

The ARCHITECTURAL RECORD

Vol. LIII
No. 4

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APRIL, 1923

Serial
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PUBLISHED MONTHLY BY
THE ARCHITECTURAL RECORD COMPANY

115-119 WEST FORTIETH STREET, NEW YORK

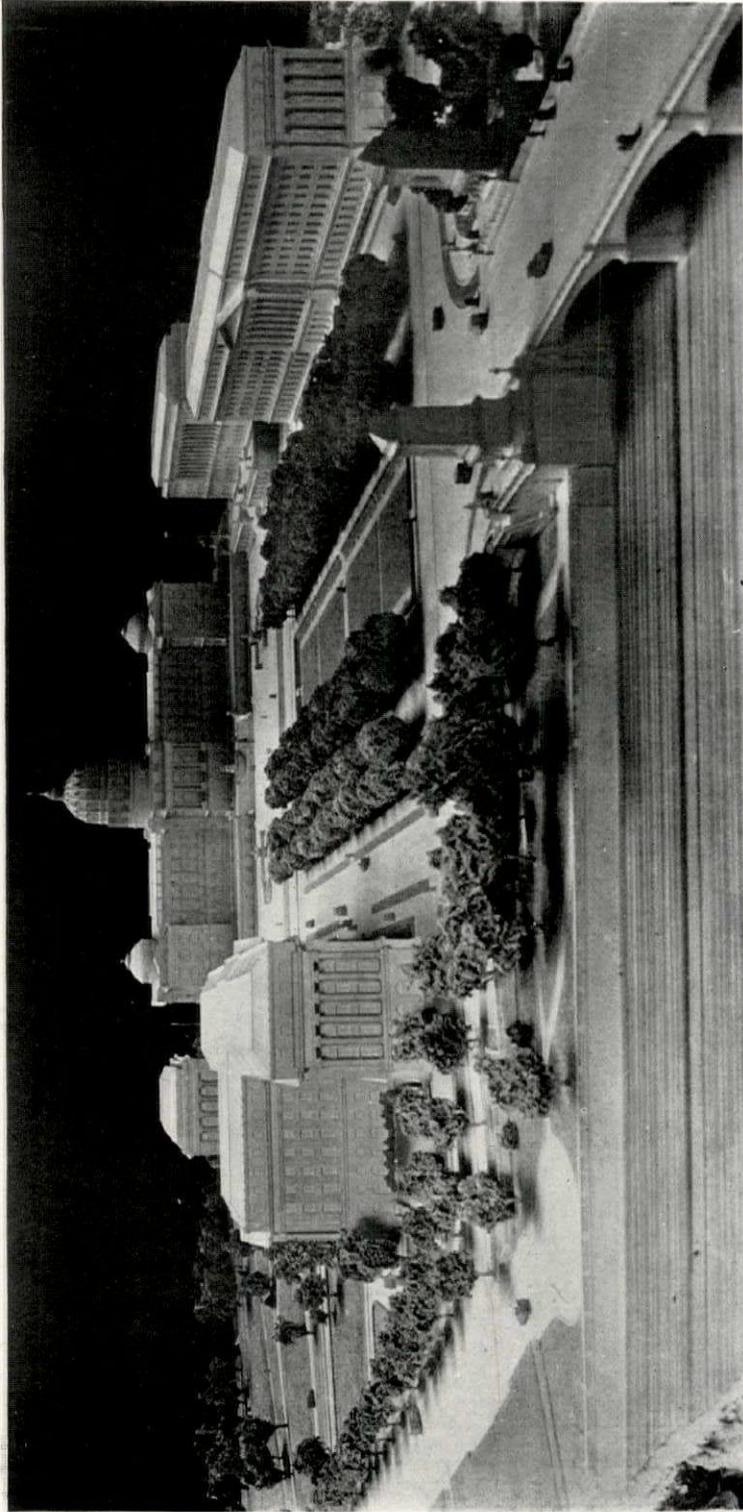
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The Architectural Record.

Scale Model of the Buildings, Grounds and Approach.

CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

April, 1923

The ARCHITECTURAL RECORD

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CAPITOL PARK

HARRISBURG, PA

ARNOLD W BRUNNER, ARCHITECT



By Matlack Price

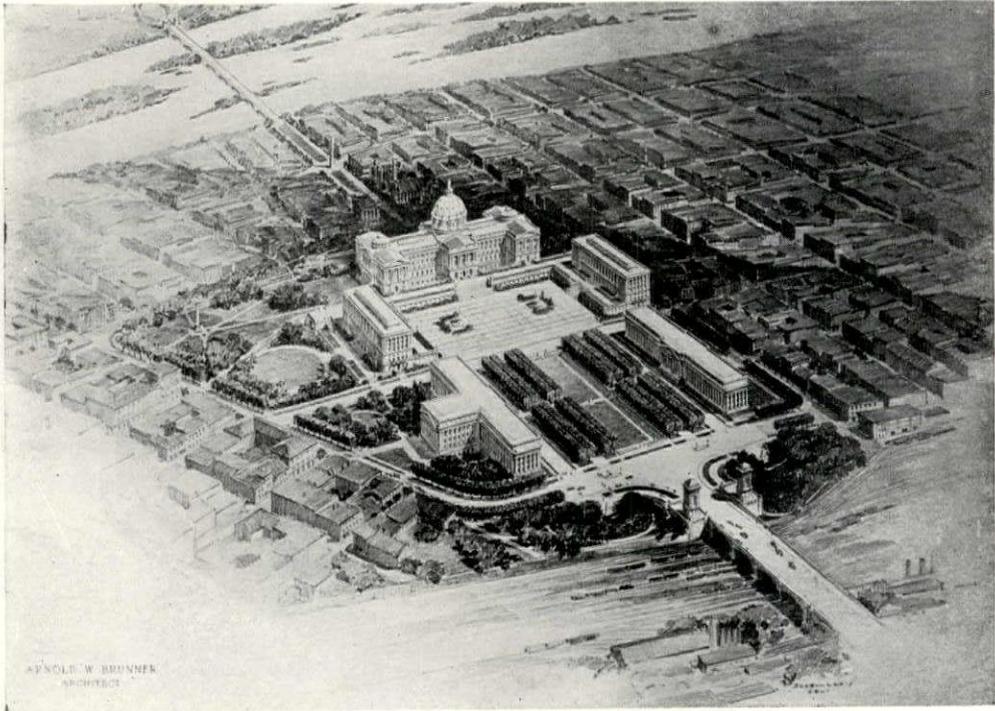
ONE OF THE weakest points in the attacks of the opponents of the Beaux Arts, architecturally, is their failure to suggest any architectural system to take the place of axial planning. This thought comes to mind most naturally in studying any project such as a State Capitol or a civic group, and also the feeling that formal and conventional buildings, arranged by a formal and conventional method, are especially infuriating to the expressionists who, not content with demoralizing painting and sculpture, often make gratuitous observations about architecture.

These exponents of esthetic enlightenment are particularly violent on the subject of classic architecture, which they affirm holds no meaning for the present age, and which fails to "express" anything but the reactionary tendencies of

our architects. If it were true that classic architecture holds no meaning for the present age, the present age might well be despaired of, and if it expresses nothing, by what other means are we to express dignity and order? I suspect, however, that dignity and order are two ideals which the expressionists feel are especially unimportant in the emancipated age in which they imagine themselves as living.

All of which is not entirely beside the point, for it is our distant view of the State Capitol which is at present in the making at Harrisburg, Pennsylvania—and as we draw nearer, unusually interesting things in its plan become apparent.

Of all large architectural projects, State Capitols, perhaps, have always seemed to the layman to hold the least personal interest for him. Their very purpose has too often seemed quite unrelated to the



Perspective Drawing.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

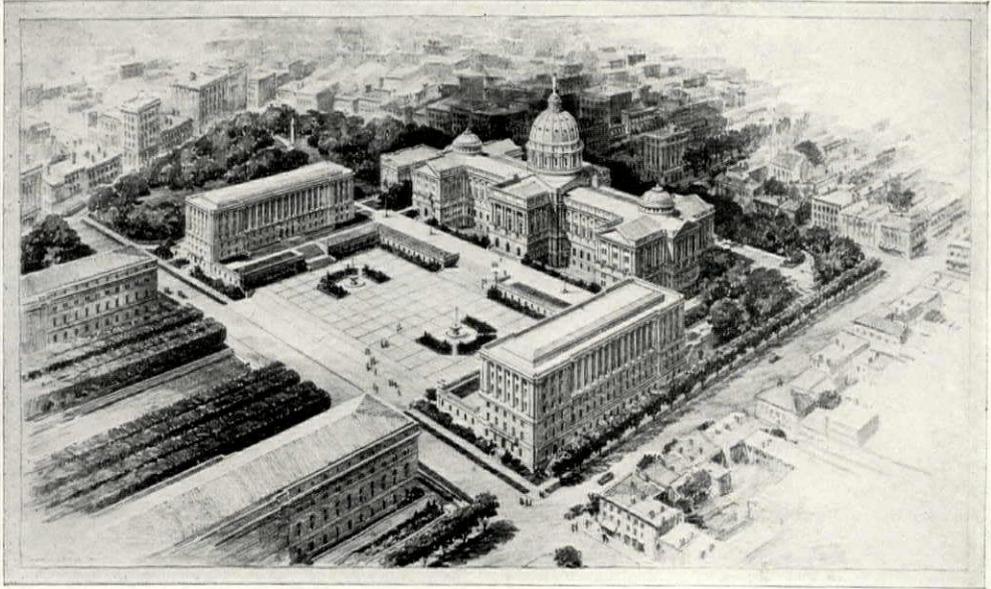
lives of most of the State's inhabitants. A dignified and impressive architectural figurehead, yes—"a credit to the commonwealth"—but what else?

Is the remoteness of architecture from everyday life the fault of architecture, or of the people? Or is it the fault of the architect, whose function is to interpret architecture to the people, and make it a part of their lives? The Bolsheviks of the Fine Arts hasten to assure us that it is partly the fault of architecture and mostly the fault of the architect. He is, of course, a reactionary, and most good architecture is bourgeois. What, then, of the Greeks and Romans? Their architecture was a part of their lives. They thronged the steps to the Acropolis, and congregated in the Forum. The Romans built great bridges and monumental arches which were expressive of their tastes and aspirations, and closely related to their lives. Have we no tastes or aspirations? It seems as though there

is something the matter with present-day people rather than with architecture, and that the architect is a voice in the wilderness and striving to give back to the people something very fine and beautiful that they have somehow grown away from.

I have always maintained that any person entering New York City through the Pennsylvania Station, and walking through its great concourse, must go on about his affairs with a psychologically uplifted mind, whether or not he consciously attributes it to the inspiration he derives from the pure architecture of the place. The pedestrian, walking up Fifth Avenue, with the store fronts crowding toward him on the sidewalk, feels a real sense of emancipation as he walks for two blocks before the Library, where broad steps, an architectural terrace, and the dignified background of the building seem to suggest a sense of spaciousness which registers itself in mental reaction.

Architecture, if it is to mean anything,



Perspective Drawing.
 CAPITOL PARK, HARRISBURG, PA.
 Arnold W. Brunner, Architect.

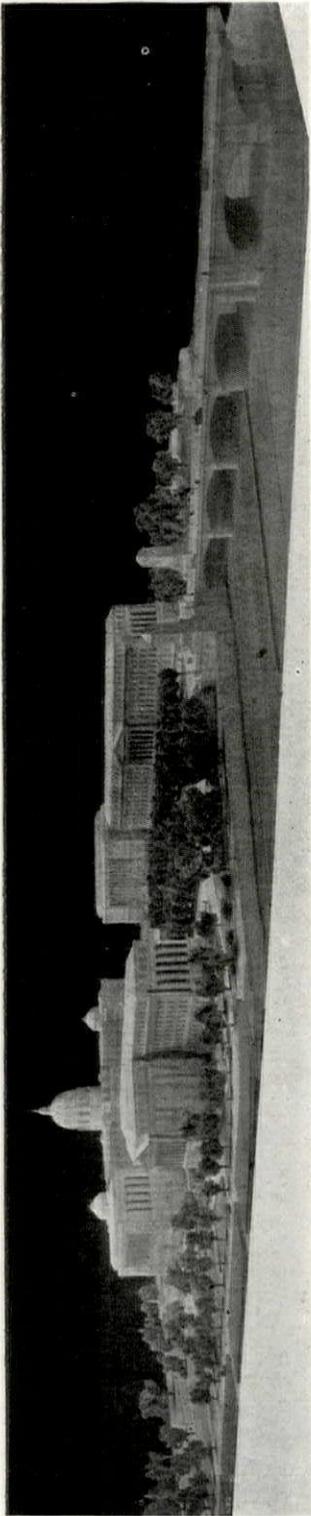
if it is to give people any such spiritual stimulus, must be something more than merely columns and arches. The use to which these are put, be they Greek, Roman, Renaissance, Byzantine or what not, is the true measure of architecture. Architecture must provide arcades, terraces, court-yards, concourses — places where people can walk and meet. People cannot participate in a façade: they can only look at it as they walk past, if they are not too engrossed in other matters. But they cannot walk through the Pennsylvania Station without feeling its mighty architectural influence, no matter how preoccupied they may be.

A speculative inquiry was made as to who or what may be to blame for the prevailing indifference to architecture, and the foregoing paragraphs may perhaps have contained a part of the answer. The architect, certainly, has not always made the most of opportunities to invite public participation, even in public buildings. He has kept architecture rather aloof, and natural public indifference has done the rest. I once introduced a man to a new world by calling his attention to the tops

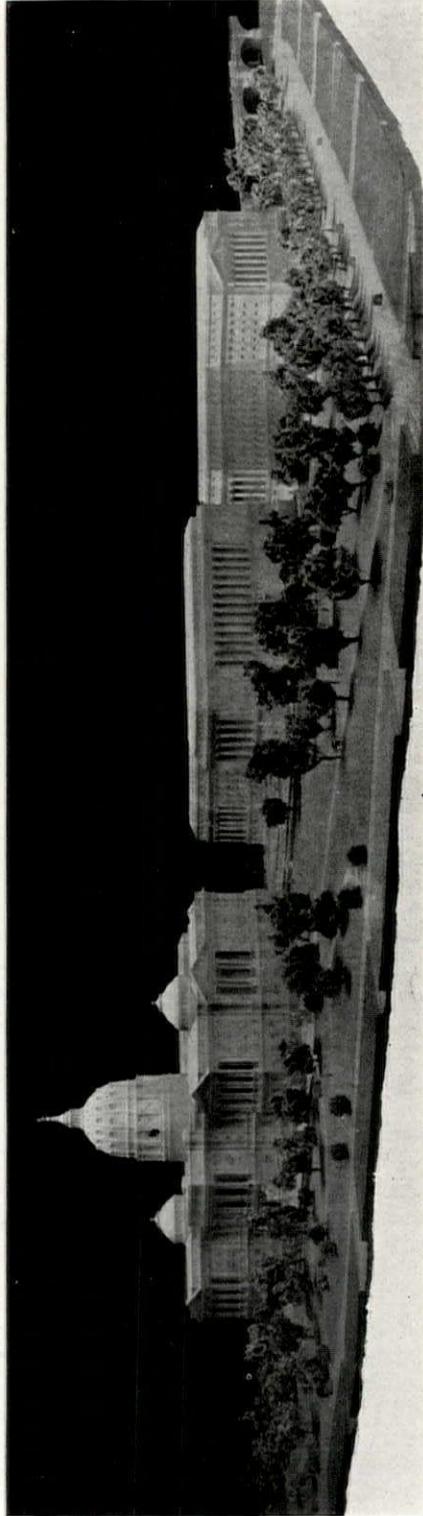
of some of the new buildings in the vicinity of 42d street in New York. He had been hurrying hither and yon in this neighborhood for years, but had never looked above the level of the store windows. There are many of him, and yet the architects, for the most part, gave no small amount of studious thought to the tops of their buildings in a sincere endeavor to so design them as to add something to the sum total of the world's beauty—if anyone cared enough to look up at them.

The point of this article is to bring out the extent to which a State Capitol may be made personal, and related to the people of the State. There is a distinct element of popular appeal, certainly, in the project for the Pennsylvania State Capitol, which is being carried on by Arnold W. Brunner, whose broad visions of city planning have contributed much to the enlargement of architectural thought in this country.

The original State House, no longer new, had long been outgrown by the official business of the State, and an enlargement of its accommodations became



Photograph of Scale Model Showing Group from the Bridge Approach.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.



Photograph of Scale Model Showing Group from State House Front.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

The Architectural Record.

April, 1923



Photograph of Scale Model with Vista into the People's Court.

CAPITOL PARK, HARRISBURG, PA.

Arnold W. Brunner, Architect.

increasingly more urgent. Called in at this juncture, Mr. Brunner had not the advantage of planning an entire new Capitol group, but was confronted with the problem of carrying on with the present building as a point of departure, and adding to it such extensions or related buildings as would meet the needs of the State's growing business.

The existing building, certainly, afforded no stimulating inspiration. To design further in the same manner would be unintelligent and unproductive; to design further in a manner to eclipse the

present structure (not a difficult feat) would be to do the State no architectural good service, and, according to the architect's honest convictions, would show him to be more an egotist than an architect. The new plan, as Mr. Brunner visualized it, must be at all events courteous to the old building, and, if possible, tend even to glorify it and make it, by approach and setting, look better than it actually is.

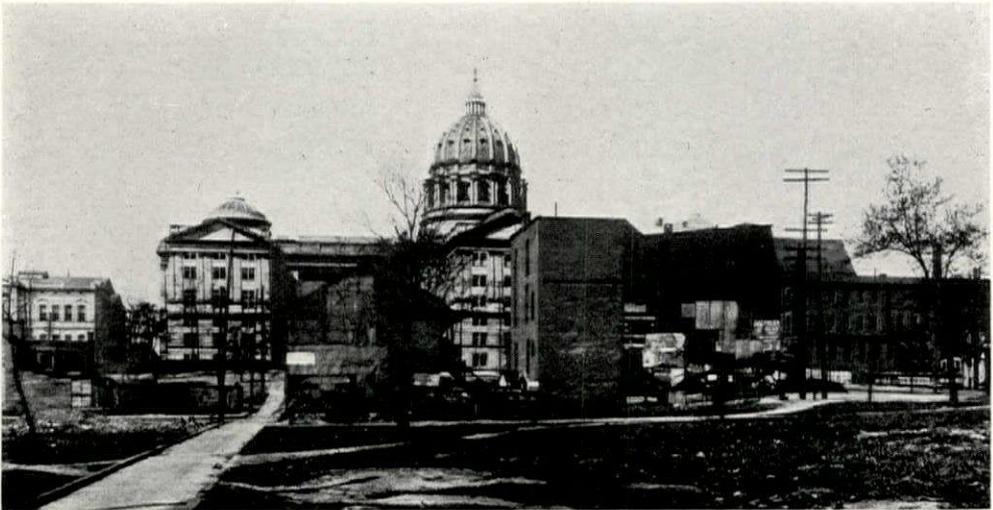
The main portion of the new development, which will be known as Capitol Park, is planned at the rear of the pres-



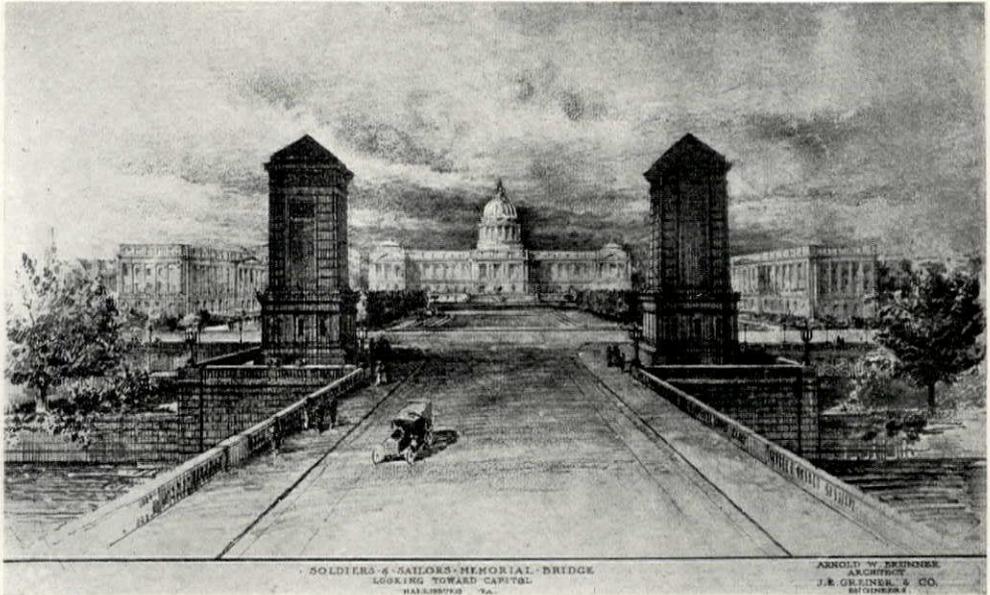
Rear Approach to Existing State House: Undeveloped Condition.
PENNSYLVANIA STATE CAPITOL, HARRISBURG, PA.

ent State House, and provides an approach from this direction which combines a high degree of architectural dignity with the utmost simplicity. It is this studied simplicity that accom-

plishes the setting for the old building. Toward the bettering of its front elevation little could be done, but a correction of one great fundamental error was made. Two illustrations show the error



Rear of Existing State House: Undeveloped Condition.
PENNSYLVANIA STATE CAPITOL, HARRISBURG, PA.



New Approach to the Capitol Group.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

and the correction. As it stood, the appearance of the front was unstudied and unarchitectural—a building of obviously horizontal intention presenting a distinct feeling of verticality. Certain traits of the detail might well be wished otherwise, but this basic contradiction in architectu-

ral expression was far more important than all else—yet a remarkable transformation was effected by the addition of an architectural terrace and the widening of the stairway. It is extraordinary the degree to which the over-emphasized verticality of the walls flanking the old



The Treatment of Rear of State House.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.



Front of Existing State House: Undeveloped Condition.
PENNSYLVANIA STATE CAPITOL, HARRISBURG, PA.

stairway added a distinct verticality to the façade of the building beyond.

It is at the rear of the State House building, however, that the effectiveness of simple axial planning and the scope of the architect's vision are conspicuously apparent. A short study of the general view of the scale model, or one of the bird's-eye perspectives, will give a complete idea of the present building in its relation to the proposed development.

On axis with the dome and central feature of the present State House is a broad court-yard, and, approaching this, a great parked space, flanked by two tree-shaded malls. The portal to this is formed by the two pylons of the Soldiers' and Sailors' Memorial Bridge, which will span the railroad tracks, connecting the Capitol grounds with the high point of the city at 13th street, half a mile away. Ultimately, it is planned to span the Susquehanna River with a monumental bridge on axis with this and the State

House dome, thus relating the Capitol group with the whole city plan.

Right and left of the court, and near the State House, are two office buildings, uniform in design, and of these one is now nearing completion. Right and left of the park space are shown two future buildings, the first to house the State printing plant, and other State activities and departments, the second to be called the Educational Building, to provide a large public auditorium, with a public entrance to the avenue which flanks the group on the left.

So much for the mere designation of the several buildings and parts of the plan—a guide-book duty, but no more than that. What of the governing vision, and the great human intention which is expressed here, and expressed, from the nature of the project, in architectural terms?

The intention, in brief, was to create a group of public buildings in which the



New Terrace Treatment of Front of Existing State House.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

public could really take a part; to create a State Capitol which could mean something to all the people in the State, and to provide, at the same time, a practical solution for the growing needs of the State's legislative and executive functions. For gradual growth a unit system in plan is the most logical, because it is the most economical, and may proceed in pace with actual needs.

The architectural means by which the public is to find physical participation in the new Capitol Park is accomplished by the great court, five hundred feet in width, enclosed by the walls of the State House terrace and the terraces of the two office buildings. Two monumental fountains break the expanse of the court, and in the center of the broad stairway to the State House is planned a semi-circular rostrum from which public gatherings can be addressed, and inauguration ceremonies can be effectively staged.

In the architectural manner of the court there will be nothing austere or forbidding, although a fine dignity is the prevailing note. The terraces and the fountains will express something of the spirit of Versailles, in a way calculated to relate the tall Renaissance façades of the office buildings to the desired intimacy of the court, which it is proposed to call the People's Court. This name broadly designates its intention: the people of the State of Pennsylvania are invited to use the entire great enclosure which is bounded on three sides by the buildings of the Capitol group. There may be band concerts here, and all manner of gatherings which will bring the people into the heart of the group.

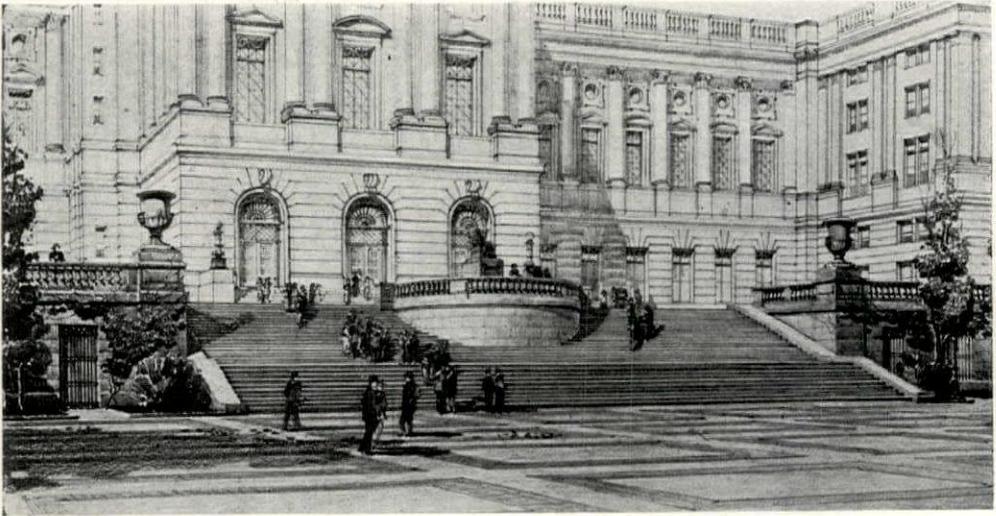
This is, in fact, one of the most significant and unusual of the elements of the Harrisburg plan. The grounds of the Capitol are to be used and enjoyed, with the architecture, as represented by

the surrounding buildings, acting as a background for human life. If people more definitely lived with architecture, no doubt more architecture would be created with which they could live—and *vice versa*. Certainly the People's Court is a definite step in the direction of breaking down the artificial barrier of formality and impersonality which has so long made architecture one of the least known and least enjoyed of all the arts.

Architecture, in the hands of a sympa-

than an expression of formal architectural grandeur, the architect substituted a grass plot, with walks. Benches beneath the trees along the two malls will offer pleasant invitation, and the spirit of the entire treatment will be that of a gracious park rather than of a forbidding group of conventional buildings.

As a culminating feature to be added to the People's Court at some future date, the architect envisions a great allegorical figure on the terrace above the rostrum,



Rostrum in the People's Court.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

thetic architect, can forsake its pedestal, come forward to meet people and give them something. The enjoyment of architecture is a part of the birthright of any civilized people, and architecture is a stranger in popular life because it has too often come before us in impersonal and austere guise. If it would have its beauty acclaimed by the multitude it must first take the multitude into its confidence and show them that it holds a real meaning and a real use in everyday life.

It was originally planned to occupy the space on the main axis, approaching the court, by a pool, but with the second thought that for several months of the year the pool would be a negligible factor, and that at best it would be little more

powerfully and benignly brooding over the destinies of the State. The fountains in the court are of peculiarly happy design, and in the same spirit of rather intimate monumental architecture that is apparent, too, in the design of the stairways to the terrace.

The illustrations, made from photographs of the scale model, give an exact idea of the relationship of the court to the group as a whole, and of these photographs one of the most interesting is that showing an oblique glimpse of the court, seen between the left office building and the Educational Building. The central stairway with the rostrum can be seen, and also one of the fountains. The avenue which cuts through Capitol Park at



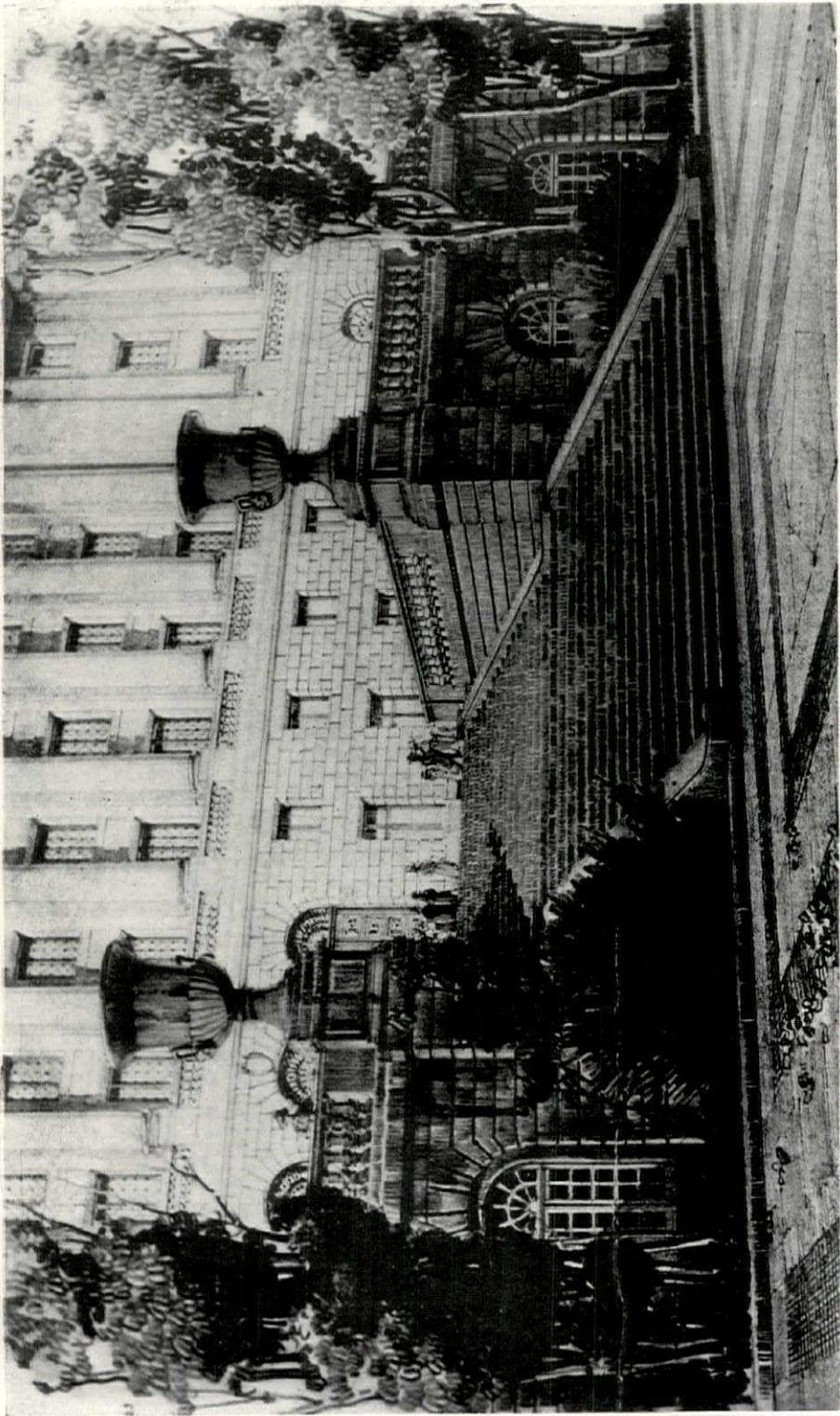
Portion of the Scale Model Showing the People's Court, Terrace, Rostrum, and One of the Fountains.
 CAPITOL PARK, HARRISBURG, PA.
 Arnold W. Brunner, Architect.



The Architectural Record.

April, 1923

Project Drawing of One of the Fountains in the People's Court.
 CAPITOL PARK, HARRISBURG, PA.
 Arnold W. Brunner, Architect.



The Architectural Record.

Project Drawing of One of the Stairways from the People's Court to the Office Building Terrace.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

April, 1923



Office Building, Terrace and Stairway in Construction.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

this point (Commonwealth Avenue) does not at all destroy the unity of the group, nor does the Bridge Plaza, crossing between the whole group and the Memorial Pylons of the bridge.

A study of this photograph, as well as the others which show the model from outside, reveal the interesting fact that the group was by no means designed with thought only of its appearance from within. No one of the buildings has an unsightly "back yard," and each is uniform in its treatment on all four sides. The roofs, moreover, have been kept free of tanks, elevator towers and deck-houses, so that nothing in the distant general view of the whole group will interfere with the convergence of vision on the State House dome.

The street elevation of the Educational Building with its pediment and colonnade affords an interesting variation in the treatment, and designates the function of this portion of the building as being a part of the city as well as of the State group.

In the planning of this immediate and

future development for Harrisburg and the State of Pennsylvania, Mr. Brunner has provided no inconsequential argument for the permanent worth of ordered, Classic architecture as a means of expression. The plan as a whole is excellently expressive of the growth of the State's requirements as well as of the architect's intention of providing a park for the people and a rallying point for the whole State. It is a plan of the utmost logic from a practical point of view, and a plan of fundamentally large vision from the abstract architectural point of view.

Years ago Daniel H. Burnham, another city-planning architect endowed with broad vision, said: "Make large plans. . . ." I have not access to the rest of the quotation, but it went on to point out that "small plans," plans meagre in vision, never grow larger in execution, and that one of the inherent peculiarities of a truly large plan is that any part of it is large, is imbued, that is, with a "large effect." The Harrisburg plan is inherently large. It is not a compromise, al-



The First Office Building in Construction.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

though its point of departure had necessarily to be the existing State House. To base a noble scheme upon this, and to so plan the new buildings that the old would be enhanced, not eclipsed, was no mean architectural feat. There were, too, the natural restrictions of the available site, and the problem of the approach, but all these elements are reconciled in the plan, and made to seem an integral part of it.

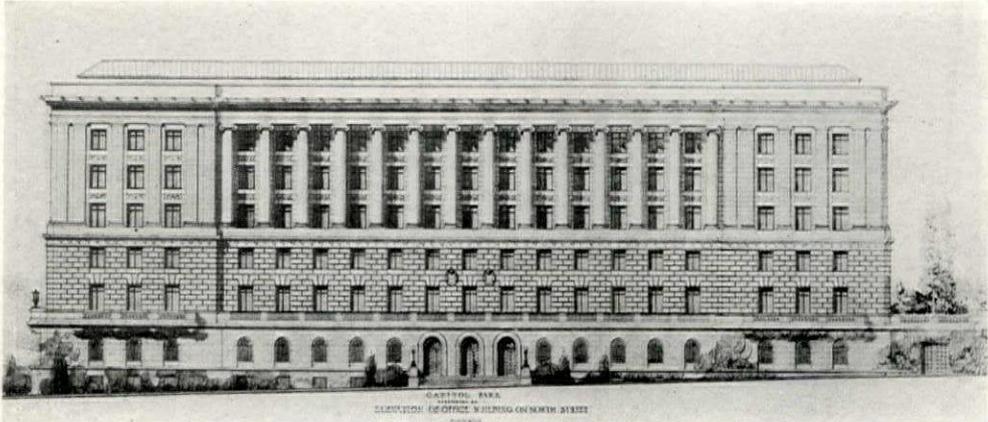
The individual buildings do not contradict the existing building on the score of style, though they are designed in a far more scholarly manner, and express in dignified terms their purpose as important buildings in a Capitol group. There is in the adaptation of Italian Renaissance architecture a far greater range for humanistic qualities than exists in strictly classical adaptations, and its choice in this group was a fortunate one. Renaissance architecture, being a highly developed and almost modernly articulated style, affords a far wider opportunity than Classic architecture for the treatment of interiors, and of such details as elevator fronts and formal halls and lobbies.

Such a plan for "a noble official forum" presents an opportunity to the State of Pennsylvania, and one which should reflect a due measure of credit upon all who are identified with its execution.

The plan of the office building which is now under construction discloses a direct and simple plan which is expressive of the building's purpose. An entrance lobby is provided which is susceptible to more or less architectural embellishment in the way of mural decoration or other elaboration, and this leads to a marble lined longitudinal corridor which gives access to the offices and leads to the two elevator lobbies, which, again, may receive a certain amount of architectural elaboration.

The most unusual feature is the small auditorium, designed for committee meetings and delegations to the Capitol, for matters which call for special discussion or instruction. No provision for such a convenience exists in the present State House, and the auditorium idea represents one of the more recent developments of modern efficiency. Industrial groups now plan for an auditorium in the executive building, or in some other part of the plan, in order that talks may be given to salesmen or department heads on matters of policy or procedure. This method has the advantage of giving the same information or instruction to a number of people at the same time and in the same language.

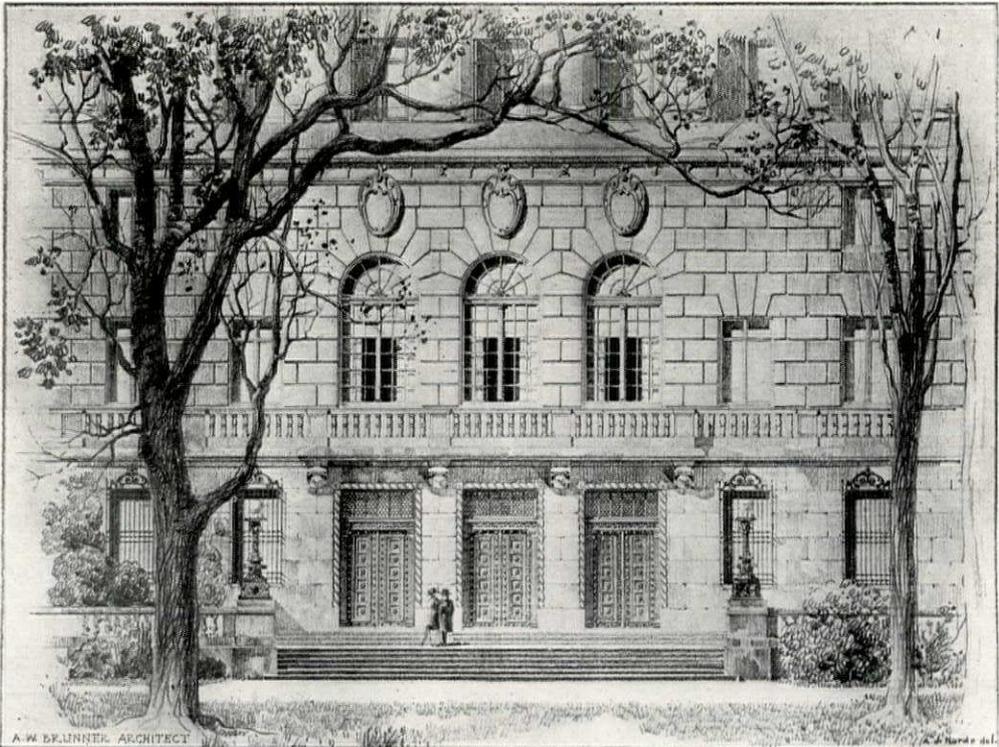
The auditorium in the Harrisburg Cap-



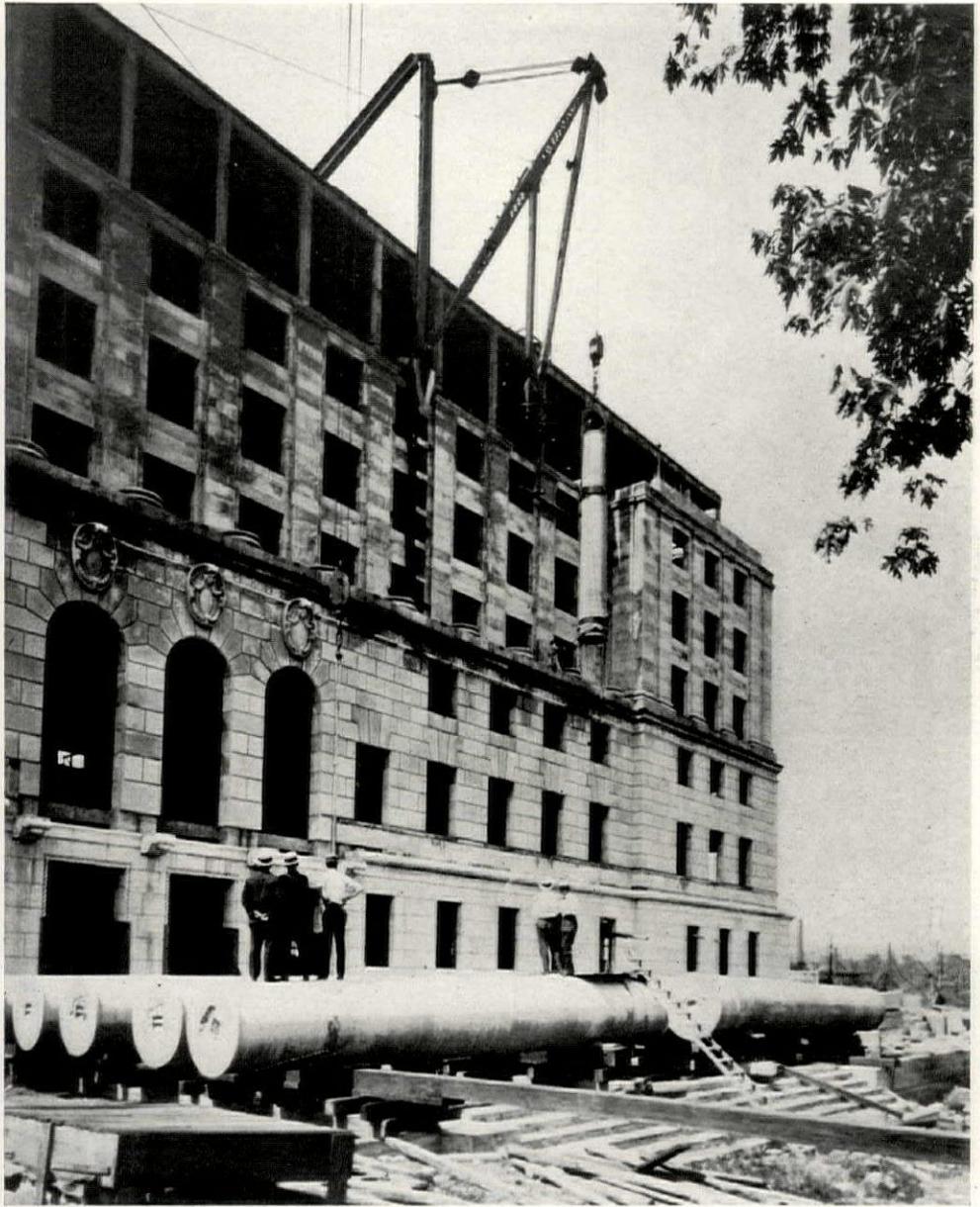
Elevation of Office Building.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

itol office building is also equipped with a concealed projecting room, so that talks can be supplemented when necessary by lantern slides or motion pictures.

The entire treatment of the individual offices is one of the utmost simplicity and efficiency, as befits the working environment of today.



Detail Drawing of Office Building.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.



The Architectural Record.

April, 1923

Office Building in Construction, Showing Placing of Columns, Which
Are Largest Monolithic Limestone Columns Ever Turned.

CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.



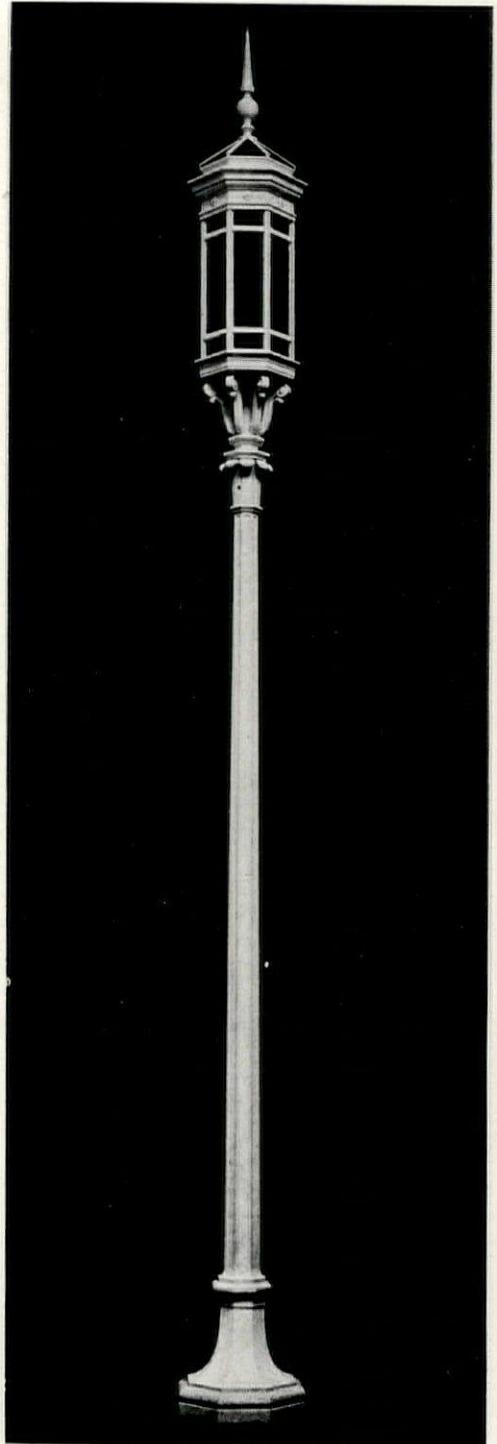
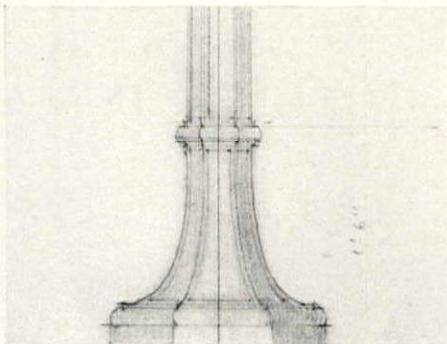
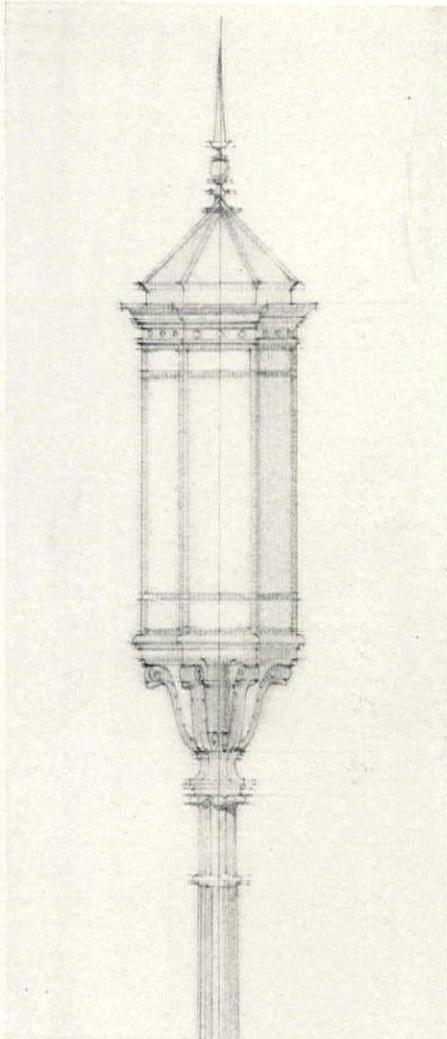
The First Office Building in Construction.
CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

There cannot but be a feeling of progress and accomplishment in seeing this first building of the new Capitol Park group rising in solid stone to proclaim the emergence of a great architectural vision into a tangible fact, a thing of substance. Vision is intangible, and no matter how clearly it is set forth there is ever an overwhelming majority that fails to see it, or, seeing it, to believe in it.

Without vision, certainly, and faith, it is not possible to carry out large architectural projects, and true architecture is an art which does its thinking in large terms. It creates a great design, sweeping away unsightly city areas, clearing a space in a wilderness of unbeautiful chaos to make a place on which the design may become an accomplished fact. And coupled with the vision, architecture follows close upon it with the practical means of executing it, for architecture is an exact art as well as a creative art.

Many a fair architectural project has never reached its final realization because the initial vision was lost to sight as years of inaction obscured the vision with a cloud of indifference. To see great architectural visions is the architect's gift. It is for this that he is an architect. If he can make his vision to be seen and shared by those who are the most intimately concerned in its realization, he does his community, and even his whole age, no small service. In a larger sense, even, than its relation to the people of the State of Pennsylvania, the full completion of such a group as is planned for it can be seen as adding to the civilization of the present age an enduring monument to beauty and order.

In the execution of an extensive project such as this, speedy completion is an obvious impossibility, and it is not so important to move rapidly upon it as it is to keep moving steadily and continuously.



The Architectural Record.

Pencil Study and Photograph of Model of Capitol Park Lamp Post.

CAPITOL PARK, HARRISBURG, PA.

Arnold W. Brunner, Architect.

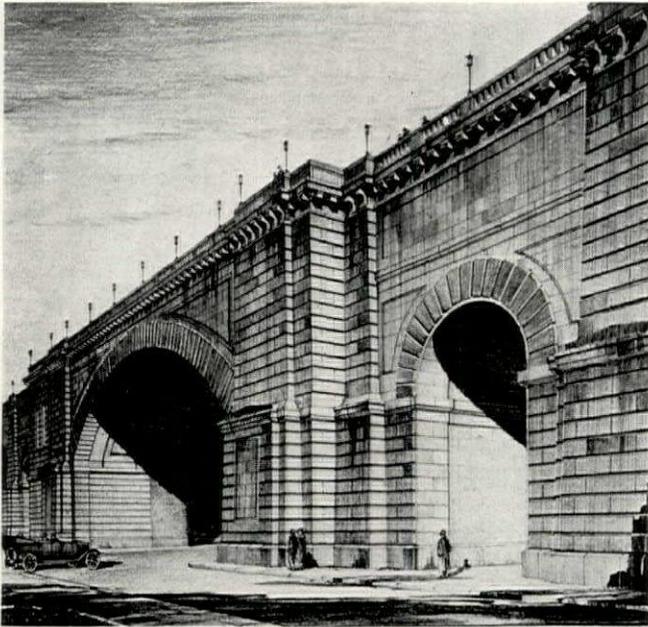
April, 1923

Large architectural enterprises which, for one reason or another, have stopped for a year, are very likely to stop for ten years, and even to fail entirely of ultimate completion.

In charge of the work of developing the Capitol Park is the Board of Public Grounds and Buildings of the State of Pennsylvania, consisting of Governor Gifford Pinchot, Auditor General Samuel

S. Lewis and Treasurer Charles Snyder.

To further the realization of the vision of Capitol Park is Pennsylvania's opportunity, for here is an architectural solution of a problem both esthetic and practical, and a solution which meets both phases and moulds them into a unit which is fundamentally sound in its planning, psychological in its appeal, and a thing of abiding beauty and dignity.



Project Drawing of the Soldiers' and Sailors' Memorial Bridge.

CAPITOL PARK, HARRISBURG, PA.
Arnold W. Brunner, Architect.

La Ranchère
Saint Nom-la-Bretèche
Seine-et-Oise
by
Harold Donaldson Eberlein
& Leigh Hill French, Jr

LA RANCHÈRE, near the little village of Saint Nom-la-Bretèche, in the Department of Seine-et-Oise, is a house dating from the latter part of the reign of Louis XIII. Although a seigneurial mansion—it is said at one time to have belonged to a noble Postmaster General of France, under the *ancien régime*—the house is of modest size, as such houses went, its northern end lying along the highway that bounds the estate.

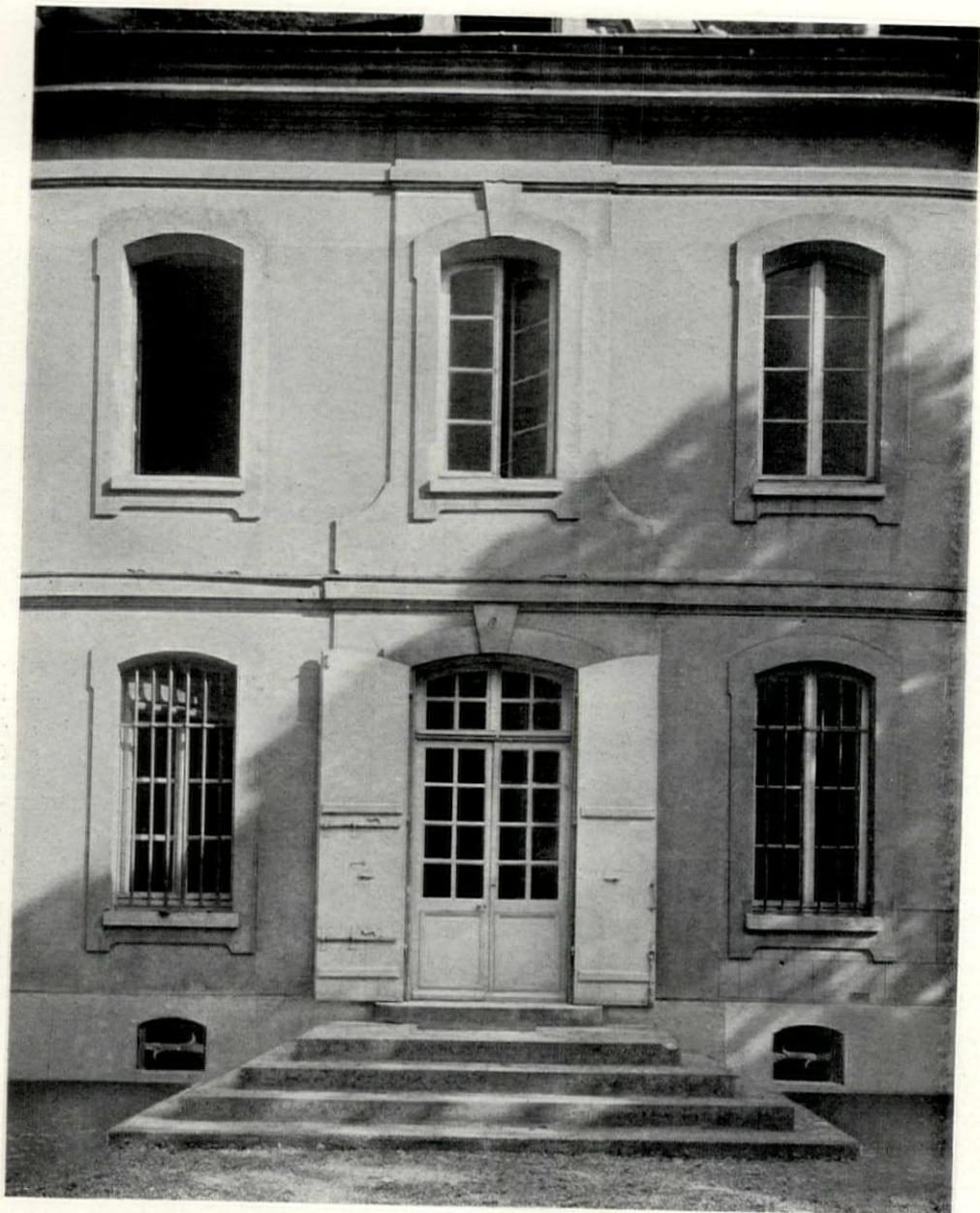
The west front faces a small gravelled forecourt, surrounded by trees, whence a short road leads off westward to the great gate between the stables and barns. To the east is a park encircling a broad *tapis vert*, while to the east and south of the park are flower and vegetable gardens and the poultry yards and rabbitry.

The house is of stone coated with brownish grey stucco, and both the west and east fronts are characterized by a broad, simple dignity, so simple that the aspect would be severe were it not for the thoroughly domestic atmosphere surrounding the whole establishment. The conservatory at the south end is, of course, a modern addition. The treatment of the chimneys is singularly agreeable and contributes not a little to the

poise of the composition. Inside, the arrangement of the house is direct and convenient and there is a very good early staircase of restrained design ascending all the way to the top floor. The paneling in the rooms is of excellent character but is of later date than the house and has evidently replaced the earlier woodwork at some period of renovation.

To the southwest of the house, and sunk behind a low wall, is the old formal parterre with its borders of bright-hued flowers. Directly to the west of this are the old barns and the houses of the gardeners and laborers. These buildings are rich in an unpretentious picturesque quality and constitute a very considerable item in the total charm of the estate. The texture of the red tile roofs is especially mellow and pleasing. These structures exhibit no architectural pretense but without conscious effort their builders achieved a most gratifying bit of composition. The walls, rough-plastered over rubble, are whitewashed.

La Ranchère is comfortable and adequate rather than imposing, and its suggestive appeal for modern adaptation will be felt by not a few to whom domesticity is of paramount importance.



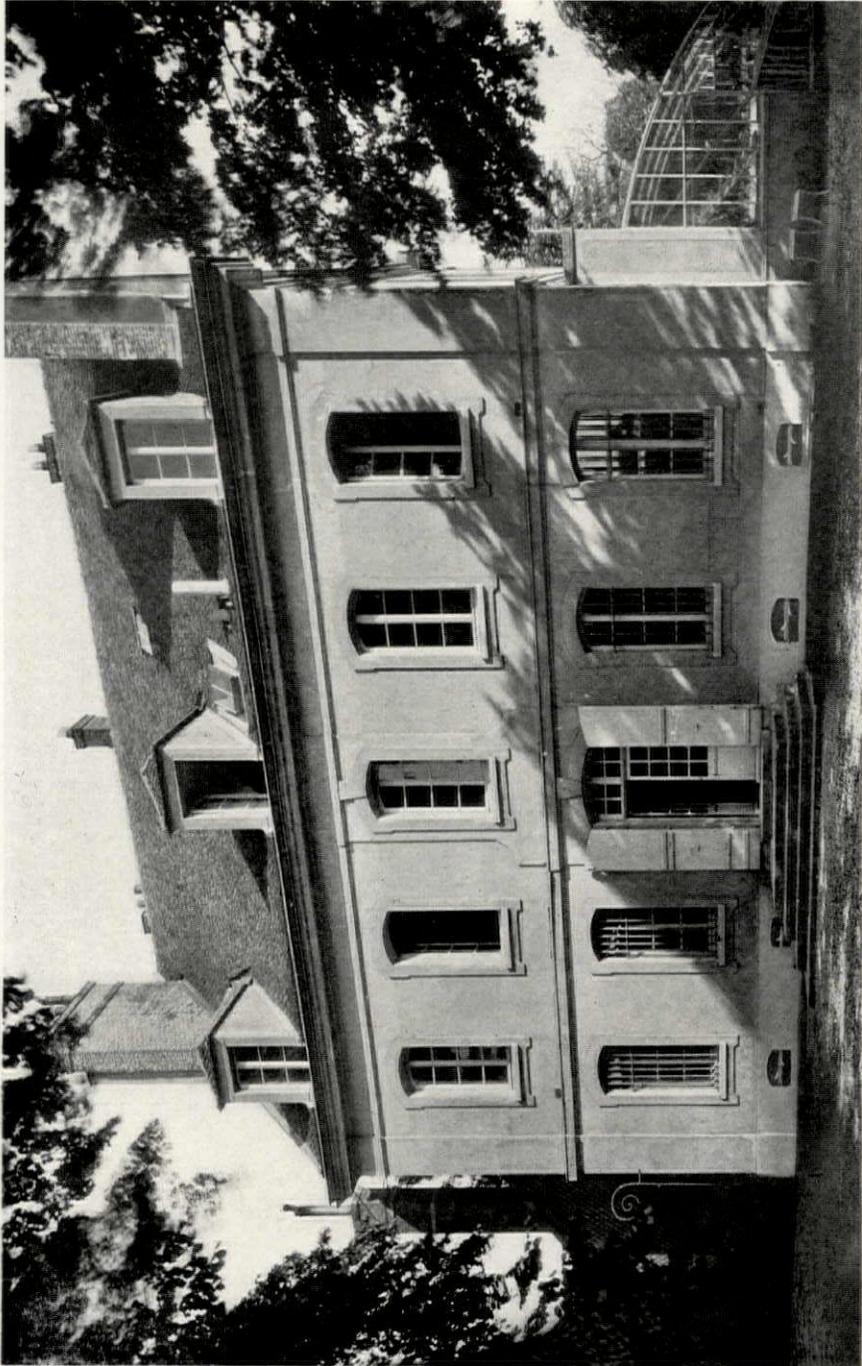
The Architectural Record.

April, 1923

House Door.

LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.

[308]



The Architectural Record.

West Front.

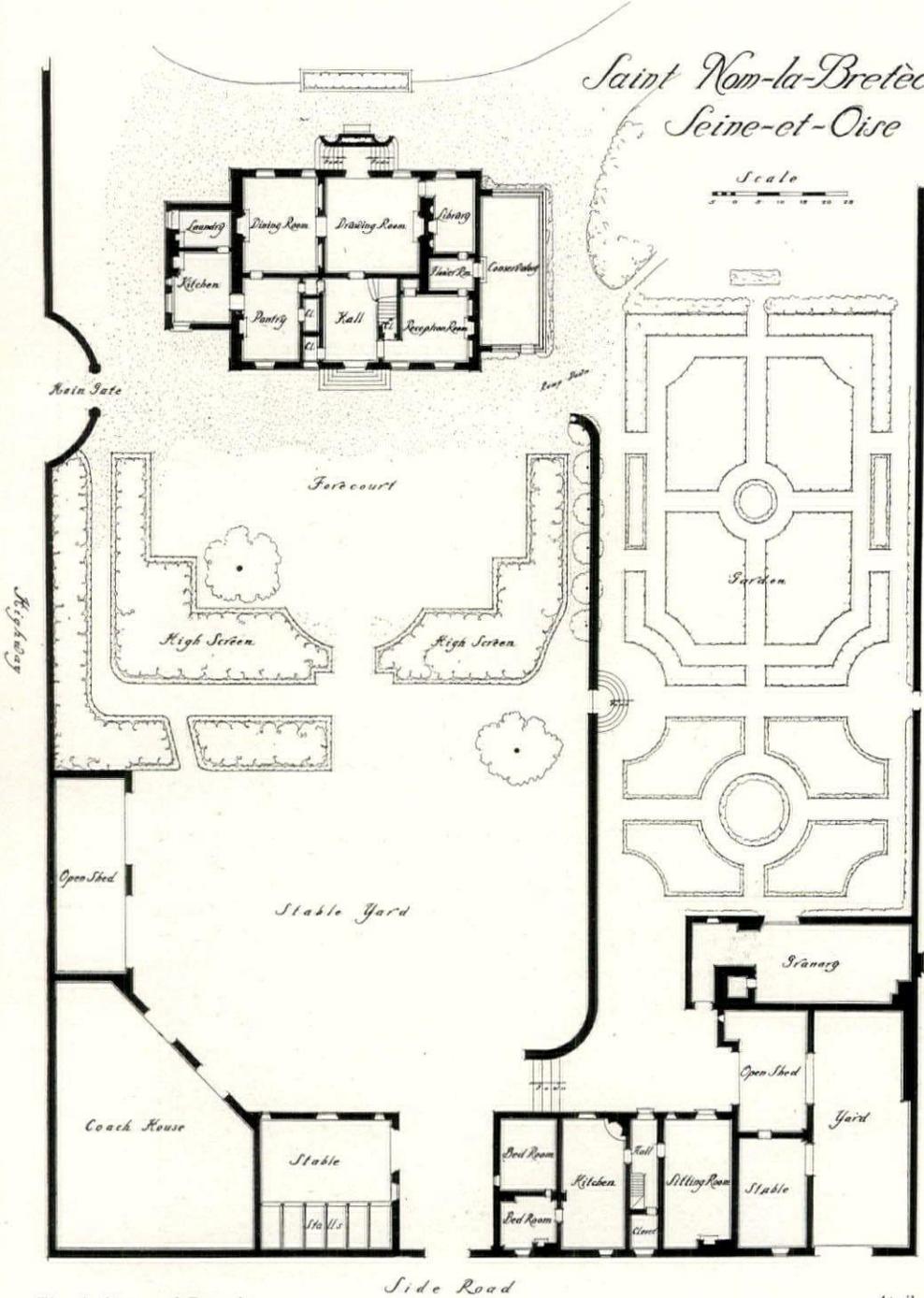
LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.

April, 1923

Park

*Saint Nom-la-Bretèche
Seine-et-Oise*

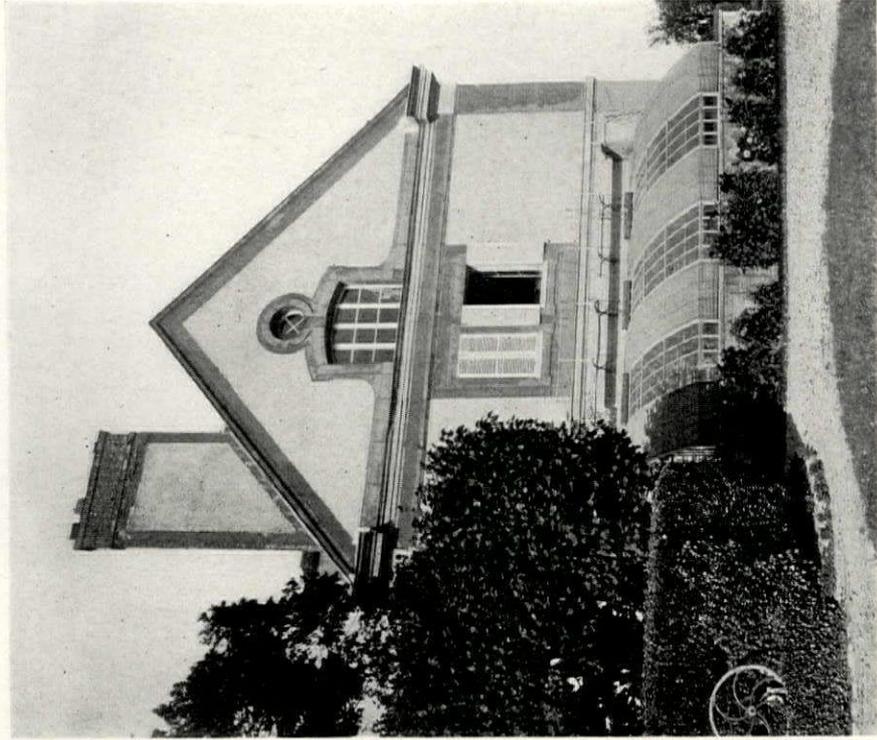
Scale
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The Architectural Record.

Side Road

April, 1923



April, 1923

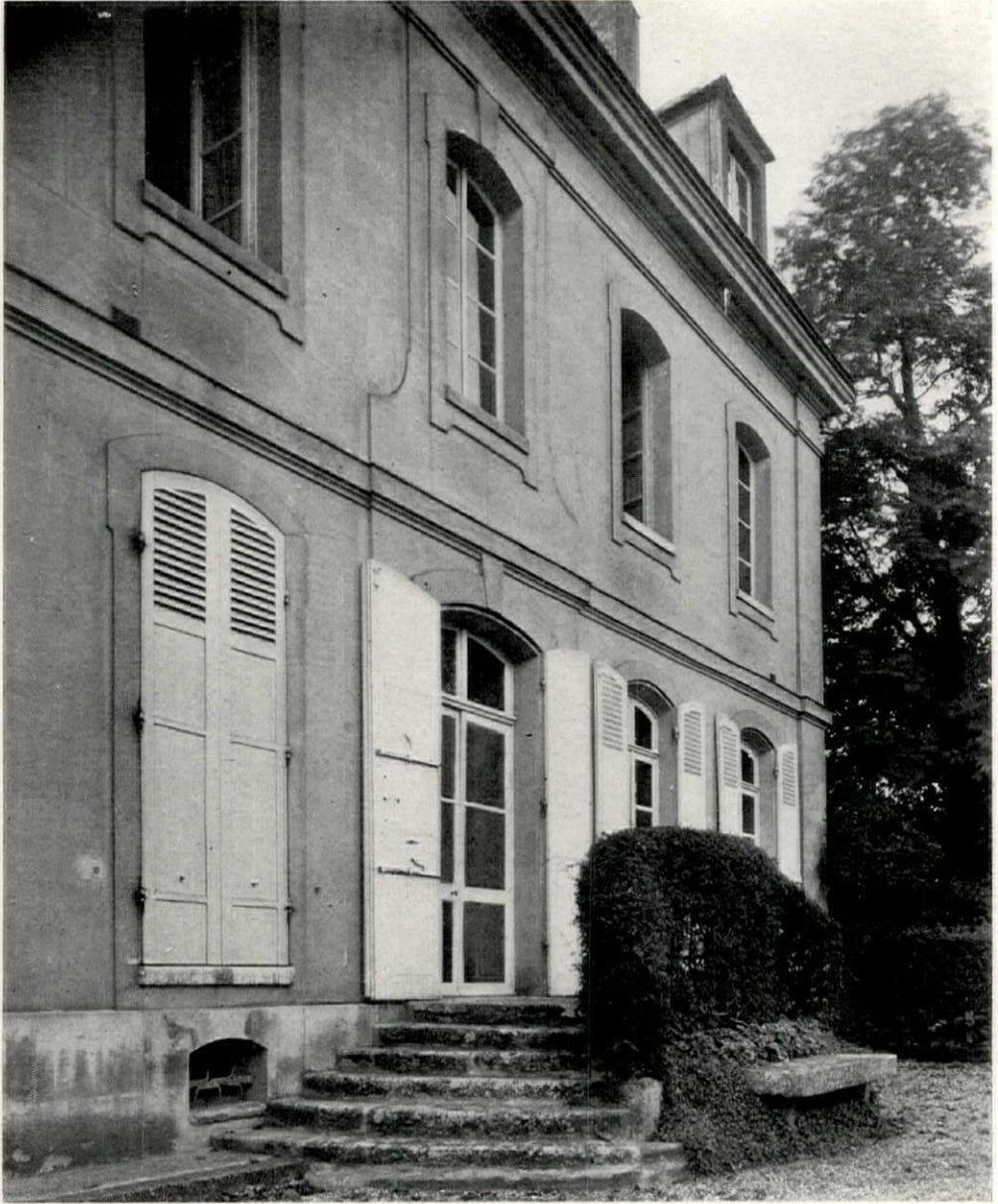
South End.



East Front.

LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.

The Architectural Record.

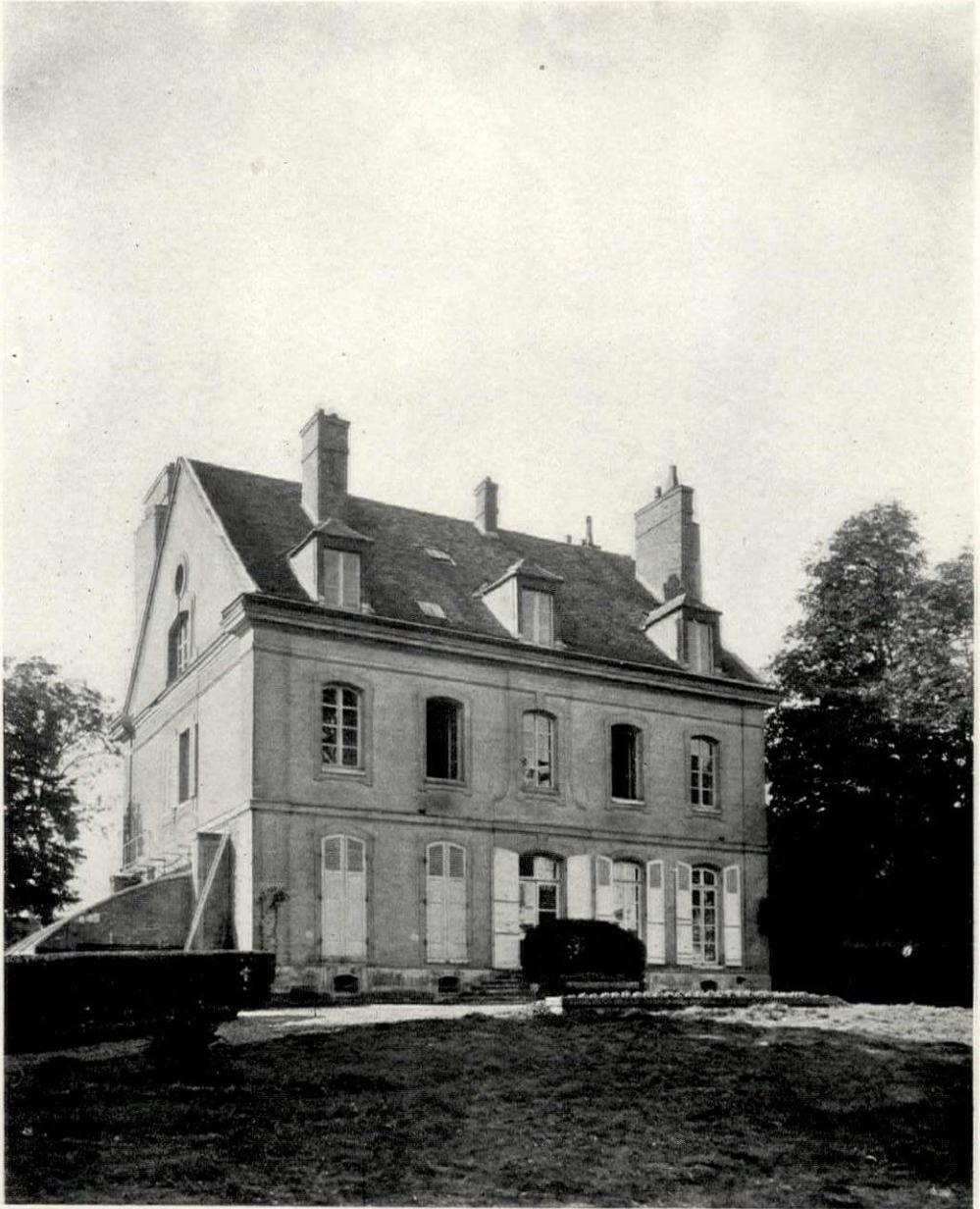


The Architectural Record.

April, 1923

Garden Door.

LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.

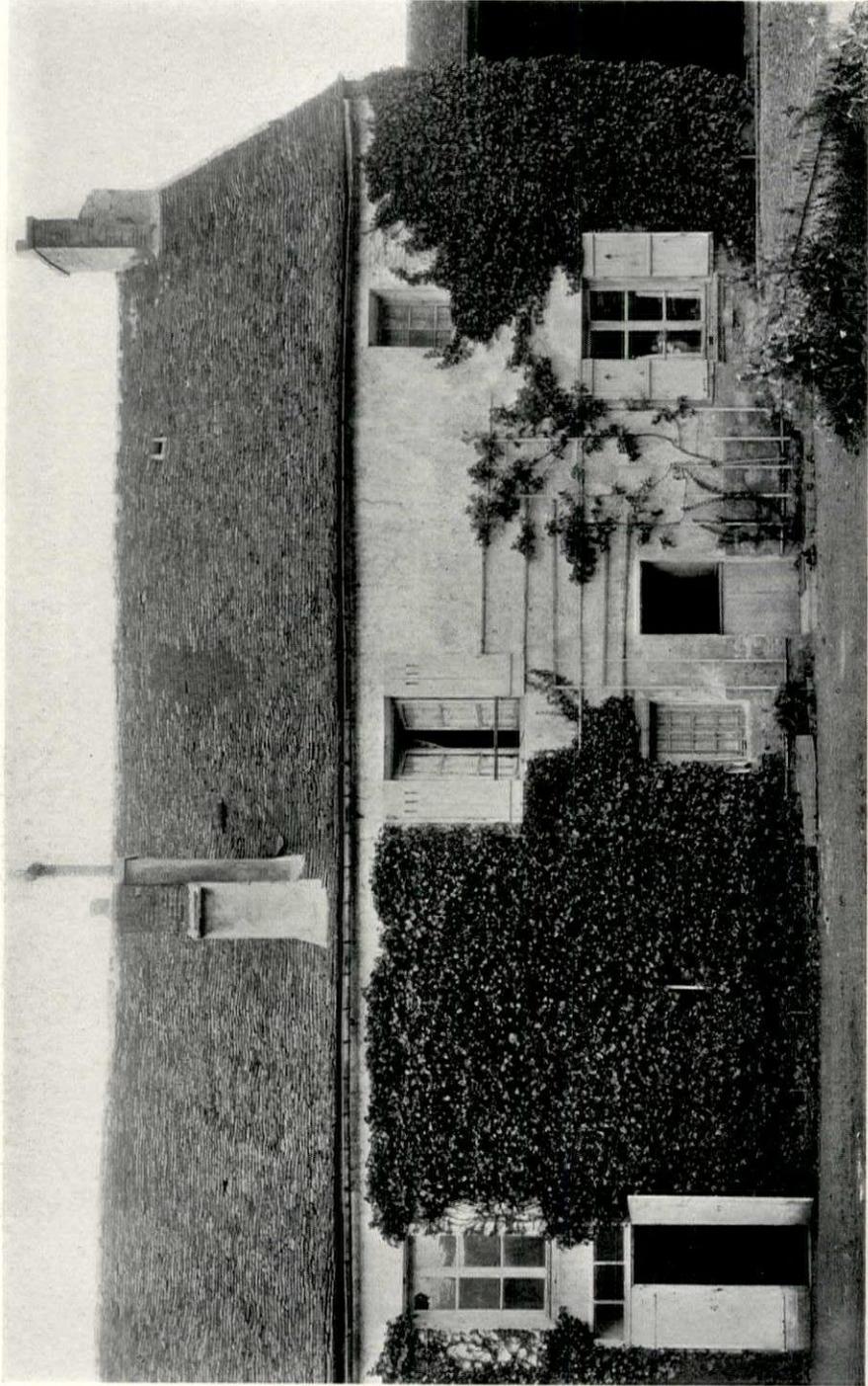


The Architectural Record.

April, 1923

Garden Front.

LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.

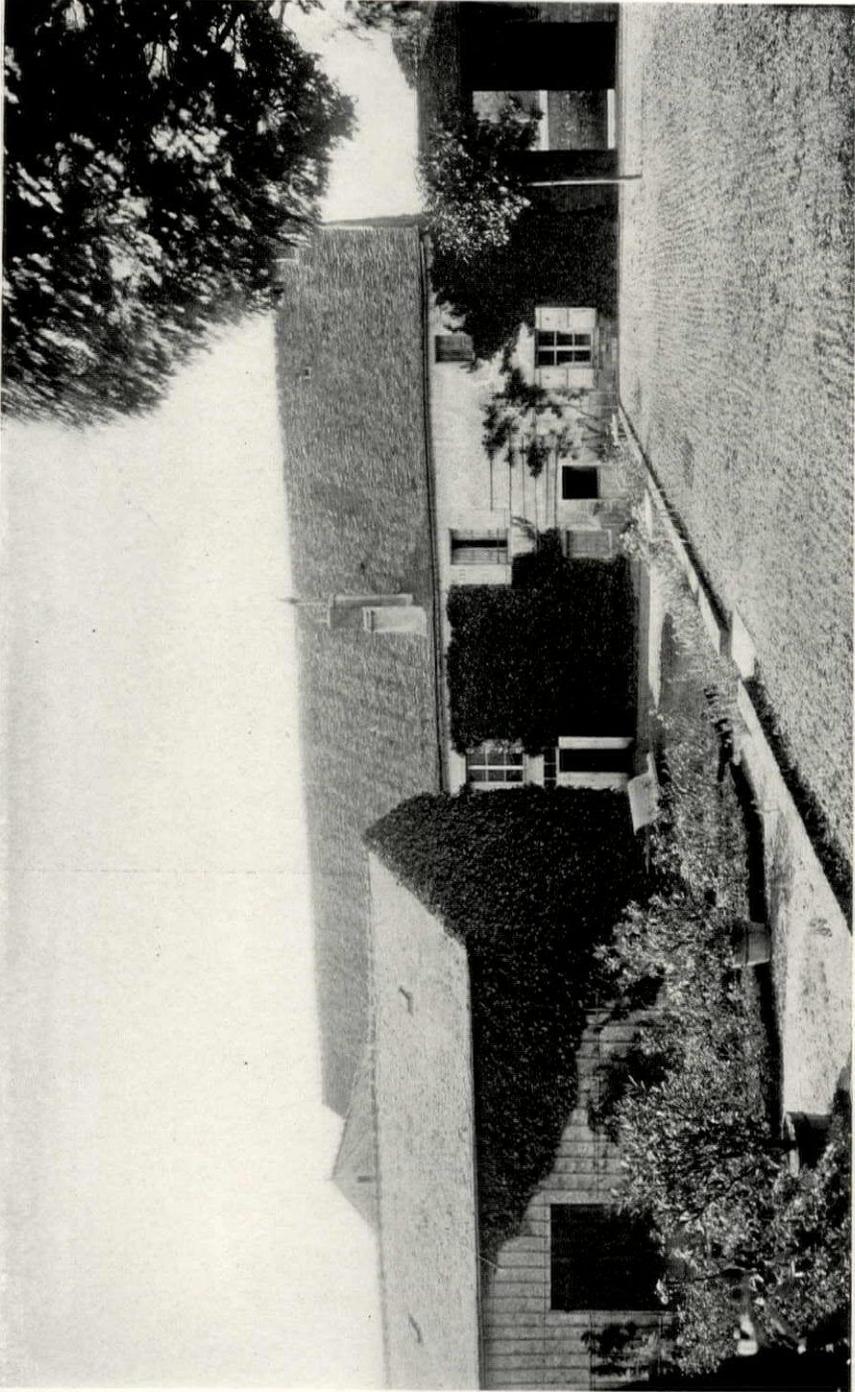


The Architectural Record.

Gardener's Quarters.

LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.

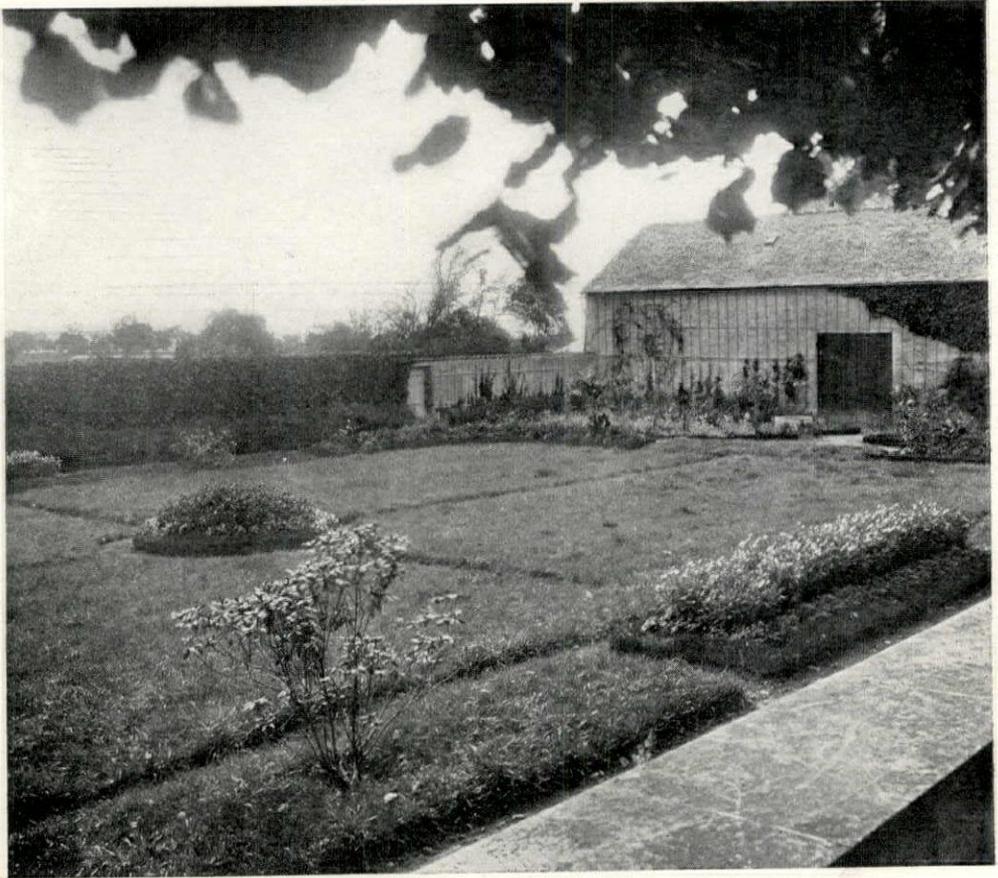
April, 1923



The Architectural Record.

Stables and Entrance Court.
LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.

April, 1923

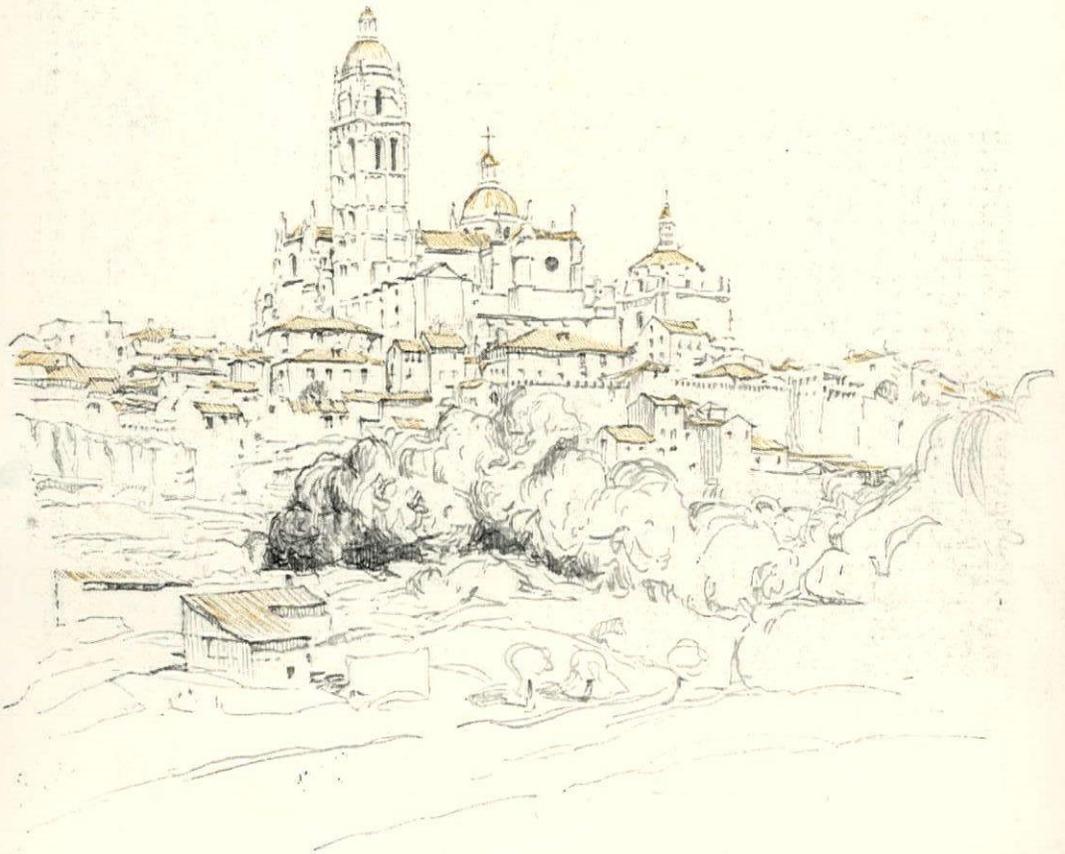


The Architectural Record.

April, 1923

The Old Parterre.

LA RANCHERE, SAINT NOM-LA-BRETECHE, SEINE-ET-OISE.



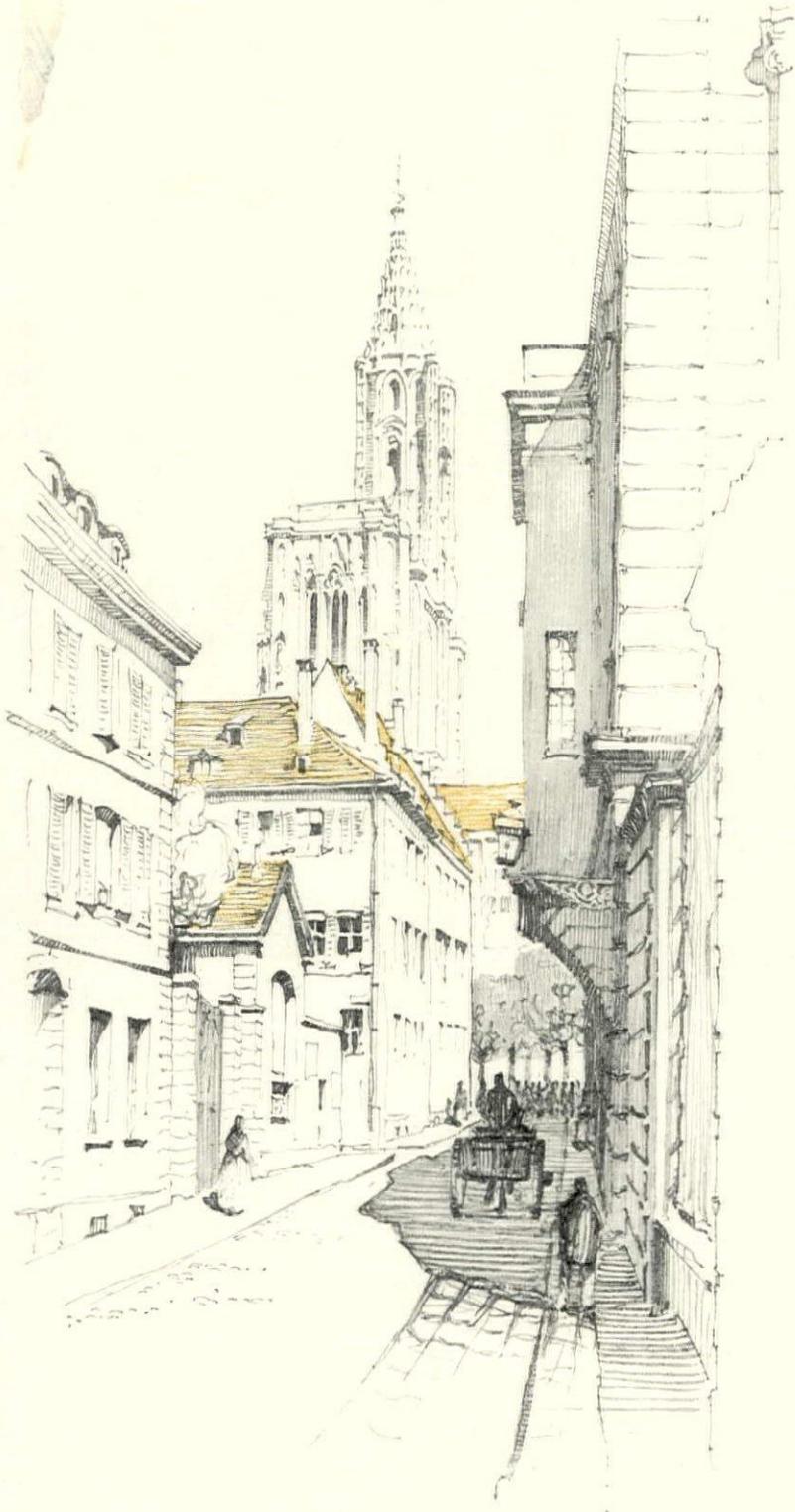
SEGOVIA

MAS



COUTANCES —
L'ÉGLISE SAINT-PIERRE

MAS



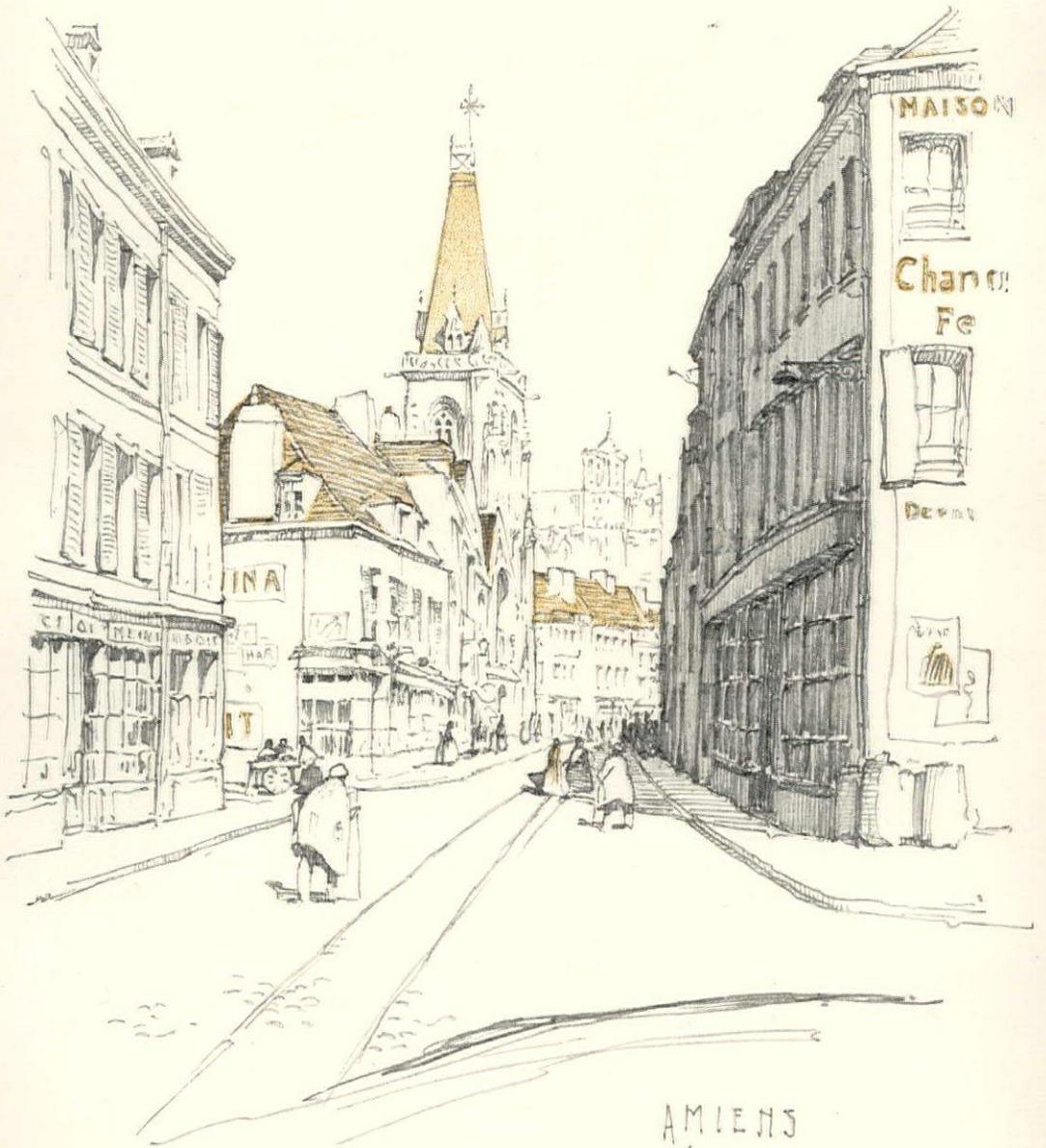
STRASBOURG

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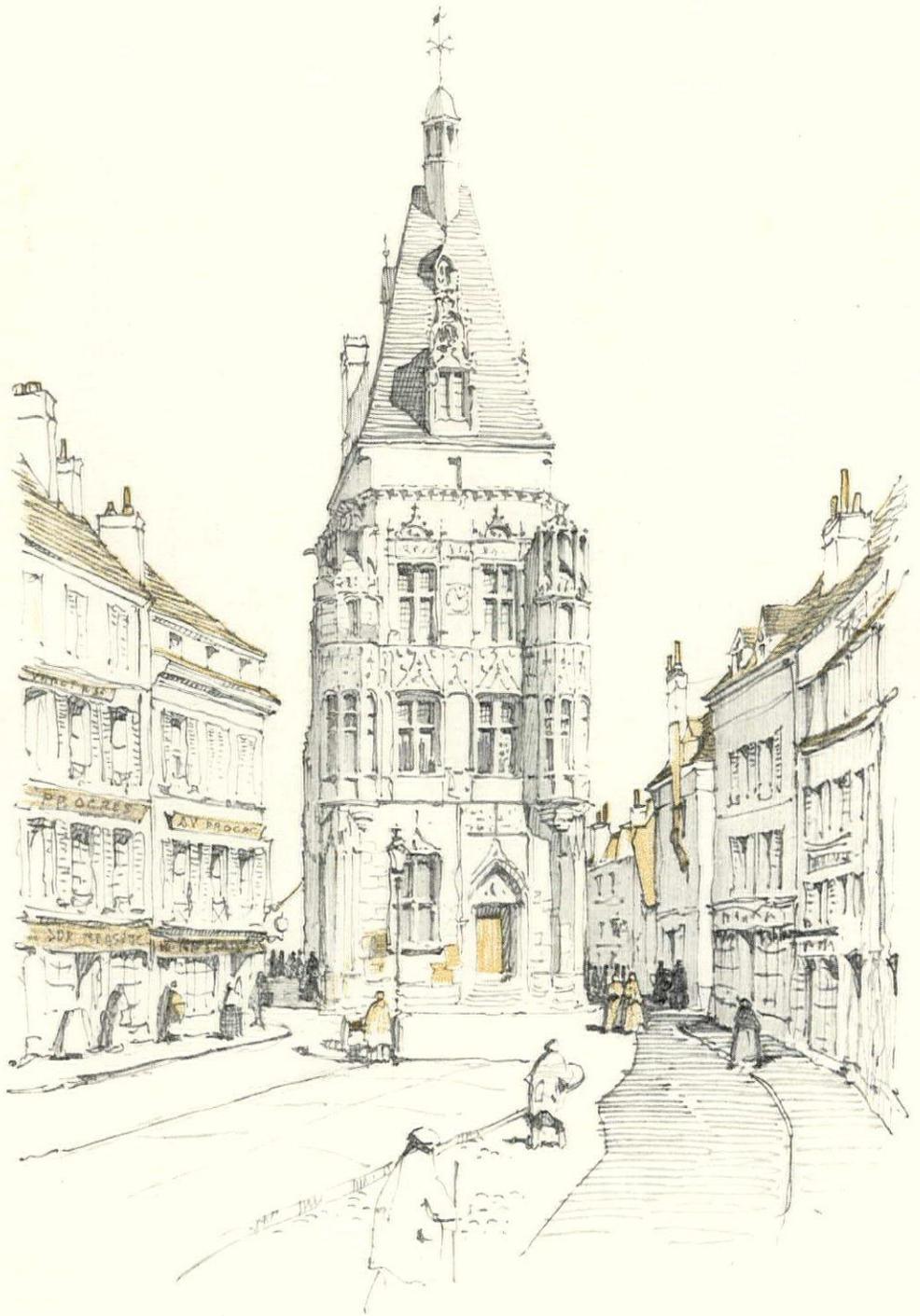
AMIENS

MAS



AMIENS
ÉGLISE SAINT-LEU

MAS



DREUX
HÔTEL DE VILLE

MAS



BEAUVAIS -

MAS



JERZUAL
VALLEY OF THE RANCE.

MAS

GRAPHIC DESCRIPTION *in* ARCHITECTURE



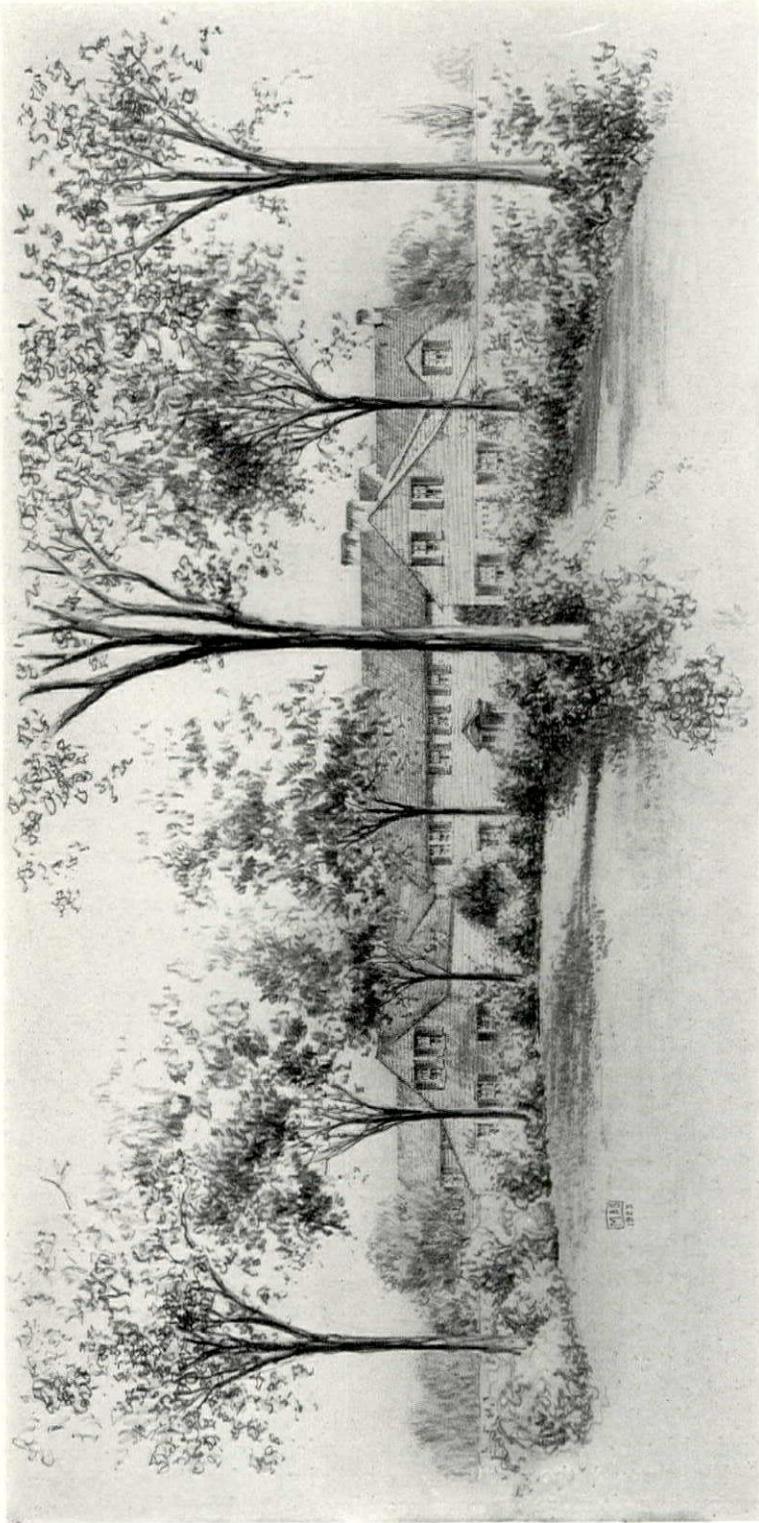
*Text and Drawings
by Meade A. Spencer*

THE STORY IS TOLD of H. H. Richardson that he was one day asked to state what he considered the most important requisites an architect should possess for the attainment of success in his particular field. He replied that they were but three in number; first, to get the job; second, to get the job, and third, to get the job. Mr. Richardson was as successful a business man as he was an architect, and the truth of his statement is undoubtedly borne out even more today than it was in his own time. We can only regret that he did not go further and explain just how he himself proceeded to accomplish that all-important task.

However, regardless of the nature of the job or how it is obtained, the time is bound to arrive when sketches, first probably of plans and then exteriors in perspective form, are absolutely necessary. It may even be that the job is not yet cinched, let us say, and that the client wishes to see something of what he is going to receive before he signs the necessary and binding papers. Then the time is at hand which most architects dread, when it becomes imperative to explain by mechanical means the elusive dream which he fervently hopes will one day become a tangible reality. It is the time when opportunities are made or unmade.

Now, right here a peculiar situation arises of which it may be well to speak. Psychologists tell us that by far the majority of mankind are what are termed "visualists." That is, they receive and retain their principal impressions of what goes on around them through the medium of their vision, or to put it more clearly,

they grasp and remember most easily those things which they see. Few architects, surprisingly few indeed, are capable of sitting down and rapidly placing their ideas on paper in intelligible sketch form. In the majority of cases they must do this through some intermediary who acts as a sort of interpreter. Either there is someone in their employ—perhaps he does nothing else, if the office is large enough—who is capable of acting in this capacity, or they must go outside to what is termed a professional renderer. In either case the result is frequently unsatisfactory. Interpreters and go-betweens generally are, though the fault is not entirely theirs. The architect is again, as with the client, though admittedly to a lesser degree, faced with the necessity of forming a word picture of that intangible dream which floats before his mind's eye, and rarely, very rarely is he successful. It requires two men of super-qualifications, one with the art of handling words and the power to endow them with peculiar meaning and vitality, and the other possessing an unusually sensitive and sympathetic understanding to receive them, combined with a sure and ready hand to record the impressions thus formed in a manner which shall convey unmistakably to the client the architect's idea and no more. Such combinations have been known to exist, but how infrequently is painfully evident from the number of architectural renderings which fail to thrill. They represent merely a mechanical layout of lights and shadows, combined with few or many tricks of the trade, momentarily perhaps intriguing the eye but expressing nothing to the inner consciousness.



The Architectural Record.

Rendering by Meade A. Spencer.

April, 1923

As individuals differ, so must ideas. How much more satisfactory it would be were every architect able to express himself rapidly, clearly, and simply by a few well-directed lines from the end of his pencil! How much more charm, spontaneous beauty and real feeling there would then be in his designs, for they would come direct from the heart and clearly indicate what words can never express, and would not bear the often cold and mechanical aspect which they are frequently compelled to betray in taking visual form through the medium of someone who has neither the sympathy nor understanding of their creator. The proper character of a building or other structure, once caught in the beginning, may frequently be carried subconsciously through all the mechanical side of construction to the completed work. When this is so, it invariably strikes a responding chord deep down within the heart of every beholder and becomes a thing of beauty and a joy forever.

An architect need not be able to draw to become what Mr. Schwab would term a success—that is, a financial success. But even in this country there are some men to whom success does not mean only the accumulation of a fortune. As an artist, Rembrandt ranks with the greatest. Financially, he was an utter failure. The wheel of public appreciation revolves and brings its day of recognition and its nights of oblivion to other beings, but for Rembrandt it seems to be high noon forever. Yet how many Rembrandts have there been in the architectural world? True, we build, tear down, and build again. There are styles in architecture as there are in dress, but there are few buildings which survive, even in memory, after a brief period of years. It is interesting to note that those architects who stand on the pinnacle of their profession, whose works have widest repute, and whose buildings are prominent as landmarks in a flood of mediocrity, are artists in every sense of the word. They can all handle their pen, pencil, charcoal, or water-color with the same facility they employ in handling the materials with

which they build. To be able to render or sketch well is to be able to record one's own ideas for the benefit of others, not as regards form and substance alone, but with that indefinable touch which makes them at once more pleasing and understandable.

When an architect undertakes, then, to make a rendering and to record for a client those mental impressions to which he is striving to give at least conventional form, he is confronted, or should be, with the problem of deciding which of two courses he shall pursue. Shall he render the general impression of mass and form, subordinating and sacrificing detail, relying upon broad, simple qualities, and especially attempting to create atmosphere, or shall he give an accurate, detailed, even minute account of every minor form which goes to make up the body of the structure which he has in mind? The one is the impressionist's method, the other the detailist's, and the latter is the more apt to be chosen in that it is the easier and more understandable to the architect.

But one must not forget that it is the client or the public for whom this picture is intended. It is to provide anyone with an impression of what to expect in the completed structure. In that case is it necessary to delineate, every cornice bracket, every window frame, every delicate piece of ornament? The cry has been in the past that an architectural rendering may not be a work of art in itself, that it may not aim at the creation of that which we term atmosphere, that it must remain like the scale drawings from which it was made, merely a means to an end, that should it go further it must at once give a false impression and, so to speak, trick client and public alike into expecting something which may never come into being. Happily that idea is fast disappearing. It is difficult, in making a rendering, to visualize, even with the actual surroundings before one, just what the final aspect of the completed structure will be. Even inanimate things like buildings react strangely upon their surroundings, and the reverse condition is similarly true. It is obvious,

then, that the client will not receive the proper impression of a structure, if nothing but a cut and dried parcel of facts is placed before him. In nature, facts frequently become pleasantly blurred. Far down the side of a building in bright sunlight window jambs fade and merge into surrounding wall, a hard cornice line

architectural rendering and sketching is consequently taking a rapid turn for the better in that it is losing much of its stiff formality and lack of life and interest. It might even be a good thing if architects were to lean completely in their rendering toward the impressionist's attitude, for try though they may,



Rendering by Meade A. Spencer.

here and there vanishes in a pile of distant clouds, and then reappears further down; a plume of steam from some neighboring building floats lazily across the picture and obscures for an instant some part of it, or, perhaps, a chance cloud casts a momentary shadow over one corner. These and countless other seemingly small things modify to a tremendous extent the visual impressions which we gain of our surroundings.

Architects are fast realizing this, and

they are never likely to err on the side of omission and be too neglectful of detail. Only too often do they lose themselves in its contemplation.

Present day designs are not seldom the victims of over-zealousness in this respect, and a dry and academic formality the result. Bold, vigorous contours are the earmarks of the primitive, and today we pride ourselves on our refinement. Yet there do occur periods in every great art when the presence of superfluous and

redundant detail drives many artists to return to the primitive in order to express the all-important basic truths of life without that loss of power to which a confusion of detail inevitably leads.

But, aside from its practical advantage, the ability to sketch quickly and well, to be able to record those visual impressions which one gains of the things about him, in a form which will make them equally clear and understandable to others, is a joy supreme. There is no pleasure for the artist comparable to an outdoor sketching trip. It is the renderer's relaxation and amusement. It is his surest step toward self-betterment and an inexhaustible source of inspiration. Many find great happiness in travel, but to travel with a sketch book is to travel with the gods. You wander care-free down some rambling old street or byway, where the houses jostle and shoulder each other about in an effort to crowd themselves as far as possible out on to the sidewalk, or where aged and decrepit structures spread their hoary old timbers above you and lean picturesquely toward each other. Suddenly, coming upon a cluster of such ancients where one more obtrusive than his neighbors has completely shouldered them into the background and taken his stand so that the street perforce must bend around him, you seat yourself, rest your sketch book on your knees, sharpen your pencil, or, prepare your color box, if that be your medium—and the stage is set.

Or, perhaps, you chance to find yourself amid the ruins of the temples and dwellings of a once powerful people, where that glory that was at the same time the pride and envy of the ancient world still rears itself in broken but unsurpassed fragments, a fit subject for the world's wonder and homage, and you follow with reverent pencil the details of shaft and capital and cornice. You settle yourself in the corner of a portico, your back comfortably propped against a slab of marble which may have similarly supported the back of some Ictinus or Callicrates two thousand years and more ago, while off in front of you the blazing sun makes alternate patches of glisten-

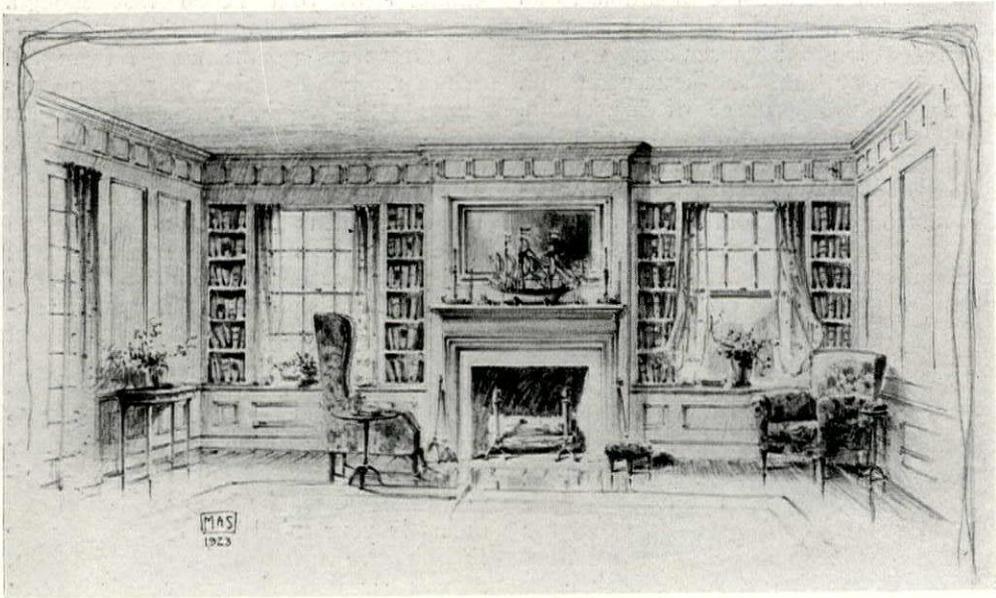
ing light and transparent shadow among decaying fragments, and the stumps of columns and tumble-down walls, beautifully touched with an age-old patina, drip pure gold. You examine it all with a critical eye, your pencil poised to strike when once you feel you have grasped the essentials and have selected your center of interest. Then, suddenly, you begin, cautiously and a bit timidly at first, then increasingly bold and rapid, an enthusiasm taking possession of you, until you cannot move your pencil fast enough. Soon it all begins to take shape, the various fragments assume definite form and relation. What at first seemed hopeless starts a tingling in your veins as you realize you have struck that note which, somehow or other, appealed to you as you first selected your subject. You sketch for what seems an age, and when you have finished, you look at your watch and find you have been working scarcely an hour. There is plenty of time yet for another attempt. And so it goes. Next day comes the reaction, when in the cold light of criticism, untouched by any attendant emotions, you realize how crude and mean your scribbings are and how poorly you have interpreted that glorious architecture, the vision of which remains in your mind and heart. But the thrill it gave you, the things it taught you, as you caressed with eager pencil every detail of its loveliness, will linger forever.

Or let us roam among the cathedral towns and their surrounding villages northern Europe and gaze upon those matchless towers and pinnacles of a bygone age. The ordinary traveler wanders aimlessly about, seeing and hearing much, remembering this and forgetting that, viewing superficially somewhat of everything, or little of anything, but the sketcher makes all with which he comes into contact his very own. If he is an architect and couples with his active pencil a seeing eye and a retentive memory, he will find, upon returning home to practice, that he has acquired a source of inspiration that he could never attain by other means.

Just as in office rendering, in pure sketching the architect is faced at the be-

ginning with two points of view. He may either labor carefully over his picture, making it as nearly photographic as is deemed advisable in the depiction of reflected lights and shadows, the bringing out of highlights, texture, detail, and so forth, or he may satisfy himself with mere outlines, shadows, and the barest necessities, rendering the general mass only and relying upon memory or an accompanying photograph for textures and

materials and their varied uses frequently give a distinct character and must, at least to a certain extent, be expressed. Proportions must be as nearly exact as possible and varying colors given their proper values. It will be seen, then, that the command of two, or even more, techniques, especially in handling pencil work, is of great advantage to one who plans to do both outdoor sketching and office renderings, the one adapted for



Rendering by Meade A. Spencer.

the like. Such decisions must rest upon individual preference or ability. The writer prefers the latter method as undoubtedly the more rapid, and speed in the present day and age seems to be almost a necessity. There is so much to see and record and so little time in which to do it. In office rendering, however, where time is not such an important factor, when a rendering started one day may be finished the next, and where textures and the like sometimes play an indispensable part, a different point of view must of necessity be assumed. It is well not to go too far into detail even here and kill that all-important general impression which one is striving to get, but in the construction of a building, mate-

speed, the other for more or less careful picturization, where the retention of certain predominant characteristics is essential.

Up to this point little has been said of mediums, little distinction has been made between them. It makes no difference. We have not been concerned here with ways and means, but rather with cause and effect. The sketches which accompany this article all happen to be in pencil, with a few touches of colored crayon, merely because it seems to be the medium best suited to an architect's uses, and because it is the first which he learns to handle, in addition to being the handiest and most rapid for sketch book use. Not so direct as the pen or etching needle, or

silver point, it is adaptable to work involving board freedom or the most delicate restraint, yet is at the same time an excellent training for hand and eye in precision of observation. In that way it might well be used to a greater extent in present day architectural schools than it is, for as outline is the basis of all art, so should line drawing be thoroughly taught at the beginning. A study of the old masters in this respect is of invaluable assistance and inspiration. The drawings made as preliminary studies to their paintings by men like Leonardo da Vinci, Botticelli, Michelangelo and others are masterpieces of line drawing, and frequently hold a charm not to be found in their completed works. Ingres, always a great draughtsman, was particularly fond of the pencil, and the delicacy and refinement of his line will repay many patient hours of study. It is also

well to note here, as an interesting fact, derived from the contemplation of this artist's work in particular, that it is not necessary to go deeply into the rendition of textures to express much. Brevity may be the soul of art as well as of wit.

And now, in conclusion, there is no more important thing to bear in mind in architectural rendering and sketching than the value of restraint. Nothing seems more difficult to remember at the proper time or so seemingly impossible to put into effect, even if we do remember, than that. To be able to stop at the right time, or to know that the moment has arrived when one little dab here or a touch there will carry the whole effect across the boundary line from perfection to imperfection, is to betray that vital characteristic which marks the difference between artist and scribbler.



Rendering by Meade A. Spencer.



The Architectural Record.

April, 1923

Garden Pool, North Bridge and Elevator Housings.

IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.

CONCERNING THE IMPERIAL HOTEL. - TOKYO, JAPAN -



By *Louis H Sullivan*

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.

And it is precisely this condition that gives animus and validity to what is to follow in contemplation of the Imperial Hotel, of Tokyo, Japan, as a high act of courage—an utterance of man's free spirit, a personal message to every soul that falters, and to every heart that hopes.

It is becoming clear that a new thought is arising in the world which is destined to displace the old thought.

The new thought partakes of the nature of that freedom of which men long have dreamed. It is now breaking through the crust of the old thought which thus far in history has dominated the world of men and which embodies the idea of dominion and of submissive acquiescence.

The old idea, or fetish, is dying because it no longer satisfies the expansion of thought and feeling of which the impressive revelations of modern science are a primary factor; and especially because it is no longer at one with those instincts we call human; it does not recognize the heart as a motive power.

Yet is the old idea tenaciously fixed in the minds of a majority of those engaged in commerce, the industries, the law, the courts of justice, and especially among parasites of all kinds and degrees.

The old idea reaches from top to bottom of the social strata, and also from bottom to top. It is an age-old fixed idea, based upon a concept of self preservation, which once may have had an outward semblance of validity even

though its stability of superstructure rested upon a foundation of human slavery, ignorance and suppression.

While in modern times bodily slavery as such has been done away with in theory, the old idea has persisted, curiously transformed into a slavery of the mind, which also ranges through all the social strata, even as men appear to be bodily free.

This new slavery of mind is manifest in a strange, ever-present disturbing fear, anxiety, and incertitude, which permeates society and which leads the individual to cling for safety to the old ideas, superstitions, and taboos, in order that he may conform and not appear too obvious as an individual, a target; that he may, above all, escape the fashionable epithets, "crank," "visionary," "dreamer," "freak." Hence comes about a new economic slavery causing the man, high or low, to fear for his job, and live in a nightmare so terrifying that he dare not say one word that might be construed as disturbing. Such minds in their nature are asleep to the significance of great world movements in thought.

But the idea of freedom is also old; older indeed than the slave-idea. For it is of the nature of any organism that it wishes to be free to grow and expand. This instinctive desire for freedom has been held in check and dominated by the intellectual idea of fear, resulting in unnumbered inhibitions and suppressions, which have led to an obscuration in the minds of men of the two ideas of slavery and freedom.

But the idea of freedom *also* is beginning to permeate the thoughts of men, with a new urge, *also* through all the strata of society, and is massively defining, taking form, and becoming

energized, through an ever-growing knowledge and ever-increasing understanding of the true nature, the true status of man not as creature but creator; an enlarging view of man's inherent powers and a growing consciousness that his slavery has been self-imposed.

It was in this sense that I have had occasion recently to comment upon the splendid interpretation of the spirit of the American people manifest in the design submitted in the competition for the *Tribune* Building in Chicago—by a Finlander—Eliel Saarinen.

It is in this sense that we are now about to contemplate the new Imperial Hotel in Tokyo, Japan.

This great work is the masterpiece of Frank Lloyd Wright, a great free spirit, whose fame as a master of ideas is an accomplished world-wide fact.

Through prior visits he had discerned, and added to the wealth of his own rich nature, the spirit, as evidenced in forms, of the ideals of Old Japan, which still persist, in slumber, among its living people, needing but the awakening touch.

It is a high faculty of what we call genius to penetrate and temporarily to reside within the genius of another people foreign to our own local ways. And it is this quality of vision, this receptivity, this openness of mind, that especially signalizes the free spirit—the mind free from provincialism and the fear of life.

Next in order to the power of vision comes the power to interpret in thought; and, next to this, the power to express the thought, the state of feeling, in concrete terms.

In this structure is not to be found a single form distinctly Japanese; nor that of any other country; yet in its own individual form, its mass, and subsidiaries, its evolution of plan and development of thesis; in its sedulous care for niceties of administration, and for the human sense of joy, it has expressed, in inspiring form as an epic poem, addressed to the Japanese people, their inmost thought. It is characterized by the

quality, *Shibui*, a Japanese word signifying the reward of earnest contemplation.

In studying the concrete expression, the embodiment of idea in solid form, the magnitude of this structure should always be borne in mind. It is 300 x 500 feet on the ground, the area thus equaling 150,000 square feet, or nearly two and one-half times the area covered by the great Auditorium Building in Chicago. The structure is three stories high in the main, with special masses equivalent in height to seven stories.

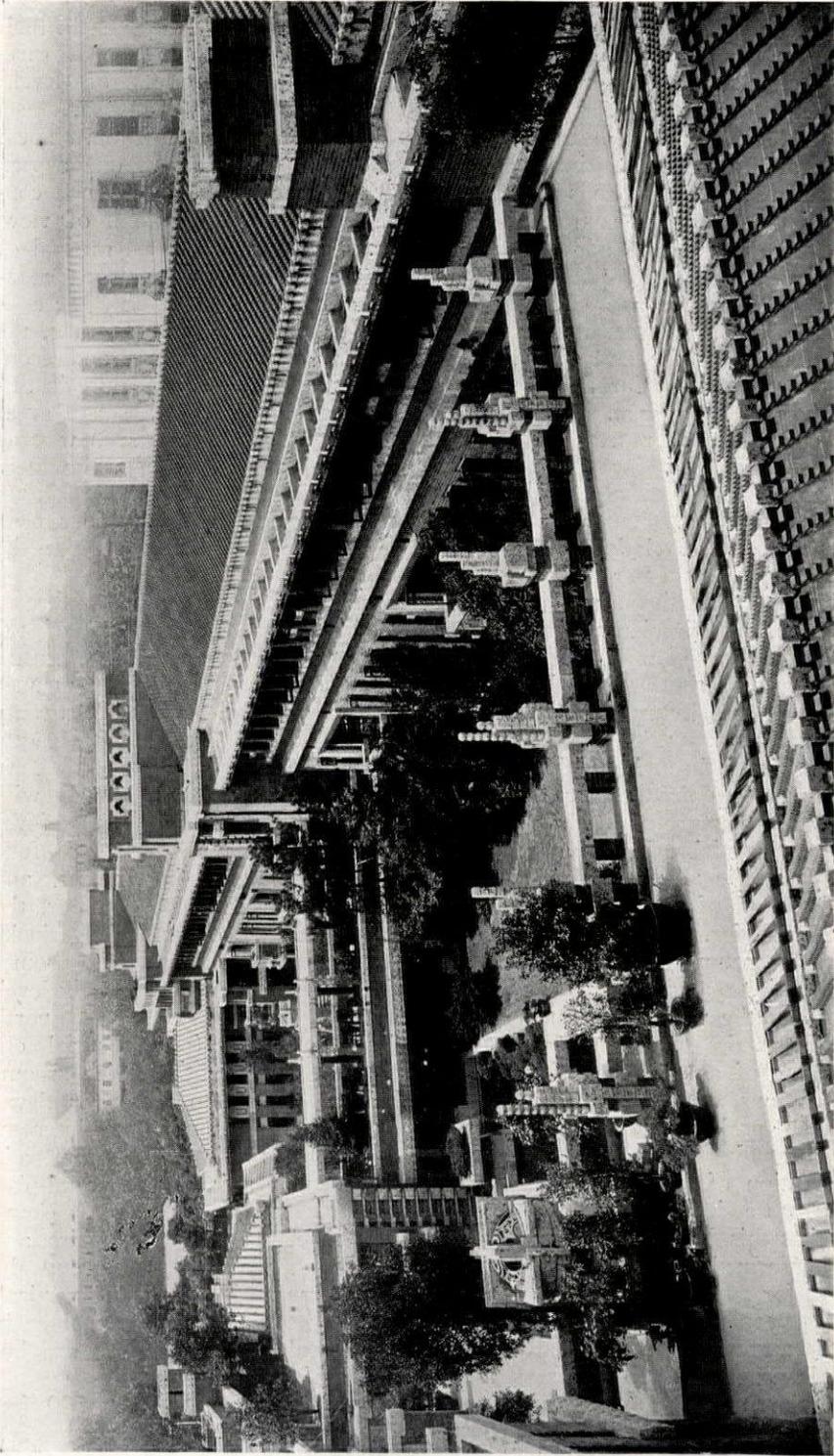
In a sense it is a huge association of structures, a gathering of the clans, so to speak; it is a seeming aggregate of buildings shielding beauteous gardens, sequestered among them. Yet there hovers over all, and as an atmosphere everywhere, a sense of primal power in singleness of purpose; a convincing quiet that bespeaks a master hand, guiding and governing.

Upon further analysis, aided by reference to the floor plans, it is disclosed that the structure is not a group, but a single mass; spontaneously subdividing into subsidiary forms in groups or single, as the main function itself flows into varied phases, each seeking expression in appropriate correlated forms, each and all bearing evidence of one controlling mind, of one hand moulding materials like a master craftsman.

It is this coming to grips with realities that infiltrates the mind of the observer, until he feels the reward of earnest contemplation in the sense that what at first he had regarded as a material structure is sending forth to him an emanation of beauty, the presence of a living thing, a wondrous contribution to the architecture of the world, an exposition of the virile thought of modern man.

So much for the ever-growing fascination of external forms, which appear as eloquent expressions of a something that must reside within them and justify them, upon logical grounds, as forms developed from functions of utility.

In considerations both of analysis and synthesis, one must regard the plan as the mainspring of the works; and this



The Architectural Record.

Roof of Pergola, looking into garden courts.
IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.

April, 1923

plan in turn as but the organization of the primal purposes of utility, manifold in their nature, of service to be rendered.

Now, in examining the plans at the various floor levels, one discovers that the big idea of service divides into two specialized forms: the first constituting as a complex group a hotel complete in all details for the comfort and entertainment of the traveling public, or residents; the second, more formal and sumptuous part, is discernible as a group embodiment of the necessity for a clearing-house not only for the social obligations incurred by Japanese official life in its contacts with representatives of other lands, but also for the great social functions now inevitable in the high life of the Capital.

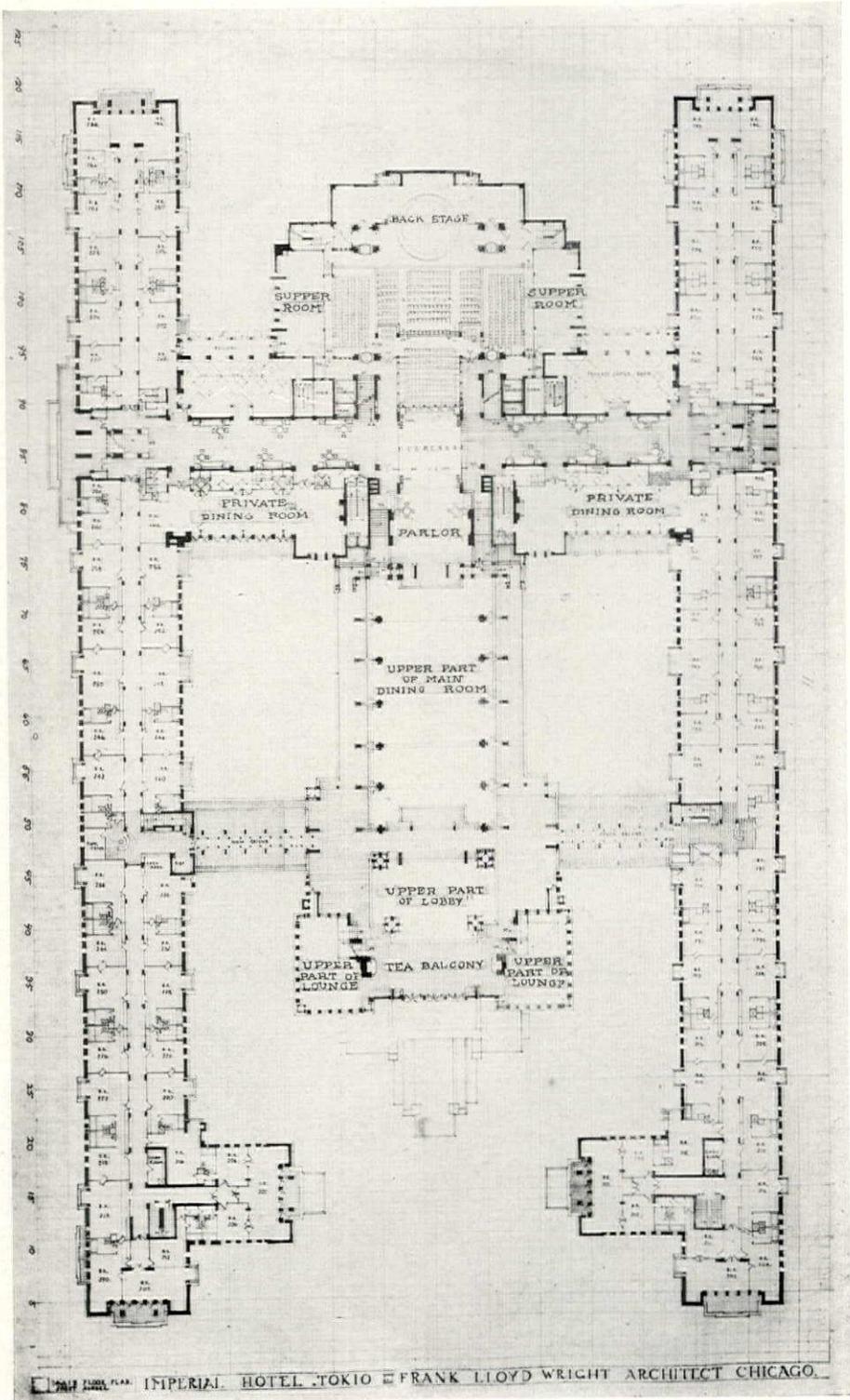
Consequent upon the relation of these two groups there exists a most felicitous system of interpenetrations, and communications, with a circulatory system, all worked out in a manner signifying not only mental grasp but creative imagination, based on the human being as a unit and a motive.

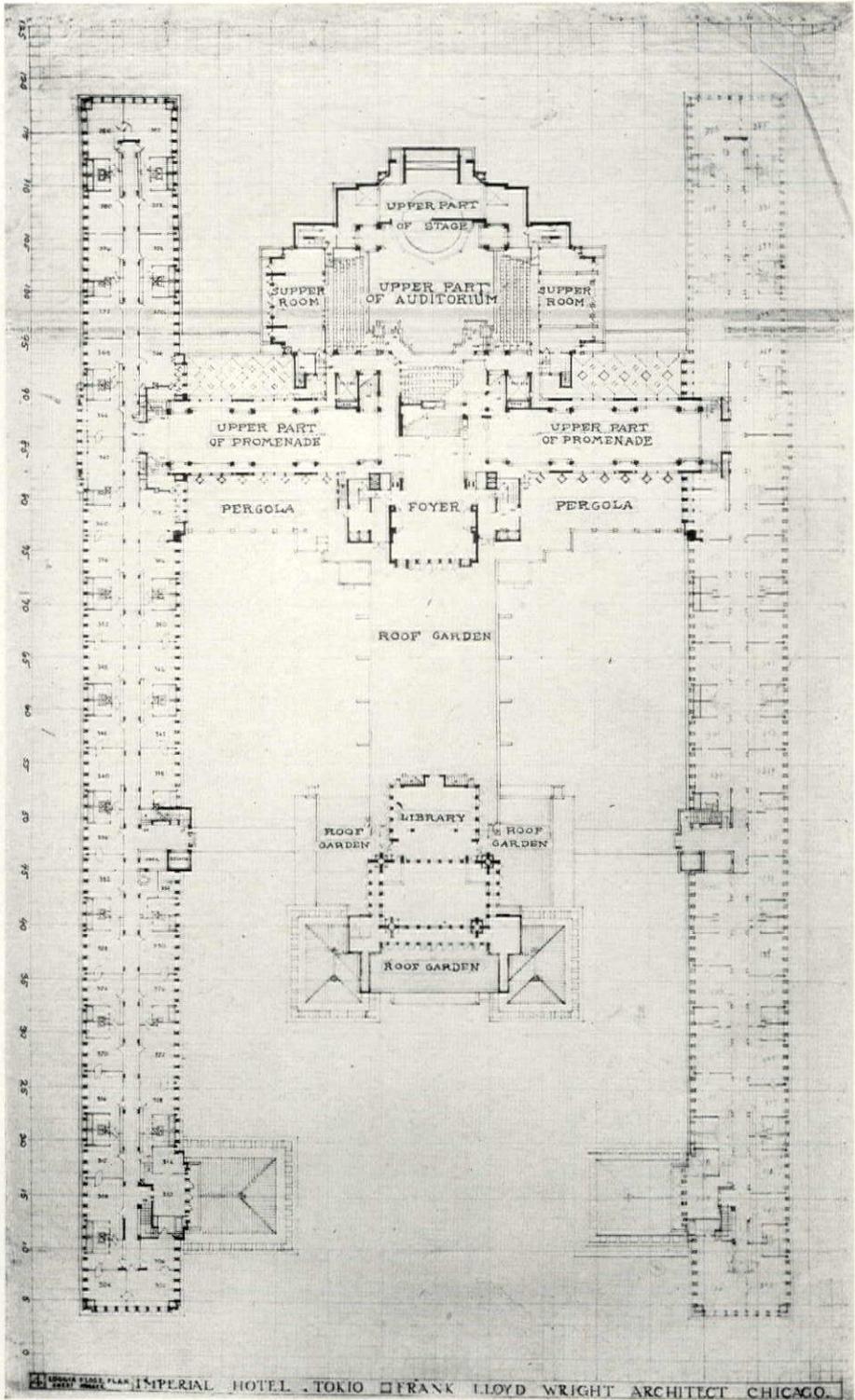
The dispositions throughout the entire building are so dexterously interwoven that the structure as a whole becomes a humanized fabric, in any part of which one feels the all-pervading sense of continuity, and of intimate relationships near and far. In this especial sense the structure, carrying the thought, is unique among hotel buildings throughout the world. Japan is to be felicitated that its superior judgment in the selection of an architect of masterly qualifications, of such nature as to welcome new problems of time and place, has been justified. The longer the contemplation of this work is continued, the more intense becomes the conviction that this Master of Ideas has not only performed a service of distinction, but, far and above this, has presented to the people of Japan, as a free-will offering, a great gift which shall endure for all generations to come as a world exemplar, most beautiful and inspiring, of which Japan may well be proud among the nations as treasuring it in sole possession.

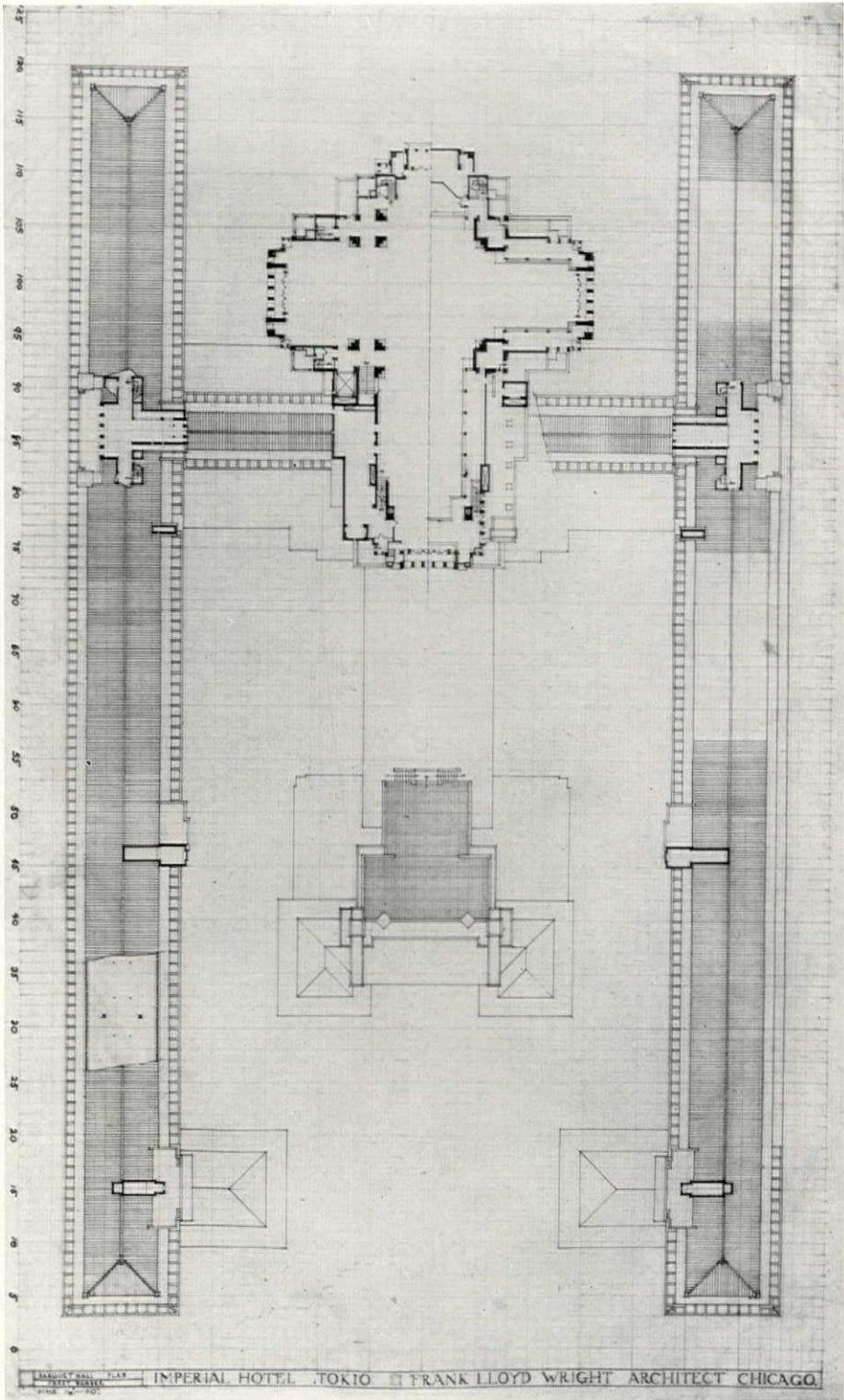
In further study of the plans, in their aspect of economics, one should carefully note the differences of levels, shown thereon but more clearly set forth in the longitudinal section. These differences of level are, in one aspect, a part of the charm of the work considered from the human point of view, and, technically, as a skillful method of deployment. They favor also the interpenetrations and the easy accessibility of the larger units and, thus, the compactness of arrangement and economy of space. A notable feature in this regard is the location of a single great kitchen, centrally placed in such wise as to serve the cabaret directly, the main restaurant directly, the private dining rooms by stairways and capacious electric service elevators, and likewise the banquet hall and ballroom above.

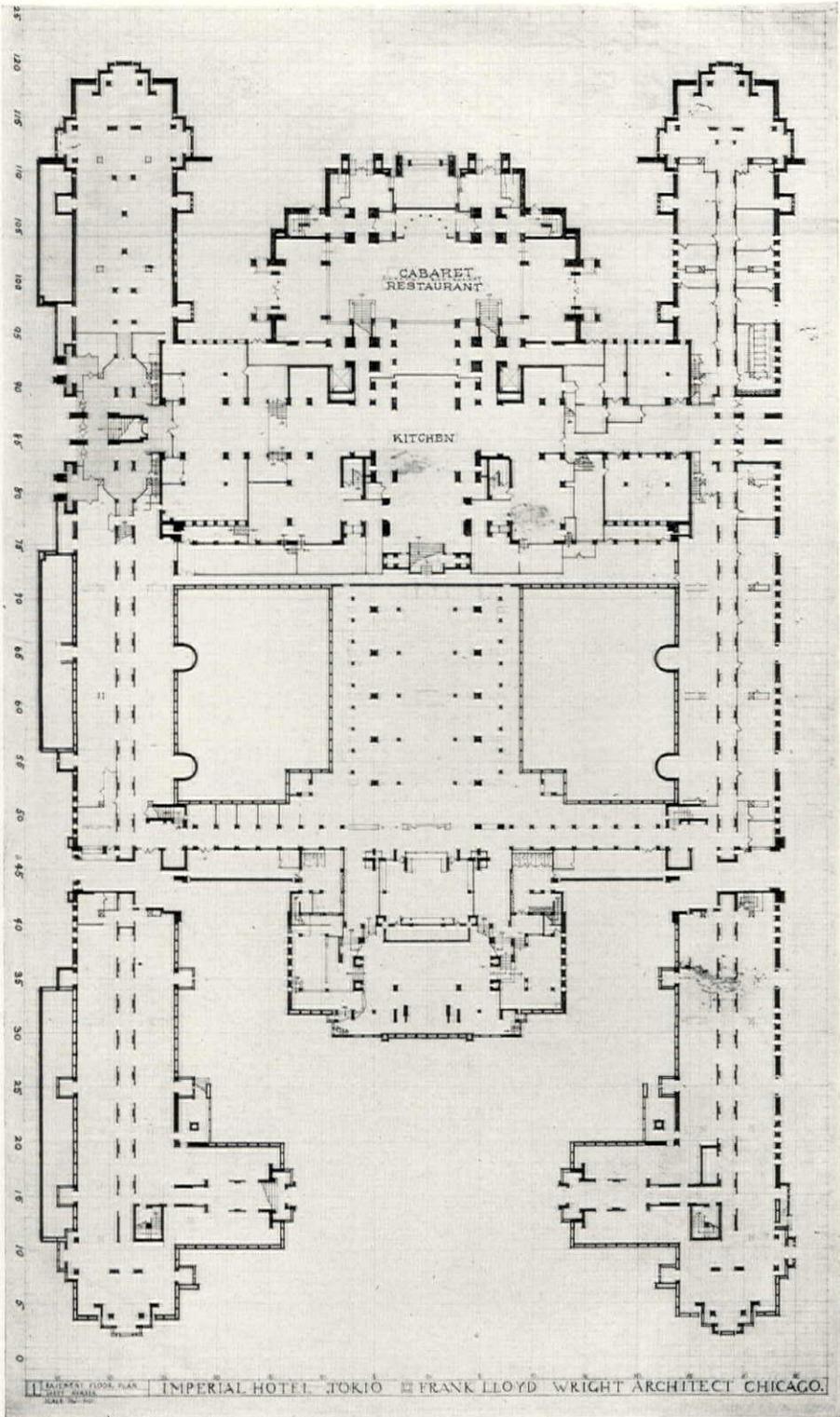
Beneath the banquet hall is a theatre seating 1,000, and at the level of the main floor of the theatre the entire structure is traversed and in a manner bisected by a grand promenade twenty feet in width and 300 feet in length. This promenade brings the two long wings of guest rooms in touch with the central group and acts as a foyer from which are entered the theatre, four groups of private dining rooms, and opposite the theatre a large parlor, the projecting balcony of which overlooks the restaurant. The floor of the promenade is sixteen feet above sidewalk level. Beneath the promenade at the north end is situate the formal social entrance with attendant service rooms and hallway leading to passenger elevators. Spaciously around the intersection point of the axis of the promenade with the central axis of the grand-plan are grouped stairways, passenger elevators, service elevators, service stairs, and other utilities. Within this group the service element is logically vertical. Elsewhere the circulation is mainly in the horizontal sense, as there are but three tiers of guest rooms.

The two great wings, each 500 feet in length, contain the guest rooms, 285 in number, to be hereinafter described. These two huge parallel masses act as









guardians of the inner courts, the gardens, and the more open structural effects, protecting them against the heavy prevailing winds and insuring a large measure of quiet, a sense of retirement and relief from a busy and noisy world without.

There remains to be considered an introductory group, placed within the open space bounded by the main guest wings and the formal social group, and lying symmetrically along the main axis of the grand-plan. It is connected to the wings by means of open bridges over terraces, leading to elevators and stairways. This group constitutes the welcoming feature of a grandiose and most hospitable plan—a plan based upon a rare sense of human nature, everywhere discernible throughout the structure.

At the western, or initial, beginning of the grand-plan, the parallel wings throw out minor wings of an enfolding character. Between these two wings lies a large formal pool, on each side of which are the driveways for automobiles. For *jinrikishas* separate entrances and runs are provided through the main wings. The entrance feature of the central group stands well back from the pool. One ascends a few steps and enters a spacious vestibule, from which lead up and down special stairways. A broad flight carries one to the main lobby from which one may enter the lounges, the side wings, or directly ahead, the main restaurant. At higher levels the group contains tea rooms, library, roof garden; and below, the executive offices, the bazaar, and the swimming pool. Beautiful form combinations and vistas make the interior treatment highly interesting and inviting. The level of the restaurant floor is seven feet above the sidewalk grade and nine feet below the grand promenade. The latter is reached from it by means of stairways, upper-level terraces or by elevators.

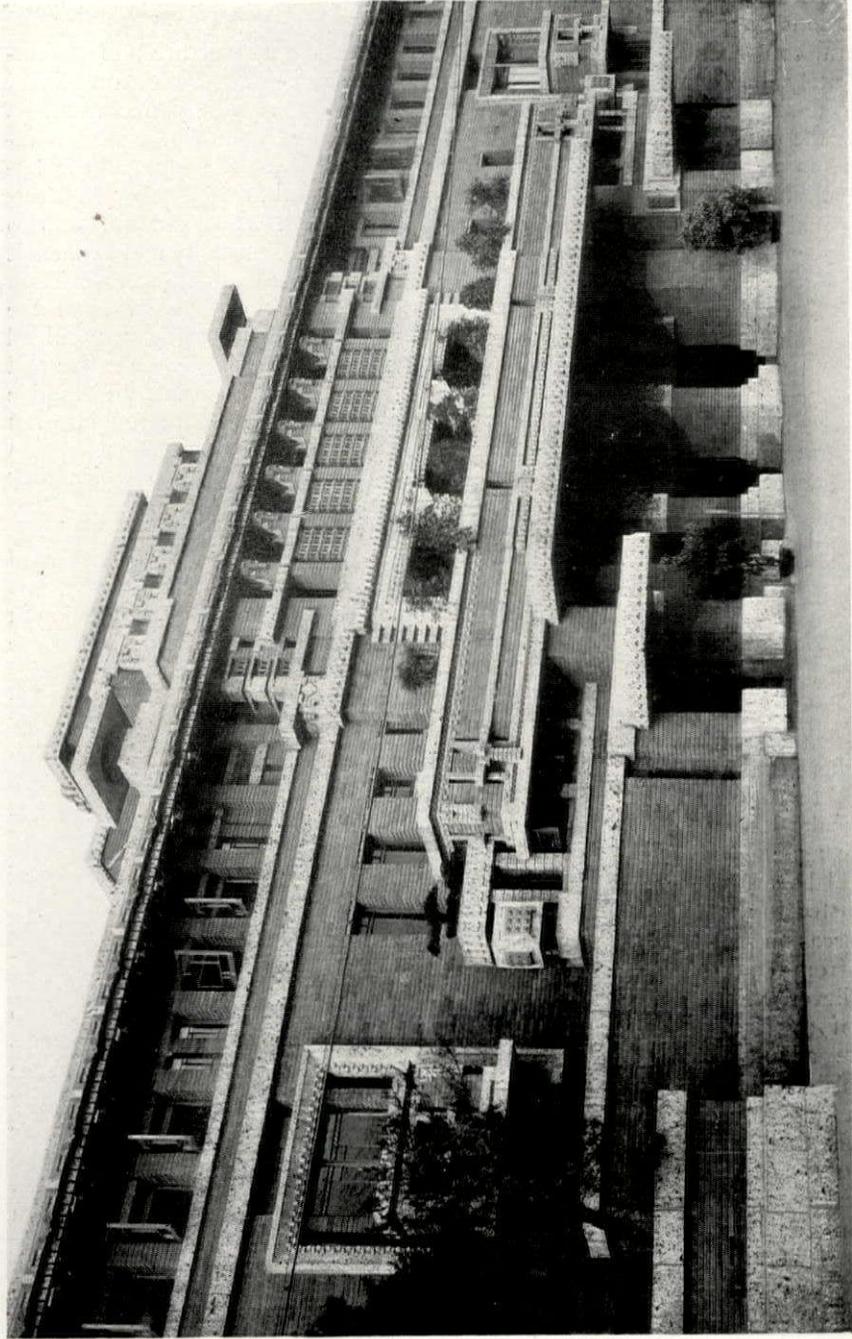
It cannot too often be reiterated that the terrace idea is the key to the development of the plan in its entirety and that this idea, seized upon by the constructive creative imagination, and carried into logical and beautiful extension, re-

veals the secret of the serenity and joy of this edifice. Nowhere is the sense of size oppressive, for the eye finds interest everywhere. Thus the structure may truly be called epic, as one views its large simplicity of utterance and richness of well ordered detail. Peculiarly entrancing in this latter regard is the treatment of the lava within and without the structure. Everywhere its surface is wrought in intricate pattern. Constantly varying in expression in accord with location, and so beautifully conceived and cut as to appear *of* it, integral with it, not applied. The effect is of a continuous, velvety shimmer of lava surface.

Among functional details are to be noted the system of external night-lighting, organically incorporated in large perforated units within the masonry at carefully considered strategic points; the terraced bridges which seem to float; the sumptuous treatment of the entrance to the social group; the recognition of the terminals of elevator shafts and of dumbwaiters. These latter utilitarian things are not hidden or denied, they are *affirmed*, as they should be, and add to the fullness and fidelity of expression. Indeed, it seems to be but little understood that fidelity to the finer truths inhering in material things is of the essence of romance. And this is a romantic edifice, heroic, dramatic and lyric in expression of function and of form.

A notable selection of local materials has been adopted for the external effects: hand-made brick and hewn lava are chiefly used with a most interesting interspersion of copper for the cornices and delicately worked copper roofs. All flat roofs are of concrete and are treated as gardens.

The color effect is quiet, yet piquant. The bricks are buff, the lava greenish yellow with deep brown spots, the copper turquoise. Minor color effects are secured in various materials, while to all of these effects appertains the added charm of gardens, and distributed shrubs and flowers—all of which are daily cared for; and potted and vased effects are



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Entrance to Social Group.
IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.

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renewed as occasion requires and the changing seasons suggest.

The general construction of the building is definitely based upon the reinforced-concrete-slab idea, carried out by the architect theoretically and practically to its limits, in a manner so novel, so logical, so convincing, as to be of the highest technical interest to those familiar with the general slab idea. The specific application here has to do directly with a flexible resistance to earthquakes—developing shocks, undulations, oscillations, and twists, in action.

The entire structure rests upon a layer of spongy soil, beneath which is found mud of undetermined depth. Short concrete piles are inserted in the upper layer, where required and as numerous as required, capped by reinforced concrete slabs which receive their direct loads at calculated points. The entire structure thus rests upon a flexible foundation which is free to yield to the mutations of earthquake disturbance and come back to place again.

By a system of distribution of steel rods everywhere the masonry superstructure is knitted thoroughly together in such wise as to render it yielding but resilient, hence secure against fracture or distortion. The slabs are as tenaciously yet flexibly adjusted to the vertical supports, and, where occasion requires, the slab system merges from the concept of lintel into that of cantilever. There is here so general a use of this latter method, on account of its adaptability to projecting horizontal slabs otherwise unsupported and the resulting ease of creating unobstructed areas, that it may perhaps be described as in essence a reinforced-cantilever-slab-system.

In the construction of all outer walls wooden forms were dispensed with; the outer layer of specially notched bricks, and the inside layer of hollow bricks, serving as such. In the cavity between, rods, vertical and horizontal, were placed, and then the concrete filler, the wall thus becoming a solid mass of varied materials, into which the floor slabs are so solidly tied as to take on the character of canti-

levers, as conditions of disturbance might demand.

Thus we have a structure almost literally *hand made*—the use of machinery having proved relatively inefficient—a structure so solidly built of materials inseparably united as to possess all the virtues of a monolith, and yet so completely threaded through with steel fibres as to add the virtues of elasticity and resilience.

The policy of administration of actual construction work was based upon the traditional habits of the Japanese skilled laborer and craftsman. These active and tireless little men are so deft and nimble that results were most thorough, even though at first they required instruction in the use of materials with which they were not familiar.

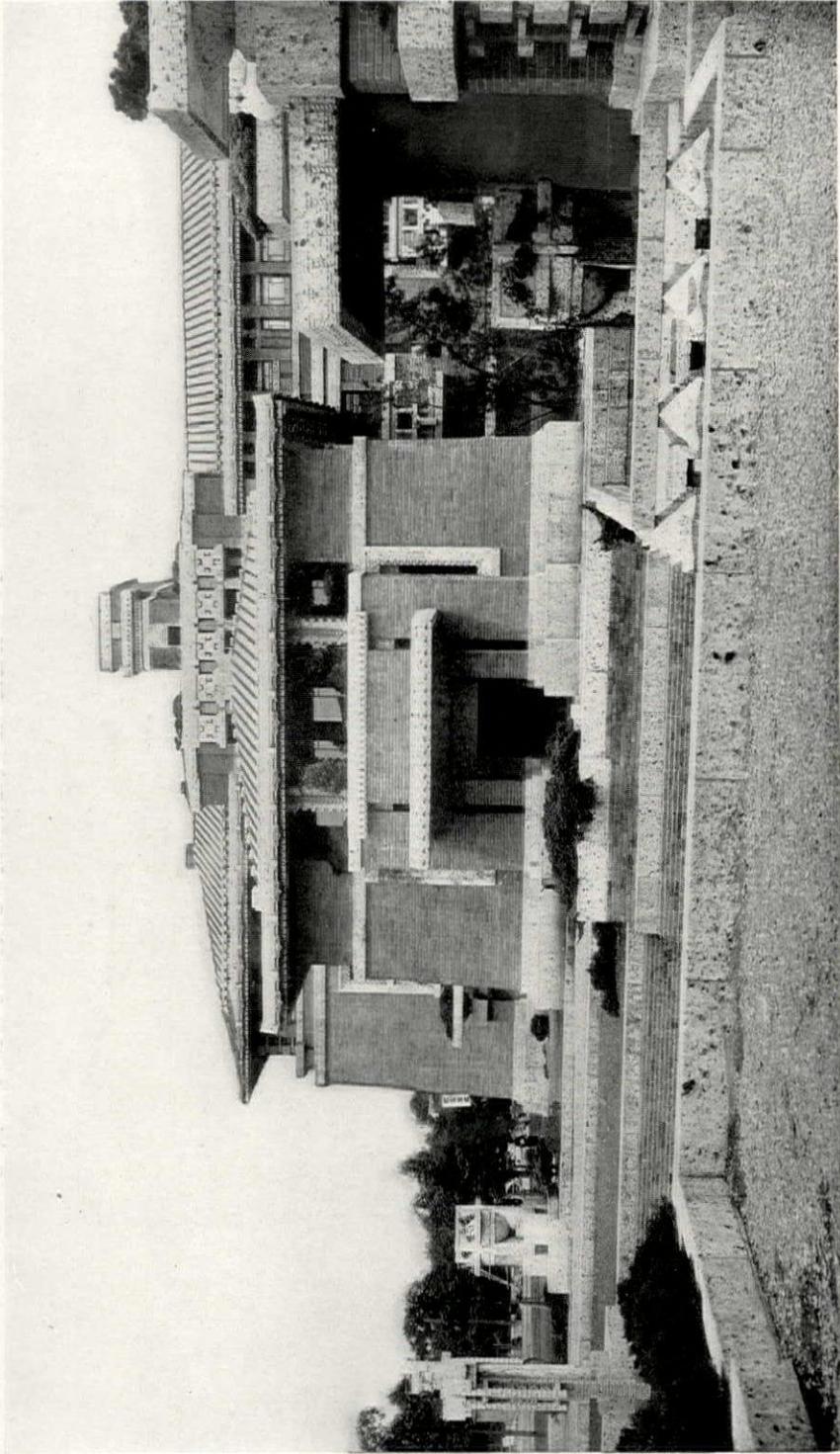
This structure, designed theoretically and worked out practically to withstand distortion or fracture by earthquake, was put to the test while nearing completion in April, 1922, in broad daylight, during the heaviest temblor in point of severity Japan has known in fifty years. Wide destruction was wrought in the city of Tokyo. The shock was terrific. The Imperial was violently jolted. It visibly trembled, swayed and rocked in the upheaval, and at its ending quietly steadied to position, free of distortion, rents or damage of any kind.

So much for a system of construction altogether novel in conception and execution, carried out by a strong, persistent mind, as imaginative in its insight into fundamental principles of engineering as in its profound insight into the romance of breathing life and beauty, humanity and spirit, into forms and materials otherwise helplessly inert.

It is thus that the master mind works, to bring forth, out of the fabric of a dream, a fabric of enduring reality.

As to the interior, a noteworthy feature is the use of lava and brick in the grand promenade, the theatre, the restaurant and the banquet hall. It was a happy thought to penetrate the interior with materials of the exterior, thus giving a sense of enduring construction.

The equipment is thorough and complete; electric heating, light and motive



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End Pavilion.

IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.

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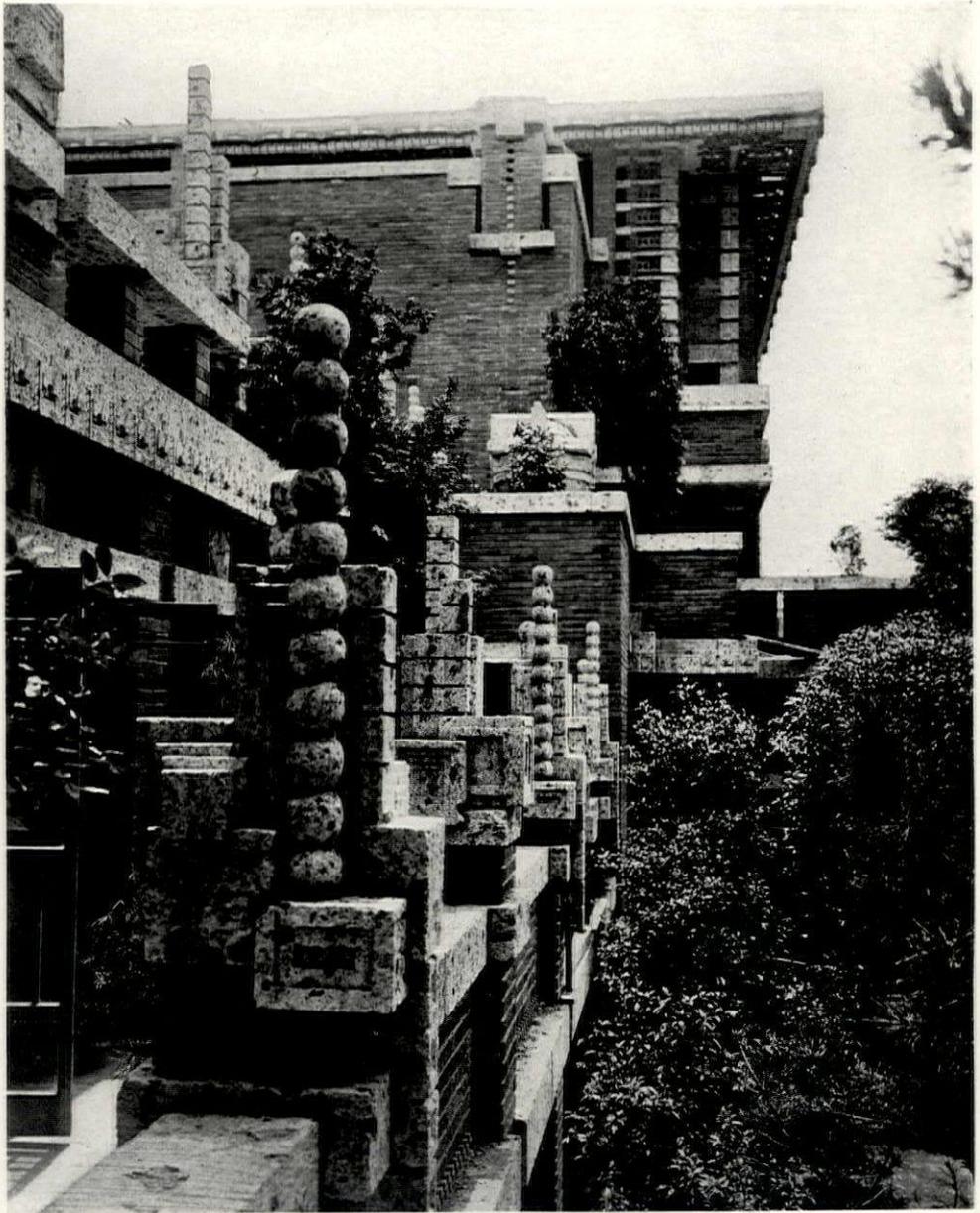


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North Wing and Jinrikisha Approach.

IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.

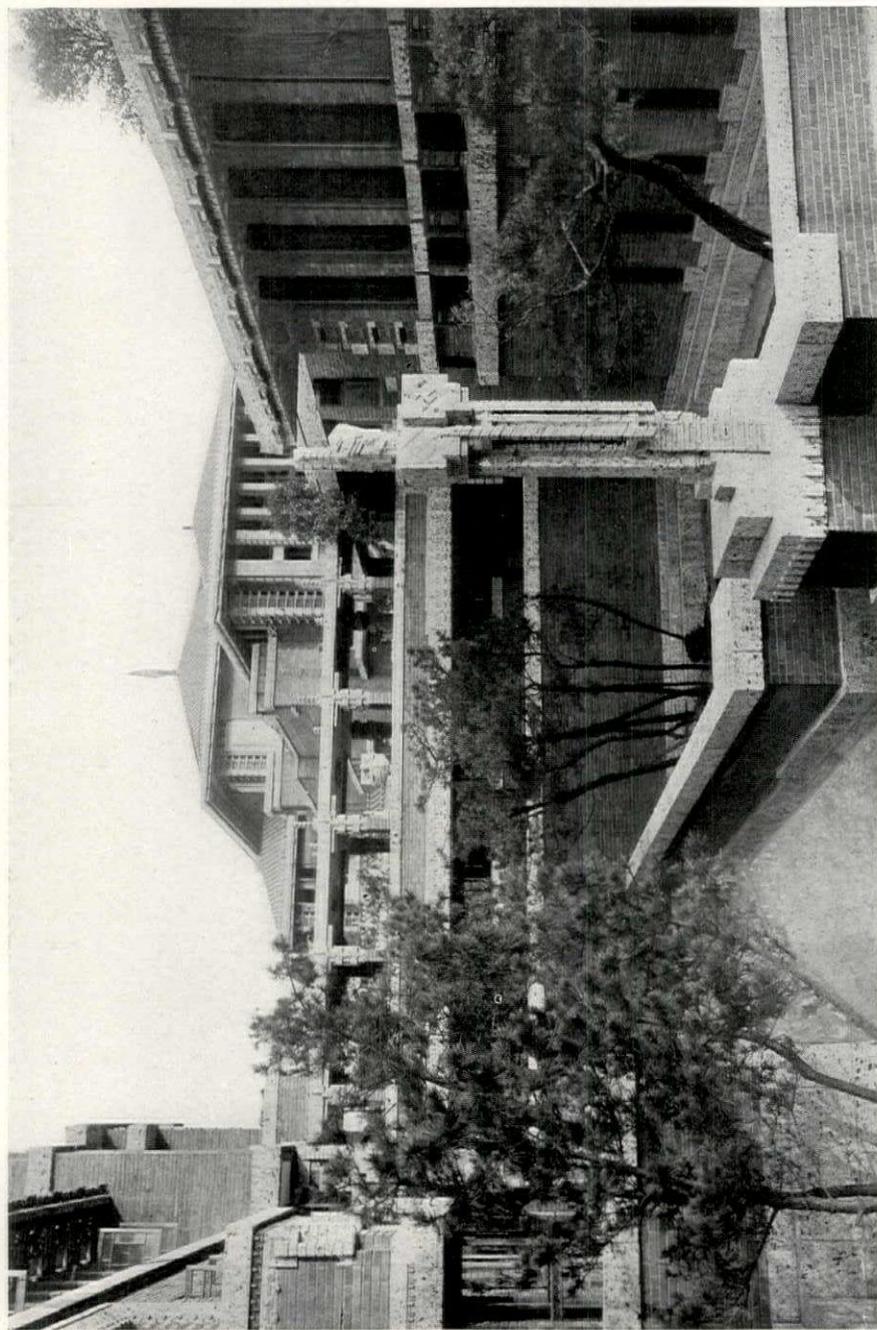


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Detail of Pergola, showing relation of lava and brick.

IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.



The Architectural Record.

Sunken Garden, North Bridge and Social Group.
IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.

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power, the usual telephone service, and a system of mechanical ventilation constantly in use and so arranged as to deliver cooler air in summer.

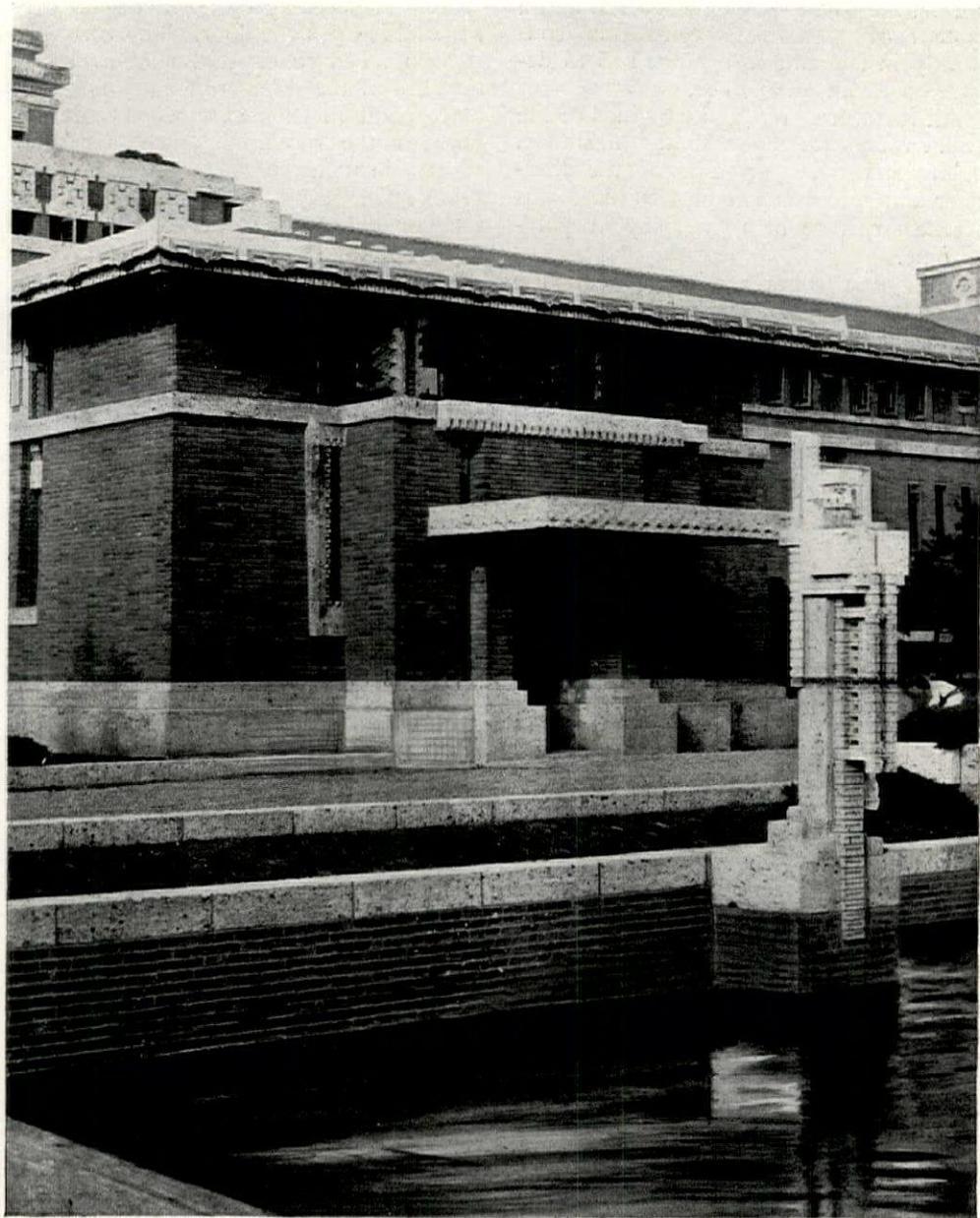
All furniture, rugs and hangings of the public rooms are of special design, simple, strong and rich, partaking of the character and specifically related to the forms of the structure in a fine play of polychrome.

The guest room arrangement of the wings has been worked out to conserve space, concentrate conveniences and preserve a quiet effect. The rooms are not large, but are arranged and furnished to become sitting rooms; the beds are in evidence more as couches than as beds. The typical small room is 15 by 18, with a 6 by 10 bathroom deducted. The typical large room is 15 by 22, bathroom similarly deducted. Average ceiling height 9 feet 4 inches. The electric heating and indirect lighting are combined in a standard attached to twin tables in the center of each room. These tables have a small writing table and a small tea table beneath them which may be removed to any part of the room, and, when not in use, may be returned to their places as part of the central group. The electric heat is thus at the center of the room. The wardrobe is a built-in feature of each bedroom, and is designed to accommodate a steamer trunk, a wardrobe trunk and two suit cases. It has ample hanging space for clothes, and the drawers of the old-fashioned dresser have been worked into this feature. There is storage space above it for purchases. A feature of this wardrobe is a guest-box accessible from the corridor or the bedroom at the will of the guest. This guest-box also contains the telephone. A full length mirror is placed against the side wall, and a small dressing table placed beside it. The central group of tables and this dressing table, together with an overstuffed easy chair or two, a light, wooden chair or two, and a hassock, are all the furniture of the room, except the couch-beds. It will be seen in this arrangement that great simplicity has been arrived at. An individual color scheme characterizes each

room. A specially designed rug to correspond is upon the floor. The furniture covering, bed covers and window hangings are of the same stuff and color, and correspond in each case with the color note of the room. The color scheme ranges through the whole gamut of color from quiet grays to bright rose and old blue or gold. The effect of the whole is quiet and complete. Everywhere there is ample light. Privacy is insured by the omission of the transom and the device of the guest-box. Cross-ventilation is secured in every room and bathroom by means of forced draught acting through ducts and a series of square ventilators set in the corridor partition above the picture rail. These are easily adjusted for summer or winter use. The corridor ceilings are all dropped beneath the concrete slabs to make continuous ducts, to which are connected the vertical vent shafts between every pair of rooms. These vertical shafts extend from basement to attic space and contain pipes and wiring, which are accessible and free of the construction everywhere.

The bathroom is an adjunct of the bedroom; in every case treated as a part of it. It is lined with ivory colored mosaic tiles, all external and internal corners curved. The bathtub is a sunken pool in the floor of the room, formed, with curved corners, of the same mosaic tile as the floor and walls. The room has a vaulted ceiling, and screened windows in the outer wall. The whole is drained and impervious to water in every part. The floor is electrically heated from below.

The main corridors of the guest wings are six feet wide, exposing the brick-faced concrete piers that support the floor, giving to the whole the effect of a cloistered promenade. The corridors are artificially lighted through perforated metal screens set into the ceiling. The corridor floors are cork-tiled. The threshold has everywhere been eliminated. Where plaster has been used the walls are treated with ground pearl shell splashed on to a heavy coat of paint in the Japanese manner. All the windows



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Looking Across Entrance Pool to Side Wing.

IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.



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The Main Promenade.
IMPERIAL HOTEL, TOKYO, JAPAN.
Frank Lloyd Wright, Architect.

in the building are screened, shaded and curtained. The wood, where used in the trimming, is throughout of Hokkaido oak, waxed. Outside each large room is a tiled balcony or terrace reached by low windows opening upon it. Baggage rooms, in each wing, for the storage of guests' luggage, easily accessible at any time, are located next to the elevators on the general level.

Thus an attempt has been made by this writer to set forth as clearly as may be the nature of a great work of architectural art founded in this particular case upon the utilities associated with human needs, in its aspects of hotel life and administration; or, in another sense, the forms that have been caused by a luminous thought to arise in sublimated expression of these needs in visible forms of beauty.

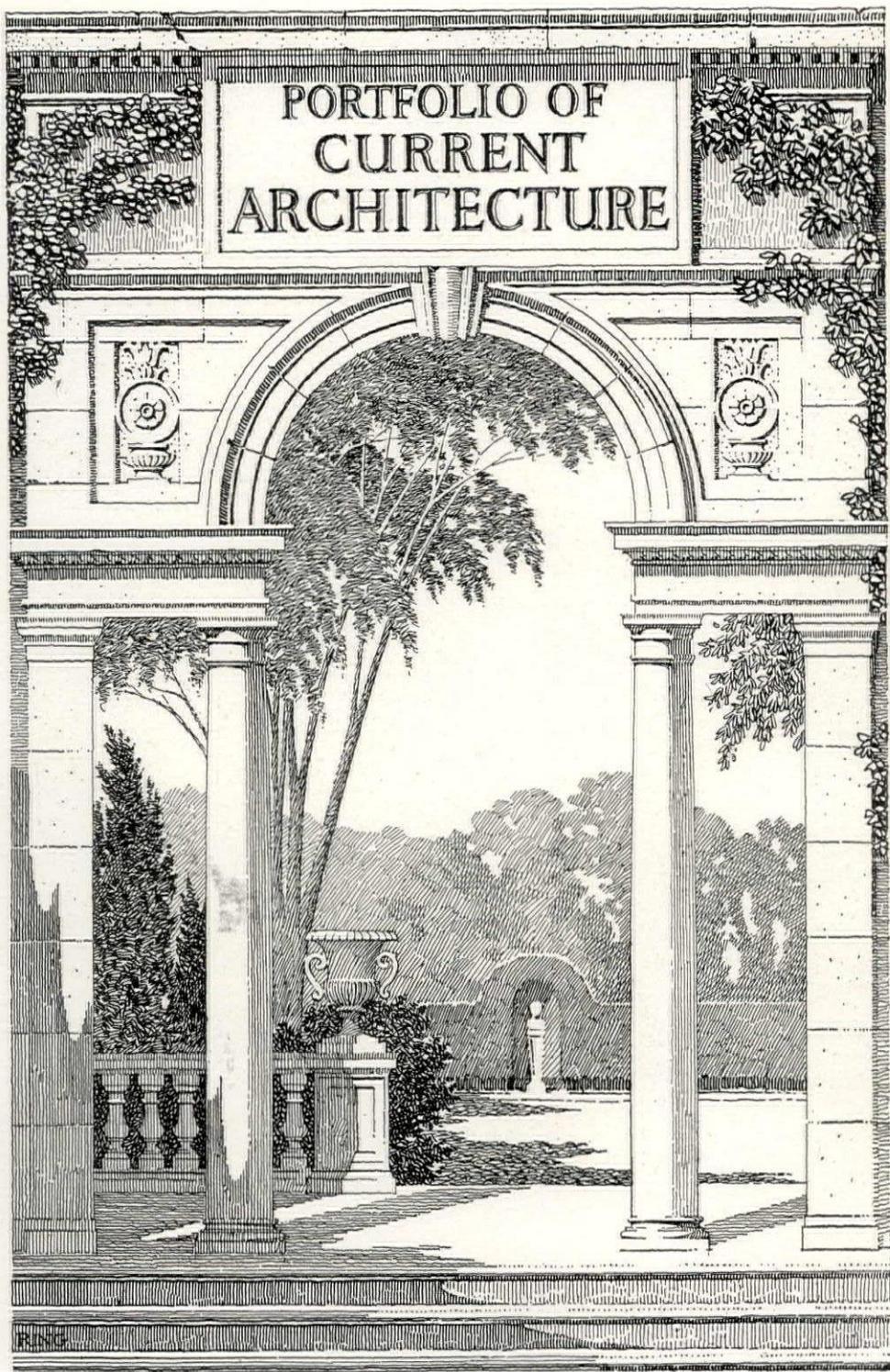
The true meaning of the word PRACTICAL is completely elucidated in this structure. For "practical" signifies explicit and implicit human needs. Such needs run a wide gamut of desire, ranging from the immediately physical and material, gradually upward in series through the desires of emotional, intellectual and spiritual satisfactions.

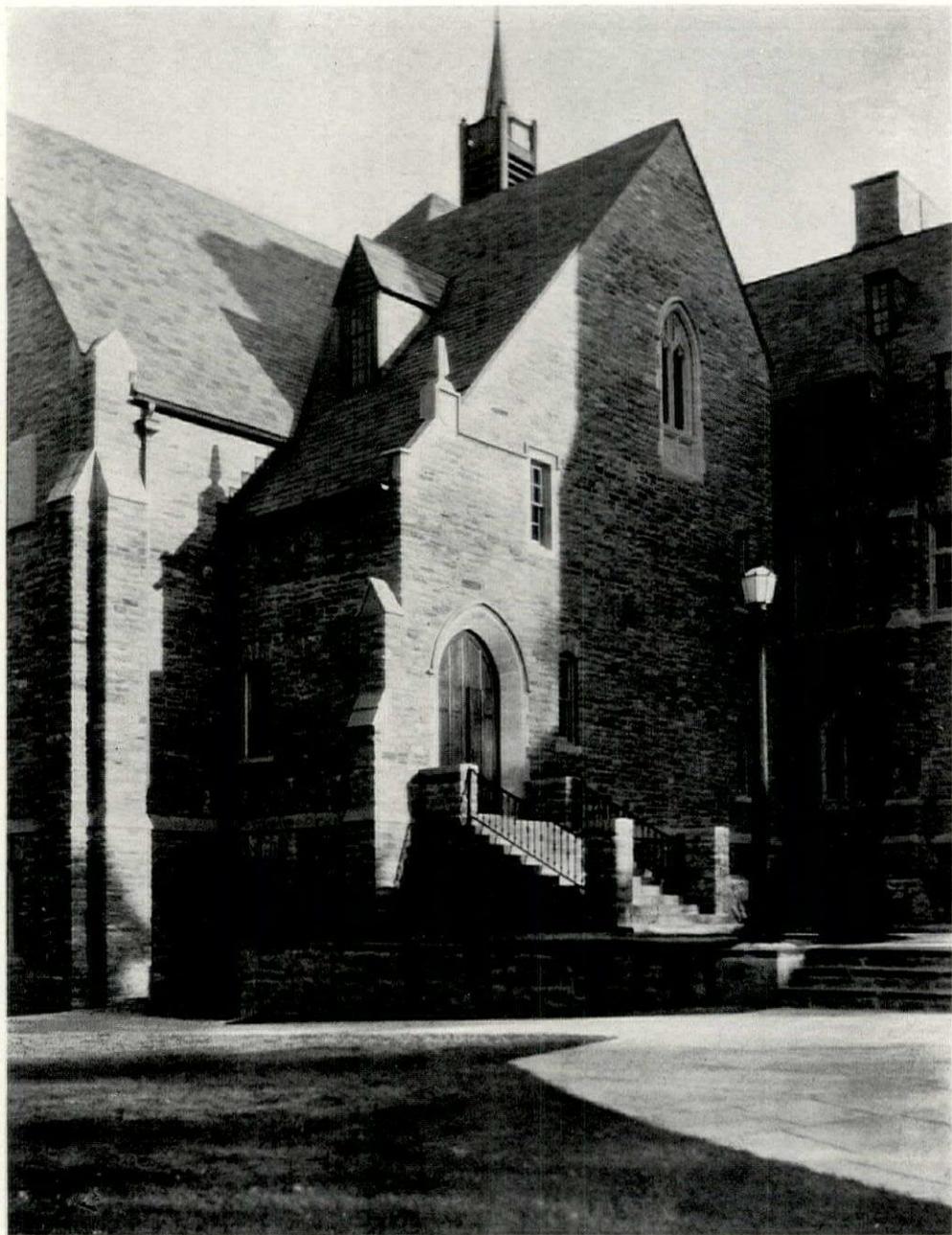
Thus we can understand how important is the play of imagination; for imagination is distinct from intellect. It lies deeper in life, and uses intellect as

a critical executive instrument where-with to carry its visions of reality into reality itself, while determining its quality of procedure, at every stage. Otherwise intellect would dominate imagination, and pervert its ends.

Thus what we call art and what we call science are indissoluble within a masterful imagination. But imagination must be free to act in true accord with need and with desire as fundamental human traits; and intellect must be disciplined by the will to act in accord with imagination's fine desires. But for this initiative, and to this end, man's spirit must be free: unimpeded by irrelevant inhibitions. The vision of the free spirit ever seeks to clarify, to amplify what we call the commonplace. It sees within the so-called commonplace the elements of sublimity. Thus the architect who combines in his being the powers of vision, of imagination, of intellect, of sympathy with human need and the power to interpret them in a language vernacular and true—is he who shall create poems in stone, consonant with the finer clearing thought of our day, and the days of our expectancy.

In this regard the Imperial Hotel stands unique as the high water mark thus far attained by any modern architect. Superbly beautiful it stands—a noble prophecy.





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THE MISSES MASTERS' SCHOOL, DOBBS FERRY, N. Y.

Cram and Ferguson, Architects.

The photographs of the Misses Masters' School reproduced in our February issue did scant justice to an interesting piece of work. We are glad to present a new set of views engraved from very beautiful photographs by Paul J. Weber, in which due attention has been given to composition, color, light, and shade.

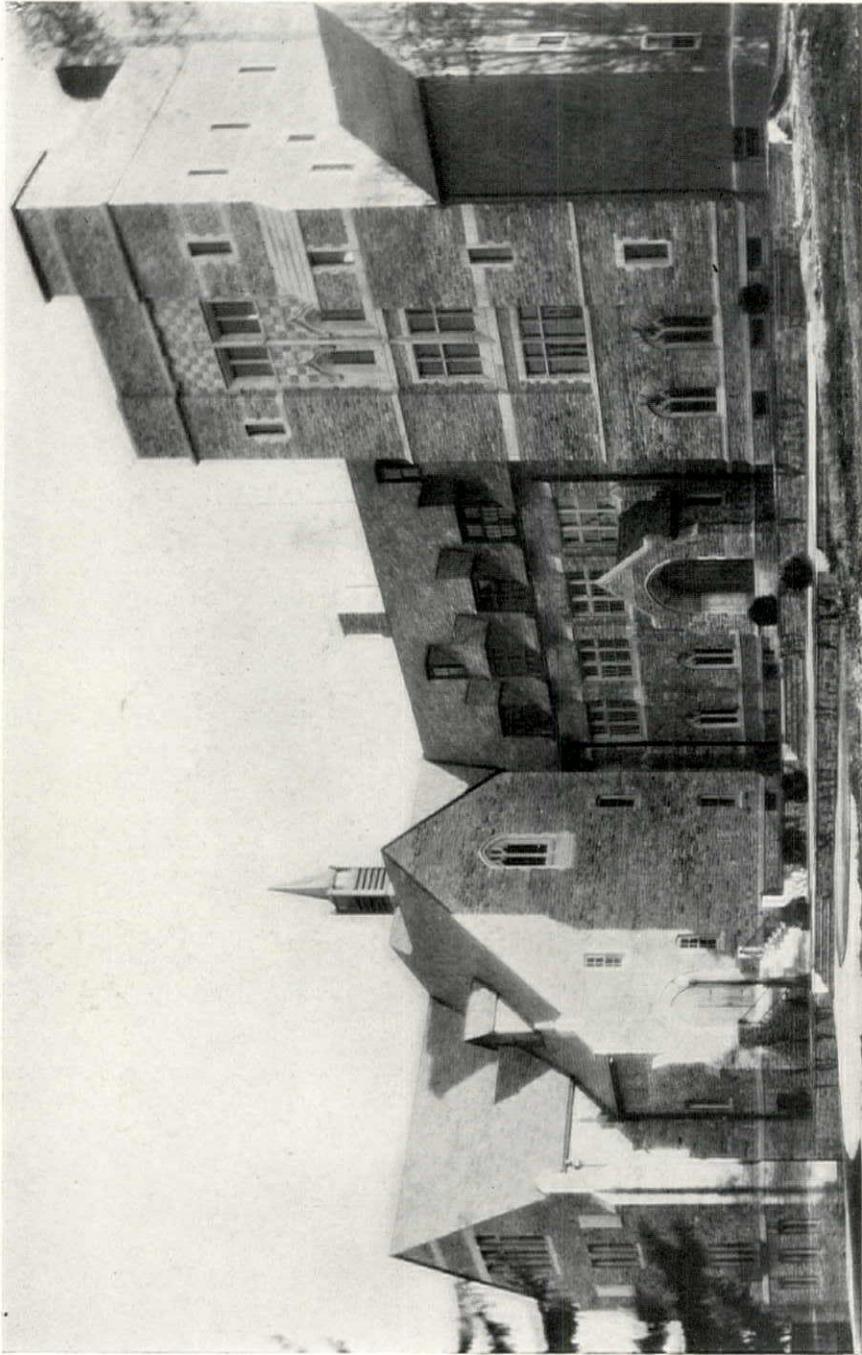


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Class Room Wing from Terrace.

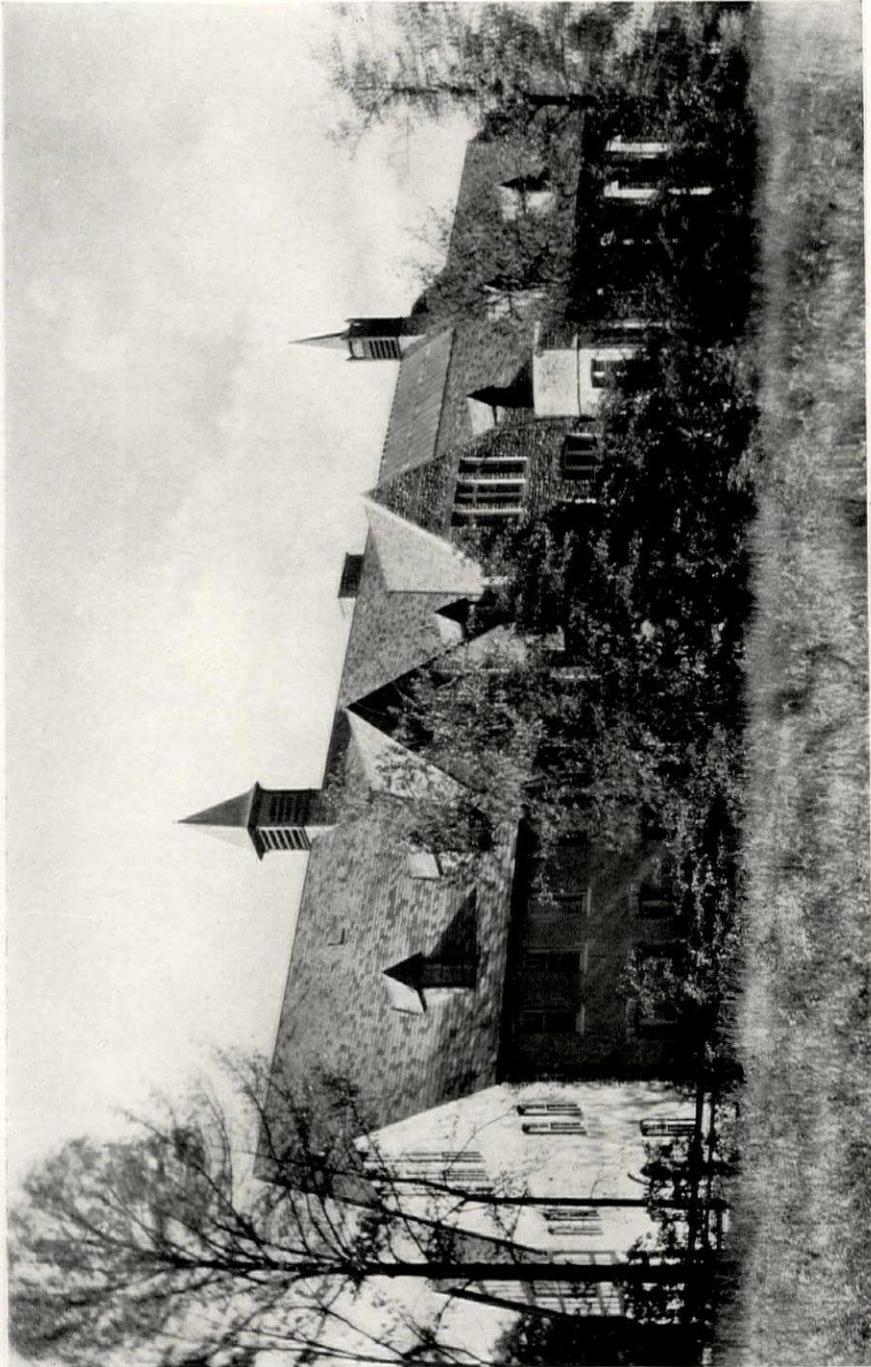
THE MISSES MASTERS' SCHOOL, DOBBS FERRY, N. Y.
Cram and Ferguson, Architects.



The Architectural Record

General View of Completed Portion from the North.
THE MISSES MASTERS' SCHOOL, DOBBS FERRY, N. Y.
Cram and Ferguson, Architects.

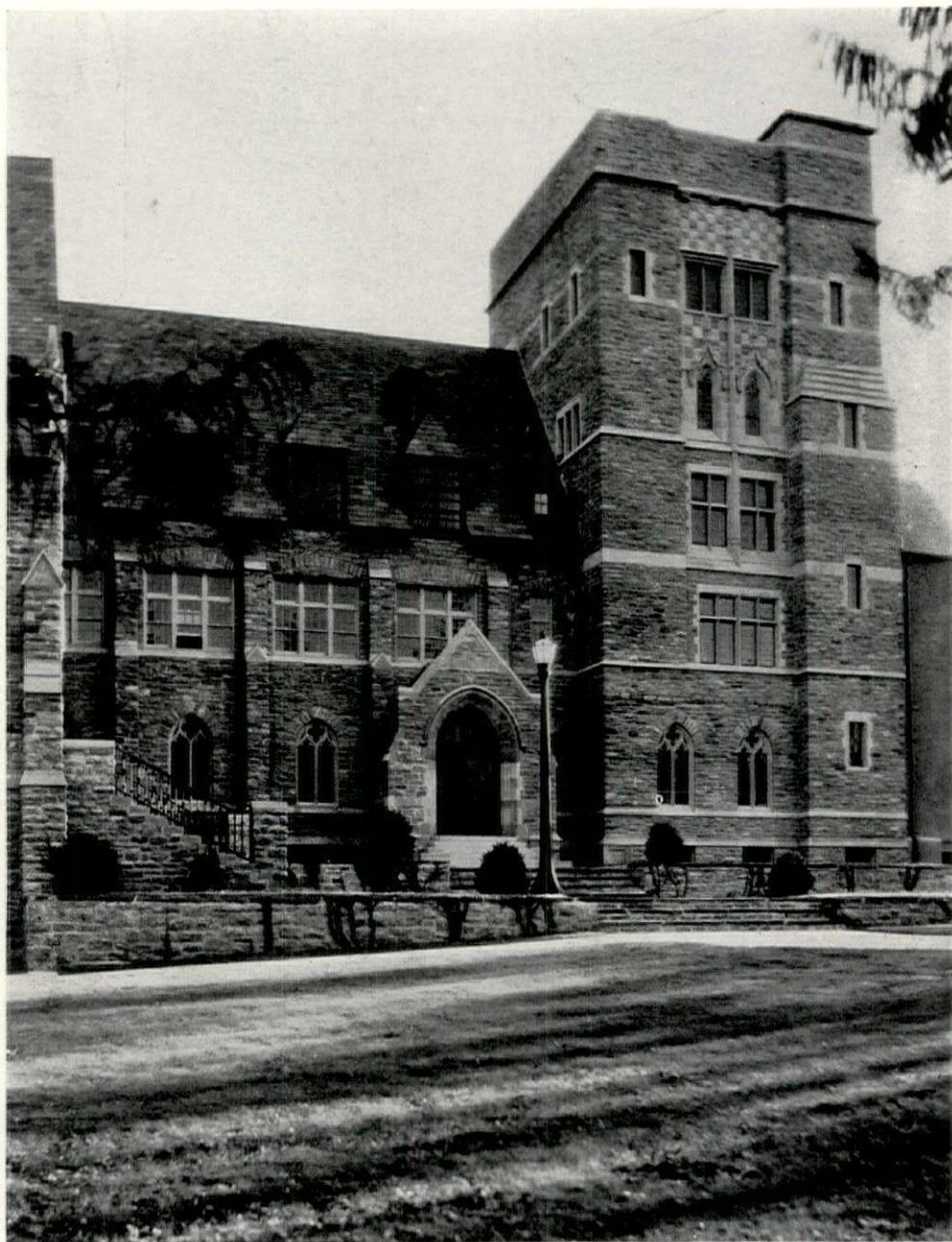
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View of School Wing from the East.
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Cram and Ferguson, Architects.

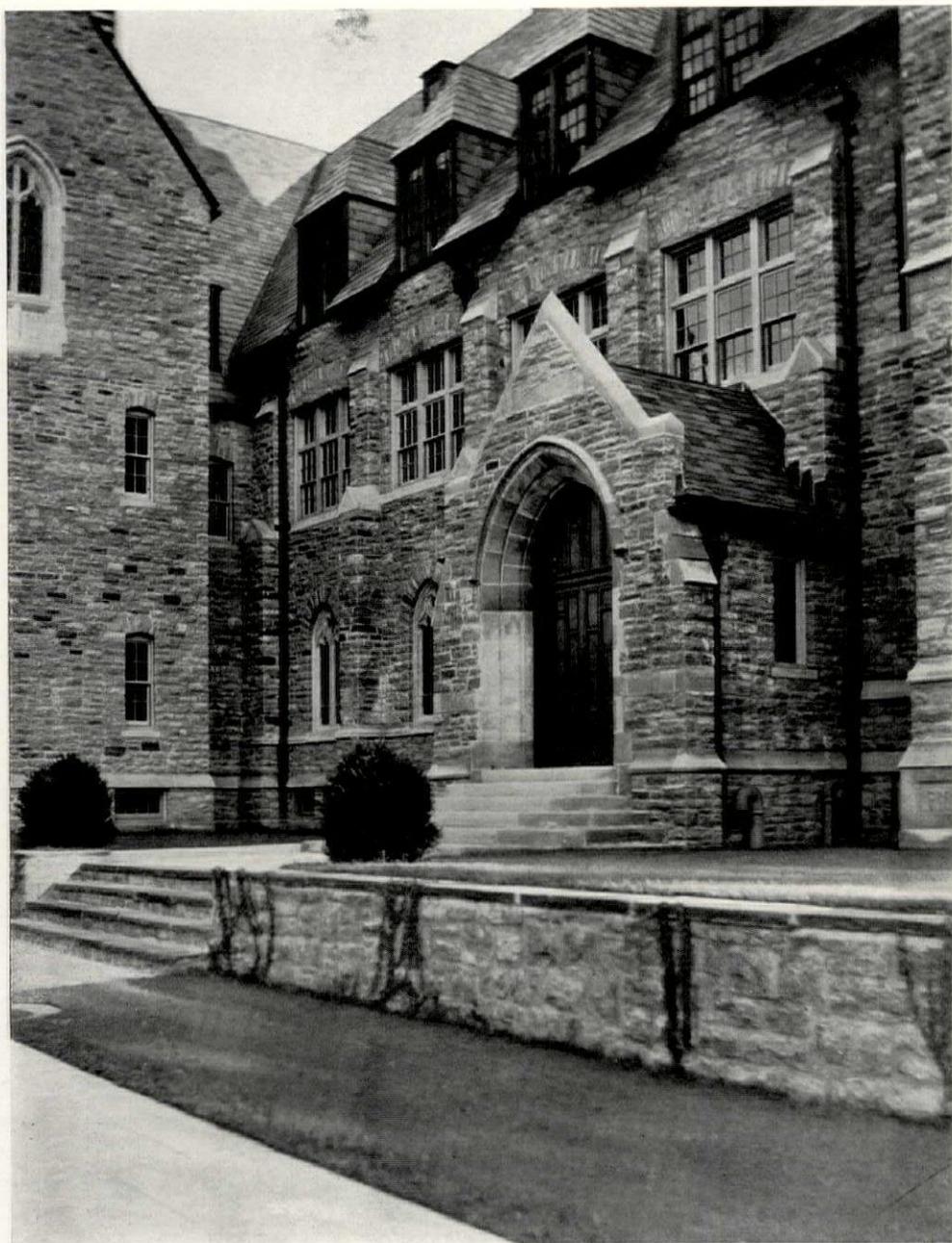
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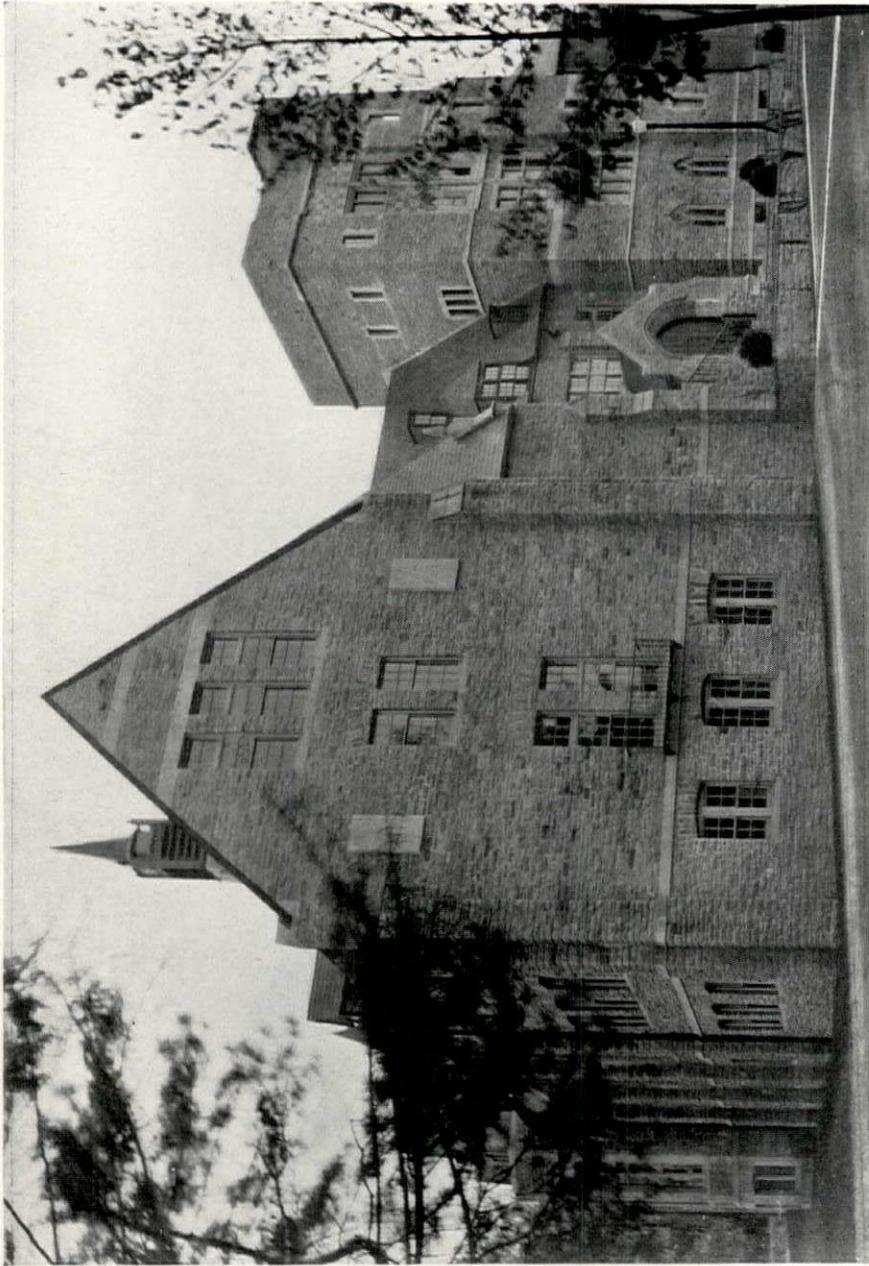
Centre of North Façade.
THE MISSES MASTERS' SCHOOL, DOBBS FERRY, N. Y.
Cram and Ferguson, Architects.



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Principal Entrance.
THE MISSES MASTERS' SCHOOL, DOBBS FERRY, N. Y.
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Class Room Wing and Tower from the North.
THE MISSES MASTERS' SCHOOL, DOBBS FERRY, N. Y.
Cram and Ferguson, Architects,

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View in Library.

THE MISSES MASTERS' SCHOOL, DOBBS FERRY, N. Y.
Cram and Ferguson, Architects.



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North Front.

LONG HOUSE, WILTON, CONNECTICUT.
Thomas H. Elett, Architect.

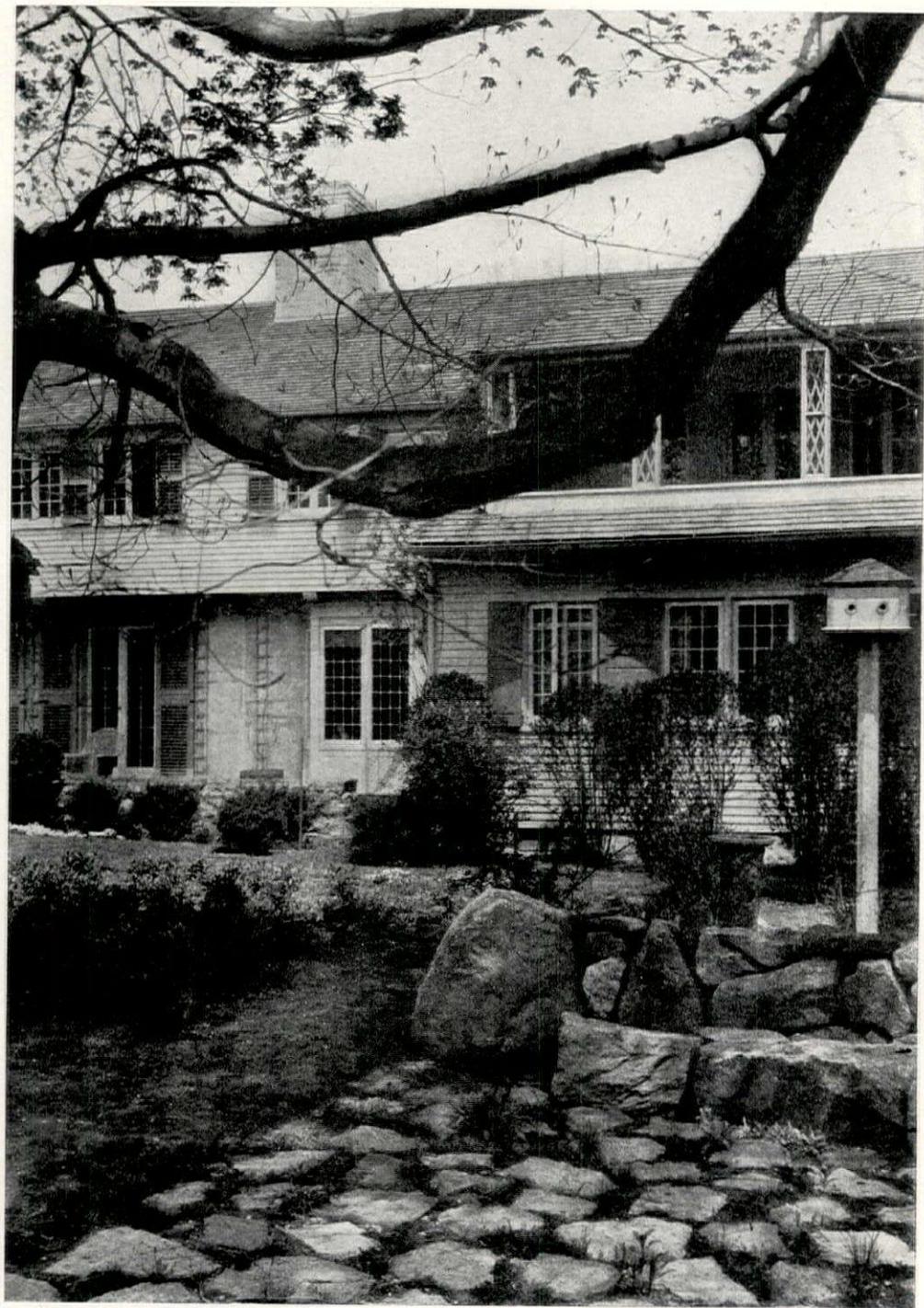
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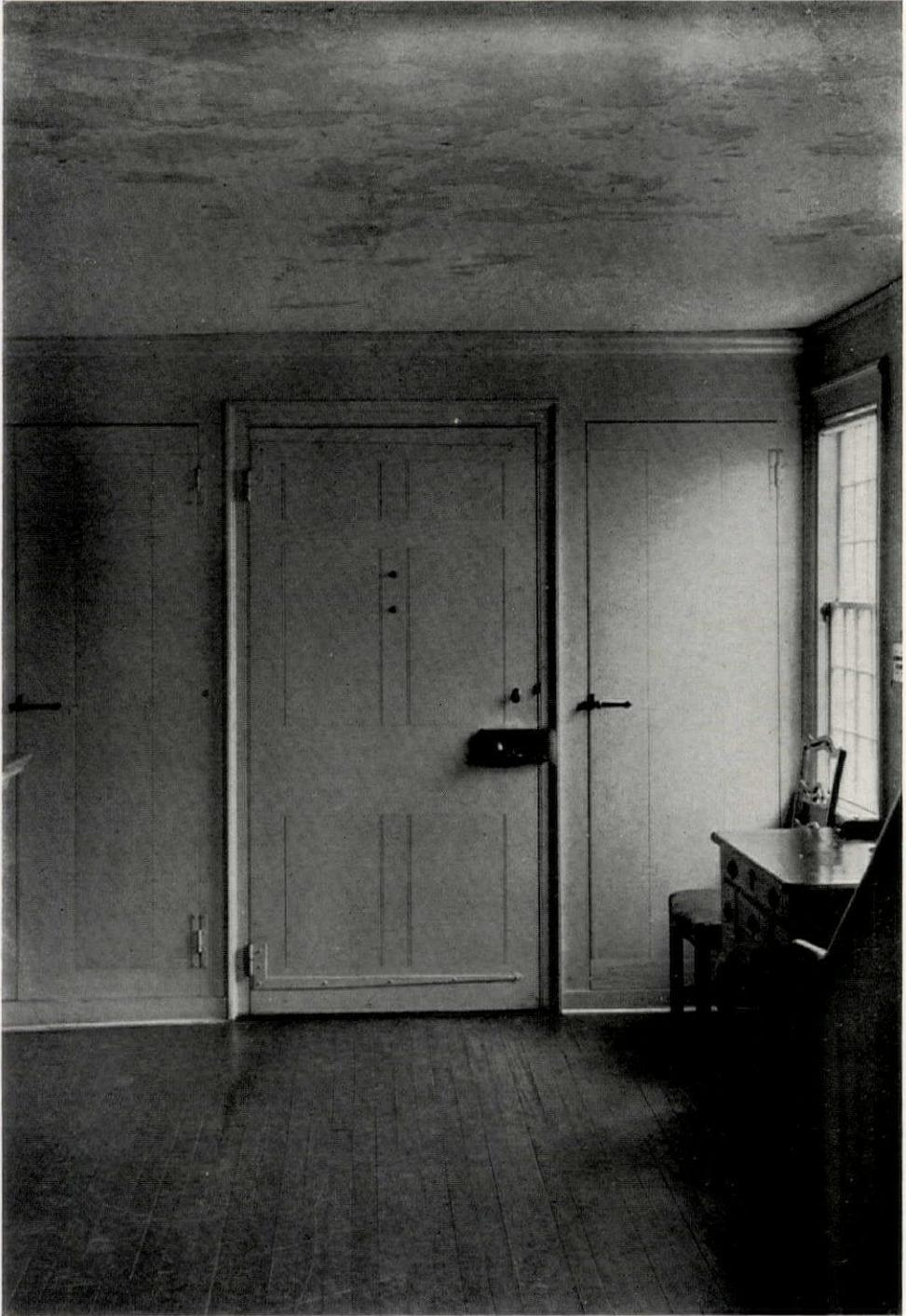
South Terrace.
LONG HOUSE, WILTON, CONNECTICUT.
Thomas H. Ellett, Architect.



The Architectural Record

Garden Front.
LONG HOUSE, WILTON, CONNECTICUT.
Thomas H. Ellett, Architect.

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Entrance Hall.
LONG HOUSE, WILTON, CONNECTICUT.
Thomas H. Ellett, Architect.

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North Porch.
LONG HOUSE, WILTON, CONNECTICUT.
Thomas H. Ellett, Architect.



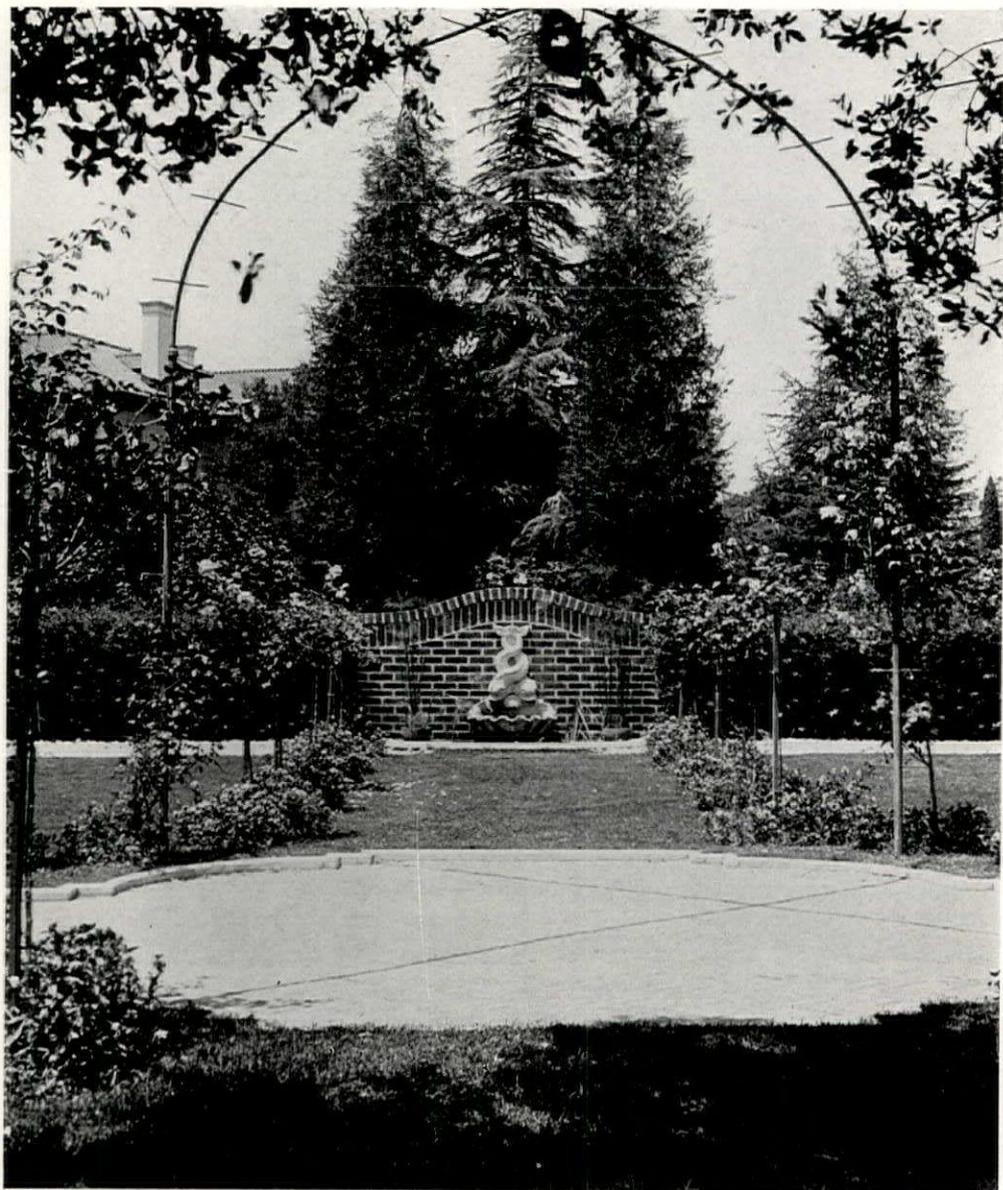
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Rose Garden.

RESIDENCE OF W. K. JEWETT, PASADENA, CAL.

Marston & Van Pelt, Architects, with Mrs. Jewett.
Planting by Florence Yoch.

April, 1923



The Architectural Record

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View in Garden.

RESIDENCE OF W. K. JEWETT, PASADENA, CAL.
Marston & Van Pelt, Architects, with Mrs. Jewett.
Planting by Florence Yoch.

MISAPPREHENSIONS CONCERNING GOTHIC ARCHITECTURE

By Charles H. Moore

WHEN early in the last century the modern interest in what is called Gothic Architecture arose, there was no exact knowledge of any architecture of the middle ages anywhere in Europe. From the advent of the Italian Renaissance, the many varieties of Western European building then extant had been lumped together in one agglomeration and frowned on as uncouth products of the barbarism that had followed the break-up of the ancient civilization. But toward the close of the eighteenth century an antiquarian interest in things mediaeval was awakened, which at length gave rise to a literature, both Continental and English, that has obscured the subject by fixing attention on details and ignoring fundamental principles of structure. This literature is now voluminous, and the books all virtually agree in dividing mediaeval architecture into two categories, called respectively Romanesque and Gothic. By Romanesque is meant everything with round arches, and by Gothic everything with pointed arches. But discriminating observation of the monuments will show that they can by no means be thus properly classified.

With the so-called Romanesque we are not now concerned, but what in current usage is known as Gothic, calls for some examination, because it is made to include a style of wholly distinctive character, that needs to be disengaged from all other styles, namely, the architecture of the Ile-de-France of the twelfth century, which alone manifests this character, and which I conceive to be the true Gothic art.

The structural nature of this architecture differentiates it fundamentally from all other, and, in its full development, makes the building to consist of an organic skeleton of piers, arches, and buttresses supporting vaults of an entirely

new kind—the stability of the whole depending on an equilibrium of active forces, which is unique in building. In this architecture, walls exist only as curtains and spandrels. As curtains they are confined to the ground story and to the screens that shut off the triforium.

Enough remains of the beginnings of this style to show that it grew gradually and experimentally out of the organic Romanesque, i. e., that type of round-arched mediaeval building that had vaulting on groin ribs, with supports logically related to the ribs. It was the recasting and perfecting of this Romanesque system, and not the mere use of the pointed arch in openings, that brought into being the style of the Ile-de-France; as is clear from the use made of it in extant remains of the earliest buildings in which the new principles of structure are incipiently manifest. In these primitive works it is plain that the pointed arch was first employed on account of its advantages in vault construction. For in openings the round arch survived, as the monuments show, long after the new vaulting and its supporting system were far advanced, and even virtually perfected. Thus the French art was a creative evolution from inmost structure; the character of the external parts being a consequence of the internal organism. The evolution begins with the shaping and adjusting of the ribs of the vault so as to diminish and to concentrate thrusts; and with corresponding improvements in the composition of the piers, giving compactly grouped supports logically related to the vault members. The internal developments are accompanied by external ones, culminating in the flying buttress, at first concealed beneath the aisle roof, but at length sprung frankly over it. Then the windows and portals are gradually en-

larged, and sometimes pointed—as in the choir of Paris—until the walls, now seen to be no longer needed, are completely eliminated, and the building stands forth, a magnificent stone skeleton enclosed with glass—as at Amiens, Rheims and Beauvais.

In contrast to this unique French art, all other pointed architecture in Europe proceeds, in one form or another, on the ancient lines of walled building, with no tendency to develop a skeleton system. A semblance of such a system appears, indeed, in a great variety of forms, in many of the other pointed styles; but it is governed by no consistent principles, and is manifestly an unintelligent imitation of the French art. For however changed in superficial appearance by application of members pertaining to skeleton construction, the building remains in reality the old type of walled structure.

For the French system we may take a bay of the nave of Amiens, a monument in which every quality of the perfected style appears. We should look first at the vaulting, because, as to structure, everything else is a consequence of the rib skeleton of the vault, as will appear. We see that each vault compartment has on plan the form of an oblong rectangle, with its long axis running transversely to the nave; and that the ribs are independent arches springing from upright shafts incorporated with the great piers that rise from the pavement. We find six ribs in each bay—two spanning the nave transversely, two spanning it diagonally, and two spanning the narrow sides of the rectangle, and thus running longitudinally, or parallel with the long axis of the building. No other ribs occur in the French vaulting of the great age. These ribs are all pointed, but they vary in acuteness according to their spans, in order that their crowns may be nearly at the same level, save in cases where exigencies that cannot be discussed here have to be met.

It should be noticed that the longitudinal ribs do not spring from the same level as that from which the transverse and diagonal, or groin, ribs spring, but from points much higher up—being

stilted by the prolongation of their supporting shafts. This tilting of the longitudinal rib is of capital importance, for by means of it the thrusts of the vault are gathered on the pier, where they can be effectively met by the flying buttress, to be presently noticed.

On this strong rib skeleton the cells of the vault rest. The conformations of the cells are irregular, and are determined by the forms and adjustments of the ribs, to which they have to be shaped. It will be seen that their surfaces are slightly hollowed by the arching of the masonry of which they are composed, together with the arching of the vault from the springing to the crown. The arching from rib to rib is more marked in some parts than in others, and in places it may hardly appear at all. It should be noticed that in the lateral cells winding surfaces, like those of a plowshare, are generated. This is a consequence of the concentration of thrusts on the line of the pier, effected by the tilting of the longitudinal rib. Irregularities of surface naturally arise, of course, in all vaulting where the principle of interpenetrating half cylinders is departed from; but in this French vaulting they are peculiar and distinctive, and arise naturally as the vault is shaped to the rib skeleton.

Coming now to the shaft supports, we see that the great piers are compound, and that on the ground story they each consist of a great round column with four engaged shafts, which carry respectively the ribs of the aisle vaulting, the sub-orders of the great archivolt, and the transverse rib of the high vaulting. It will be seen that this tall shaft has no capital on the ground story, but that it rises continuously to the springing of the transverse rib of the high vault, which it carries, and there, of course, receives its capital. It is worthy of note here, that in the nave of Rheims, the logic of the system is violated by the placing of a capital at this point, although there is no arch here to be carried. We see next, in the pier of Amiens, that a smaller shaft on each side of the tall one, starts from the great capital of the ground story, to carry the groin ribs

of the adjoining compartments of the high vaulting, while a still smaller one, on either side, rests on the triforium string and reaches to the higher point from which the longitudinal rib springs. There is thus a logical relationship between the shafts of the pier and the ribs of the vaulting. It should be said, however, that the vault ribs are not wholly or equally supported by the shafts; they find support in the main body of the pier also, though in different degrees. The transverse rib is carried by the shaft that rises from the pavement, the diagonal, or groin rib gets more support in the main column, but the longitudinal rib is adjusted in a peculiar manner which must be explained. This rib does not spring directly from the capital of the shaft in the usual way. It springs out of the skeleton arch which forms part of the tracery of the head of the openings. And it does so because its span is such that the intrados at the springing is in retreat of the shaft, and so the roll moulding of the skeleton arch is what springs directly from the shaft. It should be understood that in the perfected French system, as we have it in the nave of Amiens, there being no wall in the clerestory, the longitudinal rib is also the archivolt of the opening.

It will be seen that the shafts of the pier are graduated in magnitude conformably with their respective functions—the larger one bearing the great transverse rib, the next in size taking the groin rib, and the smallest answering to the longitudinal rib in the manner just described. The longitudinal rib, in this skeleton construction, being, as I have said, the archivolt of the opening, appears on the outside of the building as well as within, and is therefore furnished with a shaft on the outside corresponding with the one inside. These small shafts are for the eye more than for actual function, since the main support of the longitudinal rib is the main body of the pier.

The buttress system was, unhappily, remodelled in a later style, save for one member of the series on each side of the nave, next the transept, which appears to have retained its original form, and con-

sists of a heavy rectangular pier, standing against the respond of the aisle, of which, indeed, it is an integral part, and carried up to a great height above the aisle roof. From it spring a pair of superimposed flying buttresses, which are brought to bear on the pier where the thrusts of the vaulting are gathered.

Returning for a moment to the interior, a few further details may be noticed, which are peculiar to the French art. It will be seen that the great capitals of the ground story are compound in conformity with the shaft system, each of them having a large member to crown the great column, and a small engaged one for each of the small shafts. It will be seen that the small ones are proportioned in height to their smaller diameters, and that thus their supporting shafts have to be carried up through the lower part of the great capital in order to reach them. The whole composition is one of consummate beauty, as well as of structural logic. The twelfth century French capital, with its fine concave outline, its square abacus, and the thoroughly lithic expression of its simple living foliation, is one of the finest architectural objects ever produced; and the entire pier is, I think, a supreme achievement of the French genius.

As an example of other mediaeval pointed architecture—which, though of many kinds, is essentially all alike in being inorganic walled building—we may take for comparison the nearly contemporaneous nave of Lincoln, a work commonly ranked among the finest in England. Here we find a widely different structure, in which a skeleton system is irrationally simulated, as the most cursory observation ought to show. We see first, that the vaulting is complicated by the introduction of superfluous members, while yet one of the most important parts of an organic skeleton, the longitudinal rib, is wanting. The superfluous members—superfluous because without necessary function—are, a ridge rib, a tierceron between the transverse rib and the groin rib, another between the groin rib and the ribless wall arch, and a short liern connecting the tierceron with the ridge

rib. The clerestory is heavily walled, but the openings are large, and there is a clerestory passage in the thickness of the wall, so that the openings, with their dividing members, are in two planes. But the clerestory passage in the wall cannot exist in a true skeleton structure, because there is no wall in the clerestory.

It should be noticed that the ribless longitudinal arch of the vault is not stilted, therefore there is no concentration of the vault thrusts. The form of this arch is semi-elliptical, like that of the Norman vaulting of Durham. The conformations of the vault surfaces are naturally irregular, but they are not such as result from a logical rib system, like that of Amiens.

Coming now to the upright supports, we find that the pier, as a continuous compound member starting from the pavement, with shafts logically related to the ribs of the vault, does not exist. Thus the ground story system has no organic connection with the superstructure by members common to both. The supports here consist of large round columns surrounded with small shafts related to the arch orders of the great arcades only. The upper shaft system, being distinct from the lower, rests on corbels fixed in the arcade spandrels at a considerable distance above the ground story imposts. The shafts are merely ornamental, being too small for any structural function, and there are only three in each group. On them are seemingly gathered five great vault ribs, which have to interpenetrate at their springing so that only one member of the mouldings of each rib stands free at the impost, while the two other ribs—one on each side between the groin rib and the wall arch—die away in the wall far above the vault impost.

On the outside, a shallow buttress stands against the aisle wall, but does not rise above it. It is crowned with a steep gable, backed by a short bit of buttress, from which a weak single flying buttress, close to the aisle roof, springs, and is brought to bear against the clerestory wall. It is thus ineffective, and the vault thrusts are taken for the most part by the ponderous walls. I have likened the

nave of Lincoln, in point of structure, to that of Durham. The two are essentially the same in principle; and it will be found on proper examination, that all so-called English Gothic architecture is in reality unchanged Norman Romanesque in structural character.

The French art stands by itself, and therefore to avoid confusion it should have a name to itself. As for the propriety of calling it Gothic, discussion will be futile till some common understanding of the proper meaning of this term is reached. Hitherto little consideration with fruitful result has been given to this matter. In its present widely inclusive architectural acceptance, it conveys no definite meaning. It arose, as is well known, out of the ancient Roman habit of calling everything barbaric that was not Roman, a habit that survived with the Italians of the Renaissance, who used the word Gothic in the sense of barbaric and applied it to all mediaeval art. But no European art of the Middle Ages was a product of barbarian Goths. For although the Teutonic peoples known as Goths were barbarians when they first came in contact with the Romans, they were profoundly transformed in character under Roman influence. In Italy and Gaul, where the Gothic blood was extensively fused with that of the peoples who were heirs of the ancient culture, its grosser nature was subdued, and by the twelfth century this fusion had produced, in the Ile-de-France, the finest results in civilization and culture.

If a name is to convey a definite meaning, it must stand for a thing marked off from other things by a distinctive character. The French art alone among the architectures of the Middle Ages in Western Europe is, as we have seen, thus marked off, and since it derives its peculiar character from what was contributed by the Gothic element in the French genius—an element which gave the new creative spirit—it may, I think, be properly called Gothic. While for the widely inclusive polyglot of other mediaeval building to which the pointed arch is common, but in which the Gothic genius is manifested but partially and imper-

fectly, if at all, the term pointed may serve well enough, as I said long ago. For more specific designation of each of the other many varieties of pointed building, the terms English Pointed, Italian Pointed, Burgundian Pointed, Norman Pointed and so forth, would be proper. This would avoid the confusion that now beclouds the subject.

For right apprehension of the French Gothic ideal, it is necessary to realize that no monument of the style was ever completed according to one original scheme. Not one of them is homogeneous in character. Style was ever changing, and parts were built at different times as resources were forthcoming, and always in accordance with what was in vogue at the time when the work was done. Thus it not seldom happens that the whole history of Gothic architecture, from its beginning to its decline, may be studied in a single building. The cathedral of Amiens itself affords an illustration of this, and it will be worth while briefly to notice some of the different phases of style that appear in the monument as it has come down to us. Taking the interior first, the part that immediately followed the nave is the transept, in which the general scheme of the nave is reproduced, save for the vault over the crossing—which exhibits a striking departure from the principles of early-mature Gothic vaulting. Complications of structure akin to those that we have observed in the vaulting of the nave of Lincoln appear, and show an influence from England, of which there are many indications in the later Gothic art of France.

The choir still follows the nave in its general features, save for one important particular in which it departs widely from it, namely, the elimination of the triforium—for this is the result of the scheme adopted here by which light is admitted through the triforium arcade. The triforium of a French Gothic building is necessarily dark because, being the space between the aisle vaulting and the lean-to timber roof that covers it, no light gains access. But in this case, in order to get light through the arcade, the lean-to roof is omitted, and a series of low hipped

roofs, one over each bay of the aisle, substituted—the screen wall, normally separating the triforium from the triforium passage, being replaced by glazed openings. If light were needed here, the rational way to obtain it would be to bring down the clerestory openings to the level of the former triforium string. By this elimination of the triforium, the building is in reality reduced to two stories, and the bringing down of the clerestory openings would properly express this fact. There is, however, no need for light here, for the whole interior is superabundantly lighted by the vast clerestory and aisle openings. The triforium stage of the choir is thus an architectural simulation, which marks a departure from the principles of the French art in its integrity. There is also noticeable in this choir, an ornamental redundancy in the introduction of crocketed gables over the arches of the arcades, and in the multiplication of mullions and tracery in the clerestory. But these are only first steps in the direction of ornamental excess that reaches its fulness in the so-called Flamboyant style.

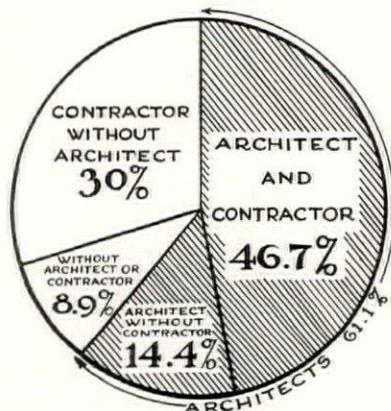
Externally, the flying buttresses of the choir depart equally from the structural and ornamental character of Gothic art in its prime, as it appears in the original buttress system of the nave described above. Instead of the two solid arches of the buttress of that system, we have only one solid arch here, with a skeleton arch springing out of it, in Flamboyant fashion, and carrying an open ramp arcade.

The west front—in the main a work of the mid-thirteenth century—already become somewhat florid, is yet alive with the finer Gothic spirit. It is, however, disfigured in the upper parts by Flamboyant interpolations, and by the tracery of the great circular opening. Thus Amiens is far from being a homogeneous work, and this is the case, in varying degrees, with all other Gothic monuments. Among those which are most alike in style are Chartres and Rheims, but even these show parts belonging to different epochs, and differing widely in style.

Right apprehension of the nature of Gothic architecture requires that all these things should be realized.

Percentage of Construction Planned by Architects Year 1922

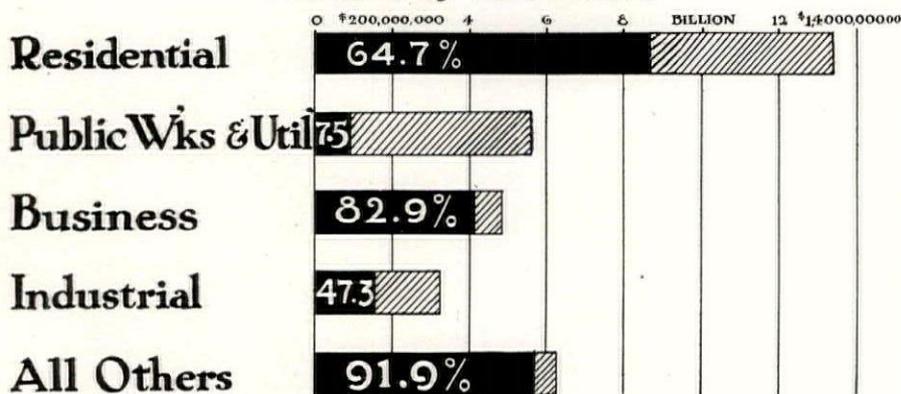
27 NORTHEASTERN STATES



TOTAL CONSTRUCTION
\$ 3,345,021,800
PLANNED by ARCHITECTS
\$ 2,045,269,400

Analysis of Construction by Classes

Black Areas Show Percentage Planned by Architects



FIGURES TABULATED FROM DODGE CONSTRUCTION REPORTS

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The ARCHITECT AS A FACTOR IN THE CONSTRUCTION BUSINESS ~

BY

THOMAS S. HOLDEN. *Statistician*

F. W. Dodge Corporation

In the ARCHITECTURAL RECORD for September, 1922, there appeared an article with the same heading as the present one, based on an analysis of construction projects reported during the first half of 1922 in the 27 northeastern states. The Statistical Department of F. W. Dodge Corporation has recently completed this analysis for the entire year 1922. This, then, is the first opportunity to present a complete analysis based on the record for an entire year and for a territory which includes three-fourths of the total construction of Continental United States.

The completeness of the new record is the reason for its publication. Any conclusions drawn from the previous article are practically unchanged by the new figures. In only one class of construction projects are the percentages appreciably changed,—Industrial Buildings. The previous analysis showed 56.0 per cent. of the total work in this class (based on volume in dollars) as planned by architects; the new analysis shows 47.3 per cent. This wide variation is more or less accidental, as one large project, recorded in the second half of the year, a 35-million dollar steel plant, planned without an architect, affected the figures very considerably. This project alone accounted for more than 10 per cent. of the year's total in this class.

While the essential facts of the summary published in September are unchanged by the new figures, it is well to restate them in terms of the complete year's record.

Total construction projects started in 1922 in the territory under consideration numbered 107,636, amounting to \$3,345,021,800. Of these projects, 42,900, amounting to \$2,045,269,400, were

planned by architects. Architects planned 39.9 per cent. of the total number of projects, which amounted to 61.1 per cent. of the total cost.

If the classification "Public Works and Utilities" (largely made up of engineering projects, such as streets, roads, bridges and sewers) be omitted, it is found that, of all other classes combined, architects planned 43.5 per cent. of the total number of projects, amounting to 72.0 per cent. of the total cost. All these percentages are slightly lower than those shown in the previous statement.

The average cost of all projects reported (See Table I) was \$31,077; of projects planned by architects and built by contractors, \$52,410; of projects planned by architects and built without general contractors, \$36,884; of all projects planned by architects, \$47,675. The average cost of projects planned without architects and built by general contractors was \$24,132; of projects built without architects or general contractors, \$12,859; of all projects planned without architects, \$20,078.

An enumeration of architects in the Dodge territory made in the summer of 1922 showed a total of 6,653 firms, or 1 architectural firm per 11,509 of population. The per capita construction in 1922 was \$43.69.

Sectionally, the 1922 record was as follows:—

In the New England States there were 642 architectural firms, or 1 for each 11,526 of population; the per capita construction amounted to \$45.08; the percentage of total construction planned by architects was 57.3 (based on volume in dollars).

In New York State and Northern New Jersey there were 1,925 architects, or 1

ANALYSIS OF CONSTRUCTION PROJECTS—27 NORTHEASTERN STATES—YEAR 1922—TABLE I

Class	Planned by Architects				Planned Without Architects				Totals	
	General Contractor		Without Contractor		General Contractor		Without Contractor		No. Proj.	Cost
	No. Proj.	Cost	No. Proj.	Cost	No. Proj.	Cost	No. Proj.	Cost	No. Proj.	Cost
Business Buildings	5,880	\$359,845,800	1,620	\$51,562,500	3,637	\$63,729,500	1,496	\$21,007,400	12,633	\$496,145,200
Industrial Buildings	1,583	132,990,800	313	20,907,900	1,493	152,849,500	488	18,351,900	3,877	325,100,100
Public Wks. and Utilities	524	40,349,200	59	1,788,700	9,677	511,321,700	166	8,606,700	10,426	562,066,300
Residential Buildings	16,092	487,504,200	10,597	379,157,300	25,343	226,717,100	20,955	246,702,200	72,987	1,340,080,800
Miscellaneous	5,739	542,062,100	493	29,100,900	1,303	45,752,400	178	4,714,000	7,713	621,629,400
Totals, omitting Public Works and Utilities	29,294	\$1,522,402,900	13,023	\$480,728,600	31,776	\$489,048,500	23,117	\$290,775,500	97,210	\$2,782,955,500
Totals	29,818	\$1,562,752,100	13,082	\$482,517,300	41,453	\$1,000,370,200	23,283	\$299,382,200	107,636	\$3,345,021,800

NOTES.—The group "MISCELLANEOUS" includes Educational Buildings, Hospitals and Institutions, Military and Naval Buildings, Public Buildings, Religious and Memorial Buildings, and Social and Recreational Buildings.
 The number of buildings is not, in the case of residential buildings, the same as the number of projects. Of the residential projects given above, 8,554 were for 2 or more houses built as a single operation, a total of 51,483 houses. Consequently, the 72,987 residential projects covered 115,916 buildings.

TABLE II
 PERCENTAGE OF TOTAL IN EACH CLASS AND IN ALL CLASSES, BY NUMBER OF PROJECTS AND BY COST

Class	Planned by Architects				Planned Without Architects			
	General Contractor		Without Contractor		General Contractor		Without Contractor	
	Proj.	Cost	Proj.	Cost	Proj.	Cost	Proj.	Cost
Business Buildings	46.6%	72.5%	12.8%	10.4%	59.4%	82.9%	28.8%	11.8%
Industrial Buildings	40.8	40.9	8.1	6.4	48.9	47.3	38.5	12.6
Public Wks. and Utilities	5.0	7.2	0.6	0.3	5.6	7.5	92.8	1.6
Residential Buildings	22.1	36.4	14.5	28.3	36.6	64.7	34.7	28.7
Miscellaneous	74.4	87.2	6.4	4.7	80.8	91.9	16.9	2.3
All Classes except Public Works and Utilities.....	30.1%	54.7%	13.4%	17.3%	43.5%	72.0%	32.7%	23.8%
All Classes.....	27.7%	46.7%	12.2%	14.4%	39.9%	61.1%	38.5%	21.6%
<i>Figures Tabulated from Dodge Construction Reports.</i>								
Total								
Total								
Total								

per 6,679 of population; the per capita construction amounted to \$69.40; work planned by architects, 78.8 per cent.

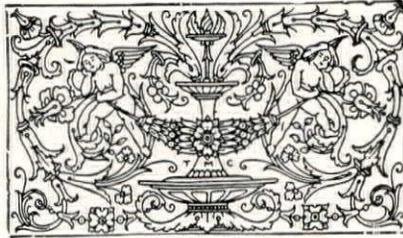
In the Middle Atlantic States (Eastern Pennsylvania, Southern New Jersey, Maryland, Delaware, District of Columbia, Virginia and the Carolinas) there were 832 architects, 1 for each 17,557 of population; per capita construction, \$33.47; work planned by architects, 53.1 per cent.

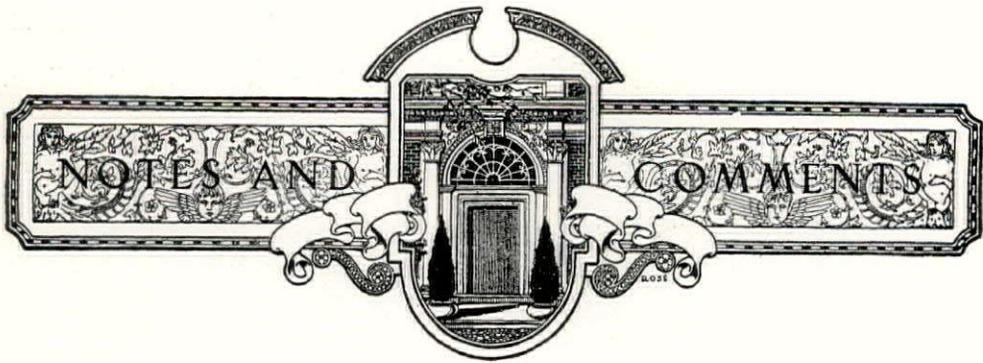
In the Pittsburgh District (Western Pennsylvania, West Virginia, Ohio, Kentucky and Tennessee) there were 932 architects, 1 firm for each 16,553 of population; per capita construction,

\$37.64; percentage of work by architects, 48.8.

In the Central West (Illinois, Indiana, Iowa, Wisconsin, Southern Michigan, Missouri and Eastern Kansas) there were 2,112 architects, 1 per 10,547 of population; per capita construction, \$43.58; work planned by architects, 58.4 per cent.

In the Northwest (Minnesota, the Dakotas and Northern Michigan) there were 210 architects, 1 per 19,044 of population; per capita construction, \$19.64; percentage of work planned by architects, 53.1.





The Chicago Tribune Competition

The "skyscraper" is, or in its ultimate form, will be, America's chief contribution to the world's architecture. Correctly treated, the office building of steel with its innumerable stories soaring heavenward, is the most appropriate expression of the noble aspirations and high ideals of the great nation which gave birth to it.

The day has passed when we can rest content with the stock solution, consisting of Corinthian order for the three lowest floors, Ionic for the top two, and twenty or thirty unadorned stories of steel sash and terra-cotta sandwiched in between. We by no means today regard with the same satisfaction as of yore McKim, Mead and White's New York Municipal Building. Immaculately detailed though it is, it appears to fall short of the Ideal among the various solutions of the "skyscraper" problem. York and Sawyer, with others of this generation, have produced office buildings of merit, and Mr. Platt has given us an edifice of great dignity and admirable detail in the Cleveland Leader News Building. Despite this, the Classic does not seem to be the "last word" in the way of a covering for the nakedness of the steel structure. And the Gothic? What of it? We have all paused to gaze in rapt admiration at the magnificent proportions and beautiful detail of Cass Gilbert's Woolworth Building. In some sort we have admired the Bush Terminal, and have been greatly interested in certain dwarf "Woolworths" which we have seen. But surely the multiplication of highly ornate flying buttresses and other features which should be structural, in heavily reinforced terra-cotta; the enormous gargoyles wonderfully designed and fearfully made, hundreds of feet above the vision of mortal

eye; surely this, we say, is but "dodging" the issue, avoiding the problem, getting away from the ultimate solution of the "skyscraper." No! The gothicized office building is perhaps even less satisfying than that treated by classicists of the D. H. Burnham school. In most cases it is but an enlarged medieval cathedral, subdivided vertically into many stories and horizontally into numerous offices.

Architecturally, the "skyscraper" has not yet assumed a distinctive character, although structurally it is the most stupendous creation since Brunelleschi's dome. In recent years great interest has been awakened by two architectural competitions. The first of these was the competition for the choice of architect for the new Capitol for the State of Nebraska. That truly great scholar and artist, Mr. Bertram Grosvenor Goodhue, was awarded first prize, and the announcement of his name as that of successful competitor awakened great hopes in the minds of all who are acquainted with his work. Our disappointment was great when we saw the drawings and realized that the designer in his striving toward "something new," had almost entirely sacrificed beauty to originality.

The second competition arose when the Chicago Tribune desired to obtain a design for the world's most beautiful office building. Again our hopes are raised. We feel that something of matchless merit, of beauty and originality must result from this competition.

The awards are made.

First prize—A most creditable exercise in the Gothic mode of treatment for an office building. In some ways beautiful, certainly impressive, and quite a scholarly essay in a most hackneyed style. The very name of its designer is sufficient guarantee of its scholarly character. After all, though, can this be said to be a design for the most

beautiful office building in the world? Is it not rather, merely one more pleasing building amongst others equally meritorious? Can it even compare with the Woolworth Building?

Second prize—Before we finished writing the above, after seeing photographs of several of the designs submitted, we were handed a copy of the "Architectural Record" with its inspiring article by Louis Sullivan upon this very subject. While we do not by any means agree with many of Mr. Sullivan's "spiritual" arguments, and have never fully understood either his psychology or his theories on Architecture, yet we would give a hearty amen to his claims for the superiority of the second prize design.

Here America, personified for the moment in the jury of award, had her grand opportunity. We believe with our whole heart, that Eliel Saarinen's design for the new building of the Chicago Tribune is the nearest to America's Ideal as set forth by and in Architecture, that we have yet approached.

Idealism?

Ambition?

Aspiration?

Why, the building proclaims it in all its lines. Not with any harsh sound, or in noisy manner, but with wonderful, tireless, beautiful insistence.

An old, and very academic, friend of mine reminds me that this design cannot possibly be correct, because "THERE IS NO CROWNING MOTIF," no horizontal lines to break the vertical up-sweep. Why should these be? Indeed, how could there be? Has America's aspirations toward freedom, liberty and civilization, toward her Ideal, any terminus save the clouds of heaven itself? We think not. American civilization is a tower "whose top may reach unto heaven."

Truly our Finnish friend has solved the problem in his beautiful emphasis upon verticality. He may be all wrong, according to our stereotyped rules of art, but, to paraphrase the great Webster, "But, gentlemen of the jury, LOOK AT IT!"

It stands quite alone in its grandeur. All the other designs; all "skyscrapers" before built, seem but feeble strivings toward the Ideal, when compared with this master work of a giant in architecture.

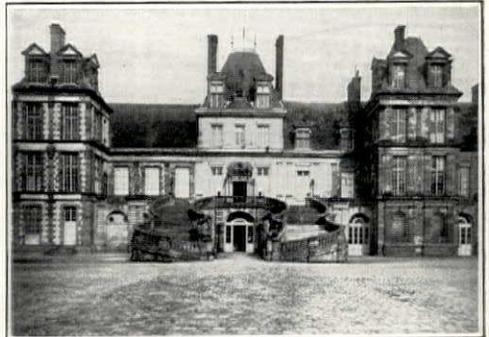
Finally, after a long and close observation of the American people, I am forced to the conclusion that they are supremely and primarily *same*. Starrett and Van Vleck, whose newer work has been so admirably shown and commented upon in a recent issue of the "Record," are already in the

van of a movement toward the new conception of the problem of the modern office building. Despite the apparent near-sightedness of those who were responsible for the final award in this instance, we cannot but believe that posterity will have reason for gratitude to the Chicago Tribune in calling this competition. We are confident that the second prize design will have such an effect upon our designers, coming at a critical time as it does, when we are thoroughly "fed up" with the old method of "dressing" our steel buildings, that through its influence will be born a really distinctive, a truly American, Architecture.

H. HAROLD KENT.

The Summer School at Fontainebleau

We are reminded by Mr. Ronald H. Pearce, Secretary of the Executive Committee, that students who wish to go to Fontainebleau this summer must send in their signed applications as soon as possible so that steamship reservations may be made in time. The Summer



School will be held from June 25th to September 25th, and the number of students is limited to one hundred.

All applications for admission should be accompanied by a note, clearly stating where, with whom and for how long the candidate has studied; and this note should be supplemented, if possible, by a letter of recommendation from the director of the school or institution at which the candidate has studied.

All applications should be made: for architects, to Mr. Whitney Warren, care Beaux Arts Institute of Design, 126 East 75th Street, New York; for painters and sculptors, to Mr. Ernest Peixotto, care the Mural Painters, 215 West 57th Street, New York. The American headquarters of the school are in the National

Arts Club Studios, 119 East 19th Street, New York, to which all business matters connected with the school should be addressed.

By reason of the low cost, made possible by the French authorities, the summer session of the Fontainebleau School of Fine Arts is brought within the reach of most students. Board, lodging and tuition fees, with the trips by motor-bus, are, all included, about \$100 per month. The French steamship line also allows a discount of 30 per cent to students, bringing the price of a comfortable passage as low as \$95. The registration fee is \$10. Thus \$500 would represent the entire cost of a summer spent at the school.

**In Honor of
Sir Christopher
Wren**

The recent 38th Annual Exhibition of the Architectural League was strengthened and embellished by a comprehensive exhibit of the work of notable contemporaneous English architects officially shown for the first time in this country through the courtesy and interest of Paul Waterhouse, Esq., the President of the Royal Institute of British Architects, seconded by the untiring efforts of Mr. Alfred C. Bossom.

This exhibition took on further significance by the fact that simultaneously in England and here in America there was offered to Sir Christopher Wren, perhaps the most notable of all English Architects, the honors of bicentenary remembrance. The Institute of British Architects set aside a week of celebration, during which a special delegation placed a wreath upon the tomb of Sir Christopher Wren in St. Paul's Cathedral. The Architectural League of New York arranged with Ambassador Harvey to have a representative from the Embassy also place a wreath upon the tomb, while simultaneously in New York the President of the League, Mr. Howard Greenley, hung a wreath under the portrait of Sir Christopher Wren in the annual exhibition.

Mr. C. H. Ferber announces that he is now located at 1027 Dixie Terminal Building, Cincinnati, Ohio, and desires to receive manufacturers' catalogues.

Herbert M. Greene of the Herbert M. Greene Company, Architects and Engineers of Dallas, Texas, announces that Walter C. Sharp, W. Brown Fowler and Ralph Bryan, are now associates in the firm. The firm name of the Herbert M. Greene Company remains, as does the present address of 620 North Texas Building.

Mr. Joseph R. Fallon advises that he is connected with Mr. H. M. Griffin, architect, at 606½ Central Avenue, Connersville, Indiana, for the practice of general architecture and designing, and will appreciate manufacturers' samples and catalogues.

J. Rice Scott & Co., architects and engineers, announce the opening of an office at Salinas, California, and desire manufacturers' samples and catalogues.

The partnership existing between H. M. Beutell and Bradford Hardie, Jr., has been dissolved, Mr. Beutell remaining at the same address. Mr. Hardie has established an office at 684 First National Bank Building, El Paso, Texas, and desires manufacturers' samples and catalogues.

Messrs. Batey & Halloran, architects, formerly located at Huntington, West Virginia, have opened offices at 540 North Seventh Street, Steubenville, Ohio. Samples and catalogues requested.

Mr. John Pickering Thomas, A. I. A., announces that he will continue the practice of Poor & Thomas, architects, under the name of John P. Thomas, architect, at 537 Congress Street, Portland, Maine. He has associated with him Messrs. Murray Crossman Binford and Albert Cyprian Hobbs, C. E.

Mr. George Bain Cummings announces the removal of his office to 520 Security Mutual Building, Binghamton, New York. He desires to receive manufacturers' catalogues and samples.

Mr. Arthur C. Yost, A. I. A., formerly of Richardson & Yost, Architects and Engineers, is now installed in new quarters at 519 Caxton Building, Cleveland, Ohio.