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HIGHLIGHTS OF A SKETCHING TOUR IN FRANCE

BY SAMUEL CHAMBERLAIN

Illustrated with sketches by the author

THERE seem to be two alternatives to the wayward sketcher who intends to profit by his sejour in Europe. He can tear madly about, get his passport luxuriously decorated with rubber stamps, see a great deal more than he can remember, and, between the hurry and hullabaloo of packing and unpacking and seeing things in company with the elderly touring party from Oklahoma, he gets precious little time to study what he sees, much less sketch it.

And then there is the more placid course of being a semi-sedentary soul, spending a leisurely amount of time in any corner that appeals to one's fancy and leaving only when the spirit moves.

The latter course proved in many respects to be happier. No one has a better opportunity to make friends than he who camps himself on the street corner and attempts to show graphically his appreciation of a town's beauty.

One's first friends, it was the writer's experience, were of course the children, then the town mongrels, then the village sots and finally, if fortune smiled, a dazzling demoiselle or so. The latter rarely proved anything but a joy unceasing, but the predicament of being the center of interest for a band of romping gamins, with an unsteady souse leering over one's shoulder and an introspective hound or so tasting one's water colors was not always so agreeable. However the happy fact that one can make friends quickly and lastingly as a campstool pencil pusher is quite as much of a godsend as the realization that there are endless architectural eyefulls about one.

Invitations to the corner cafes were refreshingly frequent, and it was only necessary to sympathize freely with one's companion on the questions of exchange, reparations and the high cost of vin blanc to make such occasions completely and cordially successful. One afternoon I was sketching a rambling old Francis I house, when the owner thereof came forth, radiating smiles, and asked me into the neighbor-

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ing cafe for the customary "petit verre." Many complimentary things were told me, so many in fact that I foresaw something embarrassing in the immediate future. And surely enough, the oratory waxed warmer and shortly I was being urged most enthusiastically to buy the house, courtyard stable and all. It took the time for two more "petits verres" to convince him that all Americans were not millionaires.

Two medical students with a tell-tale sparkle in their eyes gazed over my shoulder one sunny morning and after sparring verbally for some time, invited me over to their quarters to inspect what they termed a rare old manuscript which had fallen into their possession. It indeed was a rare bit of parchment, cracked and twisted and yellow, with vague and awkward designs printed upon it in red and blue. I expressed much interest and spoke as charitably, if guardedly, of its artistic worth as possible. Whereupon they explained in a most vivid manner as to its origin. It seems that there is a State prison in the vicinity, boasting a certain number of executions per annum. The corpses of the criminals are afterward transferred to the medical school for purposes of dissection. And it happened that one of the unfortunates had been a sailor, and that the quaint old piece of parchment that I was holding in my hand was none other than the tattooed epidermis from the gentleman's chest.

An old farmhouse at Coulanges

Beaugency

Poitiers

Once I had occasion to visit the Hotel de Ville in a little town in the Touraine, in search of a "Carte d'Identitie." Quite coincidentally the town mayor proved to be a grizzled old stretcher bearer whom I had known in the French army. Occasion for another small glass and many expressions of mutual esteem. The next day I was rather startled to hear the town crier rumbling about the town, reading something from a scrap of paper concerning a "dessinateur Americain who is honoring our city for a short stay. Any courtesies that may be shown him will greatly favor his excellence, the mayor." Leading to the observation that one of the delightful things about French cordiality is that it assumes so many unique forms.

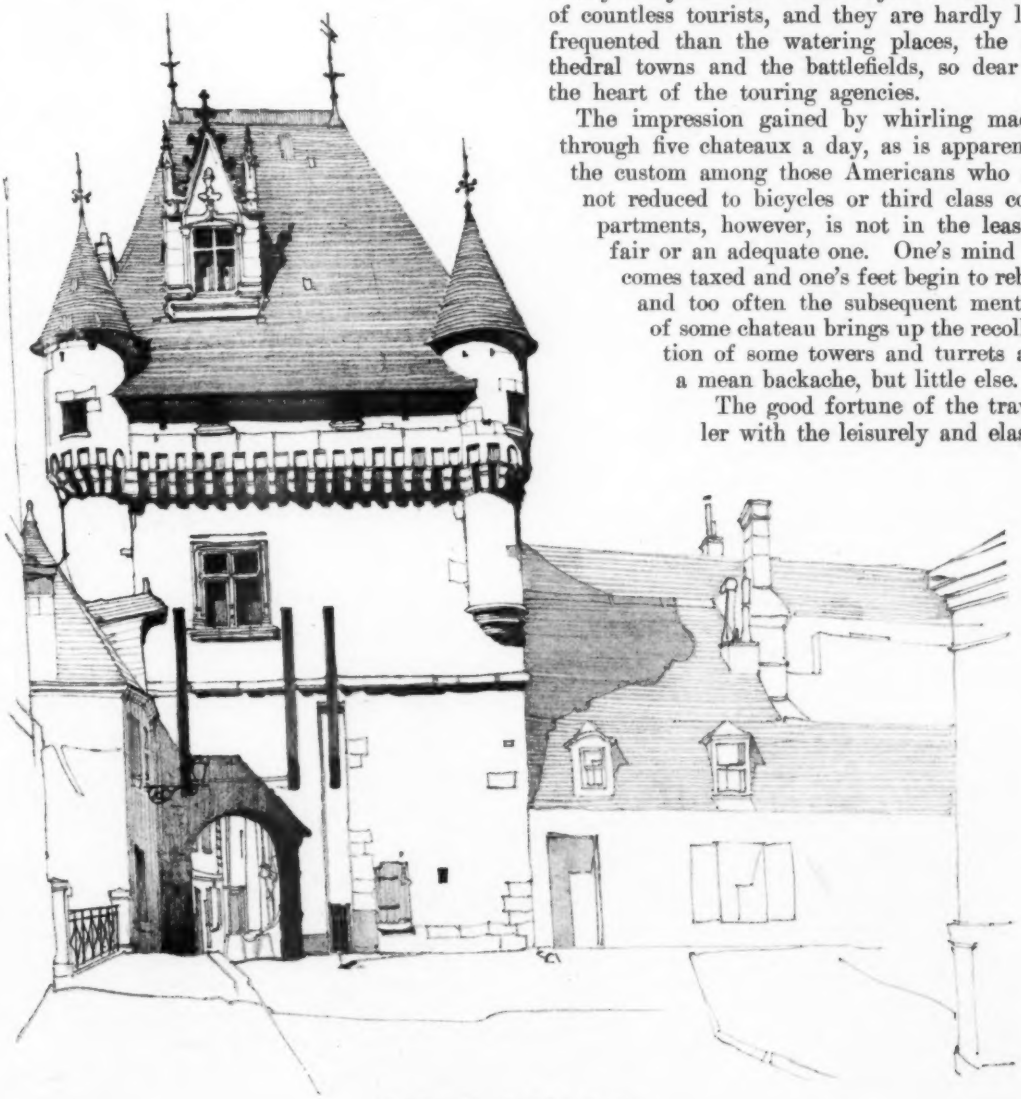
One runs something of a peril of falling into disfavor, however, when the matter of measuring comes up. Unless elaborate diplomatic preparations were made, there seemed invariably to be an irate custodian upon the scene to demand a detailed explanation, especially if that villainous looking object known as a moulding guage happened to be in use. The very sight of that treacherous looking affair seemed to inspire distrust.

A most invaluable slip of paper therefore, is a permit which can be obtained gratis from the Beaux-Arts Minister of Public Instruction, 6 rue Valois, in the courtyard of the Palais Royale, Paris. This gives entree to sketch within innumerable museums and public buildings that are ordinarily closed to eager people engaged in such pursuits.

The chateaux of the Touraine figure prominently every summer as the object of the visits of countless tourists, and they are hardly less frequented than the watering places, the cathedral towns and the battlefields, so dear to the heart of the touring agencies.

The impression gained by whirling madly through five chateaux a day, as is apparently the custom among those Americans who are not reduced to bicycles or third class compartments, however, is not in the least a fair or an adequate one. One's mind becomes taxed and one's feet begin to rebel, and too often the subsequent mention of some chateau brings up the recollection of some towers and turrets and a mean backache, but little else.

The good fortune of the traveller with the leisurely and elastic



La Porte des Cordeliers, Loches

Loudun

schedule is therefore especially marked in the "Jardin de la France," the appellation to which the Touraine is so eminently entitled.

One discovers after a time that the matter of lying within a convenient itinerary has a good deal to do with the fame of a French chateau. Those visited by the auto tours are unquestionably among the best known, yet there are others, off the beaten track, that possess every bit as much architectural charm though they are quite unknown to anyone but the natives and the few who ferret out their own amusement.

But the string of castles that dot the country between Blois and Tours is quite enough to keep the sketcher occupied without going out of the well worn path.

One of the nicest towns on the Loire, and one of the most dramatically placed chateaux, is found in Amboise. There is much of interest here, varying from a decrepit old clock-tower and a Hotel de Ville that glories in its historic past, to cave dwellings and Roman caverns. The dominating note, of course, is struck by the chateau which bounds up mightily from the old houses lined up at the riverbank, employing vast vertical areas of retaining wall before even the windows of the lowest dungeon make their gloomy appearance. Amboise has an extraordinarily interesting profile for, added to the mass of the chateau proper, is the delicate outline of the tiny flamboyant Gothic chapel and the massive protruding bulk of the stone well that houses one of the few spiral roadways intended and used as a means of ascent for whole teams of horses and their accompanying loads. One is at loss to know with which to be the most impressed, the stereotomical accomplishment of effecting such a spiral roadway, or the infinitely fine stone carving, lacelike to an incredible degree, found in the jewel-like little chapel. Due perhaps to the fact that its present master, the Duc d-Orleans, may be a somewhat soured gentleman, Amboise is one of the few chateaux where it is "defendu" to sketch within the walls.

Some thirteen kilometers away is the idyllic Chenonceaux, which strikes one as being far too lovely and romantic to be the home of a millionaire chocolate king. Sketches abound here. There are a thousand tempting bits of detail, and the old vine-covered tower across the moat is one of those infallible subjects that prove too much of a temptation for anyone who has a sketchpad and pencil at hand. And the ensemble, with the unusual graduated spacing of the arched supports mirrored on the still water below, is charming.

Few chateaux possess a more magnificent view than Chaumont, yet it is rather the interior that creates the fondest impression on the mind of the visitor. The rarity and authenticity of the furniture and tapestries are almost overlooked, so colorfully and harmoniously does everything blend. And each historic room provides through some far corner a vista of the tile floored room yet to be seen, a fragment of rich, well illuminated color that makes you want to lay reason aside and rave like a school girl about it. Chaumont is the chateau which the simpering lady from Oshkosh "Just would *love* to have for a home," but in this case her taste is faultless, for Chaumont is essentially livable. The guide to

this chateau is three hundred pounds of good nature and courtesy and he does everything he possibly can to aid and abet the pencil wielder.

Chambord, despite its scale and splendor, often leaves an impression of coldness with the beholder. It is true that it seemed a bit unsympathetic to sketch but taste in subjects is such a variable affair that one hesitates not to speak as highly of it as of the others, for doubtless many architects prefer it.

Amboise

Keep going and you arrive at the busy little city of Blois, so well known to many of the doughboys, and well liked by nearly everyone who visits it. Aside from the chateau, there is enough here to keep your pencil jumping for a week. Old half-timbered houses are thick and there are plenty of picturesque twists in the streets. Everything about the chateau of Blois one associates with the word magnitude. The very scale of the enterprise of building it, many-perioded though it is, quite astounds one. The lavishness of the decoration, the infinitely varied yet unified ornament, the daring and ability that reveal themselves in the stairway facade and the entrance portal, all leave an impression of tremendousness upon one. Blois is highly gratifying to the big scale, high powered, mile-a-minute American. And, of course, there is none richer in memories of France's turbulent history. If Blois has the same mayor, you will have a permit to draw or measure anything in the chateau, plus an agreeable conversation, for the trouble of a short visit to the Mairie.

Chinon and Loches are two towns that are really more interesting than their respective chateaux. The former is now but an expansive and rain washed mass of gaunt ruins. The grounds are well cared for, and some of the crumbled masses make up into interesting compositions, but the town that spreads beneath offers much more that is fascinating. The cha-

Montresor

teau at Loches defies you to get a good look at it until you stumble on a secluded park across the millstream. Then the whole mass rises up over the housetops before you, and the point of view made famous by posters and innumerable drawings and photographs is revealed.

Tourists never miss the old fourteenth century dungeon, fortunately, for thus the privilege of listening to the world's most sympathetic guide is not denied them. This venerable and tender-hearted gentleman, albeit he is the jailer for the handful of petty prisoners still confined there, almost bursts into tears as he graphically describes the misery and torture that were the order of the day for the unfortunate enemies of the ruling power. Some day a theatrical producer is going to see this guide demonstrating the demoniacal instruments of torture at the dungeon of Loches, and Broadway will be richer by one dramatic star.

At the mention of Langeais, one thinks immediately of furniture, room upon room of antiques that are the collector's despair and delight at the same time. He who has a bent for the decorator's art revels in the interior of the chateau, rather than in its stately, feudal facades with the huge rectangular chimneys that punctuate its profile. There is a warmth of color to the stonework of Langeais that is rather rare, and directly across the cobbled road from the entrance steps are the remains of the Cafe Rabelais, once the rendezvous of its famed namesake. Aside from these, however, the village is rather devoid of interest. Madame Seigfreid, the present owner of the chateau, is said to contemplate adding it to her long list of gifts to the French government, to be used as a museum.

Even more feudal in character than Langeais are the old weather beaten towers of the chateau at Luynes. Something about the austere simplicity, the medieval atmosphere of this imposing affair, stimulates the imagination of the youth who has spent tender years of his life absorbing fairy stories. From every angle, Luynes looms up in stolid and noble profile, a most handsome subject to sketch.

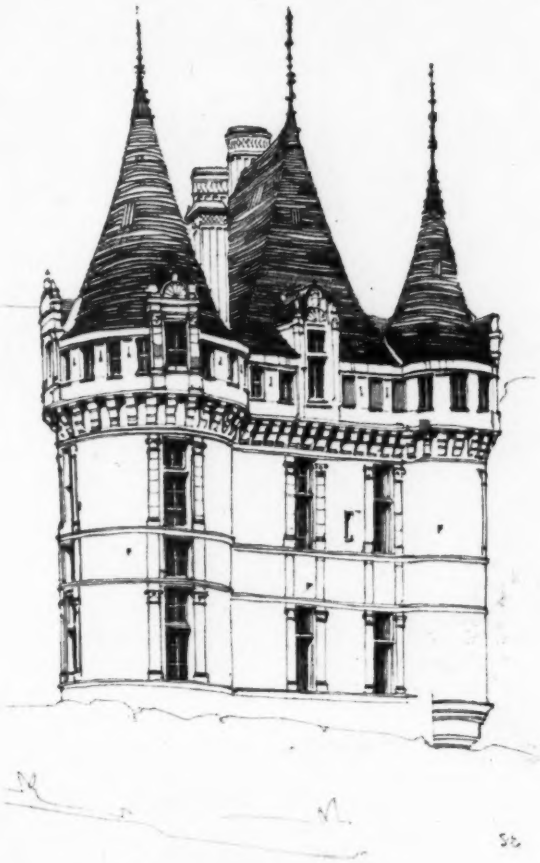
The sparkling chateau of Rigny-Usse comes nearer to the theatre curtain conception of a chateau than the others, yet there is never a note of the cheap or theatrical about it. The vast and complex makeup is bewildering, and one feels accordingly awed and dwarfed, but there shows through it all, as at Chaumont, an essentially homelike character. And it is a distinction that becomes more apparent if one bats off a few hasty thumbnails of some of the intimate corners.

But apparently deeper in the affections of the

French people than any other is that splendidly preserved specimen, Azay-le-Rideau. Variously referred to as a "bijoux," as "exquis" and "mignon," although this latter is perhaps ill-chosen, it never fails to draw forth elaborate praise from an ecstatic Frenchman. It is the property of the State, and serves as a museum for a very wonderful collection of arts and crafts of the period. The most painstaking care is taken of the chateau and its well wooded grounds. To obtain permission to sketch and measure here, it is best to be either fortified with a certificate from the Minister of Public Instruction or a very potent and persuasive line of argumentative French. Possession of both is preferable, for the opportunity of jotting down a few impressions of Azay-le-Rideau on paper carries its own reward.

Old Tower, Loudun

And a last gasp, to bring in mention of a gem of the purest ray serene. It is the chateau of Touffou, not in the Touraine but farther South, a few kilometers from Poitiers. It is a risky business to deal too heavily in superlatives, but when one starts to say something about Touffou, superlatives don't seem to possess the vigor. It merits a week's trip, just to see it. Perhaps the wine was heady that day, but our little party thought it entirely incomparable.



NORTH PAVILION OF THE CHATEAU
AZAY-LE-RIDEAU MAY 26

(*To Be Continued*)

Fig. 8. Auditorium Detail
Henry Miller Theater, New York
Harry Creighton Ingalls and Paul R. Allen, Associated Architects

DESIGN AND CONSTRUCTION OF THEATERS

BY ROI L. MORIN

Part III—Lighting

IT is a far cry from the current realistic drama and the commercial theater to the revolutionary drama and stagecraft of tomorrow, towards which the artists and experimenters in the theater are striving. These men are constantly seeking out new forms, new modes of expression,* and slowly the conventional theater follows in their wake.

In the realm of light the theater of today and that of the future are more closely bonded, as light and color are recognized by both parties as preeminent forces of beauty. Light is the study and plaything of the modern theater, and its possibilities are enormous. Producers, artists and technicians work years, experimenting to get new results. The result is simply that stage lighting has progressed with an amazing rapidity. When one recalls the baldness and crudity of stage lighting scarcely fifteen years ago and compares it with the soft and subtle beauty that has recently been achieved, it is possible to realize what progress has been made.

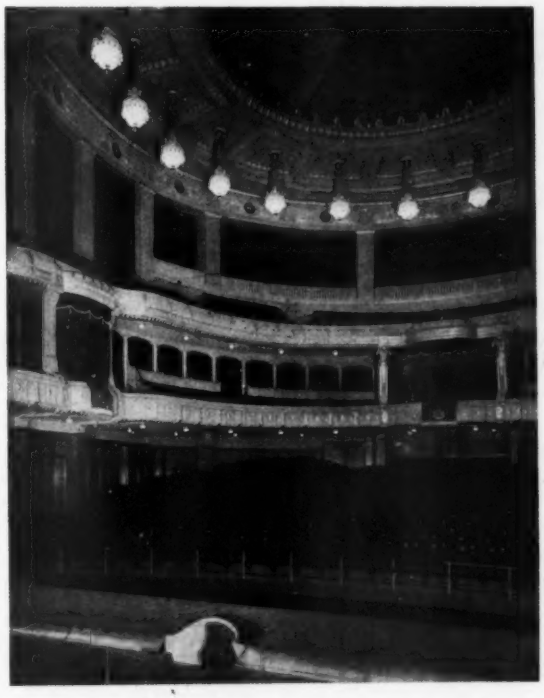


Fig. 1. Auditorium of the Large Theater, the Royal Court Theater, Stuttgart. Note the seating arrangement—no aisles

The lighting of a theater, both before and behind the proscenium opening, is one of the greatest problems which confront the architect. Theaters have been known to exist without stages, without seats, without dressing rooms, without scenery, even without actors, (the marionette show is a popular institution in Europe, and its minor activities here have been greeted with enthusiasm), but lighting, either artificial or natural, is obviously indispensable to the theater. Of the two senses which function at the play, sight and hearing, (ventilation will be treated in a subsequent article), sight is by far the more important, and light and color are the strongest weapons of the new stagecraft. Some of the most significant and powerful dramas of modern literature have depended, for much of their effect, upon lighting. Gorki's "Nachtasyl" ("A Night's Lodging") is a case in point.

As the theaters of the Greeks and the Romans, and the poor shambling players of the Middle Ages, gave all their performances in open air theaters, in broad daylight, it was not until the Renaissance era that artificial lighting was introduced. The earliest methods of artificial lighting were in the use of torches, candles and oil lamps. One can readily imagine the danger of these illuminants. When gas lighting was introduced great progress was made as gas was an elastic medium as compared with anything previously used. Controlling centers were devised and the intensity of the light was regulated by means of valves, quite in the manner of our modern dimmers and switchboards. Theaters were laced with a network of gas piping, jets, chandeliers and tubing, and the fire hazard was actually increased.

The calcium or "lime" light was used in conjunction with gas for intense lighting, until electricity was discovered and used in the arc lamp. The arc spot quickly disposed of the acetylene burner. Calcium lamps are in use today in the provinces, in motion picture projectors, as an auxiliary apparatus in the event that the local electric power gives out.

At the inception of electric lighting little improvement was made in the method of stage lighting, contrary to popular belief, except that the danger from fire was greatly reduced. Gas lights had been used in footlight troughs, strips, chan-

*"The old critic lives in the past; the young critic lives in the present; the theater lives in the future."—George Jean Nathan, in the Smart Set

deliers, spots and bunchlights, and the incandescent bulbs were merely substituted for the jets. The improvements were so little marked that theaters were laggard in substituting gas for electricity. Electricity's earliest virtue, considered from the purely æsthetic phase, was in allowing artists to play more freely with color lighting.

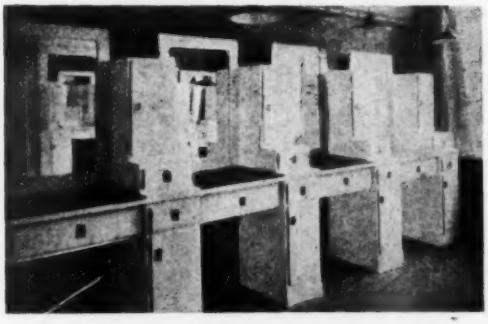


Fig. 3. Make-up Tables in Chorus dressing room, Hebbel Theater
Oskar Kaufmann, Architect

The electric bulb was speedily improved and gas passed into the realm of memory. Bulbs were dyed and used in strips and borders. The arc lamp brought forth the intense and brilliant spot we know today. Bunchlights, "olivettes," X-Ray reflectors and other types of lamp hoods were brought into use, yet stage lighting remained gar-

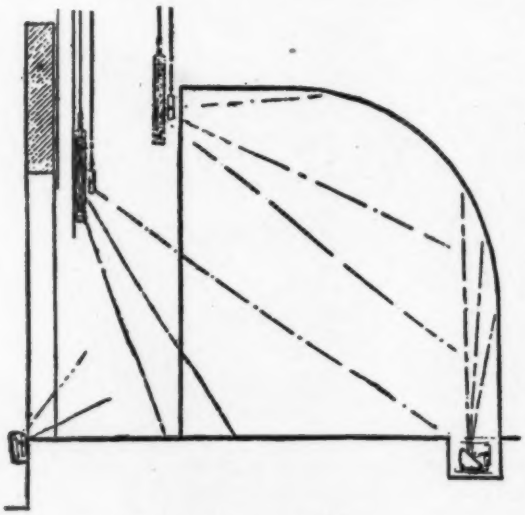


Fig. 4. Fortuny Lighting System

ish, and it was not until recently that stage lighting became revolutionized. These new methods were brought about by the use of color and dimming, *in conjunction with light diffusion.*

Primarily, light is used to illuminate the scene and the players. The modern scenic artist uses it also to define the time of day and the season of the year. By a subtle and uncanny control of light he shows time passing as the action progresses. Bright light of day gradually fades into dusk. He uses light to give the play "atmosphere" bringing out the soul of the drama. He brings stark simplicity into his settings and then imbues them with life by means of light. The symbolism of the drama is emphasized by means of deep shadows, sharp highlights, and concentration of attention.†

Modern lighting through trick painting enables the designer to change the color of the set completely. The set is painted in a manner known as *pointilage,* a method borrowed from the impres-

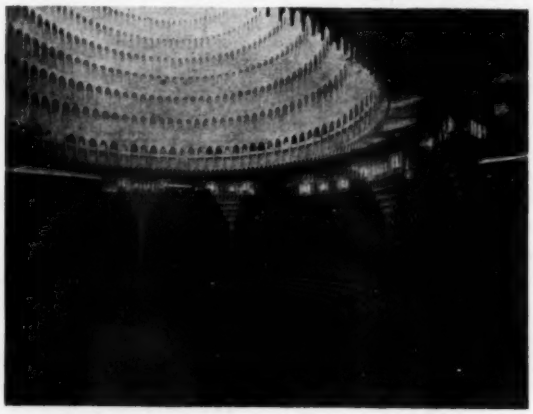


Fig. 5. Auditorium, Grosses Schauspielhaus, Berlin
Hans Poelzig, Architect

sionistic painters,—the use of broken color. The sets are stippled with the various colors to be used and each color desired is brought out in turn by the use of light.

Fundamentally there are but two principles of stage lighting, concentrated (spotlighting), and flood lighting, and at times it is difficult to say just where one begins and the other ends. Flood lighting may be further subdivided into two classifications, direct (footlights, borders, bunches, etc.,) and diffuse, through color mediums or by reflection. The Fortuny lighting system is a method of diffuse lighting by means of reflection from color mediums.

Almost every conceivable angle of lighting a stage has been tried, both with concentrated and flood lighting, from the front, side, rear, above and below. Lighting from the footlights was one of the earliest methods but it has now practically gone out of use. Footlights always gave a false and annoying light to the stage, distorting the actors' features and making the entire proceedings

†*"In light we have the only single agency in the theater, that can work with all the other agencies, binding them together,—that can reveal with the dramatist, paint with the designer, and act with the actors."—Irving Pichel, in "On Building a Theater."*

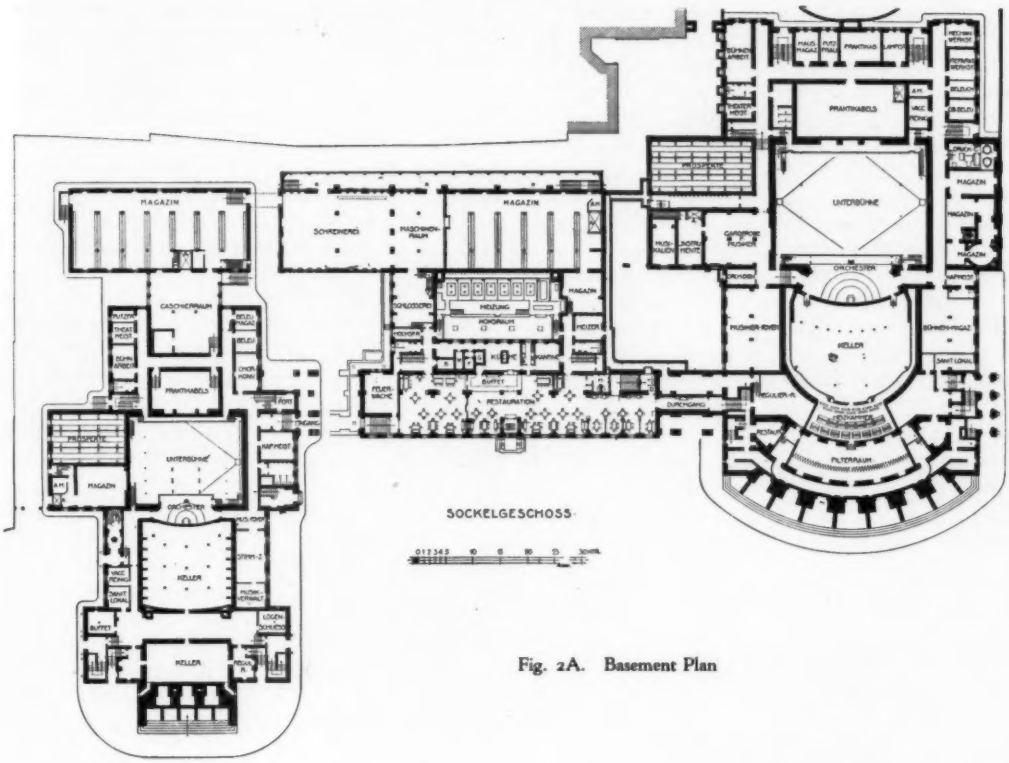


Fig. 2A. Basement Plan

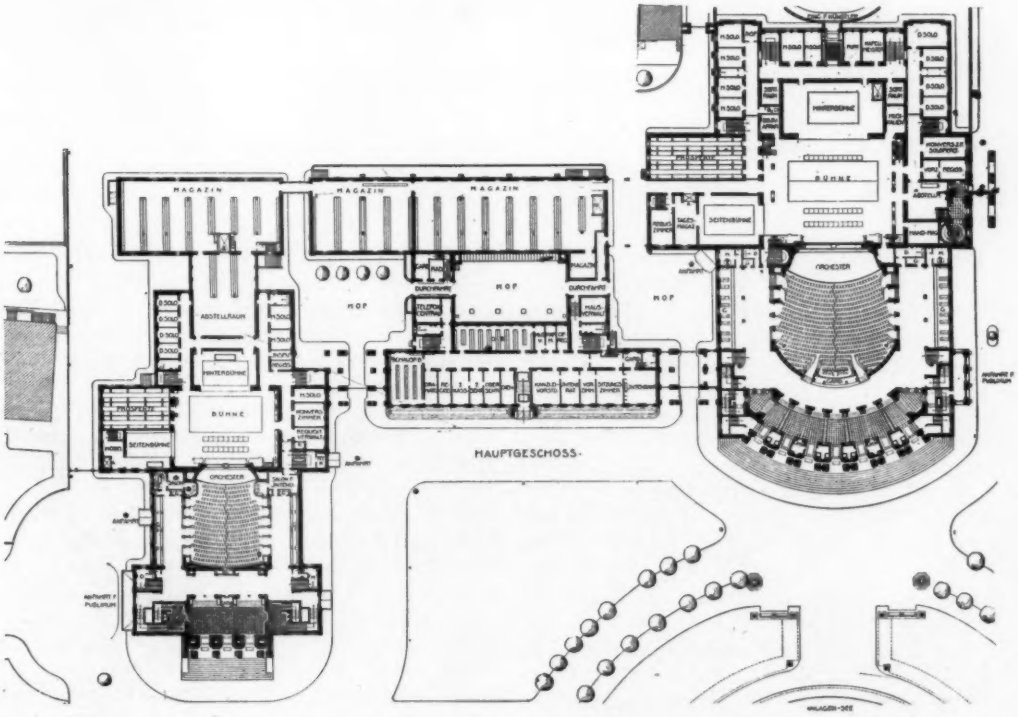


Fig. 2B. Parquet Plan
The Royal Court Theater, Stuttgart

appear grotesque. Today footlights are still installed in the conventional type of playhouse, but even there are relegated to a place of minor importance, i.e., that of diffusing a soft light over the very front of the playing stage, "in one," to balance the lighting from other sources. When installing footlights in a new theater it is well to consider the use of disappearing footlights, in the event that a forestage might be used and steps built down from the stage into the auditorium. The new theater is striving to bring the actor into more intimate relation with his audience, and footlights alienate the play and the picture frame stage.

Strip lights, similar to the footlights in principle, were installed vertically on each side, concealed in the proscenium pier, (see detail of curtain slot in the previous article), and horizontally along the top of the opening, but these strips have fallen into discard along with the footlights.

Borders consist of one or two rows of lights (40, 60 or 100 watt tungstens, 4 to the running foot) in metallic troughs which are hung overhead from pipe battens, counterweighted from the rigging-loft. These borders are so called because they were originally used to illuminate the drops and hangings of the same name. They should have gone out of use along with these borders but unfortunately they still persist. This persistence is due to the ease with which a stage is lighted with borders. They throw the light downwards, are hidden, are easily adjustable and flood the entire stage with illumination.

The first, known in stage parlance as the "concert" border, is hung directly behind the proscenium drapery, or mask. The others, borders No. 1, 2, 3 and 4 (the number depends on the depth of the stage) are hung at intervals of seven feet, parallel to the curtain line. All strip lights, borders, footlights, etc., are wired in two, three or more circuits, each circuit controlling different colored units.

During the past ten years there has crept into use, an improvement on the old-fashioned border lights. Large X-Ray reflectors are spaced closely together along the pipe batten, each reflector containing a large nitrogen lamp with a "mogul" socket. These lamps vary from 100 to 1000 watts each, and are never dyed, as no dye has been discovered that will withstand the heat of a large bulb. Instead of colored bulbs the lamp hoods are provided with grooves for slides of colored gelatin, or glass. The stage is also lighted from the wings by the use of these X-Ray reflectors and spotlights, fastened to pipe standards and adjusted to a desirable height. It was a practice some years ago to build spotlight balconies about 12 feet above the stage level in the recesses on each side of the proscenium but this was abandoned because so many "combination" houses did not have these balconies and it was necessary to improvise some sort of pipe standards when the show went on the road.

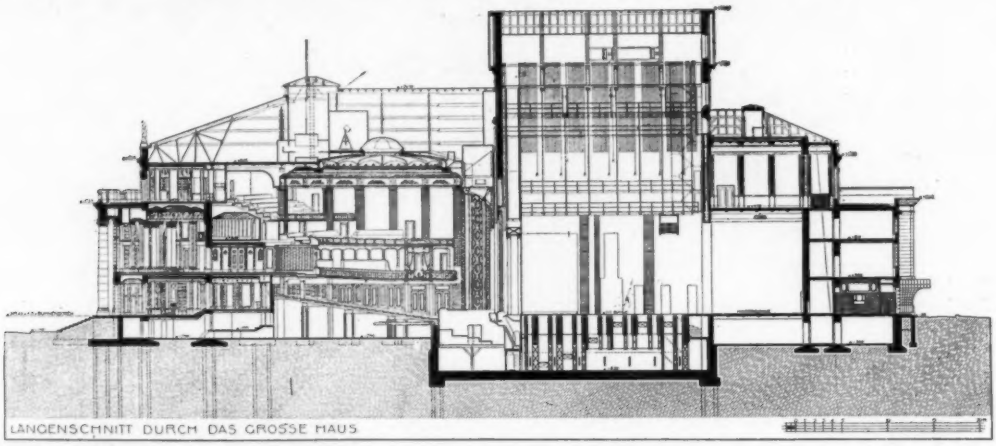


Fig. 2C. Longitudinal Section of the Large Theater
The Royal Court Theater, Stuttgart

Bunch-lighting, the use of a group of smaller bulbs in one reflector, has been superseded by the large X-Ray reflectors. Bunch-light hoods are not installed in the new theaters.

The above data gives us an idea of where to locate the stage and wall pockets, or what is better known among architects as plug receptacles. These pockets are of a special design for theatrical use, being for a single plug or 2, 3 and 4 sections, encased in heavy, waterproof and dustproof iron boxes, with self-closing covers. The three section boxes (for use with three different colored lights) are the most common, and are built into the fireproof floor construction in the wings, at least four

(*Continued on Page* 507)

·EDITORIAL·COMMENT·

IN ITS ISSUE of May 10, 1922, THE AMERICAN ARCHITECT published an article in which the advantages of the Fairmount Park Parkway site were enthusiastically set forth and it had been the hope to publish from time to time a series of articles illustrating the progress of this International Exposition in which the architectural profession of the country has been intensely interested.

Six months have elapsed and from the official report just issued, it is evident that very little if any progress has been made despite the fact that the time remaining in which to complete a project of such magnitude is all too short.

It is unlikely that a great exposition, international in its scope, can be designed and constructed by 1926, and already there are rumors from Philadelphia that the entire project may be abandoned.

It will be of value to the profession to know just why a project that began so auspiciously should have dissipated the vision which inspired its conception, so that similar errors may be avoided when like projects are contemplated in the future.

That the object of the Sesqui-Centennial Exposition was a worthy one is beyond dispute; no event in our history is more worthy of commemoration than the signing of the Declaration of Independence at Philadelphia in 1776. That we are prone in the present age of strenuous commercialism to forget the significance of this heroic act was perhaps best illustrated by the squalid condition of Independence Hall for many generations and it is a pleasure to record that to the architectural profession belongs the honor of restoring this priceless group of buildings. This result was only accomplished after thirty years of ceaseless effort on the part of the Philadelphia Chapter of the Institute.

The project of celebrating this historic event by inviting the world to meet once again at the source of our liberty was greeted with acclaim by municipal, state and national authorities.

Wherein, then, lay the seed of defeat? At a recent mass meeting held by the Sesqui-Centennial Exhibition Association the Honorable James M. Beck in an eloquent address referred to the days when Philadelphia drew its water supply from hand pumps located upon the city streets and with delightful humor told of the opposition that arose when it was proposed to install a steam pump to supply the town with water. He referred to those who raised the objection as the "Town Pump Party" and he forthwith dubbed all those in any way opposed to the Exposition, as members of this malignant body which had from time to time impeded progress in Philadelphia.

With all due respect to Mr. Beck we do not believe that ridicule, however brilliant, clarifies the present situation. The opposition at the beginning of this project was very small and entirely unorganized; had the vision been large enough and the ability to express it possessed by those in charge, such opposition would have been swept aside by the very momentum of the movement, but when after two years of effort, the scope of the Exposition still remains unsettled and a very tentative plan much inferior to the original plan presented is all that is offered by way of solution of the problem, it is pertinent to ask where the lack of vision lies.

It is true that in the early days of Philadelphia's history many of its important buildings were designed by laymen,—Independence Hall having been designed by Andrew Hamilton, a lawyer, and Christ Church and St. Peter's by Dr. John Kearsley. That this may have established a tradition in Philadelphia that architects and other artists were superfluous in public projects, we do not know, but certainly no art jury or other similar body is ever organized in that city without a large majority of lawyers or Captains of Industry upon its rolls, with occasionally an architect, painter, or sculptor added for purely technical reasons. If any architect has made a public address on the subject of the Exposition the writer is not aware of the fact and although the prowess of the Philadelphia lawyer is a tradition, known throughout the world, we feel that nothing but great vision and the ability to express it will save the situation at Philadelphia and we venture to predict that if Philadelphia is rescued from her present dilemma it will be through the efforts of the architectural profession. Certainly very little has been done to date to convey to the people any great conception that would arouse public enthusiasm.

* * *

THE FIGHT AGAINST WOODEN shingles on the part of underwriters led to a novel test recently, one from which students of popular government may draw interesting deductions. The fight against wooden shingles in California led to the incorporation in the new state building code of a section forbidding the use of wooden shingles on certain classes of buildings. The lumbermen took advantage of the provision in the state constitution permitting a referendum on legislation and the referendum was held. The advocates of wooden shingles won.

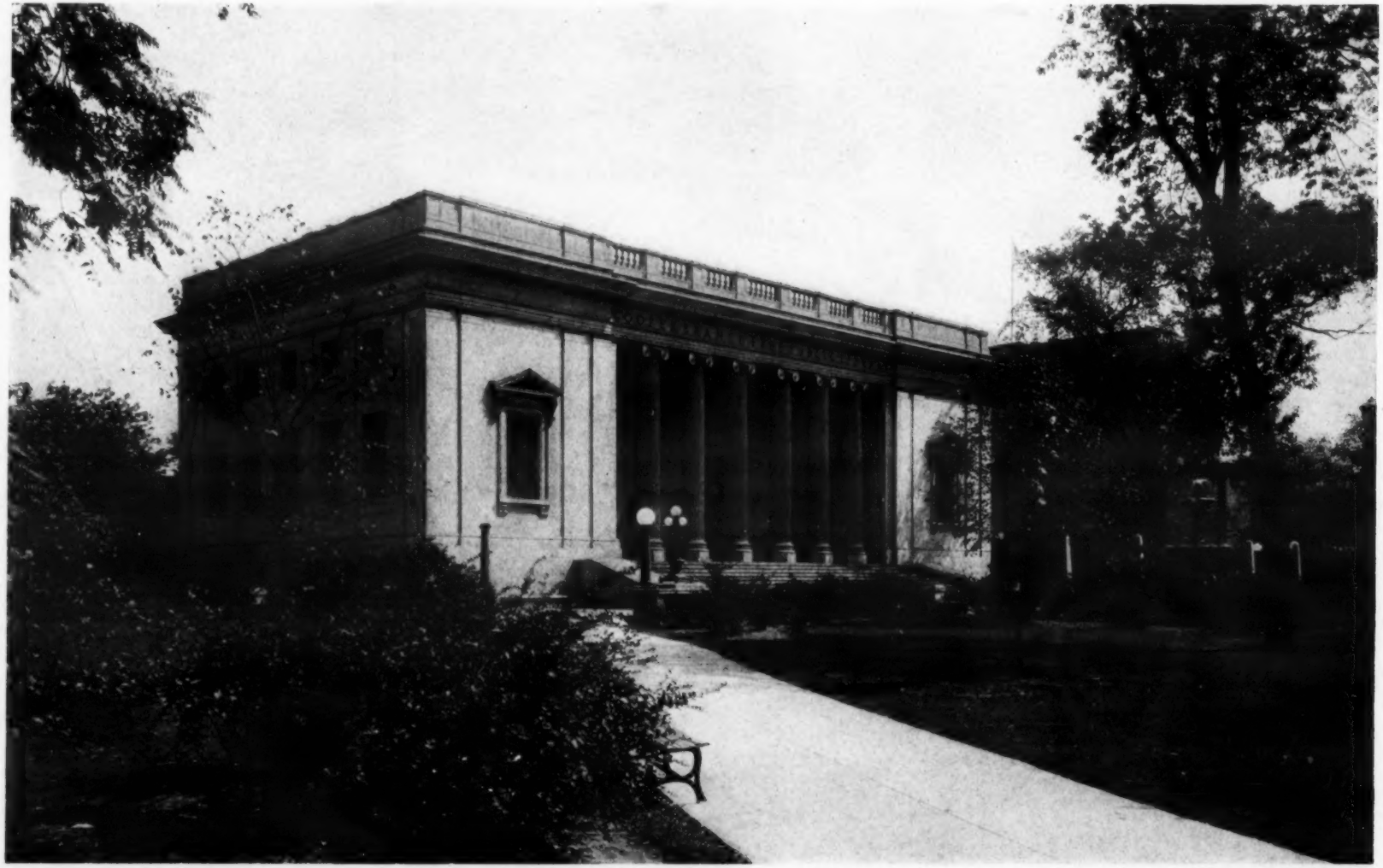
Regardless of the facts as to whether wooden shingles are, or are not, a fire risk or whether

California redwood shingles offer superior resistance to fire than shingles made of other wood, the question enters in as to the competency of the people generally to settle matters of such a nature. Is it wise to permit matters that are technical in nature to be determined by the voters? It is possible to foresee that some steel merchants, wishing to increase the use of steel by lowering designing stresses and unable to obtain the consent of competent engineers, might demand a referendum of the whole people. If the present tendency continues, it will be impossible for public officers to pass any laws for the protection of the people without interested parties demanding a referendum. It will bring back the old village hall type of town meeting, without any of the good inherent in that system, namely, the getting together of all interested parties in small gatherings for the general good. Legislation by the crowd is not desirable and we believe the lumbermen did a most unwise thing in establishing the precedent of having an entire state vote on matters that properly should be left to the consideration of small groups of technically trained men.

* * *

IS CARELESSNESS a desirable trait? To read the statistics of fire losses in the United States one is reminded of the proud boast of certain types of new-rich that they have "Money to burn." It is not pleasant to contemplate the figures showing what a large proportion of new buildings annually burn down. The loss of life is great but the American people are not concerned with the statement that the number of accidental deaths in the United States during the war exceeded the number of deaths from battle causes in the same time. It is the spectacular that appeals to them. It must be big. The deaths of soldiers amidst the noise and tumult of conflict have been accounted glorious from time immemorial. The death of a soldier in battle is presumed to bring a peculiar recompense of its own and many soldiers now sincerely mourned, met death unafraid and felt a benediction at the moment which must now lead them to wonder at the eagerness of men and women to abolish war and deprive others in the future of being ushered out in such high earnestness and fervor. Because it is big a fight is being made on war and preparation for war.

The death of a civilian, a man, a sick woman, a young girl or boy in the bloom of promise, a little child, in a fire is free from all the glamor of high purpose. It is horrible to contemplate. It is sordid because it is so useless a waste and also because it is caused by carelessness, or, something worse than carelessness, the desire of someone to rob an insurance company. In spite of this it is next to impossible to force people into an active campaign to prevent useless fires and useless deaths. Perhaps the next step forward will be to abolish fire and accident insurance and hold people responsible for all sins of commission and omission which lead to loss of life or loss of property. Architects have the responsibility of advocating fire-resisting construction for all buildings.



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WALTER T. KARCHER & LIVINGSTON SMITH, ARCHITECTS

(For description of this Library see Page 524. For Floor Plans see Pages 499 to 503 inclusive)

XUM

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THE COLONNADE PORTICO

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VIEW ALONG PRINCIPAL FACADE

ENTRANCE VESTIBULE

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VIEW OF ENTOURAGE

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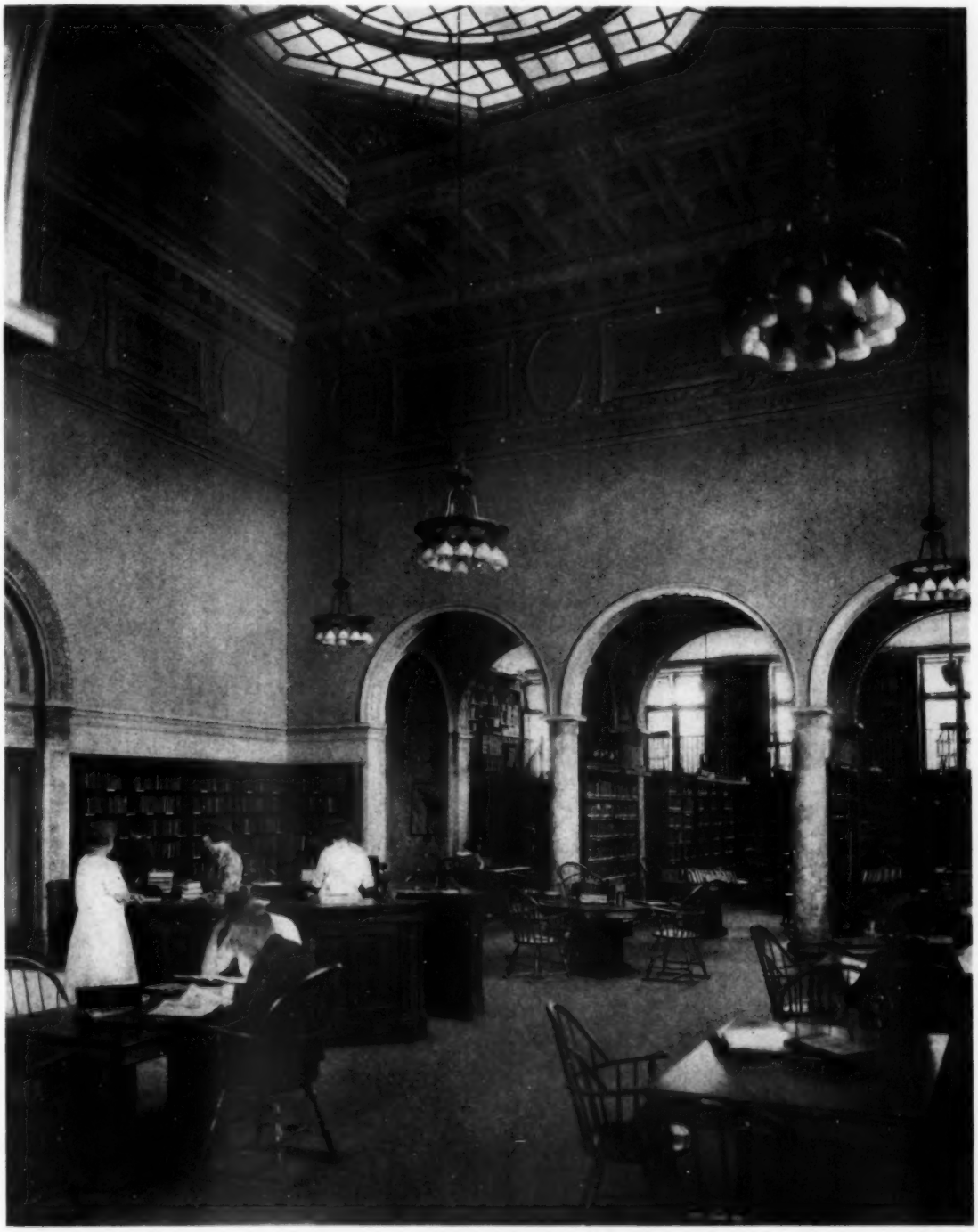

MAIN READING ROOM

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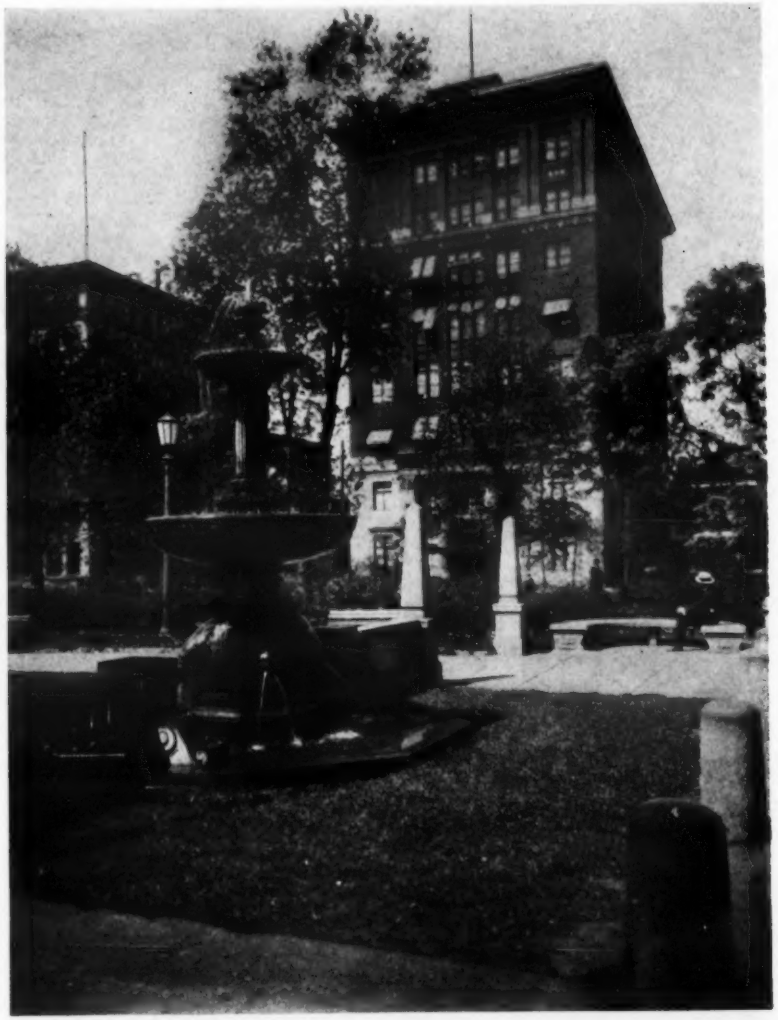
LOOKING FROM REFERENCE ROOM THROUGH MAIN READING ROOM TOWARDS CHILDREN'S ROOM



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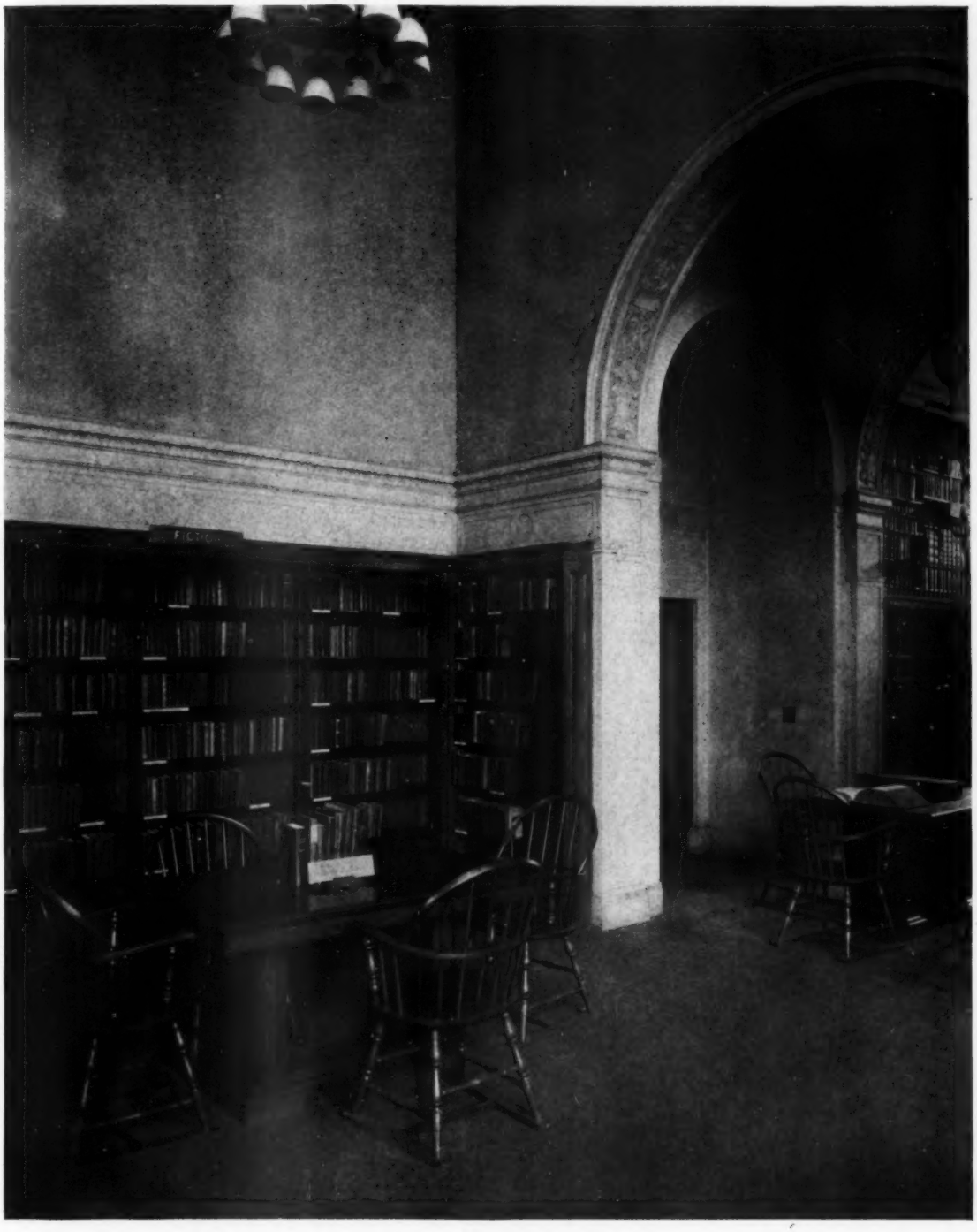

DETAIL, MAIN READING ROOM

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HOUSE OF CLAYTON SEDGWICK COOPER, ESQ., EAST 48TH STREET, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

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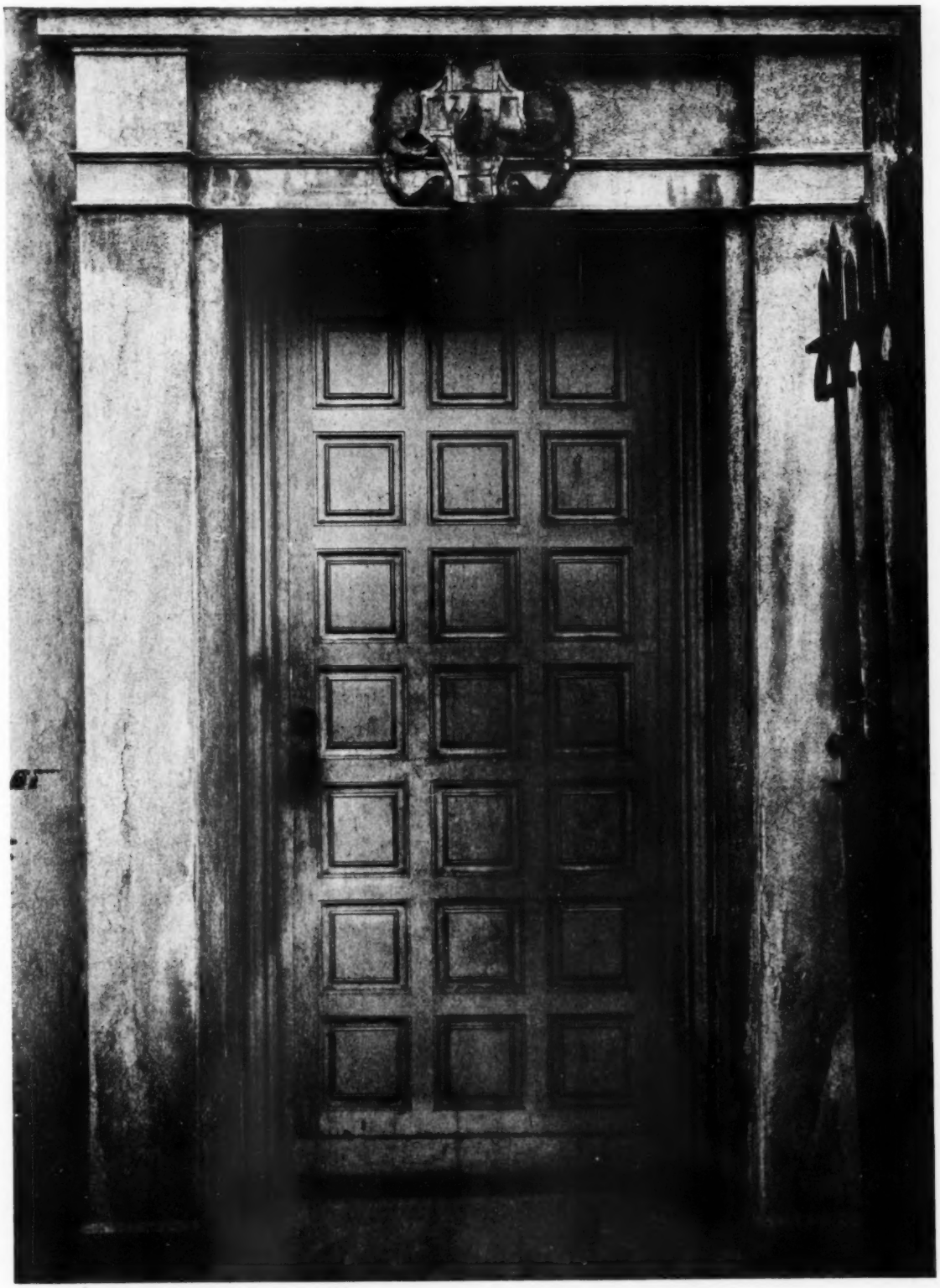

PRINCIPAL ENTRANCE DOORWAY

HOUSE OF CLAYTON SEDGWICK COOPER, ESQ., EAST 48TH STREET, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

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EXTERIOR DETAIL

HOUSE OF CLAYTON SEDGWICK COOPER, ESQ., EAST 48TH STREET, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

SPANISH WROUGHT IRON LANTERN AND GRILLES; STUCCO, ROUGH TEXTURE, CREAMY PINK; TRIM, PALE GREEN

XUM

XUM

LIBRARY

HOUSE OF CLAYTON SEDGWICK COOPER, ESQ., EAST 48TH STREET, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

THE WALLS OF THIS ROOM ARE DARK BLUE, THE FURNITURE AND TRIM IN BLACK ENAMEL. THE CHINESE HANGINGS IN RED AND GOLD

XUM

XUM

HOUSE OF CLAYTON SEDGWICK COOPER, ESQ., EAST 48TH STREET, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

THE CENTER OF MANTEL IS IN BLACK CEMENT, THE PANEL ANTIQUE BRASS

XUM

XUM

BREAKFAST NOOK

HOUSE OF CLAYTON SEDGWICK COOPER, ESQ., EAST 48TH STREET, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

XUM

XUM

HOUSE OF H. E. CHUBBOCK, ESQ., PEORIA, ILL.

HEWITT & EMERSON, ARCHITECTS

XUM

DETAIL, HOUSE OF H. E. CHUBBOCK, ESQ., PEORIA, ILL.

HEWITT & EMERSON, ARCHITECTS

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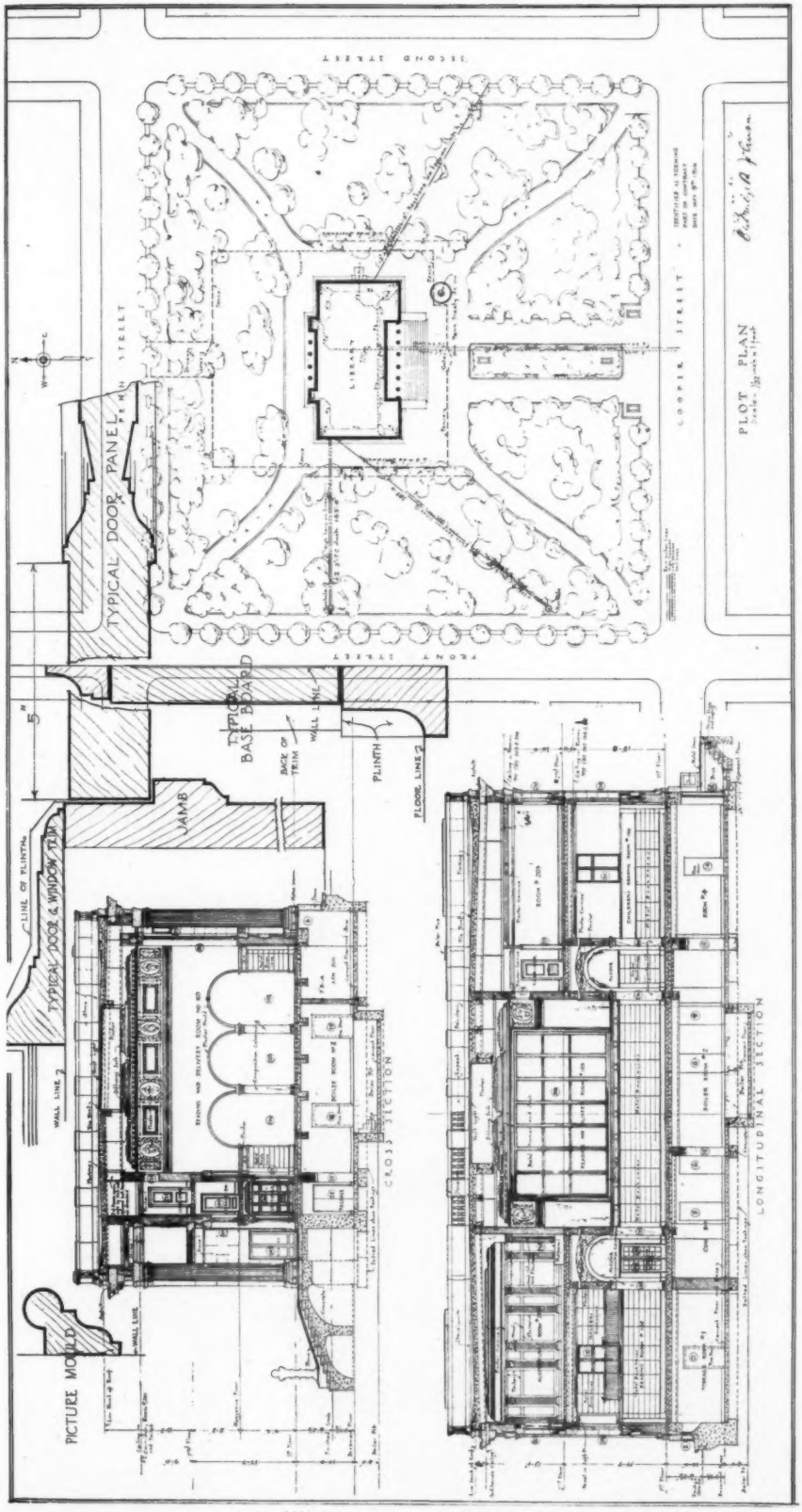

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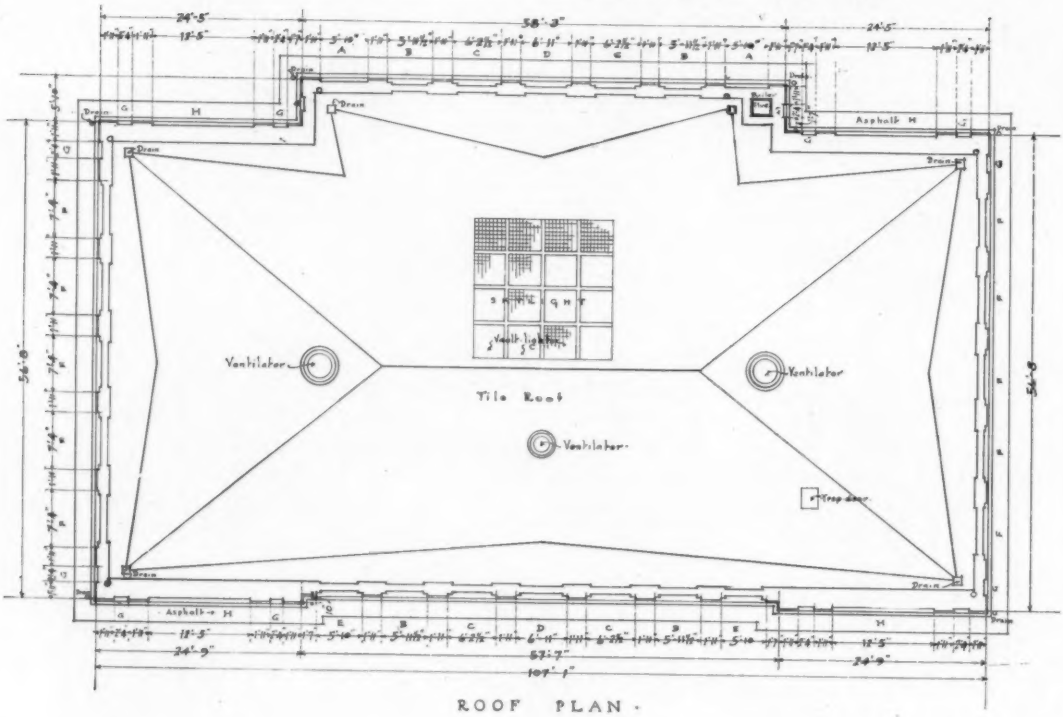
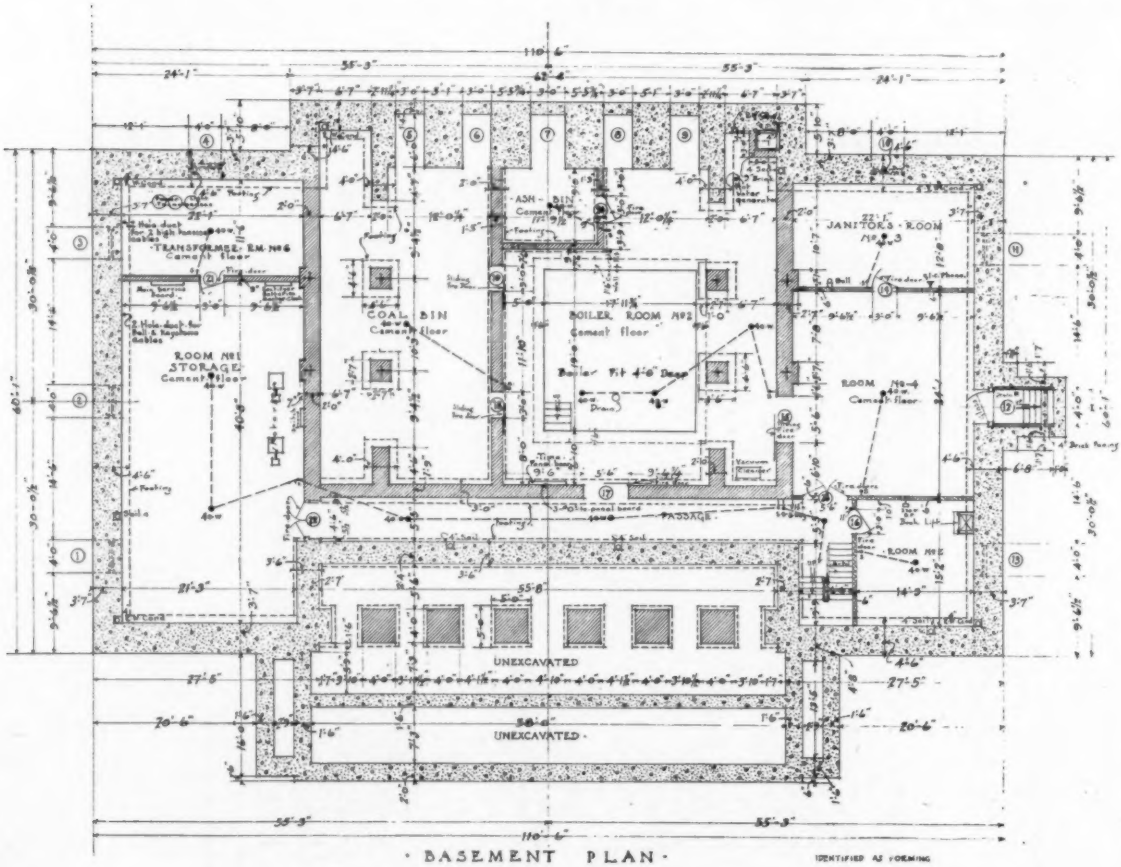
(For illustrations of this Library see Plate Section)



ROOF PLAN.



BASEMENT PLAN.

IDENTIFIED AS FOREMING

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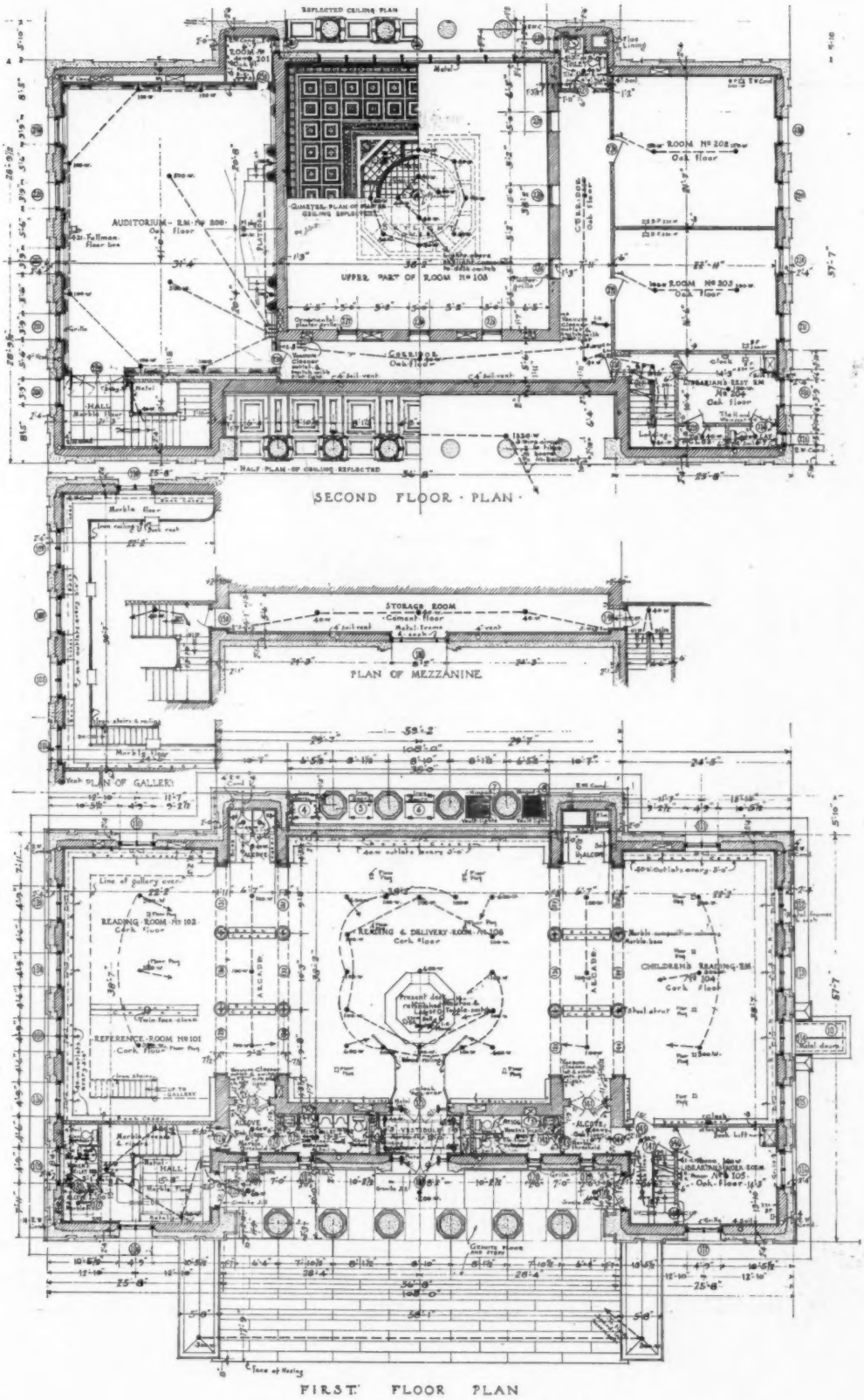

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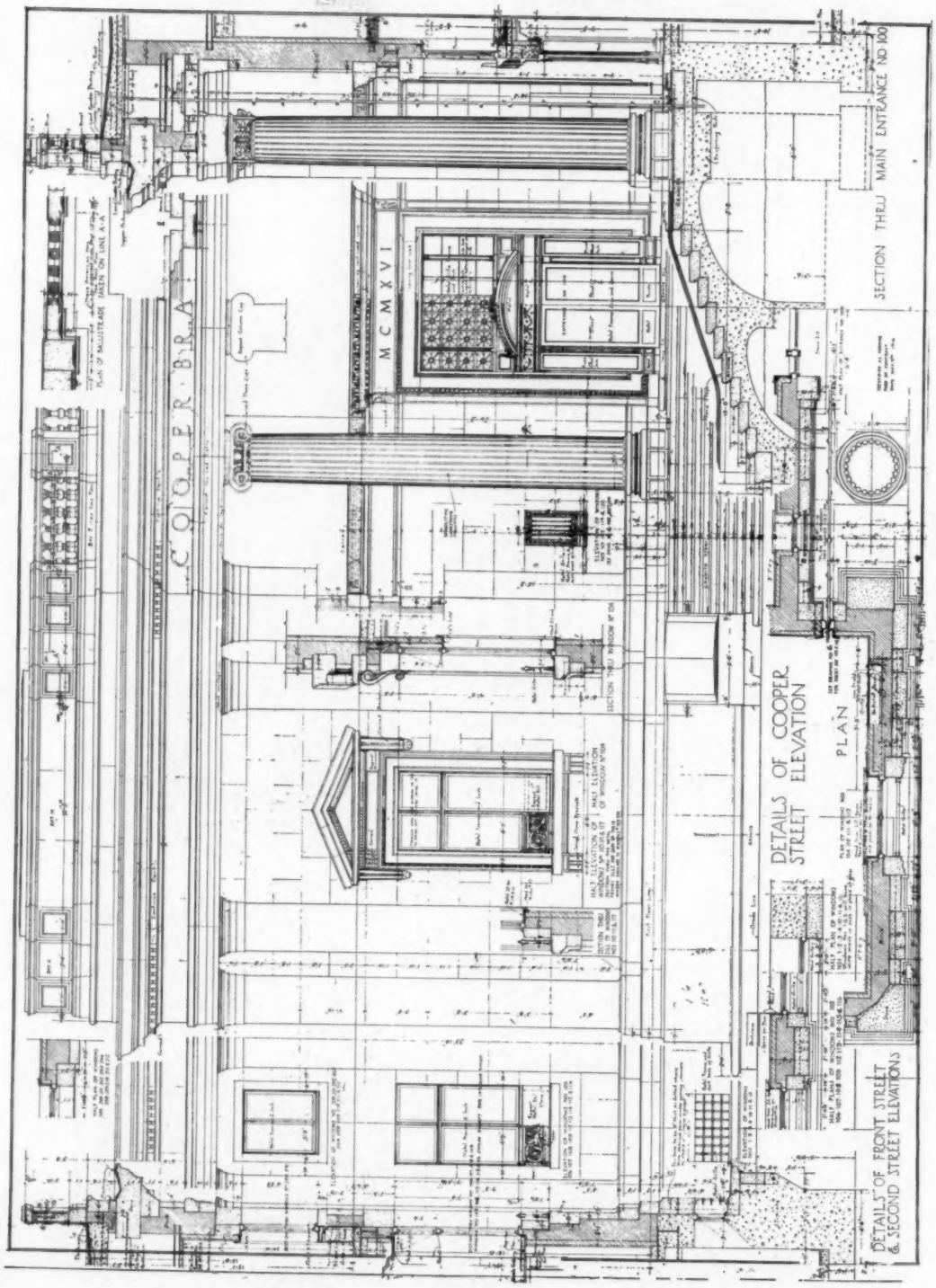

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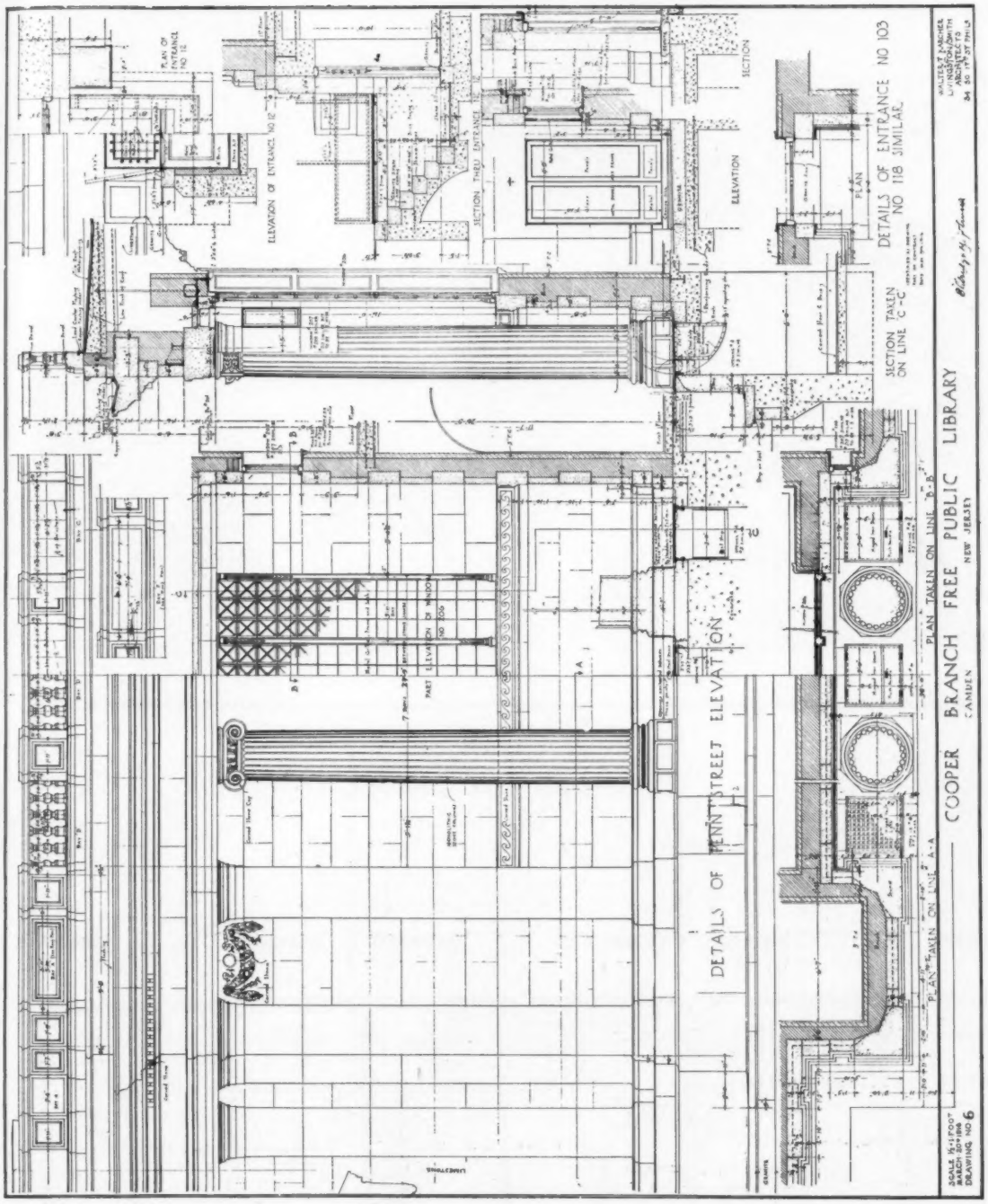

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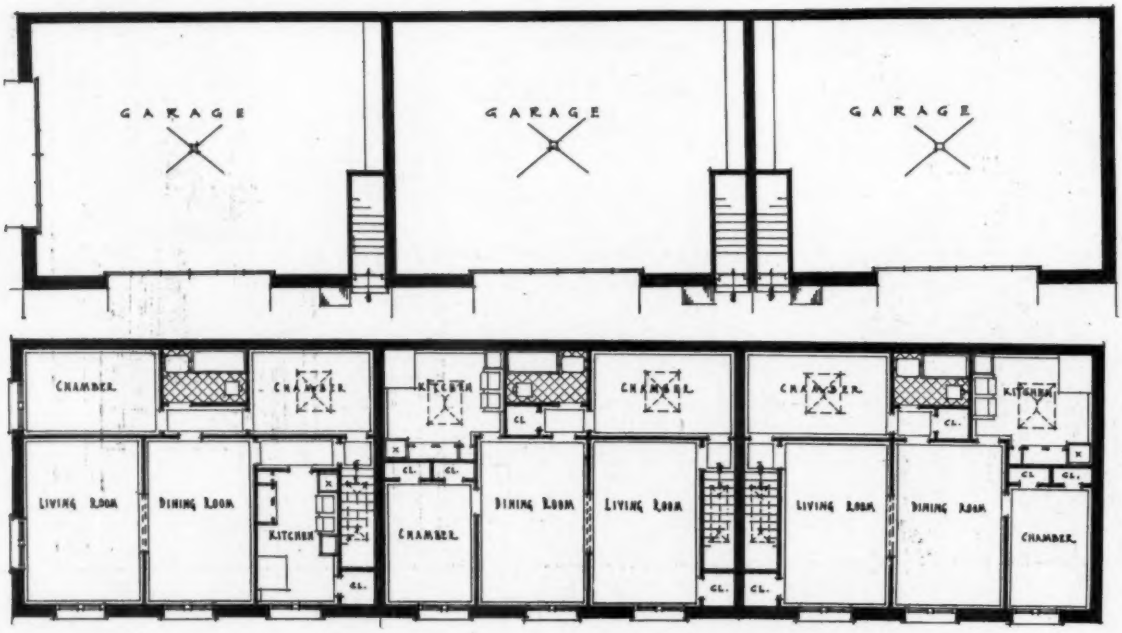
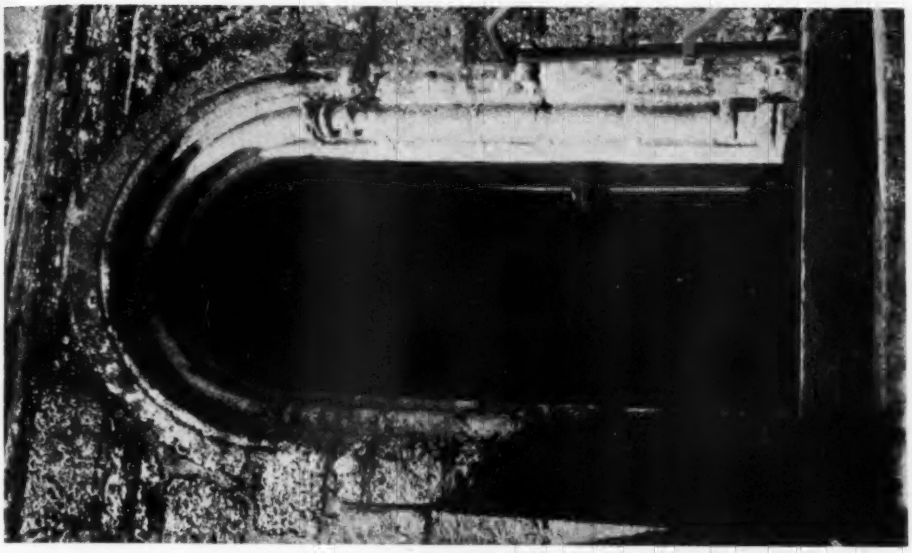
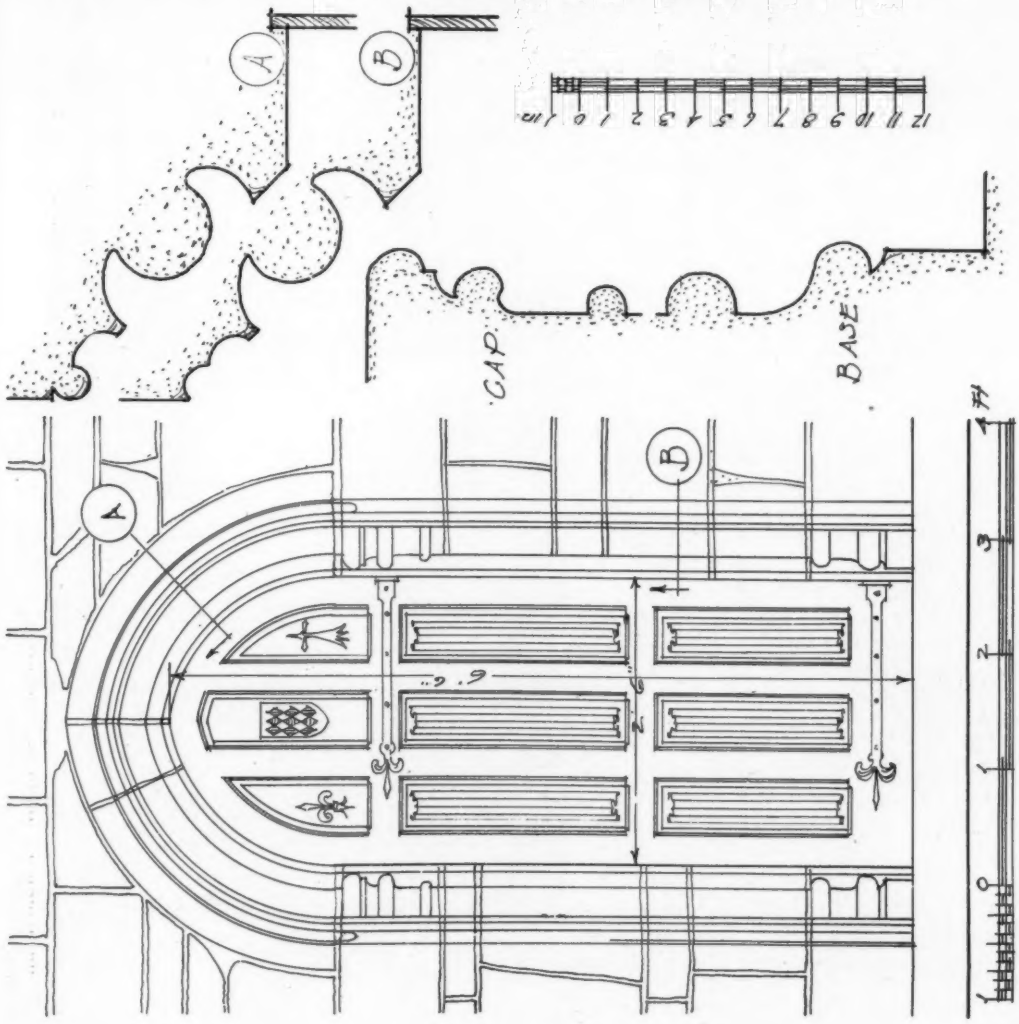


THREE PRIVATE GARAGES ON PARK AVENUE, NEW YORK

NATHAN ROTHOLZ, ARCHITECT



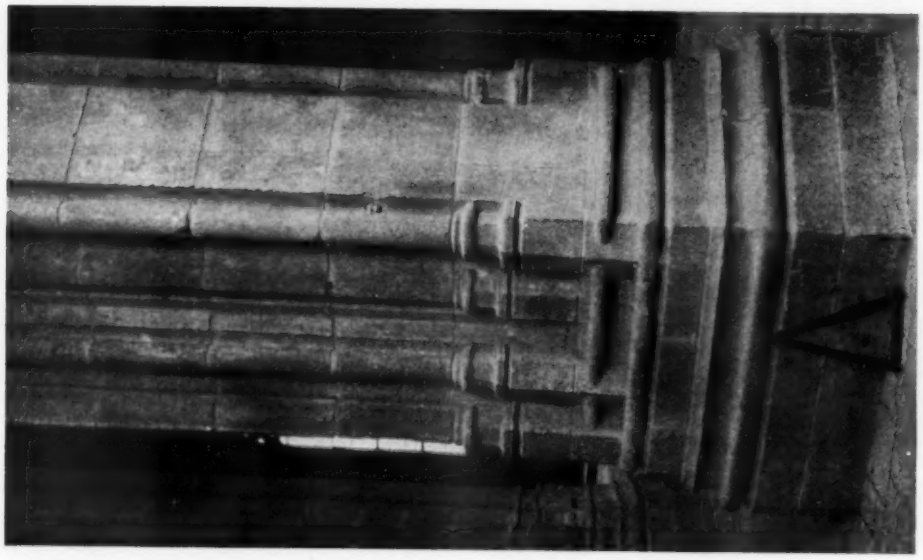
DOORWAY, CHATEAU AT JOSSELIN



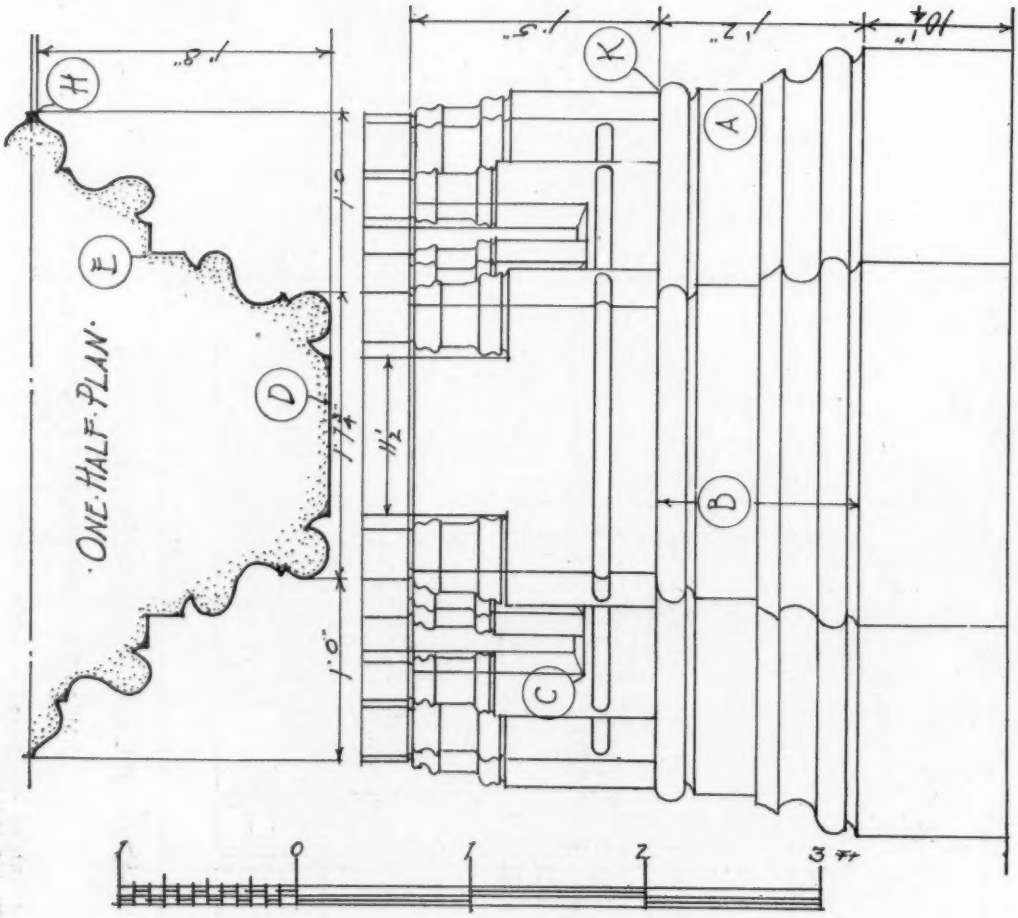
MEASURED AND DRAWN BY ROBERT M. BLACKALL, 35TH HOLDER, ROTCH TRAVELLING SCHOLARSHIP

(For description see Page 510)

THE AMERICAN ARCHITECT, SERIES II.
FRENCH AND ITALIAN DETAILS



COLUMN BASE, MONT ST. MICHEL



MEASURED AND DRAWN BY ROBERT M. BLACKALL, 35TH HOLDER, ROTCH TRAVELLING SCHOLARSHIP

(For description see Page 510)

THE AMERICAN ARCHITECT, SERIES II.
FRENCH AND ITALIAN DETAILS

Fig. 7. The Bellevue Theater, Upper Montclair, N. J.
J. H. Phillips, Architect

Design and Construction of Theaters

(*Continued from Page* 496)

pockets on each side of the proscenium opening, and one directly in the center in the rear, several feet from the backwall. Two wall pockets should be installed on each side of the proscenium pier and on the backwall, at a convenient height. Two floor pockets should be installed on each balcony, fly-gallery and gridiron floor.

Fig. 9. Little Theater, New York, at night. As it was originally built
Harry Creighton Ingalls and F. Burrall Hoffman, Jr., Associated Architects

There are two types of spotlights,—"baby" spots, with nitrogen lamps of high wattage, (from 250 to 200) and arc lamps, (up to 11000). These lamps are clamped to standards, are light and portable, and are placed anywhere and everywhere about the stage,—in the wings, on the balconies

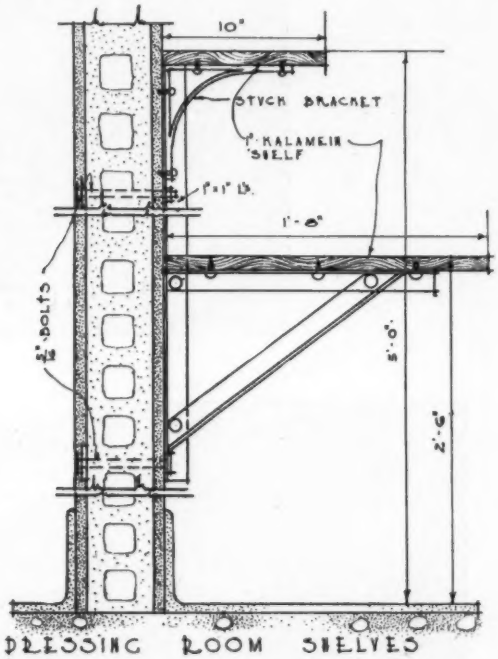


Fig. 10

and galleries, hung from pipe battens, and even up in the loft. These lamps sometimes have rheostats attached to the base of the standard but this is rarely desirable as it forms a separately controlled unit and tends to break up the centrified control of the entire stage lighting. It is better to have all lights on the stage controlled through the dimmers on the main switchboard.

The principal difficulty to be coped with in these various methods of lighting is that the light comes from unnatural sources. A room in broad daylight is lighted, not from the floor (footlights), or ceiling (borders), but through the windows, at a medium level. For several years theatrical men have been experimenting to obtain light on the stage which would imitate real daylight. At the Little Theater in New York, panels which might be lowered were built into the ceiling. These panels, when lowered, frankly exposed spotlights which directed shafts of light on the stage, at an angle of 45 degrees. This was an improvement, but a far better device was installed by Belasco, in his own theater, in 1917. A group of "baby" spots was built into the balcony front, just below the rail, and remotely controlled. These spots

Figs. 6A. and 6B. Detail of ceiling in Grand Foyer, The Century (New) Theater, New York
Carrere & Hastings, Architects

illuminated the stage, throwing light only on a slight pitch. They were barely visible when in use, and were hidden completely by small shutters which closed automatically when the lamps were not in use.

The center of light control in all theaters is the stage switchboard. Separate panels are installed in the box office, in the dressing room section, and in the projection booth, but all these should be master controlled through the stage switchboard,—except the feed wires to the motor generator equipment for the motion picture projectors.

All stage switchboards should be of the dead front type, (this is usually required by law), that is, all metal, or other conductor appearing on the face of the switchboard must be thoroughly insulated from the circuits. Each switch handle is connected with its knives, which are located on a second board behind, by means of a lever, and each dimmer handle or wheel is connected with its rheostat in a similar manner. Access to the rear, or live board, is cut off by a wire fence and gate.

A space 15′ long, 6′ deep and clear to the under side of the fly-gallery should be allotted, in the average theater, for the switchboard and magazine panel. When the board is under the stage it will be necessary to make the space longer, shallower and lower, but this must be determined by the design of the adjoining machinery and layout. Ample space should be allowed for this apparatus.

The size, and number of switches on a board depend on the magnitude of the stage lighting equipment. There should be three switches for each border, footlight trough, strip and group of stage pockets, one for each color (usually blue, white and amber—or red). These switches must be interlocking and controlled by a master switch. Separate switches are installed for the orchestra pit, auditorium walls, auditorium ceiling, lobby, foyers, toilet rooms, (or any special lighting equipment), trap room, dressing rooms, shops, etc. All circuits feeding the playing stage and auditorium should pass through interlocking dimmers, —these also master controlled. All exterior lights on signs, the facade and marquise are controlled from the box office panel. The exit lights are controlled separately on a double throw switch, one side of which is on the main, and the other on a storage battery system which feeds from the main. In the event that the main feed gives out the electrician throws on the storage battery circuit and this lights the auditorium sufficiently and long enough to avert a panic. The most dangerous thing in a theater is darkness. Darkness will cause a panic sooner than a fire.

If a theater cannot afford to install the full number of dimmers necessary to control all circuits,—dimmers are very costly,—it is possible to arrange the circuits so that any number of circuits equal to the number of dimmers may be shunted through the dimmers.

The location of the stage switchboard is a question over which authorities differ. The average theater has its switchboard located on the stage level, in the recess on one side or other of the proscenium opening, preferably on the right (facing the audience), with the dimmer bank above. If the board is a small one both the board and the dimmers are operated from the stage level; if it is large the dimmers are operated from a platform above. In any event the operator must take most of his cues from another man who is watching the performance from the tormentor opening. The most excellently designed theaters, however, have the switchboard under the stage, in the center, directly behind the apron. The master electrician watches the performance through the prompter's hole—masked from the audience. He operates the master dimmer wheel while his assistants in the switchboard room below take their cues from him. The switchboards at the Hippodrome, the Metropolitan Opera House and the Century Theater in New York are of this latter type, as are the majority of the new theaters in Germany.

All switches on the board should be well labelled, and the switch and dimmer handles should be colored to agree with the lights they control. No circuit on the stage should be loaded above 1320 watts.

The switchboard should be equipped with pilot lights, bell and telephone system with the orchestra pit, box office, projection booth, fly-galleries, dressing rooms and wings, so that the master electrician may have all parts of the house under his absolute control at all times. The dressing rooms should have a call system to give the various actors their cues.

The Fortuny Lighting System

It will be noticed that in all the methods of color lighting hereinbefore described, the colors are more or less stationary and cannot be changed at will. With the colored bulbs or the gelatin slides on the lamp hoods the colors are not flexible or easily blended. The desire to have a complete control over the color and diffusion of light gave rise to what was first known as the Fortuny Lighting System—named after its inventor—but has now been changed and improved. Powerful lamps, usually arcs, cast an intense white light on myriads of many-hued silk ribbons, or other color reflectors, whose movements are under control. These colored ribbons reflect the white light, tinting it with the color desired by placing the ribbons of this color directly before the light. This colored light is reflected against

the Kuppel horizont (described in the previous article) which in turn diffuses it over the entire stage. The light can be changed in myriads of hues by merely manipulating other colored ribbons. These lights and their relative ribbons are installed above the stage, in the place of dimmers, in the footlight trough, ousting the conventional footlights, and at the foot of the dome, in a pit at the rear of the stage. (See accompanying cut.) This is undoubtedly the most perfect system of stage lighting so far devised but it has never been completely installed in a large theater in this country (some amateur theaters have made rather pathetic attempts), partly because of its great initial cost and its great operating cost, as it requires an enormous amperage to operate it successfully.

Auditorium Illumination

THERE are three ways of illuminating a theater auditorium, each of which may be used separately or in conjunction with one or more of the others, direct lighting, semi-indirect or indirect. The use to which a theater is to be put will in a large measure determine what method will be employed. The modern motion picture theaters, especially those employing large orchestras to give concerts between the reels, use trick colored lighting indirect and semi-indirect, the color effects being what is known as "orchestrated" with the music. The gaudy variety palaces have also gone in for cove lighting and colored diffusion through glass panels. The "legitimate" theaters have clung conservatively to direct lighting by means of chandeliers and wall sconces. Occasionally a huge chandelier has thrown a glaring white light, outlandish to eyes which have been watching a soft colored scene in a darkened auditorium, but this is due to misjudgment on the part of the designer, and is not a criticism of the system. All auditorium lights should, of course, be controlled through dimmers, except the red lights over the exits, required by law.

The layout of picture booths and their electrical and mechanical equipment will be taken up in the subsequent installment.

(*To be continued*)

Door at Chateau of Josselin

(*For illustrations see Page* 505)

THE castle or chateau in the little town of Josselin on the river Oust, rises abruptly from the river for over 150 feet to a level courtyard where the entrance door is placed. The chateau, although extremely long, is only one room in width, and was built in the 12th century. In the latter centuries abandoned, it was entirely restored and practically rebuilt in the 16th and 17th centuries. The door, shown in the illustration, on the center of the narrow end leads to one of the towers and is one of the existing 12th century stonework entrances, although the wooden door is modern.

Victoria and Albert Museum

DURING the restoration of the Gate of Honor of Gonville and Caius College, Cambridge, plaster casts were made of some of the more interesting details, and a set of these casts, twelve in number, have been presented to the Victoria and Albert Museum, London, by the Master and Fellows of the College. This gate, one of the most pleasing works of the early Renaissance in England, was erected in 1574, traditionally by an architect named Theodore Haveus, a native of Cleves, but more probably by Dr. Caius himself, who refounded the College, and was responsible for the Court on to which the Gate of Honor opens. The casts have been placed on exhibition in the Central Court of the Museum.

Column Base, Mont St. Michel

(*For illustrations see Page* 506)

THIS base is in the choir of the upper church of the abbey of Mont St. Michel. The date is of the 15th century. The church which was put in its present condition through the direction of M. Viollet le-Duc and later by M. Paul Goret, is one of the finest pieces of Gothic art of this period. Though only the choir is Gothic, the nave and transepts being Romanesque, one can easily imagine what a wonderful result would have been achieved if the entire church was of this period.

Find Buried City in Italy

ITALY'S leading archæologists, it is learned from recent press reports, are gathered at Sorrento, near Naples, sent thither by news of a discovery which promises to throw much light on early Italo-Greek history.

As the result of casual digging by some youths, what is believed to be the old Greek town of Sireon has been discovered near Sorrento. Sireon was believed to have been the sanctuary of the sirens, the sea nymphs who lured mariners to destruction by their singing, and as such is mentioned by Virgil (Æneid, Book 5, verse 864), Strabo, the Roman geographer who lived at the same time, Homer, and Hesiodus, a contemporary of Homer.

So far one of the city gates has been unearthed. They are of enormous blocks of tufa (volcanic stone) carefully smoothed and fitted. A party wall has also been exposed.

DEPARTMENT OF ARCHITECTURAL ENGINEERING

LIGHTING FOR PUBLIC EATING PLACES*

AN arbitrary grouping of public eating places can be made based upon their requirements for lighting and artistic treatment.

Group "A." Includes the cheap lunch room that offers a very simple service, and many of the industrial dining rooms. These present practically no artistic considerations. The lighting is therefore of a purely utilitarian nature.

Group "B." This group comprises those establishments in which a general illumination is usually satisfactory and in which the artistic must be considered, especially in the design and finish of lighting units. As for instance, commercial restaurant, cafeteria and better class of lunch room.

Group "C." This class requires a more purely artistic treatment and necessitates the creating of an atmosphere more homelike than the classes mentioned above. Color plays an important part, and artistic touches of light and shade are desirable. Under this class come the dining rooms of hotels and clubs, as well as high class cafes and tea rooms.

Group "D." There is still another class that might be considered as special from the illumination standpoint and includes those establishments which provide entertainment such as dancing, skating and cabaret, and which require some unusual, if not spectacular, lighting arrangements.

The miscellaneous departments such as kitchens, lobbies and rest rooms are common in a greater or less degree, to all public eating places, and must be considered apart from the main dining hall or space.

For many people, the public eating place must serve as a substitute for the home, with the manager as host, and hence we might consider that the ideal would be approached by following the three essential elements which stimulate the atmosphere of coziness in the dining room of the home.

1. Concentration of light upon the table to accentuate the setting of linen, silverware and glassware, with the proper shading so that the eyes of the diner never meet the direct source of light.
2. Providing of a suitable intensity of general illumination throughout the room.
3. Supplying of a tinted light to fall upon the faces of those seated about the table.

Fig. 1. Typical industrial cafe in which indirect lighting system is employed

These three essentials are necessarily difficult to apply in large establishments, but by careful designing can be attained to a great degree in clubs, tea rooms and cafes, to give even in these public places, a sense of privacy and intimacy.

There seems to be, especially in commercial restaurants, a tendency to over-lighting. The public eating place should, of course, reflect the atmosphere of the society that it entertains. If the patrons go to see and be seen, a general bright illumination is, of course, most proper.

In any case strong contrasts should be avoided. The simple expedient of shields and shades around the lamps and fixtures would enclose bare lamps and be a great improvement. No doubt some day, the quality of exactitude will be exercised by the patrons in the matter of glaring light-

*Abstract of paper by J. L. Stair, presented at the Annual Convention of the Illuminating Engineering Society, September, 1922.

ing as it now is regarding prompt service, clean linen and silverware and well cooked food.

Attractive color combinations are essential, and since the dining room is a place of stimulation, a warm light is usually demanded. Depressing tones should therefore be avoided. A progressive restaurant recently said that the room should

Fig. 2. Interior typical of the commercial restaurant. The low-ceilinged room, in which the luminous type of indirect fixture is suspended on short chains, gives excellent lighting results

not be shiny and white. It smacks too much of the hospital, and is trying both on the eye and nerves. The filtering of light through silk, parchment and colored glass, with tints such as amber and rose always give a touch of warmth to the illumination and adds to the sense of comfort.

Fig. 3. Badger room of the Hotel Wisconsin, Milwaukee

The average layman is not usually attracted by details, but he is impressed by the general harmonious effect of the interior. Hence the lighting fixtures for better classes of eating places, especially those to be found in hotels and clubs, cannot be purchased from stock but must be designed to harmonize with the interior furnishings and decorations of the room, as well as to produce proper lighting effects.

There are many public eating places in which a flexible lighting system is necessary because of the variety of functions that are often included in the life of the particular establishment. Means should be provided so that the general illumination of moderate or fairly strong intensity can be produced for such occasions as banquets, and general gatherings. While subdued values of intensity can be obtained for more usual occasions.

Dining rooms, especially in hotels, often serve for the purpose of an assembly room and are used for banquets, conventions and noon day luncheons. On such occasions, it is usually desirable to have a flood of light. Many of these rooms are equipped with wall brackets in addition to the fixtures for general illumination, and almost without exception, when a speaker is addressing the assembly, glaring bracket lights directly behind the speaker's platform are allowed to shine into the eyes of persons endeavoring to concentrate their attention on the remarks addressed to them.

Lighting conditions of this kind are especially

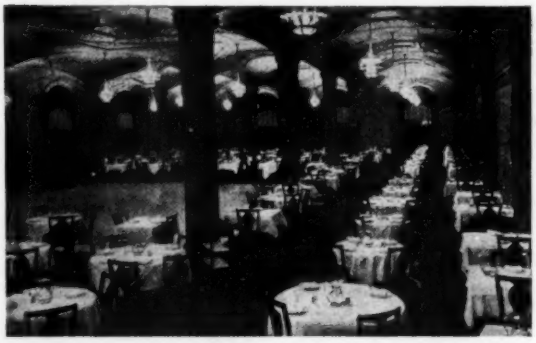


Fig. 4. Main dining room of the Brandies Restaurant, Omaha, Neb., in which the artistic treatment of the lighting unit was given careful consideration

objectionable when the platform is situated at one end of the room and it is almost impossible to seat oneself so that the glaring lamps will be out of the range or vision when looking at the speaker. To sit through an hour facing these lamps is a very uncomfortable experience.

In the planning of banquet rooms, this very important condition should be kept in mind and if bracket lights are desired to avoid monotony they should be well shaded and used principally for the touch of color that they might add in the artistic scheme planned by the architect.

Examples of Modern Lighting Practice

The examples of modern lighting in public eating places that are to be described and illustrated in the following paragraphs have been carefully selected to conform to the classification that was given above.

The Group "A" of the classification included those interiors requiring a purely utilitarian type of lighting. For instance, Figure 1 illustrates an industrial lunch room typical of many of the

larger manufacturing plants. These dining halls are the result of thoughtful planning over a period of years, and in the majority of cases are operated on the cafeteria plan. Good lighting is very essential in order that service be speedy and orderly. It is evident from the illustration that very few artistic considerations are encountered in an interior of this kind, the chief problem being that of supplying adequate and well diffused general lighting.

To illustrate the eating places that come under the second or "B" grouping of the classification, Figure 2 shows a typical commercial lunch room. It will be noted that the luminous type fixture is employed and the arrangement is such as to give a general lighting effect. More consideration is given here to the artistic character of the lighting unit than in the example illustrated in Figure 1.

In the lighting of the cafeteria, one requirement cannot be made to cover the entire establishment. The dining space calls for general illumination, while the space devoted to steam tables requires a more localized lighting treatment. One of the important things to keep in mind is the protection of the eyes of those serving at the steam tables and it is found that the deep bowl type of direct lighting reflector when installed relatively low is admirably adapted for this location. Where foods are to be displayed in their true color values, the daylight lamp is essential and has an important application.

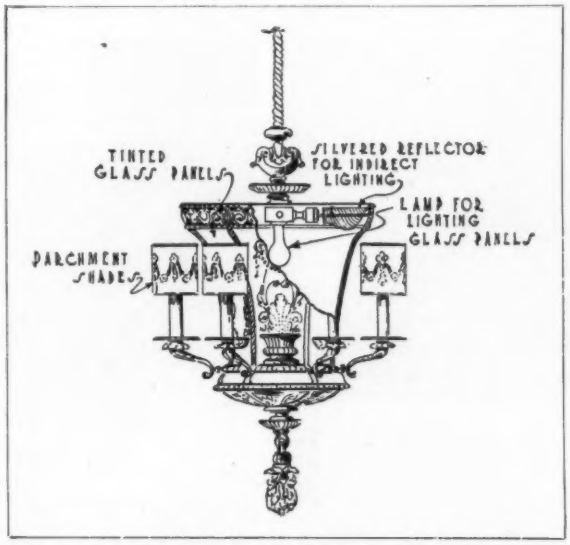


Fig. 5. Diagram giving details of the design and interior arrangement of the Brandies Restaurant fixture

In group "C" in which the artistic predominates a few examples are here given. The architectural details, as well as the lighting arrangements for the Badger room in the Hotel Wisconsin, Milwaukee, are shown in Figure 3. The indirect method employed is supplemented by a series of pendant lights supported on the columns. The lighting fixture is designed to harmonize with the somewhat elaborate treatment of the room. The decorations are brought out in their full value by the lighting method employed.

An example of the most recent type is to be found in the Main Dining Room of the Brandies Department Store, Omaha, Neb. The interior is illustrated in Figure 4 and the details of the interior of the luminaire are shown in Figure 5.

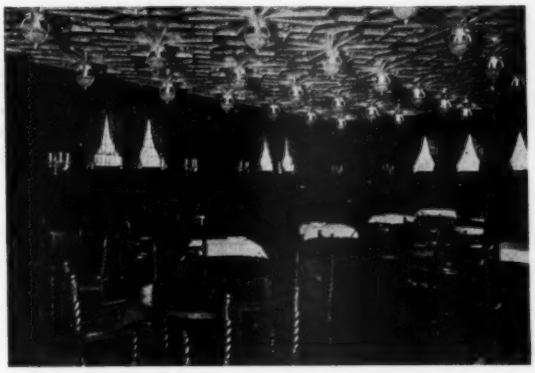


Fig. 6. Unique lighting scheme to be found in the Grill of the Blackstone Hotel, Chicago, Ill.

Fig. 7. Restaurant in which the general illumination from luminous indirect fixtures is supplemented by decorative table lamps

A peculiar type of lighting treatment is to be found in the Grill Room of the Blackstone Hotel, Chicago, as shown in Figure 6. The ceiling here is treated with a conventionalized relief pattern and is lighted by means of a large number of small lamps mounted on the stalactites which pro-

ject into the bowls containing silvered reflectors of special design.

The introduction of the table lamp to supplement the general lighting scheme, is to be found in the restaurant illustrated in Figure 7. In this case, a small lamp within the fixture serves to illuminate the glass panels and convey an idea of the luminous light source which to many, is more agreeable than the dark opaque bowl suspended against the ceiling. The spacing adopted for the units is such as to produce a uniform ceiling brightness. Sufficient intensity of light is provided and more or less distinctive effect is produced in the room.

Fig. 8. Principal dining room of the Union League Club, Chicago. An installation illustrating flexibility in the lighting system

In order to carry out the idea of flexibility, the lighting system in the club dining room of Figure 8 was carefully planned so that at least two intensities of illumination could be easily secured. A moderate intensity may be obtained by using only the candles surrounding the body of the fixture. A still greater intensity is produced when the bowl lights only are turned on and a combination of bowl lights and candles produces a brilliant lighting which is often employed when the room is to be used for special assemblies and gatherings.

A typical example of lighting of public eating places without the use of suspended fixtures is illustrated in Figure 9 which shows a tea room of a class to be found in the large cities, catering especially to the shopper and theatre goer. The lighting pedestal which in this case, is made of composition, contains in its upper bowl, a number of reflectors and lamps that supply by indirect means, a flood of light throughout the entire room.

Fig. 9. The Hopper. A tea room lighted in an unusual manner without the use of suspended fixtures

The application of this method can be successfully carried out in many classes of public eating places. A hotel in Milwaukee, Wis., for example, has adopted this scheme, but has modified the pedestal to conform with what is to be found ordinarily in the home. The hotel dining room illustrated in Figure 10 presents a very homelike atmosphere. In a low-ceilinged interior of this character, the lighting method that has been adopted is especially suitable.

Fig. 10. Good illustration of the use of the indirect portable lamp found in the Stratford Arms Hotel, Milwaukee, Wis.

A hotel dining room similar, as far as the lighting treatment is concerned, to that just described, is to be found in the Copley-Plaza Hotel, Boston, Mass. The illustration in Figure 11 shows this beautiful interior which is oval in shape, 60 feet wide and 80 feet long, illuminated by one central

Fig. 11. Copley-Plaza Hotel dining room, Boston, Mass., with no table lamps or bracket pieces

pedestal containing lamps and reflectors. An installation of this character is especially suitable since it brings out the beautiful ceiling decorations. As an additional illumination feature, lights are provided back of glass panels in the coved portion of the ceiling. It will be noted that in

Fig. 12. Public restaurant in which cove lighting method was employed with success

this particular room, no table lamps or bracket pieces are employed.

One of the most rare methods of lighting to be found in the public eating place is that of cove lighting, an example of which is illustrated in Figure 12. The architectural treatment of the room is particularly adaptable to this lighting method since a natural receptacle for reflector

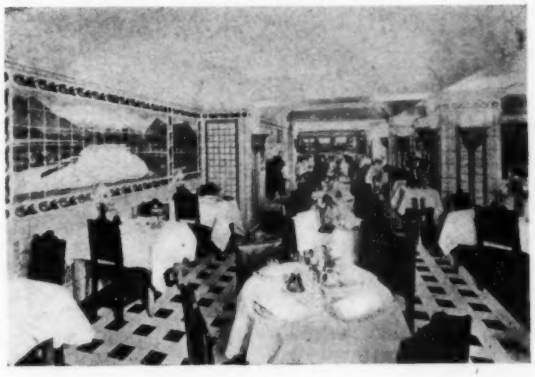


Fig. 13. Teco Inn of Minneapolis, employing bracket type fixture

units is provided in the upper portion of the frieze just above the side wall panels. The high arched ceiling receives the flux from the large number of small units and produces a general lighting effect which is desirable in some classes of interiors of this kind. Unquestionably the interior would be marred by suspended fixtures of any sort. Because of the proportions of the room and the location of the lighting equipment, an extremely uniform ceiling brightness is attainable, which of course, is always desirable in an installation of this kind. The main dining room shown is 29 feet wide and 118 feet long. The ceiling is 22 feet 9 inches high. Reflectors equipped with 25-watt lamps have been spaced about 12 inches apart and flexibility in the lighting has been secured by placing every third light on a separate circuit.

The illustration in Figure 13 is included further to illustrate the diversified methods that may be employed in the lighting of public eating places. There are certain classes of interiors for which this type of lighting scheme can be successfully recommended, especially those having low ceilings. One of the chief advantages lies in the fact that the ceiling is entirely cleared of suspended units of any kind. The interior is therefore given a more roomy appearance. The indirect lighting method also tends to raise the ceiling which is desirable in rooms of this character. All of the

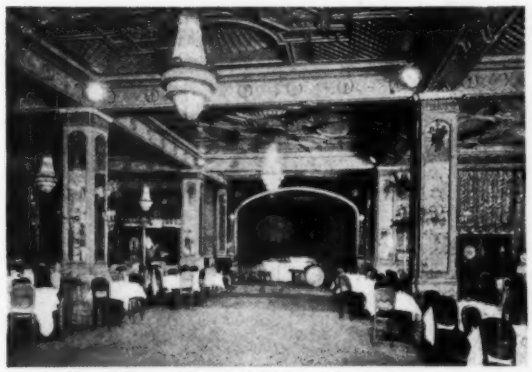


Fig. 14. View in Cafe de Paris, New York, illustrating use of flood lighting projectors for illuminating dance floor

principal illumination in this case comes from wall brackets that have been designed as a part of the decorative columns.

In many of the cafes and public restaurants, dancing is offered as the principal entertainment feature, and in almost all cases, the lighting of the dance floor is considered independently of the general illumination of the room which is usually provided with a moderate intensity. One of the simple means of concentrating light upon the dance floor is illustrated in Figure 14. In this case, projectors of the small type using 250-watt floodlighting lamps are mounted on columns near the ceiling and so directed that the illumination is confined as nearly as possible to the dance floor area. In some instances it is necessary to equip the projectors with shields to prevent a spill of light into the area occupied by the tables. The diagram in Figure 15 gives the details of a typical installation of this character. Standard equipment can in most cases be used for producing the effects desired. There are cases, however, in

which spotlights are used to concentrate upon the dance floor when special exhibitions are given.

The Kitchen

There is a portion of the public eating place, a department of great importance, one which adds much to the comfort and pleasure of the patron, which is practically never seen by him. This is the kitchen. (See Figure 16.) Many places pride themselves on the condition of the kitchen, invite inspection by guests and patrons, and consider that the sanitary and efficient arrangement is one of the best advertising features of the establishment.

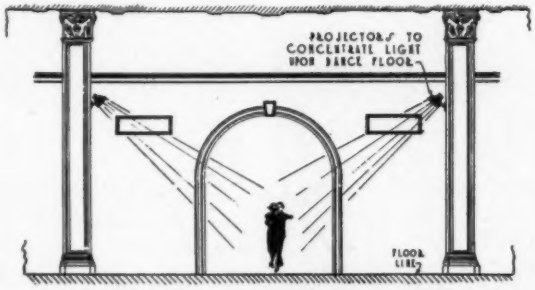


Fig. 15. Diagram showing proper location for projector units for illuminating dance floor area

There is no argument as to the part that good lighting plays in the planning and equipping of the kitchen quarters. There is no better aid to sanitation than sufficient light and there is no better tool to help the chef and his assistants in giving prompt service.

Fig. 16. Typical restaurant kitchen using a luminaire of the enclosing glass type

The requirements of the kitchen as far as the lighting is concerned, are purely utilitarian. There is very little call for artistic treatment in the lighting fixtures and practically only one instance in which color plays a part in the illumination and that is in the inspection of vegetables, butter and other materials that are used in preparing the meals. Oftentimes a daylight effect is desirable in order to facilitate and insure accurate inspection. Under some forms of artificial lighting, defects and adulterations cannot be detected, which are at once discovered when the proper color value is maintained.

The systems of illumination in general use for kitchens employ the direct and indirect lighting methods. The style of fixture that seems to be the most satisfactory for use where maximum visibility is demanded, is a deep bowl reflector containing a 100 or 150-watt gas filled lamp. The points which require special attention are the dish-washing unit, ranges, tables where salads and desserts are prepared, as well as the meat cutting and preparing tables. In most cases a wattage expenditure of 1 watt per square foot will provide plenty of light for all operations. When open reflectors and shades are used, the gas filled lamps should be treated with a translucent coating of white enamel on the bowl where there is any chance that the lamp will come within the line of vision of anyone working in the kitchen quarters. Indirect lighting has been very successfully used in many kitchens, especially with the totally opaque type of unit.

General Notes on Intensity

It is interesting to compare the recommendations that have been made for intensities of lighting in public eating places, with those actually found in restaurants, cafes and lunch rooms.

By taking averages of the recommendations to be found in the current books on illumination, the bulletins of the lamp manufacturers, and the hand books of associations such as the National Electric Light Association, we find that for cafes for instance, an average of 3 foot-candles is specified as desirable, for dining rooms 3½, for restaurants 4, for lunch rooms, slightly less than 4, kitchens about 3½ and lobbies and rest rooms in connection with restaurants, slightly more than 3. In other words, a general average of less than 4 foot-candles for public eating spaces.

A hasty survey of a number of representative establishments in Chicago, gives us the following information as far as intensity measurements are concerned. Lunch rooms of the cheaper class average 2½ foot-candles. Standard lunch room 4½, cafeterias 4, club lunch rooms 6, hotel dining rooms 5, commercial restaurants 4, restaurants of specialized type such as Chinese restaurants, etc., 2, department store restaurants 1½, tea rooms 1; all higher than recommended.

A FACTORY BUILDING WITH MAXIMUM WINDOW WALL SURFACE

THE value of daylight in manufacturing processes is shown in the extensive use of steel sash windows. The cost compares favorably with brick and other wall material, while the additional heating cost during a few months in the year is offset by the value of the natural lighting.

In the new building added to the plant of James Lees & Sons Company at Bridgeport, Pa., the walls are almost entirely of glass. This new building, which is an addition to the present plant, will be five stories and basement in height; 121 feet wide by 253 feet long with a total floor area of about 180,000 sq. ft., and will be used for the manufacture of worsted yarns. It is of reinforced concrete flat slab construction, the top wearing surface of the floor being of maple. The exterior walls will be of brick with terra cotta ornament.

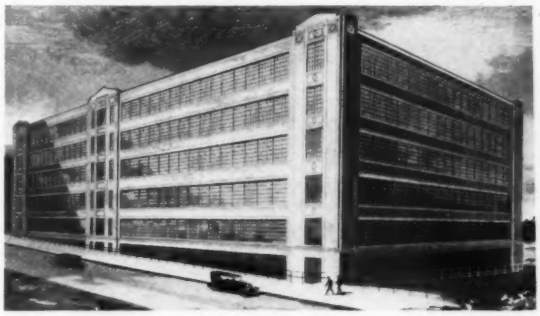


Fig. 1. New factory building for James Lees & Sons Company, Bridgeport, Pa.
The Ballinger Company, Architects and Engineers

The unique feature in the construction consists of the omission of exterior wall columns, permitting, if desired, an unbroken line of light around the entire building except where broken by stairways or other features.

By reference to the accompanying illustrations it will be noticed that apart from the center and corner pylons which have been added to the façades to give an architectural effect, there is a total absence of pilasters, thus permitting the steel windows to be made continuous. This results in admitting an unusual amount of light to flood the interior of the building, adapting it to the purposes of manufacturing which in this case required a building 120 feet wide without an excessive story height.

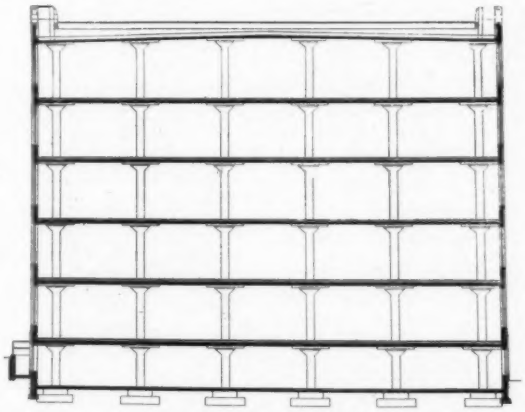


Fig. 2. Longitudinal section of new building for James Lees & Sons Company, showing cantilever construction of floors

This unbroken extent of window space was obtained by making use of the well known engineering principle of the cantilever. The first row of interior columns is placed five feet back from the wall, the concrete floor slabs extending beyond the columns to the wall line, the structural walls under the windows being built directly upon the projecting floor slab.

This ingenious method gives not only a maximum of daylight, but by the elimination of the wall columns, the concrete work is simplified and together with the economy obtained by making use of the cantilever principle, results in a considerable saving in cost in the construction of every part of the building.

Another advantage resulting from the omission of the wall columns with their projections on the inside of the building, is that the installation of work benches and other equipment as well as the radiation for the heating system is greatly facilitated.

The new building is expected to be ready for occupancy on February 1, 1923. The Ballinger Company, Architects and Engineers, Philadelphia and New York, designed the building and has charge of construction.

Duralumin

THE wonderful alloy, duralumin, according to *Laboratories' Data,* which is destined to play a most important role in the construction of all-metal airplanes, is composed of aluminum, copper, magnesium and manganese. Its specific gravity is from 2.80 to 2.85 and out of it an airplane can be built weighing 20 per cent less than a similar plane made of wood and fabric having the same factor of safety. After properly annealing by heating from 350 to 550°C and quenching in water or oil, it becomes plastic and may be forged, cold-drawn, stamped or rolled.

One of the strangest characteristics of this alloy is that after being formed in its final shape its hardness and ductility may be increased from 15 to 50 per cent by heat treatment. This consists in heating for a few minutes at temperatures from 400 to 520°C (752 to 968°F.) and quenching in water. No perceptible difference is noted at first, but while aging for several days the change takes place. If heated above 550°C (1022°F.) it becomes hard and brittle.

The tensile strength ranges from 50,000 to 85,000 lb. per sq. in. and the elongation from 25 per cent to 3 per cent, decreasing as the tensile strength increases. Duralumin resists corrosion well and has approximately 35 per cent of the electrical conductivity of copper. Its density varies from 2.75 to 2.84 and its melting point is about 650°C. (1202°F.)

White Pine Blister Rust

THE great white pine regions of Idaho, which contain 19,305,000,000 feet of western white pine, are held to be in immediate danger of infection by white pine blister rust.

The white pine blister rust was introduced into the northeastern states by importation of diseased white pines from Europe about twenty years ago. Eradication in the eastern white pine forests, extending through the northern states from Minnesota to Maine is now considered impossible, fighting it being confined to the protection of individual stands by the eradication of all currant and gooseberry bushes growing among the trees or within 900 feet of them. In Europe the rust has long since prevented the growing of the white pine as a forest bill. In some of the New England forests as many as three-fourths of the trees are already infected. Every infected tree is doomed, young ones succumbing rapidly and older ones holding out for a number of years.

The blister rust, which does not affect any but the five-needle pines, is not transmitted directly from tree to tree but has to find an intermediate "host," in the cycle of its propagation, in currants and gooseberries. There are some sixty varieties of such bushes in the western forests in addition to domestic varieties, and they grow among an unbroken chain of five-needle pines from the Canadian line south into California. It is therefore considered certain that if the rust gets a foothold before it can be exterminated it will eventually reach every portion of the western white and sugar pine forests.

Should the rust get well into the Idaho forests there will be nothing for the lumbermen to do but to cut the timber as rapidly as possible in order to save the lumber before it is too late. This will naturally result in a widespread disturbance of the whole western pine lumber industry, whether white or yellow, as it will be impossible for lumbermen in the immune or non-infected districts to compete with the forced, wholesale marketing of Idaho pine. Then when Idaho is cleaned up, they will have to face a like fate themselves.

A New Wood Preservative

ACCORDING to a writer in *Chemical and Metallurgical Engineering* a Belgian inventor has succeeded in producing in soluble form a mixture of ammonia, copper, zinc and phenol and it is extensively used under the trade name of aczol. It is entirely soluble during impregnation and precipitates while the wood is being permitted to dry in the air. The ammonia simply acts as a carrier of the other ingredients and evaporates during the drying process. The sap and ligneous material is soluble in aczol and this liquid is replaced by the precipitated phenolic salts of copper and zinc.

It is claimed that the impregnation of wood with aczol can be conducted without the use of vacuum and without heating the material. Wood impregnated with aczol is said to be very strong, due, probably, to the cementing action of the salt in and around the wood fiber. It is clean, dry, odorless, and fire-resisting, and can be tooled and worked exactly as untreated wood. The material is manufactured in rather concentrated form and is diluted—six parts to ninety-four parts of water—in the field. It has been used with great success for about ten years in Belgium on mine timbers, wood paving and railroad ties.

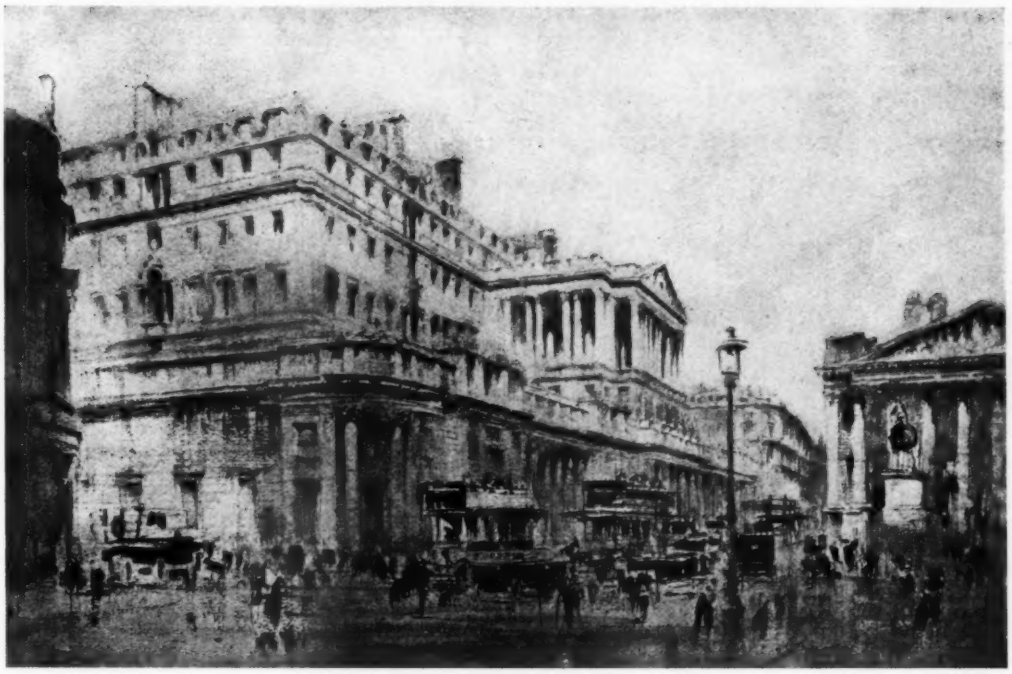
City Planning Problems in Philadelphia

ARCHITECTS and public spirited citizens interested in forwarding the cause of city zoning, will obtain many ideas of value from a perusal of the Thirty-third Annual Report of The City Parks Association of Philadelphia. The address of the Association is 701 Stephen Girard Building, Philadelphia, Pa.

American House Plans in Europe

THE French Society of Garden Cities is arranging to translate into French and distribute throughout Europe the well known publication "Modern Homes," issued by the Southern Pine Association, New Orleans, La. The Association announces that at least 50,000 small homes have been constructed throughout the United States the past year from designs and plans shown in this book.

From "The Architects' Journal," London



Proposed Rebuilding of the Bank of England
Herbert Baker and F. W. Troup, FF. R. I. B. A., Architects

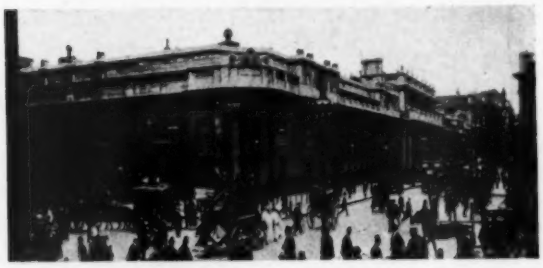
REVIEW OF RECENT ARCHITECTURAL MAGAZINES

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

IN *The Architects' Journal,* London, August 2, there is an article on the rebuilding of the Bank of England, a subject which is of interest to every American who has been in London and to every architect who has not. "The Old Lady of Threadneedle Street" is not only a national, but an international institution, and any proposition to alter the appearance of the Bank is bound to raise a storm of criticism. Like all financial institutions it has outgrown its quarters; in fact the surprising thing is that it has not been enlarged before, but apparently the congestion is now so great that something must be done; either the building must be added to materially, or it must be demolished and an entirely new modern building erected, as the idea of moving the Bank of England to another site has probably never been contemplated, nor would it be tolerated for a minute if it had. The Bank, as everyone knows, is in the heart of the City and comprises the entire block from Threadneedle Street to Lothbury, with a frontage of approximately four hundred feet on each of these streets, and is directly in front of the Royal Exchange and diagonally across from the Mansion House. "The original Bank," according to Mr. Bolton in the *Journal of the Royal Institute of British Architects,* "as built by Sampson, had been extended by Taylor in the form of two low wings. The work consisted of single story halls very much like the interior of St. Martin's in the Fields and of similar lath and plaster construction." In 1788 William Pitt, the Prime Minister, appointed John Soane architect of the building to succeed Sir Robert Taylor. Soane made a careful survey of the existing structure and found it was in a bad state owing to imperfect construction and dryrot and "proposed," according to Mr. Bolton, "the rebuilding of the Eastern portion in fireproof construction, using stone, brick and fire clay pots for piers, arches, vaults and domes. The first part was finished coincident with the death of Sir Wil-

liam Chambers in 1796." As may be seen from the plan herewith reproduced the present building consists of a jumble of ill related rooms and courtyards, built at different periods and of different heights, and the only way to harmonize the exterior of these structures was to surround the whole

From "The Architects' Journal," London

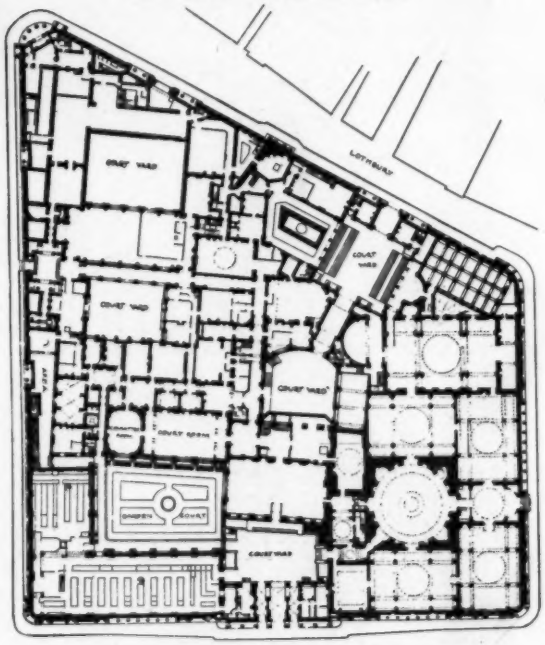


The Bank As It Is

plot with a screen wall unpierced by windows. In the adoption of this scheme Soane may have been influenced by the Parliament House in Dublin, better known perhaps as the Bank of Ireland. This building, as well as the Bank of England, was a conglomerate structure of several periods; and in 1785, three years before Soane undertook his work in London, James Gandon erected the circular East wing, which is a screen wall, decorated with engaged Ionic columns, connecting the original recessed front portico with the entrance to the House of Lords, and by this means completely concealed the irregularities in plan. In point of fact, directly back of Gandon's screen wall there is merely an irregularly shaped courtyard. I have no authority whatever for the statement that Soane was influenced by Gandon. The scheme was a perfectly natural one in both cases and is not absolutely original with either of these gentlemen. I only mention the fact as a coincidence, and because the screen wall of the Parliament House, according to my information, was built a short time before the Bank. In any event, there can be no question but that the Parliament House is the better architecturally.

I have never particularly cared for the screen wall of the Bank of England. It is extremely interesting, to be sure, but I fancy its chief interest lies in the fact that it *is* the screen wall of the Bank of England, and because it is low, and because it has been pulled together and softened by the hand of Time. The Threadneedle Street façade, for instance, contains too many elements. These elements repeat, it is true, so that there is practically an absolute symmetry across the entire front, but the front is so long and so obscured in part of its length by other buildings that the eye cannot appreciate this symmetry. In other words, it is paper symmetry. Then, too, Soane could not resist his impulse to put queer little projections and breaks on the top of his buildings, and to "tattoo," as Mr. Richardson says, "his buildings by means of grooves and key patterns." This practice of his is more noticeable in some of the interiors of the Bank than on the front, and can be seen in its extreme in the façade of the row of houses he built in Lincoln's Inn Fields, one of which was his own house, and is now the Soane Museum. Still, whatever may be the defects of the façade of the Bank of England, the fact remains that it is an interesting building of some

From "The Architects' Journal," London



Present Plan of the Bank of England

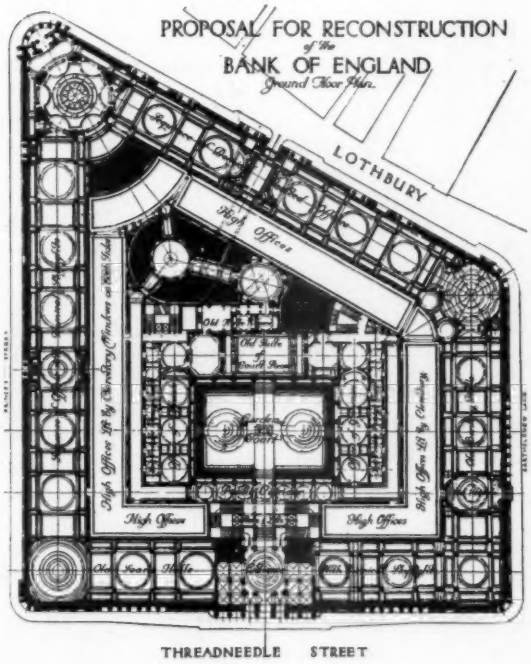
antiquity and known the world over. There is hardly a banking room from New York to the Golden Gate that is not decorated with a lithograph of the front of the Bank of England, and of the Paris Bourse; and it would be a rash man indeed who would advocate its destruction.

The Board of Directors of the Bank have consulted the President of The Royal Institute of British Architects, and have secured sketches for the reconstruction from Mr. Herbert Baker, F.R.I.B.A., and Mr. F. W. Troup, F.R.I.B.A., the sketches appearing in *The Architects' Journal* and reproduced herein. From Mr. Baker's report I quote the following:

"The proposal under consideration by the Directors includes the retention in its entirety of the outside blank wall with such of Soane's rooms as lie behind it, and the construction of a sequence of similar rooms behind the old wall right round

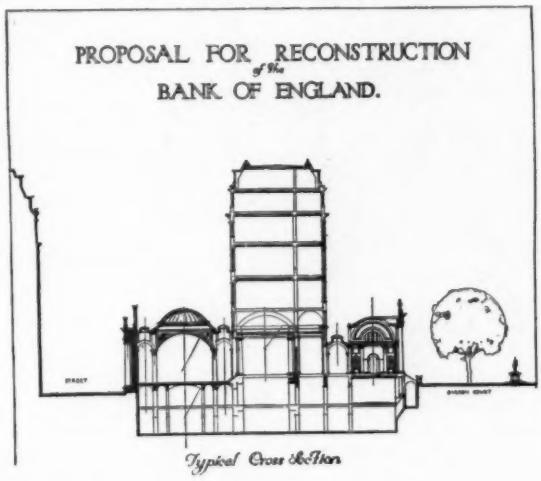
the perimeter of the site. A feature of characteristic beauty in the Bank is the open Garden Court on the site of the old churchyard with its venerable tree and Taylor's old Court Room looking out upon it. This small court, however, if the walls round it are raised, would lose its light, its tree, and its charm. It is therefore proposed to build a larger open court in the center of the site where it will best fit the organism of the building, and to reconstruct on the North side of it, with the same Southern aspect as of old, Taylor's old Court Room with its attendant Committee Room and as many of the attractive little ante-rooms as may be possible. It will be between this inner court and the outside sequence of Soane's banking halls that it is proposed to rear the new inner building to the fullest height which may be held to be legitimate and advisable for the architectural harmony of the building as a whole, and for the

From "The Architects' Journal," London



light and health of the surrounding narrow streets and buildings. It has been considered that such a plan, while retaining what is of the greatest value in the old building, will give at least as much accommodation on the ground floor as would be possible in any scheme of reconstruction, and on the upper and basement floors sufficient well lit and ventilated office space for the future needs of the Bank. Most sympathetic consideration has been given to the retention of the Rotunda, but it has been considered that the retention of its great masses would involve too serious a sacrifice of space and efficiency. But there are throughout the building many ingeniously vaulted rooms and corridors, and it is hoped that after more prolonged study of these and of the requirements of the new building, it may be found possible to set in the new building some more gems

From "The Architects' Journal," London



of the art of Soane, or of Taylor, or even of Sampson. It must be understood that the drawings now published in no way represent any final solution, and have been prepared only as illustrations of the very complex problems involved in the rebuilding scheme. The plan illustrates the three main features herein described, the outer sequences of top-lighted rooms, the new inner court, and the high building between them. The section is intended to illustrate a possible method of lighting through the great width of continuous offices. The perspective illustrates the general appearance of such a building, and presents only a possible solution of the problem of connecting the old and new high building in some way that will give visible architectural expression to the unity of the building and the sense of the continuity of the life of the Bank."

As can be seen from the subjoined plan, the screen wall is about the only thing that is left, with the exception of certain minor rooms. There is no plan published of the proposed new building, above the screen wall, and it is a little difficult to decide from the plan just what will be the extent of the superstructure, but the main consideration is how this superstructure will affect the façade. The charming little perspective is too sketchy to give a very definite idea of how the completed building will look, but it is my impression that it would not be successful. I feel very sure that the portico superimposed over the Threadneedle Street entrance would project entirely too far from the

main block to be effective in composition, and that far from connecting the two elements as intended, it would serve to disassociate them still further. Then, too, the fenestration of the tall superstructure, pierced as it is with numerous windows, would be absolutely out of character with the screen wall.

A proposition has been advanced in a subsequent number of *The Architects' Journal* under date of August 9, which seems to be a better solution, and from which I quote:

"Personally, as we have said, we should prefer to have seen the new structure finish two stories below the present proposed height, crowned with a strong cornice and a flat roof, with, if possible, the corridors on the external wall, with the windows in this wall reduced to a minimum and the main rooms lighted from the central courtyard."

It may be that this scheme would not give the accommodations that the Bank demands, and it may be also that such a great wall, unpierced with windows, would be too heavy for the relatively small scale of the screen wall, but it seems unquestionable that some such scheme, if practicable at all, would be the true solution of the problem. The floor plan which Mr. Baker has presented is simple, and monumental, and the method of lighting the inner rooms is ingenious.

From "The Architects' Journal," London

The Port of London Authority's New Building, Trinity Square, London
T. Edwin Cooper, F. R. I. B. A., Architect

Two of the best arguments that can be advanced against the demolition of the screen wall of the Bank of England are the new buildings for the Common Council and for the Port of London Authority, and a dispassionate view of either or both of these structures would convince any skeptic that it would be better to leave well enough alone. The latter building, a cut of which we herewith reproduce from *The Architects' Journal* of October 18, is the outcome of a competition held in 1912 and won by Mr. T. Edwin Cooper, F.R.I.B.A. It is very large and very elaborate, costing somewhat over two million pounds, and has a very good setting, being on Tower Hill opposite the Tower of London and facing on an attractive park. The plan of it is good, extremely good, and the general conception is fine, but the development of the design is not worthy of the conception; the order is clumsy and the crowding of the two large columns into an already small pavilion is as unnecessary as it is unfortunate. The tower is imposing when seen from a distance, and is really much better in silhouette than it appears in the cut, but the main fault of it is the common fault of most new public buildings abroad or in this country either, the effort to strain an order to fit a five story building. Frankly, it can't be done. On a competition drawing you can get away with it, by accentuating the shadows of the columns and not rendering the windows, but in light colored stone murder will out, and the windows will persist in being windows. Hence the advantage of a screen wall when there are no windows. Really, the only public building of five stories that could be treated with an order would be a Home for the Reception of Indigent Blind.

Every nation which has taken a part in the Great War will at some time build a War Memorial. That is evident, but what form the memorial will take is not evident. The war was so much more terrible than any other war, and the sacrifices were so much greater that inevitably the memorial, to be appropriate, must be finer and greater than the memorials of other wars. How this can be accomplished is a question that no one can answer yet. Eventually it will be answered. Italy has tried to answer it in the approval by the Memorial Committee of a scheme by Eugenio Baroni. As a scheme it is a grand one, and like most grand things very simple. It is the building of a gigantic cross in white marble upon a hill, the famous Monte S. Michele, near the Isonzo, so situated that viewed from either side of the valley the cruciform shape is clearly distinguishable, the general impression being as shown in the drawing which is reproduced from *The Architectural*

From "The Architectural Review," London

A National War Memorial for Italy

Review of London. The structure is not high, but the great extent of it calls for a cubic content of 163,000 cubic meters. There is a central mass which contains the Ossarium, and two wings along the ridge of the hill, while two great stairways on each slope form the upright of the Cross as it is seen from the valleys, and on these stairs are large, sculptured groups typifying the Stations of the Cross, and on the summit a symbolical composition of enormous size which the author calls The Scythe of Death. It is, as I have said, a great conception, but whether it will be a great memorial is another thing. Seen from a distance and from the right point of view it would be superb, but from another point of view or near at hand it may fail. The sculpture would seem from the sketch models to be decidedly modernistic, and not particularly well composed, and the effect bizarre. But aside from all that is the question of the site. Should a national memorial be placed on a lonely battlefield where it can be seen only by those who can afford the journey, or by the fortuitous few who are its neighbors, or should it be in or near some great city where it is a constant reminder of the nation's sacrifice? It is a grave question, and the answer is not yet.

The Surviving Arch of Old London Bridge

A CORRESPONDENT of *The Observer,* London, recently sent in the following interesting contribution:

"Were it not for the distractions of the hour, it cannot be believed that there would be any risk of one of the most hallowed relics of London's history being callously destroyed. Yet this seems to be in prospect unless the pressure which the Society for the Protection of Ancient Buildings brings upon Sir Robert MacAlpine at its interview proves strong enough to gain a reprieve for the surviving arch of the original London Bridge. When one speaks of 'the original London Bridge,' one alludes, of course, to stonework. There has always been a London Bridge as long as there was a London. There would have been no London without the bridge. It was simply the town at the bridge-head. None of London's institutions is in an equal sense 'bone of its bone.' It was already a world-famous institution when it was mentioned by Dante.... The bridge of which the last arch, recently brought to light on the North side of the river, is now threatened, dates from about the year 1200. It withstood the hand of time for six centuries. This relic ought to be as sacred as anything in London's Architecture. The contractor in whose hands the decision appears to lie shows himself not insusceptible to the claims of history, since he is willing to remove the stones and put them together again elsewhere. But the proposal, while well meant, misses the essential point. A monument is not of masonry alone; it is the masonry plus the site. Every lover of London's past must feel that to remove this arch, except under some overwhelming necessity, is in a very real sense the destruction of a piece of history itself."

The Education of a Beetle

THE beetle which has been responsible for so much damage at Westminster Hall has, we learn from *The Architect,* of London, also turned its attention to Staple Inn, where the oak work of the roof of the Hall has been attacked and in some places reduced to a fraction of its original substance, while the soft wood adjoining has been left untouched. This is unfortunate, and what seems to be required is a course of artistic education for the destroyer. An insect which would commence its operations on badly designed buildings and destroy their substance would be invaluable to the cause of architecture. There would also be this added advantage, that badly designed buildings are not few and far between and the educated beetle would have greater opportunities than his ignorant colleague. What is required is first to train the beetle to enjoy a soft wood diet and then confine him to the contemplation of some of our monstrosities. In this manner a useful habit might be built up.

COOPER FREE PUBLIC LIBRARY, CAMDEN, N. J.

WALTER T. KARCHER & LIVINGSTON SMITH, Architects

(For illustrations of this Library see Plate Section)

THIS building was a gift to the City of Camden by Mr. Eldridge R. Johnson, President of the Victor Talking Machine Company. The gift was conditional in only one major point—that the building be used for a free library for the people of Camden.

Originally on this public square stood the old Cooper homestead, a rather dilapidated building of no particular style, having as its sole claim for merit the fact that it possessed four walls and a passably rainproof roof. Upon the completion of the new structure this old building was demolished and a wading pool now occupies its site.

The donor of the new building required that it not only satisfy all requirements of the library board and furthermore be dignified and monumental in character, but also that it be so well constructed that it would last for centuries.

The library board desired in this particular case the open shelf type and a plan that would permit of a minimum of personnel in operation. By means of a librarian's desk centrally located in the main room opposite the entrance vestibule and the very open triple arcade connection between the main room and its adjacent reference room on one end and children's room on the other, this condition was satisfactorily solved, and, in fact, in an emergency this library could be efficiently run with one attendant.

The type of architecture selected and the use of an order of large scale considered in connection with the particularly favorable site in the center of a city block immediately gave the building the proper dignity and monumental character.

The type of construction selected was wall-bearing steel, fireproofed. In fact comparatively very little steel was used in this building. The massive walls all carried straight up and the only steel necessary was that required for lintels and roof rafters. All walls both exterior and interior are of masonry, all floors and roof of reinforced concrete slab.

Limestone is used throughout on all four sides of the exterior. Granite is used for the steps. All window frames and sash and the exterior lamps are of bronze. The roof is covered with red quarry tile, in order that the building may not look unsightly when viewed from above from any overlooking office buildings or apartment houses. Incidentally, a feature of the base of the building is the stone seat that entirely surrounds the library. The use of such a seat-formed base may be recalled in some of the picturesque palaces of Sienna. It is not only effective architecturally in this case, but situated in a public square as this building is, it is a most practical and greatly appreciated feature.

Another distinctive element of exterior treatment is the glass mosaic frieze back of the large columns of the front portico. This frieze extends entirely across the front, is over fifty feet in length and seven feet high. No piece of glass in this frieze is over three-quarters of an inch in size. It was executed by Nicolo D'Ascenzo. The use of a colored frieze in this position relieves the dull monotony of the usual grey wall back of such a colonnade and gives a richness to the shadow that is decidedly unusual and most pleasing. A row of electric lights concealed above the architrave within the portico permits this frieze to be lighted at night with striking effect.

In the interior, the first floor is covered throughout with cork tile, all bookcases are of metal, main stair rail to auditorium of bronze, all toilet rooms lined with tile with fixtures of best make.

The building is heated by twin boilers which can be used separately or in combination, is ventilated by a fan system, has a vacuum cleaner system, and a synchronated clock system.

After the completion of the building proper, Mr. Johnson decided to improve its setting by properly embellishing the square. The planting which had originally been very haphazard was thoroughly rearranged, a limestone balustrade with limestone seats placed around the library, a fountain of pink Kasota marble erected in front of the portico with an esplanade cut through to the street and a wading pool toward the street side. New park lights were installed and the entire square lighting revised. The fountain is so constructed that the water circulates through a deep reservoir and plays continuously day and night. The type of ornament on this fountain diverges from the usual classic details. Here are seen water leaves and lilies, frogs and turtles, shells and fish of various kinds, seaweed and nets, so that not only the water but the detail is equally playful.

BEAUX-ARTS INSTITUTE OF DESIGN

ARCHITECTURE, RAYMOND M. HOOD, DIRECTOR—SCULPTURE, JOHN GREGORY, DIRECTOR
INTERIOR DECORATION—ERNEST F. TYLER, DIRECTOR
MURAL PAINTING—ERNEST C. PEIXOTTO, DIRECTOR

Special Notice to Students

BEGINNING with this number and by special arrangement with the Society of Beaux-Arts Architects, there will appear in each issue of THE AMERICAN ARCHITECT *an average of five pages devoted to the presentation of drawings selected from the Beaux-Arts Institute of Design exhibitions, and also the listing of awards and the promulgation of all notices to students. These matters will be exclusively presented to students of the Beaux-Arts Institute of Design through the pages of* THE AMERICAN ARCHITECT. *By arrangement with the publishers of* THE AMERICAN ARCHITECT, *a special student subscription rate of $5.00 per annum has been secured. Further particulars with reference to this service to Beaux-Arts students may be obtained by addressing* THE AMERICAN ARCHITECT, *243 West 39th Street, New York City.*

OFFICIAL NOTIFICATION OF AWARDS
JUDGMENT OF NOV. 14TH, 1922
CLASS "A"—I PROJET
"A NATIONAL TENNIS CLUB"

In a park on the outskirts of one of our large cities it is proposed to erect a tennis club which shall be devoted exclusively to important championship tournaments.

For this purpose therefore the club shall consist of a club house and three courts, the courts to be surrounded on three sides by stands for spectators with the club house on the fourth side. A natural depression in the site permits of the building of the stands against its sloping sides with the courts at the bottom, but this lower level should not be more than 15'-0" below the level of the surrounding park. The club house itself shall be provided with lounge rooms, lockers, showers and the usual facilities for the players, and also a restaurant where lunches for the players and a restricted public may be served. The kitchen should be ample in size and so located that refreshments may also be served to the public on terraces or porches overlooking the courts, or in the gardens about the club house.

The property available for the above requirements, a square measuring 275'-0" on a side, is so located in the park that roads will give access to the stands on all sides if desired.

Particular attention is called to the fact that in this problem a single control of the public is not necessary, as in nearly all matches of importance the sale of the seats is handled outside of the club itself, and only a relatively small number will be sold at the gate.

JURY OF AWARDS:—R. M. Hood, H. O. Milliken, W. Warren, J. M. Howells, F. A. Godley, J. W. O'Connor, P. A. Cusachs, H. W. Corbett, F. C. Hirons, P. P. Cret, H. Sternfeld, A. E. Flanagan and G. M. Simon.

NUMBER OF DRAWINGS SUBMITTED:—105.

AWARDS:—

SECOND MEDAL:—O. M. Olsen, Carnegie Inst. of Tech., Pitts.; R. F. Larson and A. D. Carroll, Univ. of Penna., Phila.; P. E. Isbell, Yale Univ., New Haven.

FIRST MENTION:—G. N. Pauly, H. C. Brockman, L. E. Considine, C. E. Landefeld, E. O. Anderson, C. W. Hunt, J. J. Keil, D. D. McGervey, J. Todd, G. A. Brink and W. J. Perkins, Carnegie Inst. of Tech., Pitts.; W. L. Suter, Chic. Sch. of Archt., Chicago; S. R. Moore, A. F. Deam, E. Albright, A. Marshall, J. Aronson and A. Ehrenrich, Columbia Univ., N. Y. C.; W. H. Speer, C. F. Bieler and E. W. Kress, Atelier Denver, Denver; R. DeGhetto, Atelier Hirons, N. Y. C.; J. B. Watterson, John Huntington Poly. Inst., Cleveland; J. E. Stanton, Los Angeles Archtl. Club, Los Angeles; H. A. Martin, Syracuse Univ., Syracuse; A. Egeressy, "T" Square Club, Phila.; H. B. Davis, Univ. of Illinois, Urbana; L. R. Price, H. J. Toombs, D. C. Cleland, A. L. Hawes, L. Rombotis, R. Ruhnka, A. E. Poor, F. L. Hutchins and S. Chao, Univ. of Penna., Phila.; H. F. Neville, Univ. of Kansas, Lawrence; E. L. Babitsky, Atelier Wynkoop, N. Y. C.; W. Douglas and A. G. Clay, Yale Univ., New Haven.

SECOND MENTION:—H. C. Kreisle, J. N. Franklin, E. W. Klee, C. B. Marks, V. N. Stromquist, W. Harris, R. Patterson and M. D. Smith, Carnegie Inst. of Tech., Pitts.; A. Clark and O. F. Cerny, Chic. Sch. of Archt., Chicago; W. E. Page and W. Conley, Columbia Univ., N. Y. C.; R. L. Linder, Atelier Denver, Denver; P. Simonsen and H. Van der Lyn, Atelier Hirons, N. Y. C.; W. L. Moody, Los Angeles Archtl. Club, Los Angeles; P. Goodman, Atelier Licht, N. Y. C.; M. Sillani, Atelier Parsons-Chic. Archtl. Club, Chicago; J. B. McCool, San Francisco Archtl. Club, San Francisco; G. P. Turner, "T" Square Club, Phila.; L. S. Young, F. M. Baldwin and W. E. Willner, Univ. of Penna., Phila.; A. H. Goddard, A. L. Muller and H. B. Marsh, Atelier Wynkoop, N. Y. C.

H. C.:—R. Trow, E. A. Johnson, W. L. Dalrymple, R. F. Houlihan and E. Fuhrer, Chic. Sch. of Archt., Chicago; J. W. Walker, Columbia Univ., N. Y. C.; A. O. Ahlberg, Atelier Denver, Denver; G. S. Holderness and V. Balikjian, Atelier Hirons, N. Y. C.; A. A. Zakharoff and A. J. Schoening, Atelier Parsons-Chic. Archtl. Club, Chicago; G. M. Beal, Univ. of Kansas, Lawrence; E. D. Everhart, Univ. of Virginia, Charlottesville; V. M. Reynal, Yale Univ., New Haven.

CLASS "A"—I ESQUISSE-ESQUISSE
"A MEMORIAL DOORWAY"

In memory of a president who has built his college up from a small college to a great university, the alumni have decided to erect a memorial doorway. The doorway should therefore be of a character and distinction that will typify and properly commemorate his long and faithful service for the college.

For this purpose the existing doorway of the administration building is to be replaced, but as the wall in which it occurs is a blank wall, there are no limitations to the design of the new doorway, other than that the entire motive shall not exceed 20'-0" in width and 25'-0" in height.

JURY OF AWARDS:—R. M. Hood, H. O. Milliken, W. Warren, C. H. Aldrich, P. A. Cusachs, F. R. King and H. Sternfeld.

This Jury also served as Jury of Awards for: Class "B"—I Esquisse-Esquisse and Class "A" and "B" Archaeology—I Projet.

NUMBER OF DRAWINGS SUBMITTED:—59.

AWARDS:—

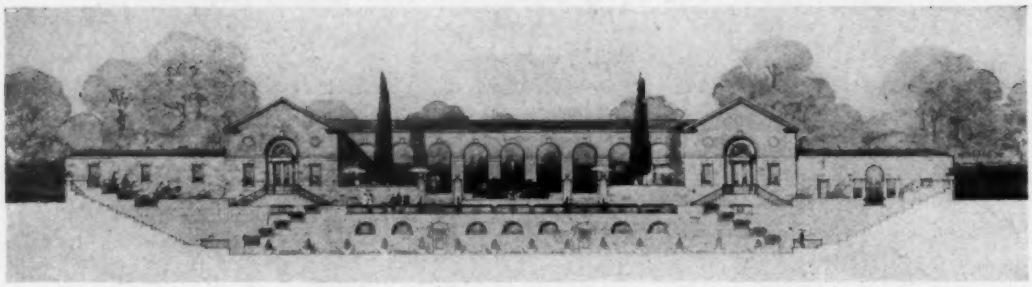
FIRST MENTION:—P. Goodman, Atelier Licht, N. Y. C.

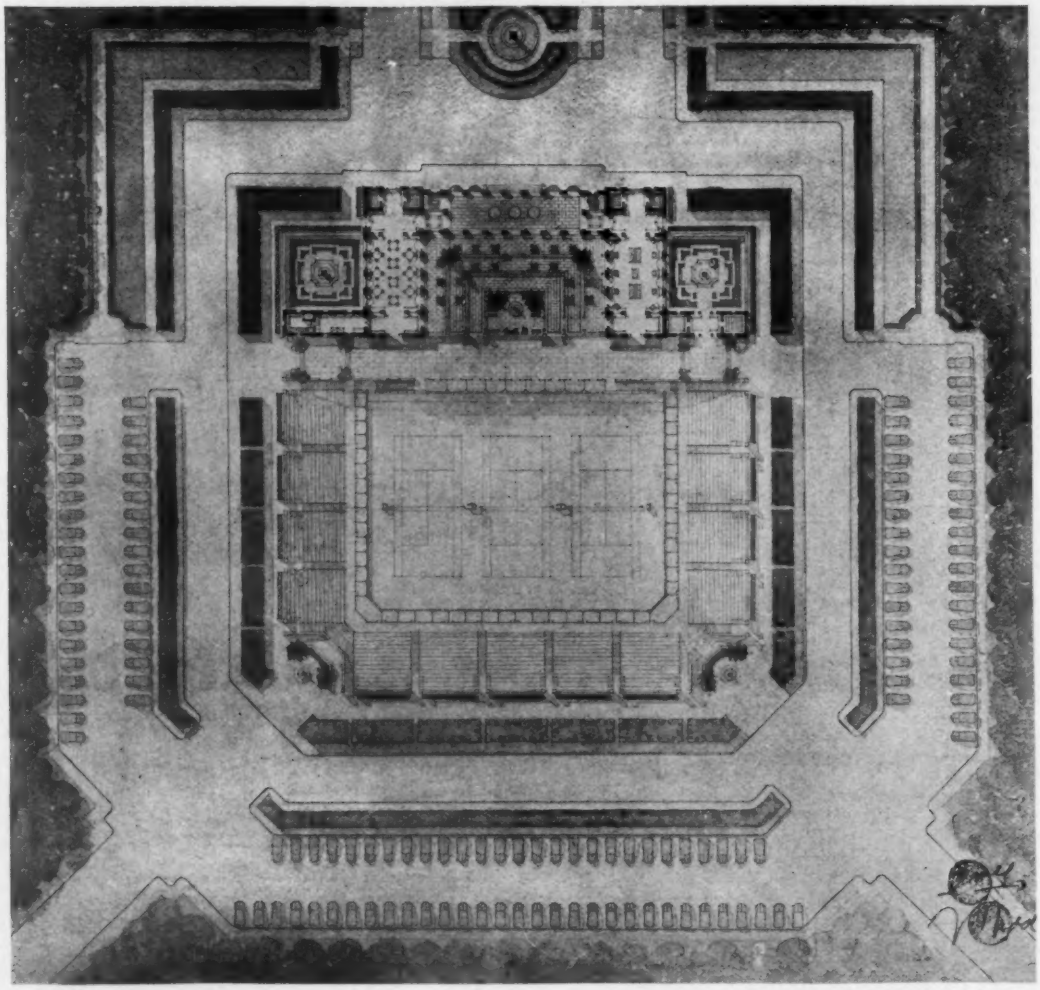
SECOND MENTION:—W. Conley, Columbia Univ., N. Y. C.; J. J. Keil, Carnegie Inst. of Tech., Pitts.; T. E. Hibben, Atelier Daggett, Indianapolis; E. A. Lehti and W. Douglas, Yale Univ., New Haven; E. L. Babitsky, Atelier Wynkoop, N. Y. C.

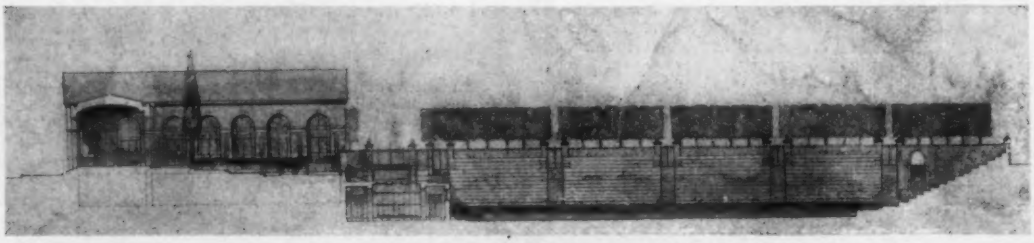
CLASS "B"—I ESQUISSE-ESQUISSE
"AN OPEN AIR THEATRE"

In the grounds of a country house a small open air theatre is to be planned for the entertainment of about 100 friends of the owner. The open stage will be not more than 30'-0" wide by 25'-0" deep, and its level will be 3'-0" above the level of the ground immediately in front of the stage. A space, 40'-0" x 40'-0", is available for the

(*Continued on page* 16)



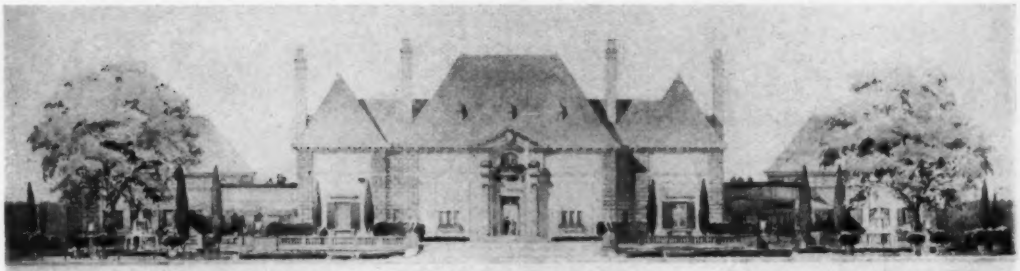


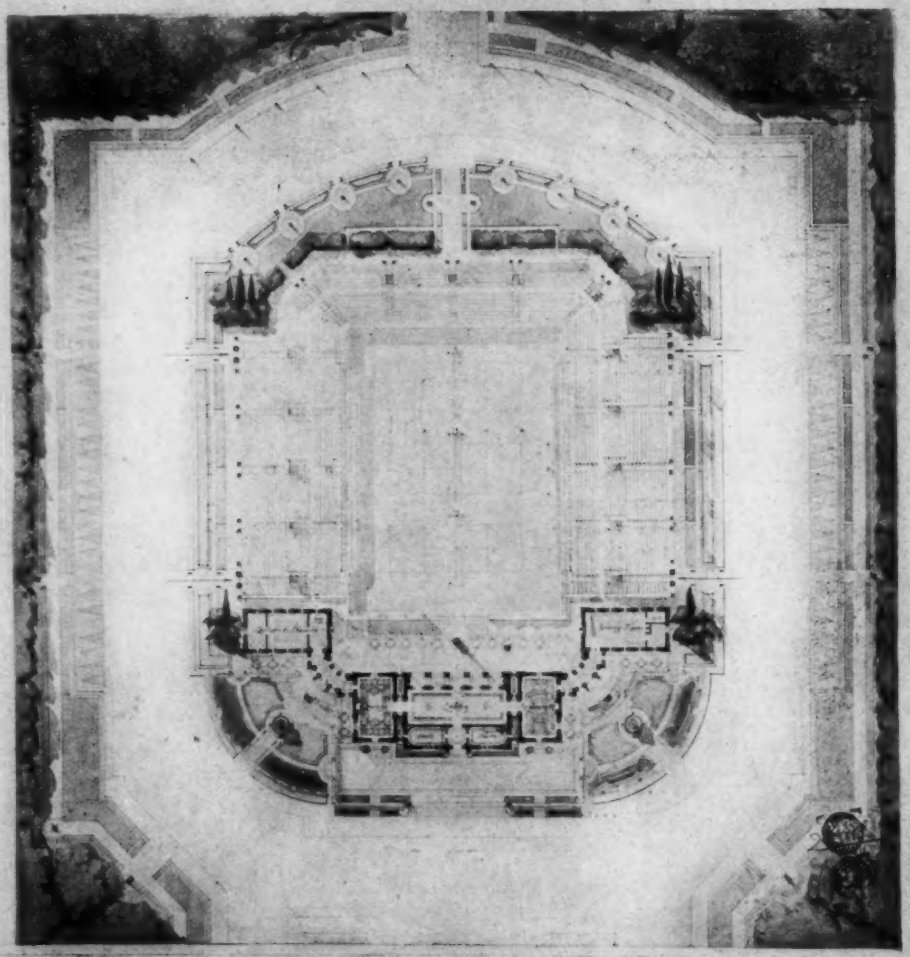


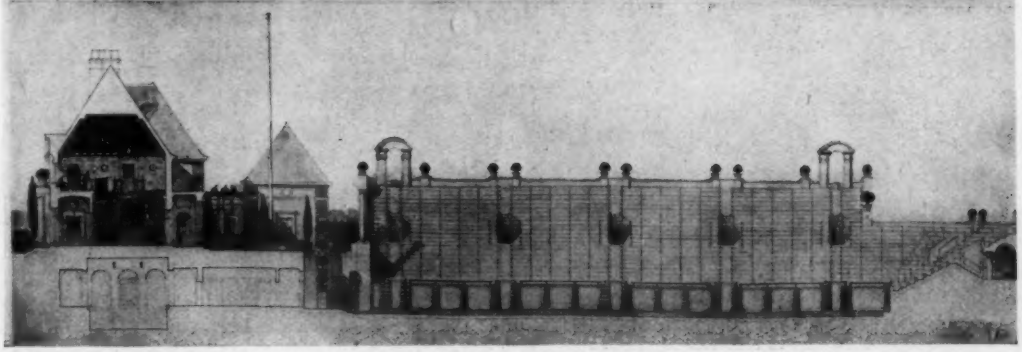
O. M. OLSEN SECOND MEDAL CARNEGIE INSTITUTE OF TECHNOLOGY

CLASS "A"-I PROJET—A NATIONAL TENNIS CLUB

STUDENT WORK, SOCIETY OF BEAUX-ARTS ARCHITECTS



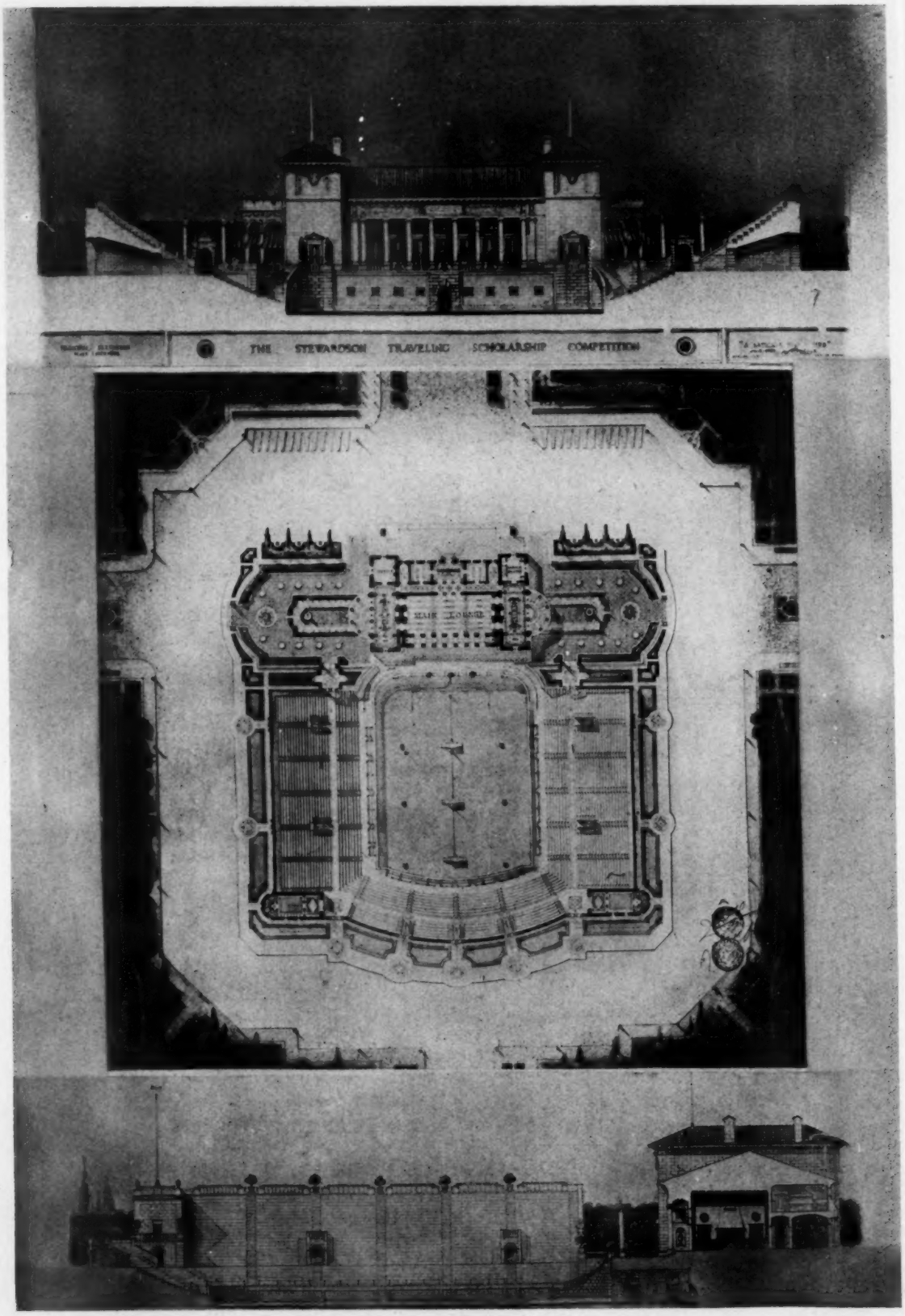




R. F. LARSON — SECOND MEDAL — UNIVERSITY OF PENNSYLVANIA

CLASS "A"-I PROJET—A NATIONAL TENNIS CLUB

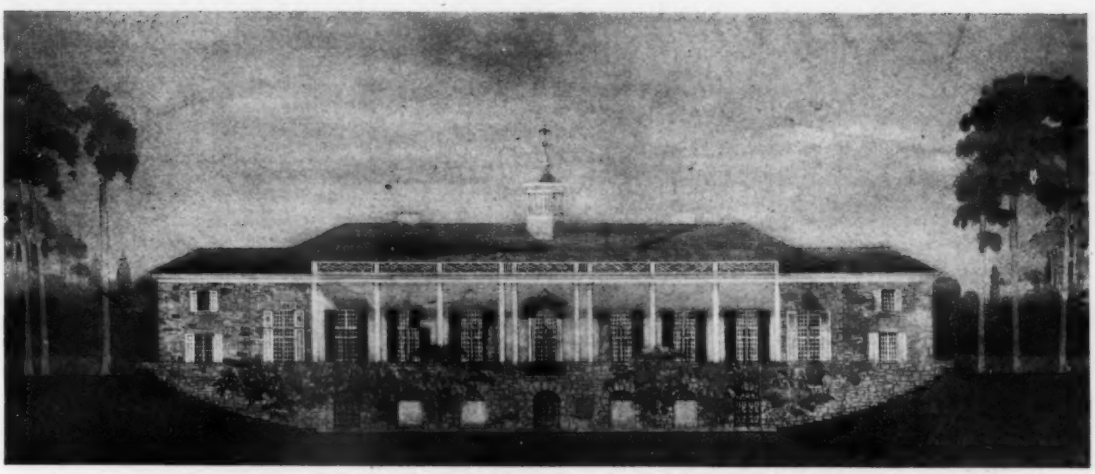
STUDENT WORK, SOCIETY OF BEAUX-ARTS ARCHITECTS

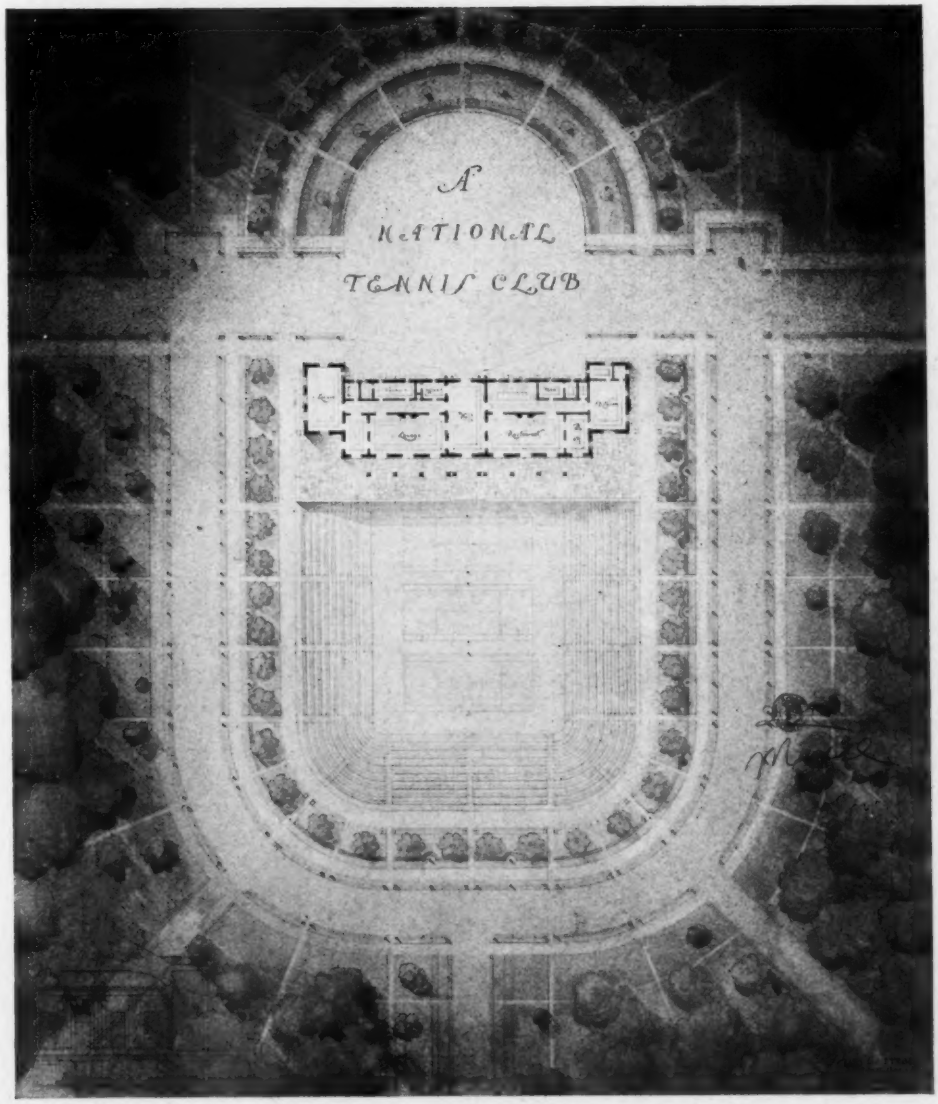


A. D. CARROLL — SECOND MEDAL — UNIVERSITY OF PENNSYLVANIA

CLASS "A"-1 PROJET—A NATIONAL TENNIS CLUB

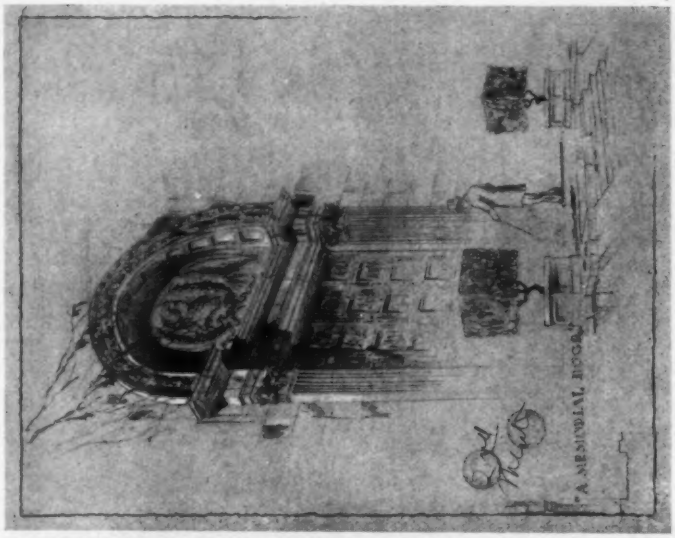
STUDENT WORK, SOCIETY OF BEAUX-ARTS ARCHITECTS



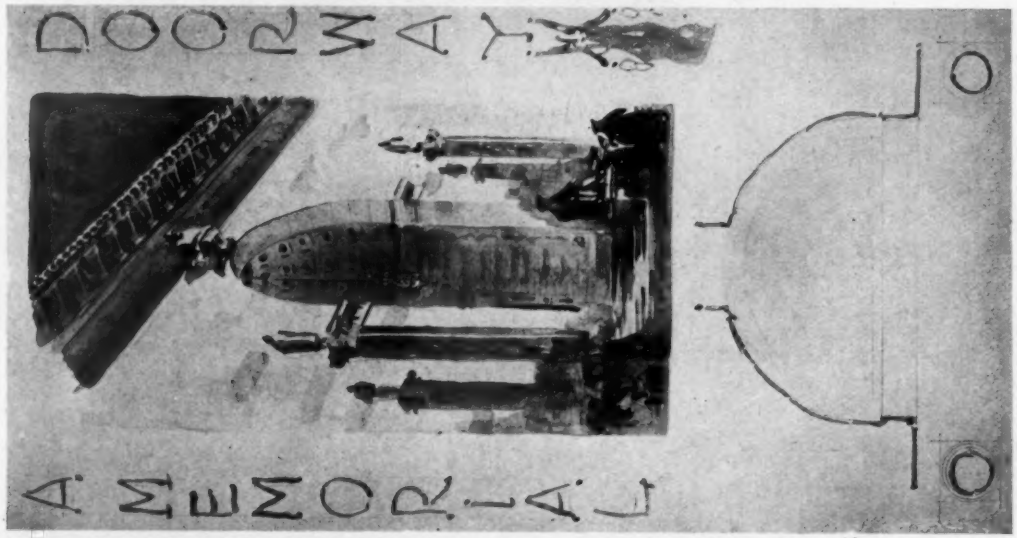


P. E. ISBELL — SECOND MEDAL — YALE UNIVERSITY

CLASS "A"-I PROJET—A NATIONAL TENNIS CLUB
STUDENT WORK, SOCIETY OF BEAUX-ARTS ARCHITECTS

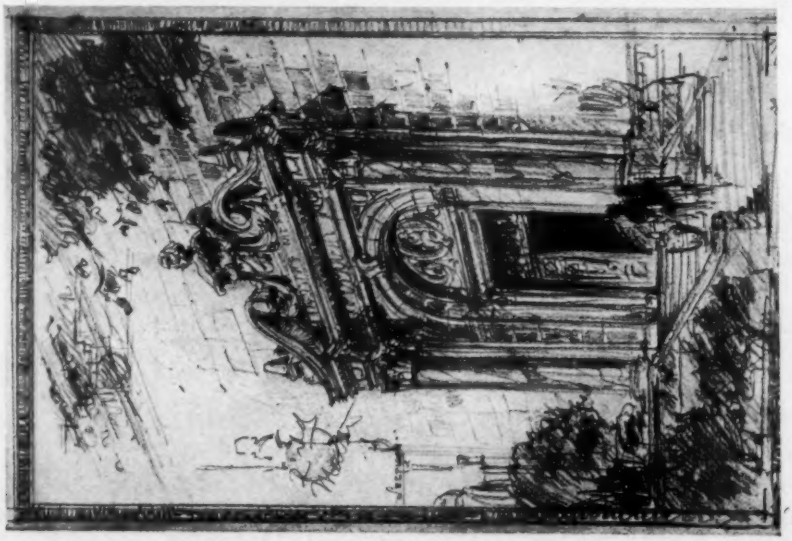


SECOND MENTION
WALTER CONLEY COLUMBIA UNIVERSITY



FIRST MENTION
PERCIVAL GOODMAN ATELIER LICHT, NEW YORK

CLASS "A"-I ESQUISSE-ESQUISSE—A MEMORIAL DOORWAY
STUDENT WORK, SOCIETY OF BEAUX-ARTS ARCHITECTS



SECOND MENTION
E. L. BABITSKY ATELIER WYNKOOP, NEW YORK

STUDENT WORK. SOCIETY OF BEAUX-ARTS ARCHITECTS

XUM

A GARDEN GATEWAY, SEVILLE, SPAIN

(From the Photograph by Francis Howard)