and the stucco. Care should be taken to keep the insulating material clear of the stucco, as to make tight joints against the wood framing at the top and bottom of the space and against the bridging.

Application of Coats—After the base coat has hardened sufficiently, the mason applies a coat of stucco between the studs from the inside completely imbedding the lath. Then the second coat is applied on the outside and not less than a week later, the finish coat making a total thickness from the face of the studs of about $1\frac{1}{4}$ inches.

STUCCO OVER OLD FRAME BUILDINGS

In remodeling in stucco, the essential point to determine first is whether the framework of the building is in good condition. It must be firm and strong in order that it will stand the weight of the stucco without cracking. The stucco coat will be an added weight and this must be taken into consideration.

If the framework is in good condition, the rest of the work is comparatively simple and proceeds very much as outlined in the instructions under sheathed frame walls.

If the siding is in poor condition, it is best removed and the work then proceeds as usual. If the siding is in good condition, it is best left in place as it adds to the strength of the walls. First go over the building and see that all loose siding is securely nailed. If the siding consists of shingles or clapboards, the furring is often dispensed with. If the siding presents a smooth surface, furring should be used.

The main features then demanding attention are the door or window openings. Due to the extra thickness of the stucco, these must be given special attention. In general, the trim around the windows is either extended, with proper flashing, or else, the stucco is brought into the window openings with a return.

STUCCO OVER OLD BRICK OR STONE

Overcoating Brick Walls—In covering old brick walls, the first essential is to prepare the surface of the brick to give a good bond with the stucco. Brick to give a proper bond with stucco must present a new surface. The only way that this can be done is to remove the face of the old brick with a sharp-pointed stone pick, and with ordinary

brick this is a simple matter. Raking out the joints is also of assistance. Then proceed as noted under brick walls.

If the brick, however, are very hard or contain much stone trim which is difficult to roughen, the whole building can be covered with metal lath and the work proceeds as usual.

STUCCO MIXING AND PROPORTION

Preparation of Mortar

Mixing—The importance of proper and thorough mixing of the ingredients of the mortar cannot be too strongly emphasized. Machine mixing is in all cases to be recommended in preference to hand mixing.

The ingredients of the mortar should be mixed until thoroughly distributed, and the mass is uniform in color and homogeneous. The quantity of water necessary for the desired consistency should be determined by trial, and thereafter measured in proper proportions.

Machine Mixing—The mortar should preferably be mixed in a suitable mortar mixing machine of the rotating drum type. The period of machine mixing should be not less than five minutes after all the ingredients are introduced into the mixer.

Hand Mixing—The mixing should be done in a watertight mortar box, and the ingredients should be mixed dry until the mass is uniform in color and homogeneous. The proper amount of water should then be added and the mixing continued until the consistency is uniform.

Measuring Proportions—Methods of measurement of the proportions of water should be used which will secure separate uniform measurements at all times. All proportions stated should be by volume. A bag of cement (94 lbs. net) may be assumed to contain one cubic foot; 40 lbs. may be assumed as the weight of one cubic foot of hydrated lime. Hydrated lime should be measured dry and should not be measured nor added to the mortar in the form of putty.

Retempering—Mortar which has begun to stiffen or take on its initial set should not be used.

Consistency—Only sufficient water should be used to produce a good workable consistency. The less water the better the quality of the mortar within working limits.

Mortar—All coats should contain not less than 3 cubic feet of fine aggregate to 1 sack of Portland cement. If hydrated lime is used it should not be in excess of one-fifth the volume of cement. Hair or fibre should be used in the scratch coat only on wood lath, on metal or wire lath that is to be back plastered, or on metal or wire lath which is applied over sheathing and is separated therefrom by furring deeper than $\frac{3}{8}$ inch.

MORTAR COATS

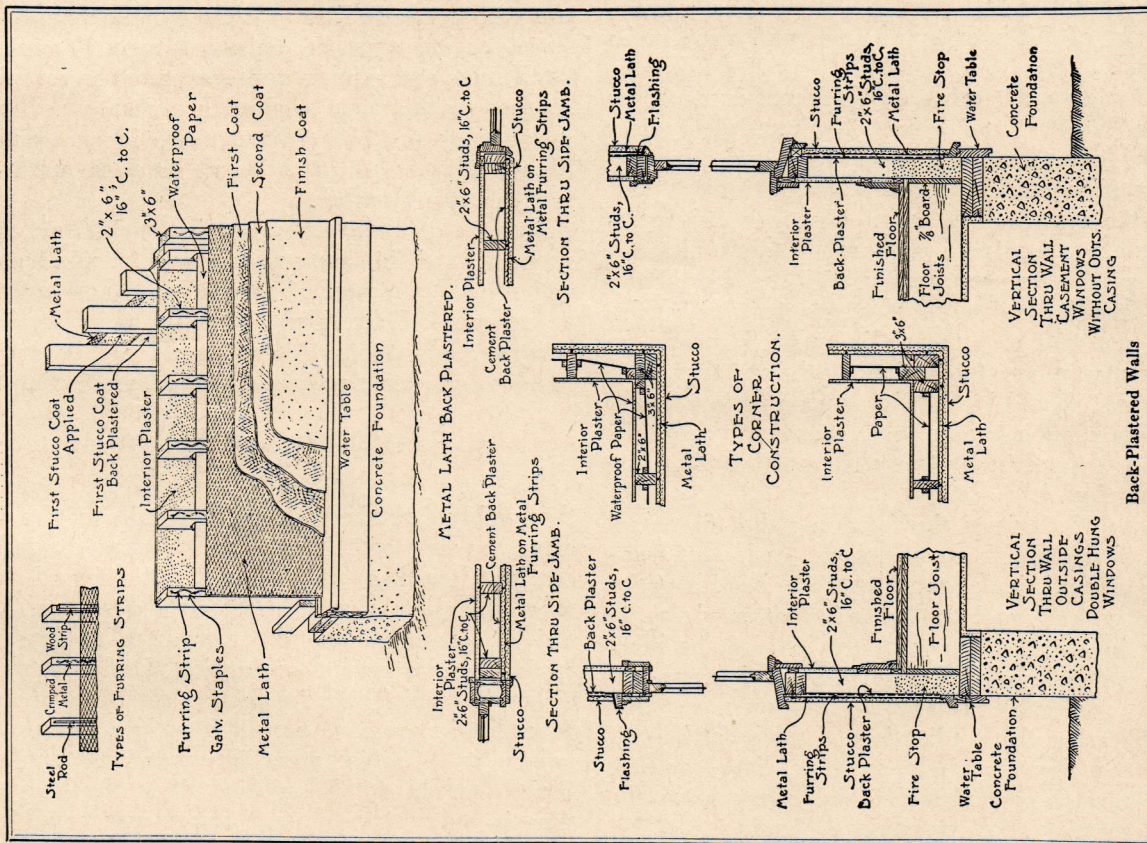
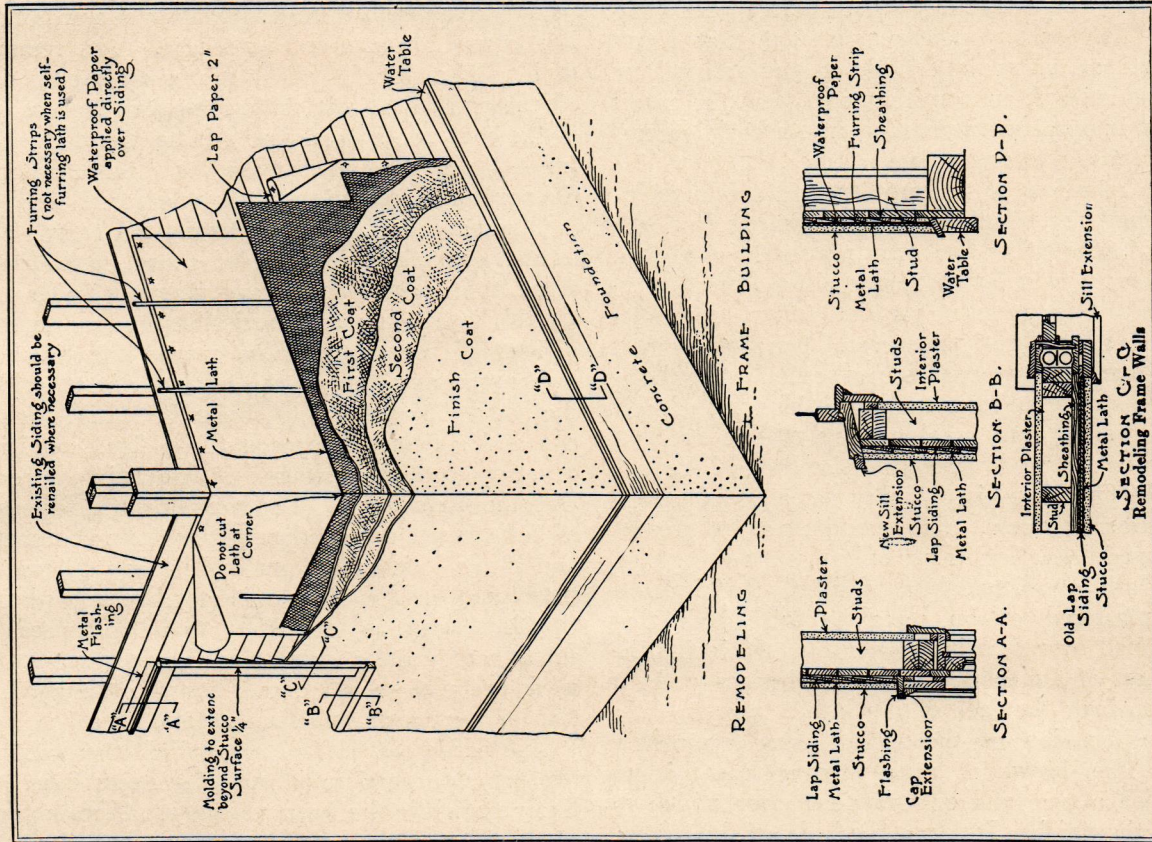
Practice varies widely in the mixture and application of stuccos. The use of hair, lime, and waterproofing materials, the variations in mixtures for the different coats, the number and thickness of the coats, the intervals between the coats, the degree of wetting of the undercoats, and the precautions necessary in protecting the coats from too rapid drying, are details subject to question, and will stand further investigation. However, the study of the experimental panels at the Bureau of Standards has yielded considerable information on some of these points.

One of the most important indications from these panels is that lean mixtures containing well graded aggregate give better results than those commonly specified. Mixtures as lean as one part of cement to six or seven parts of graded aggregate have given excellent results in these tests. The committee is of the opinion that the volume change of rich mortars is accountable for much of the unsightly cracking of stuccos, and that no mixture should be used in which the proportion of cement is greater than one part to three parts of fine aggregate.

The effect of hydrated lime in cement stucco has also been given considerable attention, and the conclusion which is forcing itself upon the committee is that hydrated lime does not improve the structure of the stucco, but by imparting better working quality to the mortar, reduces the cost of application. On the other hand, there is evidence that not more than twenty per cent of hydrated lime, by volume of the cement, should be added to cement stucco if the best results are to be obtained.

There seems to be no good reason for varying the composition of the different coats, but if a variation is to be specified, the scratch coat should logically be the strongest mixture followed by a leaner brown coat, and a still leaner finish. No greater mistake has ever been made in stucco application than the use of a strong brown coat over a weak base or a weak scratch coat. The not uncommon practice of applying a strong brown coat or a lime mortar scratch coat has been responsible for many stucco failures.

The suggestion that the finish coat should logically be leaner than the undercoats immediately brings up the waterproofing question. There are two fundamental points to be considered in this connection; first, that the lean coat is not necessarily lacking in density, and second, that the waterproofing problem in good cement stucco is not one of overcoming permeability, but rather of reducing absorption. The entire question hinges on absorption, and the evidence at hand indicates that a moderate degree of absorption is a much more preferable condition than a surface covered with craze and map cracks produced by the use



of a too rich or wrongly manipulated finishing coat. Any waterproofing treatment that alters the natural texture and color of the stucco may be dismissed from consideration, and the merit of any integral waterproofing in stucco is exceedingly difficult to determine.

The question as to number and thickness of coats may best be answered by assuming that each coat of stucco has its own particular function. The scratch coat is the first applied, and its purpose is to form an intimate bond and a secure support for the body of the stucco. On metal lath it also serves as a protective coat, and should therefore be strong and not too lean. The use of hair or fibre is of questionable value. Hair or fibre should not be used when the space back of the lath is to be filled, and is probably not a necessary ingredient at any case. The committee at the present time would sanction its use only in scratch coats on wood lath, or on metal or wire lath that is to be back plastered or on metal or wire lath that is applied over furring deeper than $\frac{3}{8}$ inch. The thickness of the scratch coat should average about $\frac{1}{4}$ inch over the face of the lath.

The function of the second coat (commonly called the brown or straightening coat) is to establish a true and even surface upon which to apply the finish. It forms the body of the stucco, and must fill the hollows and cover the humps of the scratch coat. For this reason, an average thickness of $\frac{3}{8}$ inch to $\frac{1}{2}$ inch will usually be required.

The finish coat serves only a decorative purpose and has no structural value. Its function is solely to provide an attractive appearance, and any mixture or any method of application that may detract from the appearance, or in any way injure its permanency should be avoided. Herein lies the argument for lean mixtures, which are more likely to be free from unsightly defects than rich mixtures, and are also more likely to improve in appearance under the action of the weather. The finish coat should be as thin as possible, consistent with covering capacity, and may vary from $\frac{1}{8}$ inch to $\frac{3}{8}$ inch in thickness, depending upon the type employed.

It is obvious from the foregoing that first-class stucco should be three-coat work, each coat serving its own particular purpose. The bond between the brown coat and the scratch coat needs to be strong in order to carry the weight of the body of the stucco, and for this reason it is now considered preferable to apply the brown coat the day following the application of the scratch coat. Except in dry or windy weather, little wetting of the scratch coat should be necessary when the brown coat is to follow within 24 hours. A slight degree of absorption of "Suction" in the scratch coat, is probably better than complete saturation, for the brown coat, as well as the others, is neces-

sarily mixed with a larger quantity of water than it requires for maximum strength. The removal of a portion of this excess water by the suction of the undercoat not only improves the quality of the coat, but also insures a better bond by tending to draw the fine particles of the cement into the pores and interstices of the undercoat.

Whereas, the interval between the brown and scratch coats, as recommended above, is relatively short, the interval before applying the finish coat should be as long as permissible under the conditions of the work. The reason for thus delaying the application of the finish is to enable the body of the stucco to obtain its initial shrinkage and a nearer approach to its final condition of strength and hardness, before being covered with the surface coat. The bond of the latter needs to be intimate rather than of maximum strength, and if the body of the stucco has been allowed to thoroughly set and harden, it may be assumed that the finish coat is less likely to be disturbed by subsequent volume changes in the undercoats. A week or more should elapse between the application of the brown and finish coats.

The finish coat should be applied over a damp, but not saturated, undercoat, for excess water is likely to injure the bond seriously. Certain types of finish, such as the wet mixtures used for sand spraying, or for the "spatter dash" finish, may preferably be applied to a fairly dry undercoat, since suction must be depended upon to prevent streakiness and muddy appearance. The fact that finishes of this type applied in this manner may set and dry out with little strength is not serious; they gradually attain sufficient hardness with exposure to the weather.

Curing of the undercoats by sprinkling, and protection of finish coats against sun, wind, rain and frost by means of tarpaulins are always to be recommended. This is not always feasible, however, and the architect should be content to specify and insist upon reasonable precautions.

APPLICATION OF STUCCO

The base coat and second coat should both be thoroughly scratched. Apply second coat the day after the first coat if possible. Apply the finish coat not less than one week after the second coat. Wet each coat before applying the next one. The finish coat should not be permitted to dry out rapidly, and adequate precaution should be taken, either by sprinkling frequently after the mortar is set hard enough to permit it or by hanging wet burlap or similar materials over the surface. Stucco should not be applied when the temperature is below 32° F., nor under any conditions such that ice or frost may form on the surface of the wall.

(To be continued)

EDITORIAL COMMENT

SEVERAL LETTERS have been received by the editors of this journal, either approving or adversely criticising an editorial in a recent issue, in which a sentiment expressed in a daily paper, favoring the preservation of certain landmarks in New York marked by the freest use of precedent in design, or faithful copying, was strongly approved.

"Who shall decide when doctors disagree?" Who can define that nice point where precedent (plagiarism) ends and originality begins? On what good grounds may we destroy a work of art, because it closely follows some classic precedent?

The symposium on precedent, that was so fine a feature of the last convention of the Institute, would, we were sure, give us the desired answer. After carefully rereading those scholarly addresses, we are as much in the dark on this point as before. Believing always that honesty is the best of policies, giving due regard to a proper ethical attitude, we felt it incumbent, in considering this now widely discussed question of precedent and free adaptation, to determine for ourselves, if possible, the exact distinction between piracy and originality.

Professor Boring, of Columbia University, is the only one of the symposium who really attempts a definition as to just what precedent is. He states:—"Precedent to me means form which has been accepted as the proper expression of good logic, fitness and beauty." Are we, therefore, to understand that originality means the exclusion of these three basic attributes of good art? Or, are we supposed, in our efforts toward an original expression of architecture, to evolve good logic, fitness and beauty from our inner selves, so original that no one, no matter how profound his knowledge, may detect the presence of a familiar form?

Mr. Magonigle, during the course of his address, said:—"No man having something to say invents a new language to express his new thought; he uses the parts of speech familiar to us all, uses the alphabet of his race. * * * Mass and proportion, heights and widths, walls and openings, voids and solids, these are the simple elements of architecture * * *."

Are not all of these simple elements based on precedent? To achieve originality, should we abjure these things? If we do (and have not the cubist painters done exactly that), will not our architecture arrive at the same lamentable condition? Frankly, we flounder. We would like to reply to our critics, those who roundly denounce our recent editorial, and frankly we do not clearly understand this thing ourselves.

"May we not," asks Mr. Magonigle, "design an architecture firmly rooted in tradition appropriate to its uses and therefore of infinite variety, from the timidity that shrinks from the responsibility of placing two mouldings in a certain relation, unless toilsome search through the books reveals the glad fact that what we propose has been done before by some braver soul * * * or sweep the alphabet of our race and art into limbo and substitute for it some impromptu and illiterate gibberish?"

Professor Boring answered this question when he stated:—"Whenever a nation seeks precedent for its expression in art, it by that token admits that it is not satisfied with its expression of art * * *. It acknowledges that certain preceding periods in the course of civilization have reached a higher degree of cultivation in art. A nation showing these symptoms has healthy growing pains."

The art of literature possesses an advantage in that an author may state the source of inspiration by proper quotation or attribution. Neither the painter, the sculptor nor the architect can avail of this means of absolving themselves from plagiarism.

Ralph Adams Cram, in the concluding paragraph of his address, sums up this matter with his usual clarity. "But," said Professor Cram, "here is the saving fact—the real spirit, the inspiring breath, still holds in places, and here, if we will, we can find the breath of inspiration we need. Not to invent some new thing * * *, a new architectural style, but to recover the truths of old arts from their forms and the spiritual radiance that emanates from them and modestly, humbly, try to recreate these forms, not as final ends in themselves, but as recovered truths after long night, facts to hold to, foundations to build upon, landmarks in the great adventure wherein we, even we, may play our part in recovering right values for the world, and bringing it about that in the end they shall prevail."

That seems to us exactly the correct mental attitude toward precedent. We like the expression "recovered truths," not as final ends, but as "foundations to build upon."

The last word in this interesting discussion is to be found in an article by Francis P. Sullivan, "The Case for Larceny" in the September issue of the *Journal of The American Institute of Architects*.

We believe that in the last analysis, when all the arguments pro and con have been heard, the point of view so admirably expressed by Mr. Sullivan

will be more generally accepted. "Plagiarism" does not accurately describe the offense, nor does "piracy." If the adaptation of precedent makes the user guilty of any offense, it is more nearly "larceny." And the law very clearly defines larceny—from the "petty" variety to the grosser forms of burglary.

"Now, it would seem," writes Mr. Sullivan, "considering merely the advancement of architecture and ignoring the legalistic and proprietary side, that this kind of stealing (from one's contemporaries) is not only the most innocent form of the vice but is, on the whole, even laudable, and that on its encouragement and spread depends our chief hope for the future of art."

In concluding this presentation of the case of Originality vs. Precedent, we quote further from Mr. Sullivan's article. He states:—

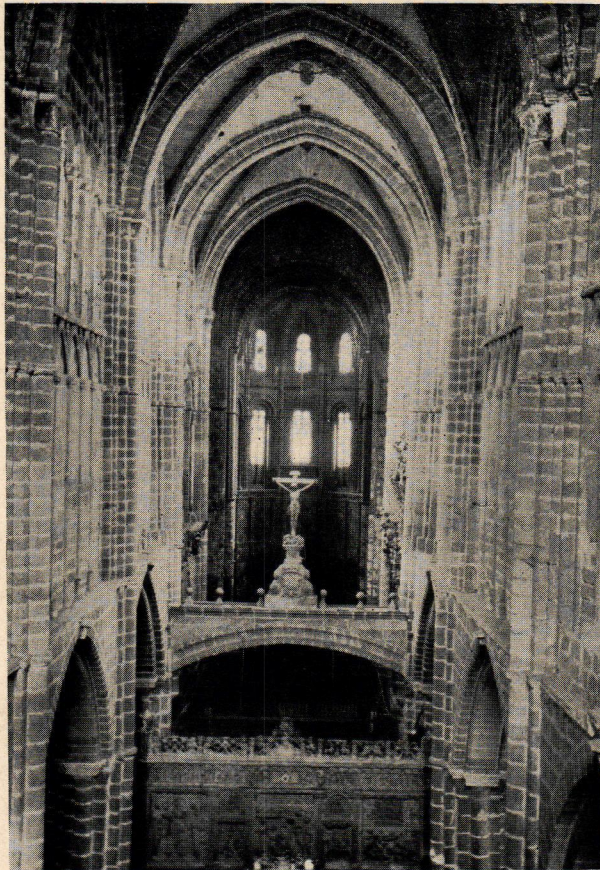
Is not a great deal of the old-time unity of purpose and expression, which we are accustomed to hear ascribed to the "dynamics of the time," the "common mind of the age" and other impersonal forces, really due to this happy, innocent, and inveterate habit of using whatever seemed to fit best, with no regard to the law of copyright and without any of this timorous compulsion to be different, and is not the contrast between past and present principally in this, that we are more self-conscious in our thievery and more prone to insist on our property right in our inventions and adaptations?

If mutual borrowing became universal, and the best

which each could contribute went freely into the common pot and was freely drawn upon, the day might come at last when all the architects would be lined up for an instant at the same point and all facing in the same direction. If this could be brought about, the dynamics of the time and the common mind of the age would, for once, have an opportunity (so to speak) to "do their stuff," and the development of the longed-for epoch of virile, original, and American art—deeply based in tradition—and yet not so gosh-darned traditional either at that—could not be long delayed.

There is an ancient saying, attributed to the Jesuits, "Much good can be done in this world, if we are not too particular who gets the credit," and if the purpose in view is to get better architecture, and not merely to get better jobs, why is it not well to lay the stress on the use of the best forms, the most apt solutions, the most pat expressions, encouraging the designer to develop better forms, apter expressions, and abler solutions if he can, or, if not, to take them bodily where they are to be found?

To sum up, it would seem that architects could with proper ethical attitude, include in their composition (design) such "quotation" or adaptation of other designers, as would give force to their own expression, or serve to establish its logical meaning. As previously stated, they have no means of quoting or attributing the sources of their inspiration and until such a means is found, they must needs bear with patience the harsh comment of critics whose academic attitude is more largely developed than their own ability originally to create.



THE NAVE, AVILA CATHEDRAL



WORKING PHOTOGRAPHS—II

Being a further presentation of a series of hand camera photographs by
John Russell Pope, F. A. I. A.

IN a previous issue* there was presented in THE AMERICAN ARCHITECT a series of "working photographs" that were enlargements of hand camera photographs made by John Russell Pope, F.A.I.A., for use as adjuncts to specifications and working drawings. In referring to these enlargements at the time of their publication, it was stated:—"These photographs are not merely to refresh the mind of the architect or to provide suggestions for designers. They have a more practical value. They are *working photographs* to accompany working drawings."

After constant use for more than half a year in Mr. Pope's office the value and practicality of these enlargements have been many times demonstrated. Every architect knows how extremely difficult it is to make the client visualize a finished

result from working drawings, or perspectives. Perhaps the best, but at the same time, an expensive method, is by a well constructed plaster model. But models after all, no matter how good, fail in conveying a clear idea of texture of the finished work, correct suggestion of landscape effects, or the novel methods that are proposed for handling the various materials either singly or in combinations. We learn that at the very outset of the work, these working photographs have proven their value and it has been practically easy to "get over" to the client the thing proposed.

The various illustrations presented in this issue depart more or less from the main idea of texture and deal interestingly with design, detail and various landscape features.

After all, the artist architect,—emphasizing the word artist,—deals with his materials as ex-

* Vol. CXXV. No. 2440, February 27, 1924.

pressed on the exterior, in much the same way as does his brother artist, the artist painter. He sets his palette with the materials to be employed, and by skillful methods combines them so as to produce a harmonious and artistically pleasing effect. This is equally true in the combination of landscape effects with the architectural treatment.

We are certainly at an age of pictures. Even the daily papers find that while they may attempt to make their point or clearly describe the thing in mind by many lines of type, the men and women of today, hurrying each towards a set goal, will ignore the carefully phrased columns of type and turn with satisfaction to the pictorial presentation that supplements the article no matter how

well written. It will be useless to endeavor to correct that attitude of the public mind,—and, it must be acknowledged also, that of even the professional man, by telling him that “reading makes a full man,” and that pictures are but supplementary. The graphic presentation speaks no certain language. It is a means of approach that the people of every tongue can comprehend.

It is by the use of these working photographs that even the dullest client can be brought to visualize a completed result. It matters not whether it is a question of a simple use of material, a combination, a quality of texture or the ensemble of a landscape design. All these things can be readily and clearly placed before clients by these graphic methods.





"WORKING PHOTOGRAPHS"

RANDOM "SNAPSHOTS" MADE BY JOHN RUSSELL POPE, F. A. I. A.

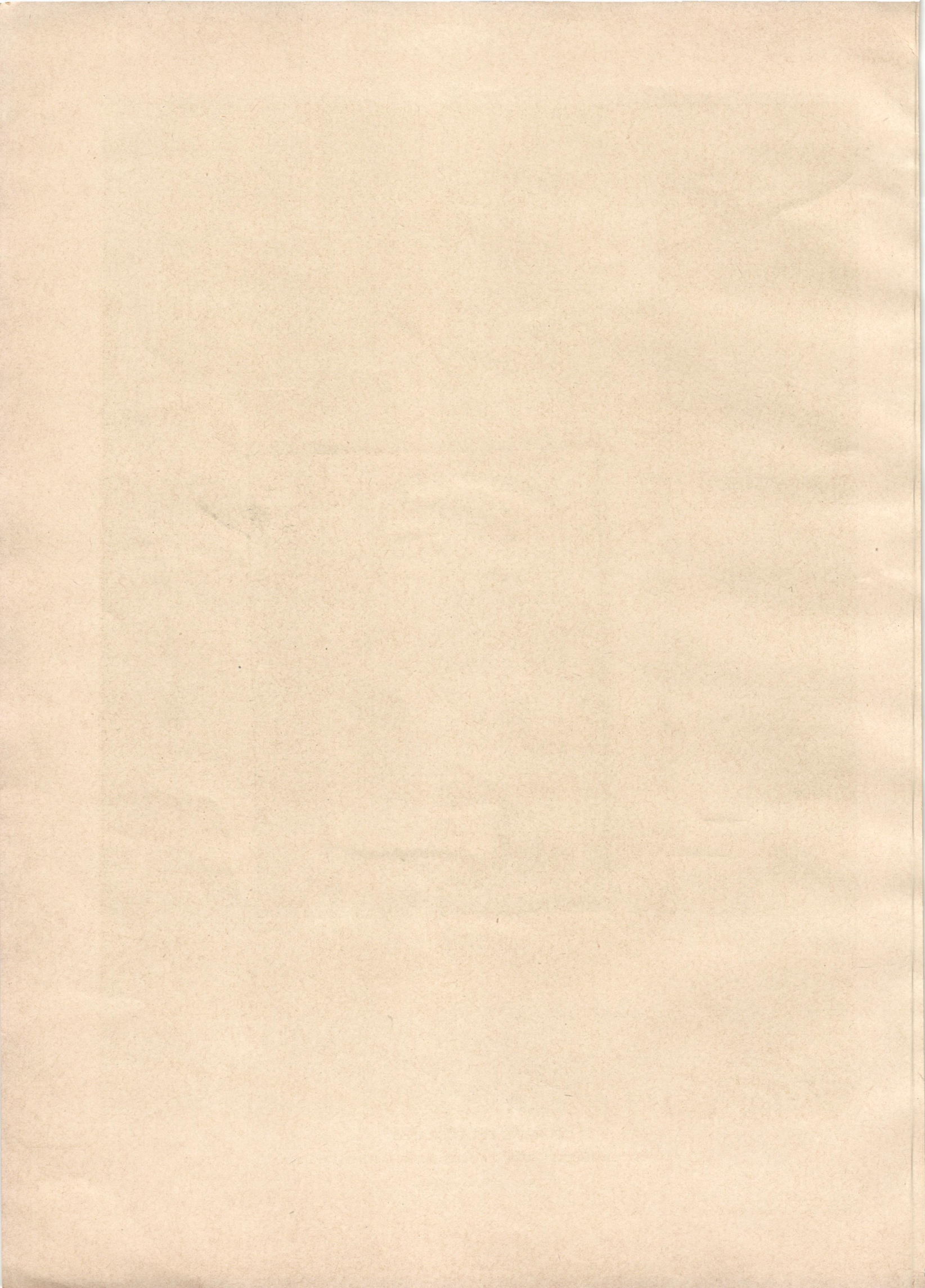
(See article on page 275)



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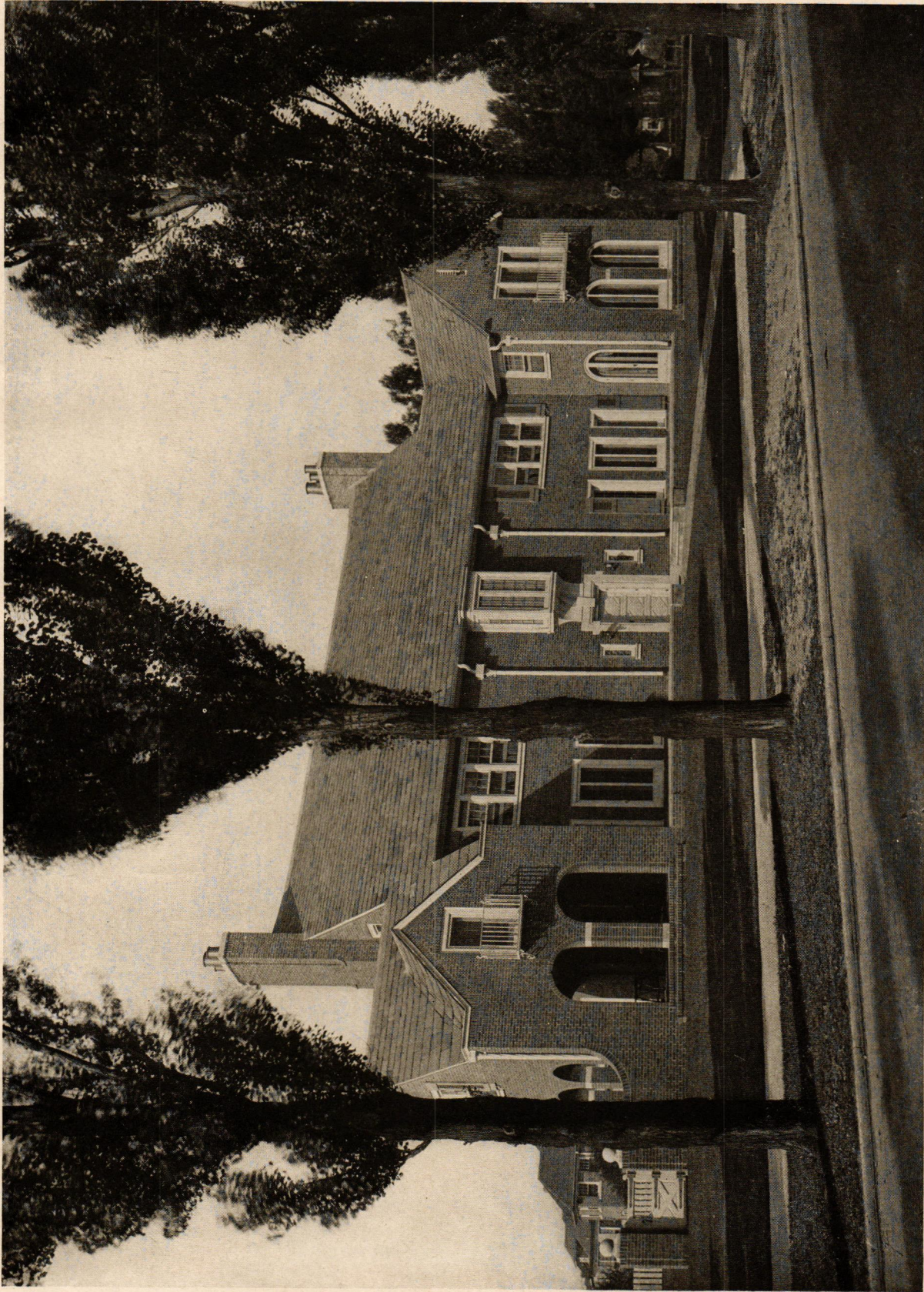
(See article on page 275)



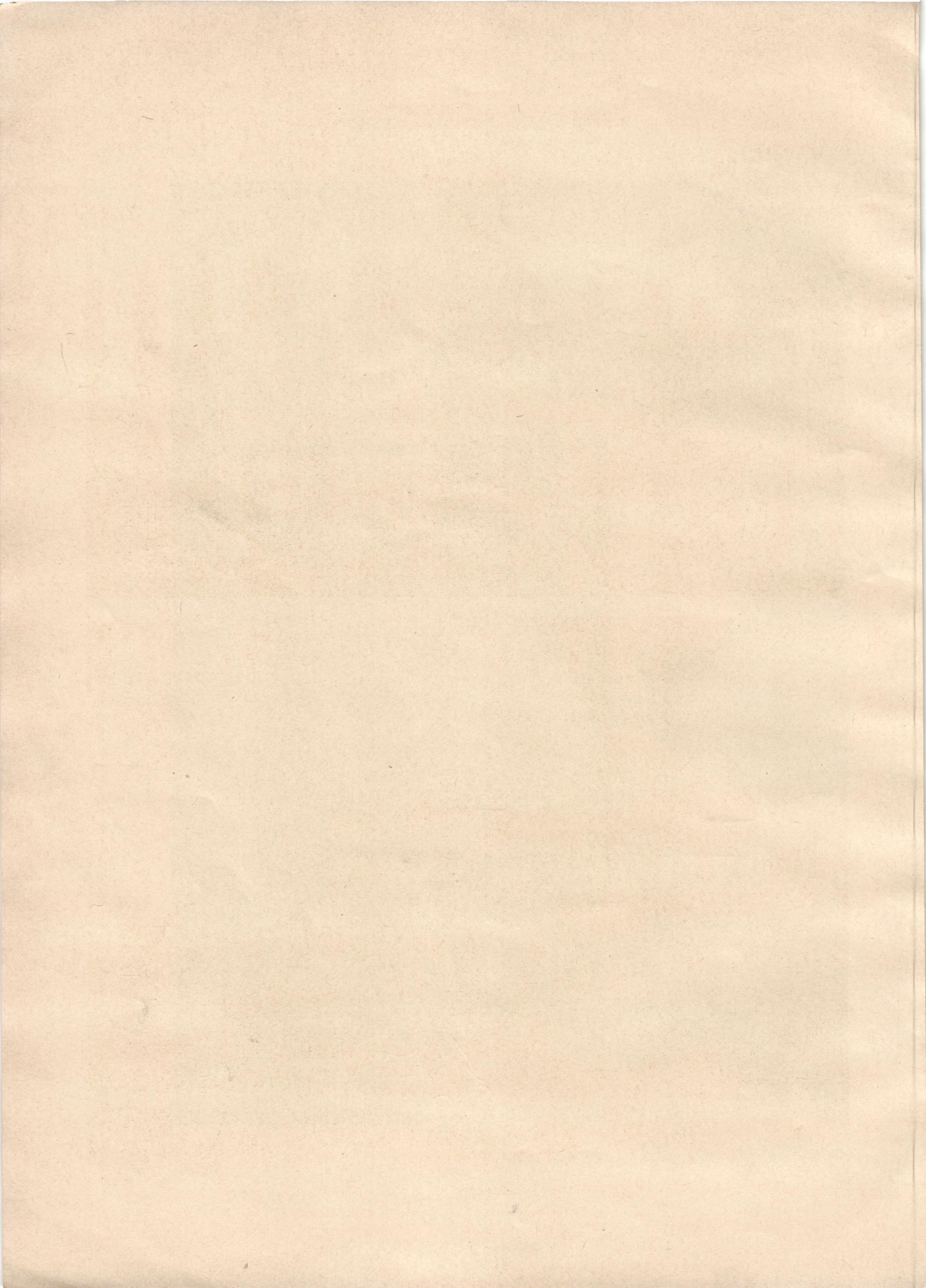
"WORKING PHOTOGRAPHS"

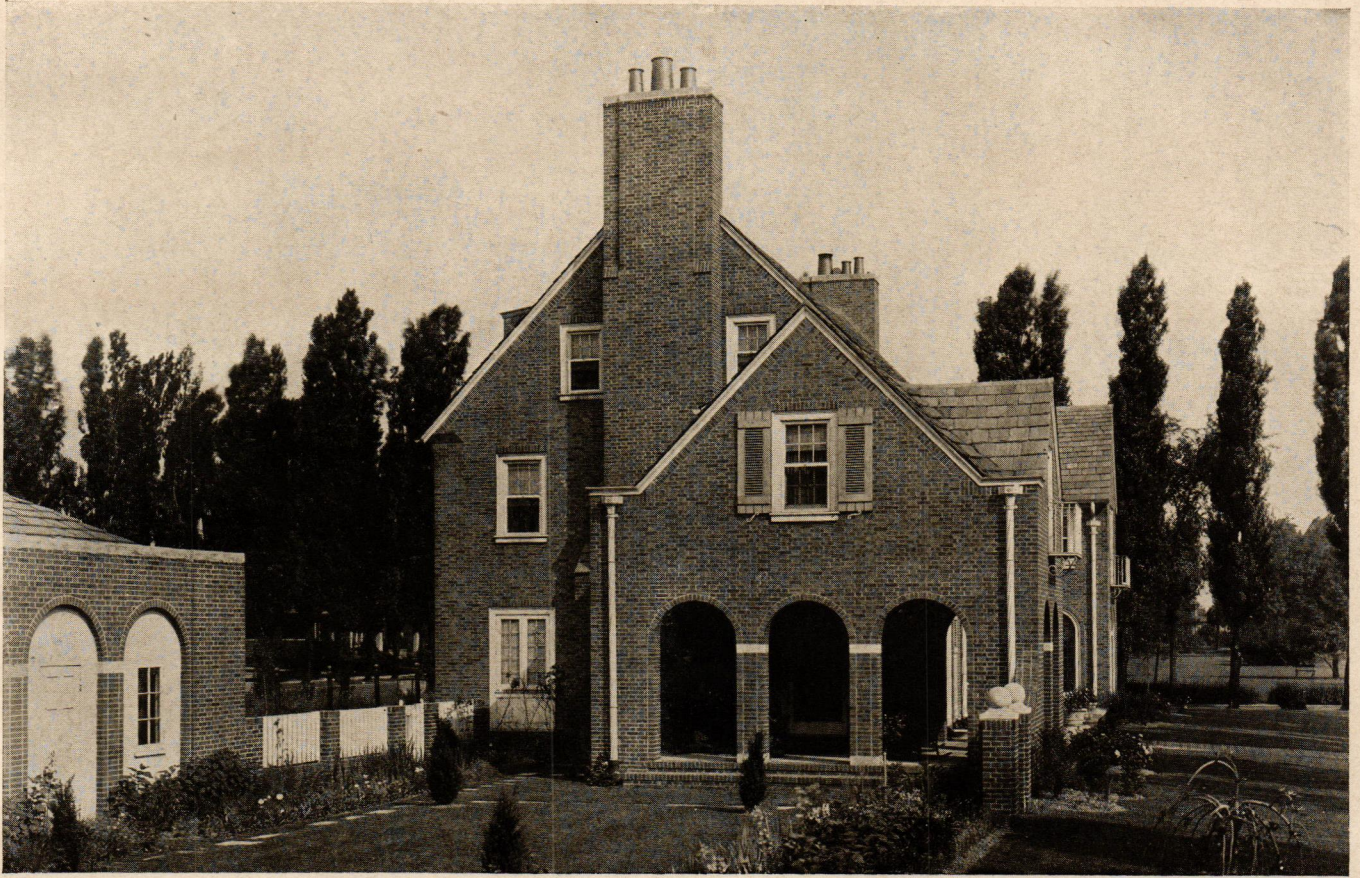
RANDOM "SNAPSHOTS" MADE BY JOHN RUSSELL POPE, F. A. I. A.

(See article on page 275)

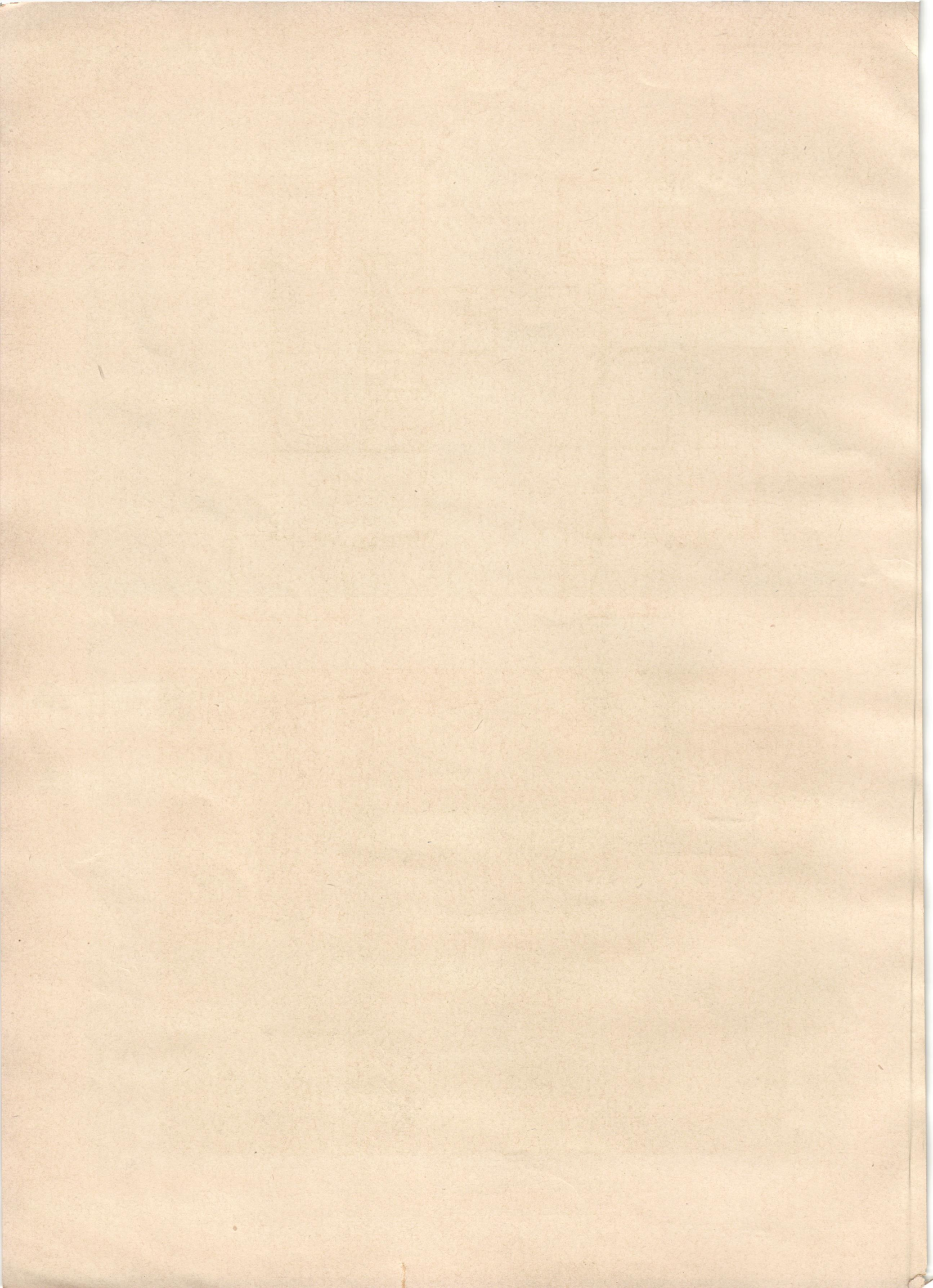


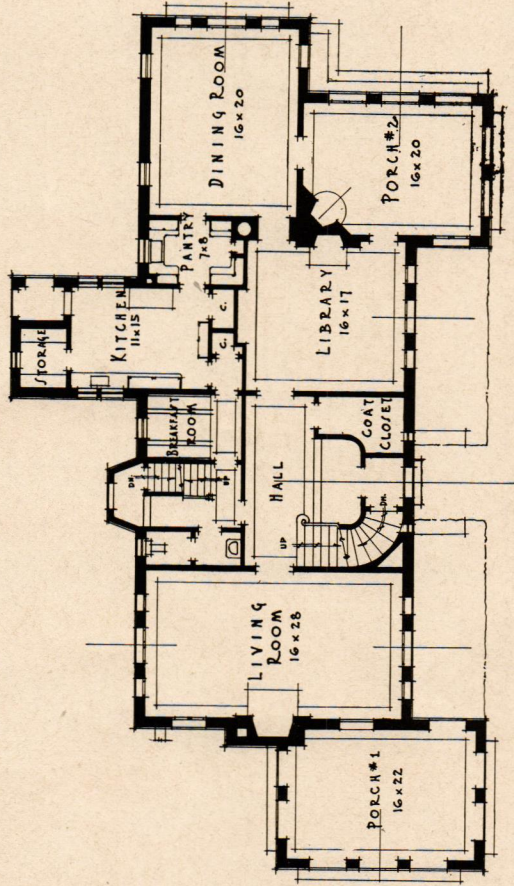
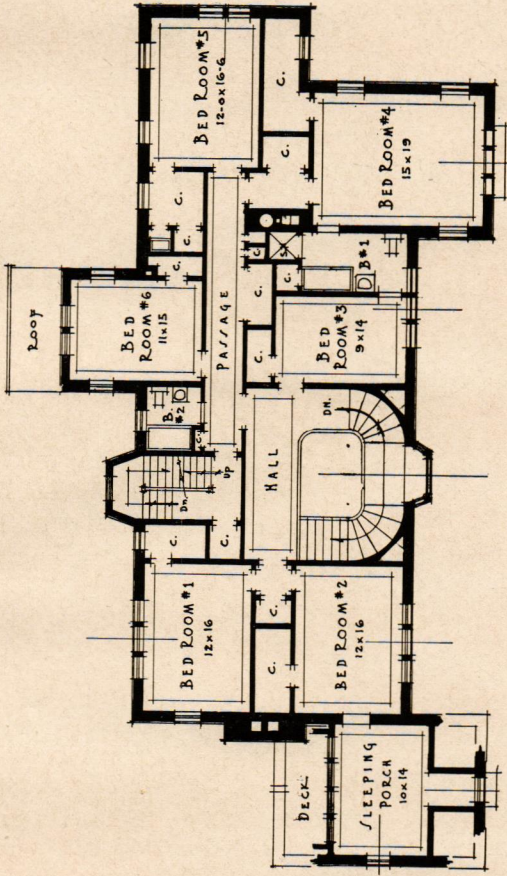
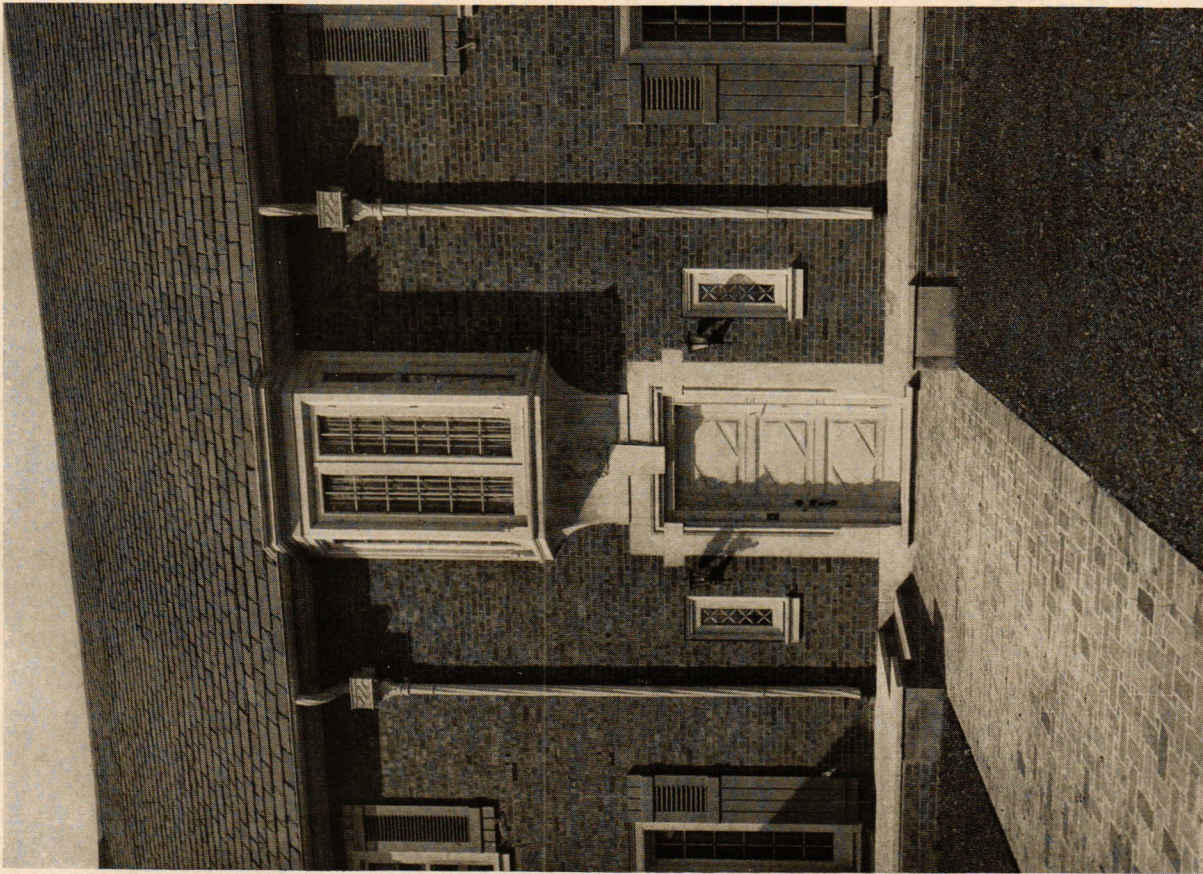
HOUSE OF LYFORD MOORE, DETROIT, MICH.
J. IVAN DISE, ARCHITECT—E. J. MAIER, ASSOCIATE



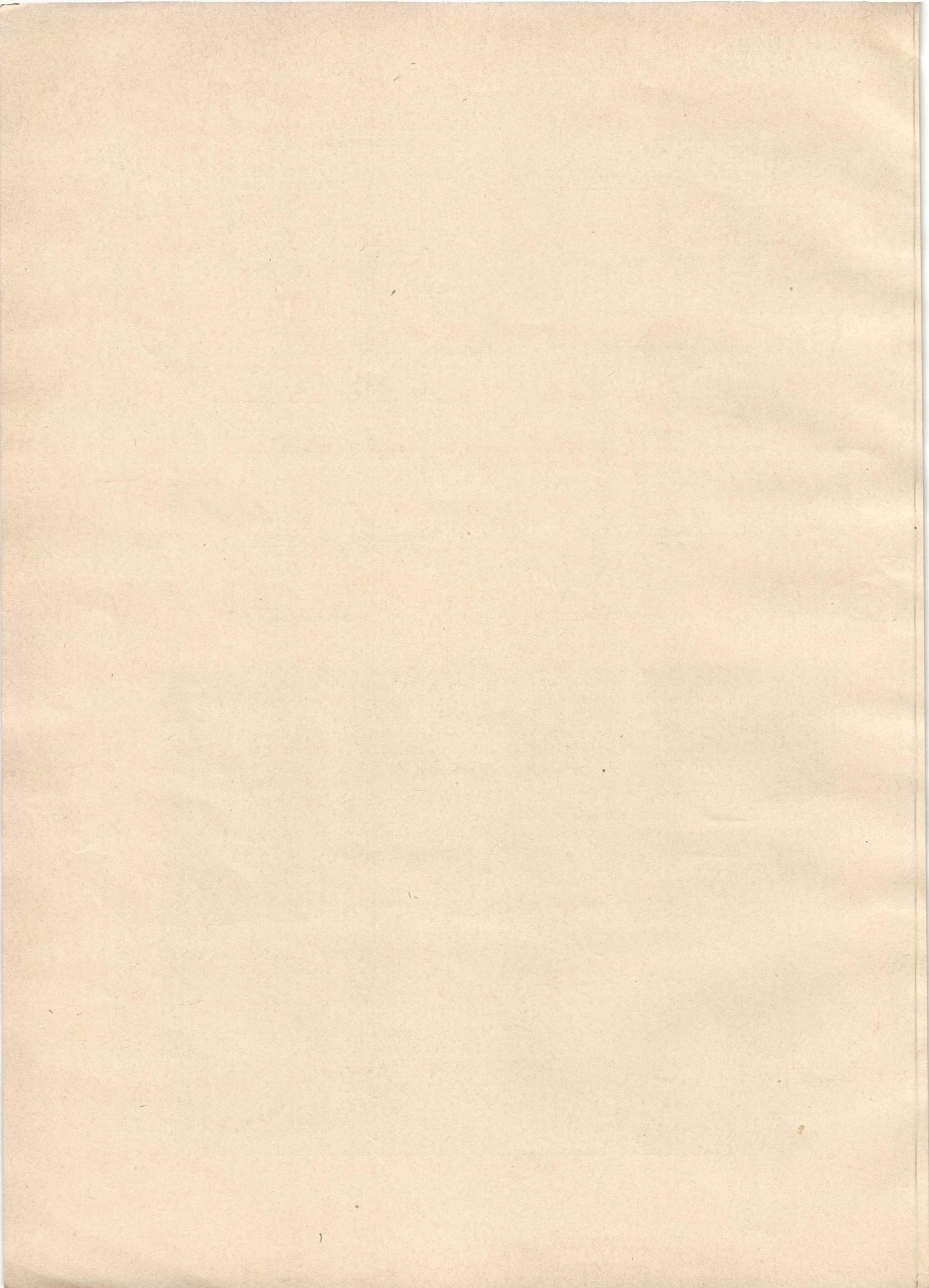


HOUSE OF LYFORD MOORE, DETROIT, MICH.
J. IVAN DISE, ARCHITECT—E. J. MAIER, ASSOCIATE





HOUSE OF LYFORD MOORE, DETROIT, MICH.
 J. IVAN DISE, ARCHITECT—E. J. MAIER, ASSOCIATE



WHAT *is* PRECEDENT DOING *to* AMERICAN ARCHITECTURE?

Address of Professor William A. Boring, of Columbia University, delivered before the Fifty-seventh Annual Convention of The American Institute of Architects

IN considering this inquiry it may be well for us first to agree upon what is a reasonable interpretation of the term Precedent as used in criticism and in the design of architecture.

A direct copy of the main features and details of an admired example does not, as I understand it, fall into the proper meaning of the use of precedent.

Precedent to me means form which has been accepted as the proper expression of good logic, fitness and beauty, proven by the test of time and accepted as a standard upon which new expression can be modeled and with which it may be compared.

The testimony of all history indicates that art forms grow like living things. They evolve from the simplest rudimentary ideas and forms, slowly changing to conform to changing environment, and eventually reach a climax which might be classed as perfection. This period of perfection rarely endures, for from it there is usually a retrogression and often entire disappearance.

In this evolution those forms have survived which, by reason of fitness and beauty, have captured the imagination of the artist, and by him are crystallized into new design to meet new conditions.

Such forms come into the category of Precedent, as I understand the term, as clearly as the establishing of a comprehensive style, as for instance classic was the precedent for the Renaissance.

While we may be safely guided by Precedent within certain limitations, there is a point beyond which our design, if too obviously influenced by the prototype, fails properly to reflect the true expression of the new product and of the individuality of the artist. Creation is not stimulated where there is direct copying of a Precedent, but on the contrary it is hindered in free expression.

For illustration let us admit that the English revival of Greek architecture fails to reach that exquisite refinement of proportion and purity of form which the antique monuments reveal; we nevertheless admire and copy the expression of Greek ideas which we see in English domestic work. It is better suited to our needs than a pure Greek interior would be even were it designed by

Ictinus or Callicrates, for we are essentially English, we are not Greek, and our architecture must and will admit that fact in spite of any rare exotic flavor with which we may try to adorn it.

Neither can we comfortably settle down in rooms of strictly French design. However admirable they are as works of art, they were developed amid surroundings not at all in harmony with our social life, and while we use them as models of beauty and good taste, we cannot copy them exactly and successfully to meet our own social needs.

Precedents must be in harmony with present ideals or at least be suggestive of agreeable ideas, otherwise they cannot be accepted as useful and inspiring for guidance in design. Forms admirable in themselves but not applicable for the problems of today are not useful to the designer.

While ancient Egyptian art was highly developed we can use as little of its forms as we can of modern Russian architecture, because the forms do not fit our needs. Antiquity adds nothing more of value than does modernity, age not being an essential quality of beauty.

It appears that when it has served its purpose in the development of style to meet the requirements of new environment, Precedent is abandoned. The new art, being perfected, goes forward as the most important and logical expression of the new age.

In the time of Pericles, what was then modern Greek art was a higher type of art expression than anything which the world had seen, and it was natural that precedents were not sought for. In the age of Augustus the Roman architects were not scouring the world for precedents. When Roman art was young Greece furnished the precedents, and even the architects to use them for the development of Roman architecture, but when they had arrived as their own style and outgrew everything else, the Romans, like young ambition, spurned the rungs of the ladder on which they climbed.

Whenever a nation seeks precedents for its expression in art, it by that token admits that it is not satisfied with its expression of art; that it is not contented with what it has accomplished, that it demands better architecture. It acknowl-

edges that certain preceding periods in the course of civilization have reached a higher degree of cultivation in art. A nation showing these symptoms has healthy growing pains.

When America reaches her apogee in art we will probably show much less interest in the architecture of the past. In fact we probably will have either copied all of it or bought it all and re-erected it in the United States.

Along in the early eighties a firm of architects in New York began to work rather closely to precedent. The buildings they designed were so much better than anything till then produced that in spite of the cry of plagiarism, the entire architectural world began to study precedents.

Enthusiasm for the Colonial swept the country like a prairie fire.

Symmetry took precedence over the picturesque, withered papier mache garlands curled up, glass bottle discs fell out of stucco gables, round shingled towers lost their bannerets, and architects began to use precedent.

After the Italian Renaissance had taught the lesson of simplicity, dignity and scale, the transition in public buildings to the grand manner of the monumental school was an easy step.

Our public competitions now have the severity and stateliness of the Grand Prix de Rome of 1830. Extreme dignity and simplicity, with almost archæological fidelity to classic precedent, interestingly arranged, is a fair description of the winning designs in the majority of our great public competitions.

The precedent of the Ecole des Beaux-Arts has taught us method in our study of plan and composition. Our schools are training the student to design in sound classic styles which accustom him to beautiful forms while he devotes his energy to plan and composition.

He thus cultivates a sense of fitness and good taste, and when this quality is established he may then be original, but until then, unless he is one of those rare geniuses we discover occasionally, he would better stick pretty closely to precedent.

But we are no longer teaching only historic forms as the basis of design. Modern methods of construction and present day requirements have developed new problems in design which must be reckoned with.

The struggle with the immature mind is to make it work logically, and at the same time to feel that there is something really alive in architectural design. We can train the student to draw, we can teach him to theorize, we can instruct him in history, and we can show him how to construct buildings, but routine instruction will not teach him to design. We can put all kinds of knowledge into his brain, but design has to come out through his soul. Design comes from that divine love for beauty, and the gift divine for its expres-

sion which is given but sparingly to the minority, and in fullness to only a favored few.

It is comparatively easy to feel something one must express in painting and sculpture, but really to feel it in architecture, and to be able to express it, is the mark of genius.

The big tonnage of building in America is not vitalized by architectural quality. It will be so vitalized only when judicious use of precedent is more widely accepted by the intelligent practitioner. He must build for convenience, he must build for safety, and his impulse is to build as beautifully as his quota of genius makes possible, but he will never create beauty by logical deduction alone, nor ever without precedent, and of these two sources of inspiration he will be far happier to see in the publications his creations from the latter than from the former.

Had the elevator been known in Italy in the year 1500 the tall commercial building would not now be a difficult structure to make beautiful.

Every tried experiment has so far failed to produce in a tall shaft crowded with uniform windows and perched on a plate glass base, a type of beauty we can safely leave to the future generations as precedent.

It is, however, a problem which can be solved; a very interesting type it is, distinctly American, and in it are the elements of a strikingly beautiful expression of architecture.

The new Shelton Hotel in New York suggests in a rather rugged way a spirit of design which is most inspiring, and it is one of many recent buildings which lead us to expect beauty in the skyscraper.

We expect the architect to begin his design by logically determining the facts, functions and general disposition of parts; but he should soon envelop these great hard facts in a web of design which he spins over them, concealing everything except the spirit of the design. When the facts are logically disposed we forget them, for in contemplating the design we see only the beauty of the expression, if beauty exists.

If the facts are badly composed we feel the trouble in the design, for they cannot be concealed.

What precedent cannot do is to guide us in those problems for which we find no prototype. We must, when we meet such situations, be guided by good taste and logic. All that precedent can do in such a situation is to recall to us beauty of form and composition. We must work out our own salvation in the tall office building, the skyscraping hotel, the many storied apartment house, the subway station and the traffic tower. Our brave attempts to design the ideal office building conclusively prove the difficulty of creating a beautiful new and extraordinary thing without the guidance of precedent.

It is impossible for anyone to design an impor-

tant building free from the influence of precedent. One always does use precedent consciously or unconsciously, and cannot free his mind from the impression made by buildings of which the image lingers in his memory.

If Letarouilly had published a twelve story palace with each floor the same in plan and height of ceilings all alike, a water tank and elevator shaft on top, and with the dignity and charm of a Bramante masterpiece, and paying a 10% rate on the investment above all charges, including amortization and brokers' fees, medals for the best apartment house designs would have the value of the German mark.

If Lepautre had thought of it he could easily have dashed off a traffic tower which would guide us to a complete solution of the traffic problem.

There are building problems arising from our modern ways of life for which we find no precedent. When such a problem arises we are cast away in the fog of uncertainty. We go on groping for a precedent. Fog horns all about us are resounding with warnings to be modern, to let construction show us the way to avoid the dead classic. Then we resolve to go on dead reckoning; we know about mass, about line, about proportion and classic detail. With these as guides we tackle the design. It is not easy work. Study goes on over study until the entire universe of form has been tried.

We are convinced that this probably would have discouraged Baldissari Peruzzi when all of a sudden we see a light! We have an idea! A brand new idea! We make a telling sketch of it and call our partner to admire. He looks it over, lights a cigarette, and says, "Well, it might do, but I never did care particularly for the things in that book, why don't you look in *Later Renaissance in England*?"

But is there not danger in relying for inspiration too much on what has been done in the good old days when everything had charm?

Do we show the right spirit when we are satisfied to follow precedent which easily fills the needs, instead of searching more earnestly for a design to meet each particular problem.

Is it quite fair to Piranesi to use his inspiring etchings of Roman ruins mechanically reproduced on tinted paper as magazine covers instead of

honestly working out a thoughtful design which might reflect the contents and ideals of the publication?

Precedent is doing good to American architecture when it brings us back to good taste after the aberrations of those newly discovered American styles which bob up now and then.

The Lincoln Memorial, the Boston Public Library, the University of Virginia, and the New York City Hall, while original designs, are founded on the truths laid down in precedent.

Precedent is changing the redwood jig-saw house of California into that semblance of solidity seen in the masonry construction of Italy, Spain and Mexico, and the plan into a logical and luxurious arrangement with court, arcade and balcony, delightfully picturesque and rambling; the kind of villas with stucco wall and tile roofs we see on the hillsides of Italy.

Precedent is guiding the design of luxurious midwestern homes toward conservative originality which has marked character and beauty, and the broad flat well wooded areas available in that fertile country are converted into landscape gardens of a distinct and handsome type.

The precedents inherited in the houses built by our great grandfathers are disposing masses, purity of detail and good taste in furnishing the modest dwellings.

The public is in sympathy with the work based on precedent. Good architecture is demanded and appreciated more and more each year. There was never in the history of the world such activity in building as there is now, in America, and there was never before such a high average of useful, comfortable and agreeable buildings as we now inhabit. Our mechanics enjoy comforts denied the King of England when the precedents of our popular domestic homes were in the making.

With all the intelligent effort now directed toward better architecture, and the vast experimental laboratory the building industry affords, it seems reasonable to expect and cherish the hope that some day, before the coal beds are exhausted and the sun spots turn off the light, the effect of precedent may lose its potency for guidance, because we shall have attained the goal toward which all eyes are turned, a beautiful, logical, modern American style of architecture.

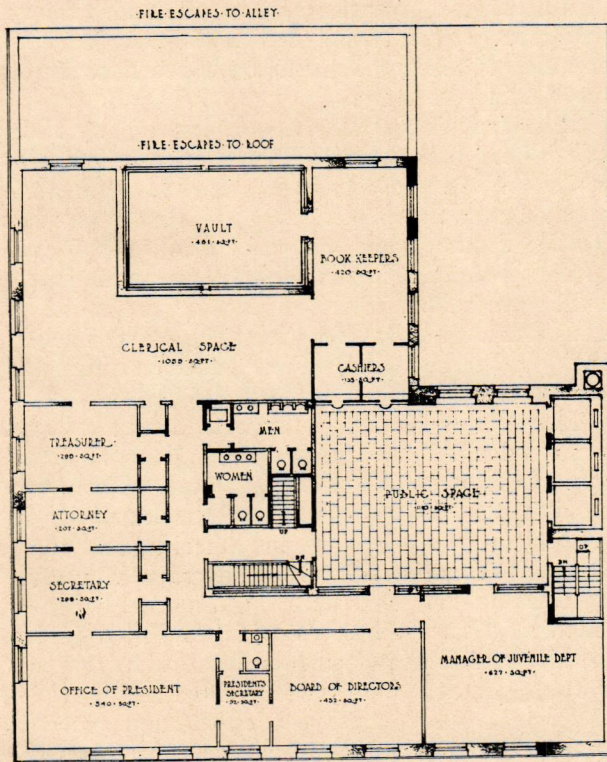
POLISH NATIONAL ALLIANCE ARCHITECTURAL COMPETITION

REPORT OF THE JURY

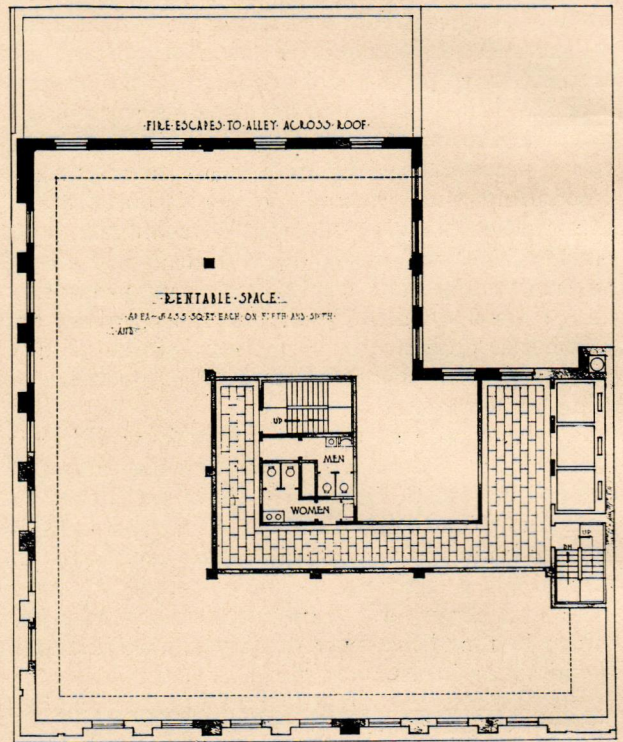
THE Jury of Award in the architectural competition held in response to the invitation of the Polish National Alliance contained in the printed program of competition published and issued by the Alliance has held four sessions for the purpose of examining and judging the 24 designs submitted.

gram and were therefore eliminated from the competition as called for in the program. The remaining designs have been carefully studied by the Jury who have arrived at the following verdict of award:—

FIRST: Design No. 14 was awarded first prize for the striking individuality of the exterior and for its general excellence both in plan and design. This superiority is not seriously challenged by any



~ FOURTH ~ FLOOR ~ PLAN ~



~ FIFTH AND SIXTH FLOOR PLANS ~
EXTERIOR WALL OF SEVENTH AND EIGHTH FLOORS SHOWN IN DOTTED

The meetings were held in room 1408 Straus Building, Chicago, beginning on Monday, August 18, and continuing on the three succeeding days.

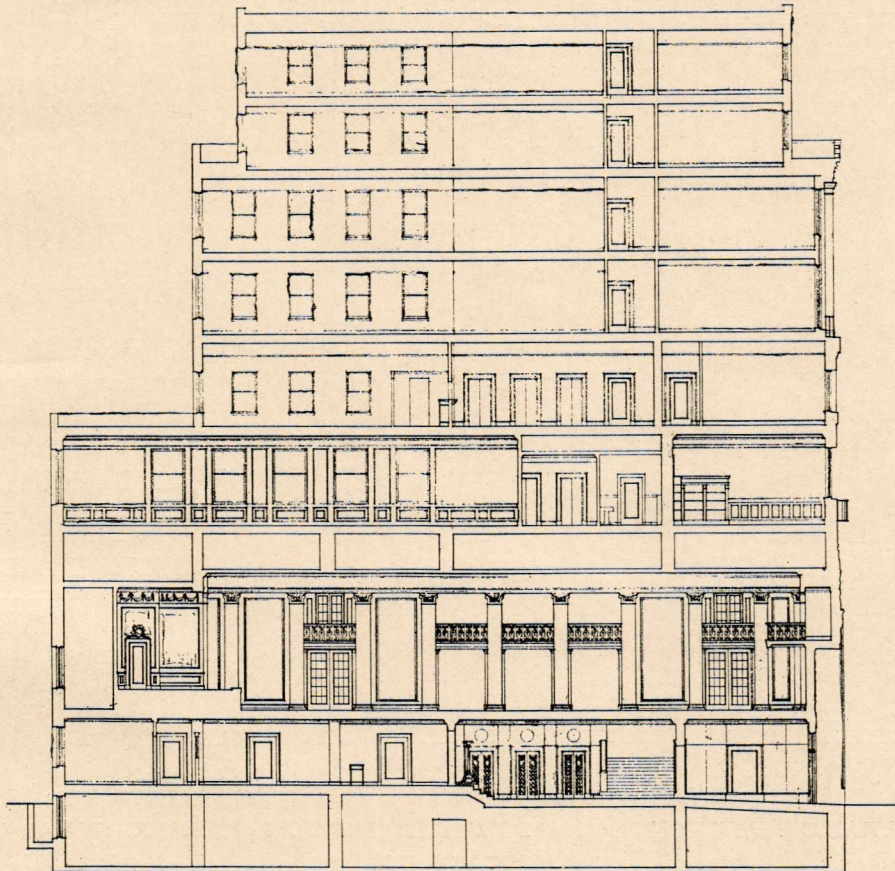
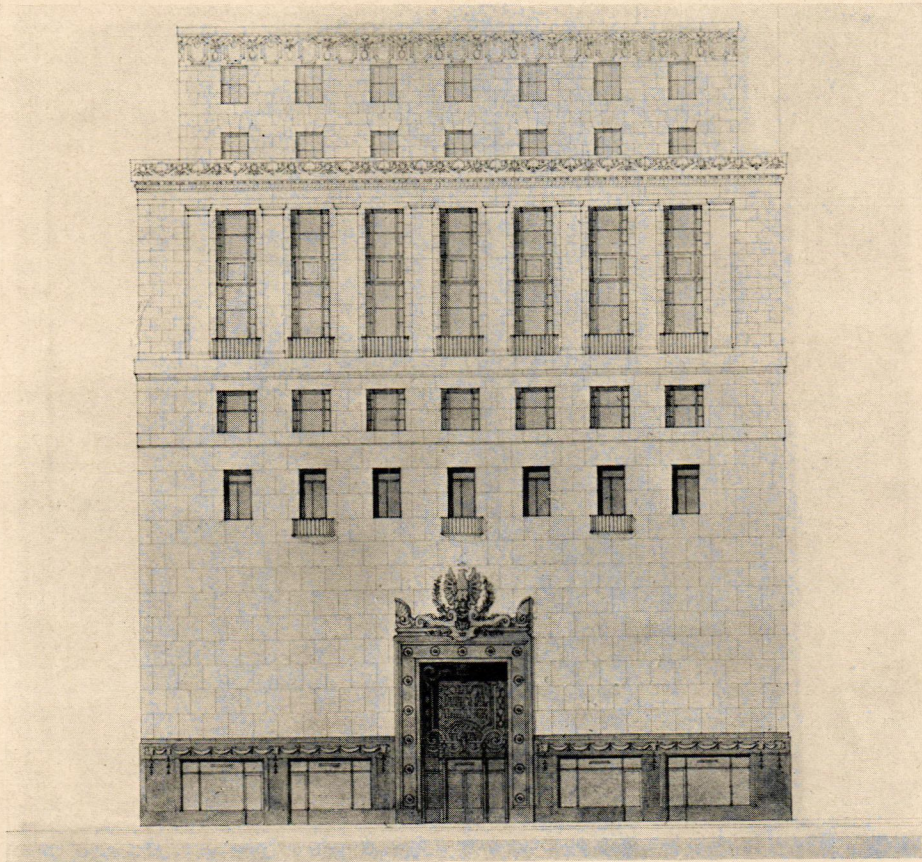
The work of the Jury was conducted under the rules and requirements stated in the printed program of competition which was prepared by R. C. Llewellyn, A.I.A., Professional Adviser, in conformity with the "Standard Form of Competition Program" recommended by The American Institute of Architects.

As a whole the 24 designs submitted constitute a generous response on the part of the architectural profession to the invitation of the Alliance, the designs being well studied and well presented.

It is to be regretted that a number of the designs violated mandatory requirements of the pro-

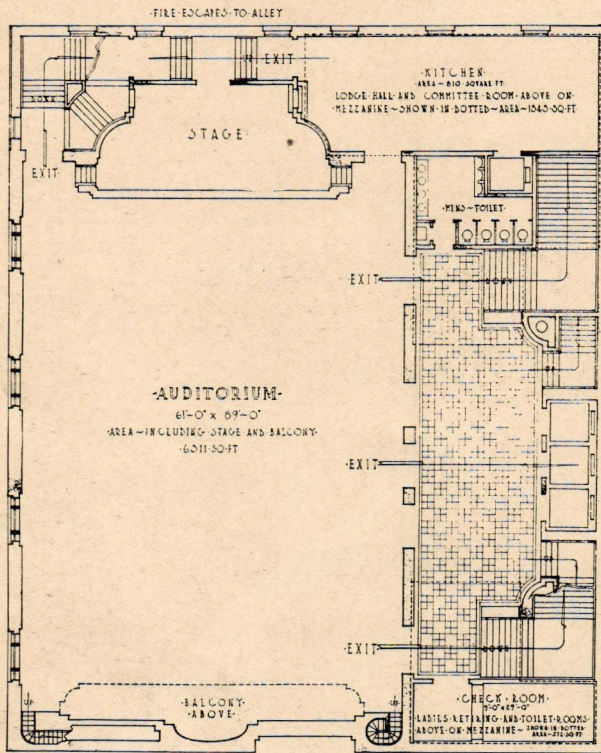
gram and were therefore eliminated from the competition, as in all competitions, one design or another may excel in various minor details of arrangement. This design shows a high degree of professional ability and it is, in our opinion, certain that its author is capable, in consultation with his clients, of solving every problem of arrangement and design to their entire satisfaction. It will form a creditable and worthy home for the Alliance and a handsome addition to the architecture of Chicago.

The award of the first prize would not have been affected in any way by any of the designs placed out of competition by failure to conform to the mandatory requirements of the program even had they conformed to these requirements and so remained in competition.

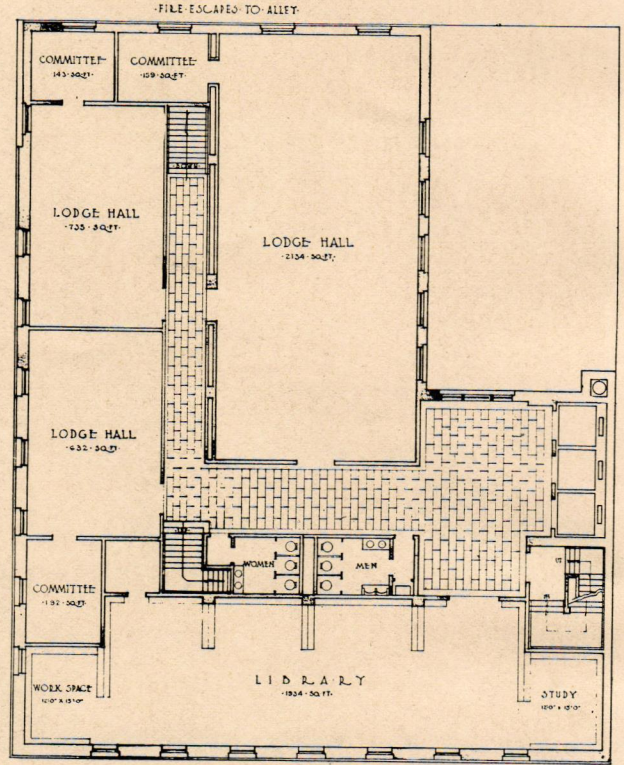


POLISH NATIONAL ALLIANCE COMPETITION
ARCHITECTURAL COMPETITION FOR HEADQUARTERS BUILDING, POLISH
NATIONAL ALLIANCE, CHICAGO, ILL.
PRIZE WINNING DESIGN—RAYMOND M. HOOD, ARCHITECT

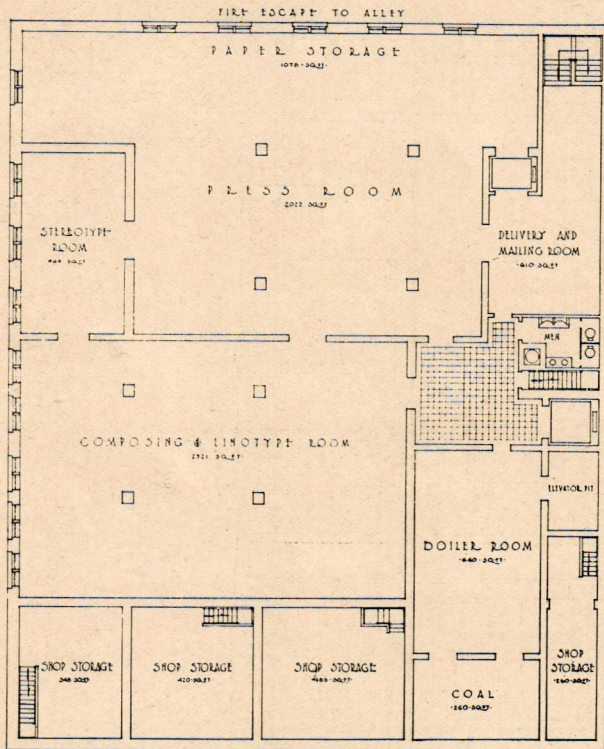
THE AMERICAN ARCHITECT—THE ARCHITECTURAL REVIEW



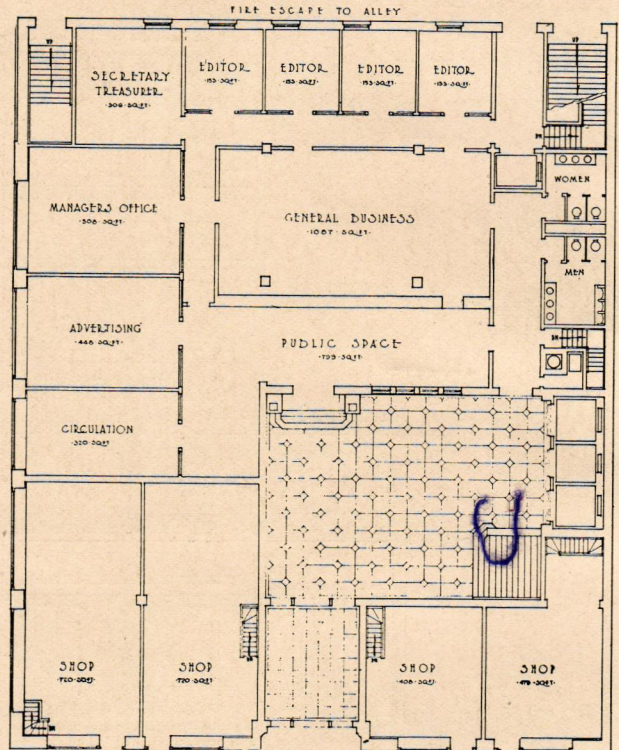
- SECOND FLOOR PLAN -



- THIRD FLOOR PLAN -



- BASEMENT PLAN -



- FIRST FLOOR PLAN -

ARCHITECTURAL COMPETITION FOR HEADQUARTERS BUILDING, POLISH NATIONAL ALLIANCE,
CHICAGO, ILL.

PRIZE WINNING DESIGN—RAYMOND M. HOOD, ARCHITECT



GARDEN GATE

HOUSE OF GEORGE MATTHEW ADAMS, RIVERDALE, NEW YORK CITY

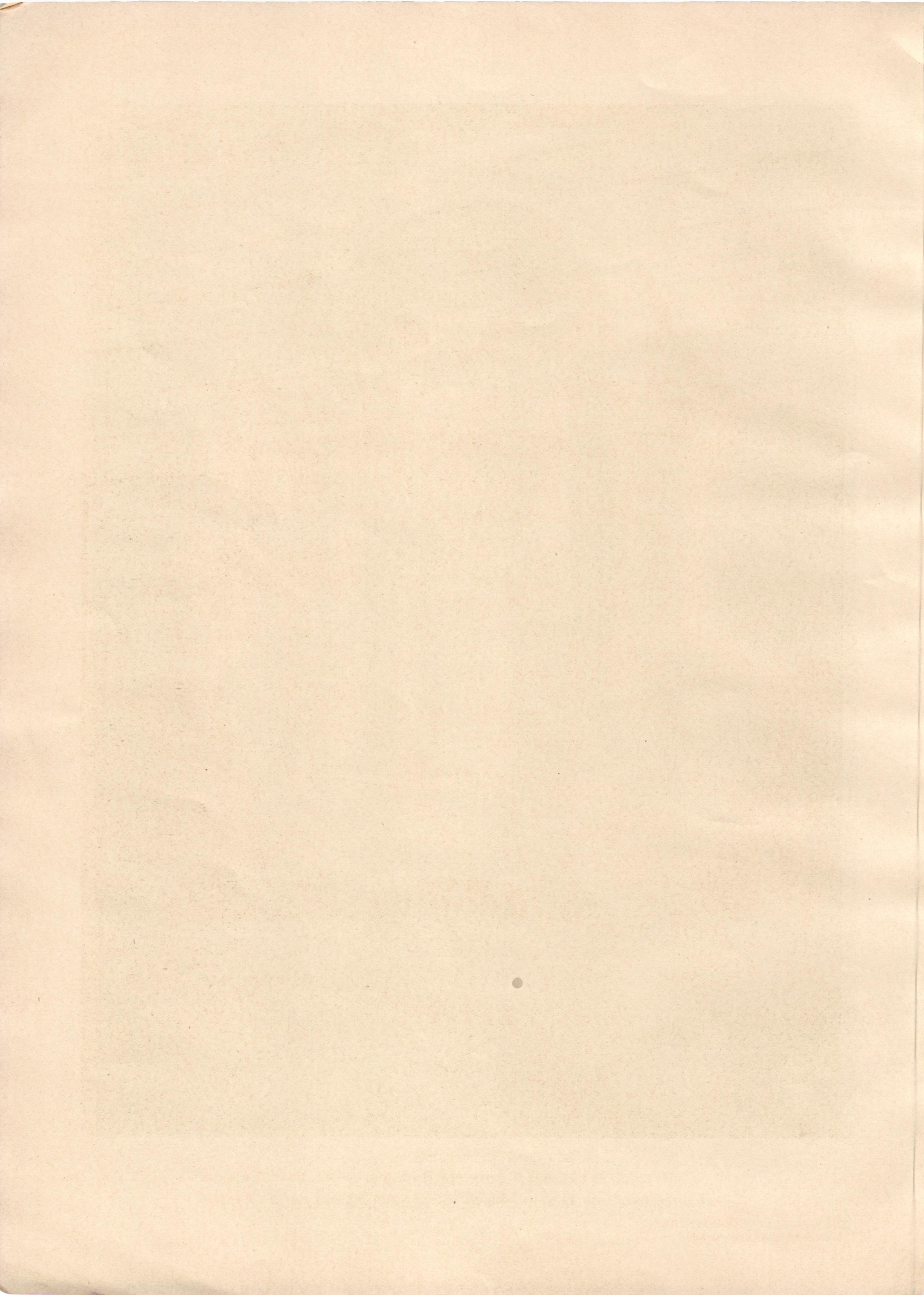
ARCHITECTURAL DETAILS FROM THE OFFICE OF DWIGHT JAMES BAUM, ARCHITECT



DETAIL OF GARDEN PERGOLA

ESTATE OF RICHARD ROWLAND, RYE, N. Y.

ARCHITECTURAL DETAILS FROM THE OFFICE OF DWIGHT JAMES BAUM, ARCHITECT





ENTRANCE DOORWAY

HOUSE OF CLIFFORD F. TAYLOR, FIELDSTON, NEW YORK CITY

ARCHITECTURAL DETAILS FROM THE OFFICE OF DWIGHT JAMES BAUM, ARCHITECT



GARDEN ELEVATION

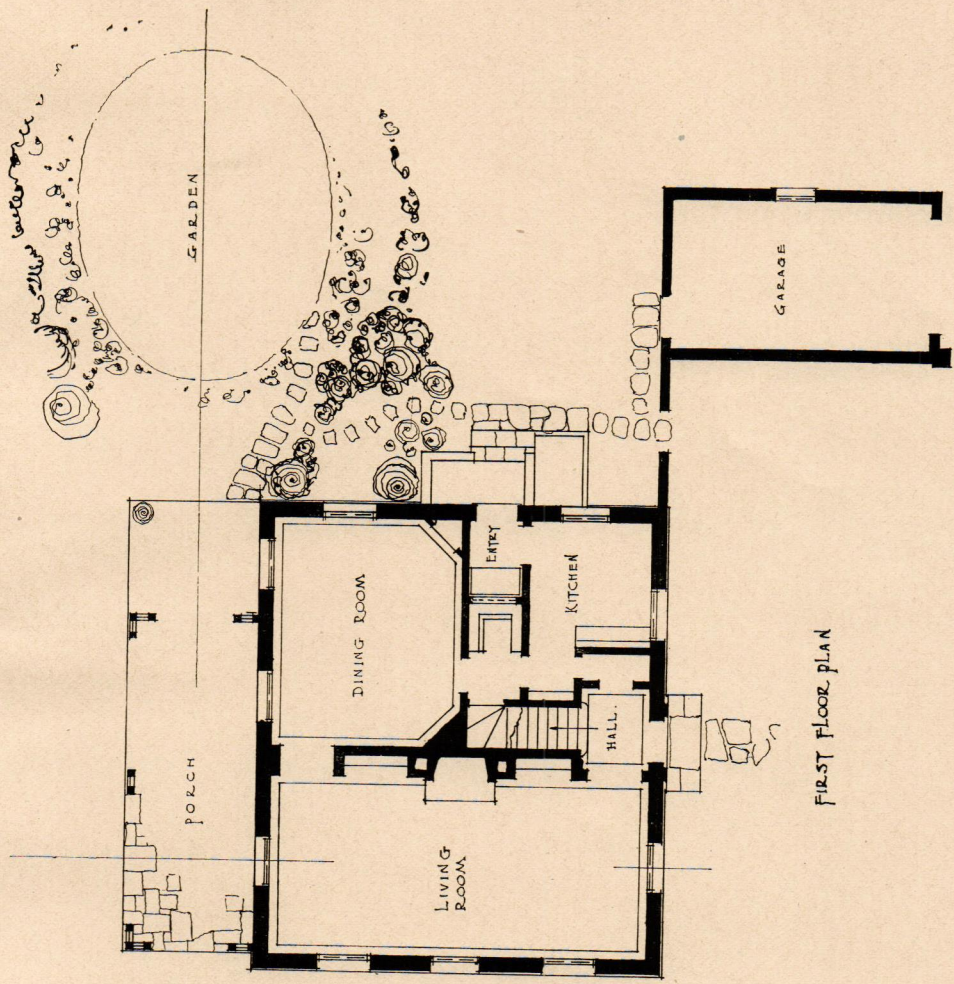
HOUSE OF A. K. LAFLIN, FIELDSTON, NEW YORK CITY

ARCHITECTURAL DETAILS FROM THE OFFICE OF DWIGHT JAMES BAUM, ARCHITECT



HOUSE OF RUSSELL S. WALCOTT, WINNETKA, ILL.

RUSSELL S. WALCOTT, ARCHITECT



FIRST FLOOR PLAN

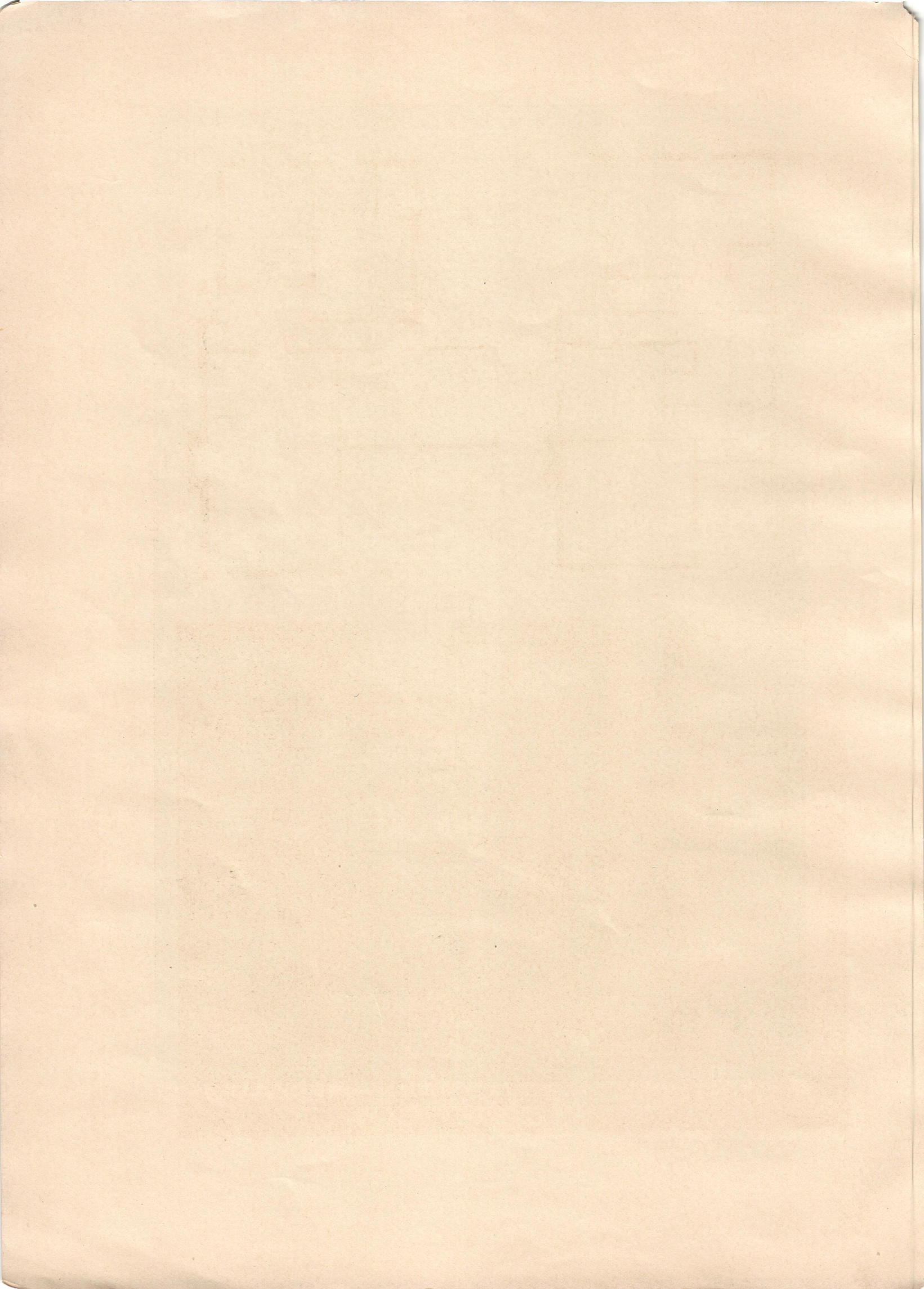
HOUSE OF RUSSELL S. WALCOTT, WINNETKA, ILL.

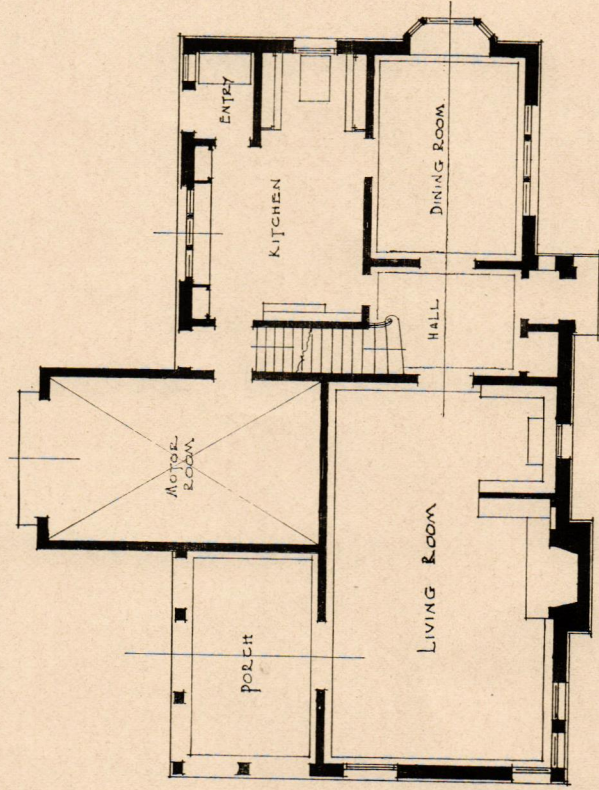
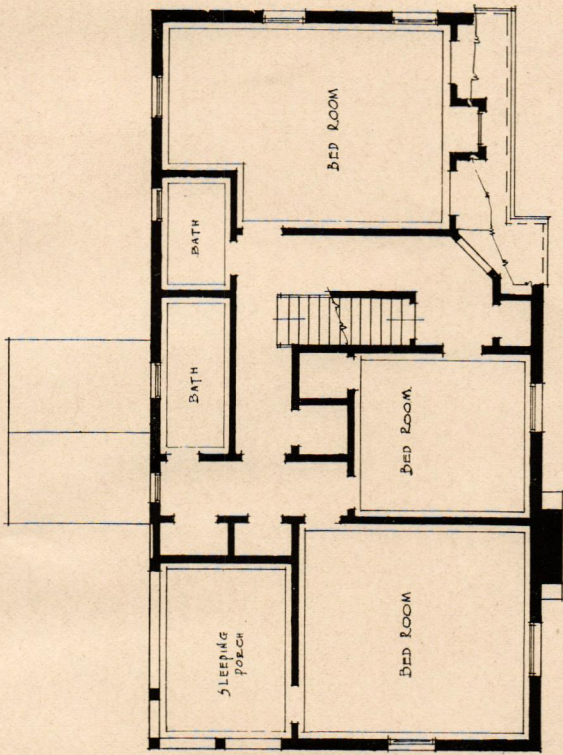
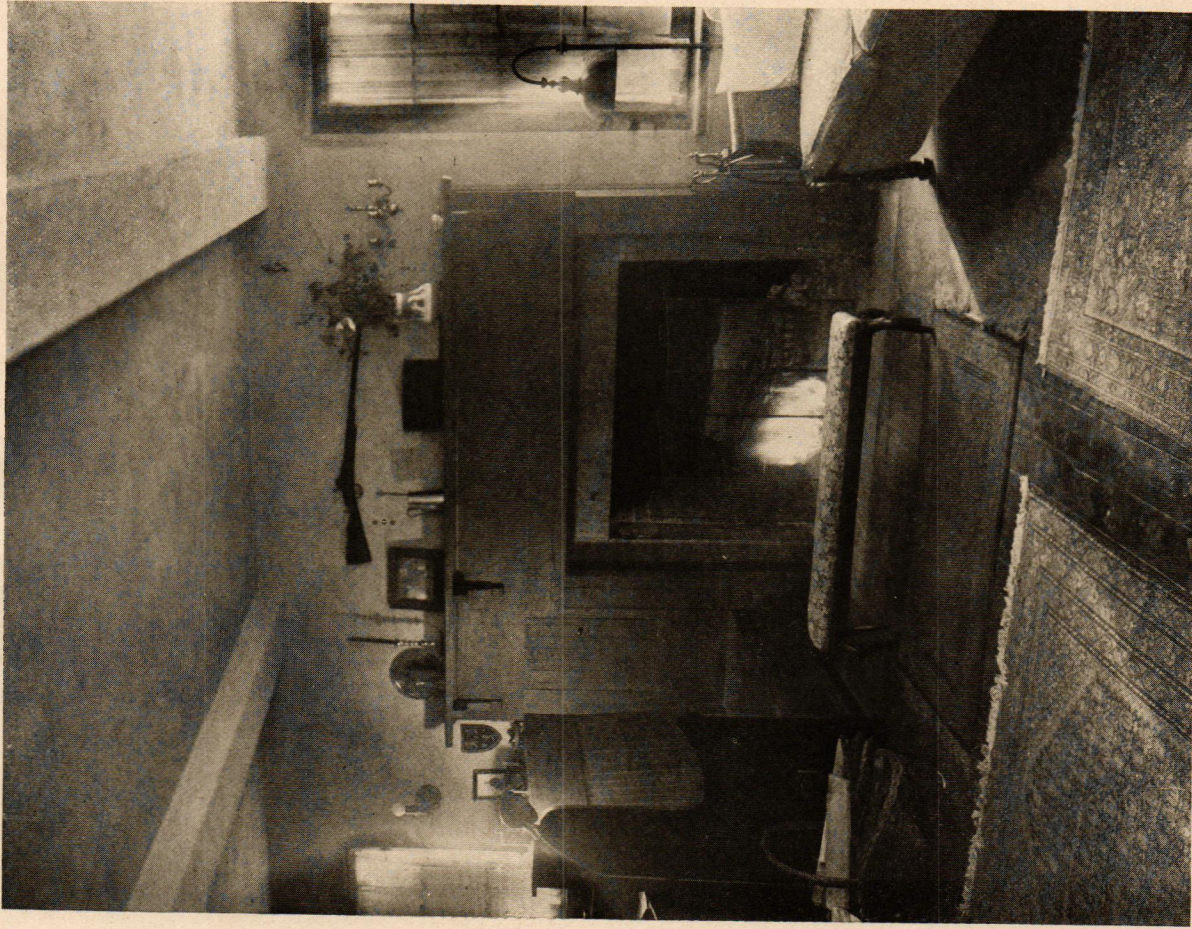
RUSSELL S. WALCOTT, ARCHITECT



HOUSE OF WILLIAM B. MOULTON, WINNETKA, ILL.

RUSSELL S. WALCOTT, ARCHITECT





HOUSE OF WILLIAM B. MOULTON, WINNETKA, ILL.

RUSSELL S. WALCOTT, ARCHITECT



HOUSE OF E. N. WICHT, DOUGLASTON, L. I., N. Y.

RESTORED BY FRANK J. FORSTER, ARCHITECT

View of the house from the street. The old lines of the house are intact, the original shingles, with only occasional patching in the roof

INTERIOR ARCHITECTURE

The Conservation of a Relic of Colonial Days

LANDMARKS in New York City and its environs are almost as hard to find as the proverbial needle in the haystack. To be sure, we occasionally hear of the salvaging of a colonnade or a portico and their embodiment in a new building under strange and entirely different surroundings. Even today, as Madison Square Garden, which has become so endeared during the last quarter of a century to all New Yorkers—and Democrats—is being so unmercifully demolished, there is a very general demand that the tower be salvaged. But, in spite of these encouraging signs of appreciation of the beautiful, the buildings of which these fragments were a part, are gone. They are no longer landmarks. Some one recently re-

marked that "architecturally speaking, the city of New York is cannibalistic. It devours its children of brick and stone. It tears down to build up, and in the tearing it destroys some of its precious landmarks." That is undoubtedly true. The unfortunate part of it is, that by this method of progression (if such it might be called), we lose sight of our architectural heritage by failing in its conservation, and, with it, all interest in our architectural progress in which we rightfully could have much pride.

In this light, the story of the restoration of a little cottage at Douglaston, Long Island, a relic of Colonial days, is not only interesting, but highly instructive. Built in 1740 as his home by one of

our earliest settlers (a man named Van Wyck, seemingly of Dutch origin), the house was used as his residence well up to the end of the century, when it was bought by an Alderman of New York City. It may have changed hands more than once before 1840, but in that year it was bought by a Mr. Douglas, a wealthy land owner, who purchased a tract of land in that neighborhood of considerable size, and used this cottage, which was on the land he bought, as an entrance lodge to his estate. It was from this family that the present village, now within the limits of Greater New York, took its name. We next hear of its sale in 1907, when it was taken over by the Douglaston Country Club. Around the original cottage as a nucleus, they built a most attractive club house. In 1921, forced by increased membership to seek larger quarters, the club sold the building and property to the present owner, E. N. Wicht, who at

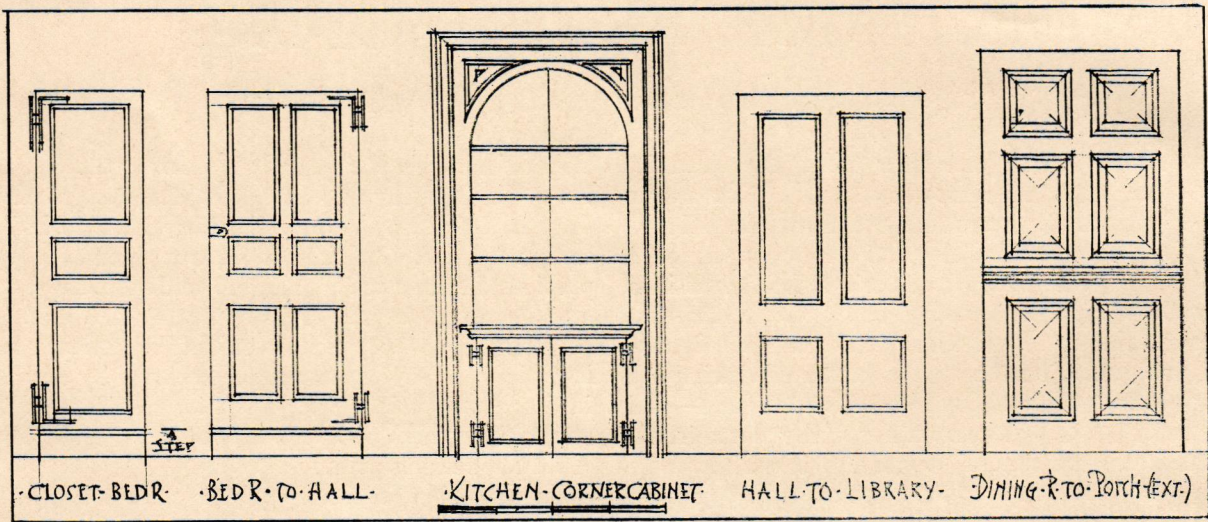
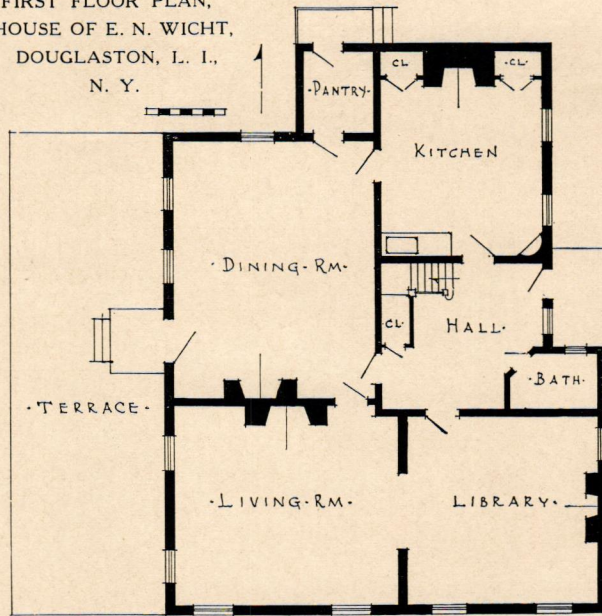
were scrapped. A steam heating plant that had been installed only six months before was entirely done away with, and the house left in its original state, except for occasional patching of the roof and the installing of bathrooms to make it practical for living in these modern times.

From an exterior viewpoint, the old house has much of value to the modern designer of small buildings. Every line of the roof is the personification of grace, and its proportions are perfect. Of more than passing interest are the placing and the proportioning of the windows. The architect-builder of those days was not burdened by stock sizes and its contemporary, quantity production. The windows were designed and made by hand, one at a time, to suit the wall of which they were a part. Today, we make the wall to suit the window. In fact, the design of this interesting building is marked by sincerity, and its workmanship through-

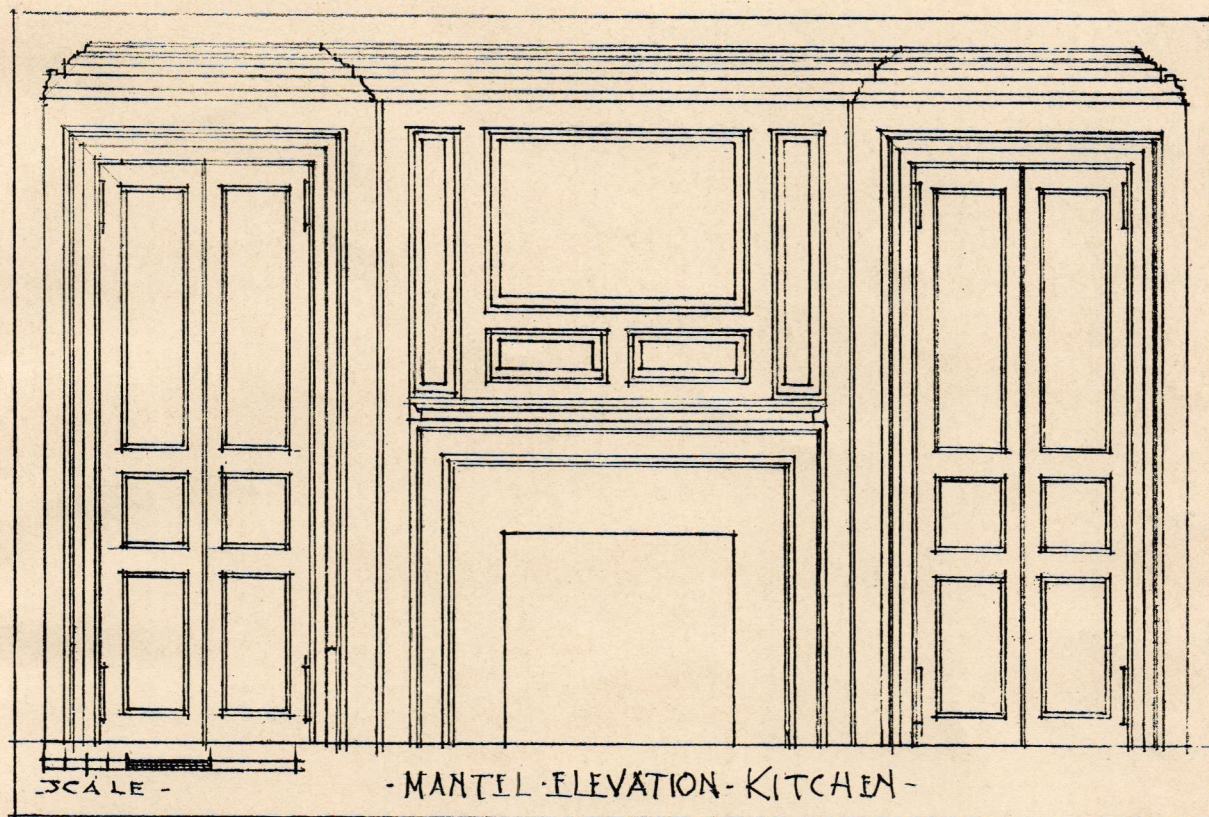
once made plans to restore the house to its original lines. His first order to his architect, Frank J. Forster, to quote his own words, was "to remove every piece of saw-mill lumber that can be found." Under this sweeping clause, the new wings, porches and many partitions which the club had erected,

out by honesty and truthfulness. The site of the building, was equally well selected. Built on a corner lot, as it now stands, there is afforded a clear view of two of its walls, and, to the left, as seen in the picture at the head of this article, is an extensive lawn. At the rear of the house, the

FIRST FLOOR PLAN,
HOUSE OF E. N. WICHT,
DOUGLASTON, L. I.,
N. Y.



ELEVATIONS OF SEVERAL OF THE DOORS OF THE HOUSE, SHOWING THE VARIETY OF PANELLING. THE HAND-CUT MOULDINGS ADD INTEREST TO THEM ALL



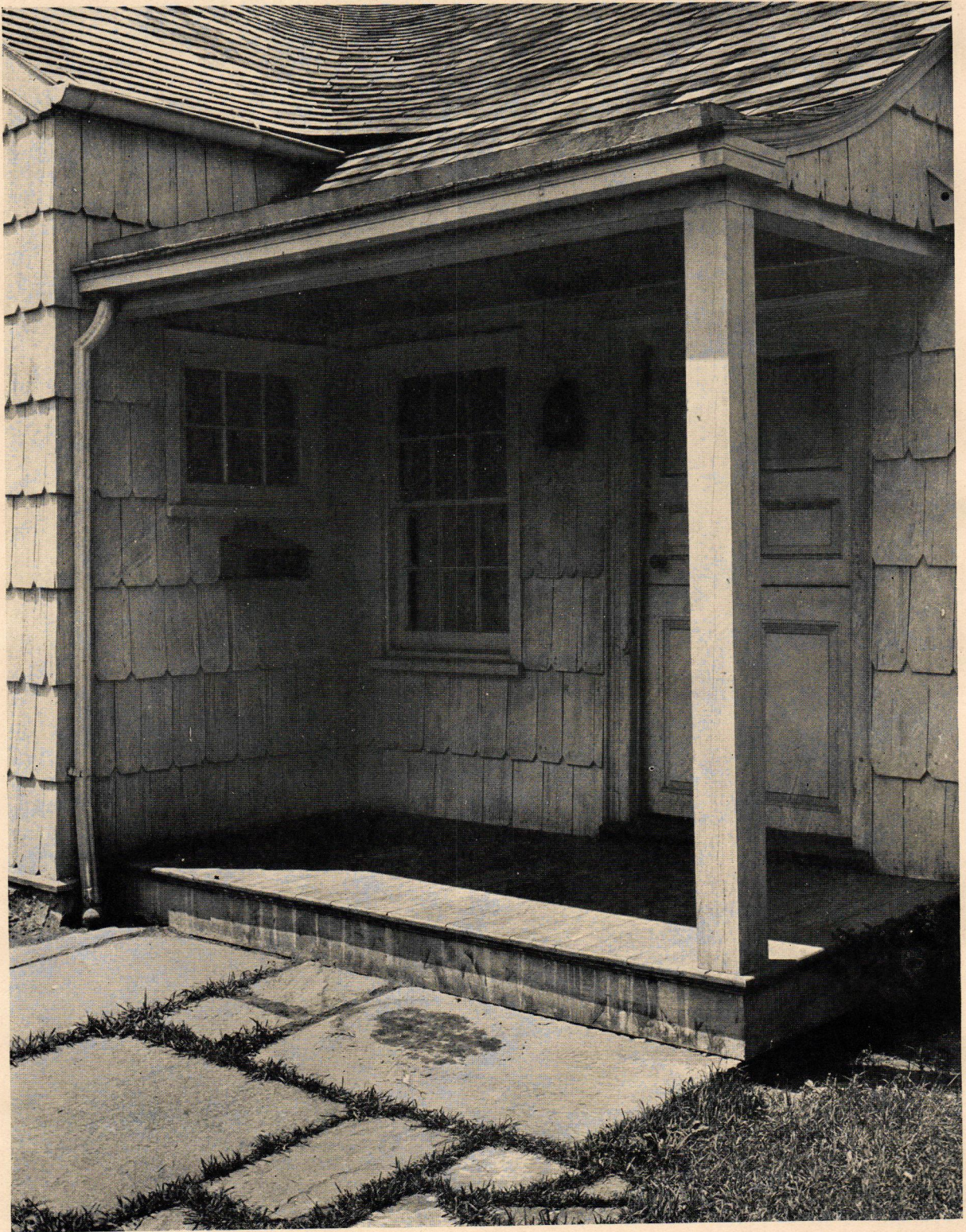
ELEVATION OF THE MANTEL WALL OF THE KITCHEN OF THE HOUSE OF E. N. WICHT, DOUGLASTON, L. I., N. Y.

grounds extend direct to the shore of Jamaica Bay, distant a hundred yards. The present owner has constructed a brick terrace across the entire width of the house, overlooking a most alluring old-fashioned garden appropriately planted.

Entering the house through a "Dutch" door, divided into upper and lower leaves, a spacious square hall gives a feeling of roominess that the exterior in no way suggests. Low plastered ceilings, supported by visible hand-hewn beams; iron strap hinges and thumb latches on all doors; floors of crude wide planks, which show only slightly the imprints of two centuries; these all seem as anachronisms to our modern eyes. And the spirit and character of the olden day is maintained in all its new decorations and furnishings. A landscape paper on the walls of the hall, for instance, in characteristic buffs and grays, combined with delicately tinted cream woodwork, carries out the Colonial atmosphere. Much of the furniture that we find through the house is old; many pieces are heirlooms of the owners; an occasional authentic reproduction is in no way disturbing, while a necessarily truly modern note here and there cannot detract from the charm of the ensemble.

One of the most instructive features of the interior, and one which first focuses the attention of the architectural eye, is the design of the various

doors. The same disparaging statement made above in relation to the manufacture of machine-made windows holds just as much weight applied to doors. Every door in this house plays a part in the architectural scheme in relation to its importance in the room. A closet door, for instance, is proportionately smaller than the main door to the hall; its arrangement of panels is thus designed to suit its size and shape. The built-in cupboard door may not be large enough to permit of panels and is thus constructed of wood planks mortised together. And in the hand-made process of construction there is also much to interest us. Every moulding is hand-cut. Its bold contour, its irregularities, and its tool marks speak to us in the language of antiquity. And then the old hardware. Every hinge, every latch, every lever handle an ornament for the one particular door to which it is applied. And all made by hand. Here and there throughout the house, it was found necessary, to insure security, to place an additional bolt or latch on a door. In such cases, the design was carefully worked out according to its location, and was especially made by hand, to suggest the character of the original pieces. But there are no pretensions made anywhere in this house at imitation. That both the owner and the architect agreed to. Honesty is the outstanding feature of the original workmanship, and it is strictly



THE ENTRANCE TO THE E. N. WICHT HOUSE AT DOUGLASTON, L. I., N. Y.
RESTORED AND SLIGHTLY ALTERED BY FRANK J. FORSTER, ARCHITECT

The original porch landing was only the width of the one large flagstone directly in front of the door. All the new work necessary in making the addition and alterations was carefully done in the same hand-cut character of the original



THE SPACIOUS HALL OF THE E. N. WICHT COTTAGE AT DOUGLASTON, L. I., N. Y.

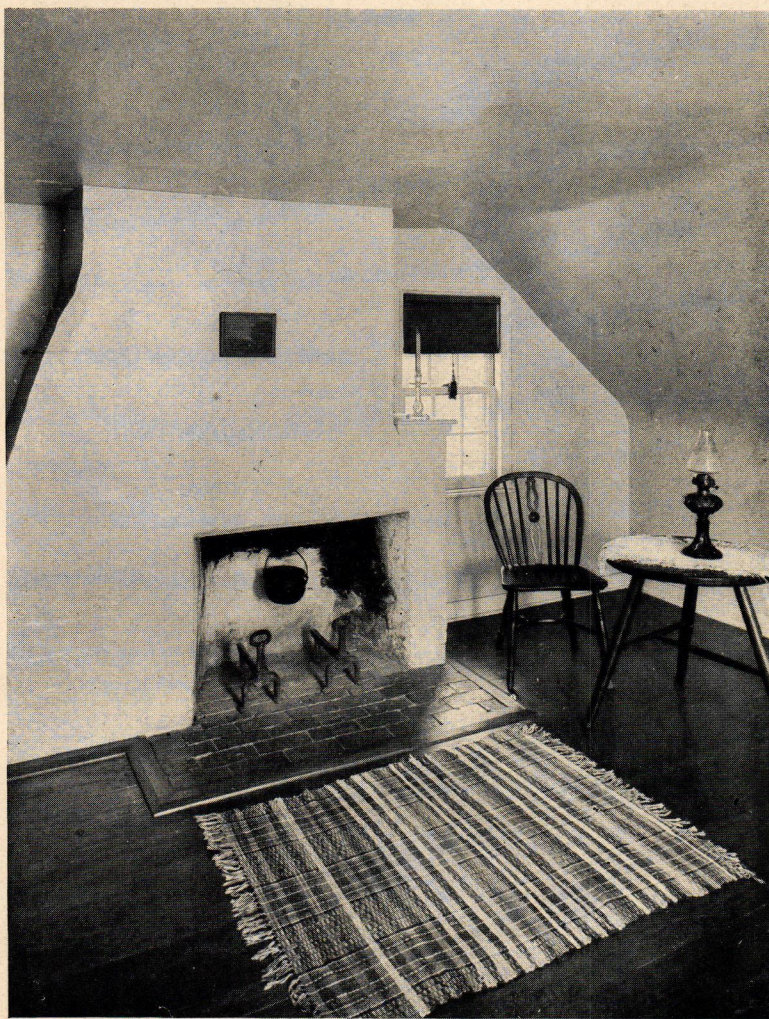
Notice the interesting front door and its old iron hardware. The door to the right leads to the kitchen. The old staircase and plank flooring have not been touched

adhered to in the necessary, but scant, new work.

Running second only to the doors as an architectural attraction are the ceiling beams which visibly support the ceilings in many of the rooms. The marks of the axe are in plain sight. The time-tarnished wood is not once smothered by paint and varnish. Its edges are in some cases softened with a hand-cut quarter round. The figure of its coarse grain makes its decoration. These beams are there to support. That is architectural design that is based on reason, and such design can withstand the ages. The mantels in the several rooms (there is but one room in the house, a small bedroom, which cannot boast of one) are also of that type of design. Simple in the extreme, and yet of proportions that attract. In the dining room, it was found necessary to construct a new mantelpiece, although the old fireplace was there. How well the architect caught the spirit of the house can be seen and appreciated in the illustration on the opposite page, which shows the mantel in detail.

These doors and mantels and beams are scattered throughout the house. The room, however, which, on account of its complete architectural treatment, taken entirely apart from its furniture and decorative scheme, makes the strongest appeal to the architect is the kitchen. It is, one might say, a "dream kitchen," the type of kitchen that, in these days of self-service, is more and more pointing the way. Entering from the hall through a door at the foot of the stairs (to the right of the entrance in the illustration on page 289), one faces on the opposite wall a projecting mantel breast, with spacious fireplace, flanked on either side by built-in cupboards with doors of solid wood set with hand wrought iron hardware. In an opposite corner is one of those attractive cabinets in the design of which the architect-builders of Colonial times were so adept, built into the wall of perfect proportions. A modern gas range and sink occupy the other corner of the room, while adding little to the charm of the room, materially adding to its purposes.

The color scheme throughout the entire house is very simple, in perfect keeping with the architectural design. The woodwork, as was the custom in houses of those early days, is white tinted slightly toward the yellow to give a softer effect, and the ceilings are kalsomined in white. The walls of the entrance hall are papered in a landscape pattern, in shades of pale yellow and grays, and the old plank floor, in a brown which age only can produce, is spotted here and there with a bright colored rug. Hung from the ceiling, an old-time lantern in hammered brass, adds atmosphere to the ensemble. The walls of the dining room are tinted in a deep cream, and the white ceiling is relieved by a rough cut beam in its natural color. The living room and library are treated as one room; the walls are hung in an imitation leather paper, in which dull gold tones dominate, making a rich setting for the mahogany furniture. The kitchen walls are also hung in a paper, the background of which is a cream tone and the simple pattern over it in grays. The walls of the main bedroom are covered with a floral paper in characteristic colorings, and the ceiling is broken by two wood beams. The old floor is occasionally relieved by a rag rug.



IN ONE OF THE SMALL BEDROOMS. THE OLD CHIMNEY IS A FEATURE OF THIS ROOM

The walls, ceilings and woodwork of the small bedrooms are painted in pale yellow, and a dormer window gives each the old-fashioned character. It may be said, then, that the decorations throughout the house carry out the Colonial atmosphere accurately. Simplicity, which is so prominent in every line and detail of the architecture, is also conspicuous in the decorative scheme. There is a lesson in that alone which could be well applied to our houses today, and more and more it is gaining control.

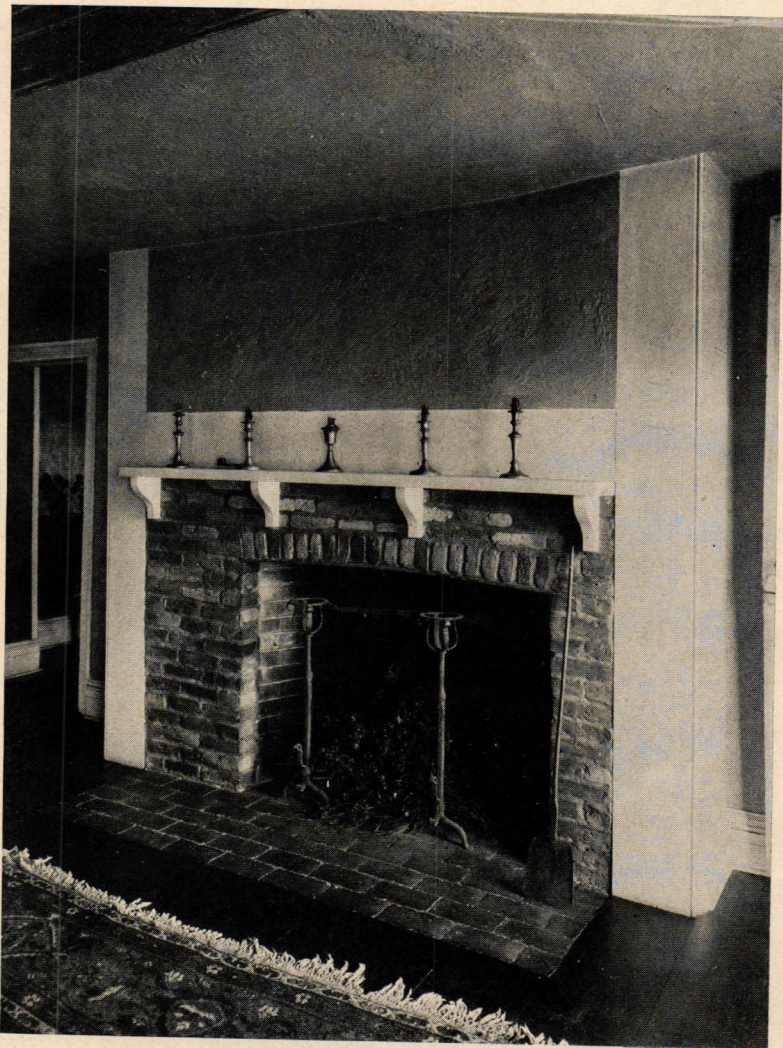
This house, then, nearly two hundred years old, represents the conservation of a relic—an exemplification of the design and craftsmanship of American architecture of the Colonial period. That fact alone gives it its value today; for it is in that, the value of any antique primarily lies, and not in the number of its wormholes, its worn edges, or its rusty, bent nails,—the qualities by which so many seem to judge antiques. The carpenter-builder of the Colonies seemed instinctively to feel that the beauty of his design lay in the proper proportioning of solids to voids. Wherever these early buildings are found, not marred by the hands of egoistic "restorers," one senses this fact. While it is not proposed now or at any time to favor the use of precedent in design at the expense of originality and progress, this matter of proportion and scale is today just as legitimate in its adaptation as it was at the time these architectural gems were created. If the modern designer of our small houses,—or even our larger structures—would keep this fact before him, he would not seek to mask with much florid ornamentation the shortcomings in scale and proportion so evident in our suburban architecture and quite often in our city buildings.

With such relics as this to point to, can we not rightfully take pride in our architectural heritage? It is wrong for us to fail to preserve some of these old landmarks which show in such interesting language the stepping stones of our progress and development. THE AMERICAN ARCHITECT has always stood for the conservation of worthy pieces of architecture and gives due appreciation to the owner and architect of this cottage at Douglaston, Long

Island, for their part in its conservation.

Probably no one of the many things that confront the practice of architecture has more interest or presents greater recreative elements than restorations of our earlier and better types of Colonial architecture. The deeper one delves into these problems the more one becomes impressed by the absolute integrity of these earnest carpenter-builders whose work, wherever extant, proves how earnestly, thoughtfully and conscientiously they approached their problems. In fact, whatever we have today of an American Style is so largely founded on the work of these men that we are wont to ask if we are ever to return to that high state of craftsmanship that marked their efforts.

It is a study in Colonial history to undertake the restoration of one of these old buildings. There is a certain glamour in the task and one need not



IN THE DINING ROOM OF THE HOUSE OF E. N. WIGHT, DOUGLASTON, L. I., N. Y.

FRANK J. FORSTER, ARCHITECT

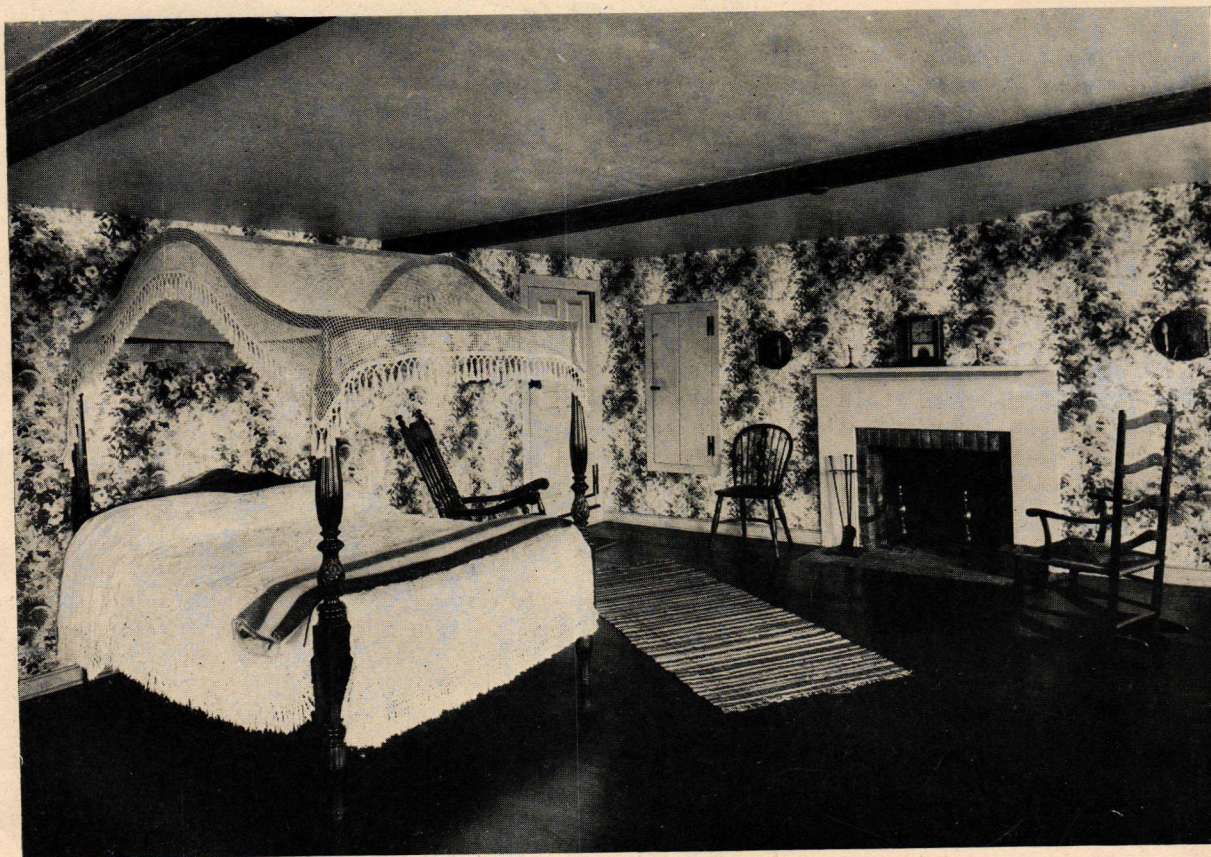
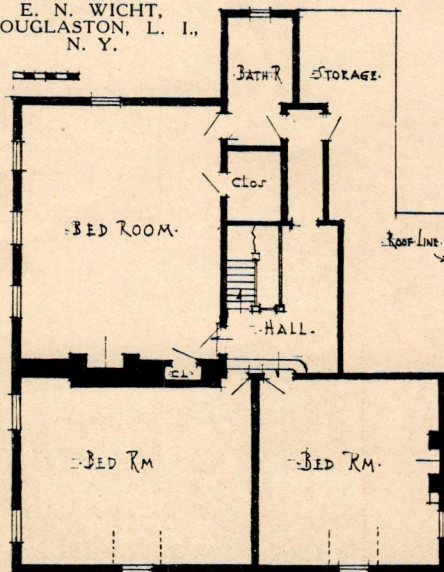
A new mantel was designed for this room, and this illustration shows how well the architect caught the spirit of the house

be over imaginative to reinhabit one of those old places with the sturdy men and women whose long privations and indomitable energy laid the foundation of these United States. It is a satisfying job, and one (in spite of the outcry against precedent), that leads the architect to a closer study of a time in our history when architecture was based on those solid elements that must always be present in work that would win the approval of the most critical of critics.

The remodelling of any house has a certain fascination. To make something good out of something bad is second in interest only to the creation of an original. But often remodelling is done under conditions which make it a more difficult job than creation. It is just the same when making color schemes. It is easy to create a color scheme where no

limitations are fixed, but quite another matter to select suitable colors to combine properly with ones already existing. But in the remodelling of a house, such as this one on Long Island, the conditions are all advantageous to the architect. The difficulty is in retaining the character of the presented scheme, and not in destroying it for another, as is often the case. The retention of the existing character is not always so easy, as may at first appear. The distinction between old and new methods of construction as first seen when investigating a house like this one, a hundred and fifty years old, is summed up in the difference between a hand-made and a machine-made effort. But in the alteration work in this restoration the architect understood these things thoroughly, and that fine conception is shown in the successful outcome of the undertaking.

SECOND FLOOR PLAN,
HOUSE OF
E. N. WIGHT,
DOUGLSTON, L. I.,
N. Y.



THE MAIN BEDROOM DIRECTLY ABOVE THE DINING ROOM. INTERESTING FEATURES OF THIS ROOM ARE THE OLD HAND-HEWN BEAMS OF THE CEILING AND THE WALL CUPBOARD TO THE LEFT OF THE MANTEL. NOTE THE CONSTRUCTION OF THE DOORS AND THE HARDWARE.

WILLIAM D. HEWITT

1848—1924

BY ALFRED GRANGER

THE year 1924 has demanded an unusually heavy toll from the American Institute of Architects. At the recent convention in Washington fitting tribute was paid to Henry Bacon, Bertram Grosvenor Goodhue and Louis Sullivan, all men of genius who have left their mark in the annals of American architecture. On April 23, 1924, the Institute suffered another loss in the death of William D. Hewitt of Philadelphia, a man whose influence for all that was fine and uplifting in architecture, in citizenship and in character increased with each year until the time he was taken from us.

Born in Burlington, N. J. in 1848, Mr. Hewitt lived there until his death, the beloved first citizen of the entire community. During a period of over fifty years he practiced architecture in Philadelphia, returning each evening to Burlington where he found rest and inspiration in an atmosphere of dignity and culture far removed from the hectic stress of American city life. It was in this atmosphere that he acquired that poise and quiet dignity which so distinguished his life and his work.

For many years he was associated in practice with his elder brother, the firm name being G. W. & W. D. Hewitt and the work of this firm was known throughout these United States as standing for strength, dignity and integrity in design and in construction. After the dissolution of the partnership between G. W. and W. D. Hewitt, William Hewitt continued in active practice until his death, creating many varied works for which he was wholly responsible. Among these, the best known is the Bellevue Stratford Hotel in Philadelphia, which

was the first very large hotel embodying all the modern conveniences which was erected in the United States.

Up to the time of his death William Hewitt was as intensely alive as any man I have ever known. He read, he studied, he constantly observed and he always thought before acting. Among his many works none is more beautiful or shows more completely the character of the man than the great dining hall at the Hill School in Pottstown, Pa.,

built just before the war, and the exquisite Memorial Building at the same school, built since the Armistice. For fifty years he was a member of the Philadelphia Chapter A.I.A. and throughout this long period his influence was paramount in the activities and councils of the Chapter which he made for years the most influential chapter in the whole American Institute.

Great and important as is the list of buildings erected by him and his associates, the man himself is what all who came in contact with him will always remember. His very appearance was inspiring in its ruggedness, its simplicity and its gentleness.

Closely associated with

him for six years I have always felt that he was the living impersonation of the finest gentleman in all English literature, Thackeray's immortal Colonel Newcome.

When Mr. Hewitt was called upon to design a building, whether it was to be a church, a hospital, a great hotel or commercial building, or a simple residence, he always grasped at once the prime essentials of the problem before him and laid greatest stress upon the development of the plan. Not a graduate of the Ecole des Beaux-



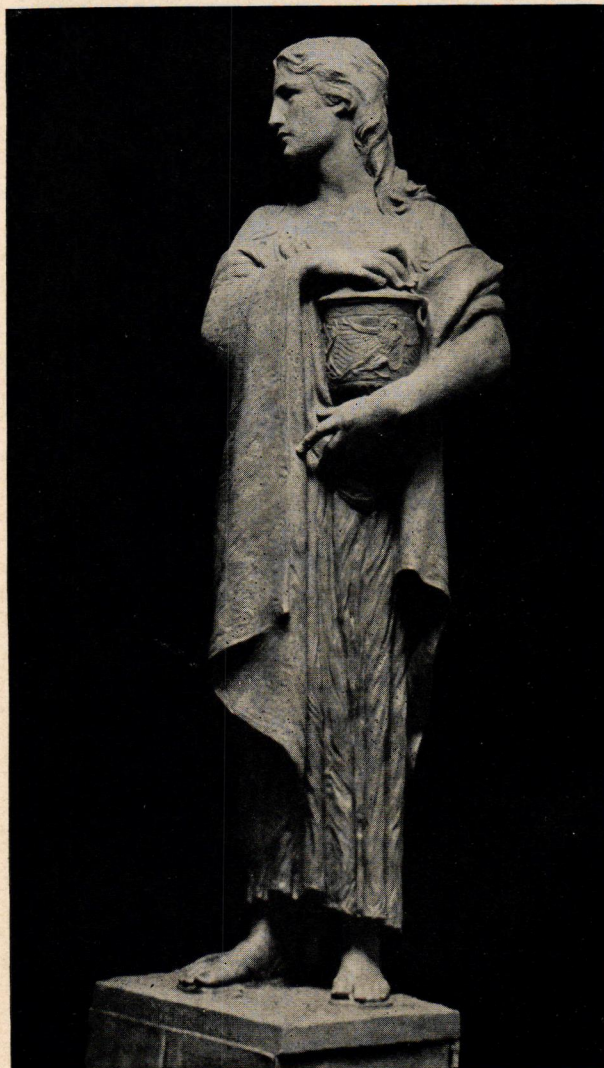
WILLIAM D. HEWITT

Arts he unconsciously upheld the principles of Beaux-Arts training, regarding them as a fundamental. "The plan is the whole thing," he constantly said. "Make the plan fulfill the essential purposes of the building and the elevation can take care of itself." By tradition and instinct he preferred the English styles of architecture, but he never allowed his men to copy slavishly any style, believing that no building can possess real style by copying details of the so-called established styles. Ruskin's Lamp of Truth was the lamp which lighted his way in every path of his long and useful life. In an age when all the world is busy chasing the almighty dollar, William Hewitt always had time to stop his important work and guide and counsel the hundreds of younger men who constantly came to him with their doubts and their troubles and invariably went away cheered and encouraged by his wise counsel, his broad sympathy and understanding.

"To know him was to love him." When God called William D. Hewitt to that rest which he had so richly earned the world lost a fine architect, a great citizen and a loving friend.

GEORGE A. FREDERICK, F.A.I.A.
1843-1924

GEOORGE A. FREDERICK died August 17, 1924, at his home in Baltimore, Maryland. He was a leading architect in that city for two generations and retired from active practice in 1903. One of his earliest designs is the present City Hall of Baltimore and many other buildings which became landmarks in the older Baltimore. He was one of the founders of the Baltimore Chapter, A.I.A., and was made a Fellow in 1877. He served as director of that organization.



MEMORIAL FIGURE,
KENSICO CEMETERY

ROBERT AITKEN, N. A.,
SCULPTOR

BEAUX-ARTS INSTITUTE of DESIGN

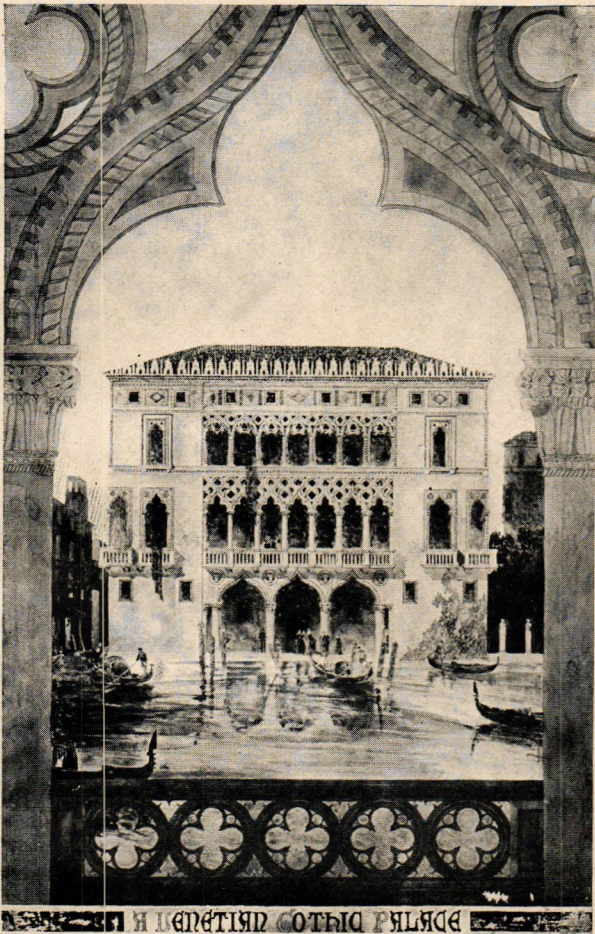
JUDGMENTS OF APRIL 8, 1924 AND MAY 20, 1924 CLASS "A" AND "B" ARCHAEOLOGY—IV PROJÉT "A GOTHIC VENETIAN PALACE FACADE"

Originating in Western Europe, the Gothic style invaded Italy at a time when each town was still a rival municipality ruled by virtue of force, and the country torn by continual revolutions, wars and conquests. Venice alone, because of her geographic isolation by land and the greatness of her fleet on the seas, had enjoyed some ten centuries of independence and ever increasing prosperity. For centuries her merchant fleets had brought back the magnificence of the Orient, the pagan splendor of Greece, as well as the simpler Christianity of the Occident to be assimilated by this cosmopolitan metropolis; and from this evolved the individual and unique art that found expression in the dazzling splendor of the Gothic Palaces of the Venetian merchant aristocracy.

The subject of this problem is the facade of such a palace. It shall interpret an entrance from the landing platform to the ground floor and three floors above. The entrance floor may be treated with a mezzanine. The reception suite is to be located on the floor above. The facade shall be 100'-0" in width and shall face directly on a wide canal.

CLASS "A"—V PROJÉT "AN ARMY POST"

On a broad plain near a frontier town there is to be established an Army Post which, under normal conditions,



SECOND MEDAL

G. S. BROCK, JR. CATHOLIC UNIV., WASH., D. C.

CLASS "A" AND "B" ARCHAEOLOGY—IV PROJÉT A GOTHIC VENETIAN PALACE FACADE

will be garrisoned by one regiment of infantry. Proper attention shall be paid to the soldiers' health, comfort and instruction, by providing ample space, light and air, plenty of trees, good roads, depots and modern buildings laid out in such a manner as to preserve the integrity of the various units, and to make a fitting background for military services and ceremonies.

There is to be, as usual, a Post Headquarters unit permanently located here which does not change when the regiment, and the administration which is a part of their organization, moves to another post.

The requirements of the program are:

1. Administration. This includes (in one or more buildings): Reception room and offices for the Colonel and regimental staff; Small military library; Room for court martials; Mess room for officers, with kitchens, etc.

2. Post Headquarters. This includes (in as many buildings as necessary): A small office building; Barracks for a permanent quartermasters department of 25 men; Depots for clothing, arms, provisions, warehouses, workshops, fire department, etc.; Stables for 85 horses and 24 mules; Accommodations for 27 escort wagons, 8 autos, 2 trucks.

3. Regimental Service Company and Headquarters Company Barracks (there are 200 men in each of these 2 companies).

4. Barracks for 3 Battalions. (In as many buildings as necessary). Each battalion includes 1 headquarters company, 3 rifle companies and 1 machine gun company. Each company has approximately 200 men divided into 3 platoons.

5. Post Hospital. Which should be isolated, with accommodations for 60 beds, 3 surgeons and 35 men.

6. A Gymnasium and an Athletic Field; rifle and pistol ranges.

7. A small Guardhouse, near the entrance.

8. A large open space for ceremonies and close order formations.

The property set aside for this group measures 1000 feet by 1600 feet. The large manoeuvring ground and the residential quarters for officers are outside of this composition and are not a part of the program.

CLASS "A"—V ESQUISSE-ESQUISSE

"A PAVILION AND LANDING PLATFORM"

On a private estate a rocky ledge stands 20'-0" above a lake. On top of this ledge the owner desires to erect an observation pavilion and at the water's edge a boat landing which shall be connected with the pavilion by an outside staircase or ramp. The pavilion shall not exceed 30'-0" in any dimension.

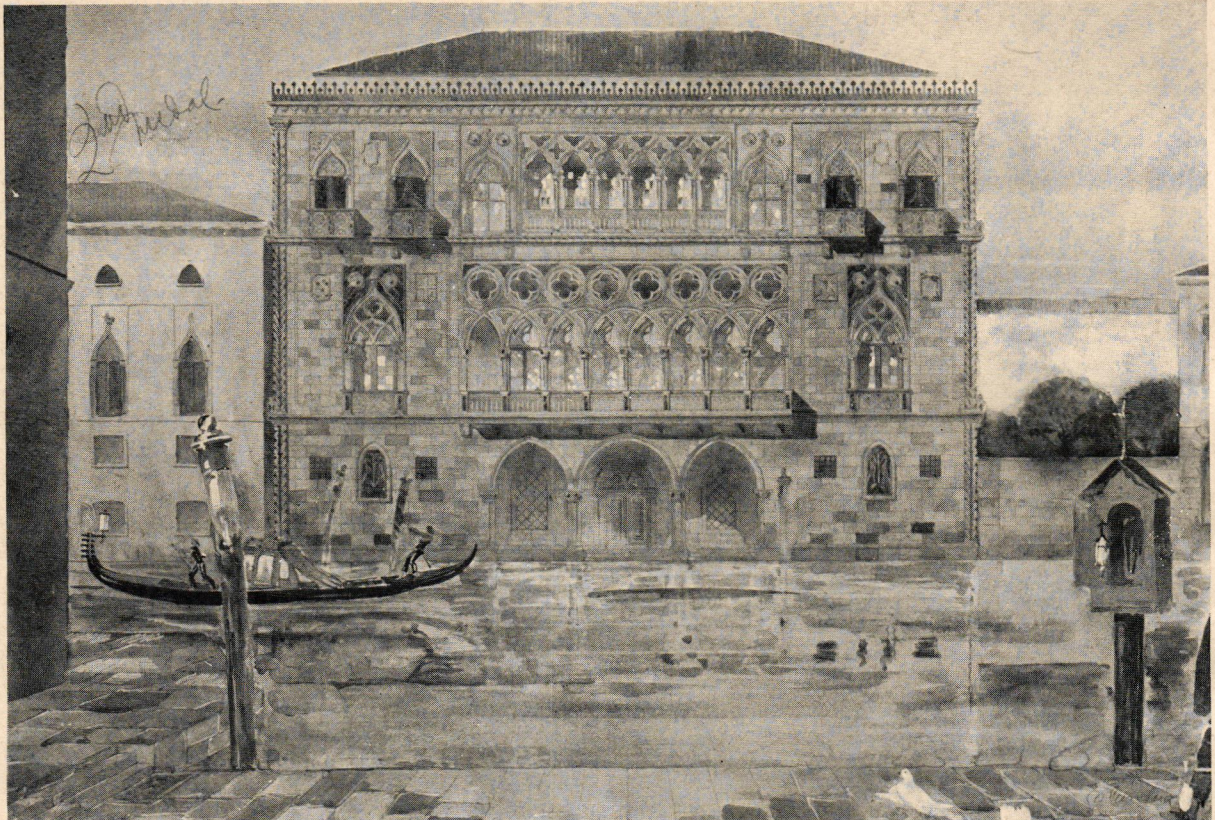
CLASS "B"—V ESQUISSE-ESQUISSE

"A PRESIDENTIAL INAUGURATION PLATFORM"

The inauguration ceremony of the president of one of the great republics is always held out-of-doors before a great multitude of people in the most imposing square of the city.

At one end of this square and facing it are the buildings of the Senate and the House of Representatives. Between them is an open space 200 ft. wide giving access to public gardens at the rear of the buildings. At a point midway between the buildings, on a line with their front walls and facing the square, the permanent inaugural platform is to be built.

This will consist of a rostrum or platform with place for 5 or 6 people so designed as to give very great prominence to the figure of the President when he takes the oath and subsequently delivers the inaugural speech. A small but very fine room of reception giving access to the rostrum is also called for, either beneath it, or at the rear; in the latter case it should make an imposing background and the rostrum might even be conceived as a loggia or balcony motive in its wall. The materials employed are to be permanent. The space covered by the construction shall not exceed 50' in either dimension.

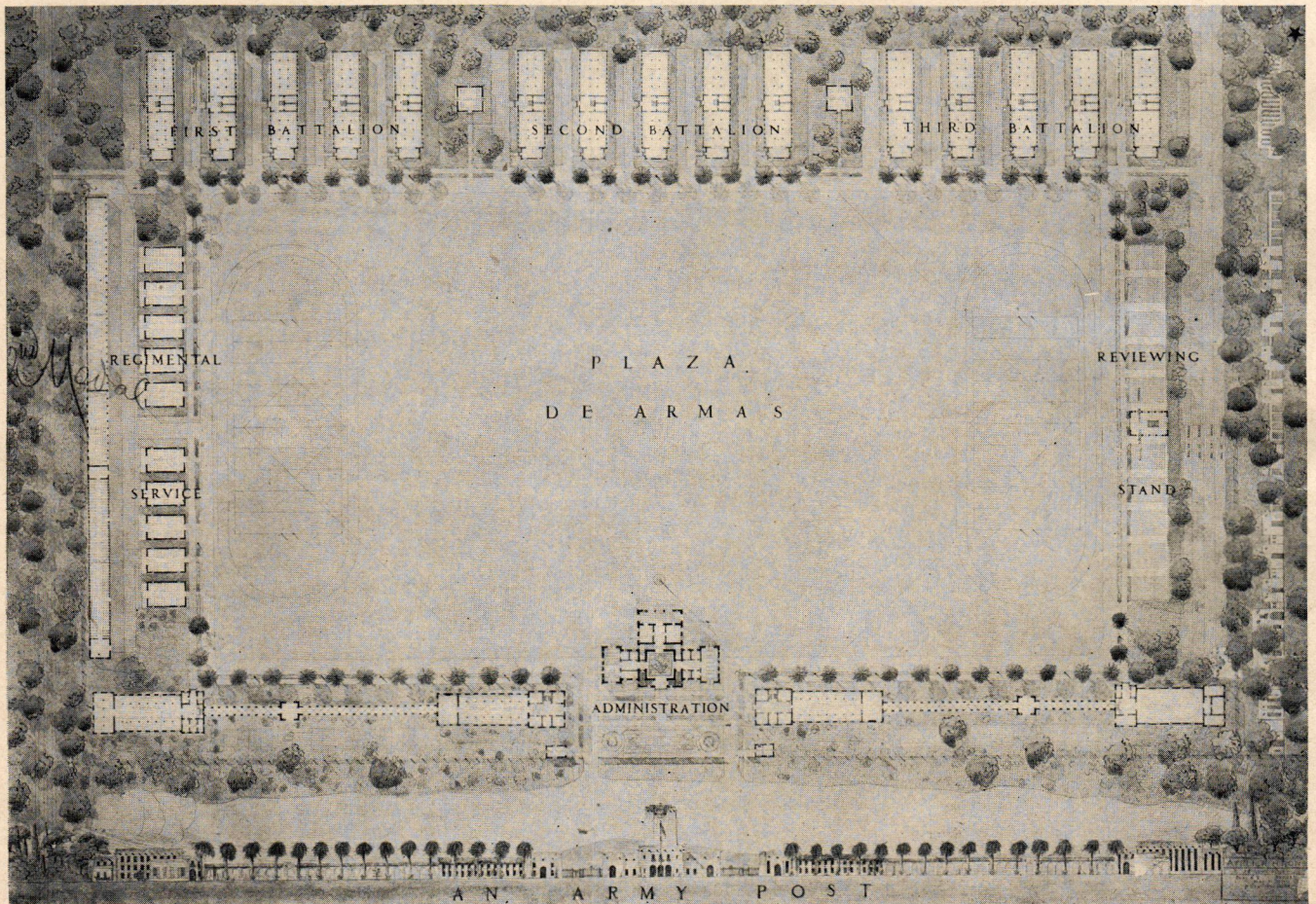


V. RAMBUSCH

SECOND MEDAL

COLUMBIA UNIV.

CLASS "A" AND "B" ARCHAEOLOGY—IV PROJÉT—A GOTHIC VENETIAN PALACE FACADE

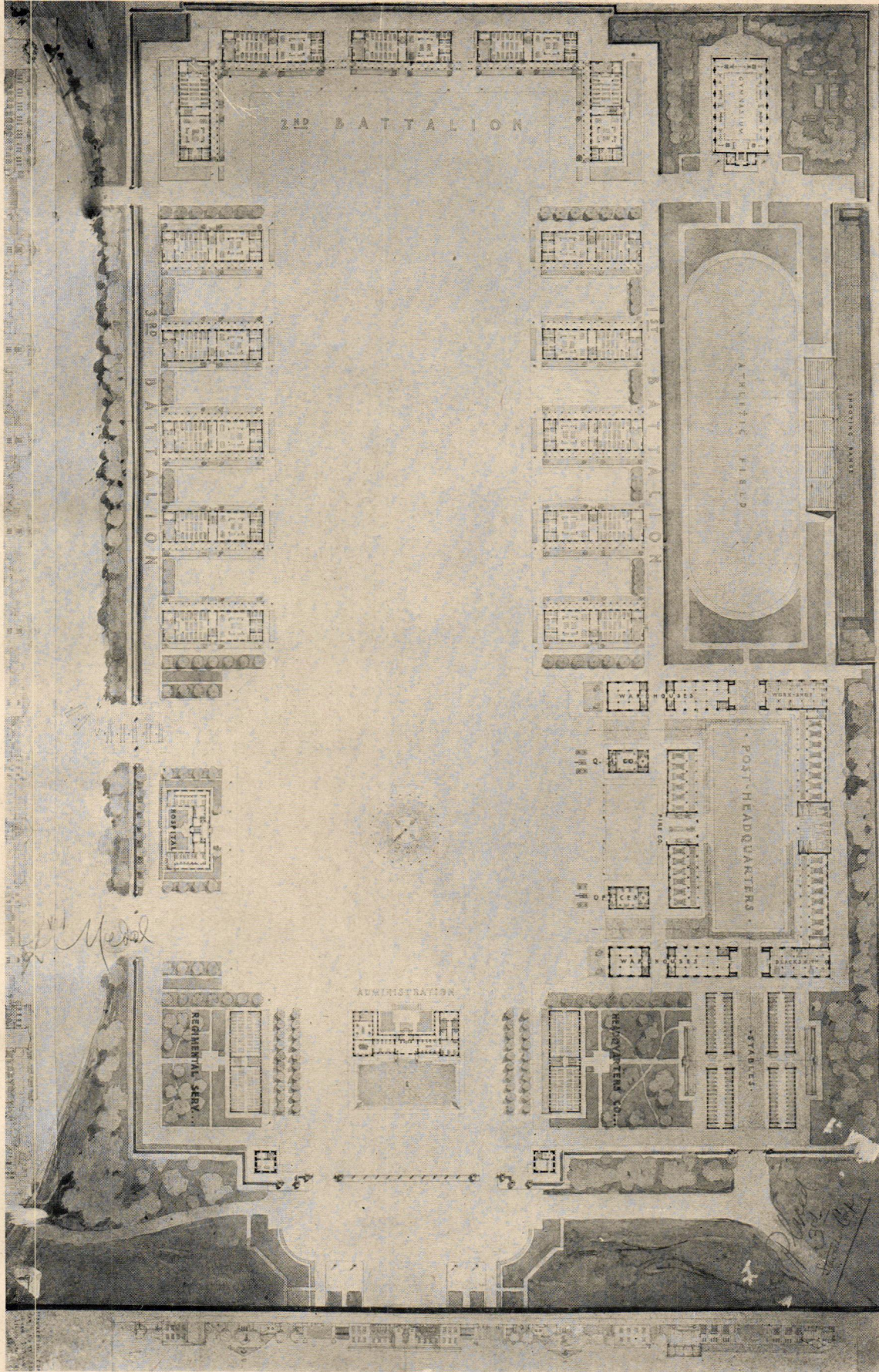


D. K. FROHWERK

SECOND MEDAL

ATELIER HIRONS

CLASS "A"—V PROJÉT—AN ARMY POST
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

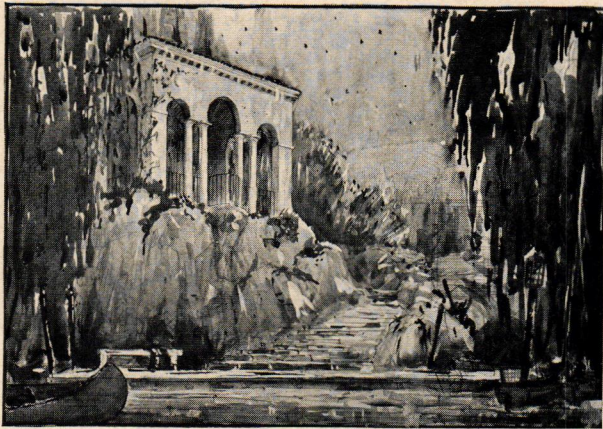


L. I. KAHN

SECOND MEDAL

UNIV. OF PA.

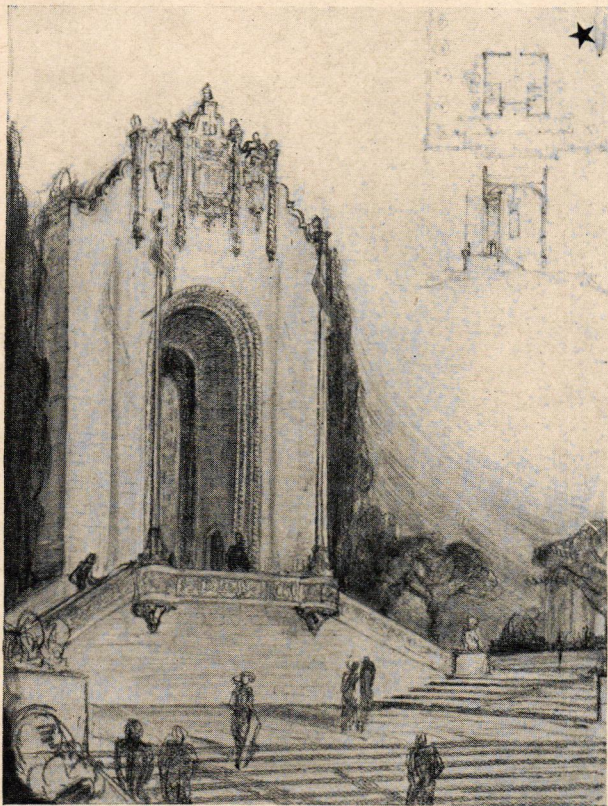
CLASS "A"-V PROJECT—AN ARMY POST
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



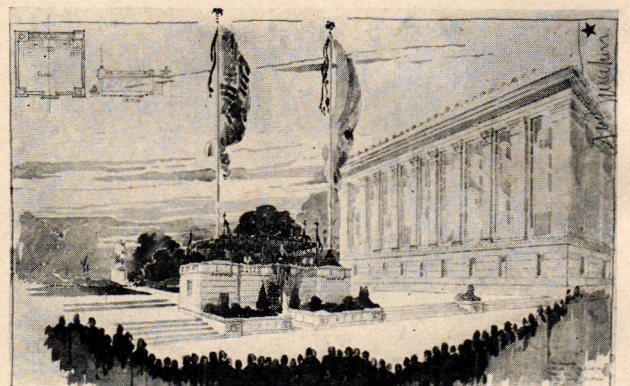
E. SNYDER FIRST MENTION UNIV. OF PA.
 CLASS "A"—V ESQUISSE-ESQUISSE
 A PAVILION AND LANDING PLATFORM



W. FERRARI FIRST MENTION YALE UNIV.
 CLASS "A"—V ESQUISSE-ESQUISSE
 A PAVILION AND LANDING PLATFORM



P. M. DUNCAN SECOND MENTION YALE UNIV.



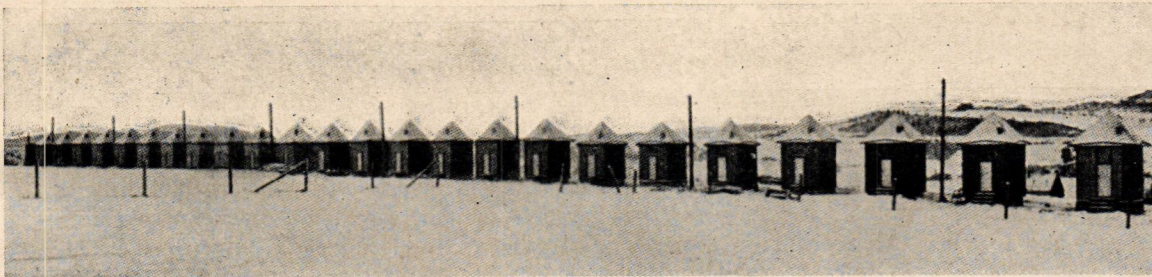
J. F. JACKSON SECOND MENTION "T" SQUARE CLUB

CLASS "B"—V ESQUISSE-ESQUISSE—A PRESIDENTIAL INAUGURAL PLATFORM
 STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

ARCHITECTURAL ENGINEERING

HEAT TRANSMISSION THROUGH DWELLING HOUSE WALLS

Results of Tests conducted by the Norwegian Government at Trondhjem, Norway



THE TEST HOUSES ERECTED AT THE NORWEGIAN TECHNICAL UNIVERSITY, TRONDHJEM, NORWAY

THE insulation of buildings is becoming an important economic problem which confronts building owners. All of the elements which enter into the heating of buildings such as fuel, apparatus and labor, have so increased in cost that attention is being directed to the types of construction that possess the best insulating qualities. By increasing the initial cost of construction, it is often possible to effect such an annual saving in the consumption of fuel that it proves to be a profitable investment. In the United States there are vast areas where the climatic conditions make this subject one of importance.

Heat transmission is receiving the attention of that very valuable organization, The American Society of Heating and Ventilating Engineers, through its committee on research. Even though our methods may be entirely correct, it will not cause heating engineers and architects to fail to study the results of similar investigations made during 1920-1922 in Norway.

Under the auspices of the Norwegian Government heat transmission tests were made on various kinds of wall construction, at the Norwegian Technical University, Trondhjem, Norway. The results of these tests, edited by Architect Andr. Bugge, have been issued in printed form.* By

**Test Houses. The Results of Tests with Wall-constructions and Materials for Building Warm and Cheap Dwelling Houses. By Architect Andr. Bugge (Professor at the Norwegian Technical University). Published by F. Bruns Bokhandels Forlag, Trondhjem, Norway.*

the courtesy of Professor Olaf Nordhagen, School of Architecture, Norwegian Technical University and Architect to the Trondhjem Cathedral, THE AMERICAN ARCHITECT is able to present this test data to its readers.

In all, 27 test houses were erected, 17 of which were built by the State, one house by the Trondhjem municipality, 3 by the Norwegian House Building Co. of Christiania, one by Hy-Rib of Fredrikstad, one by "Leansten" (Leanstone) which was partly by State grant and two houses by Traekonstruktion of Christiania. The houses were designed by Professor Bugge in such a way as to make them the basis of a true comparison. The inside of the houses were 2 x 2 meters square and 2.25 meters high. The floor, ceiling, double windows and doors were alike in all of the houses, the only variable feature being the construction of the walls. The details of the wall construction are shown.

The report comprises the following measurements and tests:

(1) Measurement of the quantity of heat energy which must be supplied to each individual house in order that the temperature of the air in the house be maintained at a constant level (usually 20° C).

(2) Tests to find how quickly the air in the houses cools when the supply of heat is cut off and how quickly the air, on the other hand, is heated by a constant heat supply.

(3) Measurements of the humidity of the air in the houses and in the wall cavities.

(4) Measurements of the air temperature in the hollows of the walls, especially in connection with the action of the sun's rays.

(5) Ordinary meteorological observations.

The corrected results are given in the table. The technical details of the methods used for correction are not given as they are of more particular interest to the physicist and research investigator than to architects and engineers.

which all values given in the table are relative.

The relative resistance to the transmission of heat through the walls is based on the amount of electrical energy consumed by maintaining a uniform temperature within each building. Owing to the variation in the thickness of the walls which would cause a change in the areas of the exposed surface and other factors, certain corrections were made to the observed values. For the purposes of this article these refinements of correction are not necessary and are, therefore,

TABLE OF TEST DATA
House XIII is the basis of comparison

House Number	Construction	Relative Heat Consumption			Temperature After Cutting off Heat at 20° C.		
		As Shown	With Added Wood Panel	With Added Coat Plaster	5 Hours	10 Hours	15 Hours
I	Brick	188.5		185.5			
II	"	175	124	172	9.2	7.1	5.5
III	"	179			9.2	7.1	5.5
IV	"	159			10.2	8.4	6.9
V	"	164			10.0	7.8	6.1
VI	"	157			9.8	7.5	5.9
VII	"	178			9.6	7.1	5.3
VIII	Cement Block	200	140	194.5	8.0	5.2	3.4
IX	" "	181.5	129	176.2	8.8	6.2	4.5
X	Reinforced Concrete	221			4.6	2.6	1.6
XI	Brick	156			8.2	5.9	4.6
XII	Wood	109			6.5	3.6	2.3
XIII	"	100			8.8	6.1	4.4
XIV	"	116.5			7.2	4.4	3.0
XV	"	111			7.2	4.4	3.0
XVI	"	108.5			6.5	3.6	2.3
XVII	"	128			5.5	2.8	1.7
XVIII	"	129			6.3	3.1	1.7
XIX	"	115			5.5	2.8	1.7
XX	"	145			5.5	2.7	1.7
XXI	"	96.5			8.5	5.5	3.9
XXII	"	105			9.2	7.1	5.5
XXIII	"	119.5			7.8	5.6	4.1
XXIV	Hy-Rib	176			8.6	5.2	3.7
XXV	Cement Block	198					
XXVI	Wood	121					
XXVII	"	109					

NOTE: The hollow space in the walls of all wood houses with framework, including the Hy-Rib house, is divided horizontally by a stop similar to a fire stop, at each 70-100 cm in height

The table of test data includes the type of construction of each house, the relative heat consumption, and the results of additional tests on some of the houses to which wood panels have been added on the inside or to which has been added a finish coat of plaster. The rate of cooling is given after the heat has been cut off for 5, 10 and 15 hours, the temperature at the time of the cutting off of the heat being 20° C. It will be noted that test house No. XIII is taken as a basis to

omitted. This data, as given in the table, clearly indicates that the consumption of heat in the wooden houses is less than in the brick houses, that is to say, wooden houses are cheaper to heat than brick houses. From the table it will be seen that test house No. XIII, constructed of wood framework, consumes about 52% less heat than house No. VII, constructed of 1 brick thick English hollow wall, and 31% less heat than house No. I, having 1½ solid brick wall; or about 27% less

than inside panelled brick house No. III, having Bergens hollow wall.

The cost of a house built of each of the constructions shown was estimated, and it was found that the brick house costs on an average of 10.2% more than the wooden house, based on prices obtaining in Norway in November, 1920. Professor Bugge states that when it is considered that shorter time is needed for the erection of a wooden house than for that of a brick house, whereby, among other things, interest is saved on the building loan, experienced builders are of the opinion that the difference may be placed at 15%.

He also makes special reference to house No. XXII built with wood framework, the air space being filled with peat bricks 5" wide. In this house fuel peat was used, as moss peat which would have been better for insulation, was not obtainable. It is recommended that peat bricks 6" to 7" wide be used, thus increasing the insulating capacity of the wall, and bricks of that size are less expensive to produce. It is necessary that the peat must be dry before being placed in the wall and protected against dampness thereafter.

House No. XXI, the walls of which were filled with sawdust, was found to be the cheapest. Sawdust must be dry in order to be an efficient non-conductor of heat and before its use can become general, some means must be found to make it dry and render it dampproof.

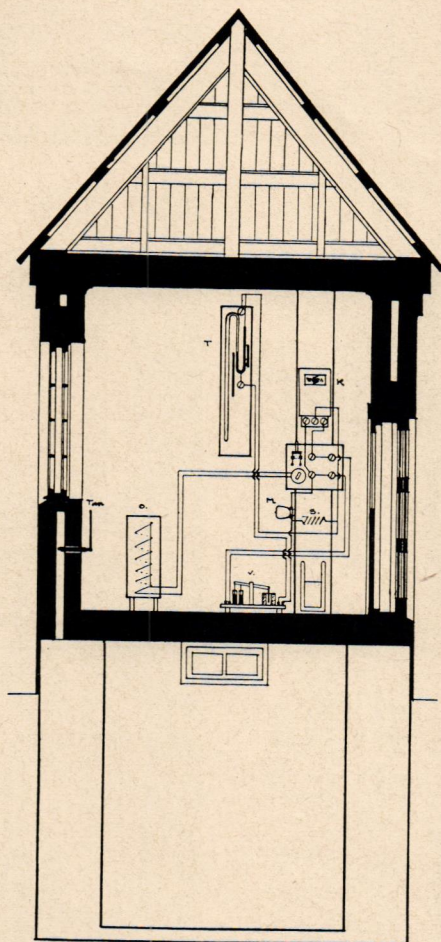
House No. VII, with 1 brick thick English hollow wall, is the least expensive of the brick houses to construct. Should a more substantial wall be desired than this, it is recommended that a 1½ brick thick hollow wall, like house VI, be used but not house No. IV with Trondhjems hollow walls of corresponding thickness.

With respect to the wooden houses, it is seen that the outer walls of framework with wood panel and pasteboard, made in a definite way, are less insulated than a wall of framework with planks like house No. XIII. There is a likelihood that

a framework wall, due to the shrinking of the material, will have open joints through and through, permitting drafts to result therefrom. This is more likely to occur than with a panel wall house because the thick planks in the framework wall shrink more than the thin, planed boards on the framework. In common practice, considered in a heat-technic sense, a wood panel house may be considered as equal to an ordinary wood framework house. It appears, therefore, from these tests that to obtain a really good and warm house, which shall be comparatively cheap in construction and maintenance, it should be built of wood.

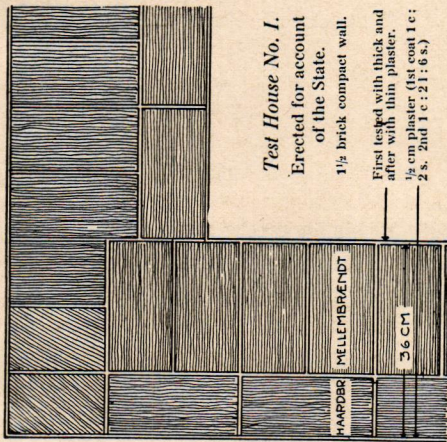
In studying the data concerning brick houses, it will be interesting to compare houses XI and I. Both are 1½ brick thick and in house XI the inner thickness was made of Molerstone. The consumption of current in No. XI is 81% higher than in house No. XIII (which is assumed as the basis of comparison), and 121% higher than in house No. XXI. This indicates the great advantage to be secured by using a very porous brick which is the characteristic of Molerstone. Further mention is made of this in the details of test house No. X. It will be further noted that the insulating value of the walls of houses Nos. IV, VI and XI are about equal.

There has been considerable discussion among experts both in Norway and England as to whether the air space in brick walls should be 4" from the outer surface or the inner surface. Professor Bugge has studied the results of these tests—more particularly in reference to the houses Nos. IV, V and VI. Heretofore his opinion had been that the air space should be within 4" of the inner line of the wall. He states that the measurements in the test houses now show that the air space should be within 4" of the outside wall. This is explained as arising from the fact that the inner part of the wall is always drier than the outer part, and a dry wall insulates better than a damp one. The best heat insulation is, therefore, obtained by laying the principal mass of the wall where it is the driest,



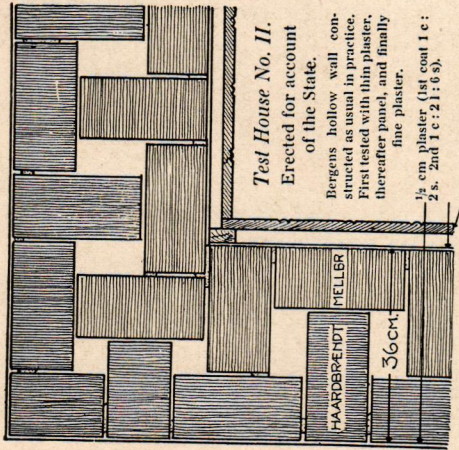
MOUNTING OF THE INSTRUMENTS

- K=kilowatt-hour-indicator
- O=electrical stove
- S=shunt
- M=resistance-lamp
- T=thermo-regulator
- V=current-switch
- Tm=thermometer



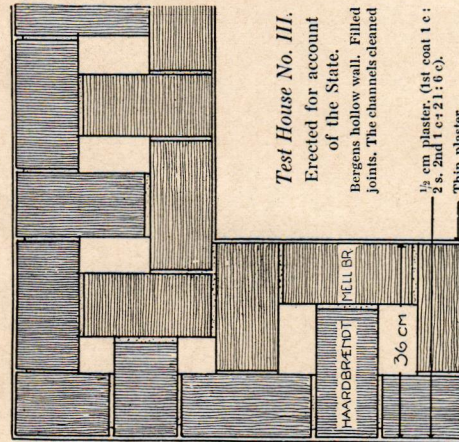
Test House No. I.
Erected for account of the State.
1 1/2 brick compact wall.
First tested with thick and after with thin plaster.
1/2 cm plaster (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 s.)

I. Solid 1 1/2 brick wall with outer course of hard-burned brick and inner courses of medium-burned brick. Tested both with thin and thick plaster inside. The inner wall is built of medium-burned brick in order to counteract the greater heat transmitting property of hard-burned brick



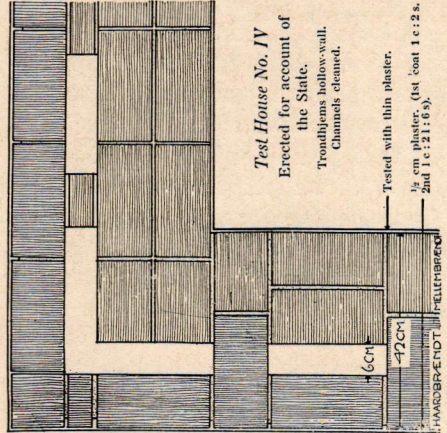
Test House No. II.
Erected for account of the State.
Bergens hollow wall constructed as usual in practice. First tested with thin plaster, thereafter panel, and finally fine plaster.
1/2 cm plaster (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 s.)

II. Bergens hollow 1 1/2 brick wall erected partly with open joints between the channels or air cells, tested both with thin plaster, panel or wood lining and with fine plaster inside. In Norway all brick houses are lined with wood panelling after they are thinly plastered



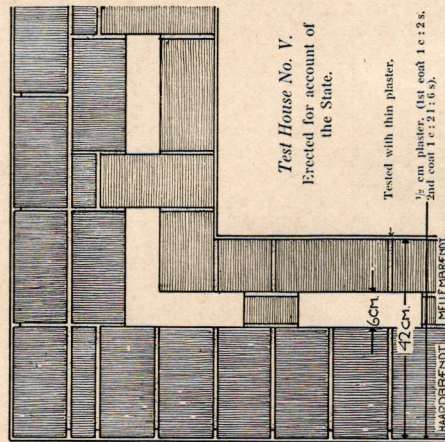
Test House No. III.
Erected for account of the State.
Bergens hollow wall. Filled joints. The channels cleaned
1/2 cm plaster (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 c.)
Thin plaster.

III. Constructed the same as II, except that all joints are filled with mortar, preventing any air connection between the channels. The mortar dropping at the bottom of the channels is removed



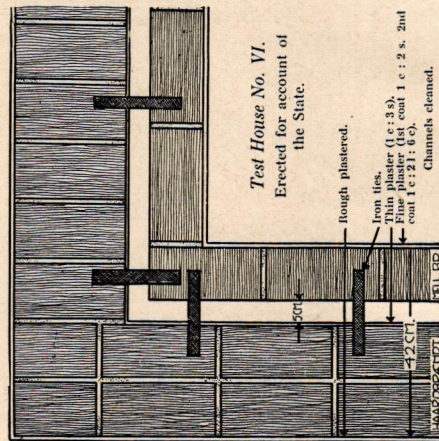
Test House No. IV.
Erected for account of the State.
Trondhjems hollow-wall. Channels cleaned.
Tested with thin plaster.
1/2 cm plaster (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 s.)

IV. Trondhjems 1 1/4 brick hollow wall, half brick placed outside and all joints filled with mortar. The walls have thin plaster on the inside



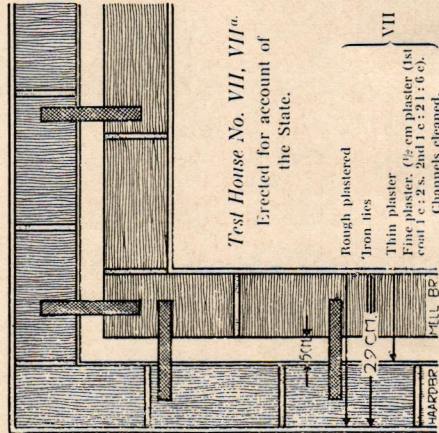
Test House No. V.
Erected for account of the State.
Tested with thin plaster.
1/2 cm plaster (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 s.)

V. Trondhjems 1 1/4 brick hollow wall made of English brick with the half brick laid inside. Nos. IV and V are otherwise uniformly built



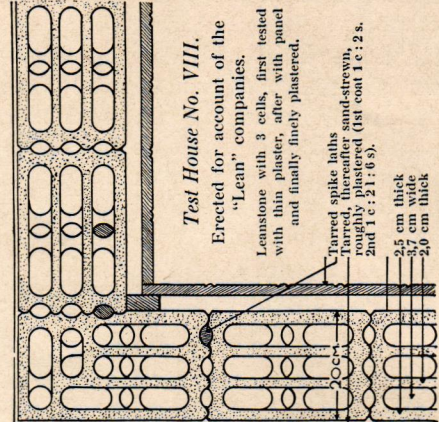
Test House No. VI.
Erected for account of the State.
Rough plaster.
Iron ties.
Thin plaster (1 c : 3 s.)
Fine plaster (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 c.)
Channels cleaned.

VI. and VII. English 1 1/2 brick and 1 brick hollow walls, respectively. The outer part of the walls is erected of hard-burned and the inner part of the medium-burned brick. The outer walls are laid up 5 to 6 courses and then plastered and brushed on the inner side to close the pores. The inner walls are laid up to the same height and the walls anchored together with galvanized iron ties. The hollow space in walls was filled with dry-screened coke, hazel nut size and designated No. VIIa. This creates the cell system with still standing air, increasing the insulation of the wall



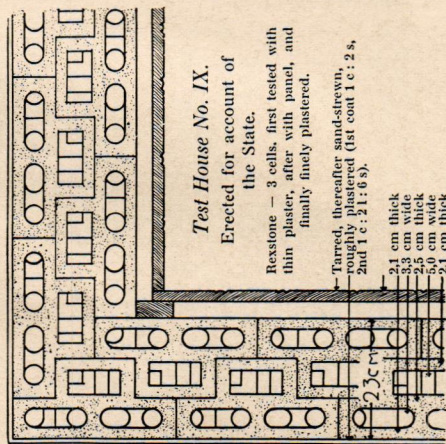
Test House No. VII, VIIa.
Erected for account of the State.
Rough plaster
Iron ties
Thin plaster
Fine plaster (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 c.)
Channels cleaned.
VII
The walls finally tested with wholly filled-up hollow space with coke of hazel nut size.

VII. Hollow cement "Leansten" bricks with 3 cells. The outside rough plastered on tarred and sanded surface. This house was first tested with inside thinly plastered wall, thereafter with wood paneling, and finally with fine plaster

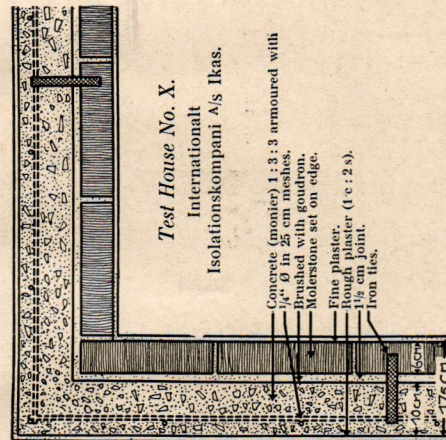


Test House No. VIII.
Erected for account of the "Lean" companies.
Leanstone with 3 cells, first tested with thin plaster, after with panel and finally finely plastered.
Tared spike laths
Sand-strewn
Roughly plastered (1st coat 1 c : 2 s. 2nd 1 c : 21 : 6 s.)
2.5 cm thick
3.7 cm wide
4.0 cm thick

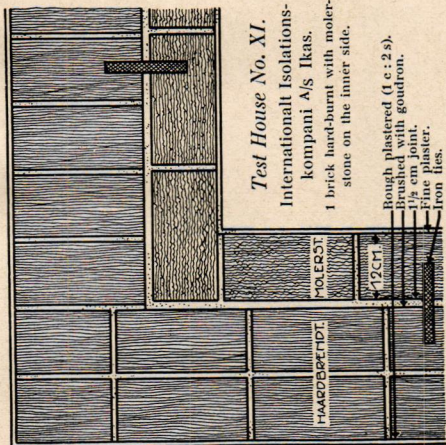
VIII. Hollow cement "Leansten" bricks with 3 cells. The outside rough plastered on tarred and sanded surface. This house was first tested with inside thinly plastered wall, thereafter with wood paneling, and finally with fine plaster



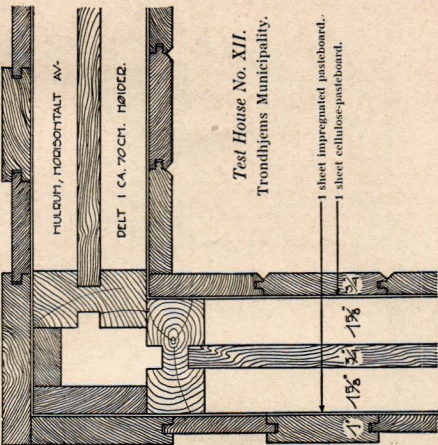
IX. "Rexsten" cement blocks with 3 cells, treated and tested with plaster and wood panelling the same as No. VIII. Considerable difficulty was experienced in attaching the wood panelling to the inside of the cement hollow block walls



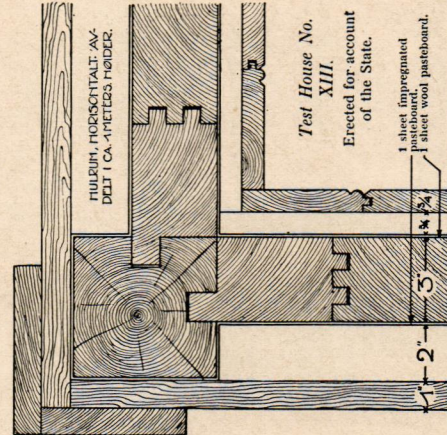
X. Outside wall 10cm thick of reinforced concrete brushed with goudron or tar on the inside. 1 1/2 cm thick cement joint against which is laid a course of "molersten," inside finely plastered and outside rough plastered. "Molersten" is a very porous brick made of Diatome pebble mixed with common clay and manufactured in Denmark



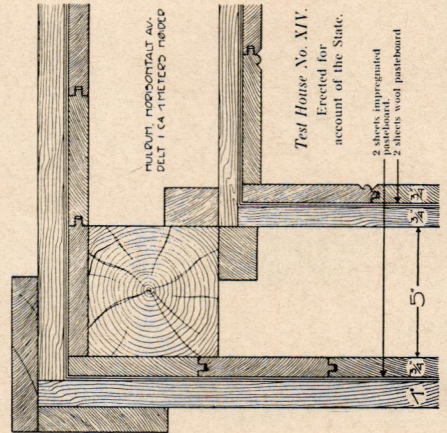
XI. Wall built of hard-burned brick, rough plastered outside and brushed with goudron or tar inside, against which is laid an inside wall of "molersten" brick finely plastered on the inside



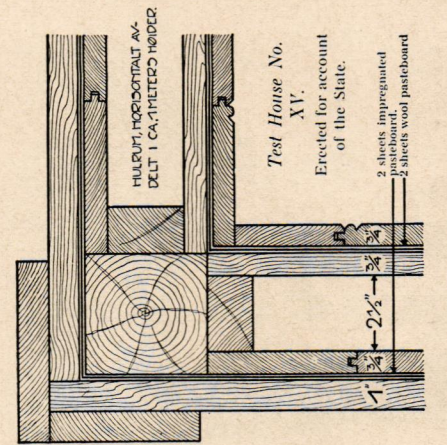
XII. Walls are built of 3 wood panels separated by two 1 1/2" hollow spaces. The outer and inner wood panels are covered with impregnated and cellulose pasteboard respectively. The panels were assembled in the factory



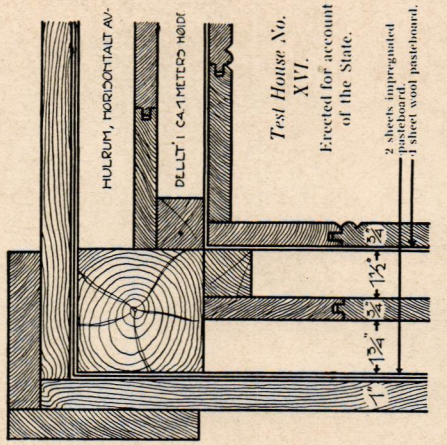
XIII. Walls built in accordance with the Trondhjem regulations for wooden houses with 5" x 5" frame, and standing 3" tongued and grooved planks covered on the outside with impregnated pasteboard and inside with wool pasteboard. Wood panelling on outside and inside with 2 air spaces



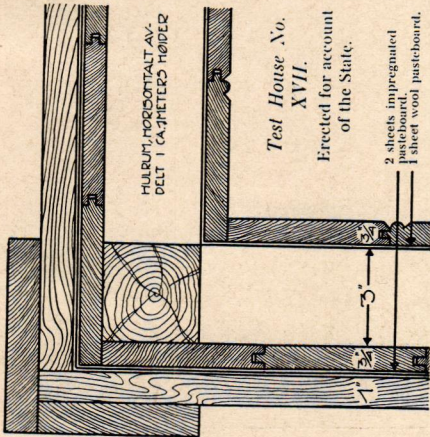
XIV. Wall consists of 5" x 5" frame with 2-ply wood panels, inside and outside; outside wood panel has two sheets of impregnated pasteboard in the center and the inside wood panel also has two sheets of wool pasteboard



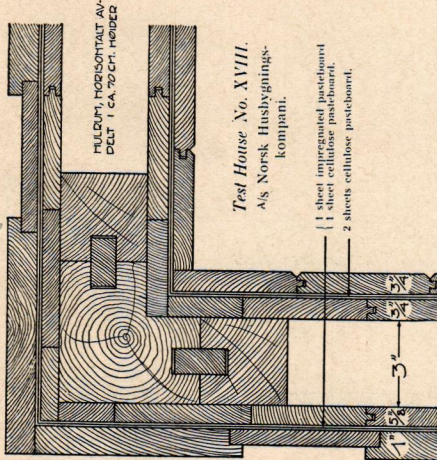
XV. Wall construction the same as house XIV except that the wall consists of 4" x 4" frame with the inner thickness of the wood panels butting against the post, which reduces the air space to 2 1/2" instead of 5"



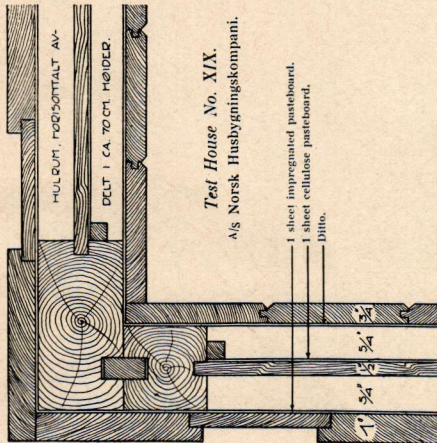
XVI. Wall consists of 4" x 4" frame with three single-ply wood panels—the outer one having two thicknesses of impregnated pasteboard on the inside and the inner panel having one thickness of wool pasteboard on its outer face. This construction gives two air spaces of 1 1/4" and 1 1/2" in width



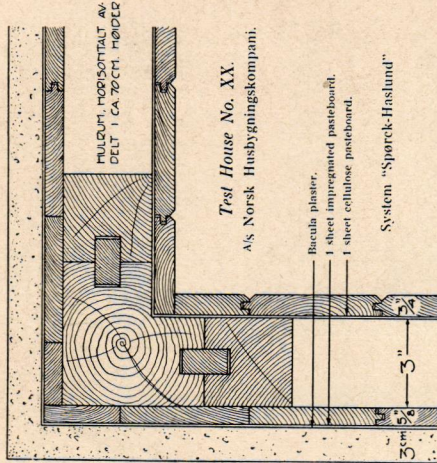
XVII. Wall consists of 3" x 3" frame with two wood panels—the outside one being 2-ply with two sheets of impregnated pasteboard in the center and the inside being single-ply with one sheet of wool pasteboard on its outer face. This construction has a 3" air space



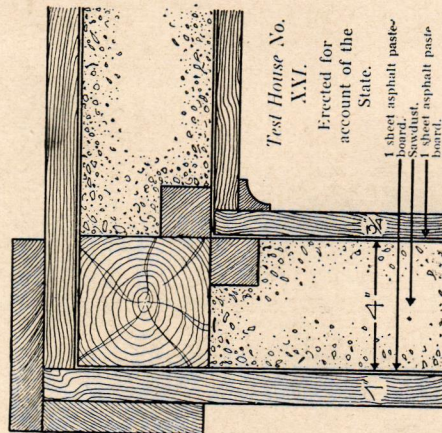
XVIII. This wall is constructed of 3" framework and 5" corner posts with two 2-ply wood panels. Outside panel has one sheet of impregnated and one sheet of cellulose pasteboard in its center and the inside panel has two sheets of cellulose pasteboard. The air space is 3" wide



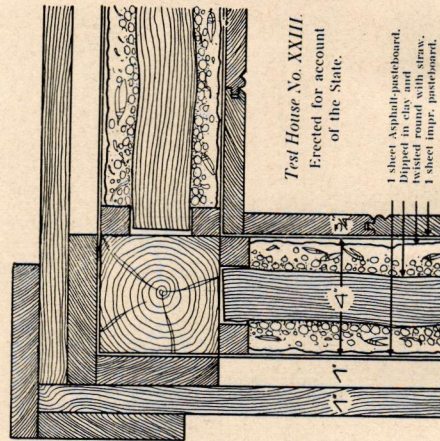
XIX. This wall is constructed of 3" framework with three single-ply wood panels. The outside panel is covered with one sheet of impregnated pasteboard, and the center and inside panels are each covered with one sheet of cellulose pasteboard



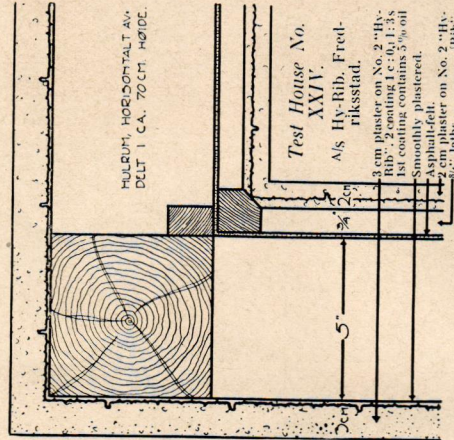
XX. This wall is constructed of 5" x 5" corner post and two single-ply wood panels. The exterior and interior panels are covered with one sheet of impregnated and one sheet of cellulose pasteboard respectively. The exterior is plastered on the outside on "Bacula," (a wooden lathing consisting of thin strips not quite 1 cm square which are fastened together with iron wire)



XXI. Walls built of 4" x 4" framework with two single-ply wood panels, each of which is covered with one sheet of asphalt pasteboard. The 4" air space was filled with well packed dry sawdust. This space has been so constructed that it can be re-filled after the settling of the sawdust



XXIII. The wall is built of frame, wood panels and pasteboard as shown. The air space is filled with wood strips wrapped with ropes of straw dipped in a preparation of clay, the inside surface being finely plastered with clay, after which the inside wood panel is erected. The filling is divided into one meter high sections



XXIV. Wall consists of 5" x 5" framework with "Hy-Rib" placed in position on outside and inside. The outside plastering contains 5% of mineral oil for waterproofing. On the inside of the frame is placed a sheet of asphalt pasteboard which makes two air spaces between the plastered surfaces. An advantage is in fire resistance and prevention of vermin common to wood panelling in some localities

namely innermost. In this connection the fact that the inner wall part is constructed of a lighter brick ("medium-burned") than the outer wall, has a determining influence in the result.

It will be noted that house No. III consumes more heat than house No. II. It has been thought that when the joints between the air spaces were closed with mortar, it would add to the insulating value of the wall. In this case it is shown that this opinion is incorrect. Professor Bugge recommends that it should not be required to close these joints between the air spaces but that the bottoms of the spaces should be cleaned of the mortar which falls during construction as otherwise large portions of the air spaces may be filled, whereby the wall partly or wholly may cease to function as a hollow wall.

A further comparison of these walls leads him to the conclusion that it is economical to use hollow walls.

Professor Bugge includes a resumé of the most important points, these being as follows:

However, for reasons before given, these walls are placed on an equal footing.

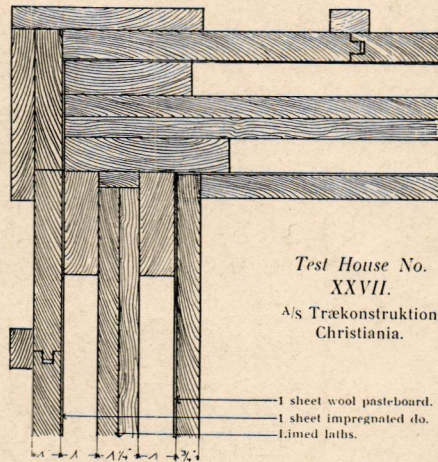
3. The panel walls, wherein the hollow spaces are bricked up with peat-briquettes, are at least as heat-insulating as framework walls of 3" planks, when the required wall thickness is chosen.

4. The panel walls wherein the hollow spaces are filled up with sawdust, are better heat insulators than framework walls of 3" planks. The walls of sawdust have proved to be the best heat insulating of the collective tested walls. When it is taken into consideration that wooden houses with the tested ordinary wood walls on an average are 15% cheaper to build than brick houses, the reported results as to a wood wall's heat-insulating capacity will attain a greater significance.

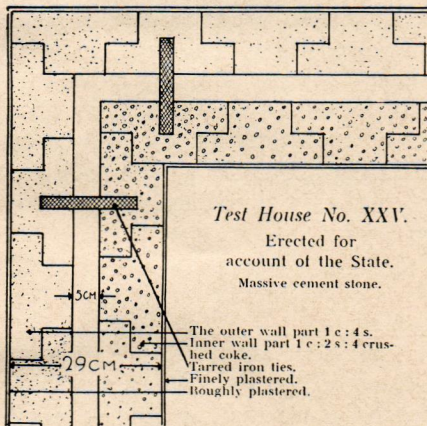
5. English 1½ brick hollow wall of brick is better heat-insulating than 1½ brick Bergens hollow wall. It is also better heat-insulating than Trondhjems hollow wall (1¾ brick thickness) and ought therefore to be preferred to that. It will be an advantage to use 1½ brick English hollow wall in severe weather places, because it remains drier.

6. English 1 brick hollow wall of brick is nearly as heat-insulating as Bergens hollow wall but ought always to be preferred to that, because the English hollow wall remains drier and as a result, in many cases, will be better heat-insulating. This will especially be the case in hard weather places.

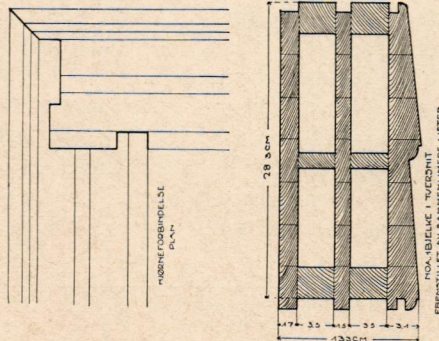
7. English hollow wall erected of massive cement stone insulates



XXVII. Wall constructed of two single-ply and one two-ply wood panels which are limed together with Hetzer's lime. Interior and exterior panels covered with wool and impregnated pasteboard, respectively, as shown



XXV. The outer portion of wall is constructed of solid concrete blocks made 1c:4s; the inner wall of 1c:2s:4, cleanly riddled, crushed coke, hazel nut size. Each portion of this wall is 12 cm thick



XXVI. Walls built of so-called "Noah" beams which are made of wood strips limed together with Hetzer's lime. The walls are built similar to log walls with a special connection at the corner as shown. The separate beams were carefully pressed together during construction, resulting in close joints when the house was completed

1. Wooden houses are cheaper to heat than brick houses, and considerably cheaper to heat than brick houses with solid 1½ brick outer walls.

2. Some of the tested walls of framework with panel are almost as heat-insulating as framework walls of 3" planks as required by legal enactment.

less than when erected of brick.

8. English hollow wall of 1½ brick thickness and 1 brick thickness must, in Norway, be constructed otherwise than, as a rule, it is constructed in England and partly in Holland.

9. When the hollow space in an English hollow wall is filled with dry coke of the size of a hazel

nut, the heat-insulating capacity of the wall is considerably improved.

10. The tested cement hollow stone walls of cement hollow stone "Lean" and "Rex" offer no advantages when used in outer walls, compared with cheapest brick walls, 1½ brick Bergens hollow wall and 1 brick English hollow wall, consideration being given to heat-insulating, cost of building and the solidity of the wall. It is therefore inadvisable to use cement hollow stone for the outer walls in dwelling houses.

11. Hollow walls are better heat-insulating than solid walls and ought therefore always to be used.

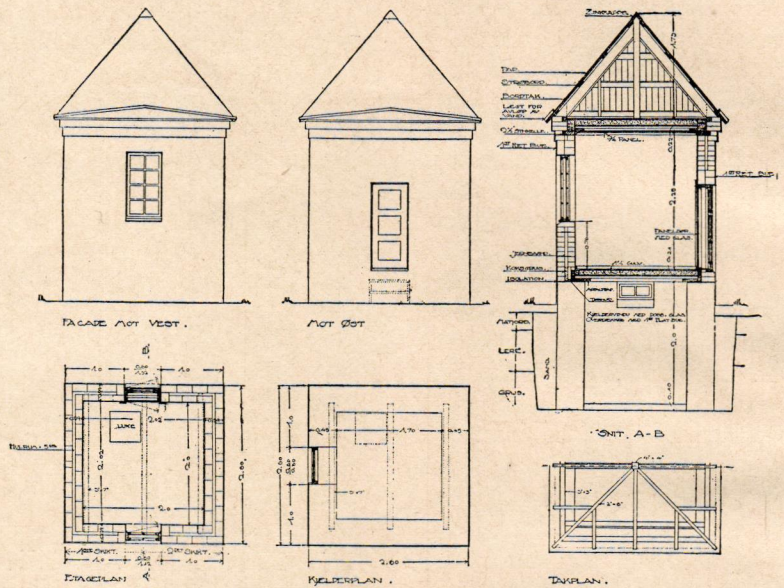
12. The principal mass in an outside 1½ brick English and 1¼ brick Trondhjems hollow wall ought to lie innermost and not outermost in the wall.

13. In order to obtain a good heat and damp insulating outer wall of brick, "hard-burnt" outermost and "medium-burnt" innermost in the wall should be used. This suggests that all over the country, the class of brick that ought to be used is that of the northern and western part of Norway; clinkers hard-burnt, medium-burnt and light-burnt.

14. By using double windows a saving results in the consumption of fuel used for heating the house.

Lack of space does not permit the printing of many of the facts developed by these tests. It is doubtful if the relative cost of the different types of construction as estimated by Professor Bugge, would apply in the United States and for that reason his findings are not fully set forth. The wooden house will always be built in the United States in large numbers. Anything that will tend

toward better construction—structural, maintenance and heat insulation—will be a distinct advantage. While the constructions tested by the Norwegian Government are much different from



PLANS, ELEVATIONS AND SECTION OF THE TEST HOUSES

those used in the United States, certain fundamental facts are established that can be applied to the forms of construction in use in this country. The relative merits of solid and hollow brick walls will be read with interest. The use of the hollow brick wall such as tested is not general in the United States. The results of these tests indicate that the development and use of this type of construction in the United States are desirable. They are well worthy of the attention of architects, heating and ventilating engineers and those interested in the construction of dwellings, built either of wood or brick.

HEIGHTS OF BRICK COURSES

THE spacing of brick courses is a thing that has to be done correctly. This necessary work is of a routine nature and uninteresting. To provide a means for quickly and correctly determining the heights of brick courses, the Indiana Limestone Quarrymen's Association, Bedford, Indiana, has prepared a table. This is printed on heavy manila paper and folds into the convenient size of 5½" x 9". It contains the heights up to and including 100 courses of brickwork for nine units of "packing up 4 bricks and 4 joints," the units ranging from 10" to 12", inclusive, advancing by quarter inches. The "pack up" is given in terms of feet, inches and sixteenths of an inch. The sixteenth of an inch is as small as

is practicable in construction work. Architects desiring to use these tables should canvass their draftsmen and order the required number of tables which will be sent free of charge.

X-RAYS FOR LOCATING CONCRETE REINFORCEMENT

AN interesting possible commercial application of X-ray was suggested at the U. S. Bureau of Standards in a conference with a consulting engineer, namely that of locating steel reinforcement rods in concrete girders in buildings already constructed, and thus avoid mutilating the structure. The practical difficulty is that very powerful X-ray equipment would be required to penetrate large girders.

REVIEW of RECENT ARCHITECTURAL MAGAZINES

BY EGERTON SWARTWOUT, F.A.I.A.

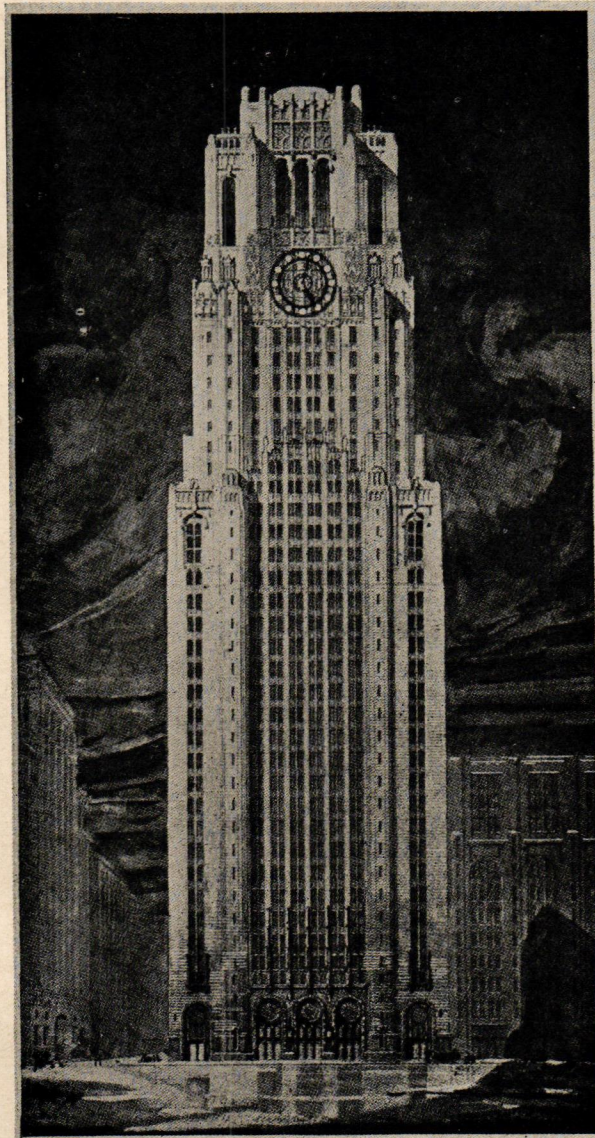
PERHAPS it is not quite the right sort of thing to start with an apology but then we are not exactly apologizing for what we've done ourselves but for what someone else has done for us, or rather to us. That is to say, we are not apologizing for him either; we have no love for him at all; in fact, we would cheerfully slay him; but what we do feel apologetic about is that in looking over material for the last review we discovered in some weird magazine called *Moderne Bauformen* a really good building recently built in Germany and we tore out the picture and marked it "cut-sure" and referred to it rather eulogistically in the review, not noticing that on the other side of the page was a picture of another piece of work by the same architect. The man who makes the cuts photographed the wrong side, that's all, and our reference to Herr Willi Glogner's work must have seemed strange to those who happened to read the article. The house that was published was not so bad, but the other, the lost one, was extremely good, and there are not many things that are extremely good done in Germany nowadays. Hence our regrets and our apologies.

We have just been reading with a great deal of pleasure Paul Cret's article on Edu-

cation in the last number of the *Journal of The American Institute of Architects*, in which he discusses the previously published article by Albert Ferran. Mr. Cret's article is good and the ideas he advances are, like all his ideas, sound and based on experience and common sense. This whole question of Architectural Education should be of interest to every archi-

tect and it has long been of special interest to us. Perhaps because we had no particular architectural education ourselves we are more interested in the various methods of instruction than we would be if we had gone to the Ecole des Beaux-Arts or to some school in this country. At any rate, we are neutral; we cannot be accused of partiality; what little we know of architecture was partly self-taught and partly picked up in a ten years' apprenticeship in the office of a very distinguished firm of architects in New York. We have been for many years a member of the Board of Visitors to the Architectural School at Columbia, and we are to some extent, a limited extent unfortunately, familiar with the methods there employed. Generally the system seems good. It has its defects, but it has its substantial advantages. It is undoubtedly true that any general system of

From "The Builder," London

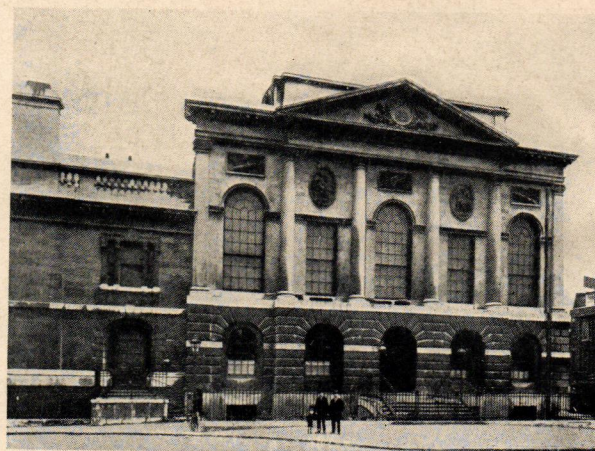


AN OFFICE BUILDING
BY LOUIS N. ROSS (HARVARD UNIVERSITY)

education has to be adapted to the average student; it could not be otherwise; it is the same in all branches of education, but the suggested formation of a special school, or place of instruction, for the particularly gifted seems impractical. How can you be sure that the apparently exceptional man is really exceptional? It may be a flash in the pan; the most brilliant student at school is not always the best architect. There is no question that the schools, as they are now, are doing excellent work. That they could be improved is probably true, everything is susceptible of improvement. That the whole system is the best for every student is open to question. Who can tell? Probably there will never be an absolute unanimity of opinion. We have always had a strong predilection ourselves for the old system of apprenticeship, the master and pupil idea. It apparently worked well enough in the old days; in fact, it was the only way; but under modern conditions it is questionable if it would,

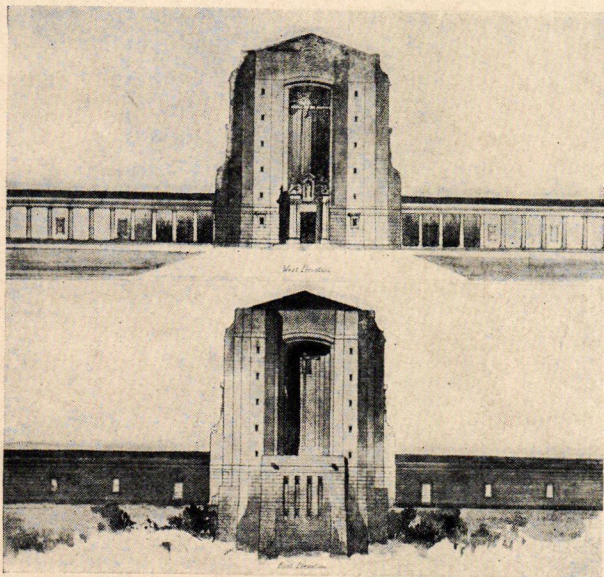
latter case, half a dozen times perhaps, but it never worked out very well. We were always very enthusiastic at the start and really gave up a good deal of time to it, but gradually other things came between us, a competition, a sudden trip out of town, an important piece of work; and after a time we forgot all about it. In a large office the thing is absolutely impossible, that is any definite system of instruction. The young draftsman learns something, if it is a good office, but he is largely self-taught. It is possible, of course,

From "The Architects' Journal," London



THE OLD SESSIONS HOUSE, CLERKENWELL
THOMAS ROGERS, ARCHITECT

From "The Builder," London



DESIGN FOR A PUBLIC SCHOOL CHAPEL
JARVIS STUDENTSHIP—ACCEPTED DESIGN
BY M. A. SISSON

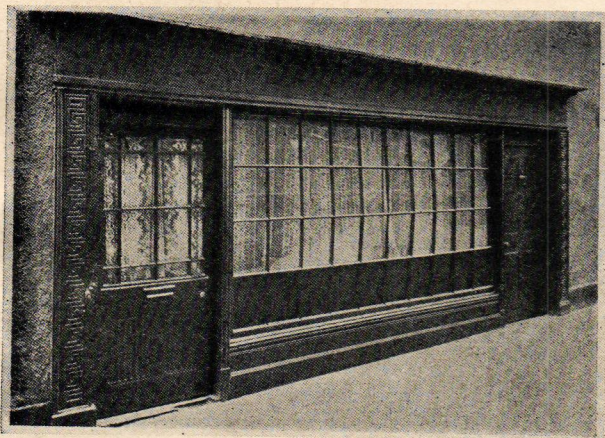
or does, work at all. It could never be universal. It is conceivable that an earnest young man entering a small office which turned out really good work might learn more there in four years than he would learn in any school; that is, he would learn more that would be of direct use to him in his future work, but he would only learn it if the head of the office was able and willing to teach him. If he became a mere draftsman he might learn a little, but it would be slow work, and he would have to pick it up himself. We have tried it ourselves, both as student and master. In the

for a young man to get practical experience in an office and at the same time get instruction at an atelier in the evenings, and it is often done with good results, but it means a good deal of work and if done faithfully is a much greater drain on the constitution than is suspected at the time. It is not, and can never be, a substitute for the school.

Now, granting there should be a school, should that school be strictly professional or should it seek to combine a general education with the professional? Should the boy get a classical education at some university and then take up his professional study as a post-graduate course, or should he go at once to a professional school? Personally we think the former much preferable if it can be done, but unfortunately it can't be done in many cases, perhaps in most cases. It is a pretty expensive thing to send a boy through college for four years and then to a professional school for three years more, and there is also the time consideration which influences many. Therefore, if it is generally the case that students taking up architecture haven't had the advantages of a college education, it is the natural thing to attempt to provide some courses in the professional school that will compensate for this lack of advantage. And it is also obvious that by the inclusion of these courses the period of attendance will have to be

increased or some reduction made in the purely professional courses. Just what is the best thing to do in the broader sense so as to benefit the great majority, we do not feel competent to say. We can only say that what we think would give the best results would be for the boy to take a classical course at some good university and then go for about three years to a good professional school. He then gets his college life at the university, and to most boys the college life is a great thing, a thing he has read and dreamed of; he goes to

From "The Architect," London



SHOP FRONT, THE MINT, EXETER

college because of it and not for the knowledge he is supposed to get; not a very high ideal perhaps, and there are certainly cases to which this statement would not apply, but it does apply in the general run. Now then, at the university he has had his college life. His college is always at New Haven or at Cambridge or in New Jersey. His life in the professional school doesn't count as college life; there it is a serious thing, a very vital and particular part of his future. There were a number of men in our class who at New Haven never exhibited any great amount of scholarship or any special interest in their studies, and yet when they came to New York after graduation, and studied law or medicine they became the hardest students we have ever known; they were doing their life's work. And so it seems to us it would be much better if the classical education was a separate thing, and the professional education was strictly professional and reasonably short. The boy should learn something of the history of architecture and something of drawing or rendering and the fundamentals of design. He should be taught a certain familiarity with working drawings, but it does not seem necessary for him to go very deeply into construction except in principle as it affects design, for we are assuming that the object of the school is primarily to teach design, which is architecture as we see it. We can-

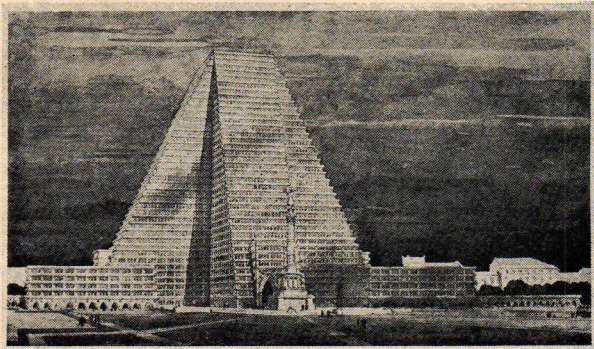
not imagine it to be the purpose of the school to turn out constructionists or specification writers, nor can we imagine the teaching being limited to showing the young idea how to spend his client's money economically, as one irate gentleman demands in a letter from Texas recently published. All such things are very necessary, to be sure, for one's architectural practice, but so is the ability to get jobs, and you can't teach all this in a professional school. The student can only get the rudiments of architecture in a school, can only get a start; the rest he picks up in an office or in his own practice afterward, for we think it is vitally necessary for the young man to get a considerable amount of experience in an office before he starts in for himself. There have been cases of course, where men have started out in independent practice immediately after leaving a professional school here or in Paris, and many of them have been successful, but it is not the logical thing to do. There are certain things, many things, that cannot be taught in a school, things that only come by experience and it is better to get this experience second-hand in someone else's office than in your own at the expense of your clients.

There is one other point often brought up of the schools. It is claimed that the problems given are not practical. What advantage it a boy to make a large and elaborately rendered project for a Palace for the Reception of Sovereigns of France, if on graduation he is given in an office nothing more exciting than a large scale layout of a butler's pantry? We must confess that years ago we had much the same idea ourselves, but now from what little we have seen, and from the memory of our own college days, we have come to the conclusion that the average boy is not interested in things practical. We recall that on several occasions we lectured, or rather talked, to a large class on the Classic Orders, a subject we thought we knew something about, and on which we were able, so we thought, to give instruction that would be really valuable. The class was polite, almost too polite, but we could see that it didn't get across. No one really cared much about it. But at a subsequent talk on modern competitions our utterly inconsequent and somewhat frivolous remarks were listened to with the greatest attention; the story from the inside was as interesting to them as the remarks on inside baseball by Professor McGraw. Similarly we have noticed in students' work that much greater care and attention were given to the big imaginative problems than to the practical ones, and the design was better. A boy apparently works with much more enthusiasm on a Palace for the Reception of Sovereigns of France than he does on the quarter scale details of a twelve story apartment hotel. It's quite true he never will have an

actual chance to make working drawings for the one and he probably will for the other, but at any rate he can look back and say, oh yes, I have made designs for big work even if I am now doing only apartments in the Bronx—I too was born in Arcady—and we have no doubt his apartments are better for the work he lost on the Palace.

But we are hobby riding again; two thousand words gone and no review. In *The Architectural Review*, London, August, there are some wonderful photographs of the Liverpool Cathedral presented as only the *Review* can do it, and *The Architects' Journal*, London, of August 20, has another

From "Moderne Bauformen"



STUDIE ZU EINEM HOCHHAUSE
OTTO KOHTZ, BERLIN-FRIEDENAU

causerie by Karshish on the subject of Drains in which it is conclusively proved that the old ways were the best after all. In the August 6 issue of the same journal there is illustrated a Georgian building in Clerkenwell which we show here not because it is superlatively good but because it has been so seldom reproduced, and in a later issue that celebrated seeker for Truth, Felix, continues his series on the Masters of Architecture by chronicling the life and work of Alvin K. Athabois from the "quaint little old world town of Gophir, Wis., where his father, Alastir Attaboy, was a realtor." The work of this great man comprises "a Giottoesque chimney to a Chinese laundry, the Pitti and Massimi cinemas, the Halli-carnassian tram garage, and the Jacobean brewery which was closed down at the great drought, but has worked night and day for over a year now as a flask factory."

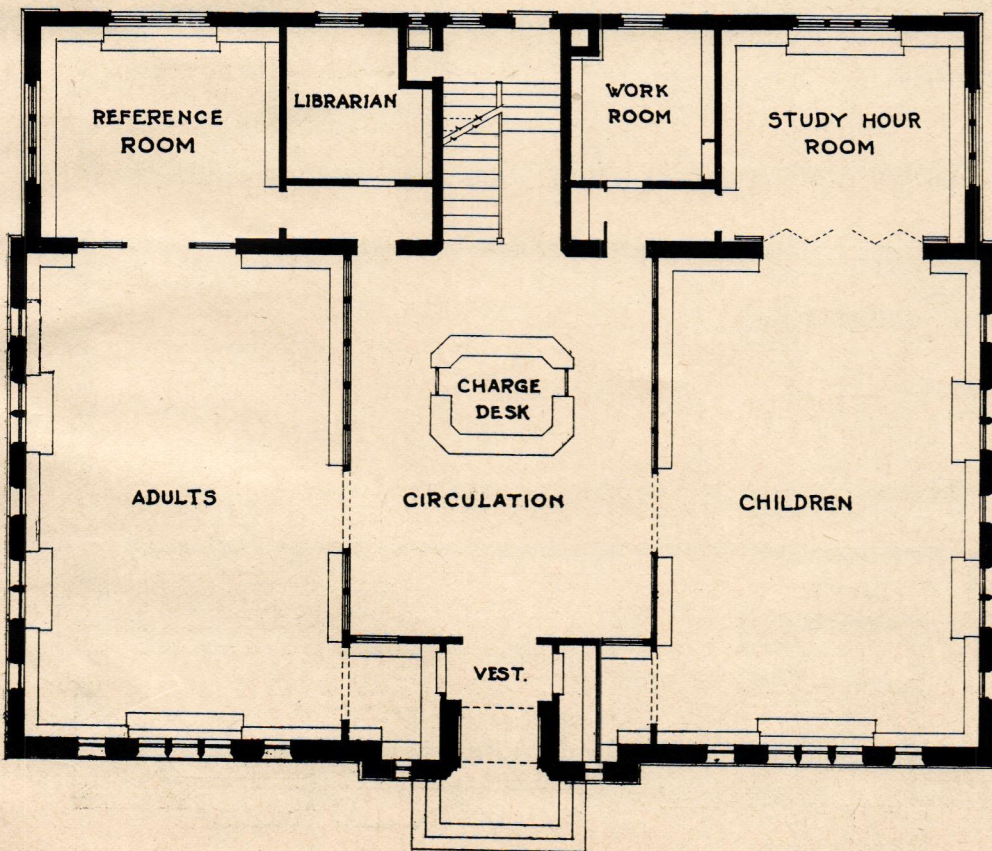
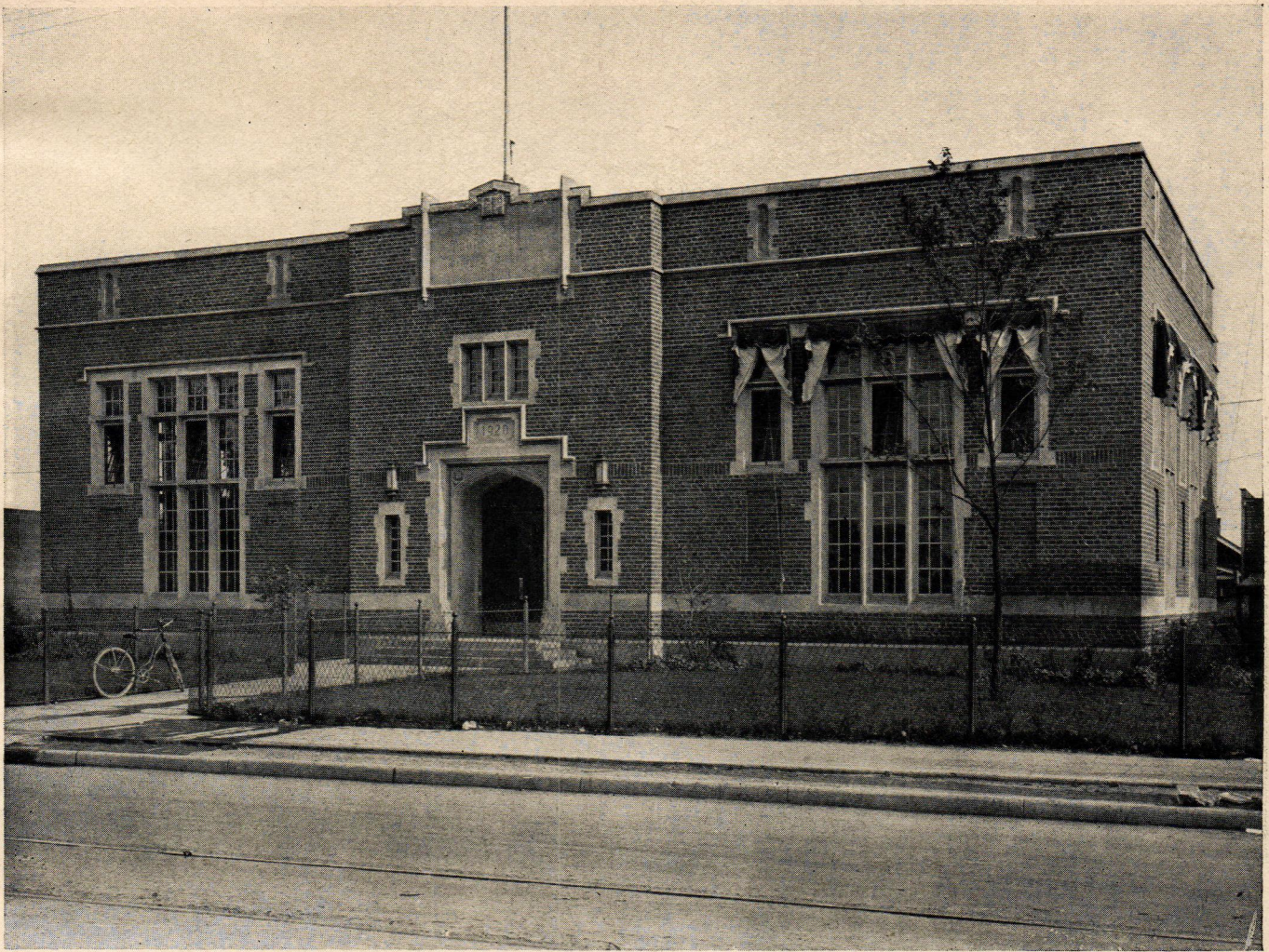
"His first big job was the Virgil X. Vokonik residence on Long Island Sound, which included an early English swimming-pool, a toltee sun-parlor, and a Venetian garage for seven cars and eleven Fords. On completion, Vokonik

was so delighted with the job that he featured Athabois and the house in his powerful New York daily, *The Bowery Budget*, under the headline "Architect Athabois puts M. Angelo down for the count." Of recent years Athabois has been hired by the Loeb, R. Louch Film Corp. to commit several super-settings for them. He has superintended the erection of replicas, costing over a million dollars each, of Old London, Old Paris, Pompeii, and Huddersfield. All these replicas are absolutely accurate except where Mr. Louch has elected to sacrifice realism to romance. They will all be used in featuring Quinevere d'Esterelle (formerly Sadie Schlehrevin, stenographer to Ole Ostberg, ship-breaker of Brooklyn), and Daredevil Al. Nix, The Strong Guy from the Bad Lands south of Gasolene Creek. There are many who scoff at Athabois' frank plagiarism, but their scoffs are rebutted by the slender state of their passbooks. Athabois has achieved a magnificent facility and rapidity of turning out work; with the aid of a large card-index and a staff of experts, none of whom is permitted to draft in more than one style, the organization can adapt any historic European building to any modern purpose as easily as one can stretch a chew of gum."

An interesting account, but hardly equal to the life of Gregori Ptuch (pronounced Hoitch), the first of the series. The local color seems a bit too vivid and on a par with the Tom-Jim-Jack and the Wapentake of the late Mr. Hugo, but this feeling may be only provincial jealousy.

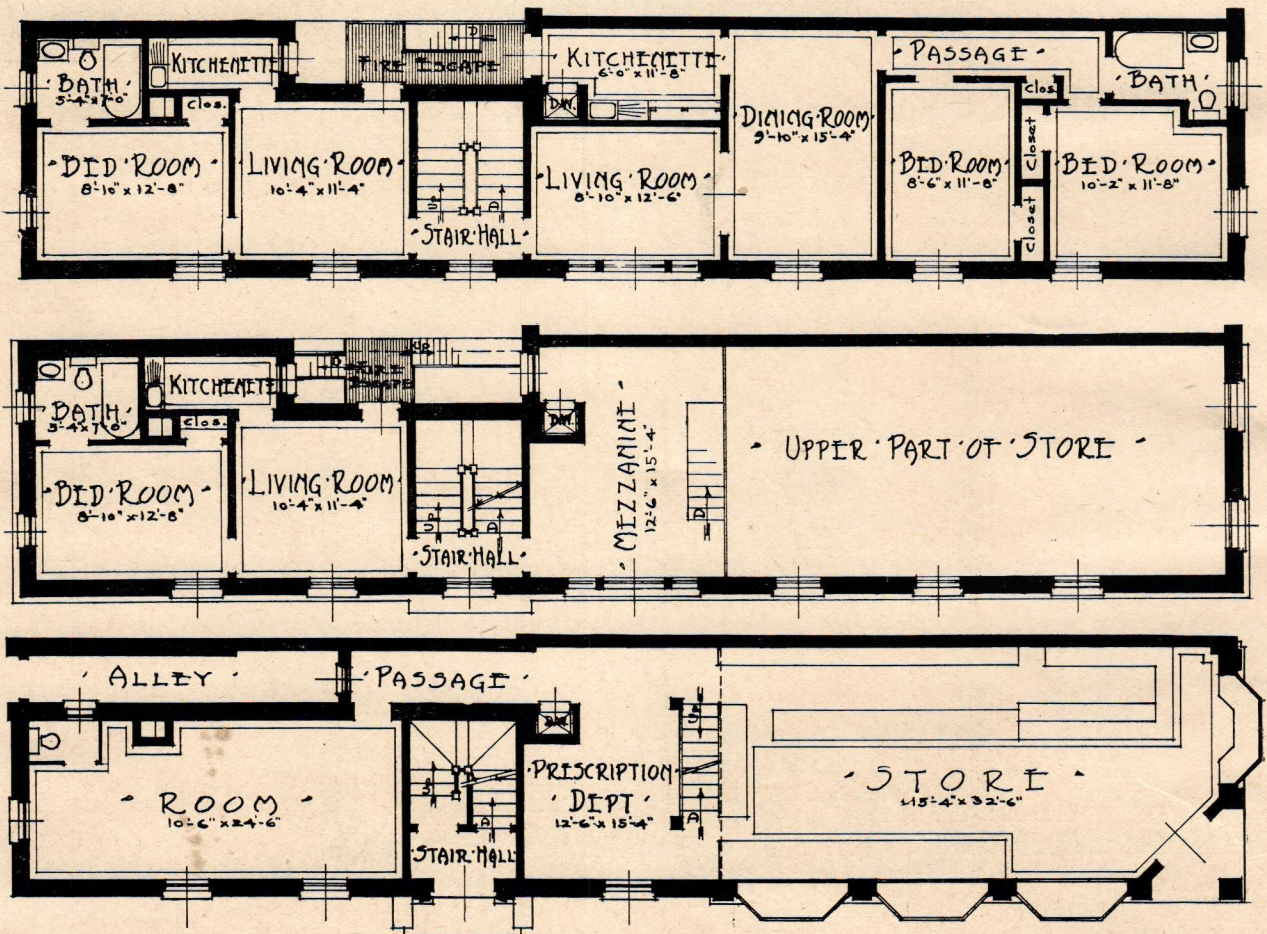
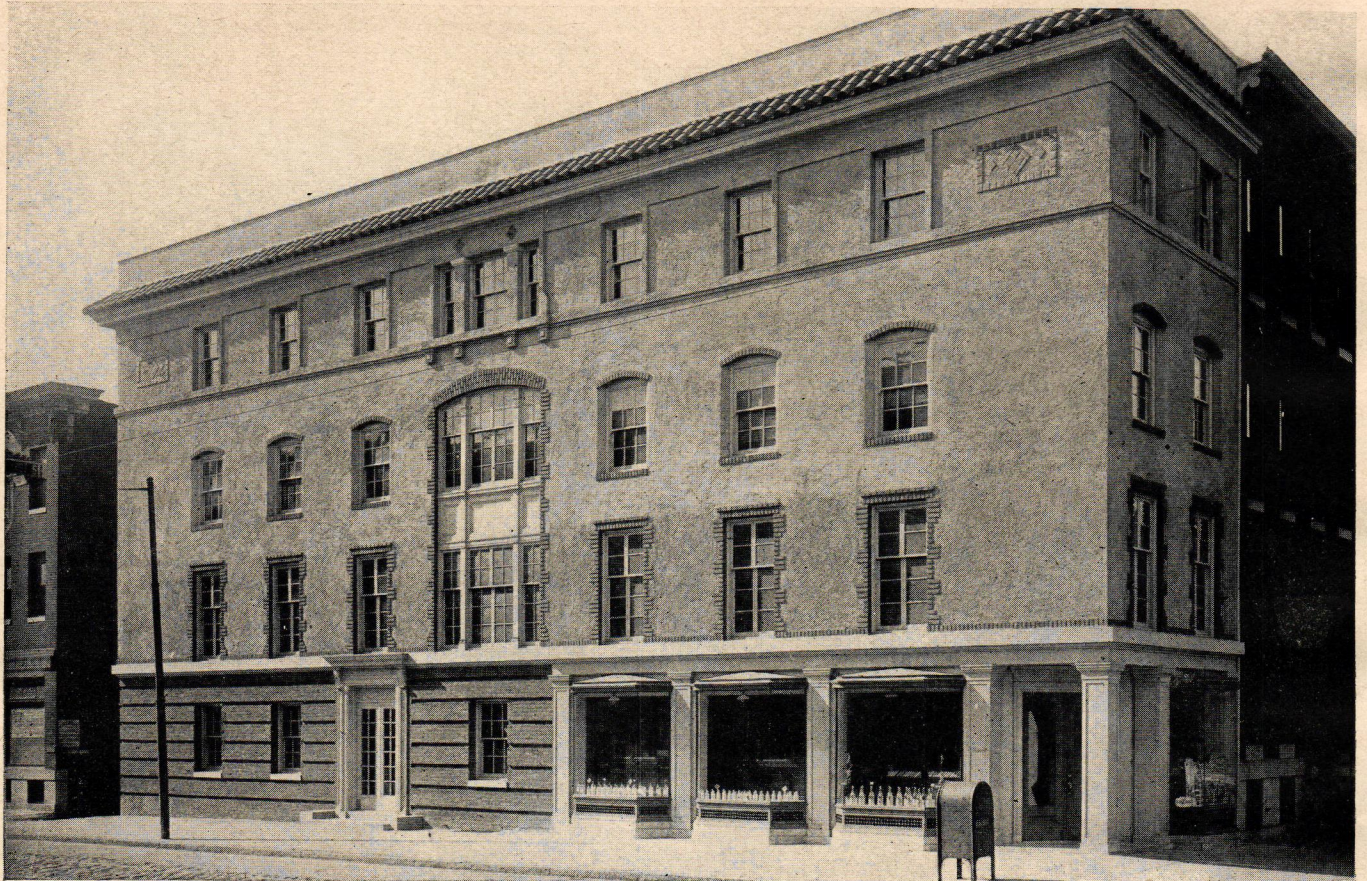
Most of the English magazines give full descriptions of the recent Educational Congress and speak well of the American exhibits, and from their many reproductions we here show a design for an office building by Louis N. Ross of Harvard which is good and will be better when the storm abates, and also an original and powerful design for a Public School Chapel by M. A. Sisson, of the London University School of Architecture, the accepted design for the Jarvis Studentship. Mention of the English magazines would be incomplete without reference to the editorial in the August number of *Architecture*, London.

Of the American magazines *The Architect* shows an interesting house by Howard Greenley and a very good Colonial Church by Hobart B. Upjohn. *Architecture* has the Concordia Seminary at St. Louis by Day and Klauder, a very good Gothic scheme, and *Pencil Points* has a well presented series of the really superb drawings of Frank Bacon done way back in 1879; a wonderful family to have produced two such artists as Frank and Harry Bacon. We opened this article with a reference to the *Moderne Bauformen* and it seems fitting to close with it, and so we present a most remarkable design by Otto Kohtz entitled *Studie zu einem Hochhause*. Confessing our ignorance of just what a Hochhause is we can only say it is quite stupendous or rather Kolossal as we think the term is, and we are quite ready to Hoch for it as well as the next modernist.



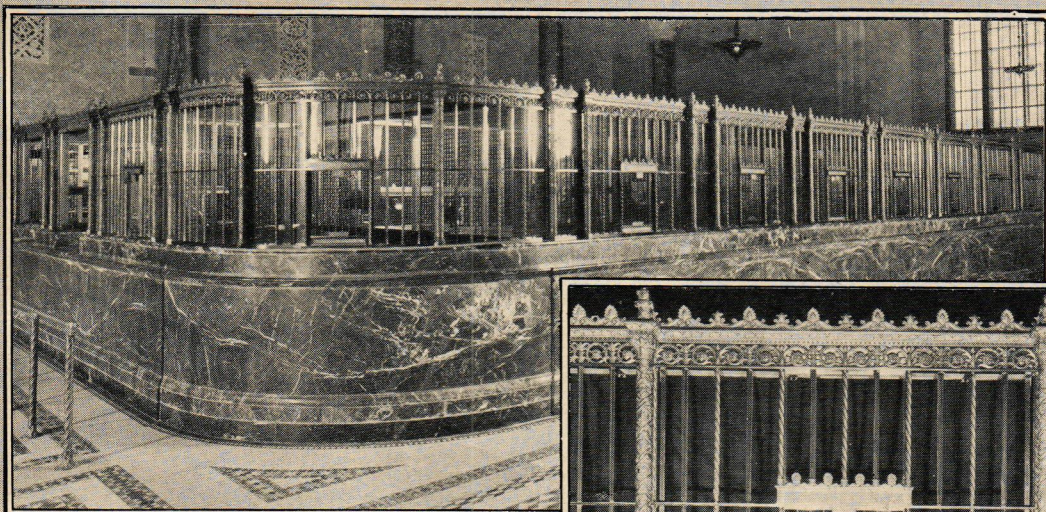
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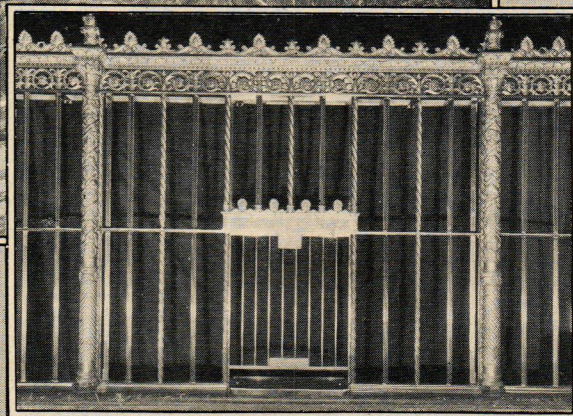


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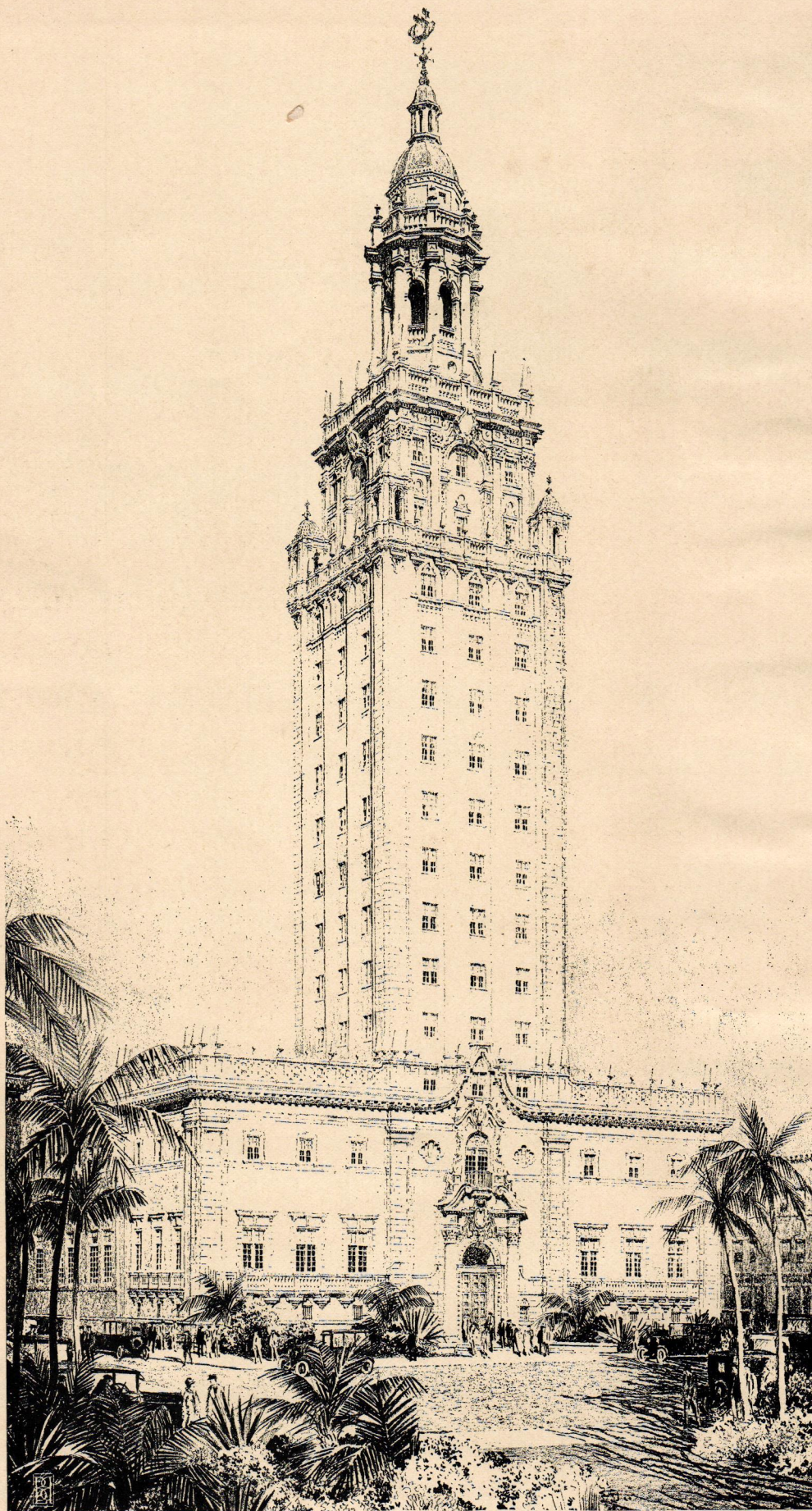
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BOOK NOTE

A System of Architectural Ornament*

MUCH has been written about architectural ornament—much is to be said. As the element of beauty, an indefinable thing, is included it affords an opportunity for some of those who write of it to pose as having a mysterious insight into things which we ordinary ones do not possess. One result is that they invariably fail clearly to express themselves to us and lead us to suspect the genuineness of their knowledge. It is, then, with a feeling of distinct pleasure that this book is studied because in it the author shows *how*, without any mysterious hocus-pocus, he develops his peculiar type of ornament. Everyone likes to watch another person do things and whether we accept his product or not, we unselfishly admire his ability.

Anything that is correctly done is the result of an orderly procedure. In that event it is necessary to establish a source. The source of everything a man does lies in certain powers which he possesses. One or all of these he may use unknowingly and not to the greatest extent. With a knowledge of these powers, he at least has an opportunity to grow to his limits. Sullivan divides these powers into five groups and makes a short exposition of each and concludes with an explanation of their conjoint power in practical affairs—their mutual reinforcement of each other.

The physical power is made evident by doing things, effecting changes and creating situations. The intellectual power starts in curiosity and ends in highly sophisticated manipulation. Curiosity works to satisfy the craving for orderly form. The emotional power embraces every impulse or feeling. It is *instinct*. It is the great power that moves the people of the world—even as they exalt intellect to the rank of a fetich. The moral power is the great stabilizer. Choice is the most potent of the moral powers and it resides in all men. Spiritual power functions as a super-quality in clarity of vision. Thus he contemplates himself to a realization of his own nature and his own powers; to evoke his kindness, his faith and his courage—to dispel his fear. These powers, fully understood and employed, make the master craftsman, who must possess the inborn instincts to initiate, to sympathize and to desire.

The book is introduced by a drawing of a seed with two cotyledons which are specialized rudimentary leaves containing a supply of nourishment sufficient for the initial stage of the development of the germ. The germ is the real thing;

the seat of identity. Within its delicate mechanism lies the will to power; the function which is to seek and eventually to find its full expression in form. The seat of power and the will to live constitute the simple working idea on which is based the system of ornament which is here explained.

In other words, a valid ornament can only be the outgrowth of some germ that the designer selects for his purpose. A valid ornament cannot result from a mere adaptation of another's idea which has lost its virility, expression of purpose and purity by endless repetition and misapplication. This book is a distinct challenge for all who would create and it should stimulate them to rational and intensive effort. The pictorial exposition of the system is made by twenty plates, 14" x 20" in size. They are executed with that rare skill which distinguishes all of Sullivan's graphic representations. Plate I illustrates man's initial control over materials and their destiny, showing the treatment of a blank block or square through a series of mechanical manipulations involving eleven operations. Plate II shows the manipulation of the organic simple leaf forms into compound leaf forms, through fourteen plastic changes with a development of two of the motifs. Also there is included a suggestion that the student consult a field book on botany. The use of the forms of plane geometry as a basis of ornament and their ancient esoteric meaning and occult powers are set aside and a new meaning is advanced in Plate III. Plate IV is devoted to the awakening of the pentagon, most beautifully accomplished. The function of the axis and sub-axis, however placed, is explained in Plate V and a development of a random axial outline is shown on the succeeding plate. The function of parallel axes, with an interlude on the doctrine of parallelism, is the basis of the remaining plates.

What is the result of the study of this book? It is apparent that but few of us would have a desire to employ ornaments such as are here illustrated, even if we could. No one will deny them their great beauty, vibrating with life and energy, and their mystery and texture. They are not coldly informal like some classic ornaments and the reason is apparent. They are based on life and retain the life instinct in every part. If architecture is a living art it is well that it be so adorned, and to do so, its ornamentation must be based on some living form. The demonstration is made that ornament can result from an orderly procedure and that its manifestations are infinite in number and form. It is not necessarily something to be taken from an existing structure, but

*A System of Architectural Ornament, according with a Philosophy of Man's Powers. By Louis H. Sullivan, Architect. 32 pages including 20 plates, 14" x 20". Published by the Press of the American Institute of Architects, Inc., 250 West 57th Street, New York City. Price \$15.00.