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# REFLECTIONS *on the* TOKYO DISASTER

*By*
*Louis H Sullivan*

IN THE COURSE of my article in the February, 1923, RECORD concerning the Chicago "Tribune" Competition and its baseness, I took occasion to utilize the saying of a philosopher that men are self-divided into two classes: *Masters of ideas and those dominated by ideas.* And my comment on the Imperial Hotel in Tokyo, in the April, 1923, RECORD I prefaced by saying: "On the vast stage of the world drama, two ideas, both of them immense in power, confront each other in spectacular appeal to the fears and the courage of mankind."

The casual reader, as a rule, is not accustomed to those generalizations which go under the—to him—somewhat repellent name of philosophy, and in so far as philosophy has dealt and deals solely with abstractions and nonentities, he is right in his disdain—which I share. Such philosophies as have gone by the names Platonic, Neo-Platonic, and German Transcendentalism, have done their huge share to fill the world with sorrow, for they and their kind are the intellectual basis of tyranny. And this same casual reader is as casually apt to be unaware that day by day he lives under the tyranny of abstract dehumanized ideas; that he is under the dominion of ideas he had no share in making, ideas so diaphanous and all-pervading that they are as the air he breathes. His disdain of philosophy therefore is but disdain of a *word*. Of the saturnine content of that word he is as unsuspecting as a kitten. If he is a university man, an aspirant in philosophy, he has been taught to revere that word and its content; and in innocence he reveres them both—and so another kitten, not in the least comprehending the utter heartlessness of it all; not in the least perceiving in the world about him the corruption and dislocation that have followed in its train.

To be sure there are readers and readers. One reads industriously, and learns nothing—he is credulous. Another reads industriously and learns nothing—he is cynical. Another reads even more industriously and widely and learns nothing—he is pessimistic. But of all three, and their varieties, the credulous one is in the most pitiful plight. He may read the philosophies of abstraction and find them ennobling, he may believe himself to be lifted up and to have entered the highest attainable domain of pure thought—the realm of the ideal, the perfect, the absolute, in which the intellect reigns supreme—regarding itself in its own supernatural mirror, its gaze fatefully turned away from man and from his world. And of such belief in the unreal is the basis for all credulity—especially in evidence in the wool-gathering highbrow. Yet there is another class of reader—he who regards not authority, eminence, nor prestige, as finalities, but who seeks that which nourishes and enlarges his comprehension of life, and who, therefore, as by instinct of self-preservation, rejects that which sterilizes life—that is to say the abstract. To him therefore Life becomes an ever broadening, deepening, sublimating and impressive flow, within which he finds himself moving—his own life unfolding, and with the passing years thus arises, within, a deep religious and moral sympathy with the vast spectacle of immediate life, enfolding mankind, which he envisages as participant and spectator. In sympathy there arises within, a new pity allied to a new faith in man.

With spontaneous gesture the newly-arising philosophy, with the voice of which I speak, sweeps aside the spooks and phantasms which have tyrannized the credulous and made slaves of high and low, even in our own day of so-called enlightenment, and with mind thus cleared for action and merging with the flow of life, seeks therein a comprehension of mankind, in order to arrive at an outline of conservation, which, in its directness of purpose, may supersede the abominable wastage of humanity due to the prevailing confusion of ideas.

In one aspect the eye views an incredibly frantic industry, with no objective but to *sell,* and in another aspect—an inexorable reaction of the first—a steady decline in thought beyond the immediate frenzy, a terrifying inability to foresee the consequences of a thought or an act; or worse, a wanton and brutal disregard.

And while it is a fact that the thoughts here above set down arise immediately out of contemplation of the helplessness, the shabbiness, the ruthless debauchery of commercialized American architecture—which means death—the same thought reaches out over the world and crossing the wide waters arrives at Japan with its city of Tokyo, in which has been staged, as but yesterday, a startling tragedy of ideas, wherein the abstract has crumbled in universal ruin, while one *living* thought and living thing survives. This is what is involved in the significance of the statement that on the vast stage of the world-drama two ideas, both of them immense in power, confront each other in spectacular appeal to the fears and the courage of mankind.

The emergence, unharmed, of the Imperial Hotel, from the heartrending horrors of the Tokyo disaster, takes on, at once, momentous importance in the world of modern thought, as a triumph of the living and the real over the credulous, the fantastic, and the insane.

It emerges moreover before our gaze as an imposing upreared monument to the power of common sense; to that consummate common sense which perceives, comprehends, and grasps the so-called commonplace, the real, as distinct from the abstract; to that common sense which founds its logic upon the power inhering in nature's processes, when interpreted in terms of action, as affecting results; soundly scientific in foreseeing results; and which towards this end employs an accurate imagination. For it requires unusual imagination to see stone as stone, brick as brick, wood as wood, steel as steel, the earth as the earth and human beings as human beings.

We may call this power Inspiration if we please, and if we think the word sounds pleasanter than Philosophy. But

it is well to bear in mind that Inspiration is philosophy in its highest estate, and that true philosophy is systemized common sense in its finest human reach.

In planning the erection of a structure in a terrain habitually given to earthquake it would seem to be natural to regard earthquake—otherwise seismic disturbance—as a fundamental. For earthquakes are not imaginary or abstract or illusory; they are real—and at times calamitous. It would seem, therefore, to be but the part of common sense *not to invite destruction*. Yet such is the pervading American credulity, such its inability to think straight; such its impulsive acceptance of "go-gettism" and "pep" and "progress" and "enterprise" as substitutes for reflection and sound thought, and social responsibility, that it succeeded by sales-methods in imposing upon the Japanese, structures so childish, so absurd, so uncomprehending, as verily to invite destruction. When came the fateful hour they danced their dance of death. To be sure the Japanese themselves were credulous enough to take the bait of boosted land values, and multiplied areas; and in their cupidity were induced to hold the bag. When the time came they found the bag filled not with purring kittens, but with terrifying wildcats.

Prior to the American invasion, there had been an English invasion; and prior to the English, a German invasion, both invasions carrying with them the sophisticated credulity of European culture. Both of these alien cultures erected solid masonry buildings upon earthquake land. When the time came, these structures groaned, and buried their dead.

Now, further, Japanese society being heaviest at the top, it would seem but in keeping that its indigenous structures, designed in the native idiom, built on narrow and tortuous lanes, should also be topheavy. When the time came the flying heavy roof tiles did their share in the general slaughter, and as well the flimsy bridges and the flimsiness in general. Thus ruined Tokyo became the prey of conflagration. Thus death arose out of the temblor and spread forth its arms over Tokyo doomed by a false premise.

It may seem quite easy to draw conclusions after the fact. If you really think so, try your hand on the European war. Or, make a diagnosis of contemporary American architecture. Or attempt an analysis of the American mind, tracing its activities back to their common source. These are, all of them, matters after the fact.

We are now to deal with the reverse aspect of the problem. That is to say, with the primary assumption of earthquake and disaster, and how to forefend. Some five years prior to the now historic temblor a young man of fifty was called to Tokyo to consult as architect regarding the planning and construction of a great hotel to be called the "Imperial." This man, a poet, who had reduced thinking to simples, began his solution with the fixed fact of earthquakes as a basis and made an emotional study of their nature and movements. The second move was the resolve never to relax his grip on the basic fact of earthquake as a menace, and to devise a system of construction such as should absorb and dispose of the powerful shocks, waves and violent tremors, and yet maintain its integrity as a fabricated structure. It may be remarked in passing, that the quality and power of emotion dramatizes the power of thought; that the poet is he whose thought, thus enriched, imparts telling power to the simple and the obvious, bringing them into the field of vivid consciousness.

It is precisely this power of the poet to bring earthquake vividly into consciousness and hold it there, that distinguishes him, in this instance, from the uninspired engineer. The latter is an extremely useful person, wherever and whenever his formulas, his slide-rule, his tables and his precedents—to which he is a slave—apply. Within the limits of routine he may successfully vary his processes in application; and there his social value ends. The same, in substance, may be said of the uninspired practicing architect, except that the latter, in addition, is invertebrate. Wherever he

thinks with reasonable clearness, he approaches the engineer; but he is not a Yea-Sayer—he prefers to trim. Yet the great creative engineer—and there have been such—by virtue of clear eyesight, material realization, and the power to dream, is again the poet if he fail not in the human sense of beauty, even though he may not think so, and out of prudence may not say so. Yet he is essentially of the Yea-Sayers—and the Yea-Sayers are the great modern poets.

For many years I have contemplated man in his folly, and in his marvelous powers. But I never expected to live to read about a man who had attained to the dainty quintessence of asininity, by driving huge timber piles through sixty feet of Tokyo mud, to reach the solid underlying hard pan, and to set upon this system of piling, tightly bound to it, a high, extra-rigid, steel frame to serve as the supporting skeleton of a habitable building. Or was it not asininity at all but merely betting on a long chance? In any event the long chance became suddenly a short one. *The invitation to disaster* was instantaneously accepted. And if the asininity was real, it merged into the degenerate in its disregard of the human being. It was an even bet that the quake might obligingly come at night while the tall buildings were empty and asleep. Their shattered remains now tell a weird story, many chapters long, for the quake came at noon.

The architect of the Imperial Hotel, whose name by the way is Frank Lloyd Wright, a fact I should in all honor have mentioned earlier, had I not been so engrossed in an attempt to clothe in words the basic idea of my thesis—the most dangerous and destructive of all ideas—the idea of Credulity; this architect I say, whom I have known since his eighteenth year, and the workings of whose fine mind I believe I fairly follow, is possessed of a rare sense of the human, and an equally rare sense of Mother Earth, coupled with an apprehension of the material, so delicate as to border on the mystic, and yet remain coördinate with those facts we call real life. Such mind, sufficiently enriched by inner experiences as to become mellow in power, and reinforced by a strong tenacious will, is precisely the primary type of mind that resolves a problem into its simples, and out of these simples projects in thought a masterful solution, and in the process of transmuting thought into actual material fact, displays a virtuosity in the manipulation of the simples of technique.

I admit it is difficult for a mind academically trained and hence in large measure deprived of its freedom and its natural susceptibility, to grasp an idea so foreign to its heritage of tradition as is, necessarily so, the idea of *simples*. I go further and assert that such idea may be repugnant to such minds—may even alarm such minds—it is too disturbing in its ominous suggestion that thoughts may be living things—Now!—Here! The intrusion of Life upon such minds may indeed be disheartening. And the same statements may apply with equal force to the mind technically trained exclusively—the world of life shut out; and as well to the business mind, with its airy system of phantasies, its curious rules of the game, its pontifical utterances of the higher wisdom of mendacity, and its one, solid, credulous faith in the abstract notion, deeply cherished, that human life is and must ever be a battle, a struggle for existence, and thus believing render itself "the unfit" to analyze its own symptoms which predicate periodical collapse of the structure it has reared upon the soil of an earthquake thought. And yet, in contrast, the open mind which may have won its freedom through valor, going forth into the world of men and thoughts and things, discerns basic simples everywhere and in all things. To such mind the confusion of the world is no mystery.

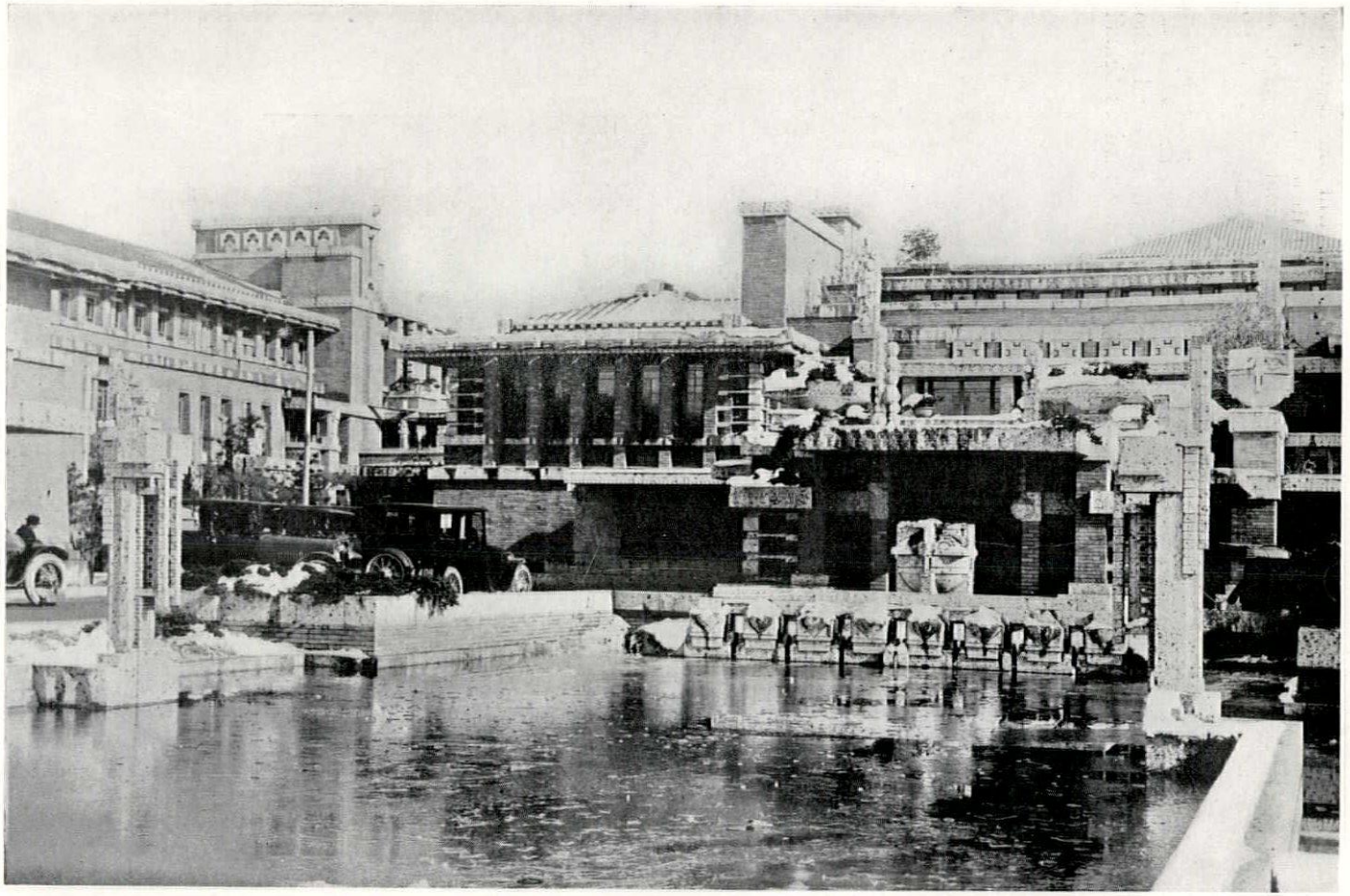
It is no part of my business here, nor of my intent, to go into the technical refinements, the subtleties of reaction, and the plastic sense of balance and free movement that enter into the structural theory and actuality of the Imperial Hotel. Mr. Wright may do this if he so sees fit. The vast, sumptuous building, in all its aspects: structural, utili-

tarian, and aesthetic, was the embodiment, and is now the revelation, of a single thought tenaciously held by a seer and a prophet, a craftsman, a master-builder.

This most significant architectural monument that the modern world can show, stands today uninjured because it was thought-built, so to stand. It was not and is not an imposition upon the Japanese, but a free will contribution to the finest elements of their culture. The fame of the building and its author is now world-wide; and we will let it go at that.

Meanwhile, I declare as my real business and my true intent herein, to be that of one of enquiring mind who seeks in this disaster the realities behind its terrifying mask.

IMPERIAL HOTEL, TOKYO, JAPAN
Frank Lloyd Wright, Architect







View after the earthquake and fire
IMPERIAL HOTEL, TOKYO, JAPAN
Frank Lloyd Wright, Architect

# IMPERIAL HOTEL, *Tokyo, Japan*

*By*

*Julius Floto, Structural Engineer*

*First came the shock without any previous signs of any kind. Rolled out of the house and ran to Imperial rear court. The ground there cracked and moved just like waves, and water sprang along the crevices; couldn't hold myself upright; watched the building; it shook like a little toy. Down came the restaurant across the street in the park, and fire broke out next moment. Taisko Kaikau restaurant across side street, roof flat on the ground.*

*Horror-striken people running to and fro, women weeping like little children With these sights on the street went to front of the building right after the shock ceased. Four stone figures fell, two of them along the pool sunk into ground as if nothing was there before. Cracks in wings along expansion joints bigger, a little than used to show with ordinary seismic action. Front hall, nothing; perforated lanterns on those tall piers, peaceful as ever.*

*Dining room, no damage. Temporary partition fell in parlor. Big corner piece of dining room showing cracks, but not serious. Theatre, nothing noticeable. Banquet hall on top as glorious as ever. Just when I was on this floor, up forty feet high above ground, slam-bang business came again with such horrible roar swept me off my feet to floor; tottering and uneasy came to post and sustained myself and watched.*

*Promenade, horizontal cracks in north half, but similar cracks used to be in south half. No signs showing of effect of shock.*

*So the Imperial has come through this test and she stands like the sun.*

*Extracts from a report to Frank Lloyd Wright by Enod San, Assistant to Mr. Wright during construction of the building. Dated September 8, 1923.*

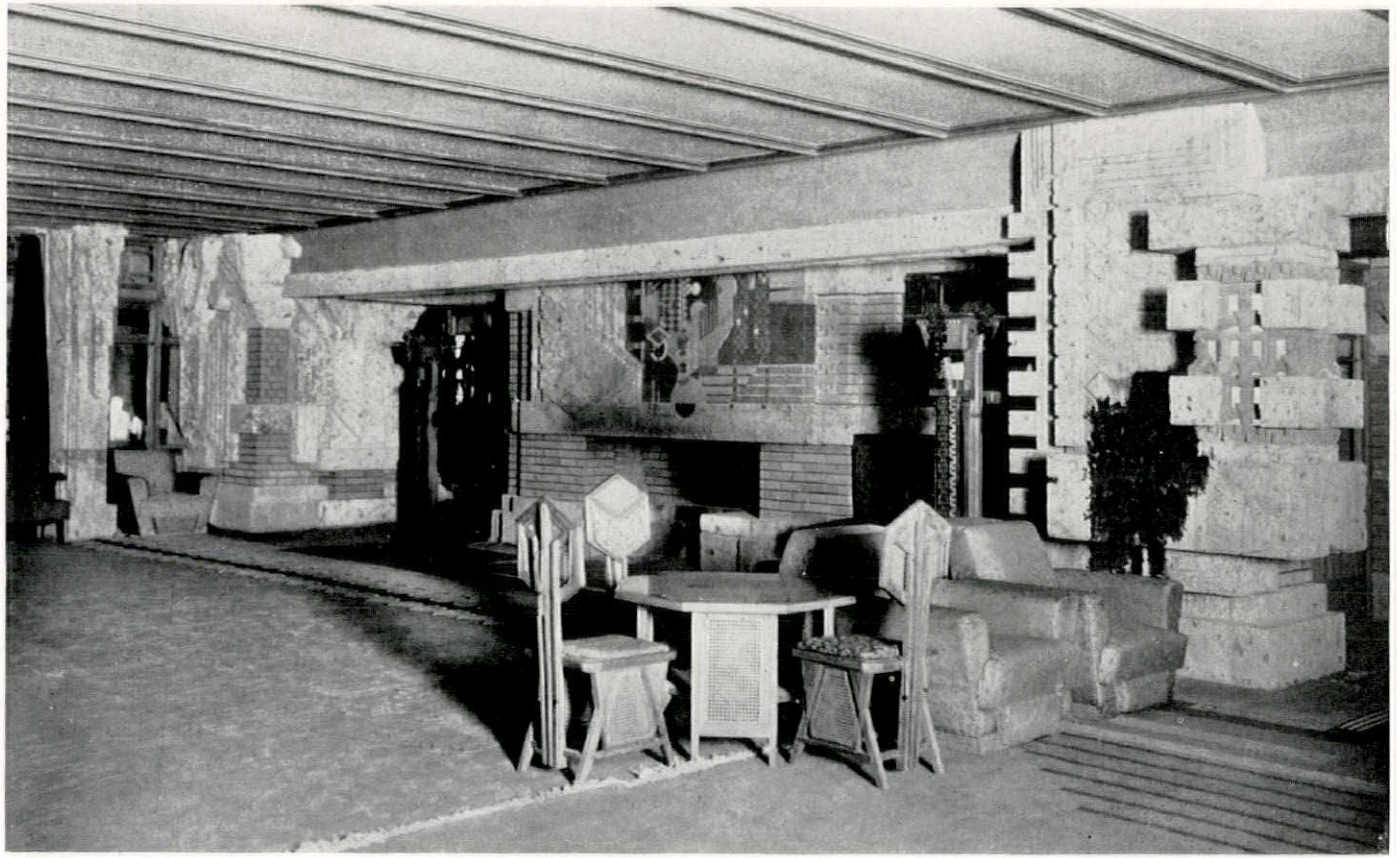
*"My friend, after the thrilling moments of the first quake, thought only of his wife and child in the Imperial Hotel, which he, being influenced by the comment he had so often heard, thought would be one mass of ruins. His surprise was as complete as his happiness to find, on his return, that the hotel had weathered the great temblor with no apparent damage.*

*"Behind the front of a truly fascinating design, most efficiently laid out, Mr. Wright had built better than his army of critics could foretell. This pile of stones, this wild dream of an American architect had met the test and stood better than any other building of its size in Tokyo. With the exception of the overturning of two stone pillars that had stood on either side of the lily pond in front of the hotel, three small cracks in the wall of the left wing, and a pillar of an outside pavilion in the rear undermined, there was no real damage—not a window broken, not a roof tile missing—nor could any serious weakening of the vital structure be seen."—Stanley E. Stady, in The American Contractor, December 29, 1923.*

*"The Pan-Pacific Information Bureau was in the basement of this hotel, and my secretary, Miss Satterthwaite, was at work at the time of the earthquake. Not a glass was broken, and ten minutes after the shock she returned to her work."—A. H. Ford, director of the Pan-Pacific Union, in a letter to* THE ARCHITECTURAL RECORD, *September 30, 1923.*

FRANK LLOYD WRIGHT'S Imperial Hotel stands practically uninjured after resisting the most severe seismic shocks, both in intensity and duration, the civilized world has ever recorded. Surrounded by ruins the Imperial stands, a symbol of progress and a lasting tribute to man's power in combating the elements. Since the beginning of time, the struggle for existence has raged. We have seen in our time the continents linked, bridges thrown across broad streams, cataracts harnessed to provide light and power, deep tubes bored into the earth for transportation, and we have seen the "conquest of the air." Yet the struggles go on to prove the limitless power of man. And the greatest of all is with earthquakes; for with the earthquake comes fire, the terror of terrors.

In the desolated area of Japan many a building withstood the quake only to be



*The Architectural Record* *February*, 1924

Parlor off Main Promenade

IMPERIAL HOTEL, TOKYO, JAPAN

Frank Lloyd Wright, Architect

*For additional photographs and floor plans of the Imperial Hotel, see The Architectural Record, April*, 1923

destroyed by fire. In a modern city in the seismic zone the elements of danger are manifold, for not only must the framework of its buildings be constructed to resist shocks but its utilities must be safeguarded against leakage. Gas mains and electric conduits are great sources of danger.

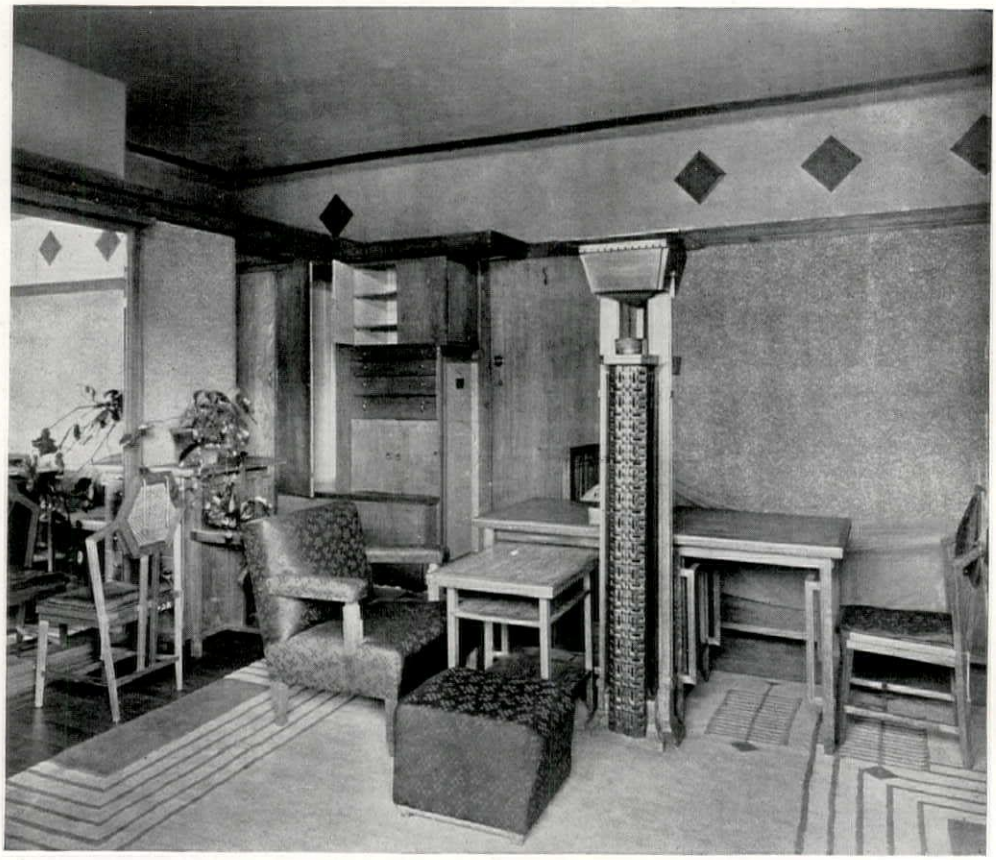
Writing from the scene of disaster ten days after the quake, an eye witness says, "The ground cracked and moved just like waves and water sprang along the crevices. Down came the restaurant across the street and fire broke out next moment."

From this observation it is apparent that the ground movement during a temblor is of such nature that any rigid object within the affected area must sway with the movement or be demolished. Yet from an engineering point of view this prime element of safety is entirely overlooked in the design of masonry buildings where the load above the ground level is far in excess of the foundations and in steel skeleton types of buildings where loads of the heavy structure are carried down by columns to piles which pin them directly to the rock formation below. The earth movement during a quake convinces us that nothing short of a monolithic mass resting on a soft flexible cushion can possibly successfully resist a severe earthquake shock.

In the light of these remarks, we will first consider the soil upon which the Imperial Hotel rests before going into a more detailed presentation of the structural features of the building itself. The city of Tokyo rests on what was formerly the bed of a lake, leaving a mud pan apparently 60 feet thick, resting in turn on volcanic rock. Here was a condition most favorable for building in an area where earthquakes are common, and here it was possible by the use of spread or floating foundations to take advantage of this mud cushion between the solid earth and the building above. The situation was grasped quickly by the architect of the Imperial, and as a result the building was designed on a floating foundation, carefully proportioned to the superimposed loads. On the other hand many of the taller buildings were supported on piles some 60 feet long, carried down to rock or solid earth. These piles, tying the heavy superstructure of the taller buildings to the solid earth below, transmitted the full intensity of shocks. The architect of the Imperial, however, was not content to take advantage of the soil condition alone by using a floating foundation, but employed, as well, a device intended to take the side movement, consisting of short piles placed under the footing slabs, 8 inches in diameter, 8 feet long, and approximately 2 feet c. to c. These piles were made of concrete by filling a bored or driven hole with a ready mix before it could fill with water from below. When we consider that beneath the foundation extends a mud soil getting softer with every foot of depth, it is apparent that the duty of these stub piles is other than one of support.

The fundamental success of the Imperial lies in the selection of a floating foundation. Another important factor worthy of mention as emphasizing the care and attention that every portion of the building was given during construction, to maintain an equilibrium of superimposed loads and footings, was the flexibility of the footings themselves, which could be enlarged as additions were made during the erection of the building calling for increased loads at certain points above.

In considering the superstructure of the hotel, we shall see other elements of strength which undoubtedly aided materially in its preservation. The main bearing walls were built by laying up an outer and inner shell of brick, filling in between, as the work progressed, with concrete and laying reinforcing steel into this concrete, thus making exceedingly strong monolithic walls. This principle of building a shell of the facing material and filling in behind with concrete was further applied to the lava stone facing which was used throughout the interior and exterior treatment. This lava or Oya stone was hollowed with stone hammers in a re-entering way, much as a dentist will hollow out a tooth to hold the filling.



Typical Bedroom
IMPERIAL HOTEL, TOKYO, JAPAN
Frank Lloyd Wright, Architect

Laying up the walls with an inner and outer shell made it possible also to control wall thicknesses and carry out the principle of low center of gravity, making the structures less vulnerable to horizontal forces. By tapering the walls from a comparatively great width at the bottom to an allowable minimum at the top, the center of gravity was low, and by abandoning the use of heavy roof tile and substituting a light copper covering, this principle was successfully applied.

The interior of the building, its girders, beams, floor slabs and posts are of reinforced concrete and were originally designed by the writer in accord with the standard of the building code of the city of Chicago. This gave rather heavier members than Mr. Wright thought necessary and he continually chafed under what he called the "excessive legal requirements" and the "factor of safety," often using for the latter the time-worn pleasantry of "factor of ignorance." He tells me now that, in building, my computations were disregarded and that much lighter sections were everywhere substituted, making in effect a design which eliminated all the strength usually provided for the live loads. In this connection, the writer would like to comment that this reduction was entirely logical, especially in view of the fact that the building operations were carried on under efficient superintendence and by careful and docile workmen. The latter fact alone would make up much for lightening of design. Many engineers agree that the live load requirements of our building codes are too severe in all classes of buildings except, of course, warehouses. Millions of dollars are wasted

annually on this account, and "factor of ignorance" assumes its literal meaning, for it enables the incompetent to build and be, in spite of inaccuracies of design, within the limits of safety. It also enables avaricious contractors to skin the design of the competent without fear of resulting failures. Is it not time that our ordinances were amended so that the owners willing to engage competent architects and engineers will no longer be penalized by these unjust requirements?

Leaving this matter to be discussed elsewhere, let us return to the hotel. Here is a building designed with flying cornices, balconies and porches, with magical shadow effect of light and shade such as Mr. Wright's school delights in, necessitating nearly every variation that is possible in concrete construction. Free cantilevers supported from two directions forming a flying roof in some corner, balconies projecting from walls without apparent counterbalance, beamed ceilings with pre-cast inserts, floor slabs and beams in endless variety, all were designed according to the best engineering practice into monolithic units of about 60 foot length separated by expansion joints.

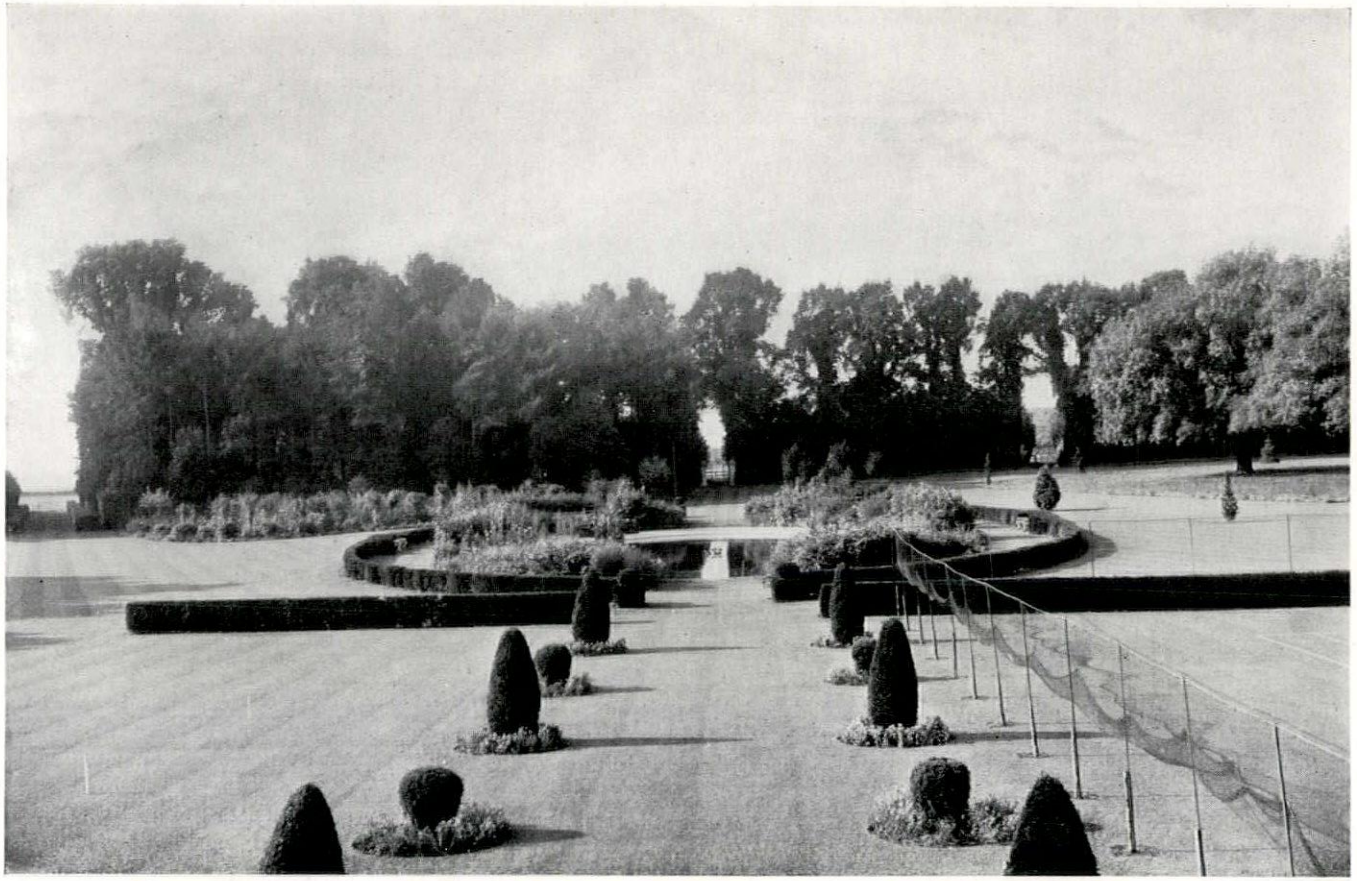
Readers of earlier articles in THE RECORD and elsewhere will recall that emphasis has been placed on the use of the cantilever principle in the construction of the hotel as though this were something apart and novel. Those familiar with the theory of reinforced concrete construction understand that in every monolithic design this principle necessarily is employed. Each continuous slab hides at its support a cantilever. The mushroom floor systems all are of this type. To be sure, the hotel had many cantilevers free at one end, forming projections and making the construction apparent to the layman, but in no other respect does or can it differ from any of the more true examples of reinforced concrete work. The design of the Imperial does, however, give the standard form of construction interest and ingenious decorative expression, which makes it appear new by virtue of the originality of architectural design.

The writer saw Mr. Wright only recently and listened to a story that was as dramatic as it was interesting. The tale of the building of the Imperial would rank with any in fiction. It is worthy of a pen like Kipling's. Apart from its art the hotel is most noteworthy for standing up under the shocks of the severest of quakes, and this fact has raised it and its master builder to a prominence probably never achieved before.

Aside from purely structural features that were factors in the preservation of the hotel, it should be mentioned that all pipes and conduits are of lead and curve with liberal radii from vertical to horizontal. The building, too, is bordered on all sides by streets and liberal park spaces, and its courts are provided with pools in case of fire emergencies.

The structural lesson of the earthquake as written in the Imperial Hotel is plain: strict adherence to basic principles of construction is the prime requisite; elasticity and resilience are as important as mere strength; a low center of gravity, as in a ship, makes for stability; conscientious workmanship is in itself a great factor of safety; balanced design of foundations more than their relative strength makes for stability.

Here we find an unexampled definiteness of planning and construction. The Imperial stands with not a single occupant injured and showing no greater damage than slight cracks that would appear as shrinkage cracks at any other time.





THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND
Thomas H. Mawson & Sons, Landscape Architects

# WOOLLEY HALL, MAIDENHEAD

## The ENGLISH HOME of WALTER H COTTINGHAM, ESQ.

By
Thomas H. Mawson, F.L.S.

DURING THE LAST twenty years many heads of large American industrial concerns with European connections, have taken to spending a definite part of each year in England, acquiring places of residence, usually within convenient reach of London.

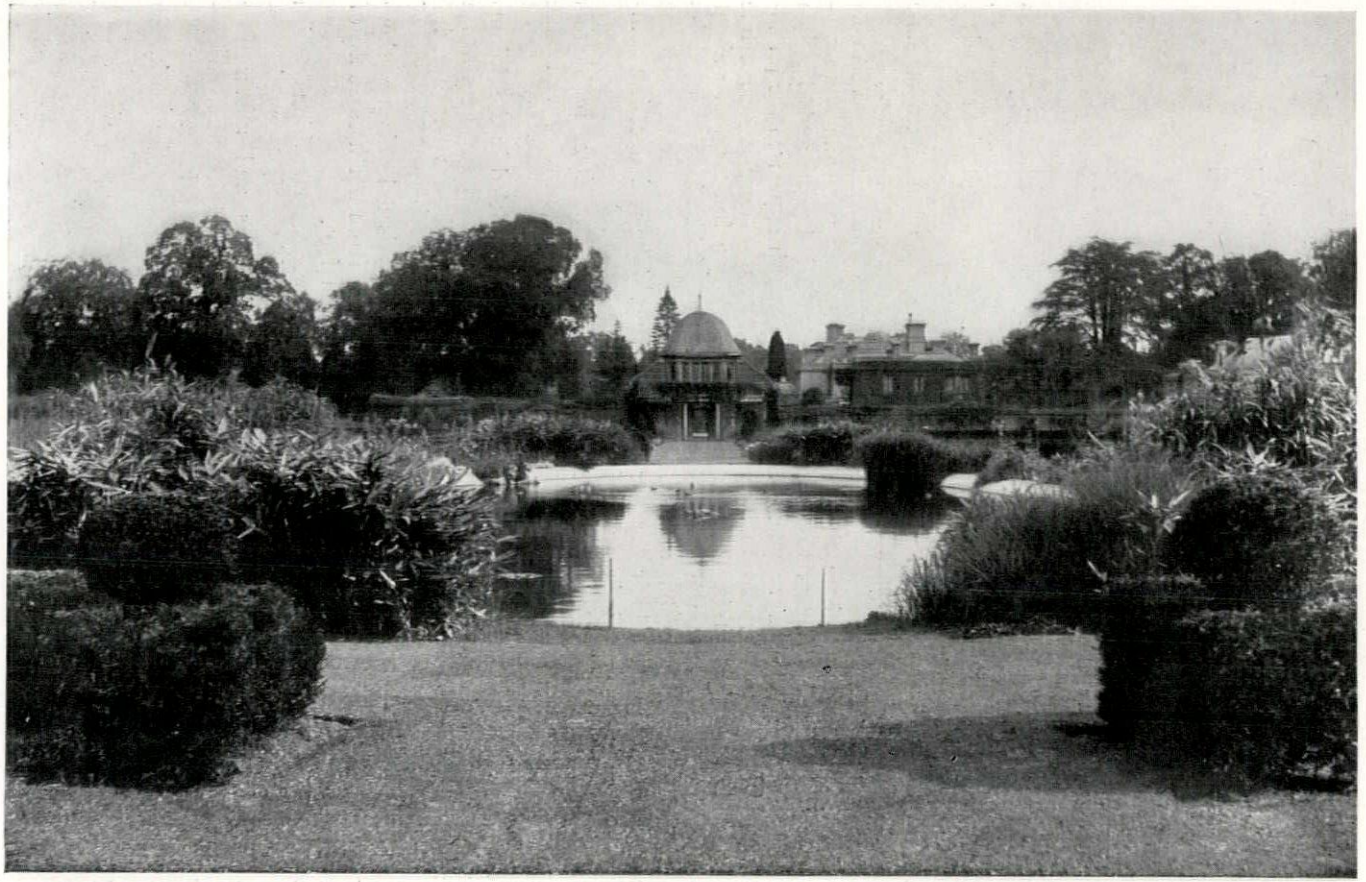
One of these is Walter Cottingham, the President of the Sherwin-Williams Co., which has its ramifications in every part of the globe, controlling many old and new established businesses within their business combine. In England, the firm acquired the very old established business of Berger Lewis & Co., of which Mr. Cottingham is Chairman, or as it is usually designated in America, the President. This important concern made so great a demand on the chairman's energies that a convenient place of residence became imperative, and on the advice of his friend Lord Waring, he purchased Woolley Hall, near Maidenhead, on the Great Bath Road. This choice our client has never regretted: indeed it may with truth be stated that on every visit he becomes more and more charmed with his property, which is most conveniently situated in relation to road and rail service to London, and yet it is in the very heart of rural England. It is on the edge of the great Common made famous as the rendezvous of our most notorious and picturesque highwaymen.

The estate, which extends to many hundreds of acres, consists of slightly undulating meadows and woodland. A large part of it is given up to the home farm, with model farm buildings and bailiffs' residences. The remainder is devoted to the residence, gardens and home policies.

As originally purchased, the gardens consisted of spacious lawns, pinetums, shrubberies, a walled-in kitchen garden, quite close to the house, intersected by a carriage avenue and winding walks. The great feature of the gardens was the glory of its trees, some of which are veritable giants. This applies particularly to several specimens of beech and English elms, some of which appear in the photograph illustrations. There is also a fine pinetum planted by a former owner about fifty years ago. This feature occupies the ground between the drive and the south boundary. The residence is a comfortable looking building, also a good example of Victorian architecture. To this residence additions were made, whilst the interior was in a great measure gutted and successfully remodeled in the Adams period. The stables and garage form a very fine block of buildings which called for very little improvement. The site of house and gardens is a level one, there being a cross fall from north to south of no more than ten feet.

The above were the conditions which were the controlling factors, imposing certain difficulties and not a little study, for the original intention of retaining every noteworthy feature was rigidly adhered to throughout the work. In short our problem was to merge into that which was "fixed and abiding" an added beauty, a greater convenience of parts to the whole, increased recreational facilities, and a more workable arrangement of the utilitarian departments of the plan.

The first point to observe is that a public footpath ran along the main south boundary, which called for protective





THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND
Thomas H. Mawson & Sons, Landscape Architects

THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND
Thomas H. Mawson & Sons, Landscape Architects

plantations. These in reality are not quite so formless as the plan suggests. In the same way massed plantations have been introduced as a protection against the model farm, which is now completely hidden from the house and grounds.

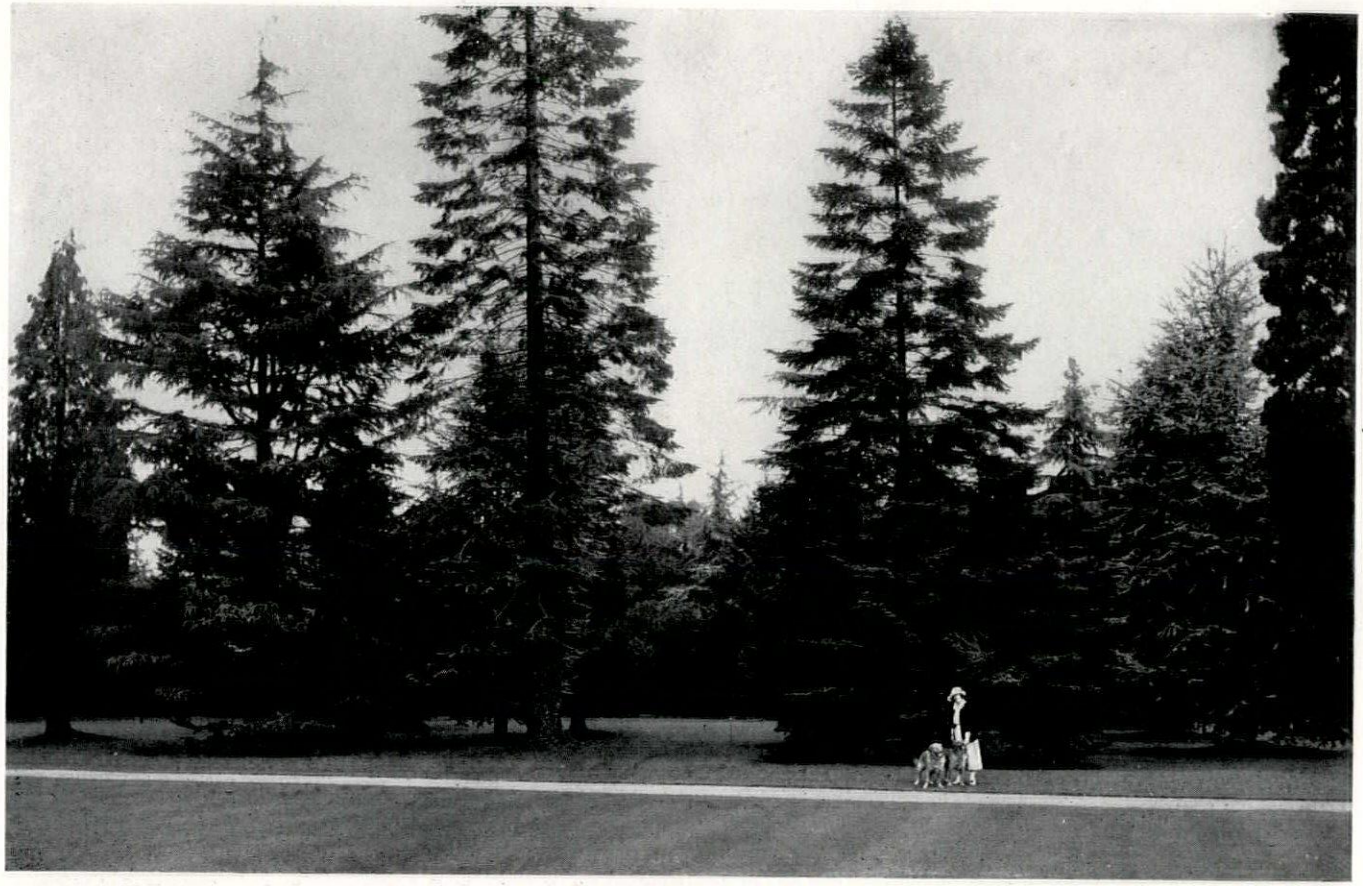
The main entrance from the Bath Road, although included in our original designs, has been almost the last work carried out. Later we hope the gardener's lodge inside the gateway, will be rebuilt to harmonize with the new entrance. Both the gate piers and wing walls are in Portland and Bath stone, which latter is of a soft orange color like the house. The wrought ironwork made to our details, is by Messrs. Ramsay of Westminster, whose craftsmanship is well known in the States.

The pinetum as seen from the driveway discloses some fine specimens of P. Nobilis and P. Nordmanniana and also the Blue Cedars, which are amongst the finest in the country. Originally the ground was occupied by low growing shrubs which gave a very ragged effect to the garden as a whole. These were removed and the ground converted into green lawns.

The photographs show the progress so far made in the development of this very interesting property. Of course we have had to compromise at every turn, and have had to fit and adapt our ideas in such a way as to give the greatest value to existing features, but there is great satisfaction in this because the retention of fine old timber, (even when it may be argued that it is in the wrong place), gives that aspect of antiquity which is one of the great charms of many English gardens.

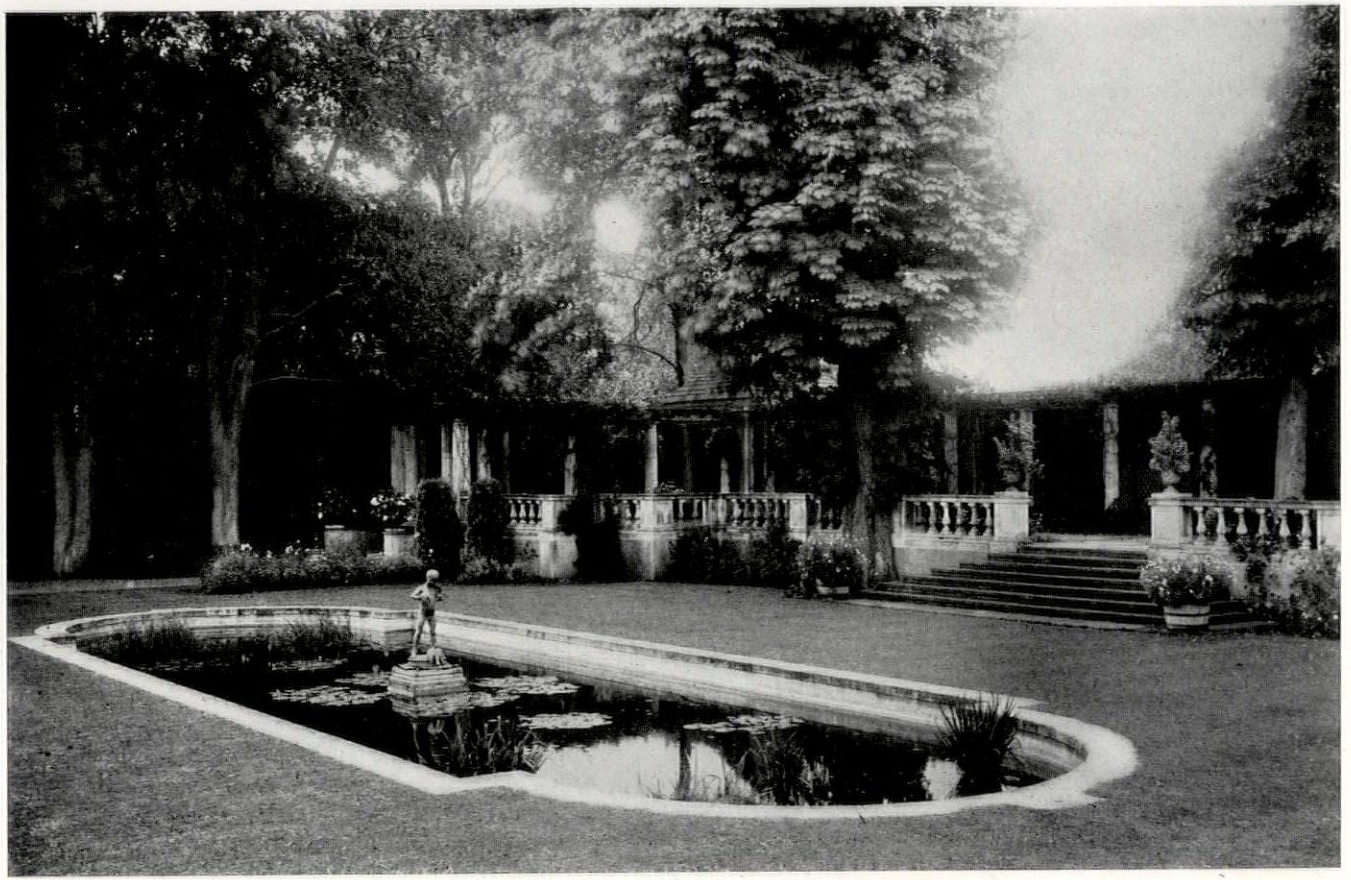
Our task at Woolley Hall is not yet fully accomplished. The kitchen garden and conservatories need reconstructing, the orchard shown on the plan is not yet planted, nor is the open air theatre laid out.

Certain points in the garden need the note of emphasis which carefully placed and well designed sculpture imparts. Then again in a rainy climate like that of England, shelters are needed at distant points, but all these matters are receiving





THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND
Thomas H. Mawson & Sons, Landscape Architects





THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND
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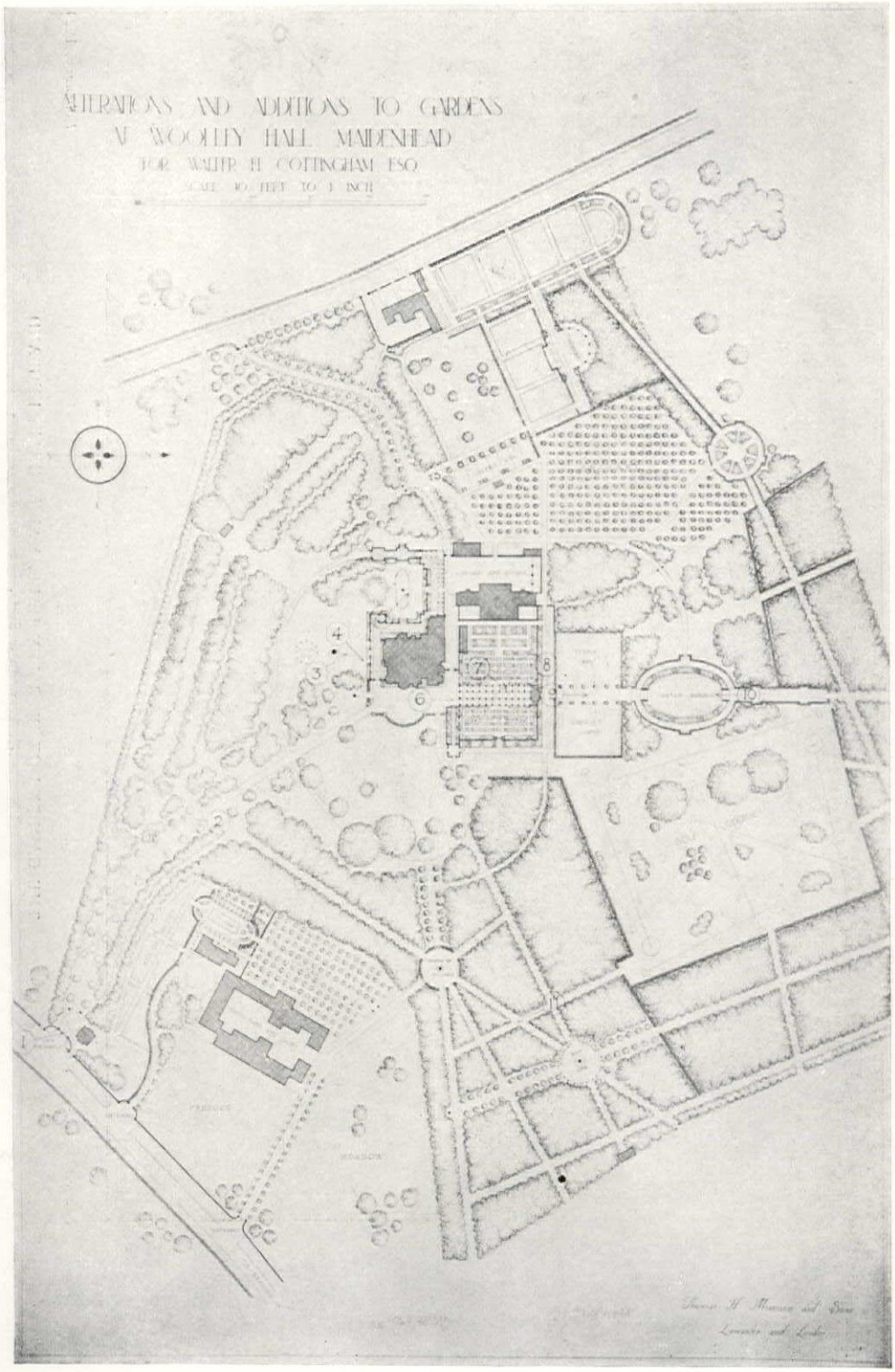
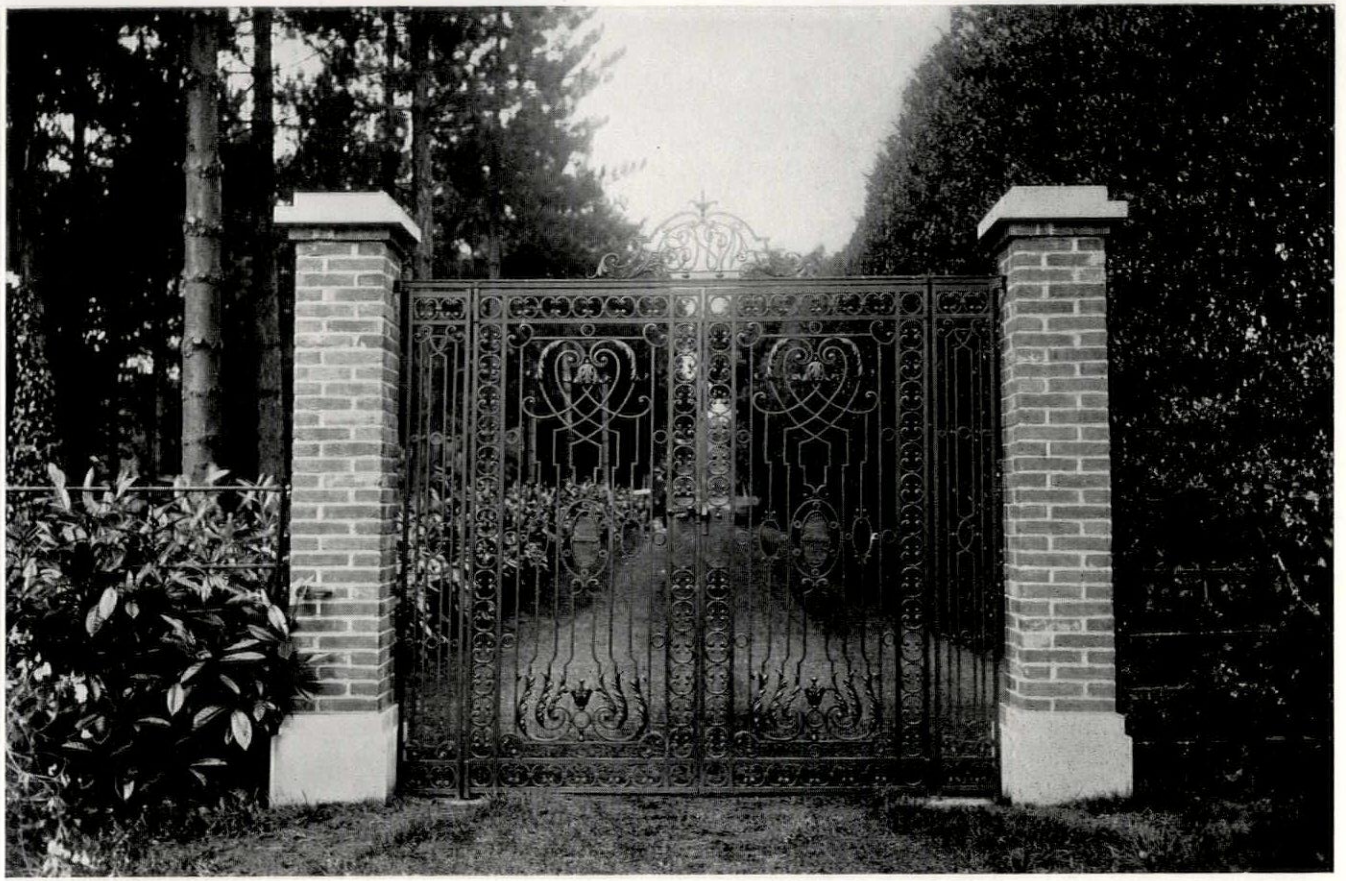

ALTERATIONS AND ADDITIONS TO GARDENS
AT WOOLLEY HALL MAIDENHEAD
FOR WALTER H COTTINGHAM ESQ
SCALE 10 FEET TO 1 INCH



THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND
Thomas H. Mawson & Sons, Landscape Architects





THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND

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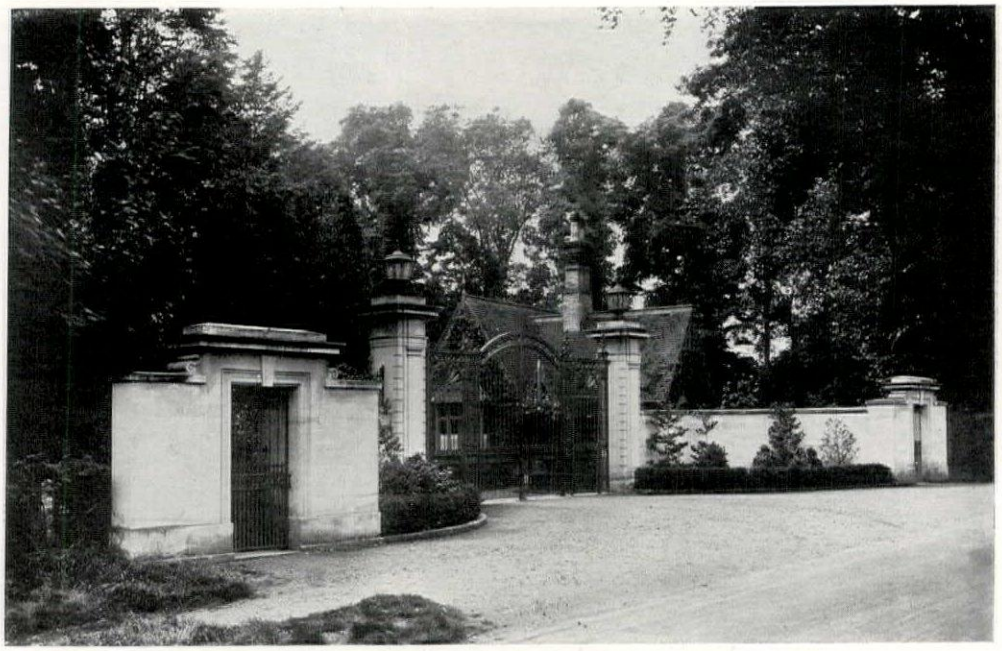


THE GARDENS OF WOOLLEY HALL, MAIDENHEAD, ENGLAND
Thomas H. Mawson & Sons, Landscape Architects

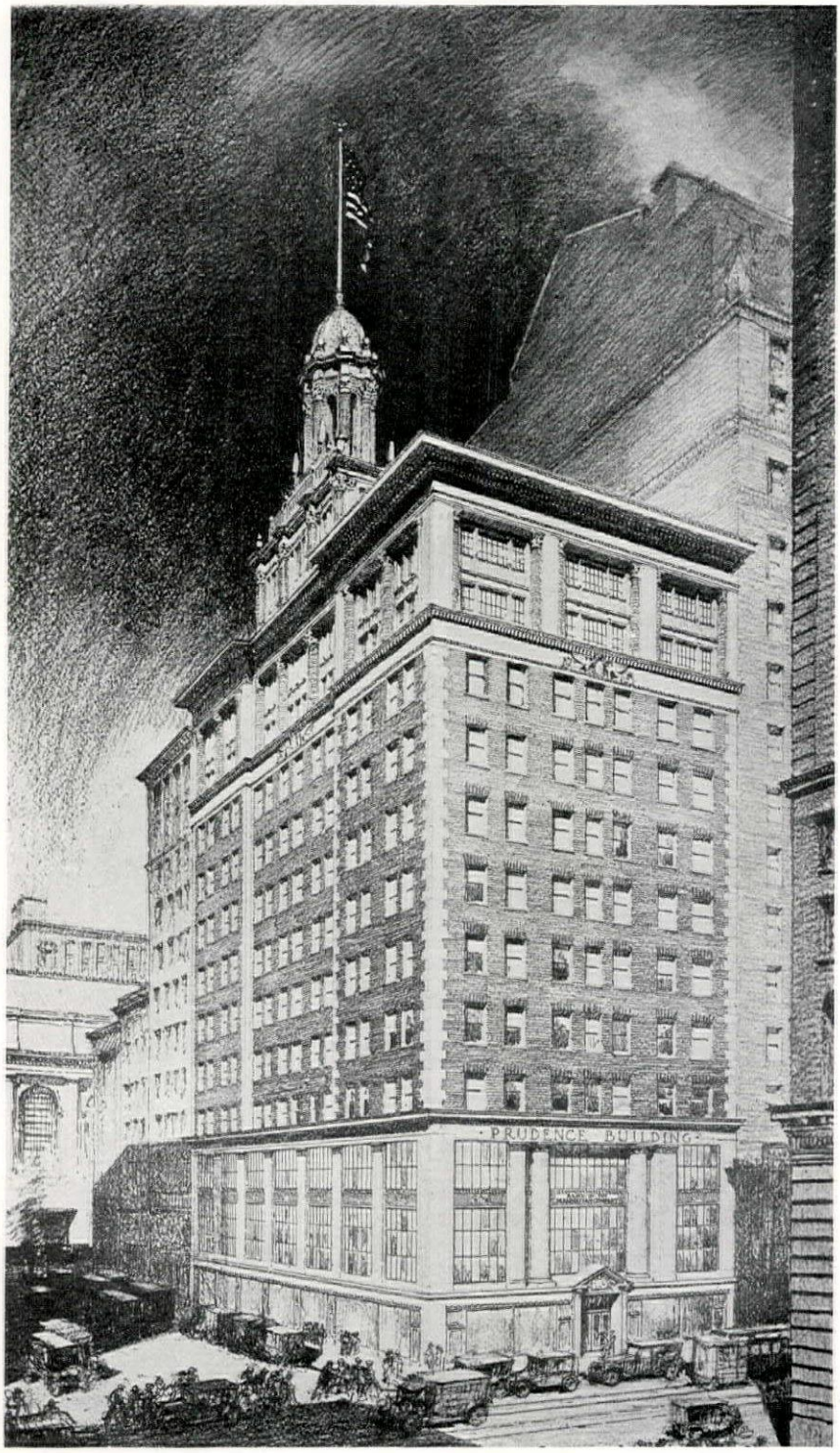
attention, and there is every prospect that year by year the evolution of the gardens at Woolley Hall will add new interest to a domain already known and loved by large numbers of English and American friends of the owner.

# *The* PASSING OF THE SKYSCRAPER FORMULA *for* DESIGN

*By Leon V. Solon*

THE POPULAR DEFINITION of "Architecture," frequently accepted as currency, is "the artistic expression of structure." By the majority this is conceded to comprise the main function of the art. The general accuracy of this view cannot be gainsaid, but our interest for the moment is to determine whether an esthetic interpretation of structure is the major objective in architectural composition; and if we should estimate the artistic value of unprecedented modes of architectural design, on the basis of their capacity for structural expression; also whether we may appraise certain individual phases of American architecture which depart from the classic, from the same standpoint. In considering the future of American architecture, it is necessary to determine the esthetic relation of design and construction. In former ages the mechanics of construction adapted themselves naturally to expression in artistic terms; there were no contradictory conditions, as they all appertained to the tensile strength of like materials employed in building, involving the simple calculation of height to width, controlled by the margin of safety. Similarity in the character of structural materials, so far as weight and resistance were concerned, was productive of certain proportional relations in design to which the eye became accustomed, which were, in course of time, identified with the expression of artistic feeling rather than with their actual source. Now, the inherent strength of stone or brick no longer restricts the height of a wall in proportion to the width of its base; the steel frame has long rendered such calculation obsolete. Our critical faculty has been developed upon standards which possess historic association; the functions of those standards in modern problems is purely sentimental. To what extent should such standards determine esthetic possibilities in modern problems with which they have merely a traditional relation? Taste is a reflection of the individual's judgment in imaginative selection; in architecture, the standards of taste are based upon types of artistic expression which evolved through intensely practical problems concerning the gravitational force of materials of definite weights. In the architectural forms which resulted, our imagination, through force of unquestioning habit, now identifies the architectural feature with its architectonic function, regarding the former as "typical" of the latter. With the advent of the steel frame as the structural means for all that is most important in American architecture, and the consequent alteration in the original mathematical relation of structure to design, are we not confronted with the complex problem of purging the imagination of those automatic optical associations which we have inherited from a bygone condition? The practice of leaning upon tradition in questions of taste, has caused us habitually to accept certain architectural features as symbolic of the function which they were originally created to perform; our analytical sense has become so torpid that we assume a structural condition provided for, if the architectural symbol be logically placed.

When the engineer posed the greatest of all architectural problems to American architects, the shock was entirely without artistic anticipation. In the dire necessity for clothing this unsightly monster, architecture flew to tradition, and hurriedly de-






PERSPECTIVE OF PRUDENCE BUILDING, NEW YORK CITY.

Severance & Van Alen, Architects.

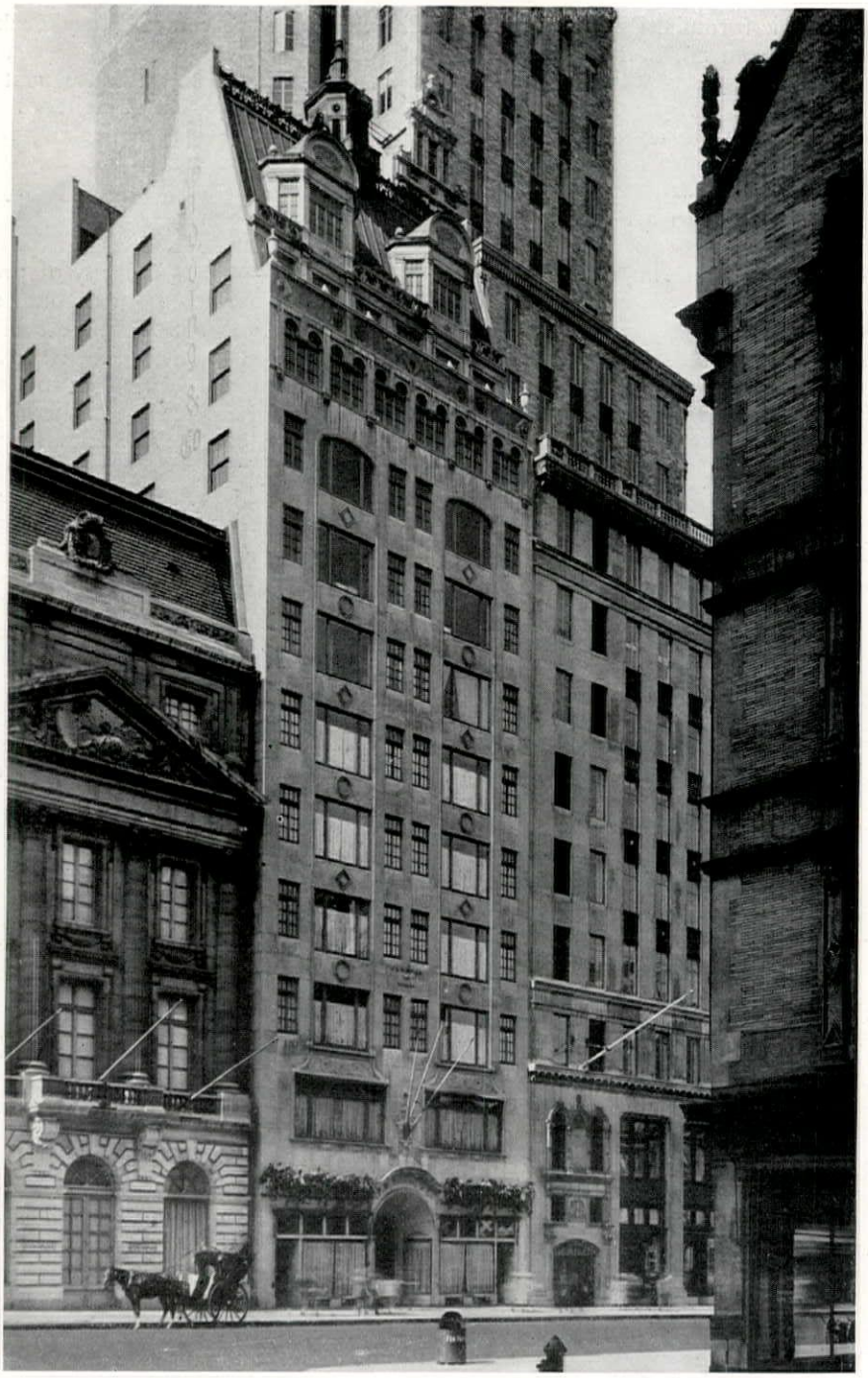
vised an artistic formula. But the formula was in direct contradiction to the basic axiom of the art—that design must reveal structure artistically. It was felt that the mere sacrifice of an axiom was a trifle, as compared with the necessity of hiding a method of structure which was without a parent in an art of pedigrees.

Those architectural conventions which influence our visual impressions and artistic judgment, have all originated in structural necessities, which were encountered as normal problems previous to the introduction of steel; the activity of the art depended primarily upon mathematics for those premises which assured stability; mathematics still furnish the premises for structure, but the present quantities have no relation to the original calculation. Proportional relations, as we appreciate them in the historic styles, embody in great measure the artistic solution of dynamic problems in building, and have survived by reason of their thorough adequacy in coping with incidental phenomena; when they cease to be logical, because of their inapplicability to actual conditions, they are doomed; American design is seething with insurgency, seeking to establish new proportional standards and forms of articulation, which will admit the steel frame as a palpable fact and a controlling factor in design.

The typical skyscraper design was the outcome of a very definite artistic argument (based upon fraud), which determined its articulation. It was assumed that the structural mass should consist of some form of base, the main body of the building, and an ornamental terminal. This resolved itself into a proposition of suspended weight, its architectural support, and an embellishment to top all. The orders in their various guises were the accepted emblems for architectural support, and it was assumed that nothing could be devised to furnish the imaginative requirement more completely. The wide variance in the proportion of the main body of the building from all accepted types seemed to demand the elimination of any possible interest from that part that might attract the eye to a feature considered abnormal. The result in effect was a contradictory weakening of the base, through the large areas of its penetrations, and a consequent increase in the apparent weight of the superimposed mass. The shocking effect of cornices which appeared in many cases around one side of the building only, is too familiar to discuss.

By some strange species of professional prudery, or that tenacity of precedent which constituted the architectural insurance against bad form, structural steel, when used as a concealed support, was considered the equivalent of malpractice. For the first time in the history of architecture, a deliberate line of separation was drawn between construction and artistic effect, with the deliberate intent to create an impression which would deceive the observer as to actual circumstances. The effort to maintain traditional impressions in the solution of the high building involved architectural design in serious complications, affecting elemental points of view and the logic of procedure. In every type of architectural expression which preceded the introduction of structural steel, design and construction were inseparable, each in a measure a consequence of the other. Their sudden separation, with the creation of the new method, was responsible for the vogue of the structural emblem; for when it was considered expedient to fabricate an artificial impression of structural support, the eye demanded an imaginative equivalent, and architecture descended to the subterfuge of devising scenery.

We are now arriving at a stage in progress at which an imperative need is recognized for the complete readjustment of architectural calculation, and the establishment of new optical standards in effect. We are about to bid a glad farewell to the standard formula for the skyscraper design, with its Graeco-Roman or Byzantine feet, its geometrically punctured torso, and its Renaissance topgear. With the inevitable revision in optical standards, many architectural extravaganzas which the formula brought about, will be sources of professional wonder; and it is probable that the busi-





J. M. GIDDING & COMPANY BUILDING, NEW YORK CITY.

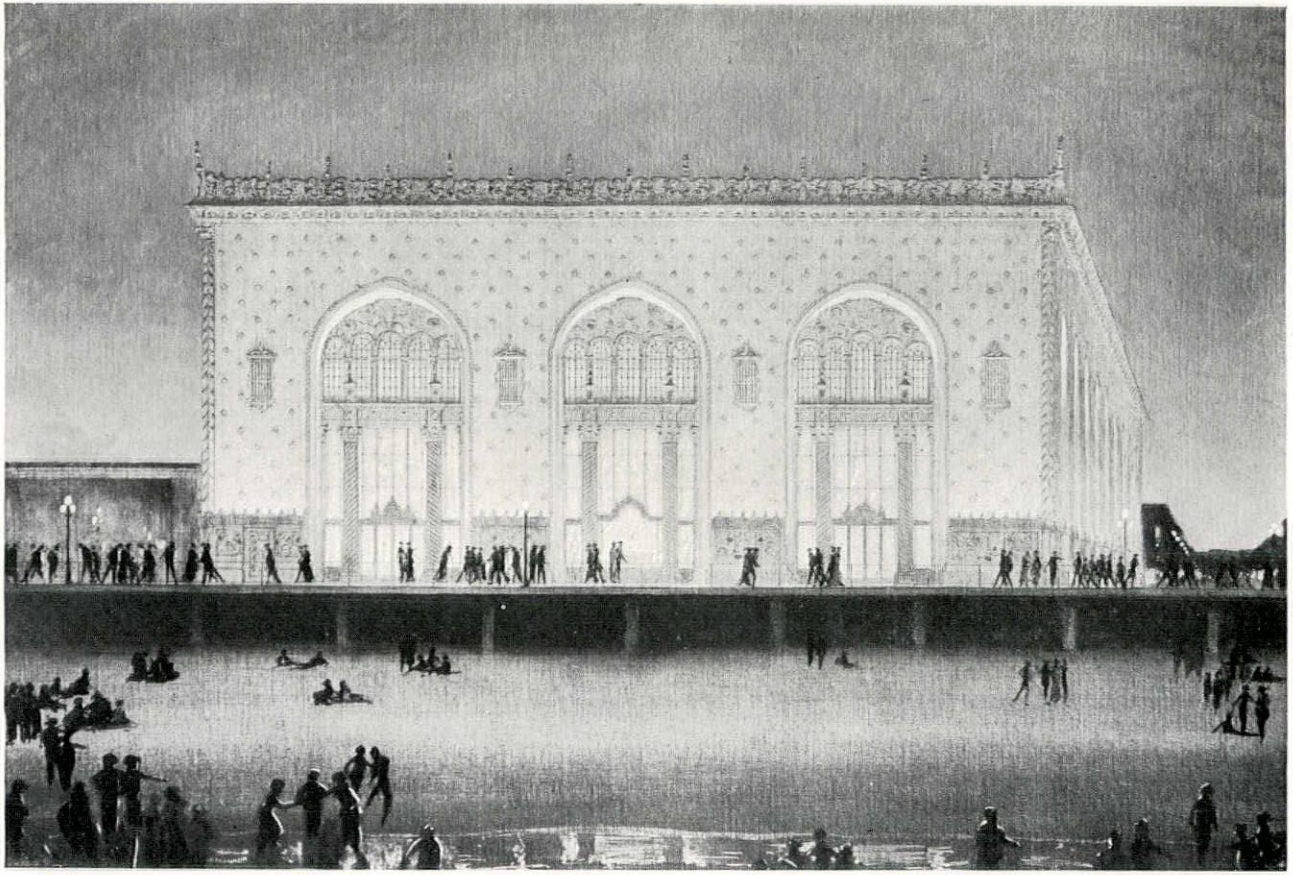
Severance & Van Alen, Architects.


ENTRANCE DETAIL—J. M. GIDDING & COMPANY BUILDING, NEW YORK CITY.
Severance & Van Alen, Architects.

ness-like mezzanine windows which make the best of so many classic porticos, will be classed with the architectural indigestions of other periods.

The fundamental of an adequate solution, must be the recognition of the steel frame in design, as the structural factor of which we are intuitively cognizant in the contemplation of modern American architecture. We are so aware of this structural means, that our imagination is most activated by its presence, in precisely those buildings of the formula type which now energetically deny its existence. An end must be put to a phase of artistic activity which aims to perpetrate an optical fraud, particularly when it has involved its practitioners in a maze of contradiction without artistic compensation.

Among those architects who show the greatest energy in shaking off the shackles of purposeless convention are Severance and Van Alen. The designer of the firm, William Van Alen, started in practice with a high saturation in Beaux-Arts tradition; he demonstrates the value of classic study as imaginative ballast, when individual points of view rebel against standard solutions for architectural problems. On his return from Paris he began to experience the urge to solve these complexities and architectural contradictions which had evolved with American structural methods; it was then that the admirable training of the Beaux-Arts asserted itself in his conception of planning, and in a hypersensitive feeling for ornamental scale. The incongruities in design which arise through ignoring the steel frame, seemed to offer the most promising field for imaginative effort, and he threw himself energetically into a careful and logical analysis of conditions. He determined that the recognition of engineering was no barrier to the realization of structural interest; and that design must state conditions as they





SKETCH FOR RESTAURANT AT CONEY ISLAND, NEW YORK CITY.

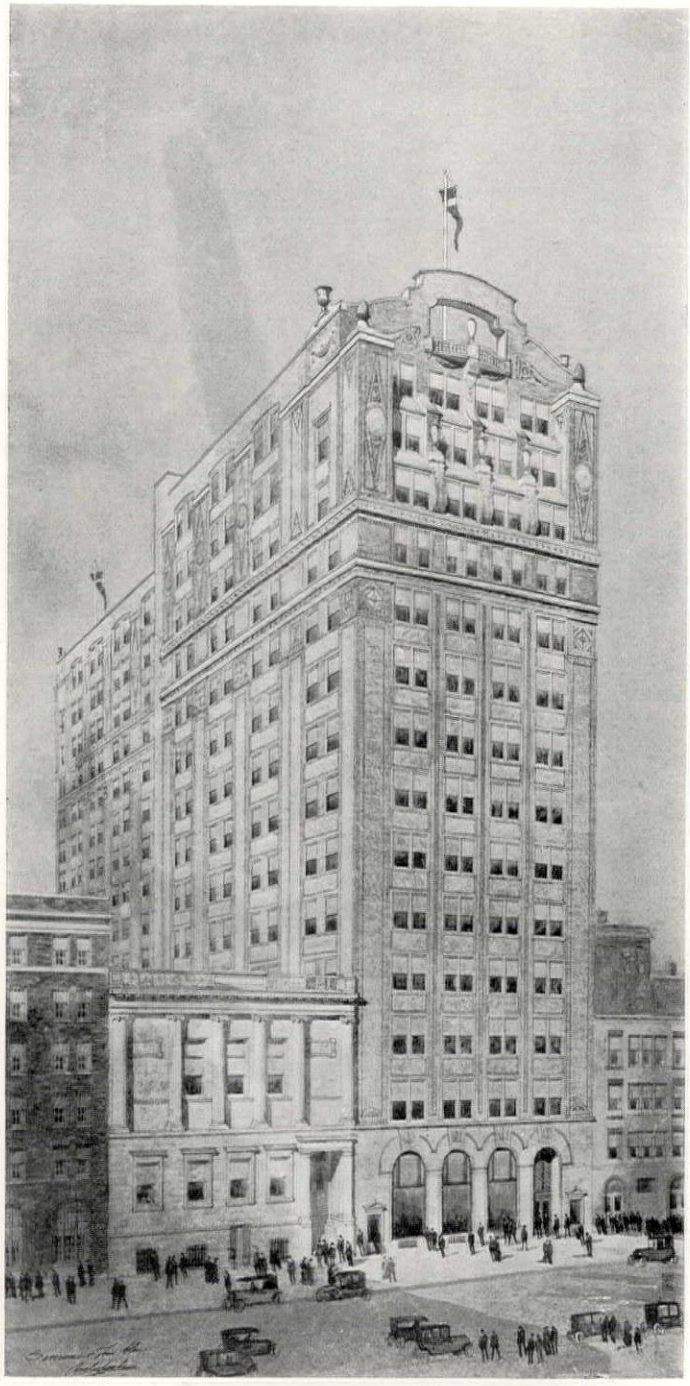
Severance & Van Alen, Architects.

ENTRANCE DETAIL—BAINBRIDGE BUILDING, NEW YORK CITY.
Severance & Van Alen, Architects.

are, without decorative subterfuge; namely, a metal skeleton with a veneer of structural material. All misleading impressions were carefully avoided; his aim was to convey to the observer, that walls are merely the enclosures of the steel subdivisions, and that there was no necessity for pretending that the lower part of the walls are responsible for the support of the upper. The deep embrasures which are contrived in the standard solution, with the purpose of giving the building a fortress-like rigidity, were abandoned as deceptive and superfluous, and the minimum reveal designed for openings on all floors, which reacts curiously upon the imagination, as we become conscious of the rigid and enduring strength of the frame. This deliberate intention to lighten the walls was in complete opposition to the standard solution, which attempted by every means to give them the maximum appearance of substantiality, regardless of the fact that they were actually *supported* features in the structural system, *not* the supporters. The impression thus contrived brought a natural consequence in the treatment of ornamentation; as the walls had to appear as thin as possible, to reduce their weight upon



BAINBRIDGE BUILDING, NEW YORK CITY.
Severance & Van Alen, Architects.



*The Architectural Record* *February*, 1924

PERSPECTIVE OF BAR BUILDING, NEW YORK CITY.

Severance & Van Alen, Architects.

the steel frame, heavy sculptural ornamentation would have been illogical; he devised a type of ornamental treatment which clearly showed that the thinness of the stone veneer controlled relief. In this feature we gain another reflex impression of strength—the strength of the rigid frame, through the entire absence of intention to endow the stone with a predominant structural significance. His solution of this architectural problem is most satisfying by reason of the sound logic of his premises, the accurate surmise of imaginative reaction, and the skill with which he states convictions in artistic terms.

In his last design for a business building on West 57th Street, New York, which we reproduce, we see an admirable solution of the great American problem; despite its deliberate lightness in treatment there is no sense of structural inadequacy; on the contrary, we are conscious of the presence of a structural factor of extreme rigidity and homogeneity, in the structural mass; it is a most interesting study in architectural reactions of an unprecedented order.

In studying the fenestration of this façade we can appreciate the enormous advantages which are offered when the high building is considered from this new angle. Decorative interest ranges from sidewalk to roof, and we feel enormous relief in finding that it is not really essential that the major area of a skyscraper should be architecturally negligible. A sky-line of a logical order is developed with considerable ingenuity and skill; a novel type of roof crowns the structure in place of the slice of cornice.

Our space does not permit enumeration of the concrete advantages which this form of design is capable of achieveing in terms of cubic feet; but the figures which the writer has examined, as compared with the standard type of plan, are truly astonishing. At no period has architecture been so absolutely controlled by economic considerations as it is today. The relation of design to investment is a vital factor in architectural calculation, and a principle of design which shows decided advantages in floor areas and cubic capacity is economically important: such advantages are too frequently procured at the sacrifice of artistry.

With designs such as those which illustrate this article, we will rapidly form new mental standards for the basic relation of design to steel structure; the outer covering could have the same relation to its frame that the epidermis has to the human frame, with a corresponding range of variety in external appearance. As our imagination accustoms itself to a new conception of decorative and structural relations, the old type of sky-scraper, with its attempt to simulate a self-supporting skin, will be as unattractive as a human equivalent. In William Van Alen's work we welcome the identification of design with structure in the sky-scraper after its long architectural dissociation.

# PORTFOLIO

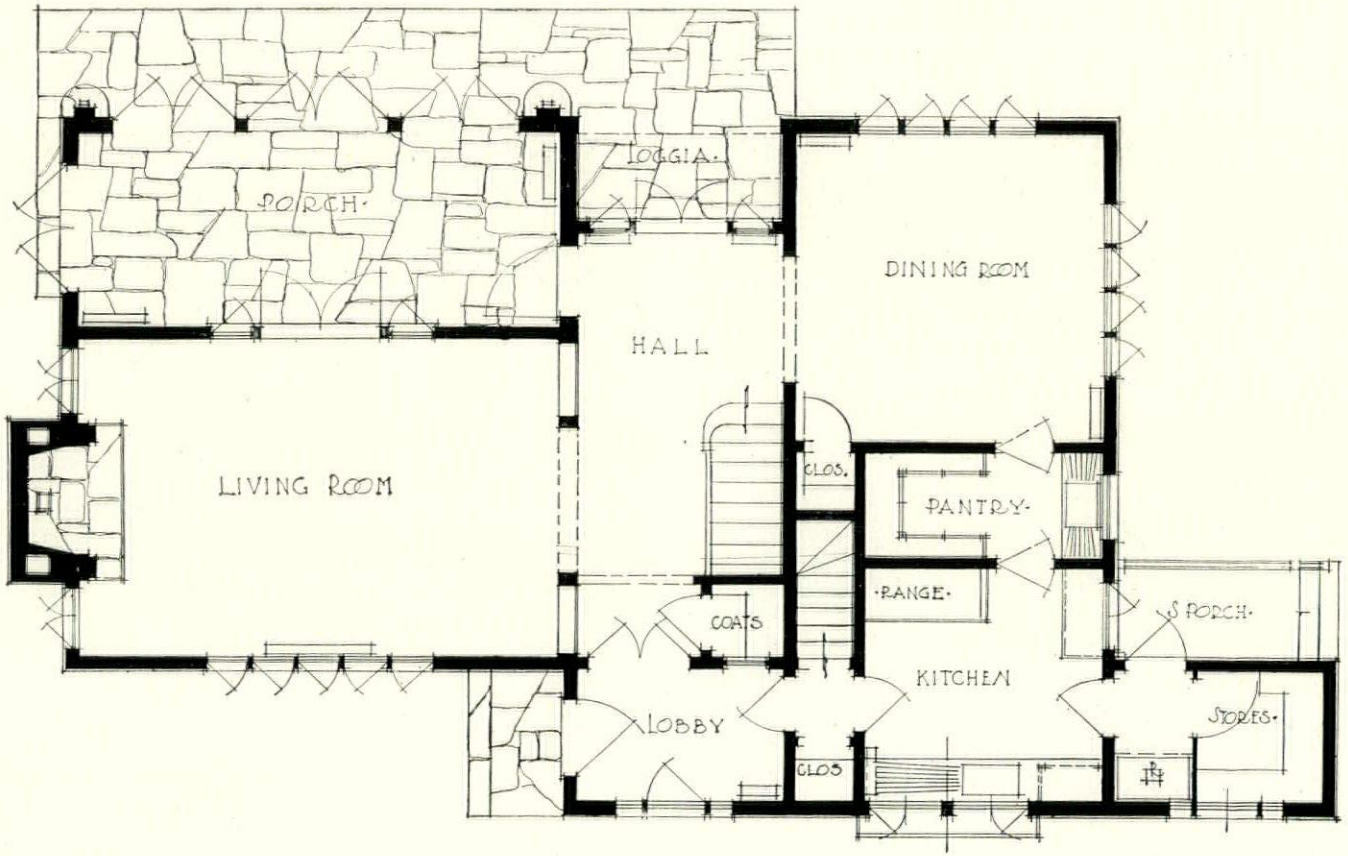
## CVRRENT ARCHITECTVRE



RESIDENCE OF MISS EDITH BOGUE, MONTCLAIR, NEW JERSEY
Clifford C. Wendehack, Architect



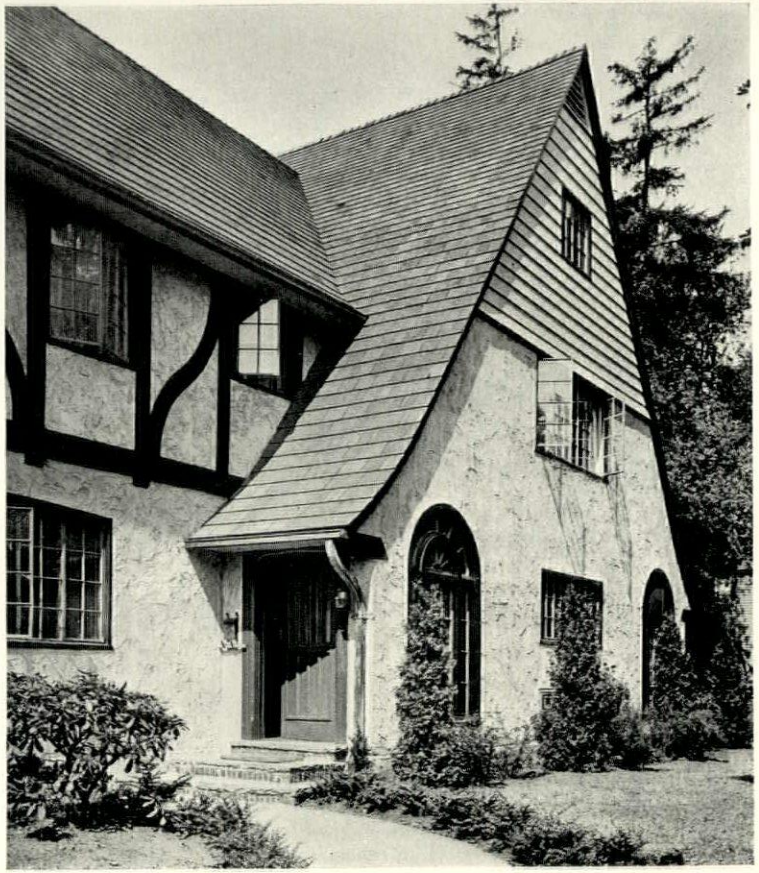
RESIDENCE OF MISS EDITH BOGUE, MONTCLAIR, NEW JERSEY
Clifford C. Wendehack, Architect

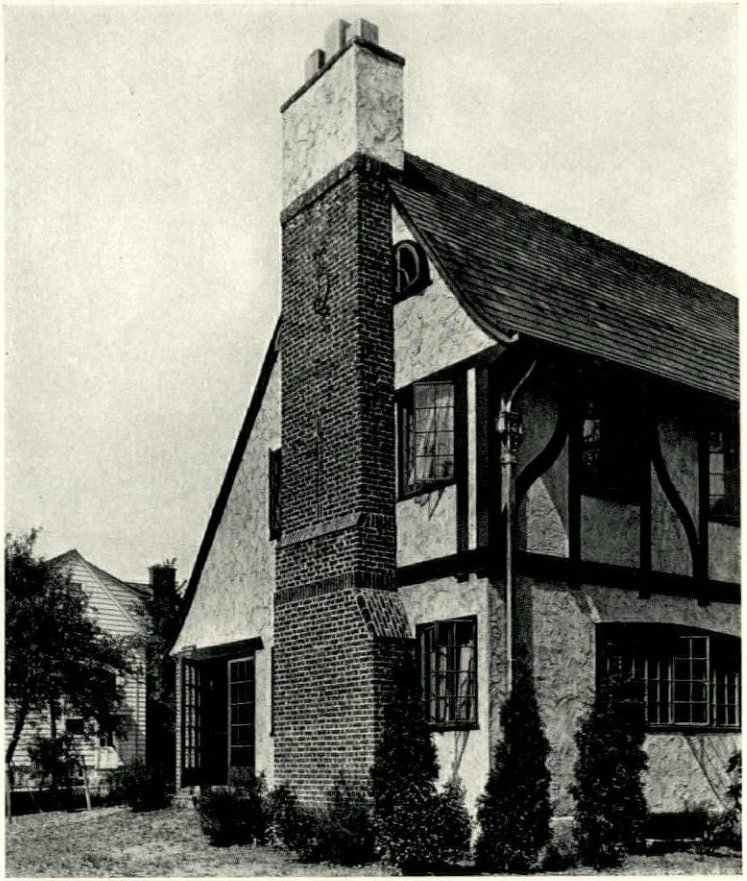



FIRST FLOOR PLAN
SCALE 10 FT



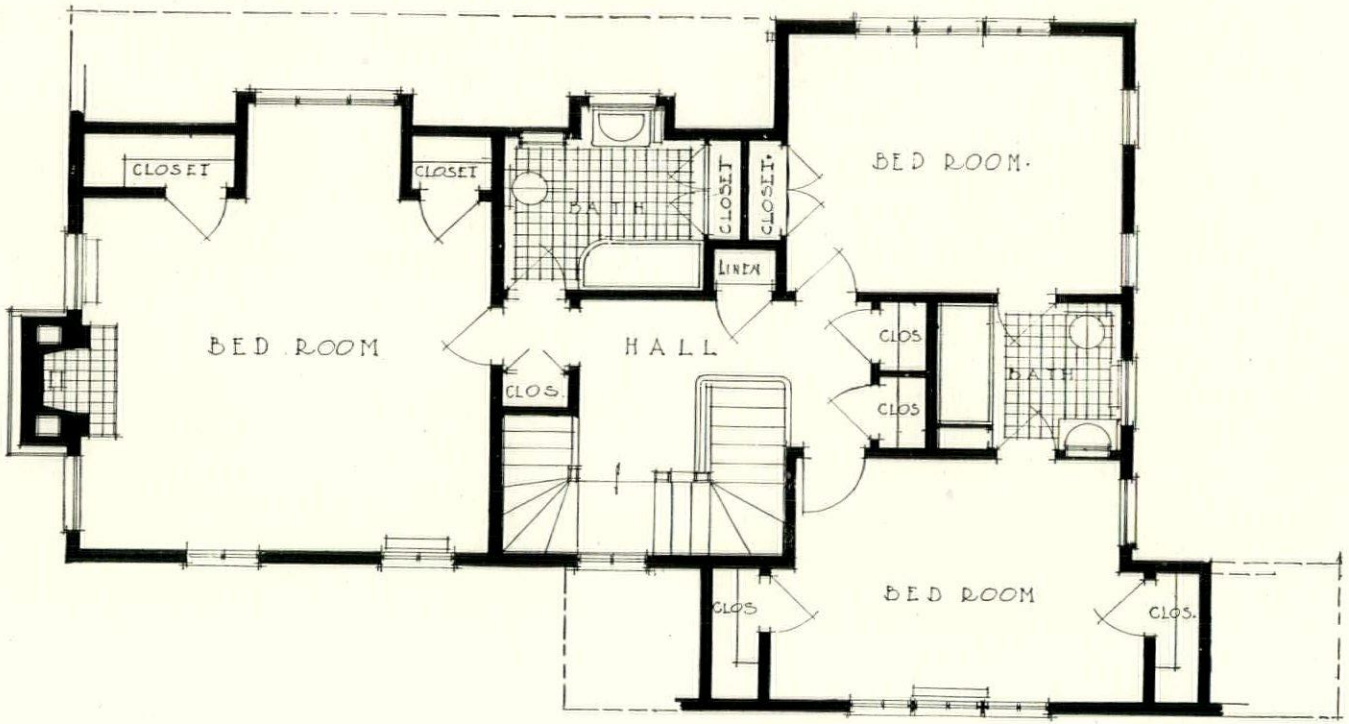
RESIDENCE OF MISS EDITH BOGUE, MONTCLAIR, NEW JERSEY
Clifford C. Wendehack, Architect







RESIDENCE OF MISS EDITH BOGUE, MONTCLAIR, NEW JERSEY
Clifford C. Wendehack, Architect

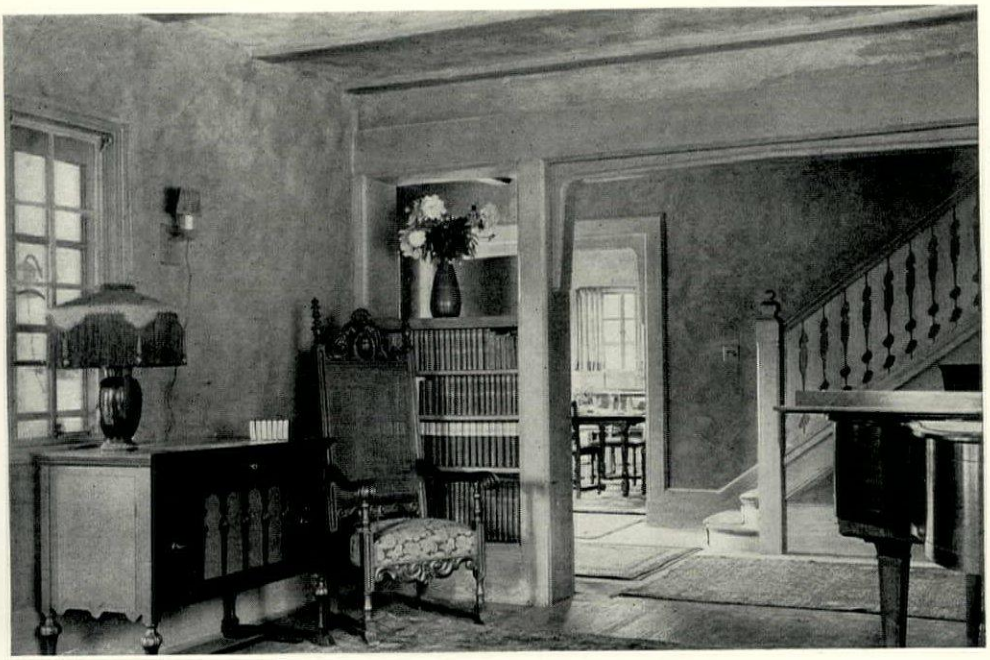



·SECOND·FLOOR·PLAN·





RESIDENCE OF MISS EDITH BOGUE, MONTCLAIR, NEW JERSEY
Clifford C. Wendehack, Architect





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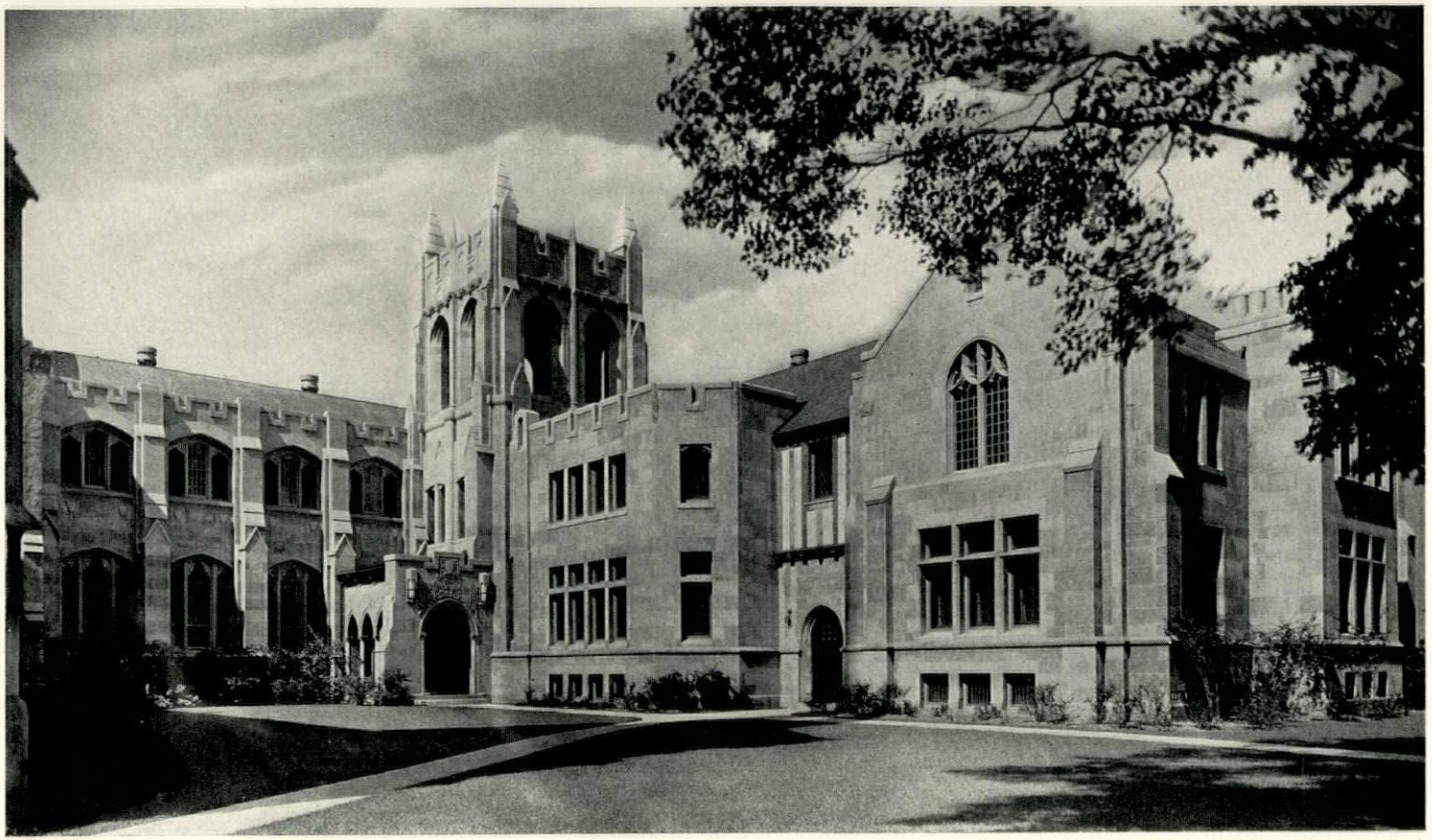
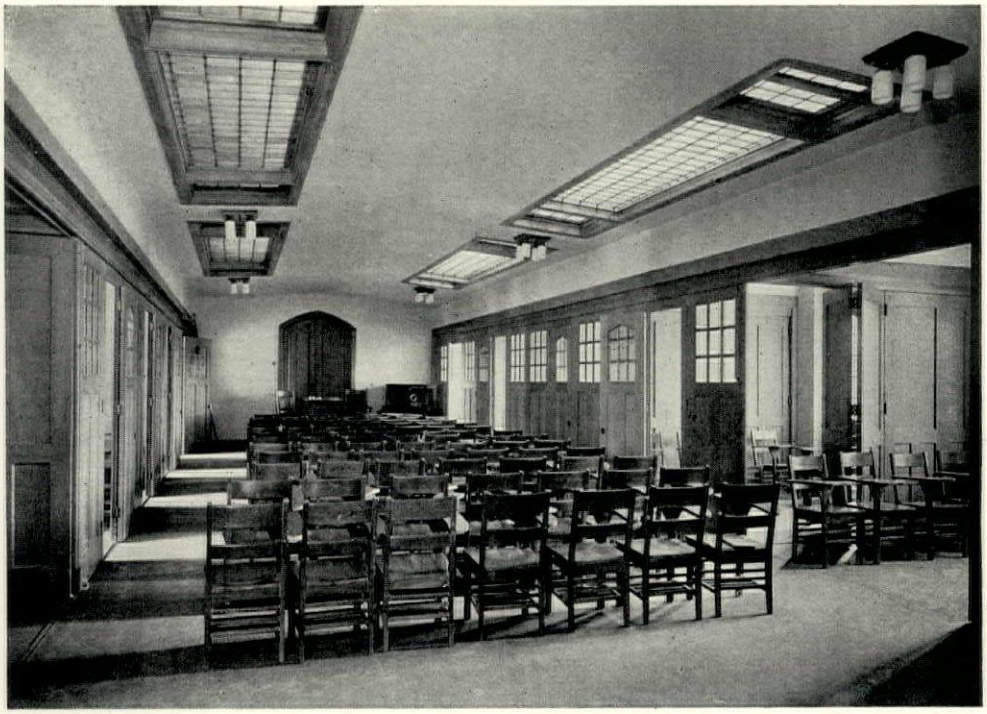
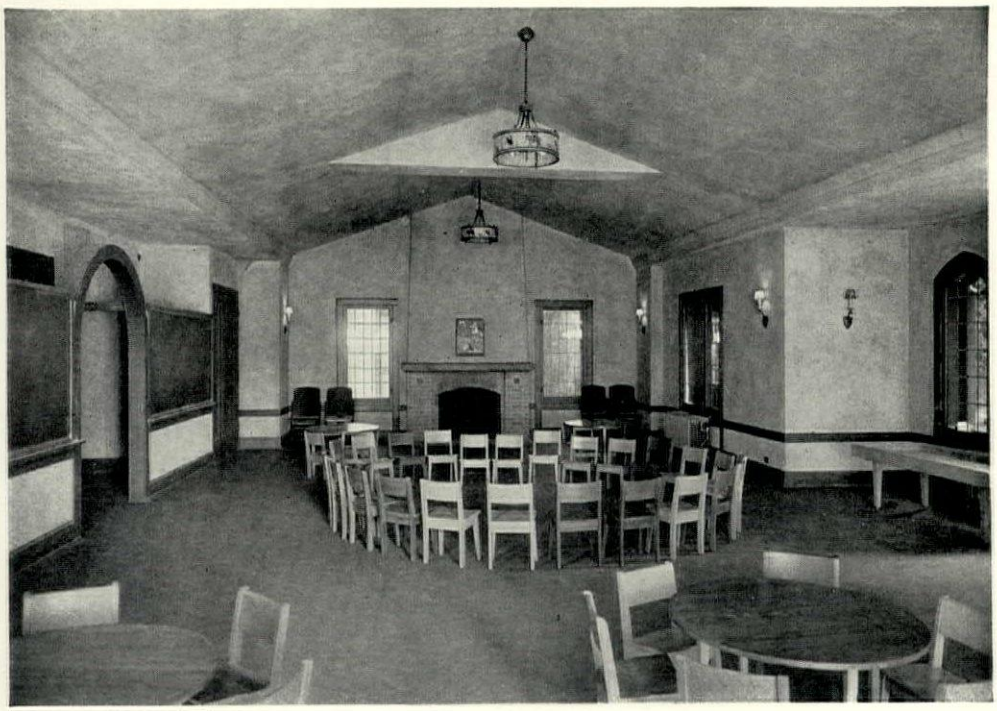
Clifford C. Wendehack, Architect





FIRST BAPTIST CHURCH SCHOOL, EVANSTON, ILLINOIS
Tallmadge & Watson, Architects







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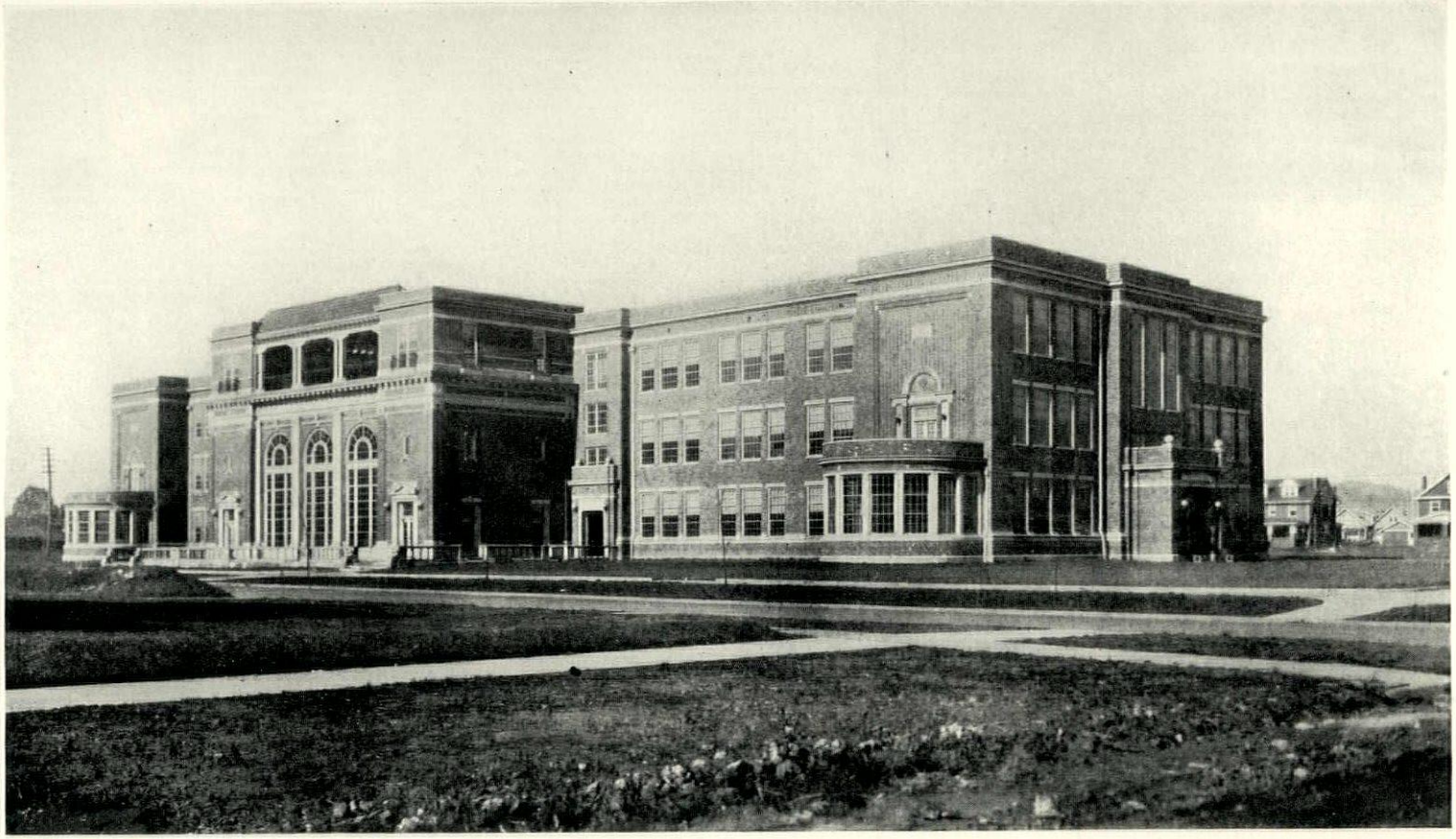
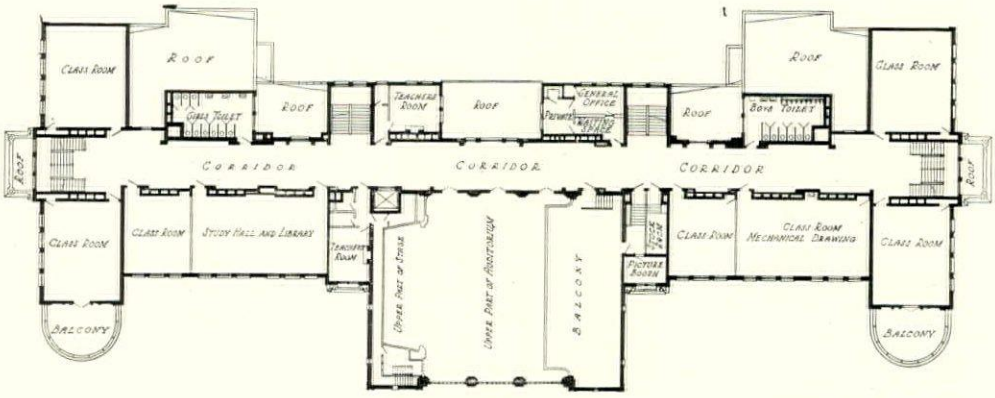
Tallmadge & Watson, Architects

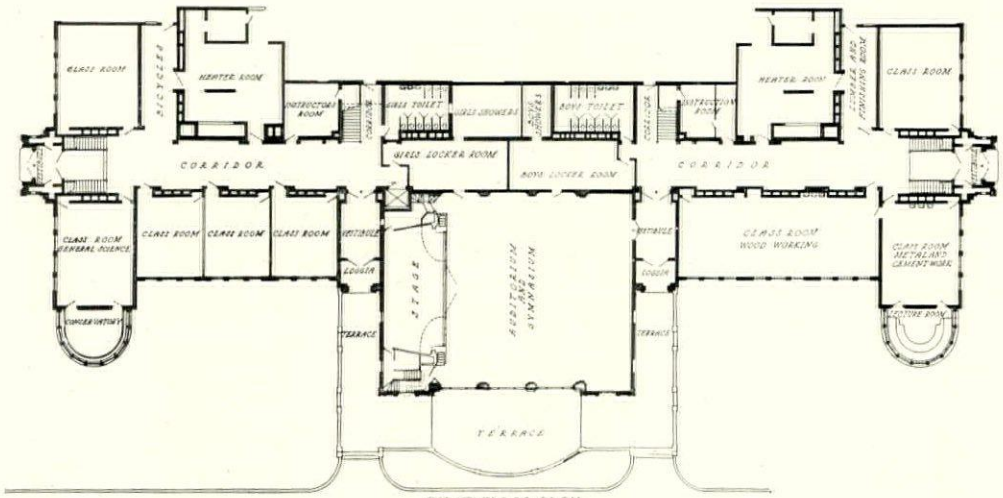




CAMMACK JUNIOR HIGH SCHOOL, HUNTINGTON, WEST VIRGINIA
Meanor & Handloser, Architects




SECOND FLOOR PLAN




FIRST FLOOR PLAN



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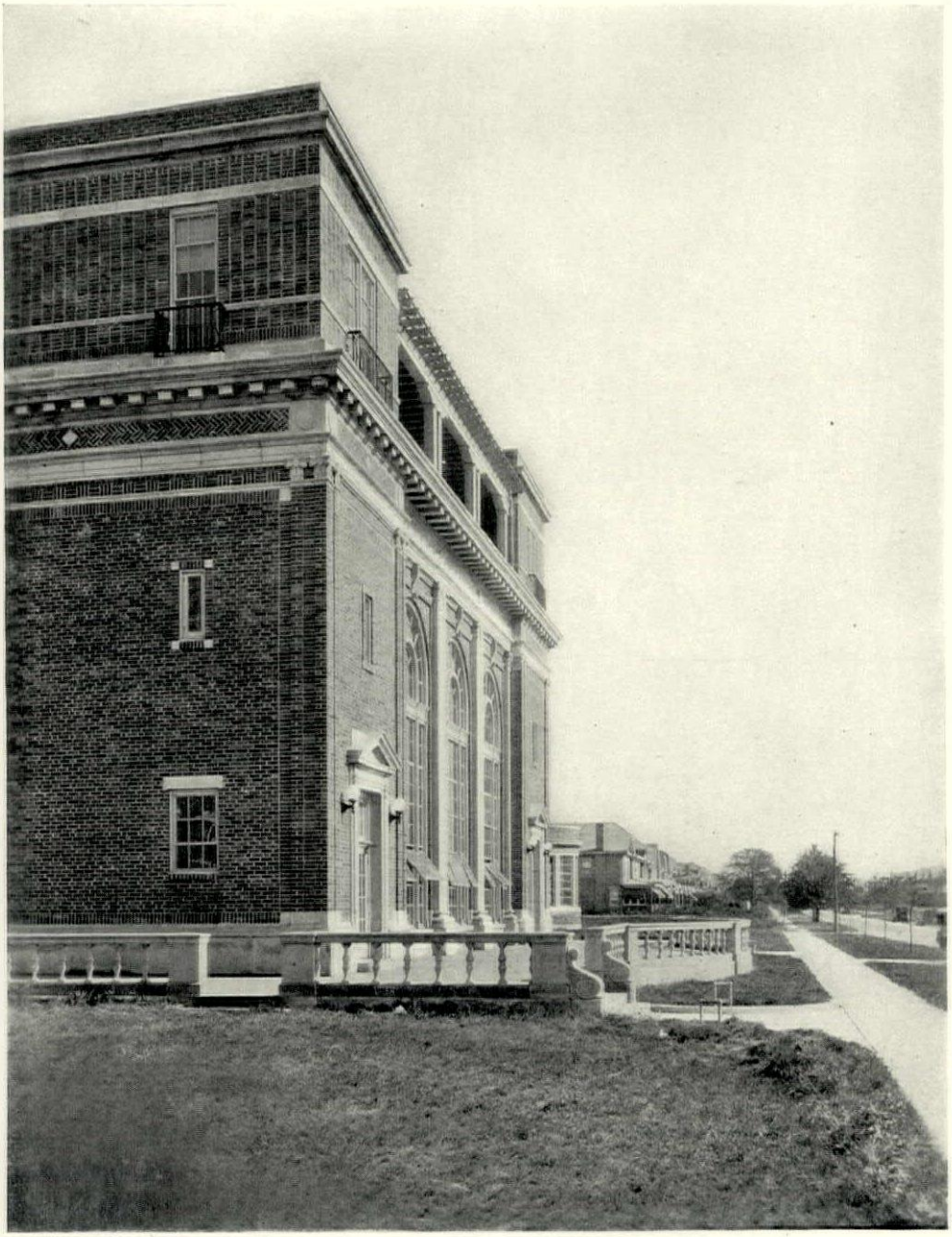
Meanor & Handloser, Architects





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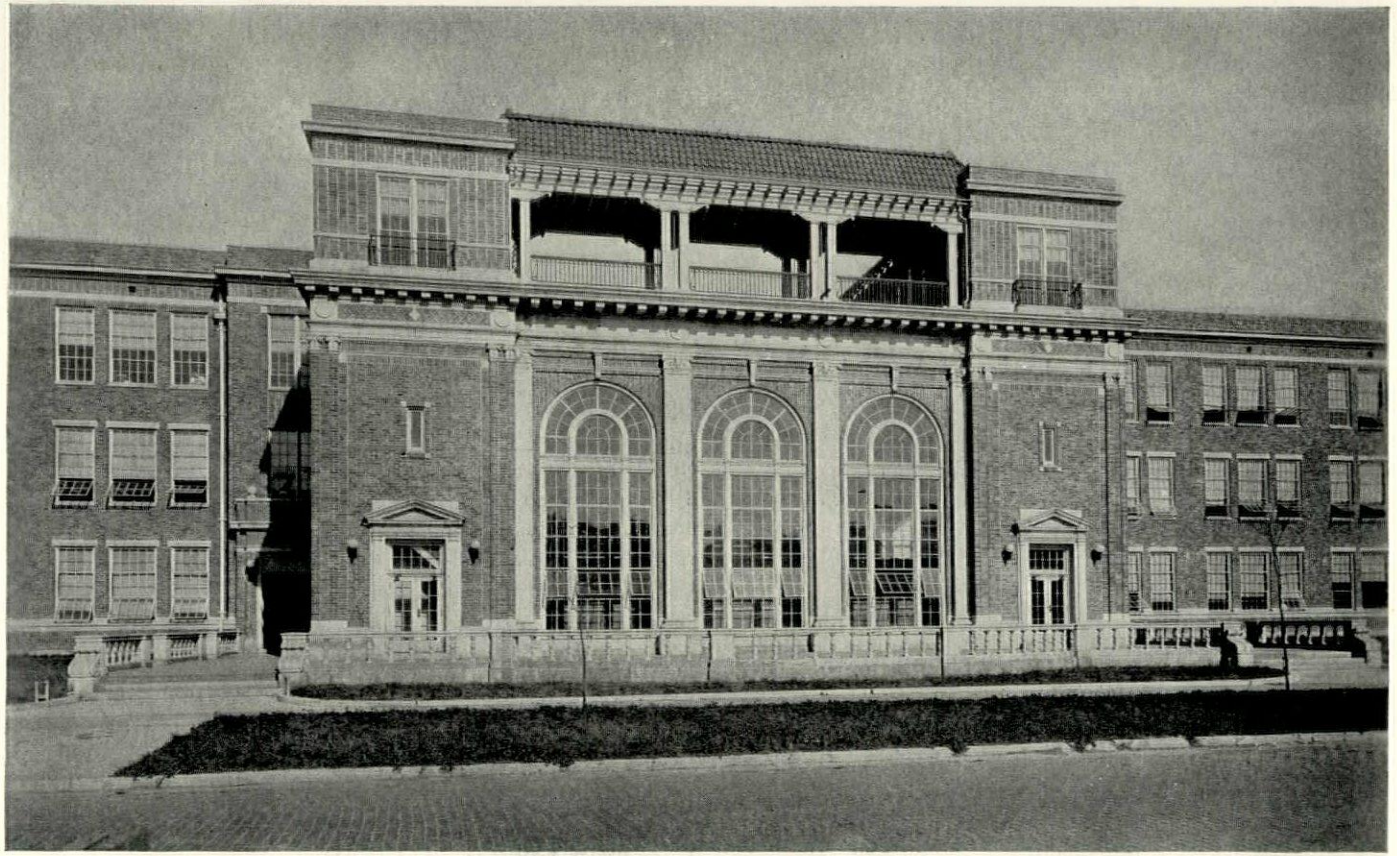
Meanor & Handloser, Architects





CAMMACK JUNIOR HIGH SCHOOL, HUNTINGTON, WEST VIRGINIA
Meanor & Handloser, Architects



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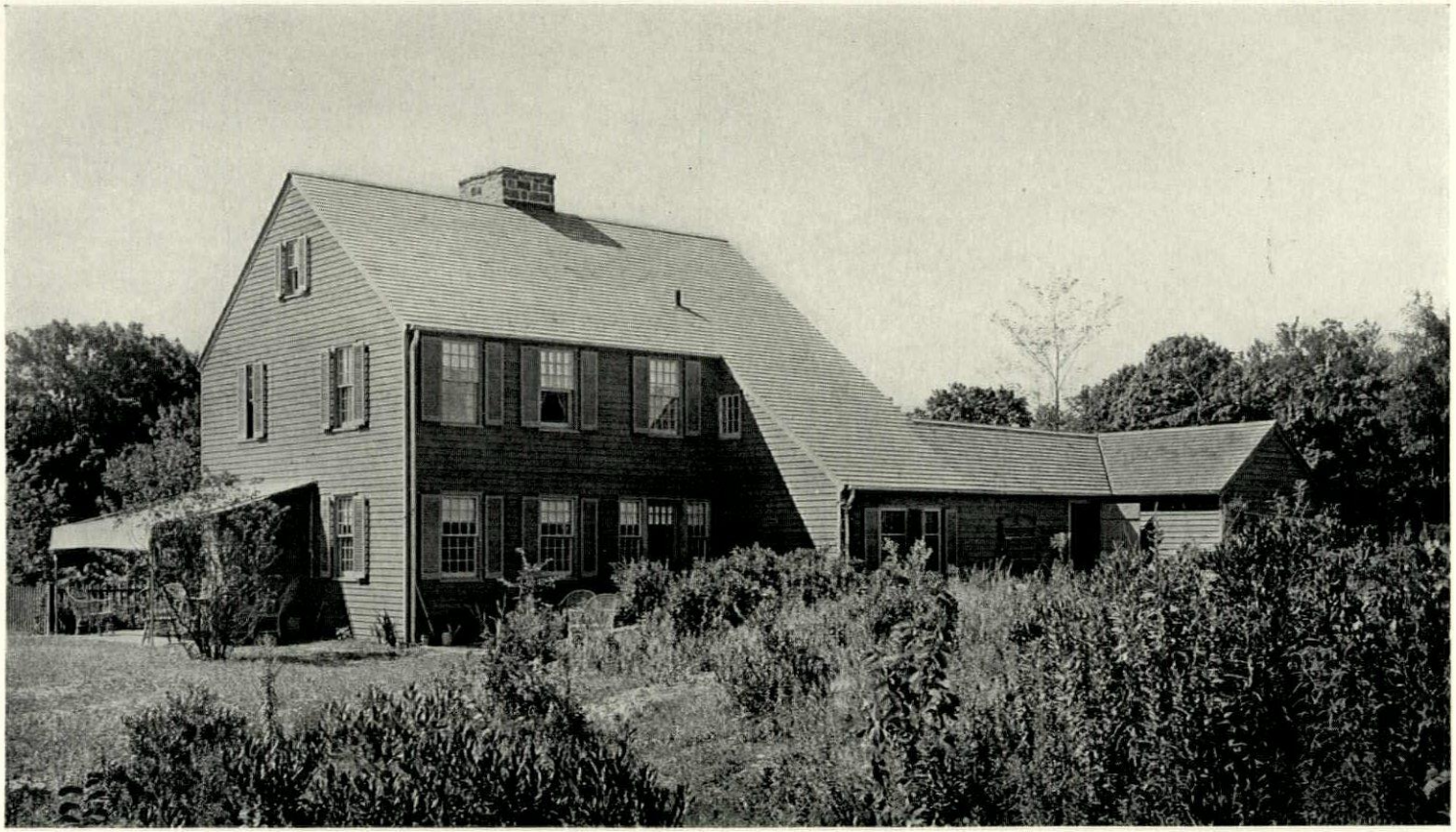
Richard H. Dana, Jr., Architect





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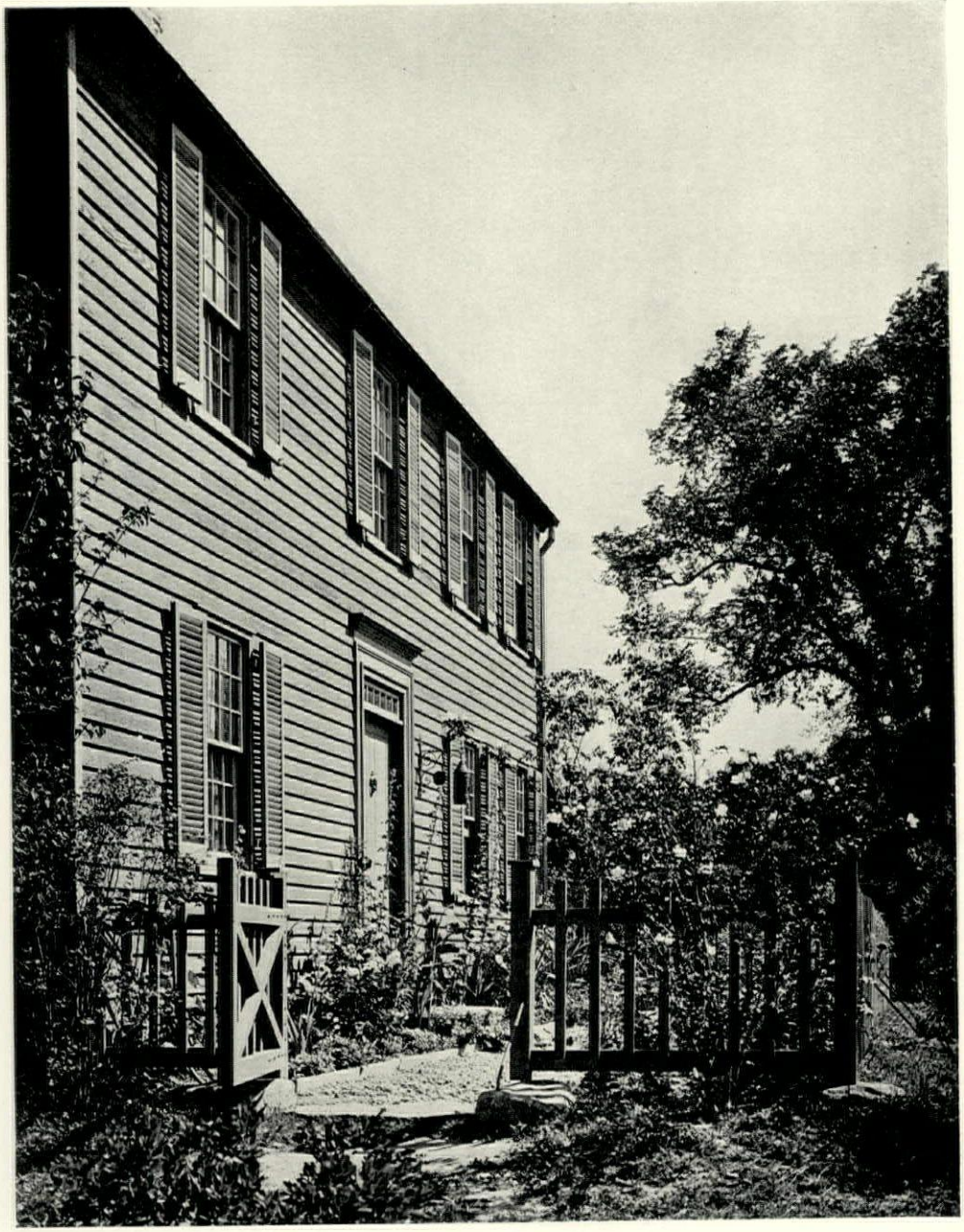
Richard H. Dana, Jr., Architect





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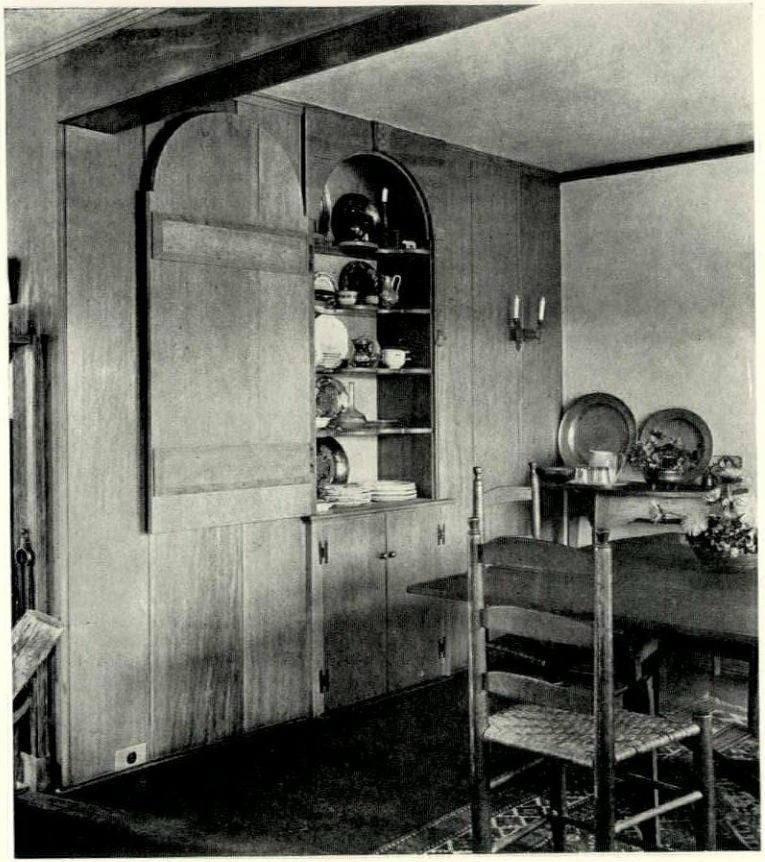



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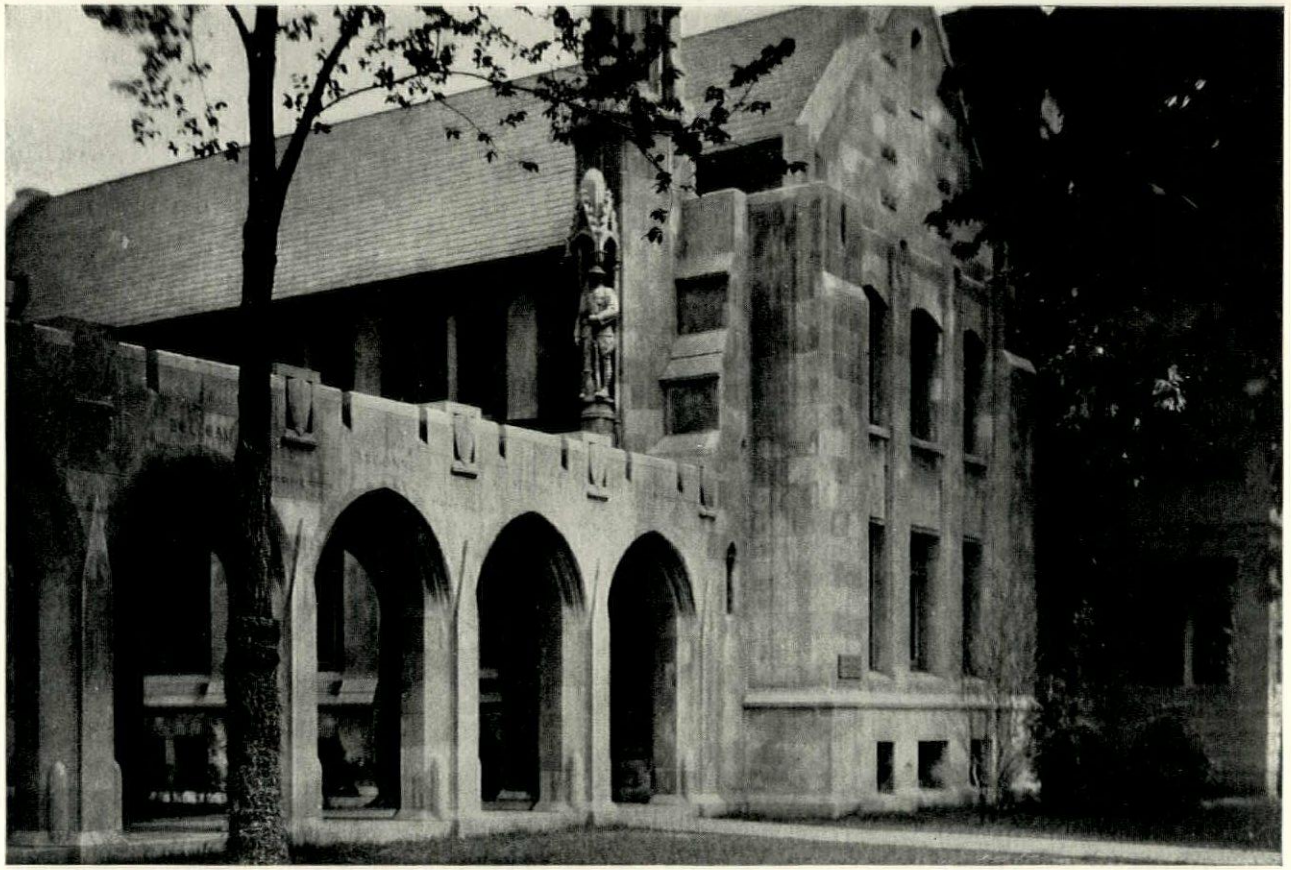
Richard H. Dana, Jr., Architect

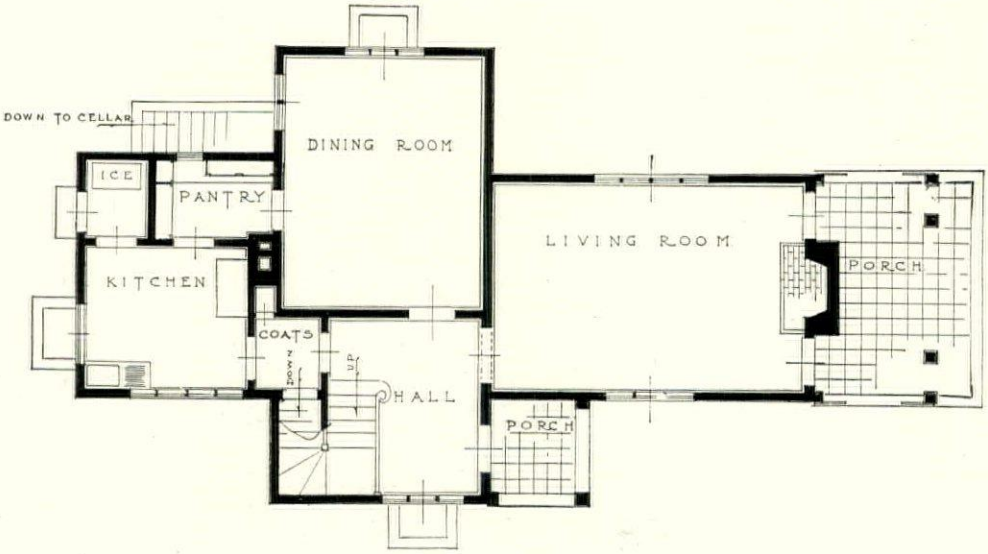




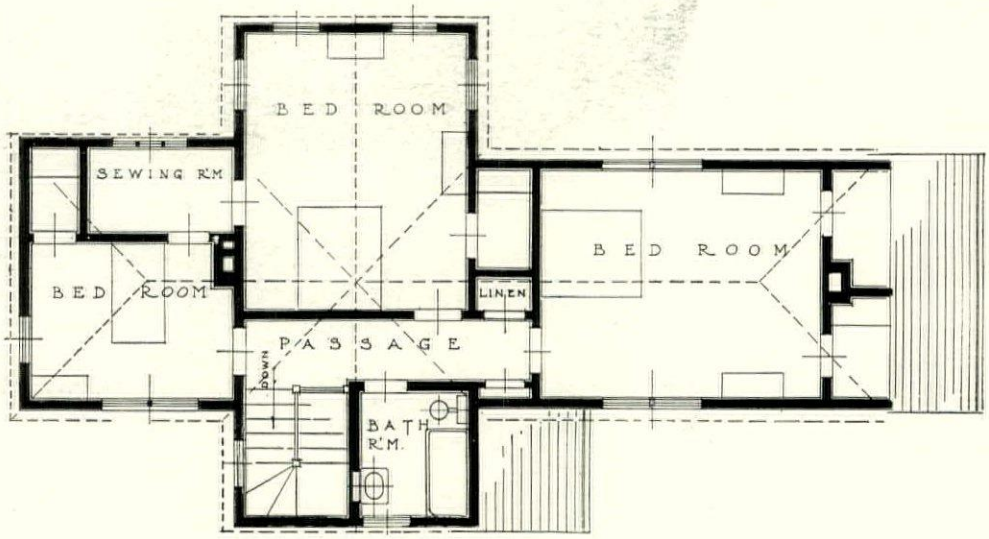
BATTLE CLOISTER OF PARISH HOUSE, ST. LUKE'S CHURCH, EVANSTON, ILLINOIS
Tallmadge & Watson, Architects



RESIDENCE OF GORDON LAMONT, ESQ., ENGLEWOOD, NEW JERSEY
George V. Harvey, Architect




First Floor Plan




Second Floor Plan



RESIDENCE OF GORDON LAMONT, ESQ., ENGLEWOOD, NEW JERSEY
George V. Harvey, Architect

# ANDALUSIAN GARDENS AND PATIOS

By

*Mildred Stapley and Arthur Byne*

*Photographs and Drawings made expressly by the Authors*

## PART III - GARDEN ACCESSORIES

WE NOW COME TO the subject of garden embellishments. Sculpture being taboo, and elaborate architectonic treatment being incongruous with the simple exterior of the house, what then do we find in the way of accessories? The answer is brief: white stucco and polychrome tiles (*azulejos*). Modeled terra cotta is practically never used, and exposed brick but seldom; the proportion of paths and benches made of it is almost negligible beside those of tile. Stucco and glazed tile, at the same time ornamental and structural, vie with the planted elements.

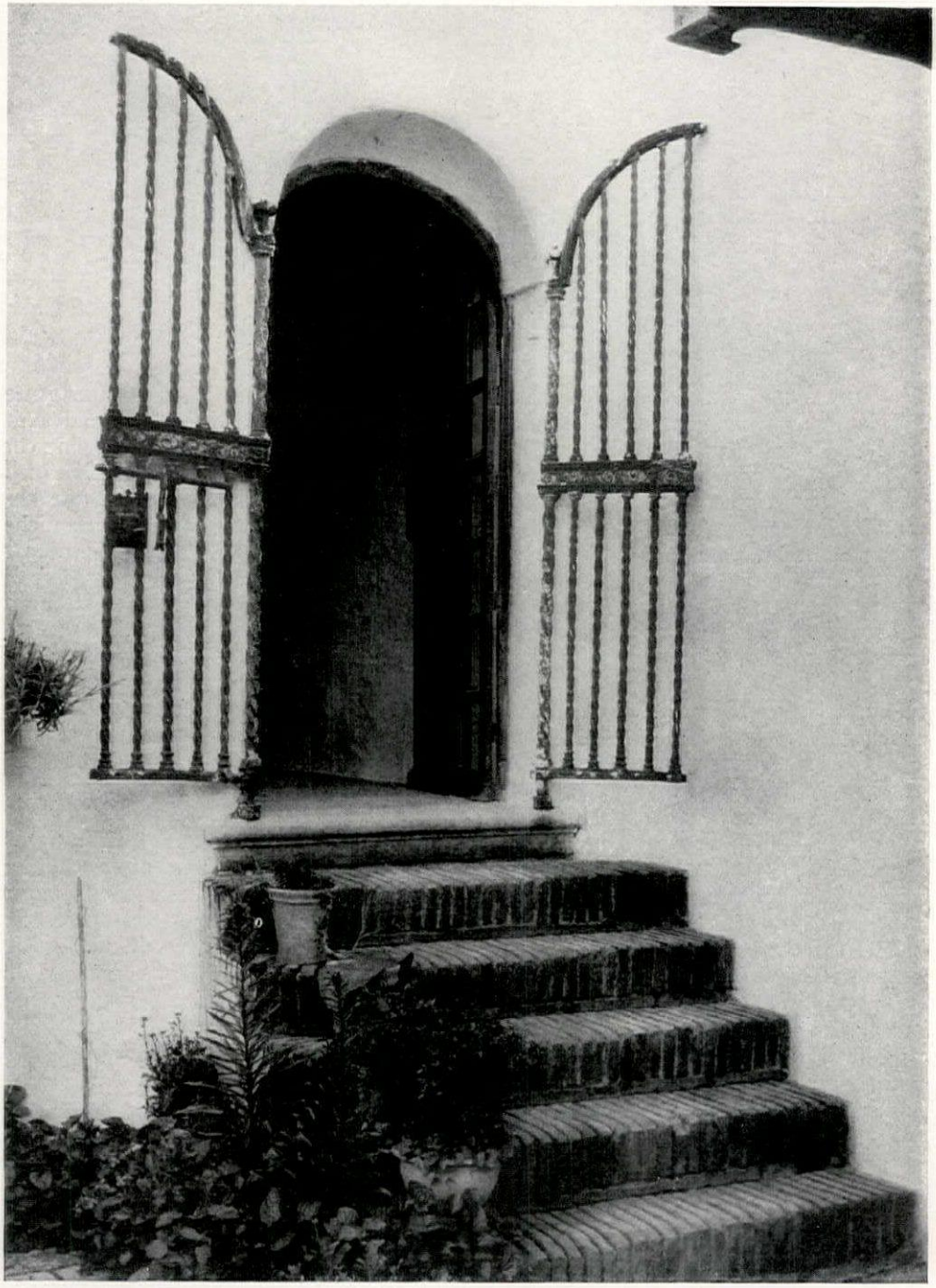
The background of the whole garden arrangement is the stucco wall. It is rarely other than white. In Cordova color was sometimes introduced in the shape of bands of blue or yellow kalsomine. Its surface is never purposely roughened—no striving for an undulating effect, for that comes of itself from repeated whitewashing.

The top of the wall is either flat, holding flower-pots, or it has a tile coping, or is made into a promenade with a parapet at each side. Doorways, generally arched, lead to other enclosures, which can also be viewed through window openings. These are provided with iron grilles and reveal seats laid in colored tiles which in themselves are a handsome feature. The iron *reja* (grille) is again used at the doorway; also wood, either as a solid paneled door or worked into spindles. In Cordova the wooden gate is generally painted blue. A picturesque wall adjunct which one would like to meet more often is the gate hood, or *tejaroz*. These little eaves, covered with gutter tiles or with alternating green and white glazed, are supported on carved pine corbels or on iron brackets. Sometimes it is a niche in the wall, instead of a gate, that is provided with a *tejaroz*. Such niches probably held, in Moorish days, a decorative vase or a basin for ablutions, but the Spaniard refurnished it with a statue of the Virgin. Well niches, too, feature the wall, though generally the well is free-standing and in the patio of the house.

A detail that receives much attention is the pattern of the vine itself against the wall—clipped back to expose the trunk and its branching, and the foliage kept in well-studied patches.

In pretentious gardens, dividing walls serve also as a means of circulation. Their thickness being sufficient to permit of a walk on the top, with protecting parapets. Arranged thus at the level of a second-story window or terrace of the house, they invite the inmates to promenade and survey the layout below. In the case of different levels these promenades are connected by stairs flanked by stepped parapets; while in the flat garden a variety of level is simulated by variety in the height of the walls, with connecting steps as described. This in itself lends much interest.

In the Alcazar gardens, Seville, a specially fine treatment may be seen. On the north side a heavy semi-fortified wall marking in part the original confines has a promenade and bench parapets on top, and is broken every hundred feet or so by a stout buttress whose top makes an





Garden Gate

DUCAL PALACE AT OSUNA

agreeable little pavilion. Below, a shallow arcaded gallery is pierced in the thickness of the wall, like a triforium in the nave wall of a church. Open only on the south side overlooking the garden, this arcade is penetrated by the sun on its low winter arc and is at the same time shielded against the north wind; while in summer it is an equally agreeable promenade because it is always in shadow. A creation of Peter the Cruel, this was his favorite walk. As his Moorish builders left it—plain white stucco—it must have been dignified and beautiful; but centuries later it was made to suffer a revetment of coarsely vermiculated blocks. Some are in *yeso* (*stucco*) and the whole work is crude. Now the wall is neither Moorish nor Italian.

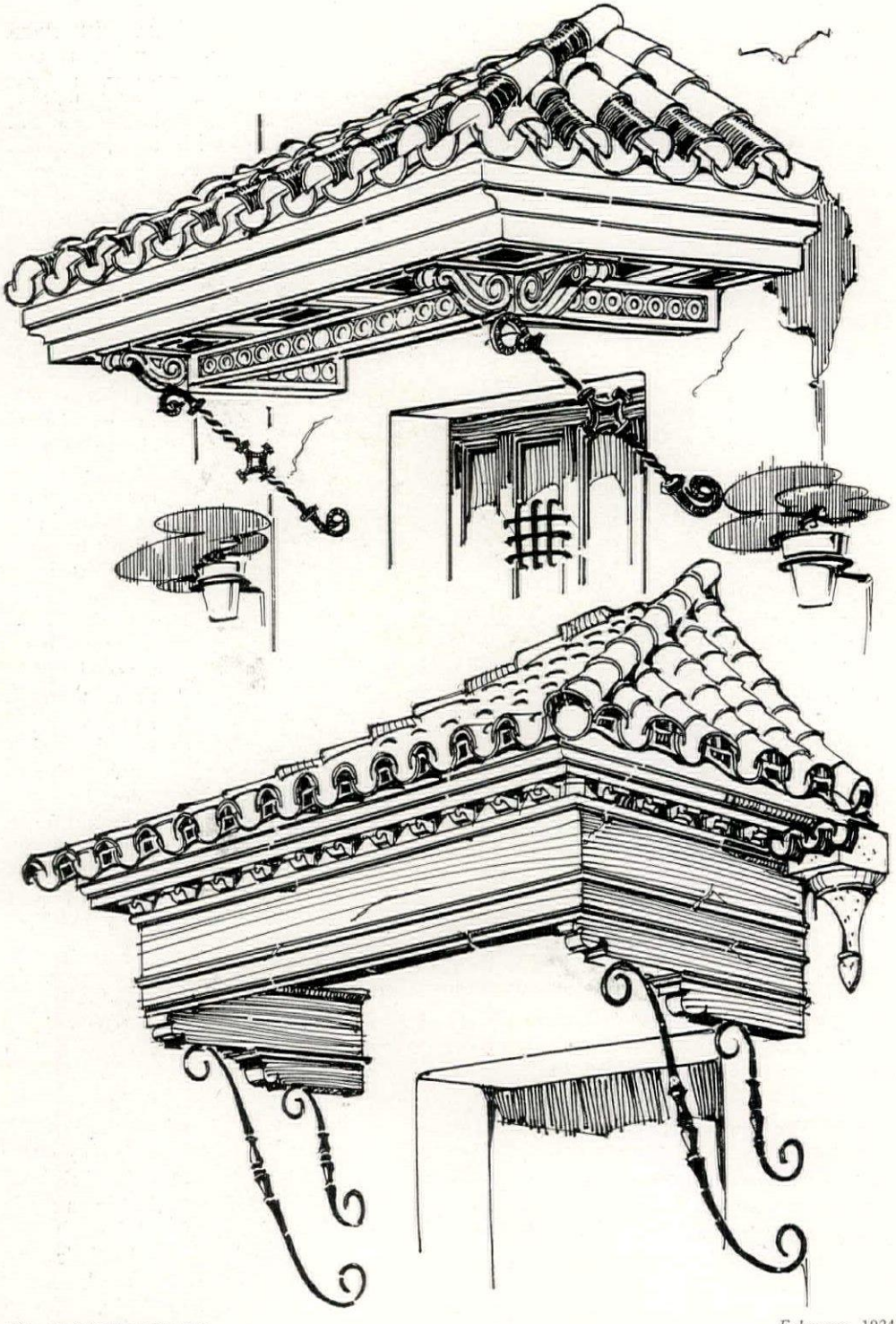
The white-washed wall is the setting for every garden
LAS ERMITAS, SIERRA DE CORDOVA

Enclosing a hillside garden on the side least accessible, the wall is often an open arcade for its whole length, thus extending the garden view to the country beyond. The recesses are provided with seats.

The other item which plays an important rôle in the Andalusian garden is baked earthenware in the form of azulejos and flower pots, glazed and unglazed. The pots stand in never-ending lines much as if they had been arranged by children. Garden walks are edged with them, flower beds are designed with them, parapets are crowned with them. In ordinary cases they are the usual terra cotta color; but when expected to form a part of a definite color scheme they are painted and glazed accordingly, and take their place along with the polychrome tiles in the color layout. Some fortunate gardeners are supplied with pots of several colors and this facilitates a complete change from time to time in the decorative scheme.

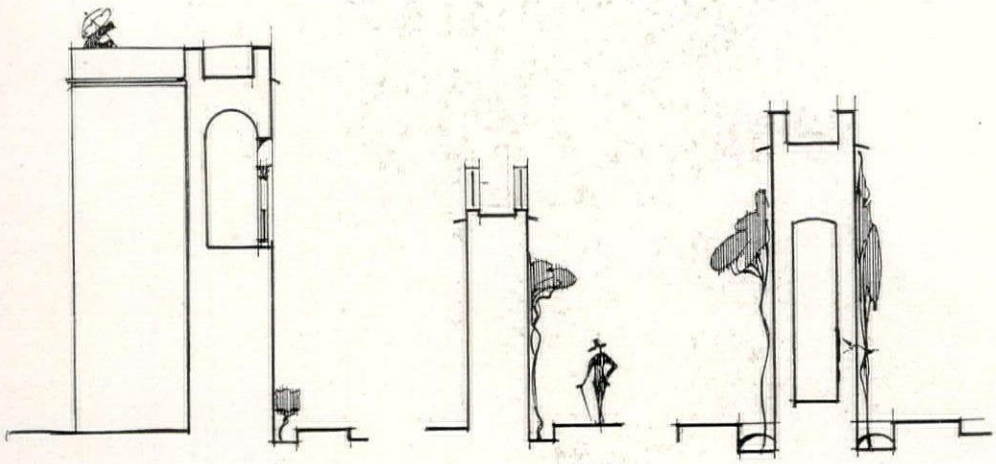
Decoration by means of polychrome tiles is the principal note of individuality in the Spanish garden. It is no exaggeration to say that color is more often supplied by them than by flowers. To successfully employ these colored squares is an art in itself and the tyro cannot hope to acquire it in the first essay. It takes experience. To overdo is the temptation. Even with many good ancient examples before their eyes, the present-day advocates of the azulejo in modern Sevillian construction are using it on a lavish scale and with little discrimination. The principal objects made of azulejos were fountains, pools, benches, steps, and walks. In their construction flat tiles were used, never molded as was the case in Italy.

The oldest Moorish tile decoration found is like a mosaic, slabs of solid





TILED HOODS OVER GARDEN ENTRANCES, SEVILLE



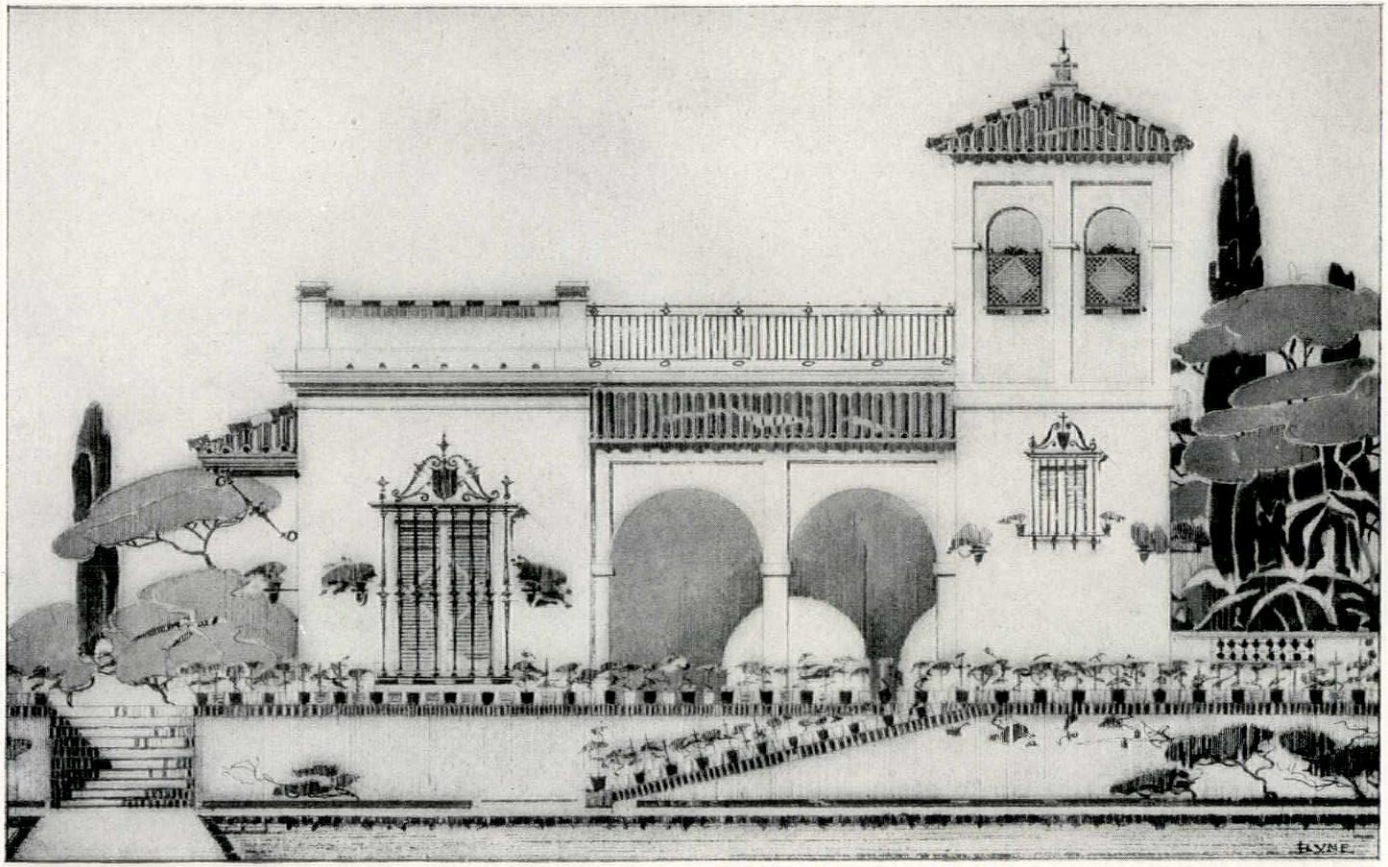
Sections of various garden dividing walls surmounted by promenades

color having been tediously cut into small geometric shapes and fitted together to make the design. Later, two simpler processes were adopted: the first consisted in drawing the pattern on the wet square with grease and manganese which made a dry line (*cuerda seca*) that prevented the colors from running together; the second meant pressing a metal matrix into the wet tile, the raised line thus formed acting as a barrier between the different colors. This process is named not for the line but for the hollow (*cuenca*) between. For a long time cuerda seca and cuenca tiles kept to geometric and floral designs, but after a while animal forms were added.

Early in the sixteenth century a monk from Pisa came to Seville and introduced free painting on tiles in the Della Robbia manner. *Pisanos* were soon turned out by the thousands and supplanted all others. A yellow ground was general, with blue as the dominating note in the design. The Moorish tradition of geometric and small scale floral patterns was thrown to the winds and decorative compositions in imitation of easel pictures became the vogue. In the baroque period such pictures (Murillo, of course, being a prime favorite), were incrusted in garden walls and protected by a *tejaroz;* even whole altars of tiles were set up in gardens, their devotional lamps suspended from the hood and twinkling in its shadow.

The making of azulejos is still the prime industry of Seville. Travelers who are interested may visit the chief factories in Triana, the ancient potters' *barrio* across the river. Here, besides garden vases, are made red, buff, and greenish unglazed tiles for the floor, and handsome azulejos for wainscoting, paths, fountains and benches—made by the millions. The manufacturers are wise, probably, in seldom augmenting their pattern books by modern designs; and Andalusia and South America (to which there is a large exportation), equally wise in contenting themselves with the old Moorish and Renaissance motifs. It must be confessed that the greens and blues are not so rich and limpid as those which the sixteenth century knew how to produce, and that the new designs are sharp and the colors assertive beside tiles that have weathered three centuries; but there is no doubt that the new products will outlive this reproach. Those who want mellowness and delicacy in modern azulejos will have to wrestle hard with the manufacturer, who will argue, and quite aptly, that the fine old bits admired to-day in the Alcazar gardens were once as garish as any in his warerooms.

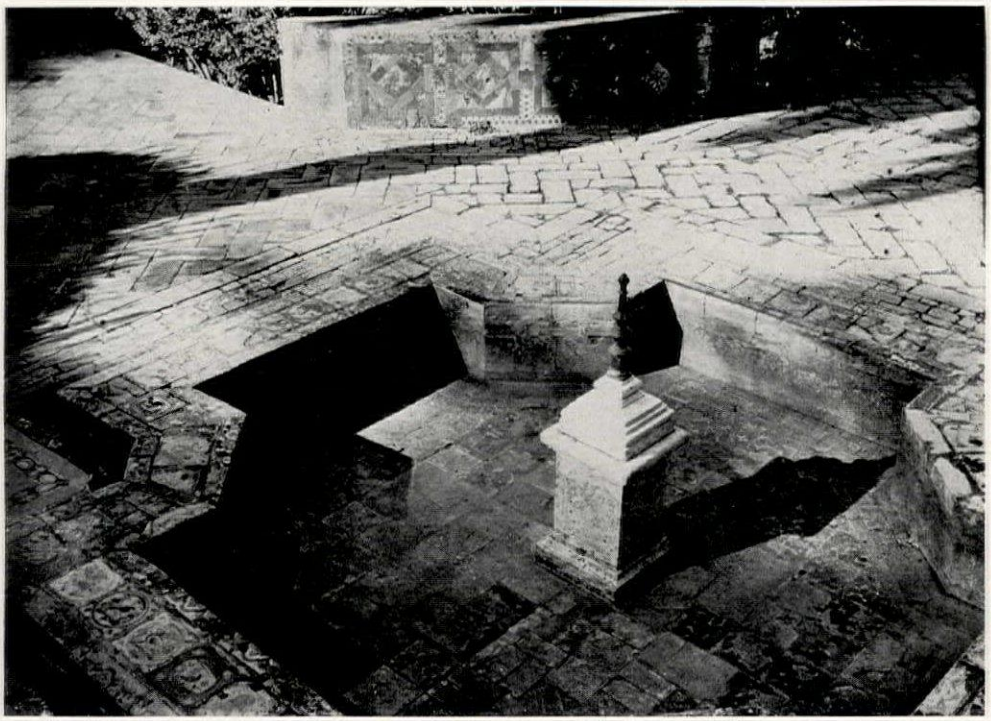
Considering first the tile fountain. Unlike its marble counterpart it is not meant to catch the eye from a distance,





Typical profusion of potted plants. Pots and roof-tiles of alternate green and white

PAVILION IN THE GARDENS OF MURILLO, SEVILLE



Pool lined with brick and polychrome tile
GARDENS OF THE ALCAZAR, SEVILLE

but to melt into the garden color scheme. When combined with marble, as occasionally, the latter is subservient to the azulejos. Very often no part of the fountain except the actual jet rises above the level of the walk. The basin is shallow, six inches deep or so; it may be round, star-shaped, or octagonal, sunken or raised. As previously explained, the water is allowed to fall over the edge and is drawn off by an exterior gutter. In this manner the surface of the tiles is kept wet and their reflective power increased. By designing the squares for the bottom of the basin in zigzags and interlacing curves the water appears to have more movement. If placed at the intersection of two paths paved also in polychrome such a fountain loses much of its decorative value; it should be considered somewhat like a stone to be set in a brooch. Best seen from a height, the flat fountain is the type most employed in patios and garden enclosures that can be looked into from a promenade wall. Sometimes the entire fountain is sunken, looking deeper and cooler therefor. The finest of this sort is in the patio of the asylum for retired priests (*Los Padres Venerables*) in Seville. Here the basin and fountain are of marble, the surrounding treatment of tiles.

Corresponding more in design to the typical European conception is the raised fountain, but being executed in tiles it is devoid of molded sections. In general, it consists of a raised parapet, often octagonal, and a central shaft and smaller basin of marble. Bearing out our suspicion that the Christians were more prone than the Moors to the use of colored tiles, is the fact that nearly every raised fountain in the Alhambra is of marble alone. Similar to the tiled fountain but smaller in diameter is the well curb of the house patio. The Moors had beautiful well curbs of glazed pottery in one piece, generally gray green, ornamented with raised patterning and inscriptions, but these are seen to-day only in museums, not in gardens. Clever facsimiles are made by certain Andalusian ceramic fac-

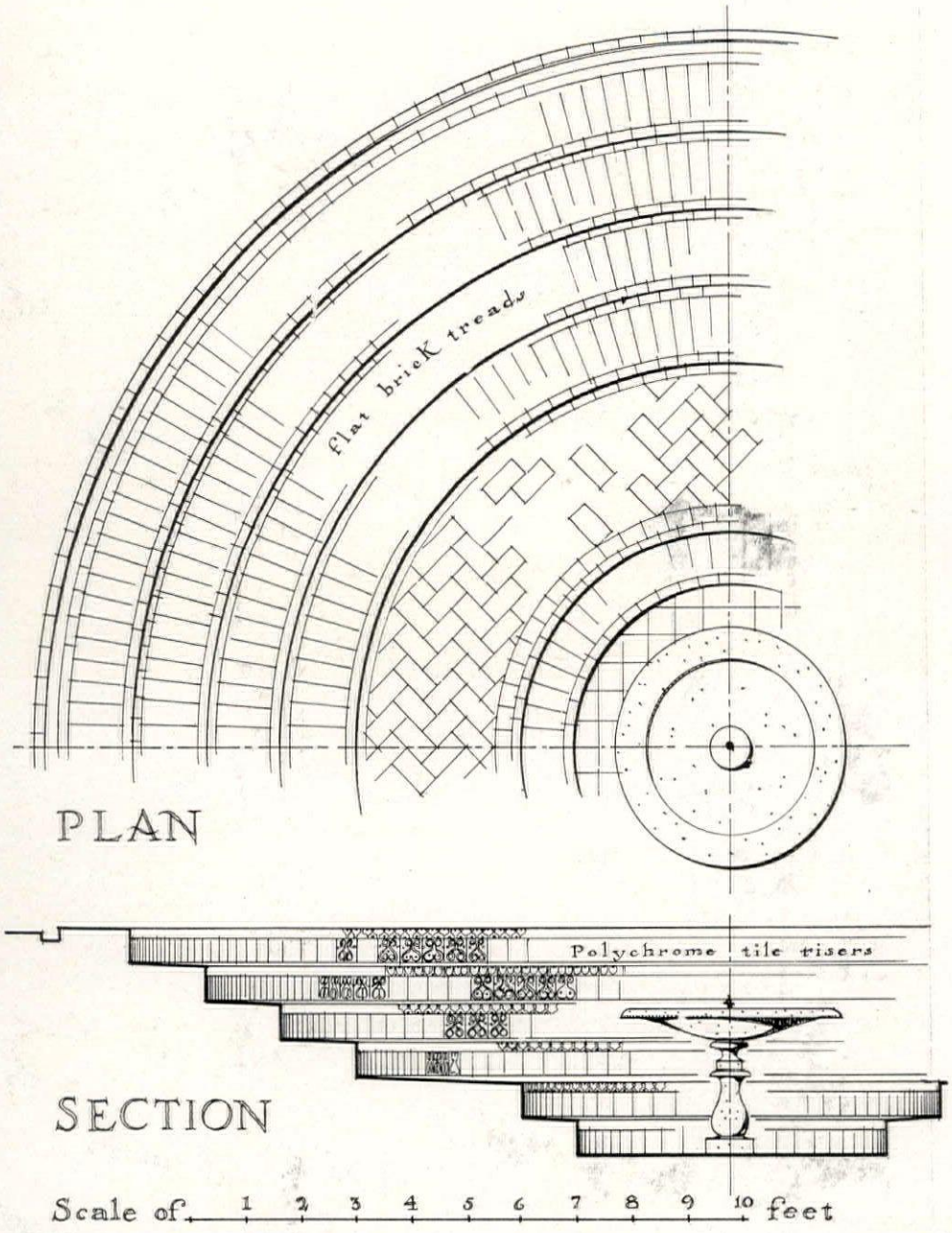
Large stepped pool in polychrome tiles
ASYLUM FOR AGED PRIESTS (LOS VENERABLES), SEVILLE

tories and sold as originals to tourists.

Almost as numerous as the fountain is the tiled bench. Here, too, form is determined by the material, the bench being completely solid, with the face under the seat set back at an angle to accommodate the feet of the occupant. The seat has a slight pitch to throw off the water. Without a back the tiled bench is more graceful, particularly if free-standing; but where there is a back its rigidity can be modified by embedding it in a hedge. Another type of bench is that projecting from a wall, its tiled back set flush with the stucco surface. The back is generally carried much higher than is necessary to protect one from the whitewash, and the upright panel is framed in a border of solid color. By this arrangement bench and wall help each other decoratively, as the illustration of the Osborne garden shows, Calle de Guzman el Bueno, in Seville.

The bench, like the fountain, is generally very colorful. Old ones may be seen in the Alcazar gardens made of Pisanos, yellow background, green and blue painting. Backed up by dense masses of box, the color is rich and full of quality, but it must not be forgotten that much of the charm lies in the mellowness of the old tiles. To one experimenting with this material it soon becomes evident that effects can be obtained with old tiles that would be less pleasing with new. Sixteenth and seventeenth century units of every conceivable color may be assembled with admirable results, whereas if the tiles were new considerable restraint would have to be practiced. Good modern benches are seen in the Parque de Maria Luisa in Seville—unglazed terra cotta colored tiles with brilliant polychrome insets in the form of escutcheons or flower panels.

In the matter of tiled walks one must be cautious; to create a too interesting pavement is a great temptation. The best old examples consist of unglazed oblongs measuring about five by eight inches, laid in basket weave with a small colored inset filling the interstices. This little two-inch square is decorated with some very simple device—the lion of Leon,



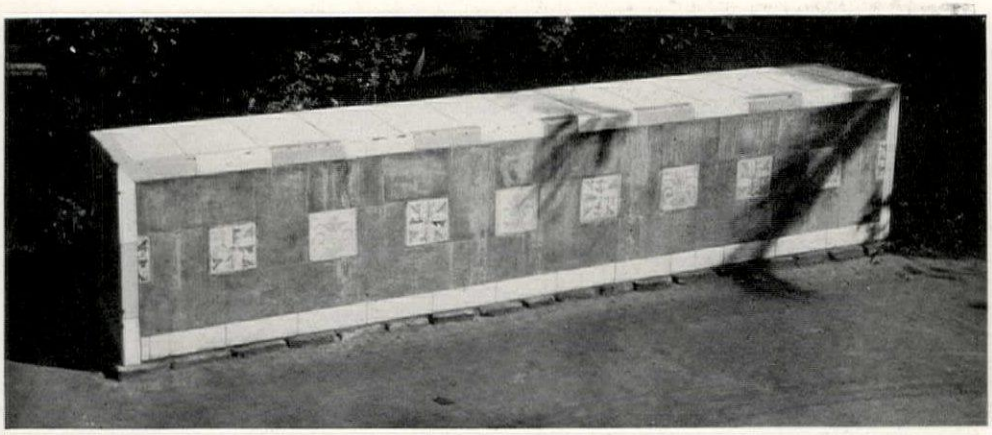



PLAN AND SECTION OF POLYCHROME TILE POOL, LOS VENERABLES, SEVILLE



Garden Accessories in Polychrome Tile

HOUSE IN THE CALLE GUZMAN EL BUENO, SEVILLE



BENCH EXECUTED IN POLYCHROME TILES

the castle of Castile, the pomegranate of Granada, the *nudo* or knot of Seville, or a personal coat-of-arms. But the basket-weave precedent has been followed in wholesale fashion in modern Sevillian work, prompting the question whether it is not possible to overdo even a good thing. Besides, in the old work there was more sense of relative fitness; secondary gardens and patios were not treated in the same quality of material and the same design as the more important units, and it is precisely this discrimination that one misses in the Seville revival. The architect lights upon an attractive pattern or layout and makes it serve through the whole house and garden with but little varying of design, and none at all of quality or quantity.

Another method practiced in the old gardens to enliven monotone unglazed paths was to concentrate rich color in an occasional panel the full width of the walk—geometric, floral, or heraldic. Even old broken tiles have been gathered up and laid mosaic fashion to form such a panel with good results. The insets are not regularly spaced, and their lack of formality is a relief after visiting a modern garden whose every path is laid in the basket-weave just described.

Paths are further decorated by tile curbs of attractive color; or by narrow tiled conduits passing through their center. Curbs are generally of a single color or of white alternating with a single color; and the bottom of the little canal is often laid in color so that it too contributes to the color scheme.

In the gardens of the Alcazar and dating from the time of Charles V (1516-1566) there is a charming little pavilion treated in polychrome tiles. Such a feature is a departure from Moorish precedent. Pavilions and gazebos formed no part of the Andalusian design; not even a tool-house to invite decorative treatment, for the custom was and still is to store all implements in the vaulted chambers underneath the house. Charles V's pavilion is square, arcaded on all sides, and has a rich dado of polychrome tiles. Inside walls are similarly treated; some of metallic lustre, and very precious. The ceiling is a *media naranja* (half orange) or typical Moorish wooden dome, while the outside roof is of ordinary gutter tiles but with every fifth ridge glazed in blue and white. Instances of this sort show that the Spanish garden can be made more catholic in taste without losing its special *cachet*.

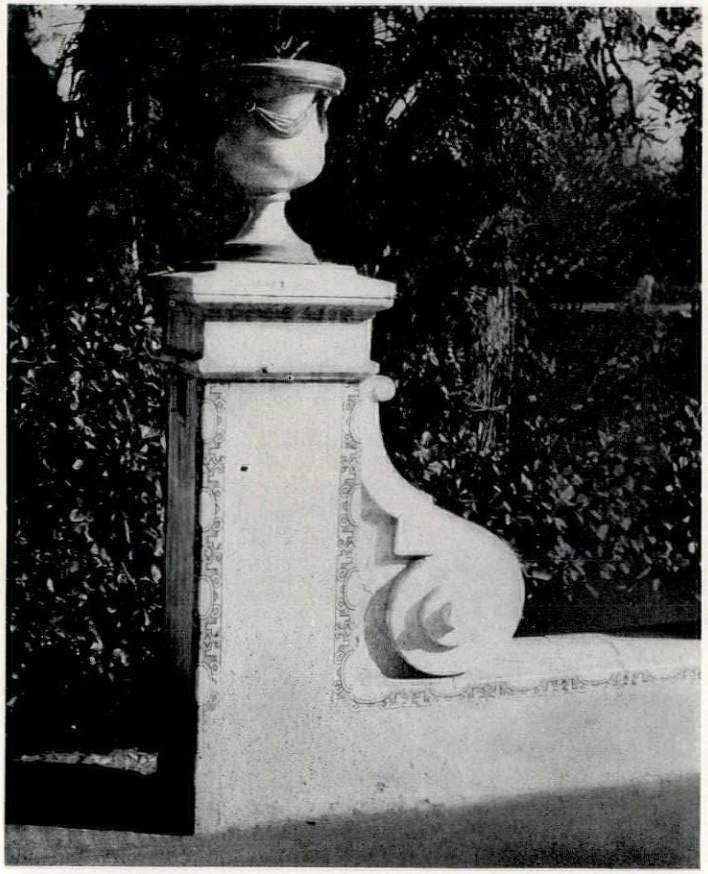
In planning an Andalusian garden it is well to follow a definite color arrangement. As said before, more color is supplied by the tiles than the flowers. A fairly large garden might have all its bordering in alternate blue and white, or yellow and white; very effective is a combination of black and white. A study of the oldest examples shows that not nearly so many colors were assembled in one enclosure as modern gardeners are inclined to use.

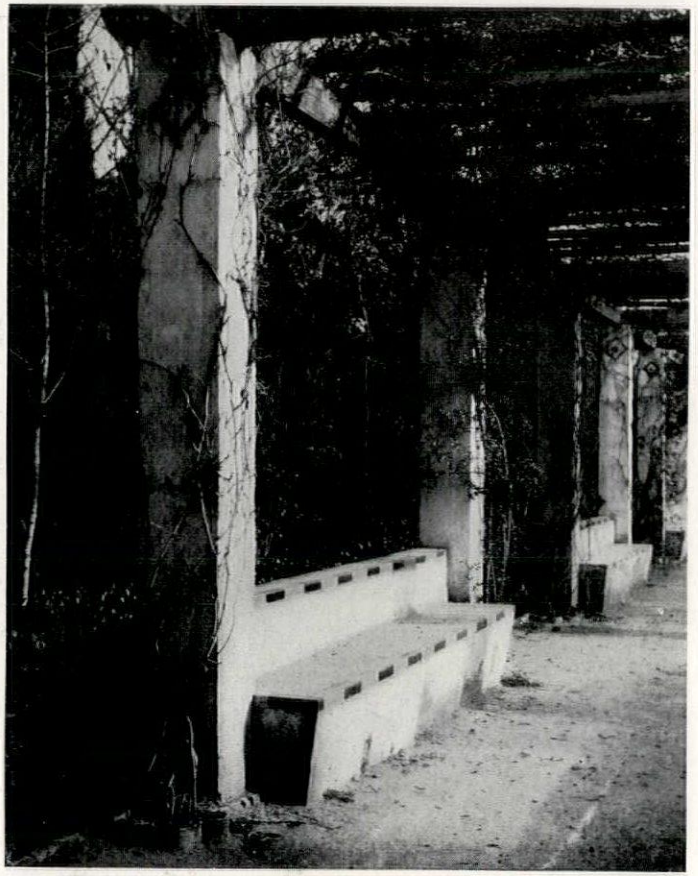


TILED PATIO AND HOODED WELL WITH EARTH POCKETS AT THE SIDE FOR PLANTING, SEVILLE



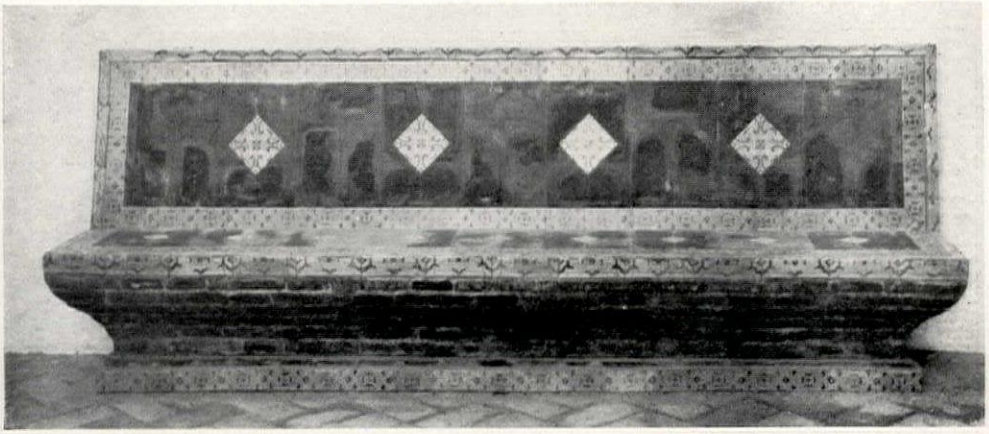
DIMINUTIVE PATIO GARDEN WITH BRICK EXEDRA, SEVILLE





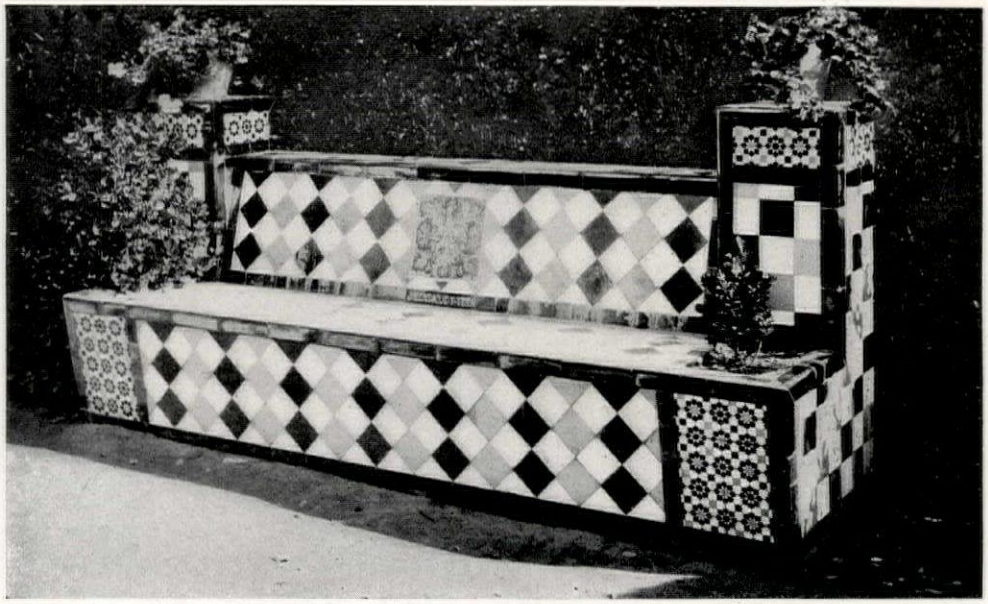


TILE AND STUCCO DETAILS FROM THE PARQUE DE MARIA LUISA, SEVILLE



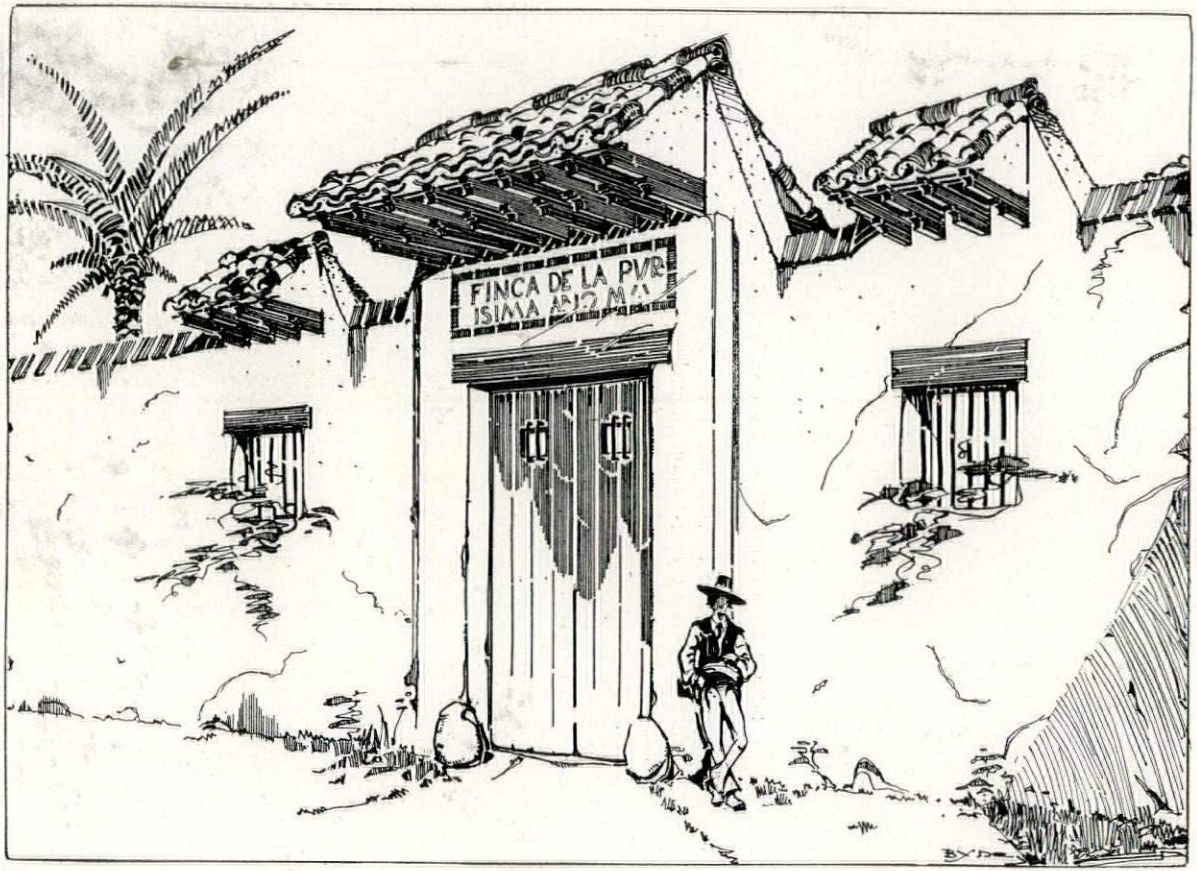
BENCH EXECUTED IN POLYCHROME TILE

Color tiles are also applied to the construction of garden stairs, the color confined to the riser, while the nosing and tread are of unglazed earth color; the same type of stair is common in patios. A stair extending between two terraces is made broad enough to accommodate a border of flower pots on each side.



BENCH EXECUTED IN POLYCHROME TILE

Almost as ubiquitous as the tiled walk is that of river pebbles laid in patterns—an attractive mosaic of deep purple, grey, and white. The effectiveness of this simple medium is surprising. It was not considered too cheap or commonplace even for royal precincts, as witness the magnificent pebble escutcheon of Charles V in front of his fountain in the Alhambra Park. No Moorish example however is as elaborate as this, for in pebble pavements as in all other bits of design geometric patterns were the rule. Pebbles are also used for garden steps, in combination with stone nosing. Sometimes the white unit is supplied by sheep's



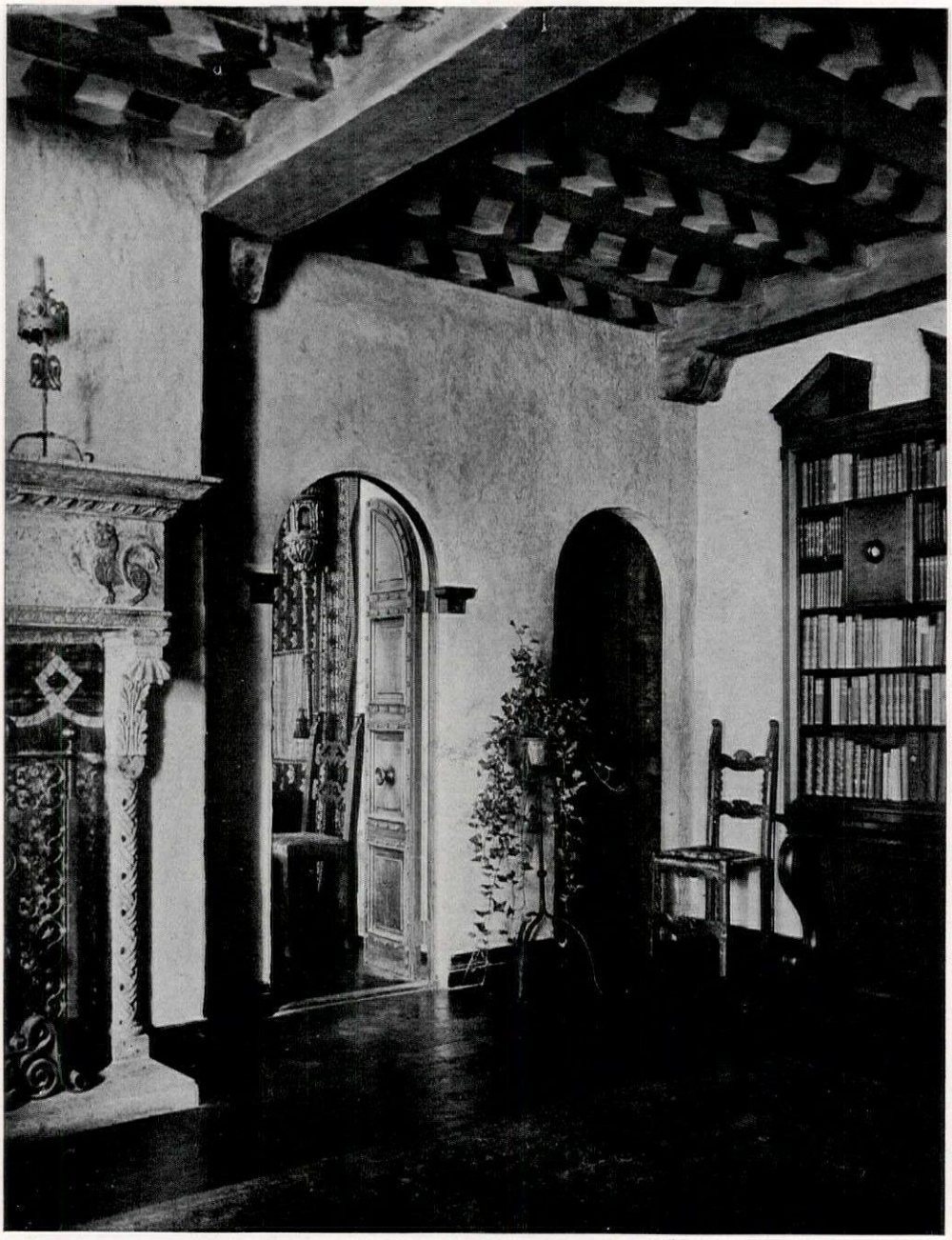



GARDEN ENTRANCE, SEVILLE, SHOWING USE OF TILED HOODS OVER OPENINGS

knuckles, but this, for some reason we have not investigated, is more general in the cloisters of Carthusian convents than in gardens. Occasionally the stones are laid flat, but as a rule they are set on edge and well grouted in cement.

The Andalusian garden is essentially a well kept garden. In physiognomy it is like the Andalusian himself, who is clean shaven, close cropped, even to cutting back the hair from the temple to a rigid straight line. His garden is not a sentimental spot with old-fashioned flowers running riot; no "sweet confusion"; none of the picturesque beauty of the English St. Catharine's Court. Just a smallish retired spot, not costly yet very sure of its place among gardens and proud of its ancient lineage, for it was created when the rest of western Europe was still semi-barbarous.

Marble Trough
PALACE OF THE MARQUES DE PENAFLOR, ECIJA





APARTMENT OF ALFRED C. BOSSOM, NEW YORK CITY

# The SPANISH-INDIAN TRADITION IN INTERIOR DECORATION

*By Rose Henderson*

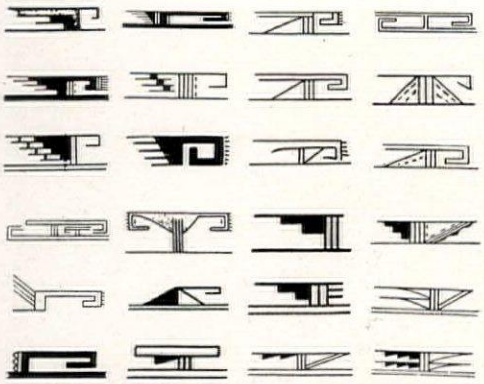
FOLLOWING THE LEAD of painters and architects, decorators are adapting Spanish-Indian tradition and design in interesting new interiors, to which they have conveyed something of the charm of the old Mission churches, where primitive vigor and simplicity are combined with the luxuriance of elaborate carving, rich altar cloths and hangings. In the Southwest especially, where the Pueblo-Spanish type of building has been effectively developed, interiors show the carved polychrome beams, decorative friezes, panels and borders, with patterns that are often direct copies of Indian pottery and weaving motifs. Aspen sticks are used with surprising richness of effect, as in the New Mexico Art Museum, where they form herring-bone patterns between ceiling beams. Mexican fireplaces are common, and simple, straight-lined furniture is carved in symbolic devices which are often painted in crude blues, reds and yellows.

Both colors and patterns should be used with discernment, of course. When applied to rough plaster or to heavy wooden beams in the plaster houses of the Southwest, they are appropriate and satisfying. Some of them would be obviously out of place in the ordinary modern interior: yet even here motifs could be selected and adapted so as to harmonize. Like the typical Indian blanket, this decorative design is a primitive, desert-born thing, and in the proper setting is as effective as a rattlesnake against yellow sand. The Spanish realized this and used colors and patterns with excellent effect, bringing to the native artistry of the Indian something of the richness and refinement of the Moorish and Arabian influence.

The new Franciscan Hotel at Albuquerque, New Mexico, is a carefully studied model of the Spanish-Pueblo type, by the Albuquerque architects, Trost & Trost, and it has been treated with exceptional insight and comprehension by the Michael Holbach decorators of Chicago. Thick partition walls in rough plaster have the sensuous crudeness of the exterior architecture. An interior arch over a short flight of steps carries the projecting wooden beams and carved pillars and vigas that are characteristic outside features. The severity of gray walls is relieved by a variety of arches and by balconies with carved railings in the familiar jagged lightning motif. The austerity of the general architectural scheme provides an excellent foil for the colored friezes and other decorative details. Richly colored Indian design is effective in dining-room ceiling and wall borders and in medallions appropriately set in interesting wall spaces. The design appears on heavy carved ceiling beams and on stained glass windows. It is carried out in vases, flower-stands, rugs, hangings, stationery and other furnishing details. It frames a Southwest landscape painting, a pleasing over-mantel decoration in a room



APARTMENT OF ALFRED C. BOSSOM, NEW YORK CITY



BIRD MOTIF ON POTTERY

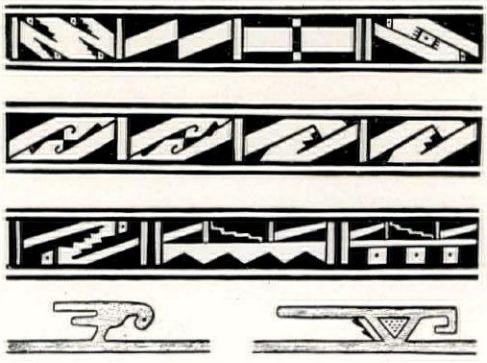
where the main walls are kept severely plain to off-set the dark tiled floor and heavy dark ceiling beams. The whole interior is rich but spacious, filled with fascinating detail that keeps the right accent and is a proper unit with the whole structure.

Mrs. Inez B. Westlake, of Albuquerque, who made the designs for the hotel dishes, stationery and tooled leather furniture, has also adapted Indian decoration for ceilings, panels, bands for pillars and side walls. She gathers her motifs from the work of modern Pueblos as well as from prehistoric baskets and pottery. A bird design by Nampaya, a famous modern pottery-maker, is a striking conception in black and orange which Mrs. Westlake has used as a medallion for wall decoration, the motif being repeated in a fascinating border. Bands of cloud and flower symbols are highly conventionalized and very effective in black and buff. The colors vary from soft yellows to deep orange and red and they run through the whole range of browns to purple black. Mrs. Westlake has also used the designs with sympathetic skill for stenciled hangings, embroideries and enamel work.

Alfred C. Bossom, the New York architect, though an Englishman by birth and early training, has become much interested in American Indian culture and has even evolved his own totem pole. He has finished and furnished his New York apartment in an adaptation of the Spanish-Indian style. Rough plaster walls, gaudily-painted ceiling beams, and the arched doorways of old Spanish churches have been combined with sumptuous rugs, hangings and furniture in a spacious interior which suggests the practicability of using portable decorations rather than permanent ones in city apartments where tenants are frequently changing about.

The entrance hall of Mr. Bossom's apartment with its stone floor of irregular slabs introduces the atmosphere of the place. An arched doorway opens into the library where the polychrome ceiling beams are at home with roughly troweled walls and rich floor coverings. A small double window with carved wood grating is let into the partition between hall and library, giving a delightful openness and adding to the appropriate sense of intimacy which has been achieved without losing the austere dignity of the basic decorative theme. Large windows join the beamed ceilings with a heavy casing, and long silk over-curtains hang to the floor. A high wall niche is placed between window and mantel, forming a fit shrine for the family totem pole, and over the fireplace a low arch, sunk into the plaster, makes a background for a massive bust flanked by antique candle-sticks.

An arched doorway into the dining-room reveals rich wall hangings used behind a bishop's bust and ornate altar lamps of Spanish design. Massive doors, carved fireplace, and tall, simply-cut book shelves all serve to balance the heavily beamed ceiling. In a large bedroom a



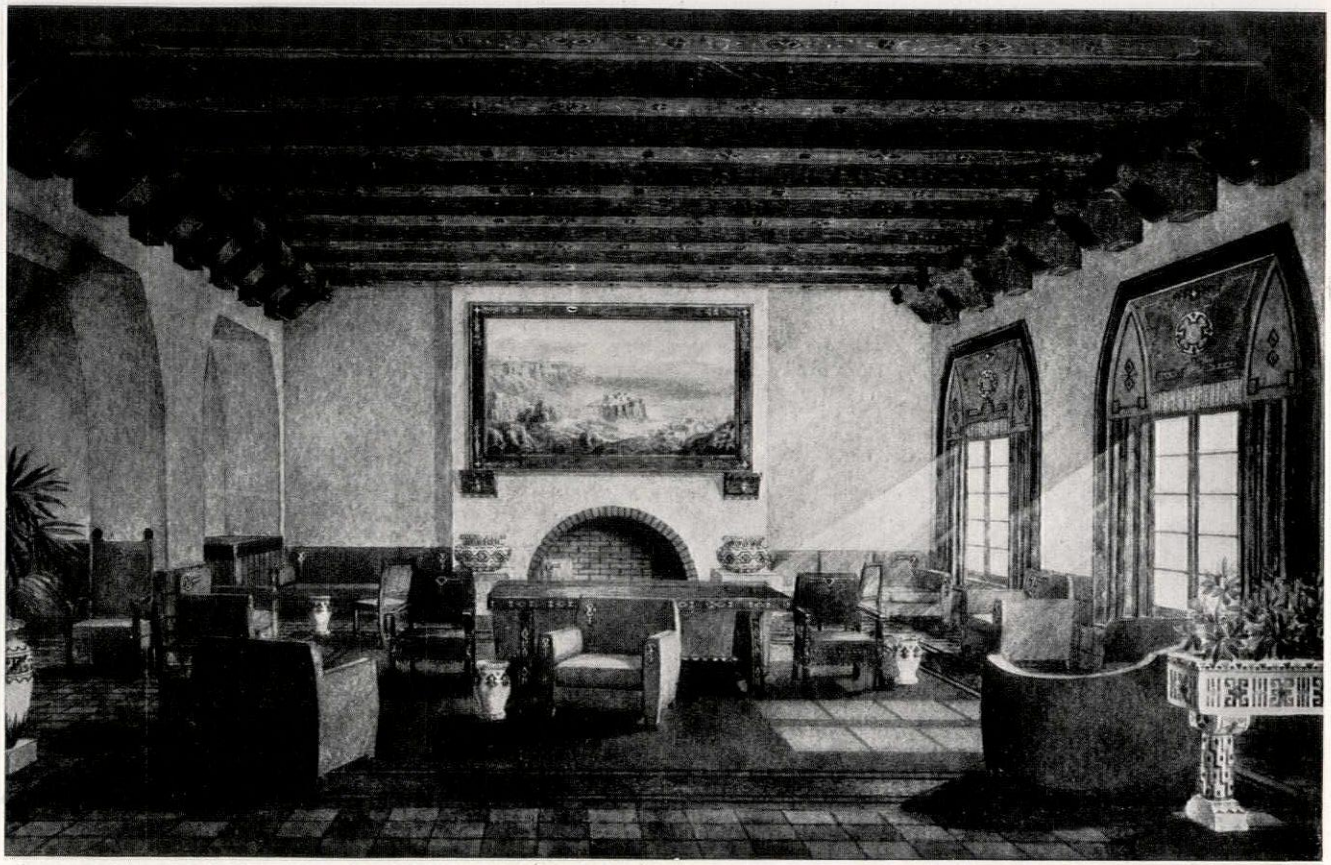
POTTERY DESIGNS

FRANCISCAN HOTEL, ALBUQUERQUE, NEW MEXICO
Trost & Trost, Architects

rough plaster finish takes the place of ceiling beams, and the side walls are topped by a deep moulding in simple pattern. A carved and painted Spanish bedstead with soft brocade cover is a colorful piece of furnishing at home in the unique setting.

Throughout this unusual apartment Mr. Bossom has realized the possibilities of indulgence and restraint which the Spanish-Indian type so adequately offers. Builders of the California, New Mexico and Arizona missions had enough of the monastic about them to enjoy the majestic simplicity of great stretches of unadorned wall space, and they knew how to relieve this austerity by voluptuous masses of colored textiles, by a riotous richness of ceiling beams or more intricate altar carvings. Mr. Bossom has caught something of the poetic largeness of this distinctively American mode, and he has combined with it a whimsical everydayness that is the identical note needed for the domestic adaptation he has made.

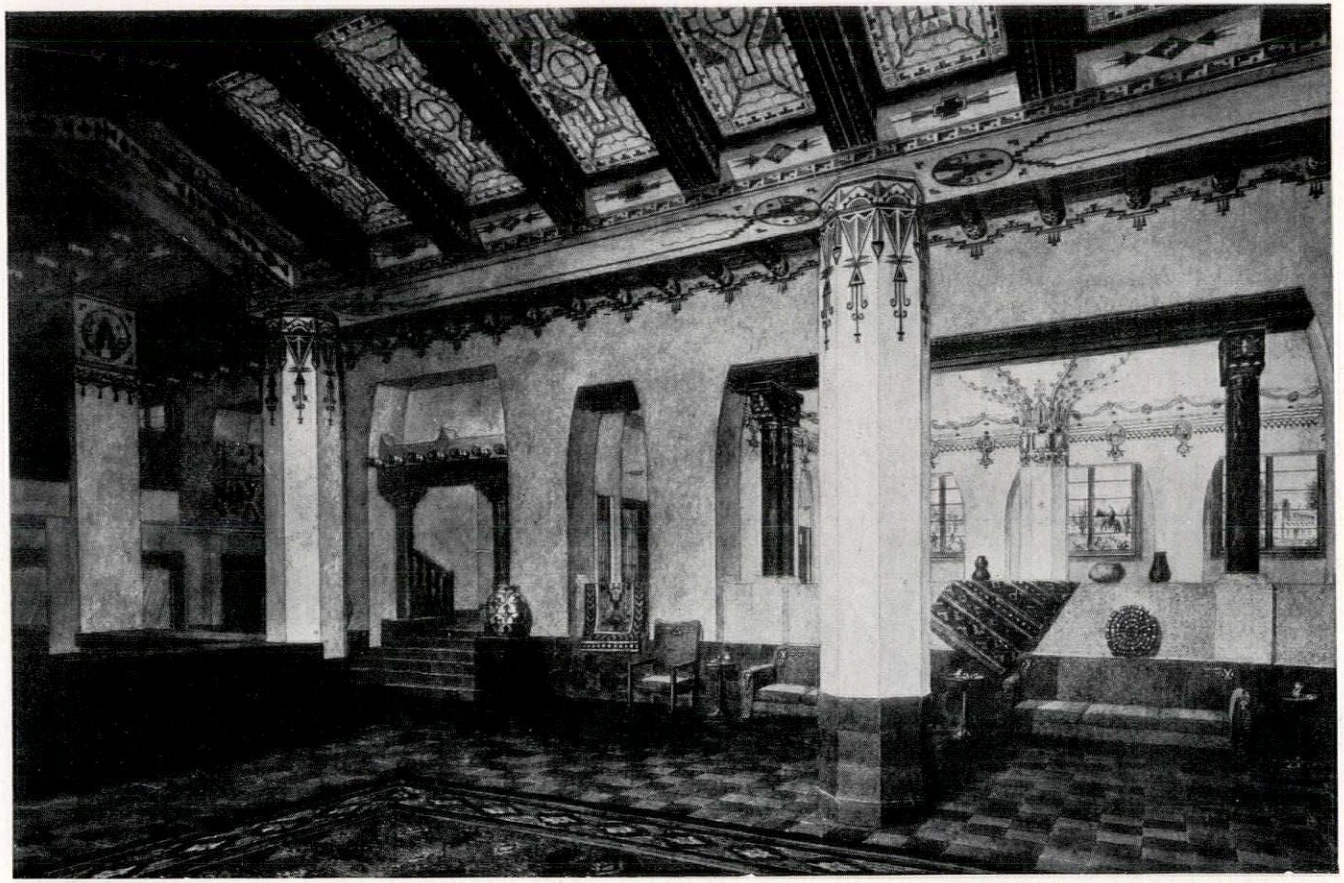
Some interesting things have been done in applying Indian design to modern textiles by M. D. C. Crawford, a resourceful designer who has made an extensive study of Spanish-Indian culture and is enthusiastic about its possibilities. He has employed both Peruvian and Southwest Pueblo motifs in designing silks and cottons. His copy of a woven tissue of ancient Peru contains figures like Etruscan ornaments. A "silk exquisite" has a background of soft vital red and fantastic geometrical forms in green, black, orange and tan. A Hopi pottery design is reproduced in dull reds, blues, purples and tans on a black background. All of these are striking exam-





FRANCISCAN HOTEL, ALBUQUERQUE, NEW MEXICO

Trost & Trost, Architects



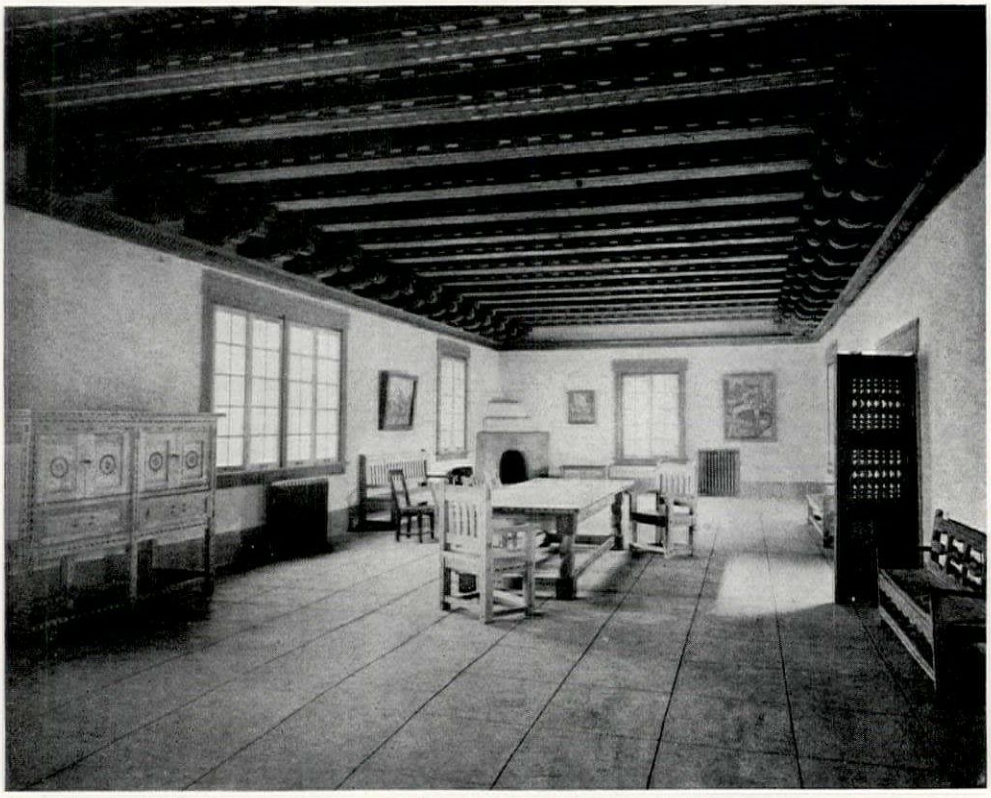


FRANCISCAN HOTEL, ALBUQUERQUE, NEW MEXICO

Trost & Trost, Architects



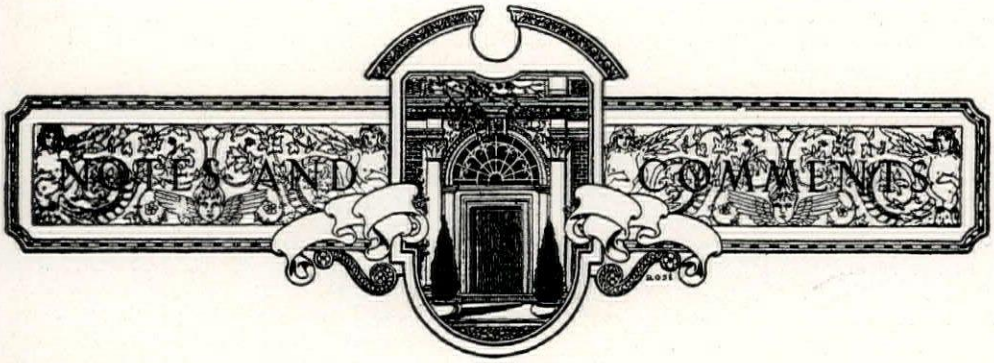
FRANCISCAN HOTEL, ALBUQUERQUE, NEW MEXICO
Trost & Trost, Architects



RECEPTION ROOM, WOMEN'S MUSEUM BOARD, SANTA FE, NEW MEXICO

ples of what can be done in the way of applying and adapting Indian motifs. They suggest the possibility of infinite variation and of a new and vigorous source of inspiration for designers.

For whether the Spanish-Indian note is found in the furnishings of an Adirondack camp, in a New York apartment, or woven into hangings, jewelry or costume decoration, it carries the virile originality of creative artists who delighted in their craft and who expressed through it their peculiar response to natural forces. There is the warmth of desert sunlight in the glowing colors and the manifold variety of nature in the intricate patterns. Living always in close communion with earth and sky, the Indian felt a mystic charm in the simplest natural objects. He observed with uncanny accuracy and reflected in poetic symbols the truth and beauty as he saw it. Falling rain, jagged lightning, mountain ridges, the roofs of his terraced houses, all the large sweeping forms as well as the minute configurations of leaves and butterflies inspired the primitive mind with decorative theme. And these were multiplied and modified in a bewildering variety and were extended to include Spanish and Moorish and Arabic suggestions. Even the aloof and isolated Zunis of western New Mexico bear the impress of Spanish heraldic and religious art. Yet along with this imported culture of the conquistadores went the age-old heritage of Indian achievement, the weaving, the pottery, the baskets, the terraced houses, with symbolic patterns evolved thousands of years before the Spanish invasion. It is to this rich store of primitive American culture that American designers are now turning with new sympathy and understanding.




## THE SKYSCRAPER IN THE SERVICE OF RELIGION

Recently the New York newspapers published the sketch of a combined church and skyscraper which a Methodist congregation proposed to build on upper Broadway from plans by Mr. Donn Barber. The sketch was, of course, only the preliminary suggestion of a design prepared for purposes of publicity, but it was at least to one reader provocative of some far-reaching and novel speculations. Not that there is anything particularly novel and far-reaching about the idea of housing a church in a few floors of a skyscraper erected as an investment. The Christian Scientists have already practiced this method of demonstrating the unreality of material things. But the proposed skyscraper on Broadway was designed, not as a business but as an ecclesiastical edifice, and that part of it which was not used for divine service is to be devoted to one or another of the many social and educational activities which an enterprising modern clergyman associates with his church. The writer could not help wondering whether in both these respects Mr. Donn Barber's sketch might not prophesy the advent of a new and extremely promising type of ecclesiastical architecture.

No variety of building ever erected looks less promising as a means of awakening feelings of awe and aspiration with which the architecture of the Christian church is traditionally associated than the rectangular skyscraper built before the Zoning Law went into effect. Its bulk and height might make it imposing, but it was imposing after the manner of a cliff rather than after the manner of a steeple. Its habit of rising straight from the street to a level some hundreds of feet above irritated and fatigued the human eye. The eye demands that when buildings rise as high as hills they shall, like hills, become smaller as they approach their summit. As it happens, however, skyscrapers of this kind, unless you apply the name to modest little twelve or fifteen story buildings, are no longer being erected in New York. The law now requires the upper stories of these towering edifices to occupy an amount of space which diminishes in proportion to their height; and this reform, while it was adopted for practical reasons, has, as is already generally recognized, brought with it striking architectural advantages. It has enabled the skyscraper to attain to beauty. What Mr. Barber's sketch suggests is that among these architectural advantages there looms a possibility of erecting a skyscraper which might express for religious minds aspirations analogous to those which they formerly derived from the towers of a lofty cathedral.

Obviously it would be only too easy to overwork the analogy. If a sky-scraper church corresponding to Mr. Barber's sketch is ever erected, it will possess many architectural values which are wholly different from those of the loftier members of the French cathedrals. Different, but possibly not inferior. These values will be derived from the varying effects of atmosphere and light which such buildings will produce at different times in the day and on different days in the year. They will find themselves entangled in the clouds and in the mysteries of the upper air just as a hill top does. As darkness draws near, they will gradually loom up as sources and centres of light and murmuring sound in a world which from natural causes is perforce frequently dark and hushed. Vague but strong emotions of this kind lend themselves with the utmost good will to symbolic expression in architecture, and whenever skyscraper churches are actually erected there is no reason why they should not receive such expression from the mind of a sensitive and imaginative architect. The designing of a building

which scraped the sky for the greater glory of the Christian God would constitute the most unprecedented, inspiring and generous opportunity afforded by modern architecture to create a noble edifice which might enhance the meaning and dignity of contemporary Christianity.

HERBERT D. CROLY.

## COMPETITIONS AND COMPETITIONS

In the recurrent argument against competitions, one factor has been neglected—the difference between art and science. In science, for a given problem, there is but one right answer. In art, if it is really creative, many answers may be right. In architecture there are elements both of science and of art. During the past two generations the scientific aspect has tended to predominate. Buildings have been held to be wholly an outgrowth of conditions, materials, functions, and environment. Insofar as this were really true there would be no need for competitions. That is why there is no need for competitions among engineers. It is true in architecture, to a considerable degree, when the problem is circumscribed or standardized so that there is little freedom: as in schools, office buildings, or commercial structures—or even in the ordinary courthouse or post-office.

There was much approval recently when a great commercial concern having to make an addition to its metropolitan office building, invited representatives of twenty-one firms to a luncheon and selected their architect from among these by drawing a name from a hat. It was widely remarked that any one of them would have done the work to equal satisfaction. That is perfectly true, but there are special reasons. The work is up, and we may see that the main body of it would scarcely have varied a hair whoever had done it; so many bays more of a uniform façade already established. It is a work of science, guided by taste.

But the situation is often very different. The conditions may permit a great variety of differing solutions. The designers' hands are not tied. This is the case with every ideal "monument," or work which is to be primarily a monument, like the Chicago Tribune tower. The presence of novel and unusual elements may mean that a great effort of the imagination may be necessary, an inspiration which may not be counted on to come to any one or two. Such cases existed, for instance, in the competitions for the Municipal Building and for the new Court House in New York. This is where the creative power of the artist rather than the analytical power of the scientist is needed. This is where a competition is ideally required, where it is the one method of securing the best design.

## FIRST SESSION OF THE FONTAINEBLEAU SCHOOL OF FINE ARTS

A successful summer training school in France for students in architecture and in painting has been realized in the Fontainebleau School of Fine Arts, which has completed its first session. The results achieved are exceedingly hopeful, judging by the enthusiastic statements of Mr. Whitney Warren, chairman for the Department of Architecture, and of Mr. Ernest Peixotto, chairman for the Department of Painting.

This summer school for American students was conceived by M. Maurice Fragnaud, *Sous Préfet* or Governor of France, and is conducted under the direct patronage of the French Government. It was opened as an experiment from June 25 to September 25 of last year and it is intended that it shall not duplicate any course of study that now exists in France or in America. The school is located in the Palace of Fontainebleau and the teaching staff is chosen from among the most distinguished French architects and artists.

During its first year the school was conducted under the direct leadership of M. Victor Laloux, Member of the Institute, Chief Inspector of National Monuments of France, and a professor who counts among his pupils many of our most distinguished American architects. The recent director was M. Jacques Carlu, Premier Grand Prix de Rome and pupil of MM. Duquesne and Recours of the Ecole des Beaux-Arts, who was aided by M. Bray, Prix de Rome, and by M. J. P. Alaux, a former professor of the Carnegie Institute at Pittsburgh and at the A. E. F. Art Training Center at Bellevue.

The Department of Painting was directed by M. A. F. Gorguet, famed for his notable paintings for the Pantheon de la Guerre, and M. Jean Despujols, M. Jaulmes and M. Paul Baudouin, younger but no less brilliant decorative artists.

During the summer there were forty students in architecture who were put through an intensive programme of short problems that were purposed to forward the method of instruction of the Ecole des Beaux-Arts, with frequent criticisms and a varied presentation. Architectural design was supplemented by making of measured drawings

and by innumerable sketches on study trips to surrounding chateaux, such as Vaux-le-Vicomte and Courances, as well as to the Chateaux of Touraine. At Chateau Le Bréau the students were entertained by the American artist, Mr. Walter Gay. On a visit to Paris they were given the benefit of a criticism by M. Laloux upon the drawings of the current contest for the Prix de Rome.

It is the desire of the American committee in charge of the school that the number of American students be increased, but that a higher standard of admission be set in order to insure an exceptional student body of marked ability.

In architecture it would seem desirable that the selection be made through the competitions of the Beaux-Arts Institute of Design and in coöperation with the schools of architecture in this country; and in painting by similar competitive selection by the approved art schools. To do this it will be necessary that scholarships be endowed by our leading art centers, by schools and colleges of architecture and by ateliers.

France has placed its stamp upon art teaching in America through the fame of its "Beaux-Arts method" and it will continue to render a real service by this splendid undertaking at the Palace of Fontainebleau.

A. Lawrence Kocher.

## "THE SPIRIT OF THE GARDEN"

### By Martha Brookes Hutcheson

In a book on artistic matters, it is always difficult to maintain the proper balance between the technical and the popular points of view. One may easily find plenty of books by eminent authorities which are so theoretical, so technical and so dry in presentation that they are dull to read and hard to follow. On the other hand, there are endless so called popular books, which swing along full of inaccuracies, adjectives and gush. In "The Spirit of the Garden," (Atlantic Monthly Press, Boston, $8.50). Martha Brookes Hutcheson has given us a book remarkable for its concise and practical suggestions, its grasp of fundamental principles of garden planning and which is at the same time, brilliantly and entertainingly written.

There are about one hundred and eighty unusual and beautiful pictures of American and European gardens which illustrate a text full of inspiration, knowledge and suggestions. The principal divisions are on the plan of the flower garden, the importance of axes, the use of the hedge, water in the garden, arbors and gateways and a delightful essay on the subject of greenhouses. In the discussion on the flower garden, Mrs. Hutcheson takes up in succession, the size and type of the garden, the main line of approach connecting it to the house, the transition from one part to another, the adaptation of natural levels to a scheme and the use of green in the construction of the garden.

The style is flowing, colloquial and polished. A great deal is said in a short space. There is a world of suggestion in a single line. The whole subject is analyzed, classified and with an amazing grasp of fundamentals. The formal and the informal garden are both treated with insight and with such impartiality, that one wonders which of the two is preferred by the author. Usually, the designer belongs to one of these schools and can see nothing in the other. After discussing the formal approaches to the garden, Mrs. Hutcheson says of the less formal approach, "The pathway which leads from the house to the rambling garden should be considered with such care that it seems to flow out from some vantage point of the house. An informal path can lead up with so beautiful and dignified a curve to the steps of a porch or the grape-covered arbor of a terrace, that its importance is quite as great as the straight scheme on which we enter the formal garden. If both approaches are carefully planned and planted, one is quite as attractive as the other. The deciding element in the choice lies with the architecture of the house, the lay of the land, and the taste of the owner."

In my opinion, every architect who ever does a country place should read it, and every garden lover should have it on a most convenient table.

William Lawrence Bottomley.

## ARCHITECTURE IN CANADA

Americans are a little apt to consider Canada "slow," and judged solely by American standards this charge is not entirely unjustifiable. It should be considered, however, that the Dominion has been, and still is, face to face with tremendous problems and contending against the most fearful odds. Let it be remembered that Canada, occupying a territory similar in area to her southern neighbor, the United States, has but one-fifteenth part of that neighbor's population, ninety per cent of whom are resident within one hundred miles of the American border. Two cities, Toronto and Montreal, claim at least one-eighth of the entire population of the country. It will be readily

seen that Canada, outside of these two more important cities, must be sparsely populated; that the vast natural resources (and in mineral wealth alone, quite apart from agriculture, she is one of the richest countries in the world) are entirely undeveloped; and that, in consequence, the Dominion progresses but slowly.

Another of Canada's great troubles is due to the inflated conditions which obtained during the great war. Between 1914 and 1918 more than five hundred thousand "Johnny Canucks," or one-sixteenth of Canada's entire population, were sent to Europe to aid the mother country and her allies in their time of need. Her sacrifices in money and materials were in goodly proportion to the men. The Dominion was plunged deeply into debt, and the reaction upon the business and material prosperity of the nation has been great. During this war period thousands of large manufacturing plants sprang up, well nigh overnight, in order to supply the demand for aeroplanes, munitions, etc.

With the cessation of hostilities came the cessation of high wages and enormous profits. Plants that had been engaged in the turning out of shells now turned their activities to the making of boilers, steel pipe and one hundred and one other articles for peacetime consumption, only to find that every other plant was doing exactly the same thing. The result was that many men who had accumulated fortunes during the war lost all in their endeavors to reconstruct their businesses, while the employees, who, in the main, had spent their large salaries as they had earned them, found themselves stranded with neither work nor money. Here then lies one of the great causes of the ruin of industry. Such men of wealth as had retained their wartime profits now invested these outside the Dominion, feeling doubtless the instability of conditions at home, and yet, by so doing, still further unsettling those conditions.

And what else? Well, to look for a moment at the international side of the affair, we may ask the question: "Why the great dearth of business in Canada as compared with the living, throbbing, busy condition of the United States?" The writer believes the answer lies in the fact that two nations, which were never in this wide world intended to be separated, are living out their existences entirely apart from each other. We boast that over a three thousand mile frontier we have not a single gun or fortress, but why should we not carry our position through to its logical end, and dispense entirely with the frontier? Isolated by the great Atlantic from the mother-land, and by huge walls of tariff from the United States, eight million people are endeavoring to develop a country as large as the entire continent of Europe. Without further explanation it can be seen that real prosperity cannot come to Canada unless she is developed from without by Great Britain (and just at present Great Britain has troubles of her own sufficient to keep her occupied) or from within by means of some type of political union between Canada and the United States, in such a manner as to allow the latter to develop for their mutual benefit the great natural resources of the former.

What has all this to do with Canadian architecture? Everything. It is only during time of financial security and commercial prosperity that architecture, or, indeed, any art, can flourish.

America today is wealthy, business is good. She is, in fact, the richest of all the peoples upon the face of the earth; and now, having satisfied the coarser, the material requirements of life, she can afford to turn her attention to the task of building beautifully. Canada has little business and therefore requires no new buildings of any importance. When she does build she can afford the essentials and will not, with few exceptions, spend one cent more than is strictly necessary, and say what you will, architecture costs money. It has almost seemed to the writer that until the Dominion is placed upon a better footing economically there can be little or no field for architecture there, and the events would seem to bear me out in this conclusion. Many architects and draughtsmen are leaving Canada to seek "fresh woods and pastures new," and the future for the profession in Canada looks exceedingly black.

H. HAROLD KENT.

## HISTORIC ORNAMENT

The older books on ornament, such as Meyer's "Handbook," were primarily collections of examples, the illustrations being all-important. They showed the motives prevailing at different periods, without contributing much to an understanding of their genesis and transformation. In the newer books, such as Hamlin's "History of Ornament," the second volume of which, devoted to the Renaissance and Modern periods, has just appeared,* the text assumes greater relative importance. There are, to be sure, over seven hundred and fifty figures, but the novelty of the book lies in the five

*The Century Company. $5.00.

hundred pages of text, where the evolution of the ornamental motives is traced.

The fifteen chapters cover the Renaissance and post-Renaissance styles of ornament in Italy, France, Spain, the Low Countries, Germany and England, the American Colonial, and the developments of the nineteenth and twentieth centuries in Europe and America. They discuss the origins, development and relation of the styles, the chief motives employed, and their application in architecture and the industrial and decorative arts—ceramics, metal work, textiles, etc.

For each period and style there is first a general introduction, dealing with the artistic forces at work, then an individual discussion of single motives, such as capitals, candelabra, acanthus foliage, festoons, and so forth. In general this is competently and suggestively done. A determined effort has been made to come abreast of recent discussions, and useful lists of current books are appended.

In a few instances, to be sure, reliance on traditional opinions and unfamiliarity with important works of recent date destroy the value of certain passages. Examples occur in the discussion of the balustrade: "The earliest Renaissance balustrade is that which crowns the Pitti Palace in Florence; it is probably by Brunelleschi (1435-1446). Who it was conceived the idea of the 'double-vase' type of round baluster I do not know." Now, since the recent determination of the date of the Pitti as after 1458, the traditional attribution to Brunelleschi (d. 1446) has been generally abandoned. On the other hand it is well enough known that the "double-vase" form of baluster was an invention of Donatello, in the pedestals of his Marzocco and his Judith.

More serious is the persistence of outworn conceptions of a general nature. The old prejudice against the baroque persists, due to lack of understanding of its own novel mode of plastic composition—an organic symmetry of parts which are incomplete in themselves. It is still regarded as belonging to the Renaissance, and being, by Renaissance standards, a "decline." To the author the Porta Pia is "an extreme and unhappy example," but the superb photograph shown will itself belie this for those whose eyes are open to beauties of another character. The twisted column is merely an "unhappy innovation, made famous by Bernini's monstrous bronze baldachino in St. Peter's," "where its ugliness was magnified tenfold." There is no realization that the twist, in opposite directions, was to make one column cry aloud for its fellow on the other side of the axis.

There are a multitude of excellent line cuts drawn specially for the work by the author and his students at Columbia, many fine half-tones, and four acceptable color plates.

FISKE KIMBALL.

## THE ARCHITECT AS AN ACCURATE THINKER

Architecture itself, no less than its practitioners, has made itself a matter of objective interest to the lay public. It has insisted upon its forms and its styles until these superficial phases have come to eclipse not only architecture in its larger sense, but the architect as well. And this is true not only of the lay public but of the architect himself. He is less conscious of his identity as an architect than the lawyer, the doctor or the clergyman is conscious of his professional identity.

It is especially interesting, on this account, to bring to the attention of such architects as may have missed it in the "Times" Book Review of June 10th (1923) some words by John Jay Chapman in an essay called "Concerning Our Slovenly Thinking." Mr. Chapman says of Americans that "except in certain very distinct and practical fields of endeavor, they avoid taking thought." And further:

"In many fields of endeavor accuracy is an absolute essential of success. In matters of physical science, which is, indeed, a field of business, and is supported and justified by commercial results, the Americans use their minds most accurately, because they must. Moreover, our doctors, whose profession touches both the natural sciences and the moral sciences, have been steered by their contact with things which impose accurate thought into very sincere ways of thinking about the mystic and vaguer elements of life. As for our architects, whose work combines engineering and esthetics, they lead in the intellectual life of America. One can hardly meet one of them without becoming aware that the man has reverence for the past, reverence for his art, and a noble kind of ambition. How strange is the contrast between this accurate thinking and reverence for tradition seen in our architects and the restlessness and impatience, the desire to break with past work and startle the world which many of our painters and very many of our literary men exhibit in their words and works."

Our architects, it is true, are called "reactionaries" by the new and young intelligentsia, whenever that self-appointed group displays sufficient intelligence even to include architecture within the compass of its cognizance—but if the charge be a true one, it is fortunate for the community as a whole.

But quite aside from the diverting controversy about liberal and reactionary beliefs in the field of architecture (with the architects all good, staunch reactionaries), it is of marked interest to find architects either noticed or mentioned by a lay writer, to say nothing of being designated, in all sincerity, as the leaders in the intellectual life of America. For the most part, the architect has been an unknown worker in the community he serves.

MATLACK PRICE.

## ACQUILA COURT

A distinctive type of store and office building, in fact, the only one of its kind erected in America, is now under construction in Omaha, situated in the heart of the city. It is Venetian in style and was designed by Holabird & Roche, of Chicago.

The building is composed of a north, east and south or studio wing, the latter connected with other parts of the building only by arched entrances on the west and extreme east ends. The studio building faces only on the court. The ground floor is reserved for art shops and a tea room of Italian design, the upper portion for artists' studios and living quarters. The ceilings of the studios are eighteen feet high, with a roof arrangement extending four feet higher, thus giving a total height of forty feet, although only two stories. There is to be no basement nor underground foundation to this wing, according to present plans, it being constructed on a single slab of reinforced concrete a foot thick, poured on the top of the ground.

It is intended to make the north and east wings four stories high, allowing the three upper ones for offices and the ground floor for stores.

The entrance of the building and the various corners are to be surmounted by low, broad-surfaced towers extending a considerable height above the building line.

The basement facilities are to be worked out after a most original plan of the architects. The individual shops have no basement entrances, but at the eastern end of the studio wing a loading platform will provide a place for depositing freight which will then be trucked to the various destinations.

ACQUILA COURT, OMAHA, NEBRASKA.
Holabird & Roche, Architects.

The shops, tea rooms, etc., on the ground floor, give onto a courtyard, from which the name Acquila Court is derived. The irregular flag stones paving the court are to be laid by an expert stone mason. The Venetian idea will be further carried out by the planting in the center of a shady fern garden with a clear brook running through it.

JAMES W. HANBERY.

## A CORRECTION

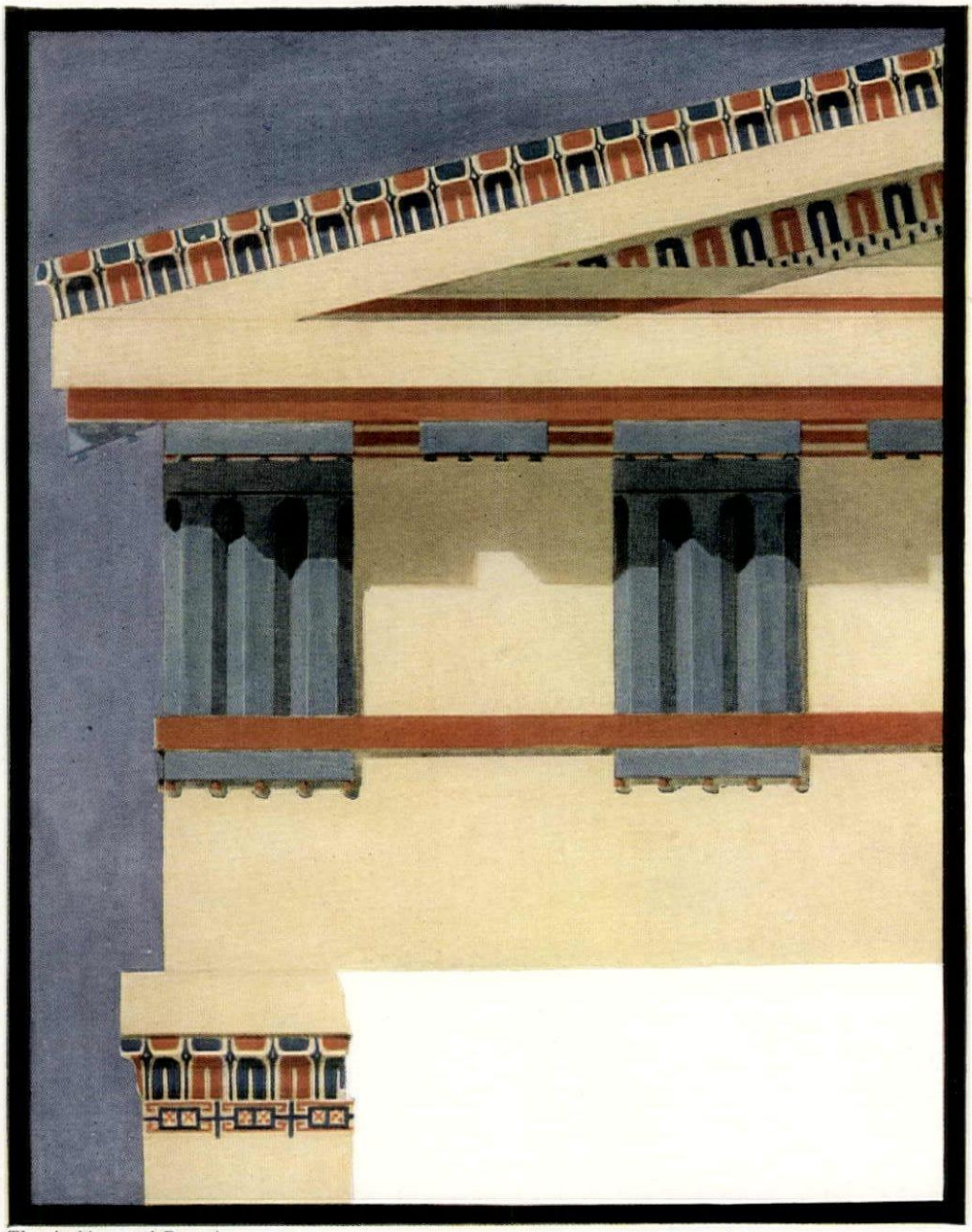
Our attention has been called to an error of attribution of authorship of the design of the American National Bank, Aurora, Illinois, illustrated on page 521 of the December, 1923, issue by the following letter which explains itself:

THE ARCHITECTURAL RECORD:

In the current number I note a cut of the American National Bank, of Aurora, Illinois. The Bankers Architectural & Engineering Co. employed me as Architect for this work. I am the author of the design and the plan. Mr. Fournier, who is indicated as the Architect, was an employee of mine and made the working drawings under my directions during the entire process of plan making, and partial construction and at this time my busineess connections with the Bankers Architectural & Engineering Co. were severed.

Yours very truly,

GEORGE G. ELMSLIE.



*The Architectural Record.*

A SMALL TEMPLE ON THE ATHENIAN AKROPOLIS
Restoration by Wiegand