

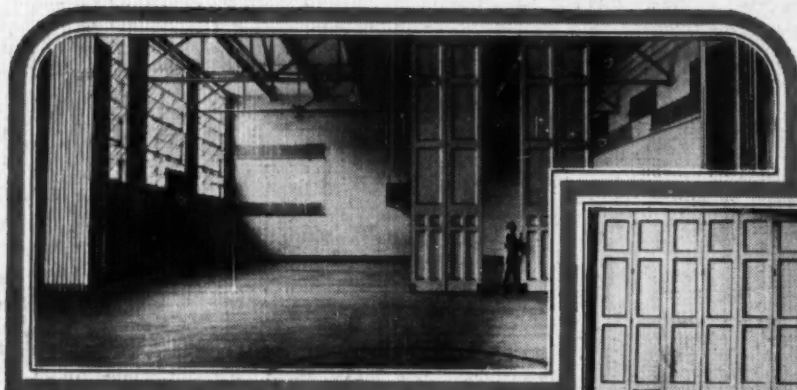
SEP 10 1926

# THE ARCHITECTURAL FORUM



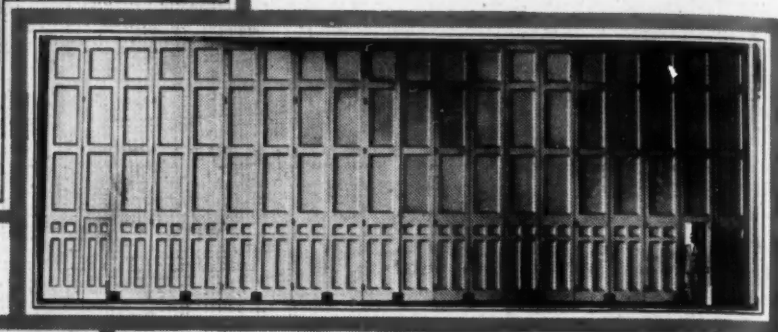
## SEPTEMBER 1926

CLUB AND FRATERNAL BUILDINGS REFERENCE NUMBER  
PRICE \$2

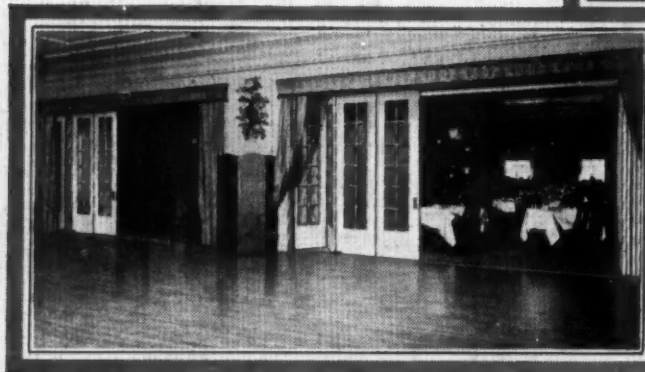


Left and Below: FoldeR-Way Hardware as used on very high and heavy partition doors. The weight is carried on floor track.

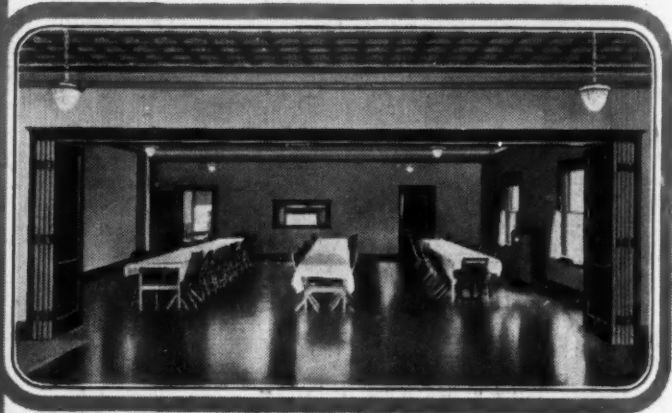
With this type of FoldeR-Way the doors operate in pairs—easily handled by one man.



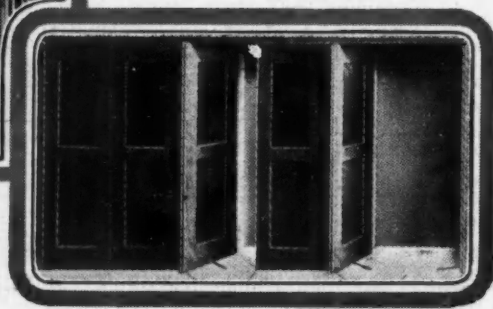
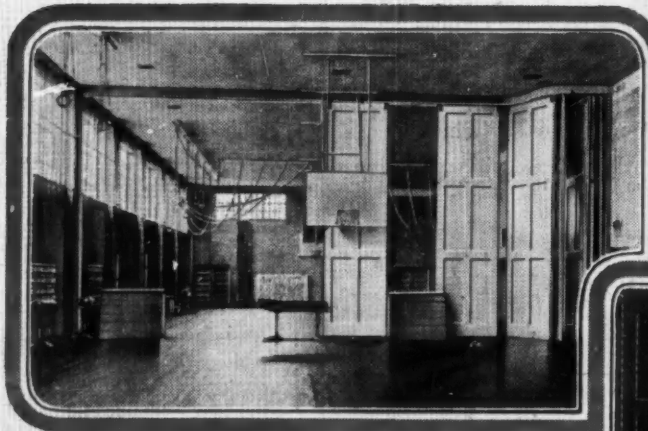
Below: With FoldeR-Way hardware as used on smaller size doors, the weight is carried on track at top.



The dining room and ballroom shown above can be separated or quickly made into one room.



Left: This type of FoldeR-Way is particularly adaptable for very wide doors, each handled as a separate unit.



The type of FoldeR-Way at the left is most desirable for school wardrobes, telephone booths, etc.

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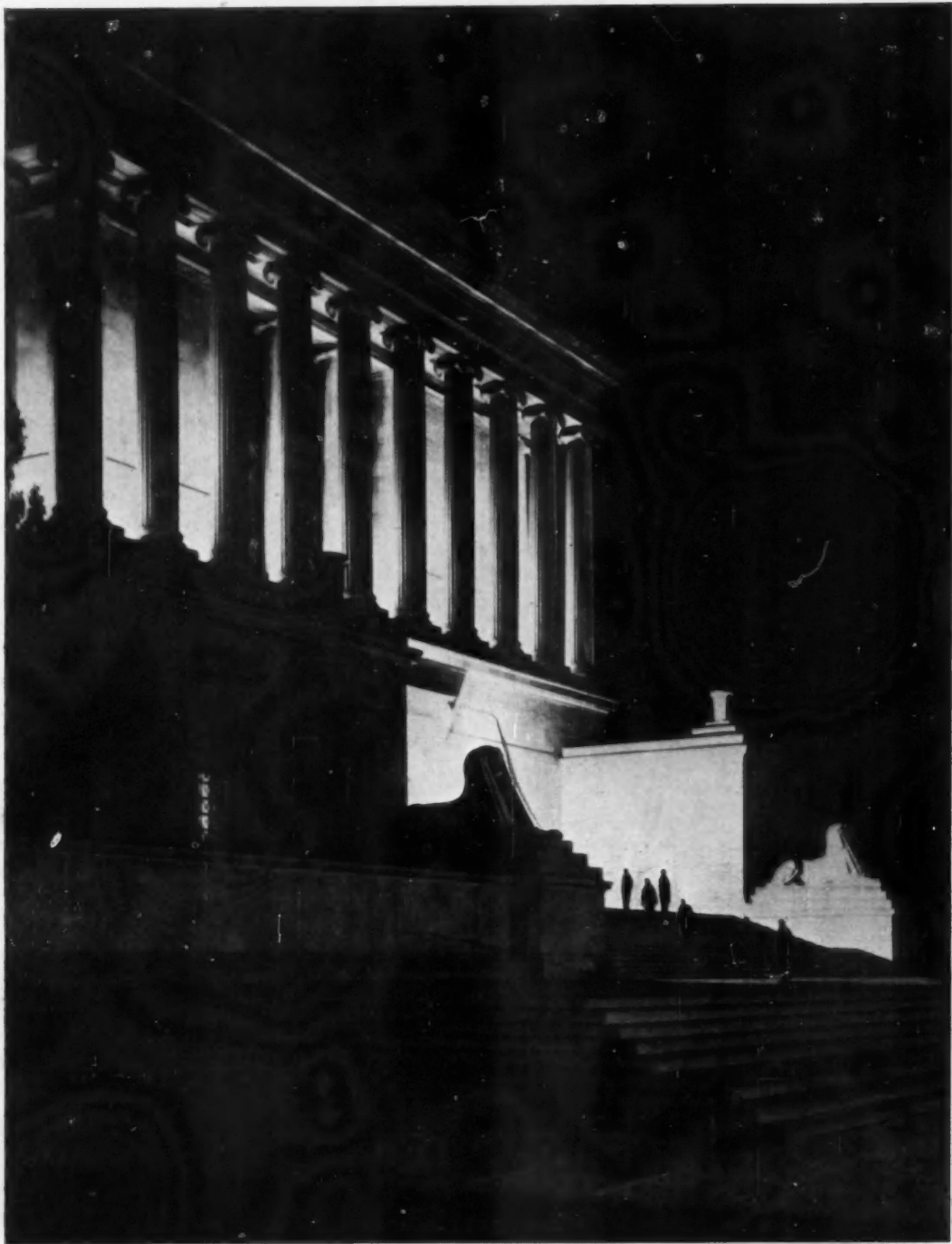
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SCOTTISH RITE TEMPLE, WASHINGTON  
JOHN RUSSELL POPE, ARCHITECT

From a Photograph by John Wallace Gillies

# The ARCHITECTURAL FORUM

Volume XLV

SEPTEMBER 1926

Number 3

## The Architecture of Fraternal Buildings

By HARVEY WILEY CORBETT

WE hear a great deal these days about "the literature of escape." The phrase seems to have been coined as a convenient label for stories of romance or adventure, any tale in fact that serves to transport the jaded city dweller, surfeited with the din of clanging streets and jazz orchestras, to some fair land of perpetual sunshine, where languorous maidens strum dulcimers all day long, and the only prohibition is against getting up early in the morning. By a not too far fetched analogy, fraternal buildings might be called the "architecture of escape," in that they offer a certain refuge from business cares, from family ties worn a bit thin from constant use; in short, from every kind of responsibility. The lodge is the one place where "the wife" cannot go, unless she is jolly well invited on a special day. At the theater the kids may romp up and down the aisles,

or get their candy tangled up in your hair, or try to pluck the posies from the hat belonging to the fat lady in front; but the lodge is sacrosanct. All of which has a great deal to do with its increasing popularity!

Although the actual data in my possession are a little bit inconclusive, I seem to see the origins of fraternal architecture stretching far back into the dim recesses of time, even to the ancient cave dwellers. When the cave man returned from his forays in the forest, bearing a gazelle or two upon his back, we can picture his eye agleam at the thought of an evening with the "boys." Although poker had not been invented then, there

were plenty of bones about, and probably there would be a nice little crap game going on. After dinner he gave his spouse a tender left hook to the jaw and the kids an affectionate scuff in the ribs, and climbed to the highest cave of all,—to the lodge. This ancient lodge, like its modern counterpart, was sacred to the male. The cave dwellers took no chances, and made it inaccessible to the less agile female of the species. Let us take as an example Lodge No. 1, Loyal Order of Dinosauria, which is the earliest example of fraternal architecture we know. Even compared to the better class of residential caves, it was a veritable palace. And why not? Wasn't its construction the result of the loving labors of all the adult males in the colony instead of just one? Wasn't it financed coöperatively by regular dues of ivory tusks and animal hides? Why,

there wasn't a cave man in the whole region who could have afforded such luxurious fur carpets for his floors, or could have served such luscious tidbits as appeared on the lodge table when the famous chef of Lodge No. 1, L. O. D., spread out the supper in the lodge room on Saturday nights!

After most exhaustive researches I have been able to determine beyond the faintest shadow of a doubt that many of the early cave men, as far as rough tactics were concerned, were not all they have been cracked up to be. Not half enough credit has been given to the cave woman in that respect. The henpecked husband was perhaps more of a rarity then than now, but he existed



Entrance, Elks' Club, Elmhurst, N. Y.  
The Ballinger Company, Architects



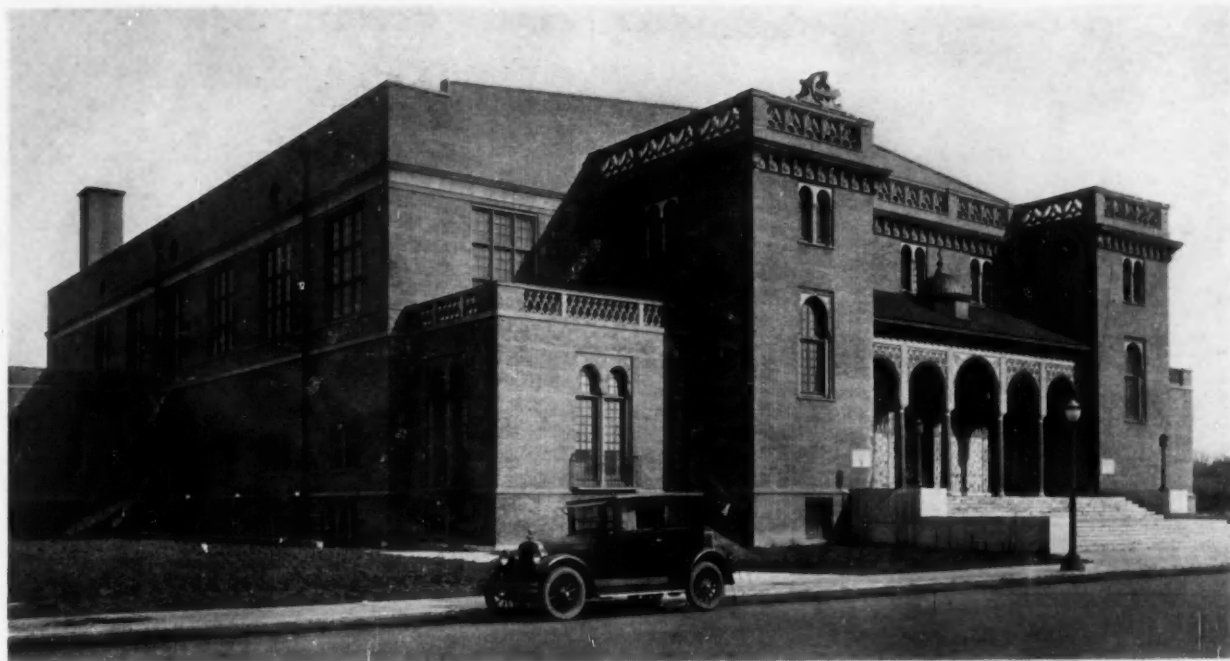
Masonic Temple, East Providence, R. I.  
William G. Upham, Architect



Entrance, Knights of Columbus Building, Columbus, O.  
Richards, McCarty & Bulford, Architects

nevertheless. And what was a man going to do if his wife wouldn't let him have a wee nip of something stronger than spring water in his own cave? Why, climb up to the lodge, of course. Like today, the early lodge solved a great many of the more delicate problems of family life. I dare say that if the records were complete enough, we might find that many a cave man went tiptoeing up the hall steps late at night, sandals in hand, only to be greeted at the top by a strapping cave woman brandishing a rolling-pin,—and not a wooden one either!

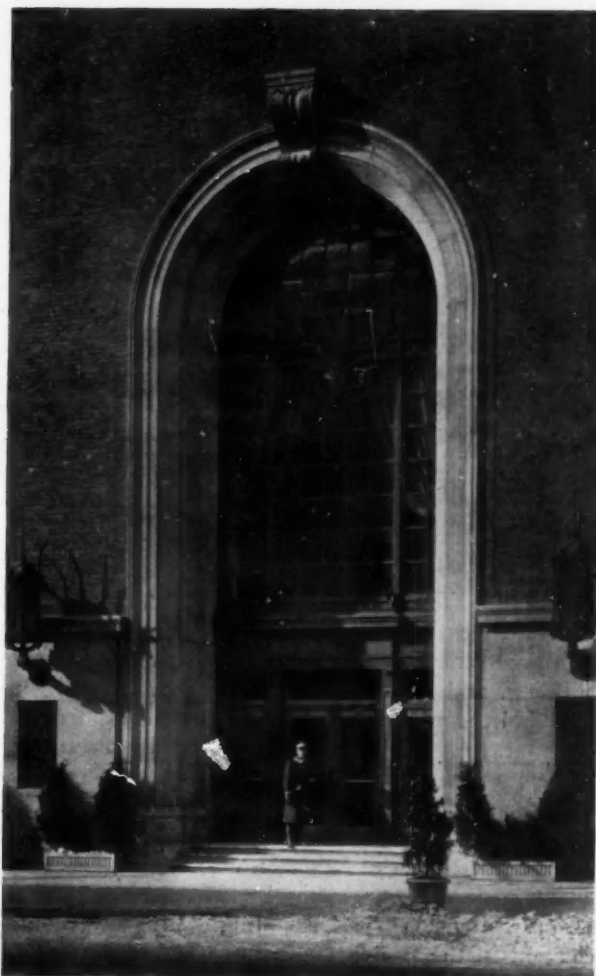
It would be a pretty task for the historian to trace the evolution of fraternal architecture down the ages. Doubtless there were times when fraternal orders, due to the peculiar temper of the period, were almost moribund. Perhaps in the middle ages in northern Europe, when the Church absorbed the larger part of social and professional life, monasteries served as a substitute for fraternal organizations. The Renaissance stressed the arts, and probably the various guilds in their turn provided the kind of social life that is craved by that social animal, man. However that may be, it is evident that fraternal orders play an ever-growing part in the social life of the modern community. The reason is not far to seek. Religion does not foster the clan spirit in so absolute a fashion as it has done in the past. Specialization, division of labor, and diversity of outlet have killed the guild idea. The old fashioned craftsman who produced a shoe or a chair through every step from raw material to finished product, has gone the way of all flesh. Labor unions are too vast and conglomerate to take the place of the old guilds in their social aspects. So the ordinary man has recourse to clubs and fraternal orders, preferably the latter, because of their allure of secrecy and their vivid ritualism.



Ainiad Temple, East St. Louis, Ill.  
William B. Ittner, Architect

Furthermore, the fraternal order has increased in popularity almost in direct proportion to the passing of the old fashioned home. There was a time when the home was a complete plant in itself, supplying every need of life. It offered shelter, food, entertainment and hospital care. It was a hotel, a restaurant, a theater, and a home for the aged and infirm, all rolled into one,—not to speak of a refuge for indigent relatives, and a wayside tavern for almost any acquaintance (or even a stranger, for the matter of that) who might happen along. It does not take much imagination to see that, as an establishment, it was a whole lot more absorbing and entertaining than a five-room flat in the city. When the wife and children got on papa's nerves, he could go out and hoe corn until his annoyance had subsided. He could even sleep in the barn, if the air became too thick. In an apartment he can't lock the children in the attic, for the simple reason that there isn't any attic. Things are changed in many ways.

The modern fraternal lodge has taken over the greater part of the functions of the old fashioned home, and it is that which makes its architecture such a complicated and delicate problem. Especially in a large city, it is hotel, restaurant, theater, gymnasium and office building combined. It must contain, in addition to the secret rooms, a group of assembly rooms, an auditorium, billiard rooms, bowling alleys, swimming pools, and many other facilities. Furthermore, the architect who undertakes to plan one of these buildings finds himself confronted with the requirement of making many of these spaces adaptable to several different purposes. The restaurant must be turned into a ballroom, the theater into an assembly room, and the lounges must be conformable to manifold systems of decoration for festive



Entrance, Elks' Club, Philadelphia  
Andrew J. Sauer & Co., Architects



Perspective, New Building for Elks' Lodge No. 22, Brooklyn  
McKim, Mead & White, Architects

occasions. This complicated interior, of course, affects the exterior design in a marked manner. To coördinate these widely different elements in a single building, and still give homogeneity and dignity to the whole, is a task worthy of the most accomplished designer. As far as style is concerned, there seems to be no definite tradition which would dictate the use of a particular period for this type of building. Hence we find modified Gothic buildings, modified Classic structures and, sometimes, as in one recent example in New York, the Mecca Temple, an Oriental influence predominating. Where the chief element in the problem is a huge auditorium, as in the last mentioned example, this treatment of the design is appropriate enough. In other large city structures, where the combination of interior ele-

ments is more varied, and where the plot area is limited, various versions of Gothic have been successfully employed. There is a tendency in smaller cities, however, to secure for fraternal buildings as much plot area as possible, and to treat them as free-standing, monumental structures in which case Classical design is most frequently used. A marked characteristic of such buildings is the small number of windows, and secret rooms depending chiefly on artificial illumination. Some very fine structures of the combination type have been recently erected. The addition of office space which can be rented at a high figure, thus helping to make the plan self-supporting, often solves the problem of maintenance, and makes possible locations in crowded centers where otherwise taxes would be prohibitive. In





Perspective, New Club House for Knights of Columbus, New York

Edward F. Fanning, Architect

these buildings the dark areas in the interior are used for lodge rooms, where natural light is not essential.

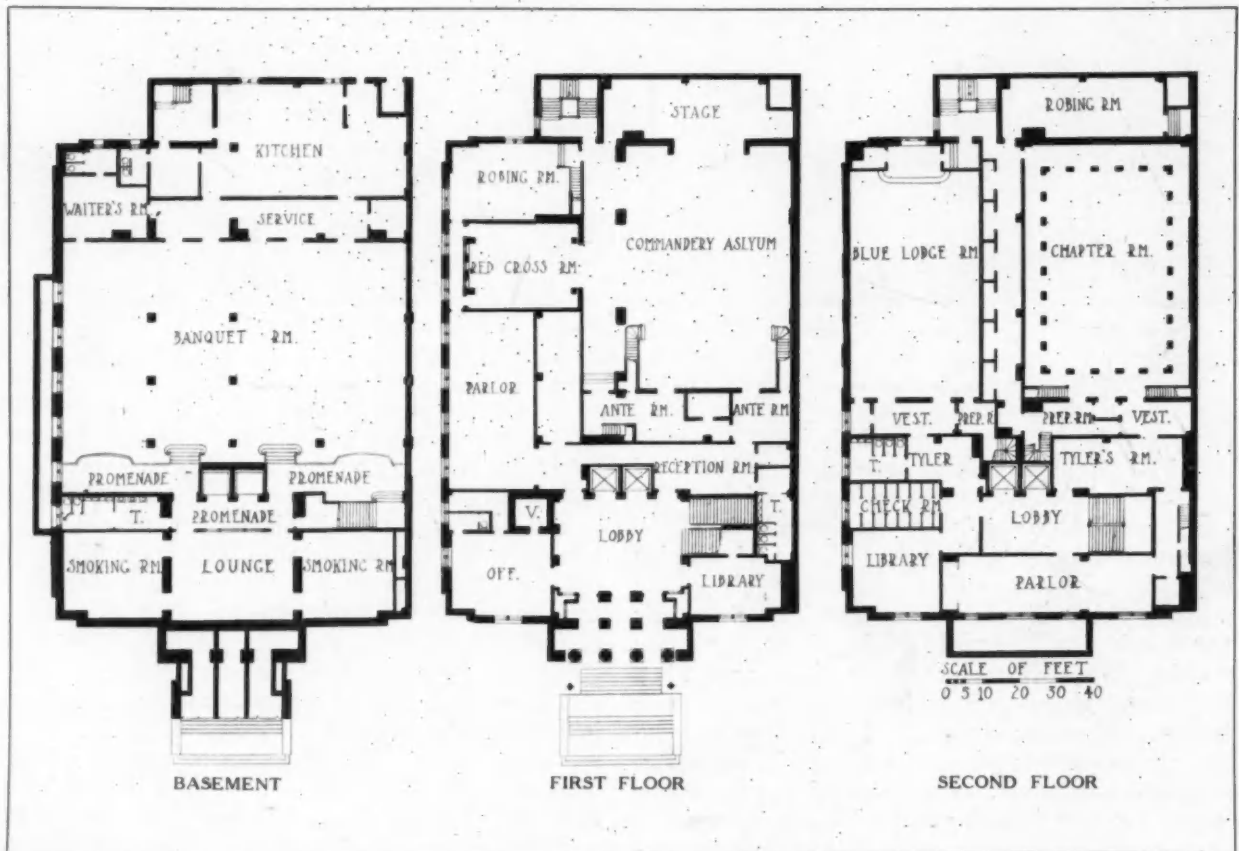
It has been well said that at 18 a woman is as old as time, but that at 80 a man is still a boy. The cares of the world are forever on women's shoulders, but a man can shake off worry as he would shed his coat, and have a good time being just as foolish as a five-year-old. When women organize a club, their purpose is usually serious. They have ponderous meetings to discuss social welfare, civics, music, art, literature. They give teas for celebrities, and have lectures and music recitals, and indulge in a dozen other activities for promotion of self-improvement.

Men are different. They never join clubs to be improved; they join them to have a good time. If having a good time means a certain amount of seri-

ous ritual, why so much the better. That is an added attraction. Has it ever occurred to you that men really like to dress up just as much as women? The only difference is that a man will wear a brilliant costume only in crowds similarly costumed. He loves parades, and brass bands, and ceremonies, but not during the day, when the serious business of earning daily bread is uppermost. Then he dresses as inconspicuously as possible. But put him in a club or a fraternity or at a reunion, where everybody else is doing the same thing, and he will strut about in his fine feathers like a cock of the walk. It is this love of show, so sedulously suppressed during working hours, that comes to the fore when a man is at play. He expresses it in his desire for elaborate surroundings in his lodge building as well as by

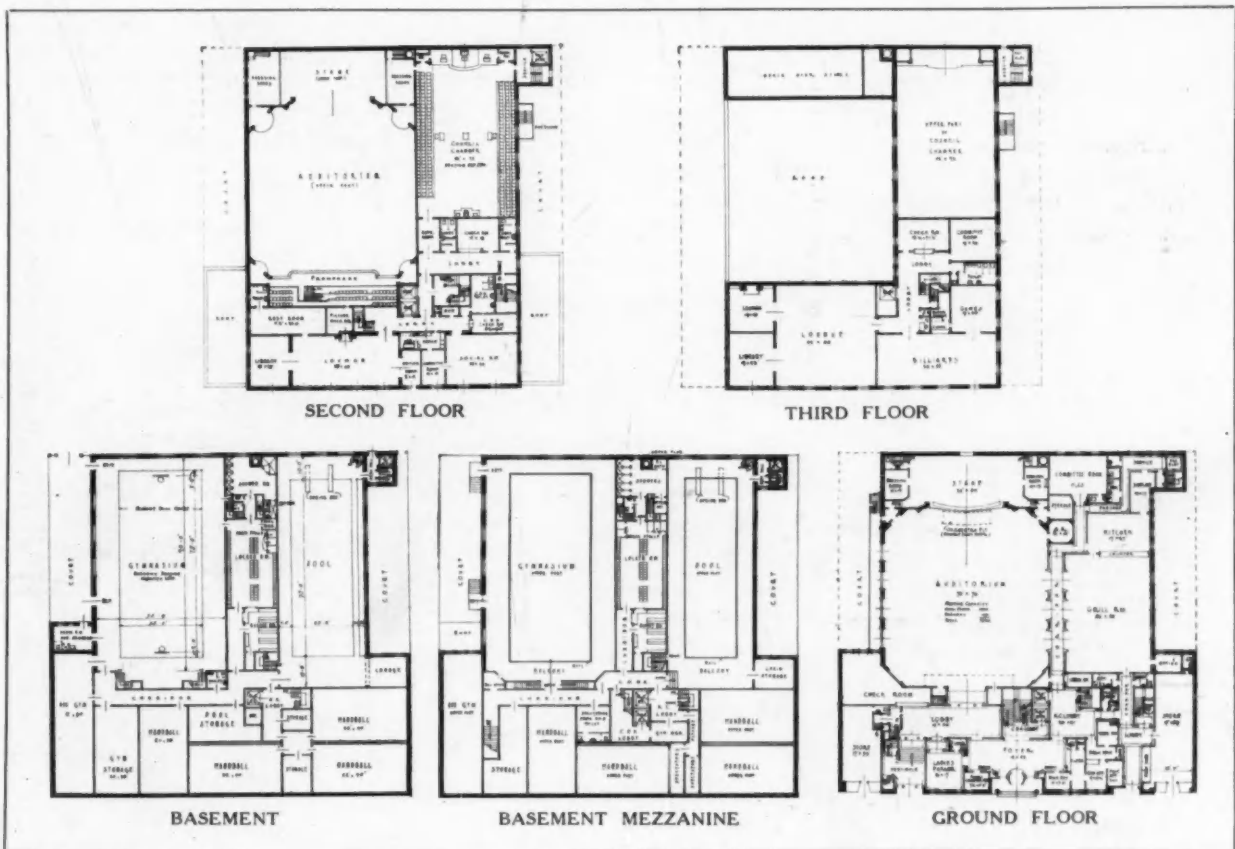


MASONIC TEMPLE, ALLENTOWN, PA.  
R. G. SCHMID & CO., ARCHITECTS





PERSPECTIVE, NEW CLUB HOUSE FOR KNIGHTS OF COLUMBUS, OMAHA  
LEO A. DALY, ARCHITECT



colorful costumes. And from an architectural point of view that is perhaps not conducive to the utmost simplicity of design. Many a fraternal building has been spoiled by being overburdened with elaborate detail.

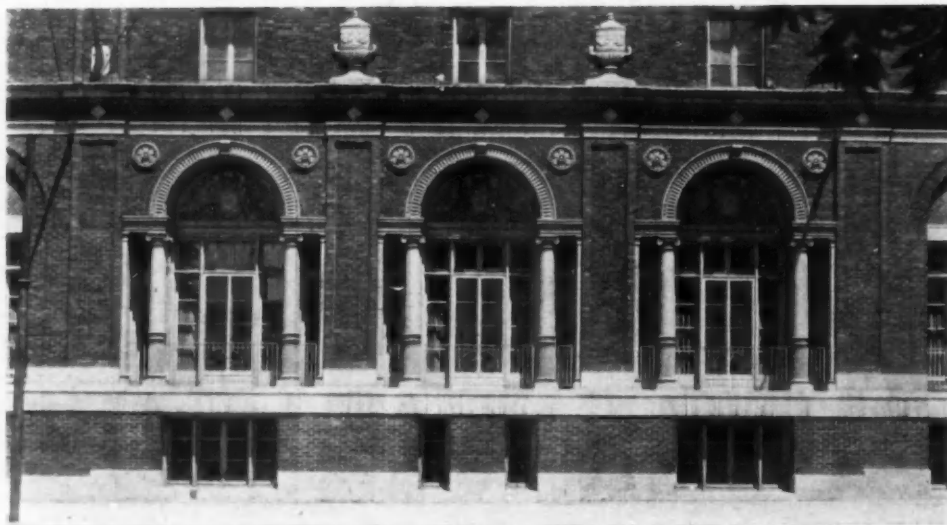
To be sure, the approach to the problem of design is somewhat different from that of most other buildings. Whereas a home or an office is used every day, a fraternal building is visited by the average individual only a few times a month. The architect can afford to be a little richer, a little more elaborate in his interior effects than he might dare to be in a place continuously lived in, but the exterior of the building should be handled with respect for its locality, with regard for its neighbors, and with appreciation of the fact that it is seen and enjoyed (perhaps) by thousands of passersby who may take pride and satisfaction in it every day of their lives.

There was a time in this country, during the dark ages of art which immediately followed the Civil War, when architectural styles meant little or nothing to the average citizen;—that period so well summarized by Simeon Ford as the time when the average man didn't know the difference between Louis Quinze and tomato cans; that period when you could count the real architects of the country on the fingers of one hand and be somewhat in doubt as to what name to give to the little finger. Today, however, even the man in the street knows something about architectural styles, and the woman in the culture club knows more about them than many an architect. Our architectural schools lead the world. Our students are trained purists, and our architects follow established precedents with a knowledge of forms and an appreciation for refinement of detail that make the foreigner gasp. Architecture is now popular.

But in this respect, as in all others, America moves rapidly. Mere knowledge of styles has become a commonplace; something more is demanded. Trimming the mass of a building with architectural detail, no matter how pure it is in form or how true it is to established precedent, is not quite enough.

After all, mass, proportion, silhouette, relation of solid to void, must come first, and these must all be good in themselves. Then architectural style, which is really only another name for architectural unity, may properly follow. Dressing the homely fat lady in fine silks and laces helps some, but the bathing beauty needs few if any accessories. To be successful architecturally, a building must have proportion, and it is here that the fraternal building offers great opportunities, for the reason that it is not just a large collection of similar cells like an office building, or a small, rambling, variegated structure like a country house; it is generally large enough and massive enough in actual size to be a landmark in a community. It has large wall surfaces,—the one thing the architect desires most to work with and the most difficult to handle properly. It generally has form in the sense that it is not just a rectangular box, and if the architect has the genius so to dispose the various and variegated elements of his building that the combination builds up to a pleasing and satisfying mass, the particular "style" of architecture he wishes to use in his detail expression is not important. Not that I wish to suggest that architectural style is not a matter of mass, as well as of detail, but our modern buildings of all types, and particularly fraternal buildings, are so essentially a product of today that the possibility of finding a prototype among the structures of the past to even approximate the shapes demanded by the present is very remote. It is a problem of the present age.

Practically speaking, the most we can hope to do with this very modern problem is to give it some degree of unity by using a consistent "style of ornament," and if locality, environment, or the ritual of the particular organization does not suggest or dictate a style, then let the mass itself be the guide. A vertical mass suggests Gothic, a horizontal mass suggests Classic. These are the extremes; use them, play between them or beyond them, or be modern and design your own style, but be sure you do it well!



Detail of Facade, Knights of Columbus Building, Columbus, O.  
Richards, McCarty & Bulford, Architects

# The Interior Architecture of Fraternal Buildings

By R. R. HOUSTON

Of the Firm of George B. Post & Sons

THE designing of buildings for fraternal orders is a matter of especial interest because it offers the architect a unique opportunity for the exercise of imagination at the same time that it requires him to make provision for a number of special features dictated by ritual or custom. Structures of this type are, from their very nature, important in their communities, are usually placed on impressive sites, and in every way constitute a challenge to the architect to achieve something of real distinction. Speaking first of the Masons, the great antiquity of that body and its ancient affinity with the building trades have established a certain adherence to the use of the architectural styles of ancient peoples, notably those of the Egyptians and the Greeks, and especially in the case of the temples of the Shriners, of the Saracens.

It is not the purpose of this article to set forth the various ritualistic requirements of Masonic architecture, since these must, obviously, be fully studied by any architect engaged on the designing of a Masonic building, and must, equally obviously, be scrupulously followed. The consideration is, rather, one of the suitability and adaptability of certain styles as applied to the design of Masonic temples. Adaptations of ancient Egyptian architecture have always been favored, and if there has been any

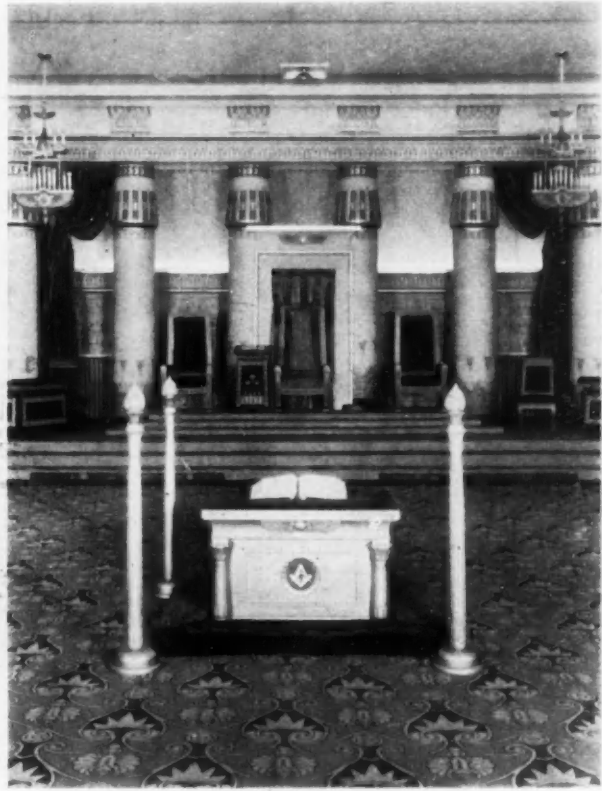
general error in the utilization of the Egyptian, it has generally been in the direction of over-ornateness, which has defeated the sense of dignity and the large-scale effect which should characterize the lodge room. It is doubtful if Egyptian interiors, with certain admirable modifications, have ever been more impressively handled than by John Russell Pope in the Temple of the Scottish Rite in Washington. Some of the interiors of the Masonic Building in Allentown, Pa., R. G. Schmid & Co., architects, are in the more decorative phase of Egyptian architecture, where ornament takes the place of largeness of scale. Other lodge rooms have been treated, presumably as the ritual suggested, in adaptations of the Greek, in Italian Renaissance, and also in Gothic.

One of the most effective of the Masonic structures illustrated here is the Los Angeles Shrine Building, Al Malaikah Temple, of which John C. Austin and G. A. Lansburgh are architects, an excellent version of the Moorish type of Masonic structure. The pavilion is especially true to type, and the entrance loggia to the main building, together with the lounge within, achieves real distinction in use of this most difficult style, and possesses an architectural quality to achieve which should be the objective of any group which intends to so build.

Generally successful from the architectural as well



Parlor, Al Malaikah Temple, Los Angeles  
John C. Austin, Architect; G. A. Lansburgh Collaborating



Lodge Room, Masonic Temple, Allentown, Pa.  
R. G. Schmid & Co., Architects



Lodge Room, Temple of Freemasonry, Madison, Wis.  
James R. & Edward J. Law, Architects

as from the Masonic point of view are adaptations of the Greek Doric, as in the Masonic building of Madison, Wis., James R. and Edward J. Law, architects. There is, in the Doric order, an inherent dignity or impressiveness admirably suited to Masonic design, whether for the exterior or interior. A seldom recognized peculiarity of the Greek Doric is its scale illusion, its property of suggesting a far greater scale than that at which it may actually be carried out. It is essentially a monumental style, and unquestionably one of the most appropriate for use in Masonic buildings. Like the architecture of ancient Egypt, it is an architecture of temple builders, and at whatever scale designed, invariably attains the quality of dignity appropriate for these uses.

Special considerations suggested the choice of the Colonial style for the Masonic Temple at Greenwich, Conn. (Plates 39, 40), George B. Post & Sons, architects. It was in this style that the original members of the order in and about Greenwich designed and built, and Masonry in this region is of very early establishment, numbering in its membership a great many architects and artisans in building construction. Following a custom of Masons throughout the world, the upper story of the building is used for the lodge room, and a special feature of this plan (back of Plate 39) is in the placement of the offices of the secretary and treasurer on either side of the

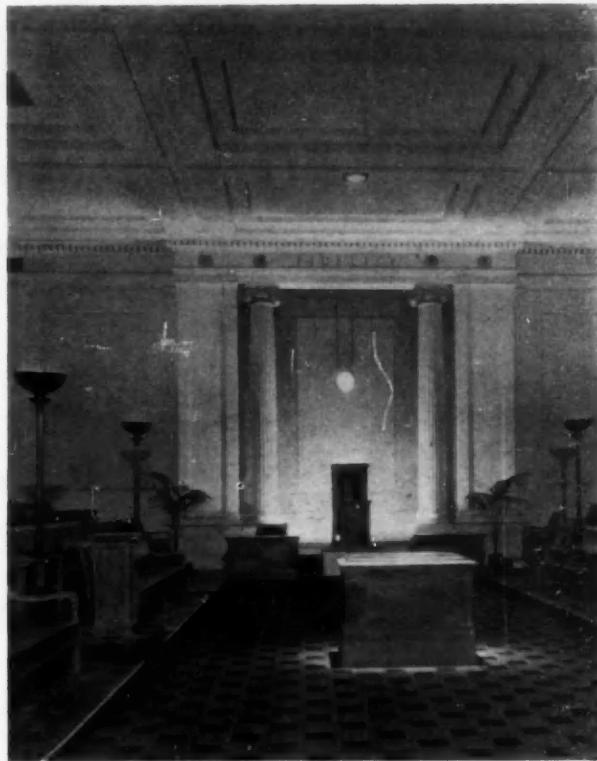


Lodge Room, Masonic Temple, Greenwich, Conn.  
George B. Post & Sons, Architects

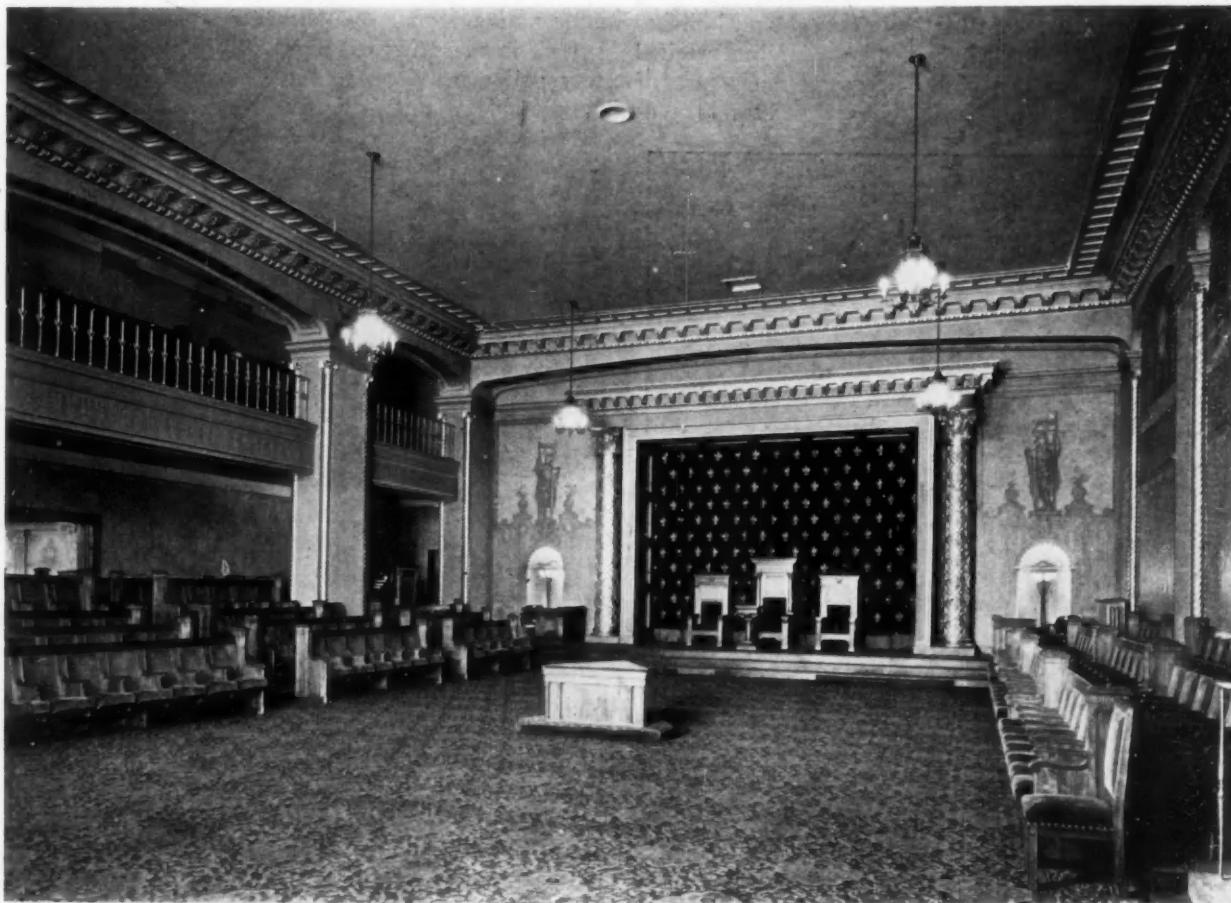
master's dais, with a corridor connecting the two offices so that communication will not disturb the general functioning of the lodge room. Another practical detail of planning increases the seating capacity by placing the organ console and choir balcony over the warden's station. The first floor, with an ample lobby, provides for the club room, kitchen, billiard rooms, and banquet hall, the last so arranged that it can be used without disturbing the Masonic exercises, which are all held on the upper floor. As in all Masonic buildings, special details here inevitably engaged the architect's study and attention. All the furniture here is carefully reproduced from old Colonial models, long in use in Masonic buildings.

In the buildings of the Elks and similar social groups, there is considerably more architectural latitude permissible than in Masonic structures. We may find, for instance, lounges in English paneled treatments, with tall leaded windows and figured plaster ceilings, or interiors definitely Gothic, as in the Elks' Club house at Oakland, Calif., William Knowles, architect. The whole scheme in these club buildings, since making provision for elaborate ritualistic observances is not a major architectural consideration, is more that of a purely social club.

Certainly the most unusual architectural style chosen for any of the interiors illustrated here, is that seen in the Elks' Club at Elmhurst, N. Y., where



Lodge Room, Elks' Club, Philadelphia  
Andrew J. Sauer & Co., Architects



Lodge Room, Masonic Temple, Allentown, Pa.  
R. G. Schmid & Co., Architects



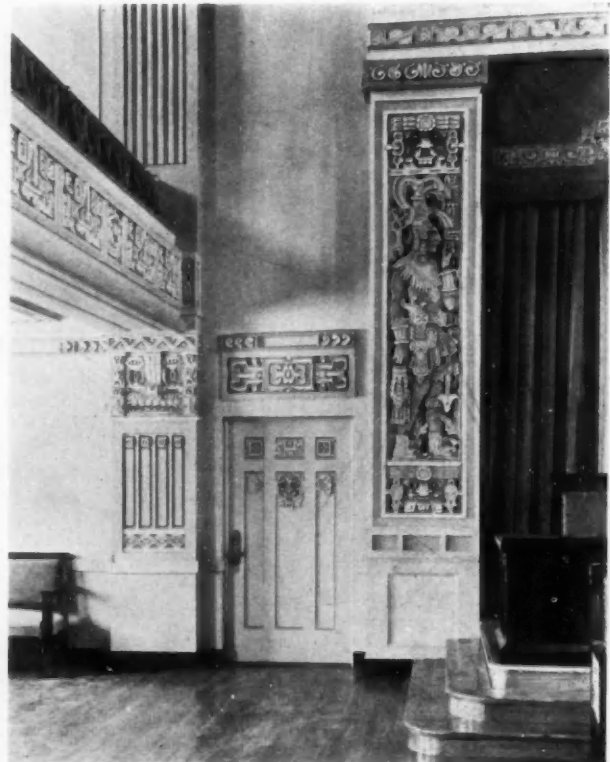
Lounge, Elks' Club, Oakland, Calif.  
William Knowles, Architect



Lodge Room, Elks' Club, Elmhurst, N. Y.  
The Ballinger Co., Architects

the architects, The Ballinger Co., have carried out, brilliantly and effectively, an adaptation of the highly decorative style of the ancient Maya builders of Central America. I do not know if the original architectural alliance of Masonry with the art of building corresponds with the art of building as

practiced by the ancient architects of the southern half of our continent, but there is an architectural style native to our own hemisphere, and peculiarly suited, in mass for exteriors and in detail for mystery and symbolism, to the design of the Masonic temple today. It might well be more extensively used.



Details, Lodge Room, Elks' Club, Elmhurst, N. Y.  
The Ballinger Co., Architects



# The Planning of Fraternal Buildings

By HERBERT M. GREENE  
*Of the Herbert M. Greene Company, Dallas*

IT is probable that no class of semi-public structures presents more varied or interesting problems than are found in the designing of fraternal buildings. The difficulty of floor plan arrangement with, as is usually required, an imposing and distinguished exterior design, of necessity requires a reasonably thorough knowledge of the functional purposes for which the building is erected. The requirements of moderate to large sized structures of this character include to a greater or lesser extent those of a club, hotel and theater combined. Add to this other features generally demanded by a large and enthusiastic building committee, and the problem resolves itself into one of more than ordinary intricacy as well as of interest to the architect.

Fraternal buildings, for obvious reasons, occupy a peculiar place among the public and semi-public structures of a town or city. Within their walls are inculcated, by symbol or drama, lessons of patriotism, philosophy and religion, the Fatherhood of God and the Brotherhood of Man. It is important, therefore, that more than ordinary thought be given to the design, both exterior and interior, of this type of building. With the exception of mosques for the Mystic Shrine, which often and appropriately follow the motifs and details of the Saracenic style, fraternal buildings are generally designed in the Classical or the Gothic styles, or modifications thereof. While local conditions will sometimes dictate the style of the building, in a majority of cases the architect is unhampered and has an opportunity that will bode for good or evil, depending on the character of the design and its approval by the organization's membership, an opportunity presenting possibilities.

By reason of the multiplicity of degrees within membership of a fraternal order, the varying manner of their presentation in the different jurisdictions, and often by reason of the elaborate ceremonies that are to be accommodated, the information in this article will deal mainly with the fundamental requirements of Masonic buildings, as these, with necessary adjustments, can be arranged to meet the requirements of other fraternal orders. In this type of building, the lodge or degree room with the necessary anterooms is of primary importance. Due to varying requirements as to seating capacity and the character of the degrees, no very definite room sizes can be recommended. For a moderate sized lodge room the length should be considerably more than the width in order to allow ample seating capacity along the side walls, the ceiling height being not less than half the width. A lodge room of about 36 by 60 feet will seat about 70 in one row of chairs along the side walls and 130 in two rows, ample room being reserved for the officers' platforms and for floor work in the center area. This sized room should

have a ceiling height of not less than 18 feet and slightly more if possible. A careful study of the architectural treatment of lodge rooms should be made before the preliminary sketches have been completed in order to arrive at a satisfactory solution of the design as well as of the room's size. No lodge room should have a much greater length than 75 feet between platforms from which speaking is done, since the untrained voice will rarely carry more than this distance. Where large seating accommodations are required, galleries over the rear or along the sides of the lodge room are necessary. The problem of sight lines must be carefully worked out so that the floor space where the degrees are conferred is visible from every gallery seat. This is important.

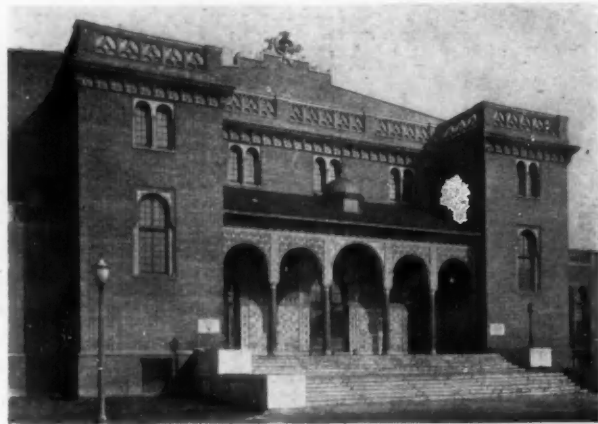
Small stages are sometimes incorporated, on which are presented portions of the blue lodge, chapter and commandery work, if the building is to be for the use of Masons. The depths of these stages and the scenery required vary in different localities as well as in different jurisdictions. In the southern as well as in portions of the northern jurisdiction of the Scottish Rite, large stages, varying to a considerable extent in requirements from those of the theater stage, are required. These are usually placed at a height of 18 inches, and generally have three steps leading to the main floors, as the degree work is generally presented on both floors and stages. The stage of a lodge room should be not less than 30 feet in depth in order to accommodate at least 100 leg and back drops. These are counterweighted, and are hung in regular sequence so that two or three leg drops with a back drop will complete the stage setting. The drops have wooden battens at top and bottom, are operated from the stage floor or a fly gallery, and are hung at about 3½-inch centers. A gridiron with a height of 3 or 4 feet for original installation and possible future changes is necessary.

The lighting of such a stage, whether large or small, should be by overhead borders, disappearing footlights to be used only when absolutely necessary. The stage floor should be kept as free as possible of all electric apparatus except plugs for spotlights and other forms of special lighting. A pre-selective switchboard with dimmers is advisable for all large stages, and all switchboards should be of the safety type arranged to control all lighting in the degree room as well as on the stage.

Where the shrine is accommodated in Scottish Rite or other degree rooms, the problem of securing abundant floor area along with large seating capacity is sometimes perplexing. In the Scottish Rite Cathedral, San Antonio (see Plate 34), the writer solved the problem created by the rather generous requirements by constructing an independent sloping floor 50 by 60 feet directly in front of the regular stage.



Scottish Rite Cathedral, Joplin, Mo.  
Hubbell & Greene, Architects



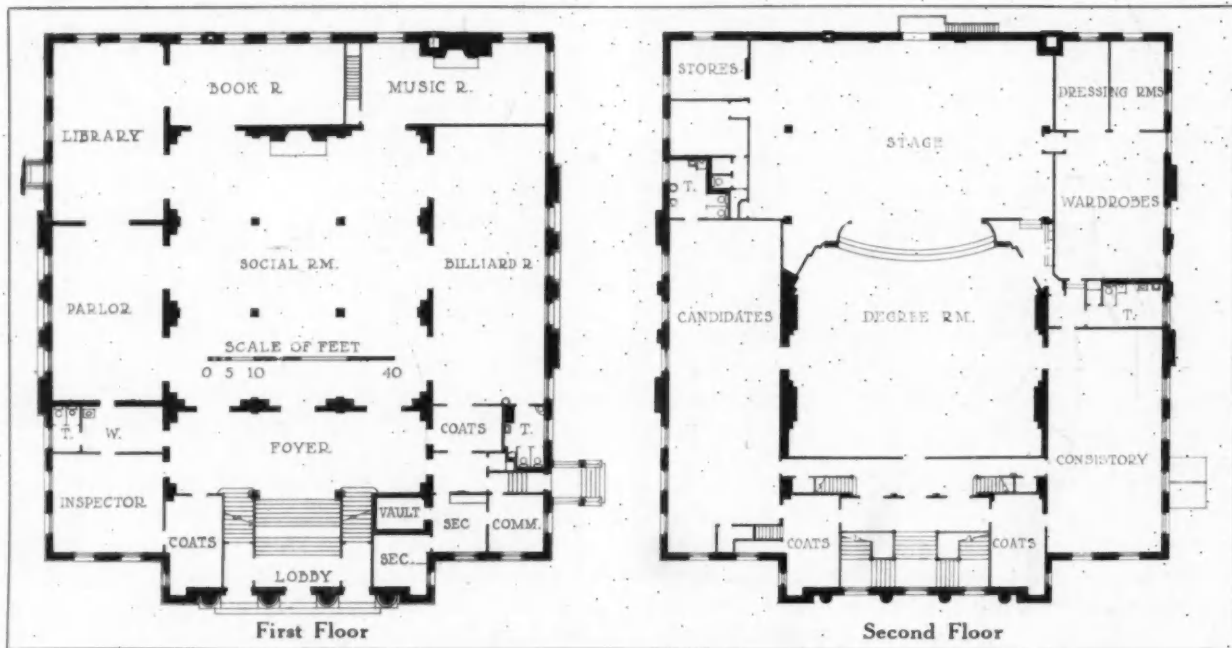
Ainiad Temple, East St. Louis, Ill.  
William B. Ittner, Architect

This floor, hinged on the side farthest from the stage, is arranged so that the front end can be raised to the stage level, not only doubling the stage size, but giving better opportunity on the raised portion for the presentation of the shrine work.

The ideal lodge or degree room should have no exterior windows, so that ritualistic secrecy may be preserved. Rooms of this character should be thoroughly ventilated by means of intake and exhaust fans, the capacity being proportioned to the largest number of people that the room can possibly accommodate. There cannot be too strongly stressed the importance of perfect ventilation, as in some jurisdictions large classes of candidates as well as the workers and members may be in attendance for as many as ten hours a day and for four or five days.

Sometimes in moderate, and generally in large sized lodge and degree rooms, the requirements call for the installation of a pipe organ. Its proper loca-

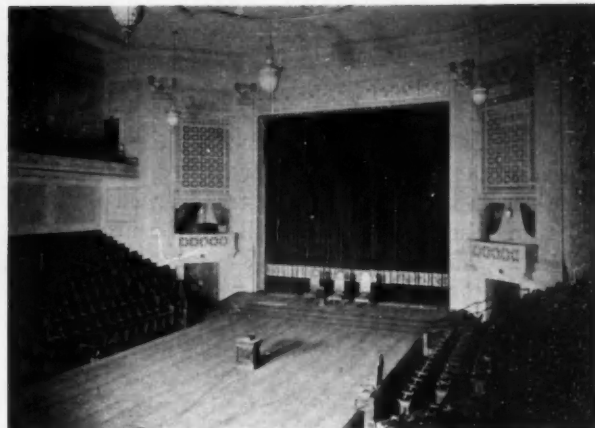
tion and incorporation in the interior design will not be as difficult as arranging to accommodate a mixed choir or chorus, whose singing can be heard in the degree room but who cannot hear or see the degree work. Shutters of the same character as are used in the swell box of an organ can be installed in the opening between the choir and degree room, the control of the shutters being placed where convenient. While an organ in a lodge room is generally operated by one of the members, this is not always so with reference to Scottish Rite work, in which event it will be advisable to install an electric pneumatic organ with duplicate consoles, one in the degree room, the other in the choir room. When vocal music is furnished by non-members it is necessary that a console be located in their choir room for proper results. If the organ chamber is distant from the choir room, it is also very desirable that one set of organ pipes be placed in the choir room so that



Plans, Scottish Rite Cathedral, Joplin, Mo.  
Hubbell & Greene, Architects



Lodge Room, Elks' Club, Oakland, Calif.  
William Knowles, Architect



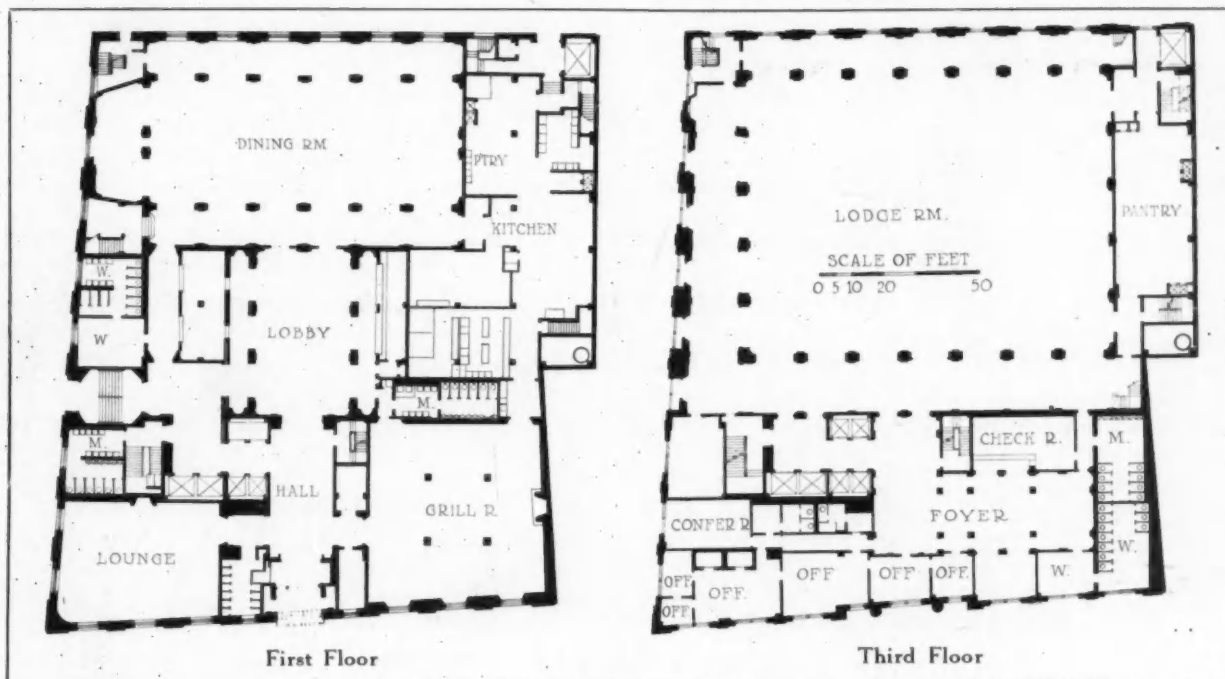
Auditorium, Temple of Freemasonry, Madison, Wis.  
James R. & Edward J. Law, Architects

the vocal as well as the organ music be synchronized.

As has already been said, no definite, hard and fast rules can be laid down regarding either large or small lodge or degree rooms. The character of the work to be performed and the manner of its presentation, with varying local conditions, should in all cases govern. Degree rooms having stages and seating up to 100 can be placed on second floors if ample stairways and fire escapes are provided, reserving the first floors for social purposes. Degree rooms seating more than that number should be located on main or ground floors for the sake of convenience.

Too much care cannot be taken in arranging the necessary anterooms in connection with lodge rooms. These should be generous in size and be properly located according to their uses. Of primary importance is the room or corridor that is guarded and through which all members and candidates pass into the lodge room. In large lodge rooms it is advisable

to provide means of exit other than the entrance door through the guarded room. These exit doors should be equipped with "anti-panic" hardware on the lodge room side only. It is usual and generally necessary to provide a room in which candidates are prepared for their initiation. This is best located adjacent to the lodge room, with connecting doors to the guarded room only. Lodges conferring degrees on classes of candidates should not only have classrooms ample in size but these should be located so the candidates are at all times segregated from the members. Much degree work requires illustration, and it is generally required that a lantern room be provided with a small opening into the lodge room through which pictures are projected on a large canvas screen. This room is usually placed on a mezzanine floor over the candidates' preparation room. In the larger type of degree rooms a standard motion picture booth is always advisable.



Plans, Brooklyn Lodge No. 22, B. P. O. Elks  
McKim, Mead & White, Architects

Lodges semi-military in character, in addition to other special rooms, require locker rooms adjacent to the lodge rooms. These rooms should be of ample sizes, not only to accommodate the necessary lockers, which are usually placed in tiers, but also to give ample spaces for dressing. In connection with these rooms there should be arranged well equipped toilet and shower rooms, which will be needed.

The necessity of having ample toilet room facilities cannot be too strongly stressed. Where degrees are conferred on large classes of candidates and the work is continuous for hours with but few brief intermissions, the number of fixtures required is abnormal. A careful analysis of all conditions should be made in order that ample accommodations be provided. When this has been done, add at least 25 per cent to the estimate and it will be found none too generous. In moderate sized or smaller lodge rooms, it is advisable that toilet rooms be so located that the members do not have to pass the outside door of the guarded room. Where more than one lodge room is located on a floor, a joint toilet room serving all lodges on that floor will be found economical. Taking care of coats and hats will generally be found a perplexing problem. As attendance of membership varies, no set rule can be given. To provide for the greatest number that might possibly attend will require an abnormally large floor space. The writer's method is to ascertain the average attendance, and then to provide hook spaces for 50 per cent in addition. Movable hat racks can sometimes be used.

The problems of circulation between various rooms and the sizes of lobbies, foyers and corridors should be carefully determined in order that congestion be avoided. In all buildings where lodge rooms are above the ground floor, and especially where considerable numbers are accommodated, enclosed fire stairways of ample capacity should be provided. They should be located where they are easily accessible and as far from the regular stairways and elevators as possible. Building laws govern the matter.

Ever since their inception and organization, some of the fraternal orders have developed and stressed the social side to such a degree as to require rooms in addition to those required for strictly lodge purposes. It is only comparatively recently, however, that the Masonic order has felt the necessity of having more than possibly a banquet room, although some of the more pretentious buildings have incorporated other social rooms. The rapid increase in membership of the Eastern Star and a realization of the benefits to be secured through social intercourse require social rooms of various kinds for the members as well as their friends. Modern fraternal buildings, in addition to banquet rooms, usually contain libraries, billiard rooms, smoking and card rooms as well as women's parlors equipped with generous dressing rooms, and in some buildings bowling alleys have been installed for convenience.

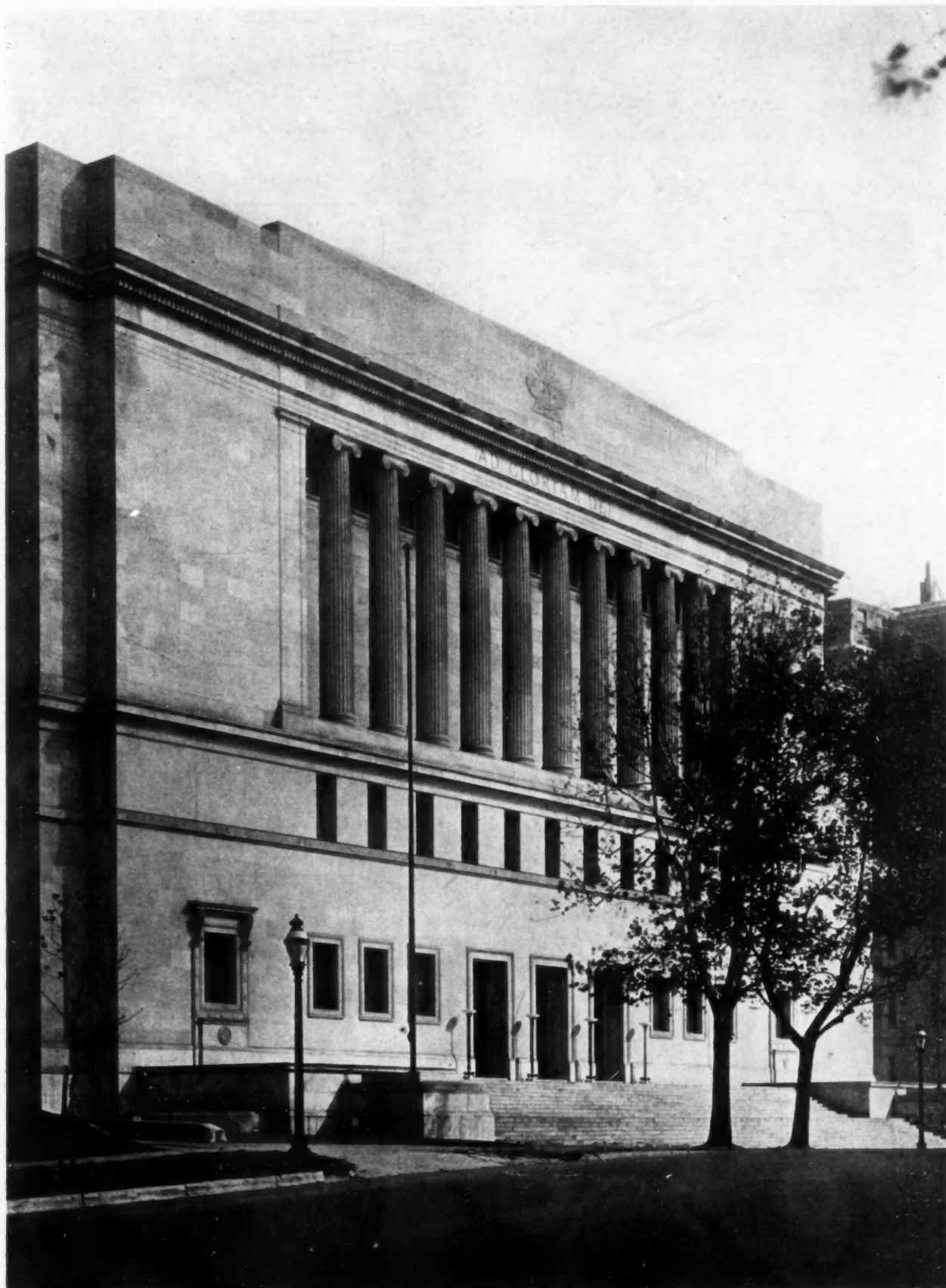
Although their use is rather infrequent, banquet rooms should be as large as possible, since attendance

at banquets is often surprising. In Scottish Rite buildings, the banquet rooms must be large enough to accommodate at one yearly banquet a possible majority of the members, as attendance is obligatory. As banquet rooms are frequently used for dancing, they should have as few columns as possible. Accommodations for orchestras either on balconies or in alcoves is desirable. Much of the success of a banquet will be due to quick service, requiring generous passage space. Collapsible tables about 30 inches wide are usually found to be serviceable.

Too much attention cannot be given to the size of the kitchen. Differing radically from the usual hotel kitchen, where service is continuous, it should be considerably larger in order to allow for quick service. Hotel waiters serve from six to ten guests, while good banquet service does not allow for over four to each waiter, and in any event not over six. The cooked food is often prepared elsewhere, and on its arrival is placed in large warming ovens. Salads, desserts and uncooked food are prepared on the premises and placed on long tables in set-up rooms adjoining the kitchen, the tables accommodating one service of that particular food for each attendant at the banquet. This is necessary in order that each course be served promptly. In large kitchens, separate dishwashing rooms are necessary as well as ample refrigerating capacity. An experienced caterer should be consulted before planning the kitchen, in order that future trouble be avoided.

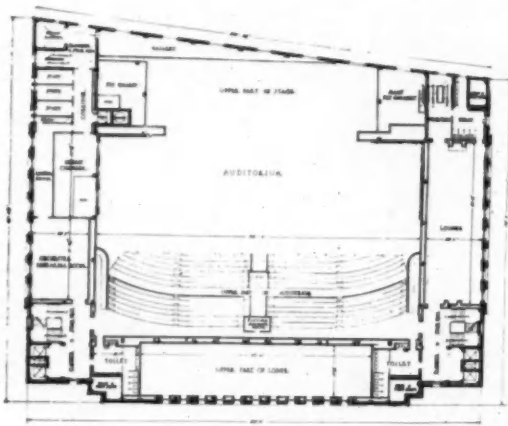
Excepting where it is particularly desired, libraries do not require large book capacity. In a moderate sized building, space for 1000 to 2000 volumes is generally sufficient. Ample space should, however, be provided for tables for magazines and newspapers, as these will be found very popular with any class of members. A game room containing billiard and pool tables will attract more than ordinary attention, and unless a generous number of tables is originally installed, additional tables will soon be necessary. A card room will be found popular in some fraternal buildings, although in others it will be considered unnecessary. Local conditions will determine the advisability of its being included in the plans. Although smoking is generally allowed in all social rooms, the requirements will sometimes call for a separate smoking or lounging room. A women's parlor is a necessity in almost all sizes and types of fraternal buildings. They are used by the women as waiting rooms or for various other purposes, and they are especially valuable when entertainments or banquets are held, where women are often guests.

Possibly the most important of all service rooms, one that is vitally necessary, is the office of the secretary. It should be large enough to accommodate filing systems of various kinds and have a large fire-proof storage vault. In many fraternal buildings, a private office for the secretary should be provided, and in all cases counters separating the public spaces from the offices are a necessity. Careful attention to the requirements of the secretary is of importance.

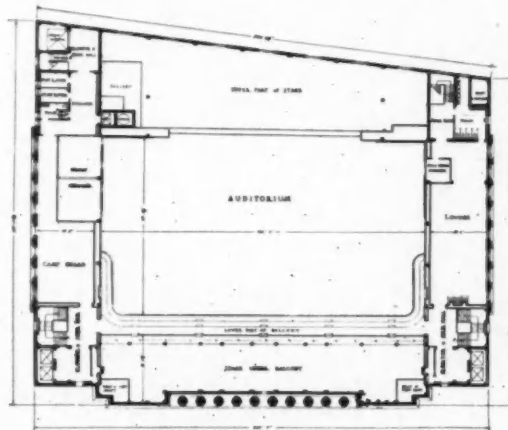


SCOTTISH RITE CATHEDRAL, ST. LOUIS  
WILLIAM B. ITTNER, ARCHITECT

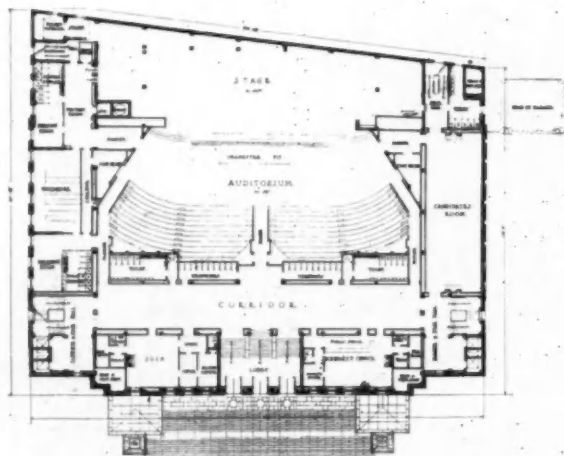
*Plans on Back*



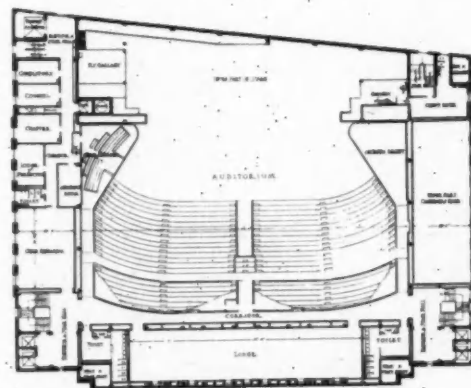
THIRD FLOOR



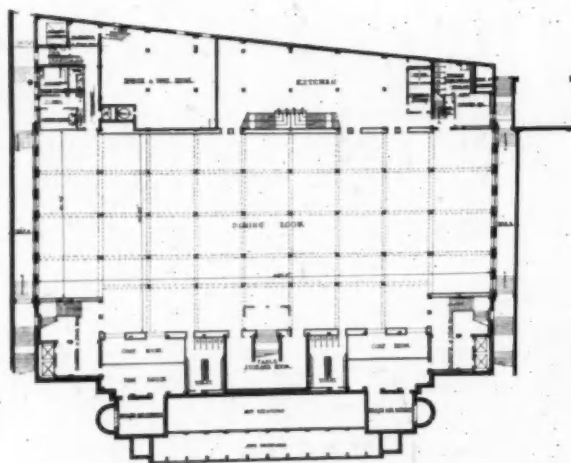
FOURTH FLOOR



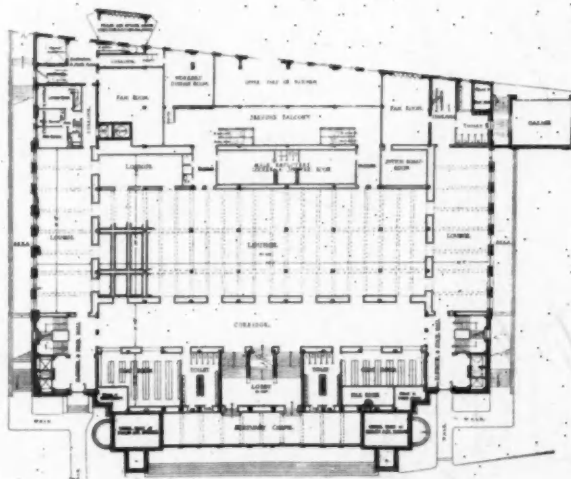
MAIN FLOOR



SECOND FLOOR



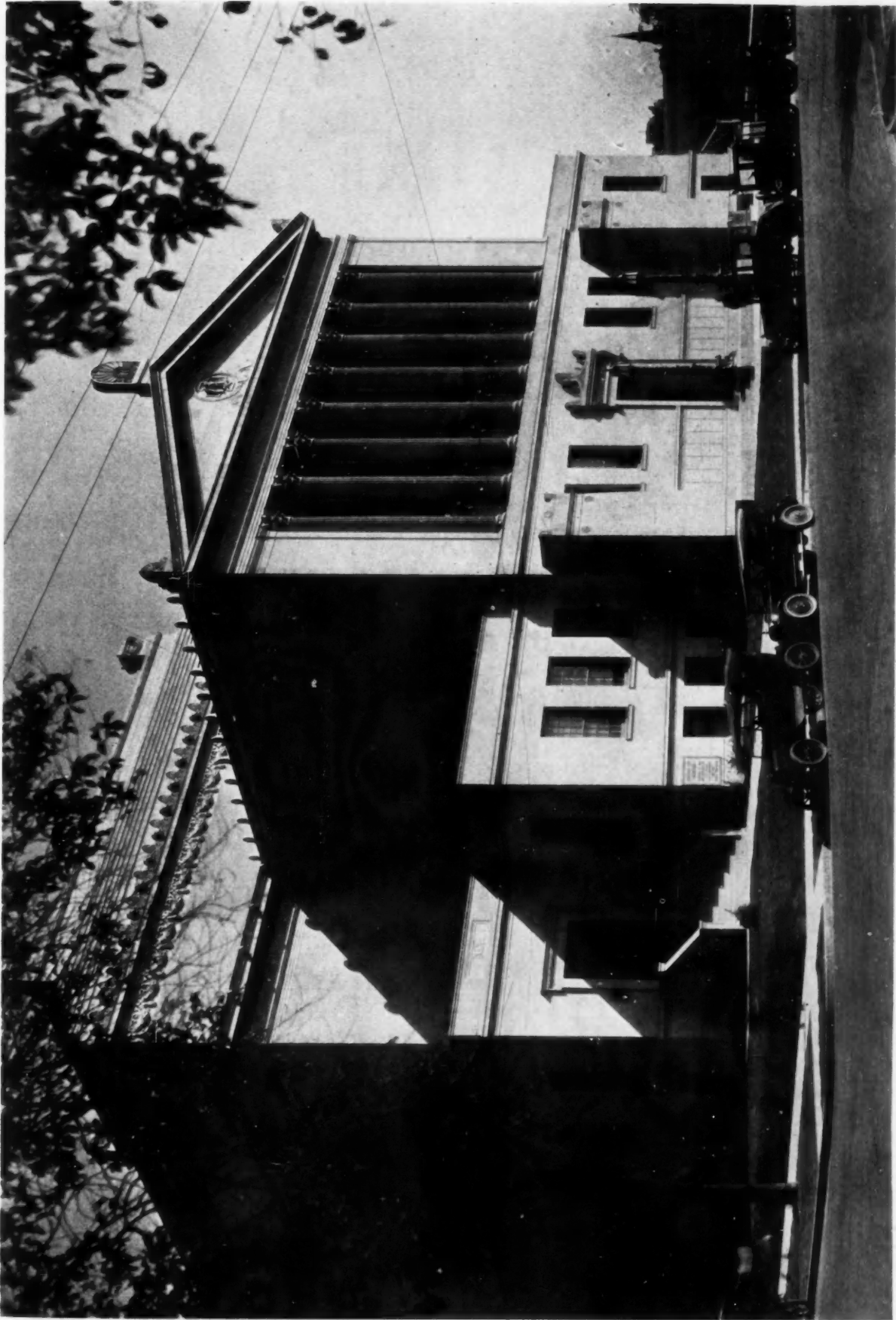
DINING ROOM FLOOR



LOUNGE FLOOR

PLANS, SCOTTISH RITE CATHEDRAL, ST. LOUIS

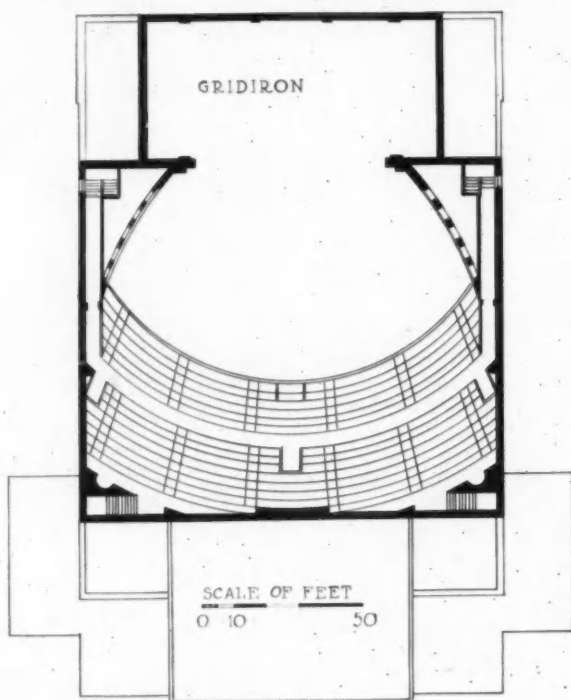
WILLIAM B. ITTNER, ARCHITECT



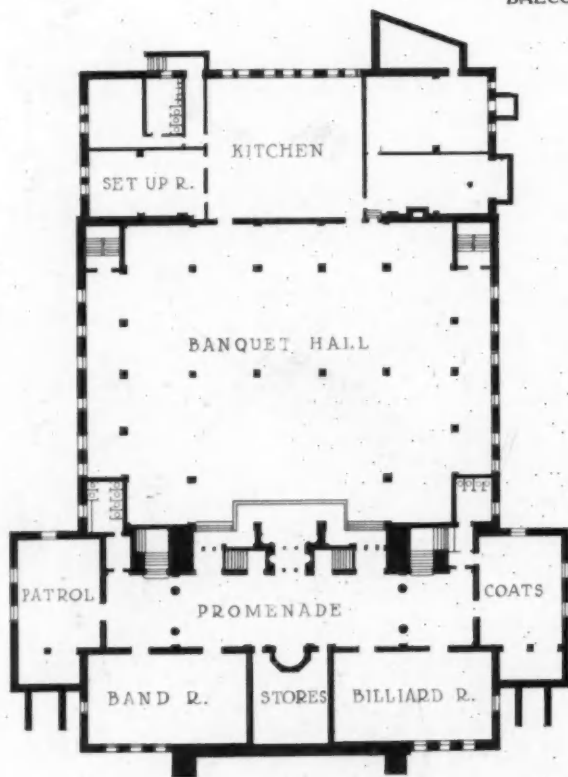
*Photo. Tebbes & Knell, Inc.*

*Plans on Back*

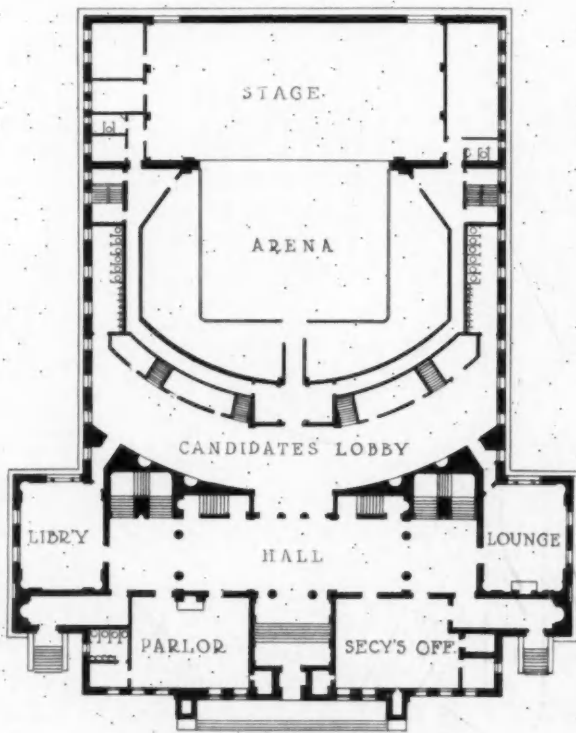
SCOTTISH RITE CATHEDRAL, SAN ANTONIO  
HERBERT M. GREENE COMPANY, ARCHITECTS



BALCONY FLOOR



BASEMENT

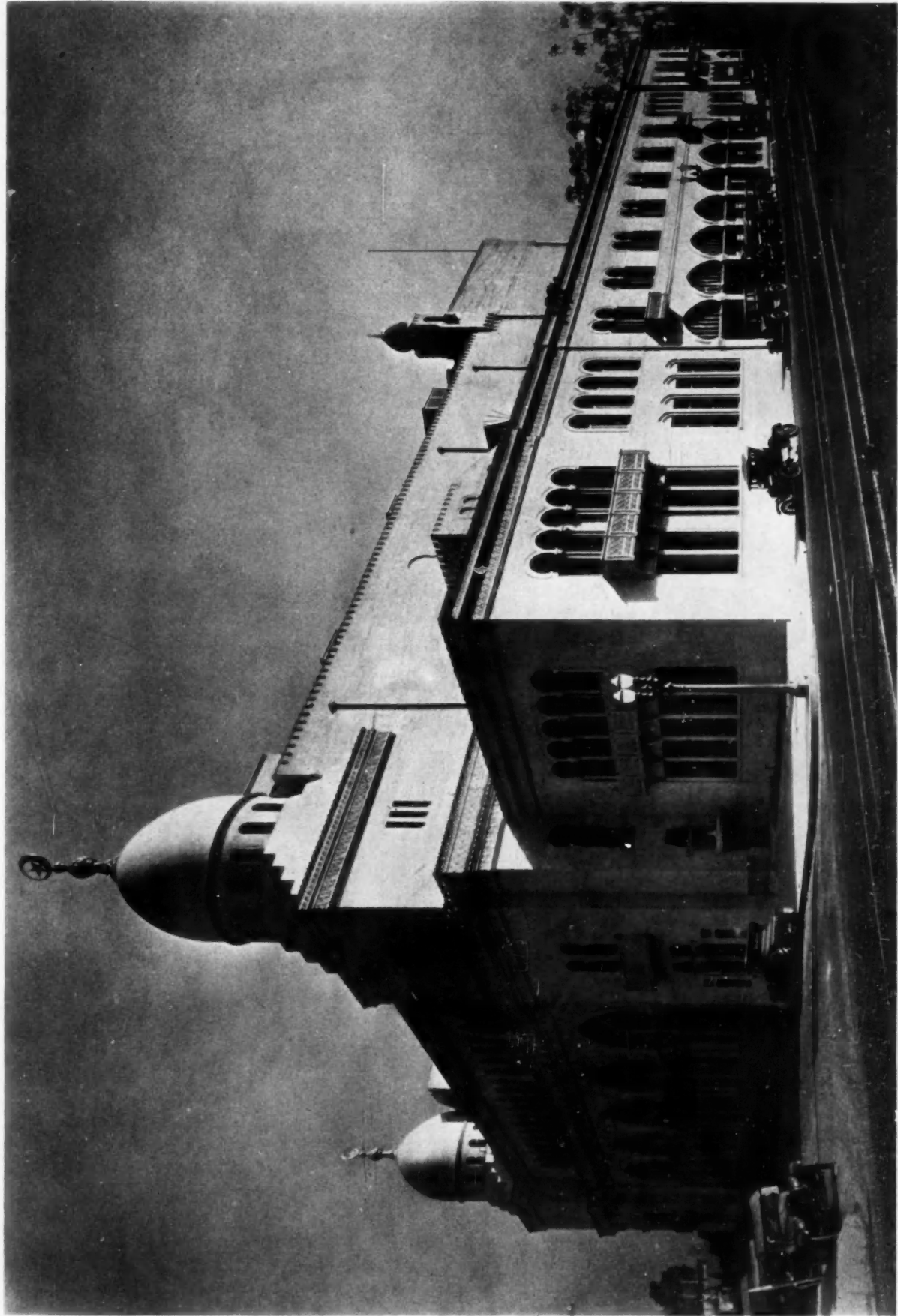


MAIN FLOOR

PLANS, SCOTTISH RITE CATHEDRAL, SAN ANTONIO

HERBERT M. GREENE COMPANY, ARCHITECTS.

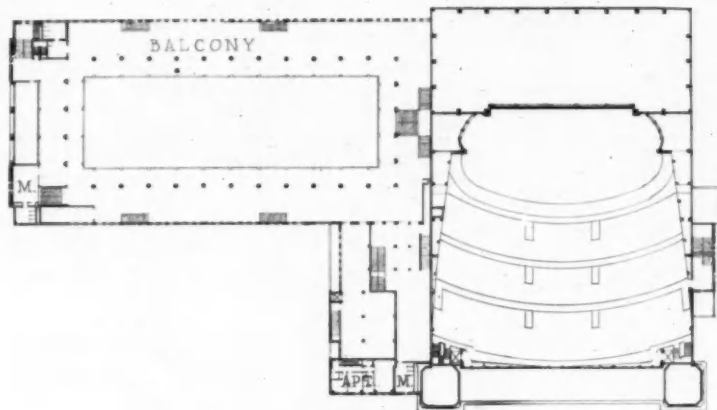




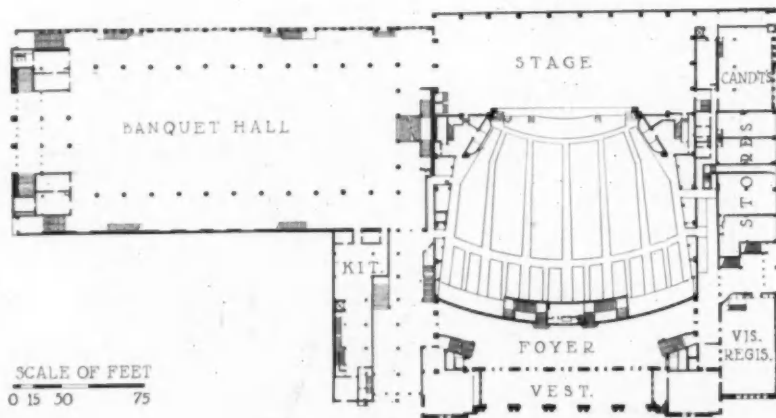
*Plans on Back*

AL MALAIKAH TEMPLE, LOS ANGELES  
JOHN C. AUSTIN, ARCHITECT

*Photos. The Mott Studios*



SECOND FLOOR



MAIN FLOOR

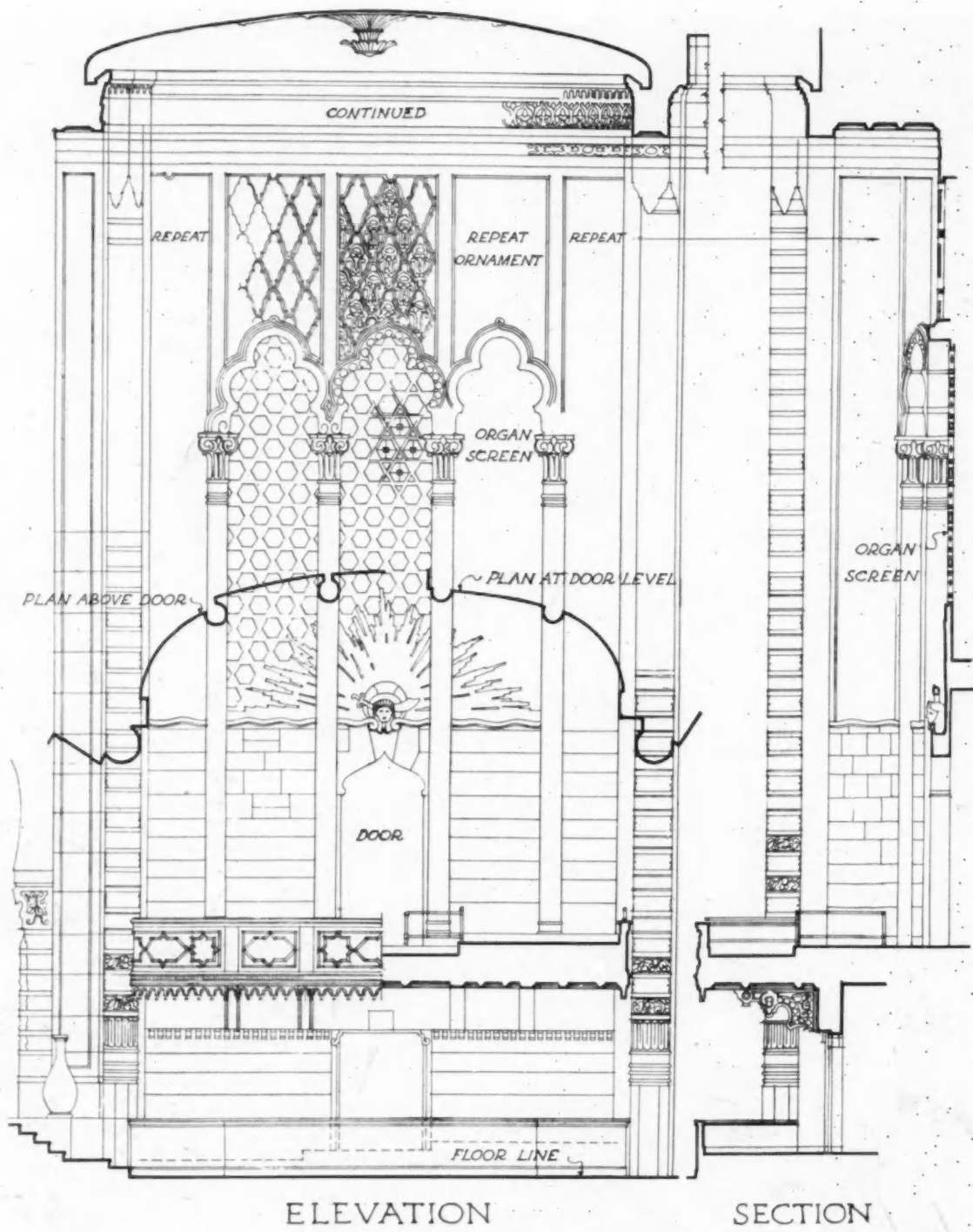
PLANS, AL MALAIKAH TEMPLE, LOS ANGELES

JOHN C. AUSTIN, ARCHITECT



AUDITORIUM, AL MALAIKAH TEMPLE, LOS ANGELES  
JOHN C. AUSTIN, ARCHITECT

*Measured Detail on Back*



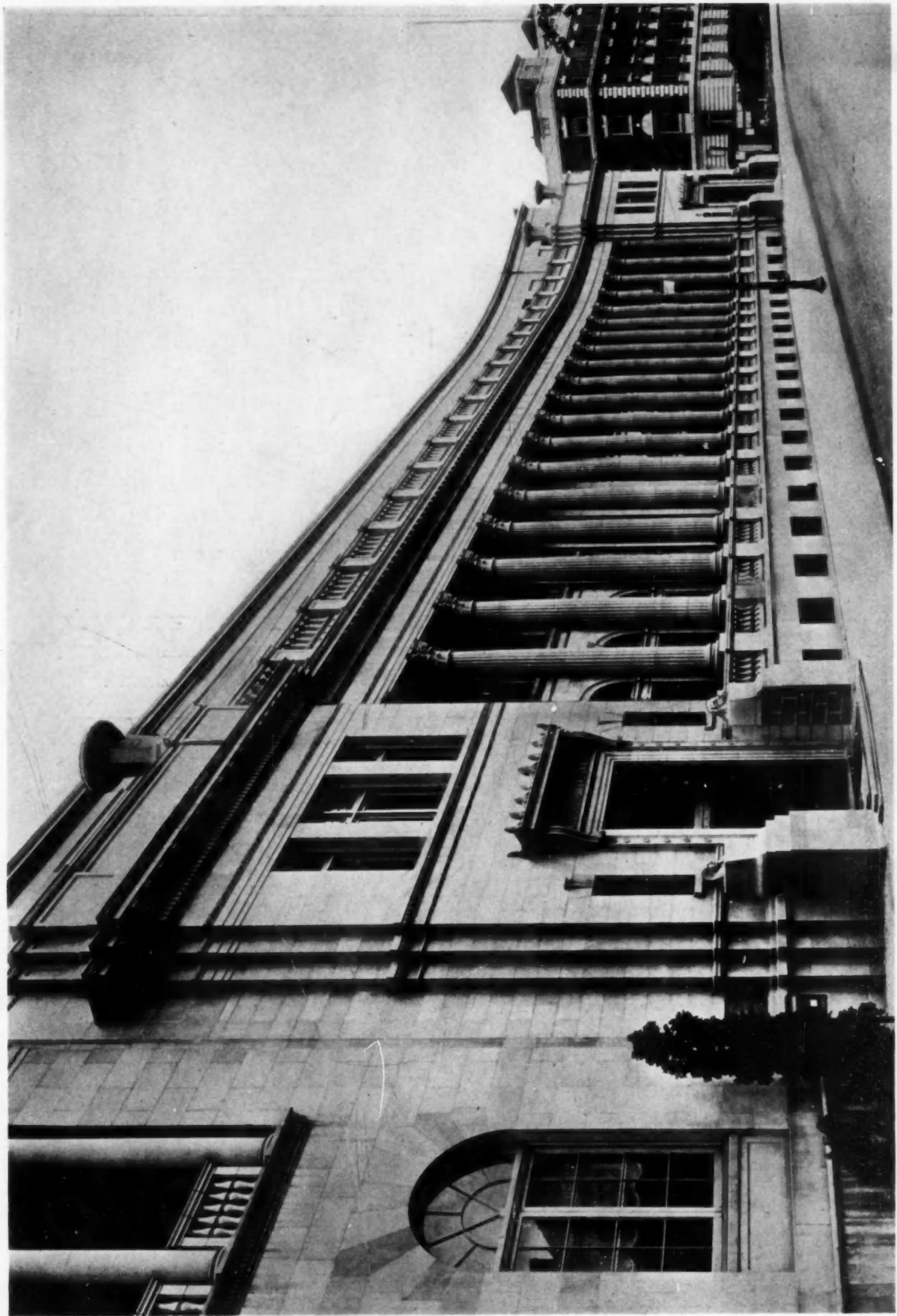
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DETAIL OF INTERIOR  
 AL MALAIKAH TEMPLE, LOS ANGELES  
 JOHN C. AUSTIN, ARCHT. LOS ANGELES, CAL.

SEPT  
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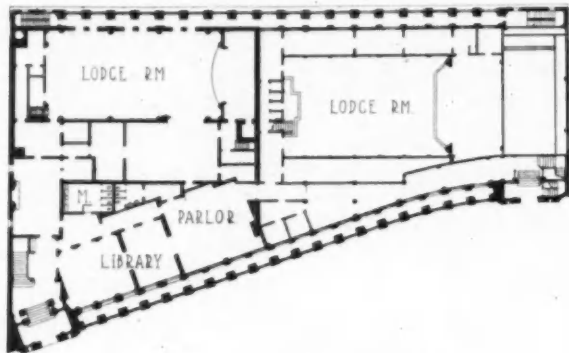
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The ARCHITECTURAL FORUM DETAILS

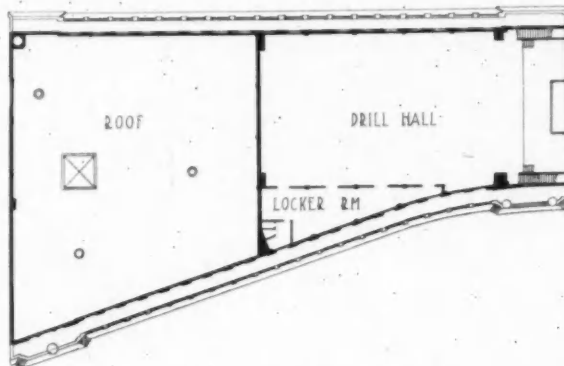


*Plans on Back*

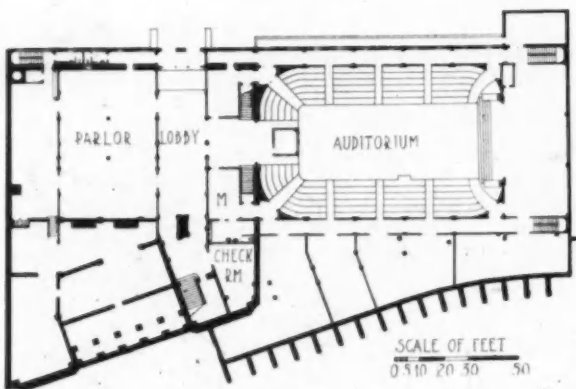
MASONIC TEMPLE, SPOKANE  
RIGG & VAN TYNE, ARCHITECTS



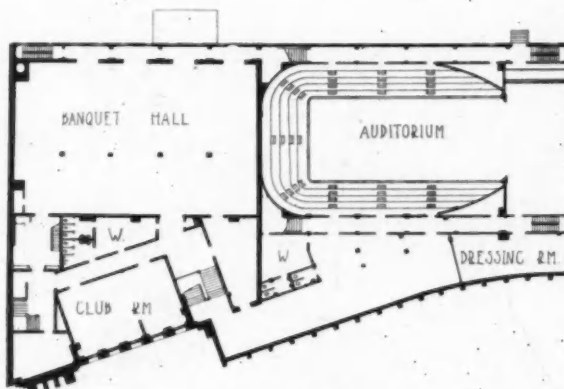
FIRST FLOOR



THIRD FLOOR



SUB-BASEMENT



BASEMENT

PLANS, MASONIC TEMPLE, SPOKANE

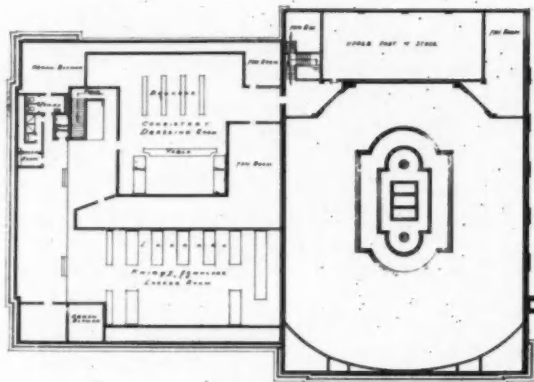
RIGG & VAN TYNE, ARCHITECTS



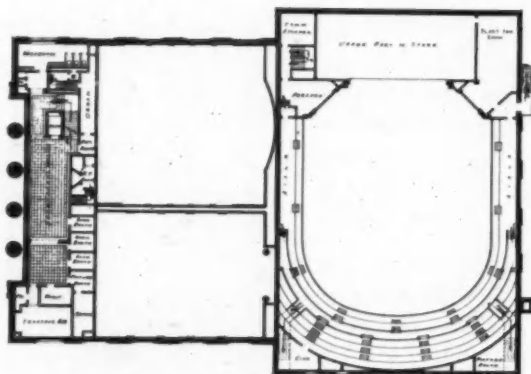
*Plans on Back*

TEMPLE OF FREEMASONRY, MADISON, WIS.  
JAMES R. & EDWARD J. LAW, ARCHITECTS

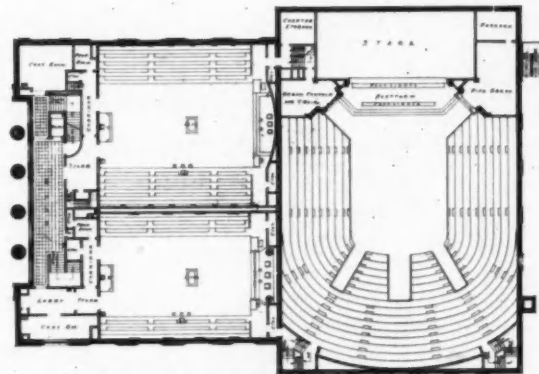
*Photo, Diemer*



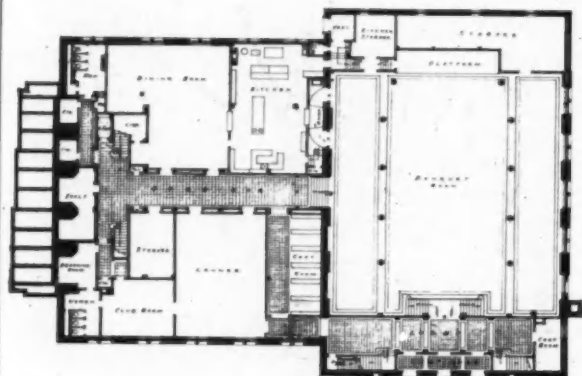
ATTIC FLOOR



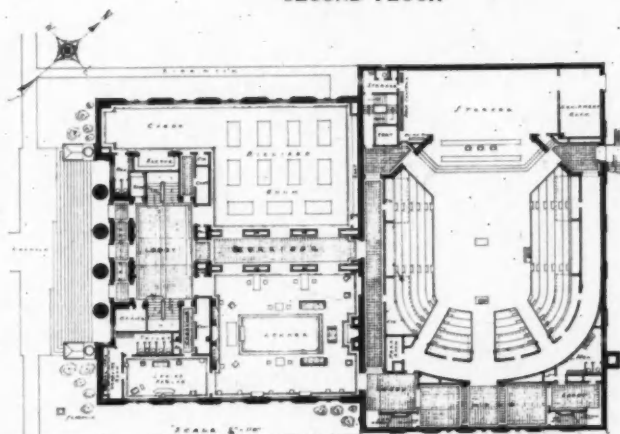
MEZZANINE



SECOND FLOOR



GROUND FLOOR



FIRST FLOOR

PLANS, TEMPLE OF FREEMASONRY, MADISON, WIS.

JAMES R. AND EDWARD J. LAW, ARCHITECTS

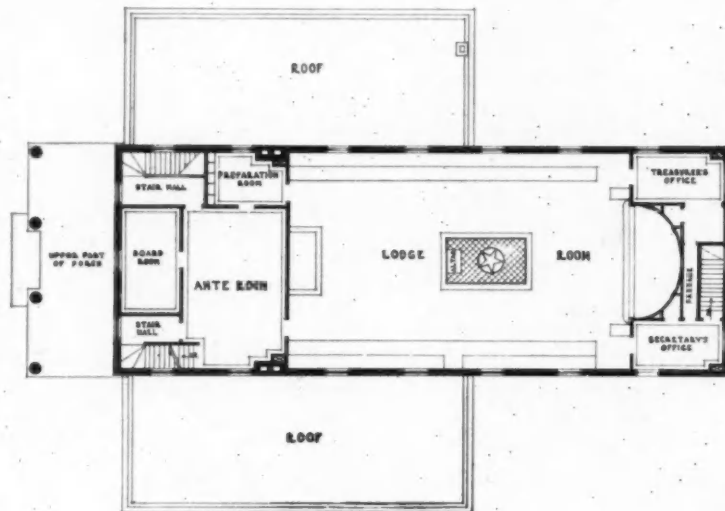




*Plans on Back*

MASONIC TEMPLE, GREENWICH, CONN.  
GEORGE B. POST & SONS, ARCHITECTS

*Photos, Dix Duryea*



SECOND FLOOR



FIRST FLOOR

PLANS, MASONIC TEMPLE, GREENWICH, CONN.

GEORGE B. POST & SONS, ARCHITECTS

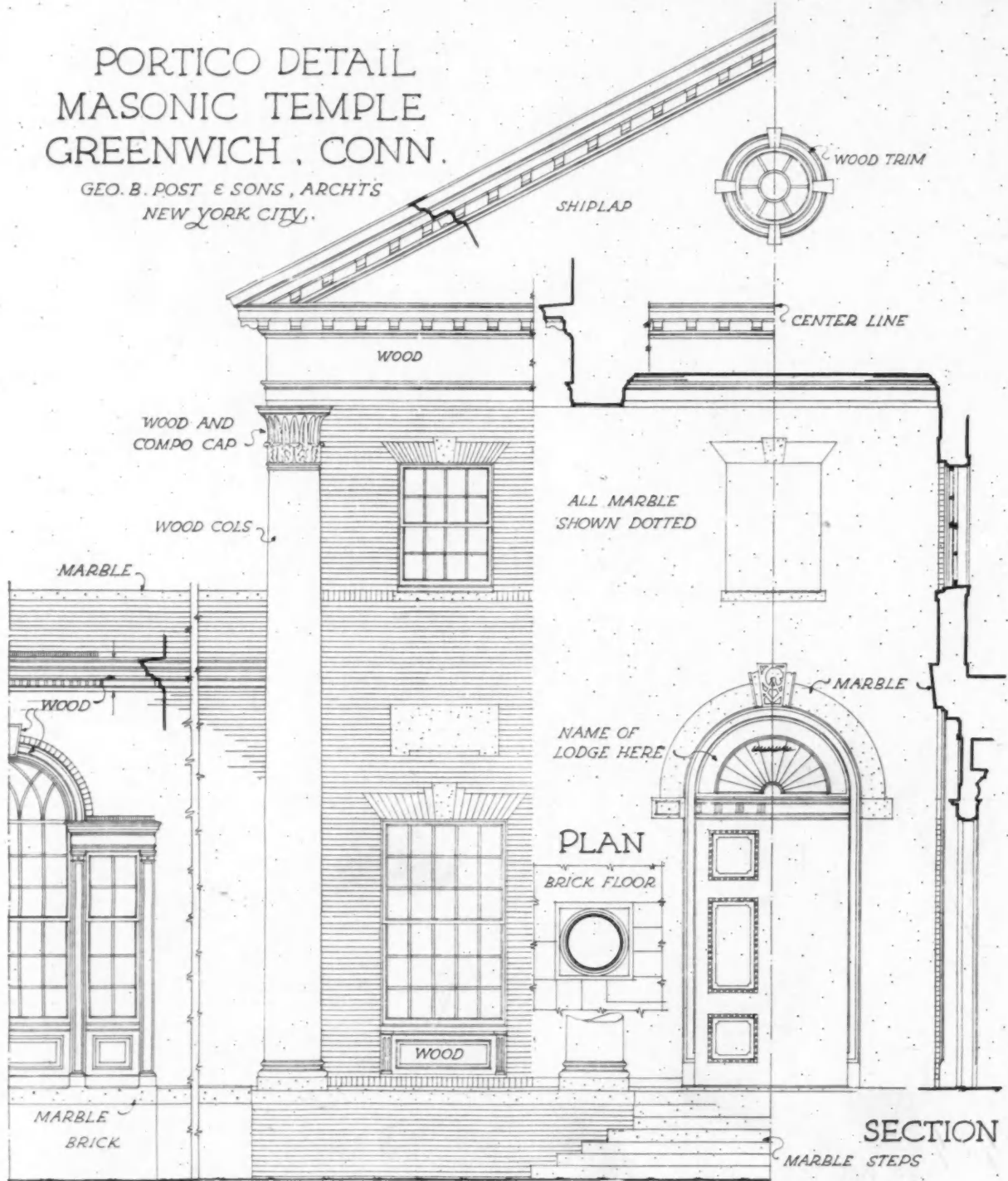


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FRONT ELEVATION, MASONIC TEMPLE, GREENWICH, CONN.  
GEORGE B. POST & SONS, ARCHITECTS

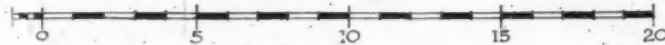
PORTICO DETAIL  
MASONIC TEMPLE  
GREENWICH, CONN.

GEO. B. POST & SONS, ARCHTS  
NEW YORK CITY.



SEPT  
1926

SCALE IN FEET



NO  
6

# The Social or Athletic Club; Its Exterior Design

By DWIGHT JAMES BAUM

EVERY intelligent architect recognizes in the club building of any type a distinct opportunity, quite apart from the purely architectural considerations involved. He sees a building which is to be a permanent part of its community and an asset to that community if it is designed with studious consideration of all its special requirements. He sees, too, a building in the benefits of which the citizen participates, a building used and especially noticed by the community, an important structure.

Broadly speaking, the architect wants to design a building, whether for a social club or an athletic club, which will be both dignified and inviting and at the same time in keeping with its environment. The club house designed in good taste should not be more conspicuous by reason of its insistent difference from other buildings than is the really well dressed man conspicuous because of his extreme clothes. I have often thought of Carlyle's remark about the splendidly dignified Chelsea Hospital buildings on the Thames Embankment, designed by Sir Christopher Wren. Carlyle did not know that Wren was the architect, but said that the buildings looked "as though they had been designed by a gentleman." This should be true of any club building, and although it is not a thought that can be reduced to an academic architectural formula, it is one of the most important to bear in mind in designing club buildings. It simply means that there should be nothing blatant or ostentatious about a club building; it is simply another and more picturesque way of saying that the design of a club building is an exercise in good taste, which, perhaps, is more important as a single factor making for the right kind of design than any other one factor that could be named. Among other things it assumes good architecture, and goes further by assuming, also, good architecture which is also appropriate. Appropriateness is one of the first connotations of good taste in a building of any kind.

With the privilege extended me by the Editor to include with the illustrations of this special number of THE ARCHITECTURAL FORUM some renderings of two club buildings from my office, designed for Florida, I am able to dwell upon what I believe to be another very important fundamental of club de-

sign. It seems particularly futile to build a club which will accomplish nothing more, architecturally, than resemblance to a hotel or an office building.

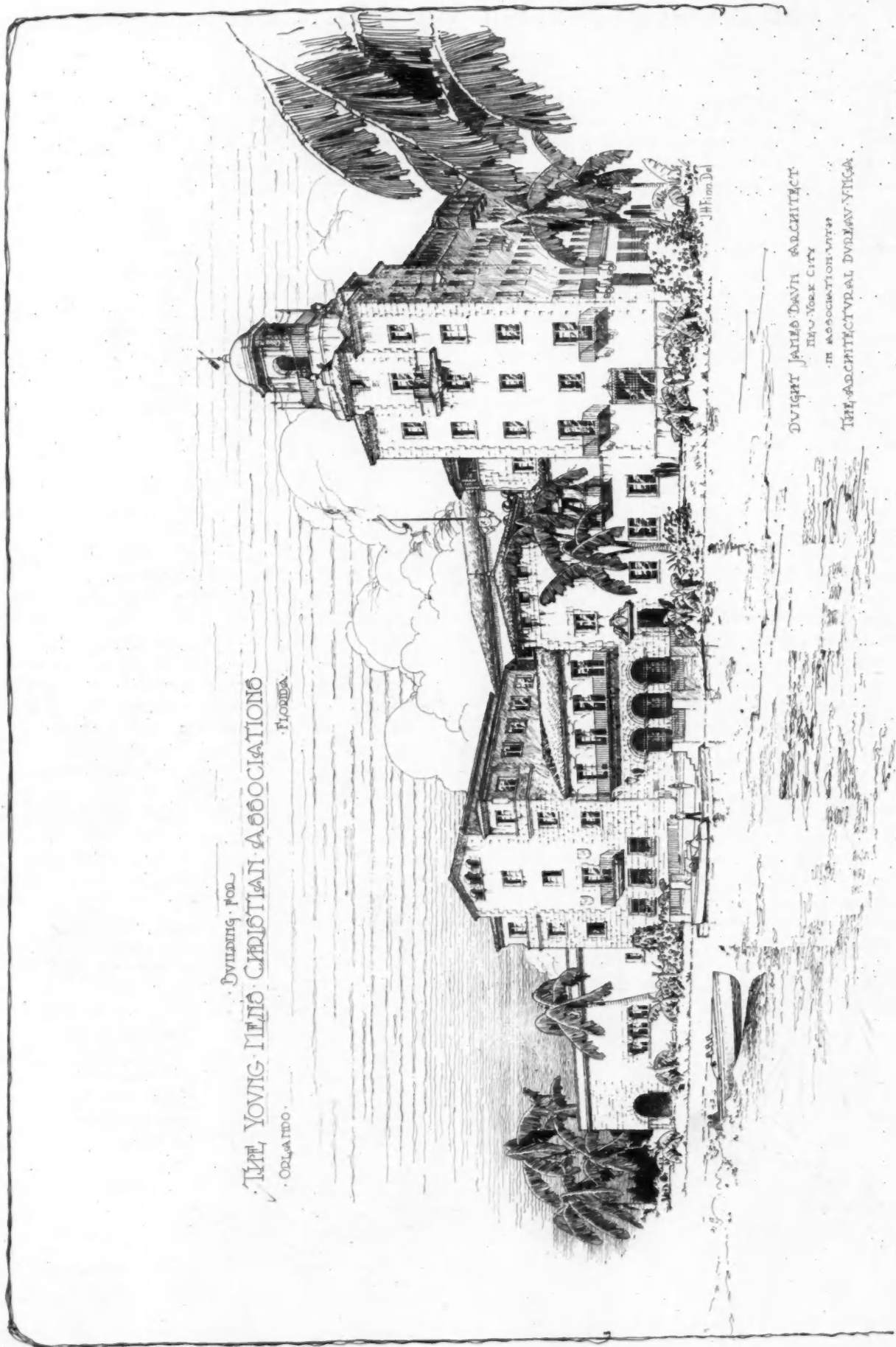
Where there are lofty dining rooms, blank-walled squash or tennis courts, a swimming pool or a gymnasium, some frank suggestion of the existence of these should appear in the exterior design. In this respect the Racquet Club in Boston, designed by Parker, Thomas & Rice, and the Racquet and Tennis Club in New York by McKim, Mead & White, are unusually fine examples of honest architectural treatment of extensive exterior wall areas without fenestration, and to the purely architectural eye there is an abiding sense of satisfaction in the rear elevation of the New York Public Library on Bryant Park, where the existence of great iron-galleried stackrooms within is fully expressed by the tall light openings separated by the plain marble piers without.

In both the Tampa Athletic Club and the Y. M. C. A. building for Orlando, Fla. I have tried to give as much exterior expression of interior features as possible, and at the same time to impart to the buildings a locally suitable stylistic feeling. The Orlando Y. M. C. A. is frankly in the informal kind of Spanish architecture that has been so successfully developed in Florida. There is an irregularity in profile and in set-backs, with considerable diversity in roof, window and balcony treatment, and the patio enclosed by the main masses of the building is expressed on the street elevation by the wood-grilled arched openings of a loggia that separates the patio from the street. By day these openings will afford inviting glimpses of the patio within, and at night they will add interest to the building by allowing the artificial moonlight effects of the patio to be seen through the grilles. Expression, too, is given the

principal rooms by the handling of wall spaces and fenestration, so that every elevation is essentially a piece of articulated design. In the Tampa Athletic Club the first *projet* was revised toward character more Renaissance Italian than Classic Italian, and full importance is given to the water approach, with terrace steps leading up to a formal entrance portico. In this elevation, again, the fullest possible exterior expression is given to the interior divisions of the plan, and the



W. E. & A. A. Fisher, Architects



Building for  
 THE YOUNG MEN'S CHRISTIAN ASSOCIATION  
 ORLANDO, FLORIDA

DWIGHT JAMES DAVIS ARCHITECT  
 NEW YORK CITY  
 IN ASSOCIATION WITH  
 THE ARCHITECTURAL FIRM YINGCA

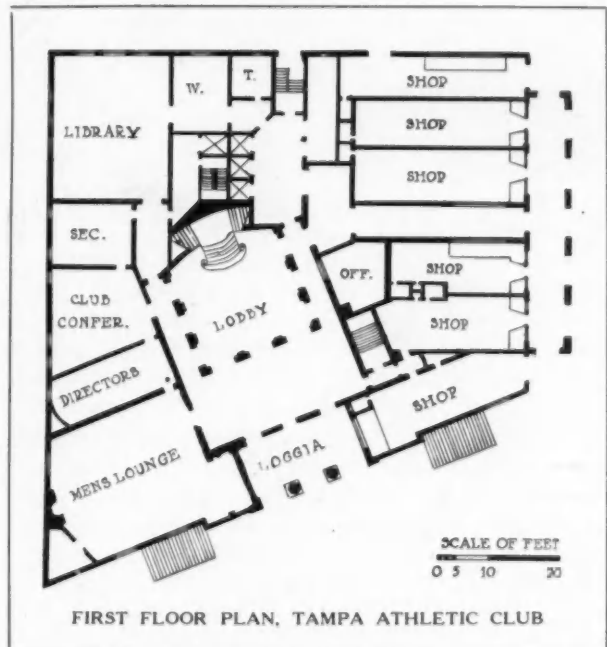
J.H. Firm Del.



WATER FRONT ELEVATION, TAMPA ATHLETIC CLUB  
DWIGHT JAMES BAUM & B. C. BONFOEY, ASSOCIATED ARCHITECTS



FIRST FLOOR PLAN, Y. M. C. A., ORLANDO



FIRST FLOOR PLAN, TAMPA ATHLETIC CLUB



Missouri Athletic Association Building, St. Louis  
William B. Ittner & G. F. A. Brueggeman, Associated Architects

utmost advantage is taken of the composition of the building's mass toward its effectiveness as a whole.

In the Penn Athletic Club (Plate 46), Zantzinger, Borie & Medary have utilized the set-back principle and have produced a highly effective design, so impressive in mass that it requires relatively little detail,—a peculiarity, by the way, of this new "mass design." In past years detail too often preoccupied the architectural mind at the expense of mass, and whole facades were often made up of detail with very little thought of the larger relationships of mass. William B. Ittner's athletic association building is an interesting example of designing in brick,

resulting in a structure which is distinctive and at the same time extremely dignified. A most unusual club design is seen in the Buffalo Athletic Club (Plate 44) where, again, mass predominates in the great twin towers that rise impressively above a lower, rectangular substructure. The detail, here again subordinated, is in a very restrained Renaissance Italian. One of the most interesting of the club buildings illustrated here (page 179) is Smith, Hinchman & Grylls' Detroit Players' Club. The architects have designed in an unusually free version of Italian, and have departed interestingly from most of the familiar conventions of that type. The projecting rafter ends, with dramatic masks, give a note of distinction to the front elevation, and while the building is comparatively small, its technique would seem to be admirably applicable to a structure much larger.

The Y. M. C. A. or Y. W. C. A. building comes, of course, fairly within the category of the social or athletic club, though it should properly have a certain difference in feeling that must be discerned by the architect's sensibilities.

This difference is best illustrated, perhaps, in the Y. W. C. A. building for Columbus, O., which deservedly won in competition. Here the architects, Miller & Reeves, saw their problem as the designing of a building which would be distinguished and impressive in appearance, yet which would successfully suggest a great, welcoming house, a club that would be also a home. This affords an instance of exercise of real architectural thought and feeling, and of real architectural good taste. It is a notable expression of sense of fitness.

While planning for possible future enlargement is an essential of the plan itself, which is discussed elsewhere in this issue of THE FORUM, it is also an



inseparable part of the disposition of the exterior design as well, and when such future expansion is anticipated by the club, the most careful provision should be made to provide for a later addition which will not look like an addition, but like a perfectly coordinated part of a unified design.

The business of building a club house of the social or athletic type is almost invariably in the hands of a committee, and I believe that most architects will agree that greater efficiency than is usually had in reaching conclusions would not only save all the parties concerned a great deal of time and money, but would result in a better building, and more value for the total appropriation. The committee should, by all means, draw up a careful program or specification covering all the practical requirements and needs of the new club, and having done this, should call in an architect, if only in a consulting capacity, to advise on the architectural part of the project. The average committee, quite naturally, is not likely to be versed in architectural matters or architectural taste, no matter how well the members may be acquainted with the practical needs of the proposed club.

An architect sitting with the committee, whether or not he is invited or eligible for selection as the ultimate designer, cannot but be of the greatest assistance to the successful furthering of the whole project. He may be invited at an agreed fee solely as a consultant, and as designing and building constitute his business, he will invariably add much to the success of the deliberations of the bankers, lawyers, business men and others forming the committee, and enable them to arrive with a minimum of delay and groping at a definite, workable scheme for the new club building, with an estimated price that will give the club a



Proposed Y. W. C. A. Building, Columbus, O.  
Miller & Reeves, Architects

definite figure to work toward in underwriting its cost. This, of course, is a highly important detail.

In connection with an important athletic club on which I was recently consulted, I accomplished excellent results by taking the committee on a "personally conducted tour" to several cities to thoroughly inspect a number of important athletic club buildings. The members of the committee were thus enabled to see at first hand all the most important examples of the use of design and equipment, and to form, on a basis of actual comparison, a really well informed opinion of the work of different architects. The points I wish to make are that there is

much to be gained in every phase of a club building project by the better information of the committee in charge, and that the architect renders a service to the extent that he can proffer such information.

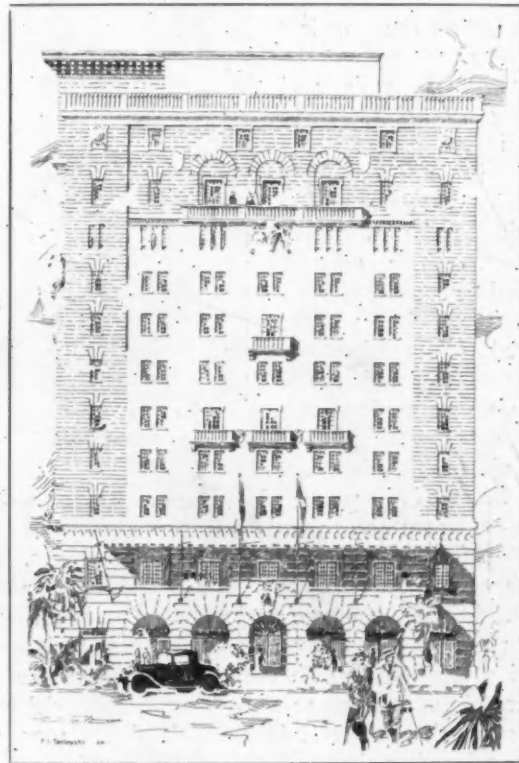
Obviously, it is not possible to generalize very extensively about the exterior design of club buildings, because each will suggest some special treatment appropriate either to the nature of the club or its environment, or sometimes to both. One generality, however, suggests itself and has to do with general mass. The zoning law of a few years ago in New York, requiring recessions or set-backs of the building's mass in certain ratios to its plan area, street frontage and height, resulted in a revolution in design. Architects found themselves working in three dimensions,—in masses instead of in elevations. Buildings, instead of standardizing themselves in relationship of base, cornice and intervening exterior wall area, changed their shapes as they rose, and developed profiles of marked individuality and variety. One such building that houses several fraternity clubs in New York is the Allerton House at Madison Avenue and 38th Street, and here some of the offset has been utilized for a roof garden. The general idea of the set-back profile, whether or not it happens to be decreed by local building ordinances, affords a wealth of suggestion for the design of club buildings. If the dining room, for instance, is placed toward the top of the building, it can be provided with open-air dining terraces opening from it

through tall doors and affording an attractive sense of light and air. There are instances, as in the new addition to the Harvard Club in New York, where the swimming pool is at the top of the building, and in such a case it would be a striking innovation to allow a part of the pool to occupy a terrace open to the sky, with provision for shade by awnings.

The zoning law, certainly, opened by chance a door to new and more effective kinds of design than old academic formulæ dreamed of. Before the law was decreed in New York, Mr. Corbett, of Helmle & Corbett, made a purely æsthetic use of it in the upper stories of the Bush Building on 42nd Street. When he showed a design in which the corners of several of the topmost stories were beveled back obliquely, effecting one of the finest architectural profiles then proposed for New York, there was heavy opposition on the score of lost floor space and possible "freakishness." The architect countered with the argument that this then unusual treatment of the top of the building would have, through its sheer pictorial aspect, an advertising value far outweighing that of the loss of floor area involved. The architect won, and he gave New York one of its finest profiles, and the Bush Building a unique quality of architectural distinction. All of which may seem in the nature of a digression,—but which has, nevertheless, a very real bearing on the exterior design of modern buildings, and especially those designed for housing activities of social or athletic clubs.



The Essex Club, Newark  
Guilbert & Betelle, Architects



End Elevation, Tampa Athletic Club  
Dwight James Baum & B. C. Bonfoey, Architects

# Planning the City Social or Athletic Club

By CHARLES G. LORING

**D**UNSANY in one of his "Tales of Wonder" describes a club of dethroned gods and exiled kings and heirs to fallen dynasties. "Lifting right above those grotesque houses of that obscure quarter and built in that Greek style that we call Georgian, there was something Olympian about it. As I stood gazing at the magnificent upper windows draped with great curtains, indistinct in the evening, on which huge shadows flickered . . ." On Fifth Avenue there are such clubs for social demi-gods. A few blocks east smaller and far less conspicuous haunts suggest Stevenson's "Suicide Club,"—and in San Francisco or Boston, Mr. Pickwick would have found himself quite at home in some of the mellow rendezvous hidden away among the wharves and warehouses of those maritime towns.

The fashions in City Clubs change from decade to decade, as do fashions in architecture, and they are free to change in this sphere, for the design is bound very little by either conventions or building restrictions. There is no definite precedent, as with ecclesiastical composition, nor are there rigid regulations as is the case with schoolhouses. Less than a generation ago, there were two well established club house types. The metropolitan club house, which echoed some of the famous structures of London, expressed solemn luxury and Cyclopean scale sufficient to satiate the superiority complex of its wealthiest member. The immense rooms and beautiful decorations formed a fit setting for the crusty clubman

described in so many novels. The University Club, in New York, by McKim, Mead & White is a striking example of this type. The other extreme was expressed in the athletic club, which was more gymnasium than home, and which paid little attention to its library or cuisine, but instead supported football teams, prize fights, track meets, and similar activities.

The desire for "something different," so typical of the flow of American life, has naturally modified the new designs, but the Eighteenth Amendment and the automobile have effected a still more fundamental change in club house design. The departure of the open bar and the vintage wines closed many private taverns and spurred the managers of many clubs to offering new attractions. Billiard rooms, which in the old days were buried where the sun never penetrated, are now brought nearer to the center of life, as are also the card rooms, in order that a friendly air of activity may be apparent to the casual member who may drop in. In the old days before the war it was only necessary to call a waiter and tell him to "take the orders" to join a circle of talkers, but now the solitary stroller finds companions around the card tables or perched on the settees in the billiard room. The athletic adjuncts have become far more important features, and the demand for squash courts, bowling alleys and swimming pools, in what would formerly have been considered strictly social clubs, has greatly increased. The athletic club has also broadened its scope to increase its attractions



Harvard Club, Boston  
Parker, Thomas & Rice, Architects



Lounge, Penn Athletic Club, Philadelphia  
Zantzing, Borie & Medary, Architects

for the younger members who may not be able to afford the dues of more than one club. For with the prohibition of the sale of liquors increased general revenue is needed. In the new buildings featuring athletics, the reading rooms and informal gathering places receive more emphasis than formerly. In fact the general trend of city club house design is away from the acute differentiation between

the social and the athletic club, and toward an increased number of bedrooms in the larger centers. There are always men who prefer to live at clubs.

The growth of out of town membership, the expansion of city limits and the increasing number of automobiles no longer permit the metropolitan club house to be located within easy walking distance for the majority of members. When a new building is under discussion, the first problem for the committee is to find a suitable lot, preferably near a subway station and on a main highway where there is ample parking space, and near one or more public garages. After the site, the number of bedrooms is of prime importance for any but the highly specialized smaller clubs. Sleeping accommodations have proved a sound financial investment and demand a comparatively small service budget. In the modern hotel and home the proportion of bathrooms to bedrooms has steadily increased, but in a men's club the ratio can be kept considerably lower, since the temporary bachelor is willing to save a little on his room rent by going down the hall in his dressing gown for his morning tub. In the Harvard Club of Boston, designed by Parker, Thomas & Rice, one-third of the chambers are without baths, one-third share baths with other rooms, and only one-third have individual bathrooms, and this arrangement has proved economical and satisfactory in every essential detail.

One of the stimulants to club life is the informal evening gathering with motion pictures of slow-action football or big-game shooting in Africa, or with chamber music. Frequently the large dining room is used for these functions, and it should have



Dining Room, Penn Athletic Club, Philadelphia  
Zantzing, Borie & Medary, Architects



Doorway in Lounge, Buffalo Athletic Club  
Edward B. Green & Sons, Architects

not only a motion picture booth and a fixed or portable platform, but also ample storage room, so that the chairs and tables may be quickly and conveniently stacked away. The walls of a large dining hall of wood or stone are often resonant, and large portraits, heavy draperies, or modern replicas of tapestries painted on sound-absorbent materials all help the acoustics. The private dining room is a popular feature, and if located on a central stack of electric dumb waiters and speaking tubes, so that the service is economical, it can be put on a paying basis. Dining rooms for women guests are not generally a financial success, no matter in how great demand they may be by the male members. The attendants must be selected with particular care, the food must be varied and excellent, and much supplementary space is required for waiting rooms, dressing rooms and toilets, for which there is no proportionate increase in membership dues or revenue in other ways.

The restaurant, year in and year out, is seldom a money-maker, but even if run at a loss it is an essential. The swimming pool installation and upkeep are costly and the service required is extensive. While not used perhaps as universally as many other facilities of the club, it is a very desirable, even if expensive, adjunct. Squash courts, though occupying considerable space, are comparatively inexpensive to install (that is if they are put in properly in the first place) and if the walls and floors and ventilation are adapted to their highly specialized needs. One city club started with 25 lockers for the squash players, but, although it made no effort toward emphasizing sports, the demand was so great that in three



Detail, Lobby, Buffalo Athletic Club  
Edward B. Green & Sons, Architects

months the number was doubled, and another 50 had to be added considerably before the year was out.

In any club house supplying service is one of the most important problems, and before the building goes up every detail of its future organization must be visualized and mapped out. In the large club, there is a hierarchy of three or four classes of employes, and although very few if any are resident in



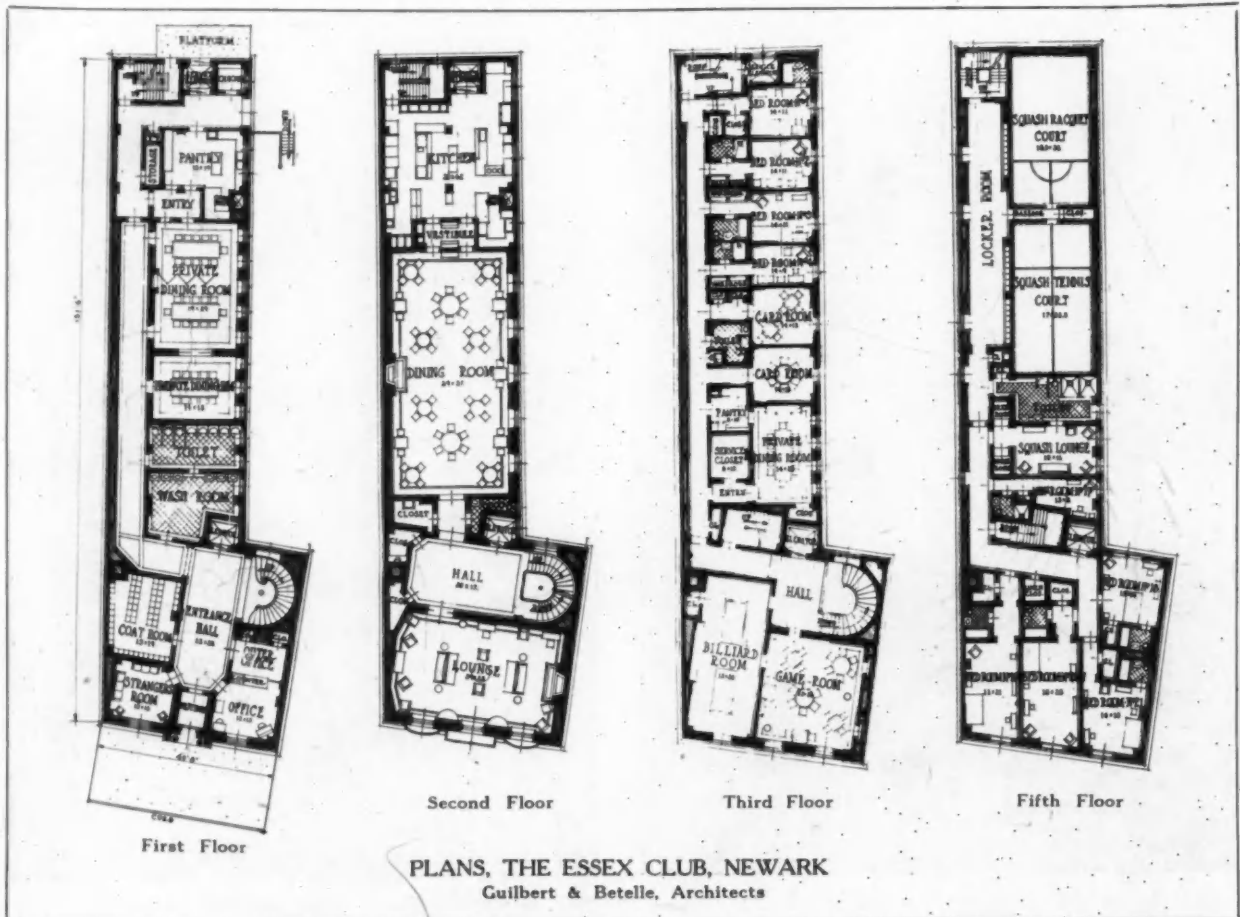
Grill Room, Missouri Athletic Association, St. Louis  
William B. Ittner & G. F. A. Brueggeman, Architects



Dining Room, Harvard Club, Boston  
Parker, Thomas & Rice, Architects



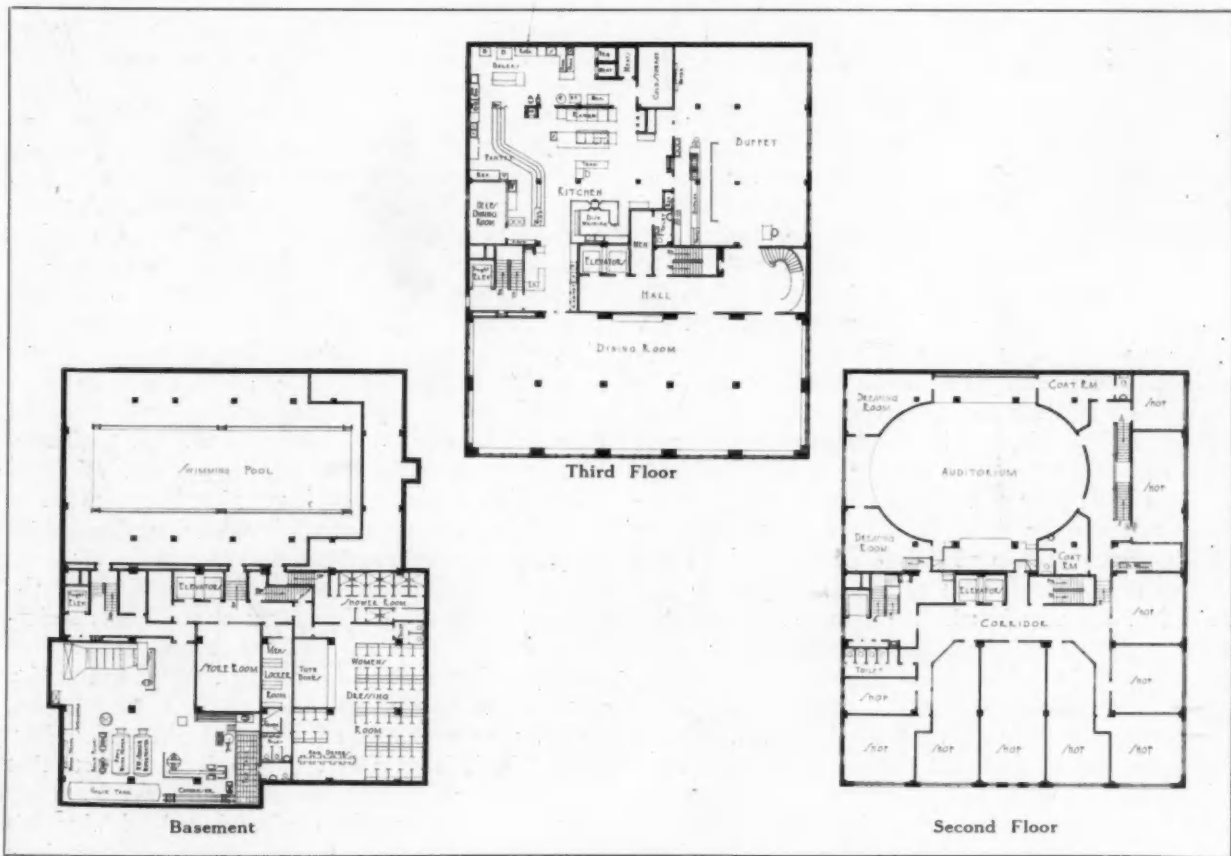
DETAILS IN LOUNGE, PENN ATHLETIC CLUB, PHILADELPHIA  
Zantlinger, Borie & Medary, Architects



PLANS, THE ESSEX CLUB, NEWARK  
Gilbert & Betelle, Architects



WOMEN'S CITY CLUB, DETROIT  
STRATTON & SNYDER, ARCHITECTS



PLANS, WOMEN'S CITY CLUB, DETROIT



The Lobby



Mezzanine

Details, Friday Morning Club, Los Angeles  
Allison & Allison, Architects

the building, separate accommodations must be provided for each group when off duty, aside from their varied workrooms. The office force or "white collar" group of clerks and bookkeepers expect their own lockers and rest rooms, apart from the chefs, who in turn would not think of feeding with the lower ranks of the kitchen assistants, waiters and bell hops. If there are women employes, they also must have their own dressing rooms, and the entrance to them should be under the eyes of stewards or matrons, who will require individual offices. These special offices may well be located next the service exits, to see that food and supplies are not removed from the building by employes surreptitiously.

The attendance at the entrance and at the front desk is similar to that in a hotel, but modified to obtain an air of privacy and almost domesticity. A member wants to feel at home, and a guest wants to be unostentatiously shepherded to his host. The ideal check room is one close at hand, easily found but almost invisible, and it must have an overflow or large dead storage space, where forgotten golf bags and suit cases may rest in peace until the owner returns to town for the winter, or comes back from that unexpected trip to Montreal. Bell boys are seldom trained to perfect silence and decorum, and an out of the way bench for them is desirable, but they must be near the telephone central so that a member may be quickly located to answer an incoming call. By the same token, it is well to have public telephone stations scattered throughout the building to cut down needless travel. If the telephone central is near the doorman, or if he has a receiver close at hand, the operator can readily check whether or not a member is in the building, when a call is received.

"The Club" has ceased to be a synonym solely for masculine comfort. Since women's organizations

are no longer limited to the uplift of the Y. W. C. A. or the earnestness of civic betterment, they now demand the same degree of smoothly running service as the men. Such feminine sanctuaries offer to the architect, who is artist as well as engineer, still another fascinating problem in the expression of club house character, for each little autocratic republic has its personality. Through the east the general trend is more toward a domestic than toward a monumental scale, and in the south and on the Pacific coast outdoor features such as roof gardens and the raised patio of the Women's Athletic Club of Los Angeles are introduced with great success. A theatrical flavor is more than justified in the stage setting of a club for actors,—a flavor far stronger and more fundamental than collections of photographs of half-forgotten stars and old programs alone will ever give. What subtle characterization might be expressed in the academic shades of a college town where professors gather in paneled rooms for quiet contemplation or fervent discussion! An engineers' club in Chicago requires a delineation utterly different from that of a ranchman's headquarters in San Antonio, and any designer's imagination would thrill at projecting a night club, a really exclusive club, not just a camouflaged restaurant. The Italians of the *Cinque Cento* or the French under the Louis understood the antithesis of exquisite architectural refinement as a background for a rough party, and used a blending of decoration on wall, ceiling and candelabra to enhance the charms of more or less fragile ladies.

In fact it is only in the club for architects that full expression would be intolerable if relentlessly executed. Imagine suites embodying all of Vignola's "Orders" or Ruskin's "Seven Lamps" or America's "Fifty-seven Varieties"! And think of what the members would be always saying about the architect!



# Atmosphere and Personality in Club Buildings

By ALEXANDER B. TROWBRIDGE

WHEN a club member in Rochester or Buffalo or in Detroit enters his club, in city or country, it's "Hello, Tom" or "How are you, Bill"? Everyone seems to know everyone else. In New York a man is quite agreeably surprised (in some of the clubs) if he runs into anyone he knows. It is said that a visitor inspecting the quarters of one of the large college club houses in New York, noticed here and there certain details which prompted him to remark that it reminded him of the Biltmore Hotel. His host, a club member, said: "Yes, it is like the Biltmore, although not so exclusive!" The friendly spirit in a mid-western club is one of the reasons why many wise men refuse to be lured from their native towns by tales of riches and fame to be found in New York. A hospitable atmosphere would exist in such clubs, no matter how unsatisfactory the architecture happened to be, and this atmosphere gives them charm.

It is our problem, in the confines of a brief paper, to try to analyze those features of a club house which lend charm and personality to a building which, through the accident of circumstance, may be the gathering place of many men of diverse characteristics, hailing from the four corners of this continent. In other words, we cannot have in our New York clubs, the fine old friendships which exist in the types of cities just referred to. We must deal with a mixed crowd. We may have in a New York club one man in 50 who is a native New Yorker. Given, then, a membership which is so mixed as to be indescribable to deal with, how may we approach a club problem confident that we can produce something which by its "atmosphere" or its unobtrusive good taste acts as a harmonizing factor over everything? That to my mind is the true objective in a club project. Of course we must have good kitchens, well planned and well equipped. Service rooms must be adequate and convenient in position. Lounges, card rooms, reading rooms, etc., are planned to fit the size of the membership. It is conceivable that all practical requirements might be satisfactorily met in a club house which, in its more subtle aspects, had completely failed. I select a New York club for my object lesson, principally because, as I have already indicated, the problem in that city is made more difficult because of the lack of the cheery friendliness of the middle west. If we discuss the problem in its relation to the most difficult environment, we may reach conclusions of value to all communities, useful to their building committees.

I shall endeavor to demonstrate that it is possible to produce a club house in New York which, through its plan, its choice of architectural treatment on the interior, and the quality of taste displayed in furnishings and decorations, will possess that homelike

atmosphere which is so easily recognized yet so difficult to describe. Members cannot be attracted and held by food alone, even though we admit the immense drawing power of a good cuisine. Quite naturally, I have in mind several clubs which stand out as excellent examples of what I am endeavoring to describe. Among them is the Century Club, at 7 West 43rd Street. The facade has long been admired as a skillful interpretation of a problem essentially American and modern in an architecture borrowed from Italy of the Renaissance. McKim, Mead & White were the architects, but the facade has been credited to Joseph Wells, one of their designers in the latter part of the nineteenth century, who died some years ago. Whether a facade is commonplace or superb, one cannot tell by looking at it whether a club, on the interior, possesses the elusive qualities we have essayed to describe.

The Century Club facade is a distinguished example of good design, yet it does not seem to me that it tells anything about the kind of atmosphere which is found throughout the building. The first impression which one receives after a general inspection of the interior, is that it looks "well used." How often a home reflects the character of a family through the "used" appearance of the furniture! In a similar sense a club like the Century is self-revealing. Its chairs and tables show a patina which can only come with age and from human contact. Its sofas are made for comfort and not for decoration. The library is chiefly decorated by books. It has no claim to architectural distinction. Ionic columns appear on the side walls of this room, but they do not make the room Roman or Italian. They are secondary items in a big room crowded with books. The upper hall is designed with a Corinthian order, Italian Renaissance in character, the wall surfaces between pilasters being subdivided into panels and painted gray. The only touch of richness is in the caps of columns and pilasters, for they are covered with gold leaf. The dining room is distinctly English in spirit, though an antique Italian stone chimneypiece is used at one end of the room. The walls are paneled in oak, and the ceiling is subdivided by a pattern formed by intersecting circles of mouldings in plaster, with here and there a boss hanging where the mouldings cross one another. The fact that the chimneypiece is of a southern character and, from the purist's point of view, inharmonious with the walls and ceiling, does not count in this attractive room. Perhaps the long middle table, where a friendly relation with your neighbor is traditional, may be one of the reasons why this club enjoys the reputation of being hospitable and genial. The club interior seems to be a suitable background for its distinguished membership. There are many por-

traits and landscapes, somewhat low-toned and out of today's fashion, but giving to the walls a dignity not obtainable in any other way. Throughout, there is a welcome absence of frills and carving and meretricious ornament. It looks like a place which is frequented by men of discrimination and taste.

What is taste anyway? Is it what you and I like, or can it be given a more satisfying definition? I believe an interior should be considered a background for those who occupy it. If backgrounds are aggressive, over-ornamented, full of restless decorative details and accompanied by ornate and ostentatious furniture, it may be assumed that those club members who are set off by such backgrounds are aggressive "go-getters" who could not be happy in a quiet atmosphere. If, therefore, one is asked to design a club interior for a membership of commonplace individuals, perhaps there might be some justification for a richly decorated, highly ornate series of rooms. To my mind the nicest compliment one can pay a club membership is to assume that it wants simple surroundings, comfortable furniture and quiet colorings, and to design and plan accordingly.

There is such a thing as giving a skilled architect a fairly free hand in determining ceiling heights. Some of the splendid rooms of the University Club in New York are higher than they need be from any practical viewpoint,—but if a building commit-

tee had dictated to Mr. McKim on this point, what would these rooms have become, and what would have happened to the facade? *There* is a building which to my mind exemplifies in many ways the best which has been done in American architecture,—particularly on the exterior. The big first floor lounge and the big dining room near the top of the building seem to suggest a certain superb independence on the part of the architects. There are times when an architect of character finds it necessary to "go to the mat" with his client in order to put through certain features of his project which he visualizes more readily than the client. The interior of the University Club is a faithful interpretation of the kind of membership which has to be given a certain background. While there are many distinguished men on its roll of members, it is admitted by many that it is too large, too "cosmopolitan" to even seem truly club-like. It is more like a handsome, dignified hotel. Its architectural background is monumental in size and scale, handsome to an unusual degree, and homelike only to those who like to live continually with heavy plush wall coverings, high wainscots of paneled and carved woods, and a liberal supply of gold in decoration. While it is admittedly a fine piece of work, architecturally speaking, it exhibits a formality of treatment which must necessarily be antagonistic to any



Biddle Memorial Room, Harvard Club, New York  
Charles A. Platt, Architect



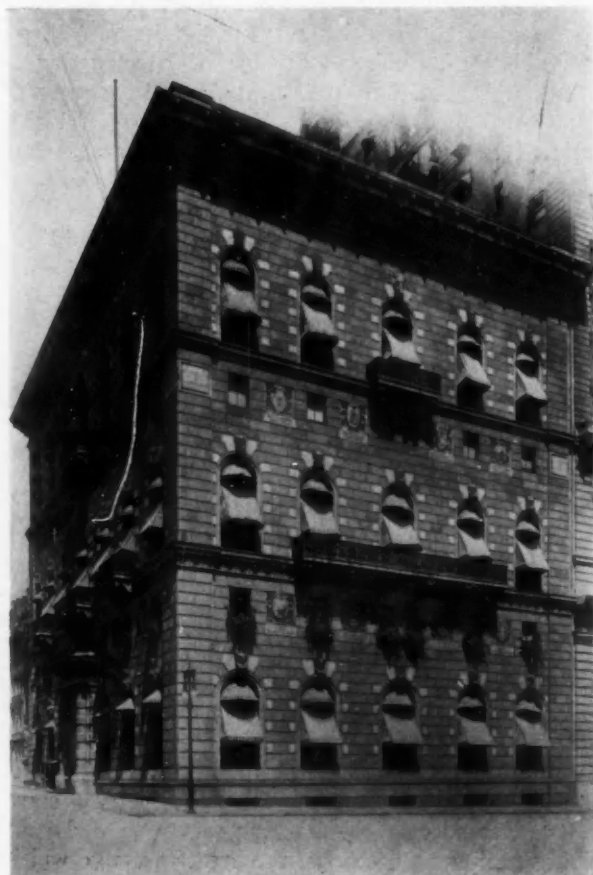
Reading Room, India House, New York  
Delano & Aldrich, Architects

effort to produce what you and I call "homelike" atmosphere, or what is desired in most clubs.

The Down Town Association on Pine Street has a certain air, hard to describe, yet quite definite. It is only a lunch club, and as such is used by business men who discuss business questions, yet there is something about the interior which suggests that it is on a higher plane than merely a place to feed busy men between 12 and 2. It is doubtful whether anyone would give it, on exterior or interior, a very high rating architecturally, yet the atmosphere of the place betokens good breeding, the daily gathering place of men of taste. India House, on Hanover Square, does not reveal much on the exterior. It is true that whoever originally designed this building for William R. Grace & Company was trained in the elements of good architecture, but the interior, developed into a club house by Delano & Aldrich with the sympathetic coöperation of the late Willard D. Straight, is one of the most attractive clubs in New York. Here is a background, made picturesque and colorful by ship models and colored prints and by fine examples of the craftsmanship of Korea and Japan in the form of screens, which is intended to "set off" an exclusive membership of men of commerce and industry. The club has atmosphere and charm. Here good taste in the use of comfortable furniture, combined with an instinct for arranging

picturesque and unusual decorative accessories, is the explanation. Few clubs have more "personality."

When I first saw the present Oakland Golf Club, Roger H. Bullard, architect, I was impressed by a quality which did not explain itself immediately. I tried to analyze it, and finally concluded that Mr. Bullard had shown skill and taste in the use of materials. There was in particular a long porch or covered terrace containing furniture which fitted admirably into an environment of rough plastered walls, a tiled floor not too smooth and regular and, if I recollect accurately, some ceiling beams which betrayed a hand finish rather than a finish made by machinery. If these details are not strictly accurate, it does not matter. The effect is what I am trying to describe,—the atmosphere of a place designed for men in a country athletic club. The air of the place was cool, summery and alluring, yet it retained a masculine quality. Other portions of the building indicated concessions to the feminine element, which must always be reckoned with in our country clubs. It would be absurd to carry the masculine touch throughout a building which is to be largely used by women. The artist is he who skillfully differentiates when he carries through his detailing and specifies the materials for the various rooms, how they shall be installed, and what kind of finish they shall receive. Has it ever occurred to you that the



University Club, New York  
McKim, Mead & White, Architects



Century Club, New York  
McKim, Mead & White, Architects

specification writer, if he is to supplement successfully the efforts of the designer, must possess to a considerable degree, the artist's conception of the final result?

These few buildings have been selected at random, from my own experience. Many others could be referred to if it were desirable to present a list of clubs which qualify as successful club projects. But that is not the purpose of this paper, which is to try to present, for layman as well as for architect, the reason why some clubs satisfy and others do not.

I would like to discuss this problem with a layman, perhaps with a committee chairman who is just starting consideration of plans for a new club house. It will not do, Mr. Chairman, to assume that *any* architect can design a club house. Experience with skyscrapers and monumental buildings does not necessarily qualify a man in the gentle art of providing club atmosphere. An artist or a man possessing an artist's soul inside of a businesslike body is the kind of man to seek. He must be a bit of a psychic, in that what he accomplishes comes from feeling quite as much as from architectural rules and traditions. If, in the search for such an architect, you visit club houses which please you, be sure to find out all that you can learn about the way in which the furnishings were selected. Did the architect handle this, or was the decorator employed to work under the architect's direction? If so, who? Having chosen men who by their executed work have demonstrated their fitness for undertaking your problem, leave them as much unhampered as possible. I have seen a project of considerable size and distinction greatly injured by the assumption on the part of the owner that he knew better than the architect how much ornament should be chopped from the original design. It was an instance where the owner was so insistent upon extreme simplicity that he overdid it and nearly ruined an otherwise promising design. Many an architect who will do his best work through coöperation will lose heart and interest if he is crossed by a bossy client. In any case do not force your architect to complete his studies in a hurry. Take plenty of time in an exhaustive inquiry into every phase of the program. His studies are not unlike a surgeon's diagnosis. If correct, the operation which follows will be successful; if incorrect, because hurried, a failure is likely to occur. Much depends upon the preliminaries.



Corner of Lounge, India House, New York  
Delano & Aldrich, Architects

Another bit of advice I would like to offer is to presidents about to appoint chairmen. Look for men of taste for this all-important assignment. One or two men of practical building experience would be a safeguard on any building committee, but do not assume because they are builders or engineers, or even architects, that they necessarily possess this rare sense to which I have alluded, which will enable them to work sympathetically with an architect who is intent on producing the atmosphere which you desire. Suppose your architect is sensitive to these subtle aspects of your problem, but is not a fighter. You will lose what you are aiming for unless your chairman understands his architect and will supplement him where he most needs support. It must not be forgotten that architecture as we have been considering it is an art and always will be, no matter how far business and construction seem to dominate. There are dozens of architects capable of constructing a sound, tight building, well heated, well "plumbed" and well lighted, who will hardly understand the drift of my advice as given in these paragraphs.

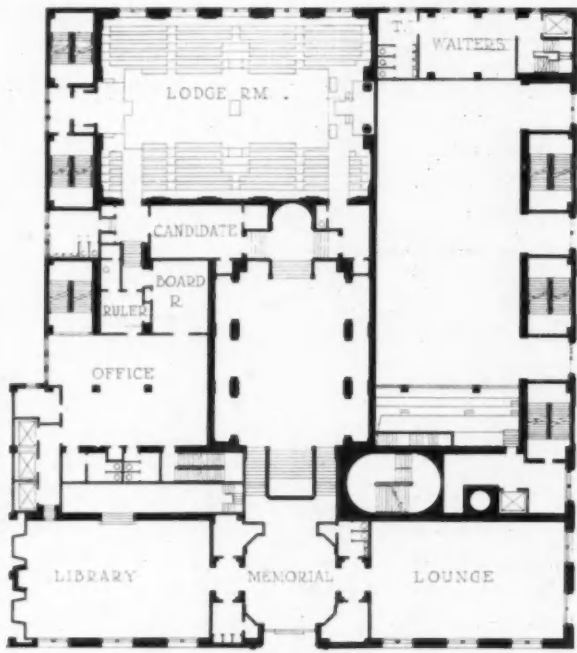
To the architect I would say, pick clients who possess good taste if you can. If that is impossible, then fight for the right as you understand it. I remember bombarding a client with letters filled with arguments in favor of the engagement of a special type of interior trim sub-contractor instead of the local company which has always been considered good enough for my client's business and for his father's construction in years gone by. I risked a good deal,—among other things, the very great danger of his fearing that my advice was influenced by the percentage fee, for the firm I recommended had to be given a substantial preference if it was to be engaged. I finally won the client over to my way of thinking. One year after the residence was completed, the client called for the specific purpose of thanking his architects for insisting upon the selection of the more expensive interior trim. By way of conclusion, let me advise the architect to choose that kind of client if possible, for he was a good sport. The success of a club project is quite as important to the architect as to the club's building committee, for successful designing, planning and supplying equipment are certain to create prestige which will bring more and more commissions into his office and help him to qualify as a "specialist" in clubs.



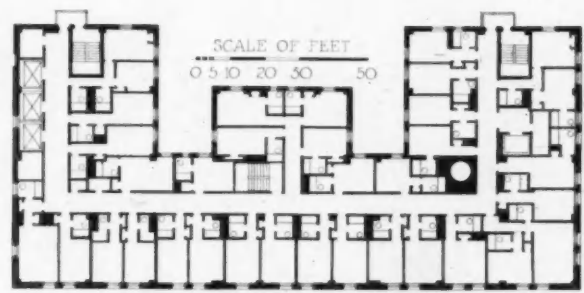
*Photo. James L. Dillon & Co.*

**ELKS' LODGE NO. 2, PHILADELPHIA**  
ANDREW J. SAUER & CO., ARCHITECTS

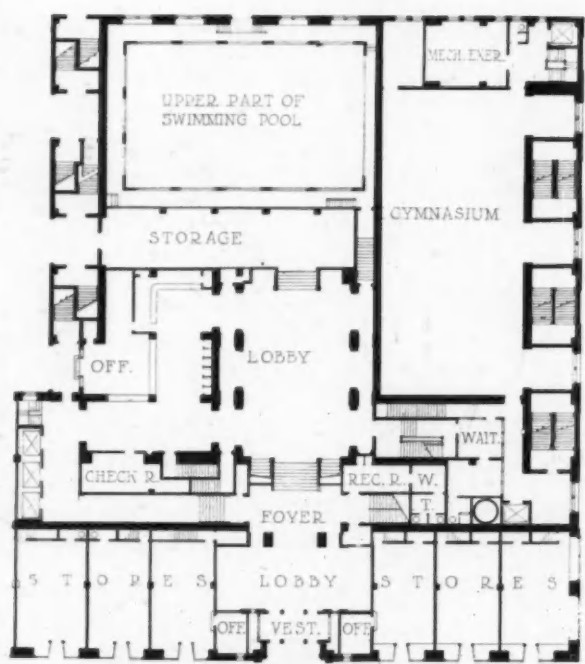
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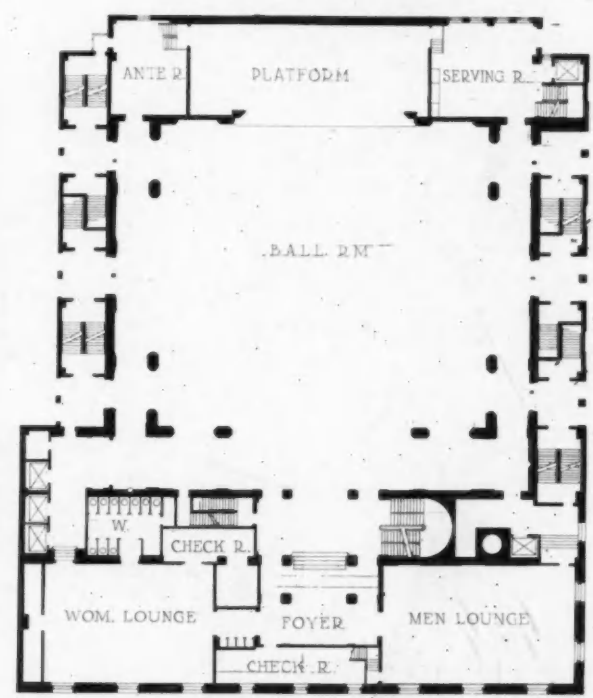
MAIN FLOOR



TYPICAL BEDROOM FLOOR



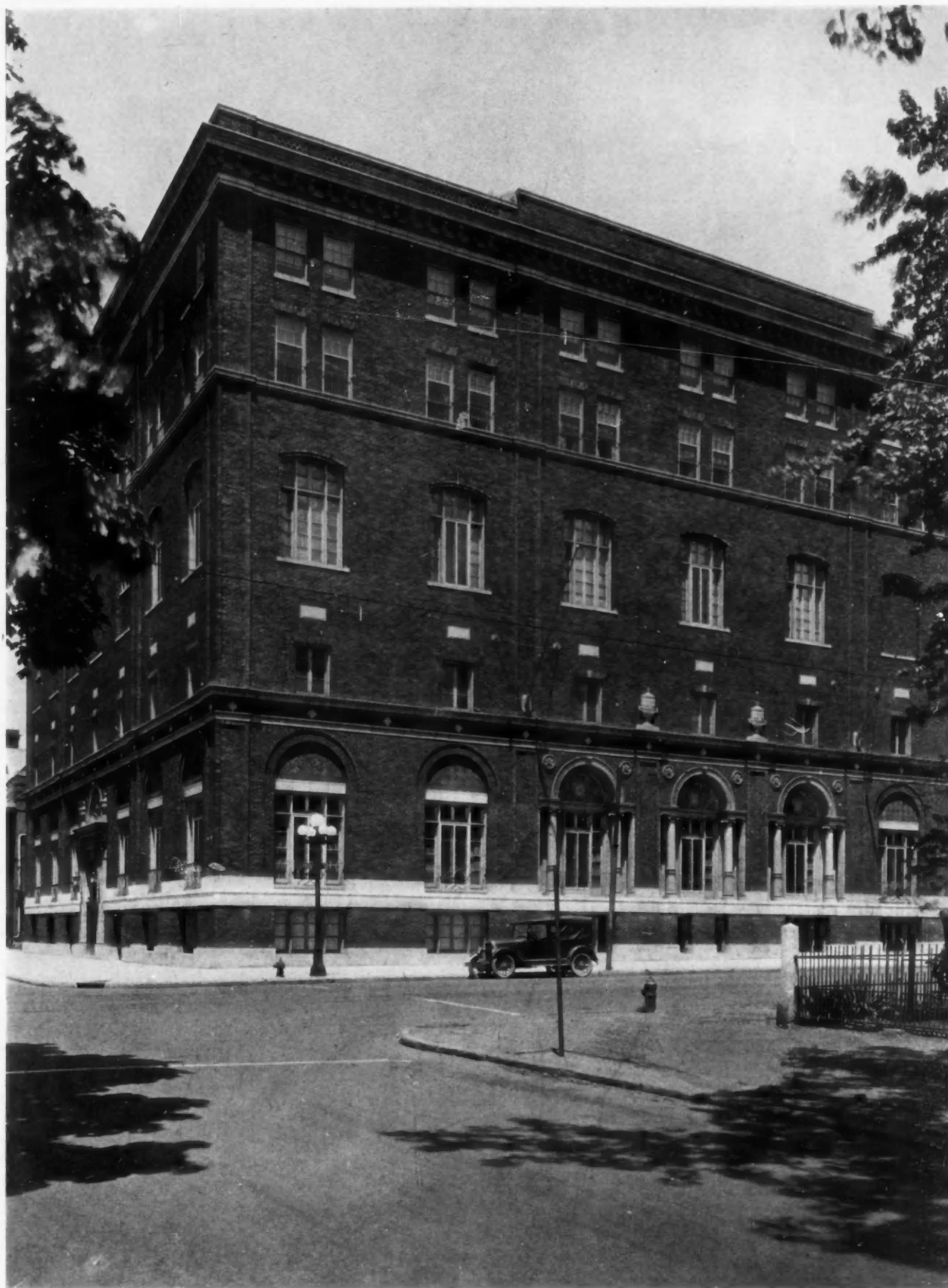
GROUND FLOOR



BALL ROOM FLOOR

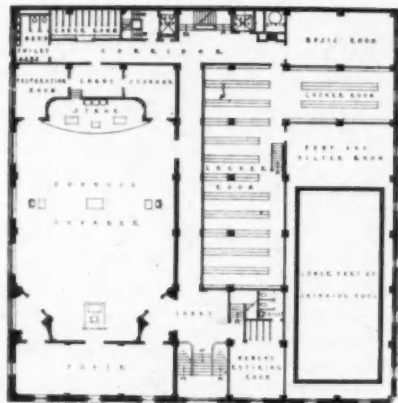
PLANS, ELKS' LODGE NO. 2, PHILADELPHIA

ANDREW J. SAUER & CO., ARCHITECTS

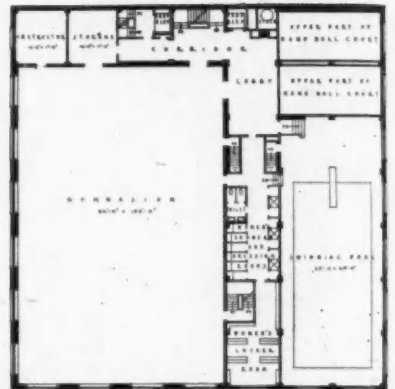


*Photo. M. Haskell*

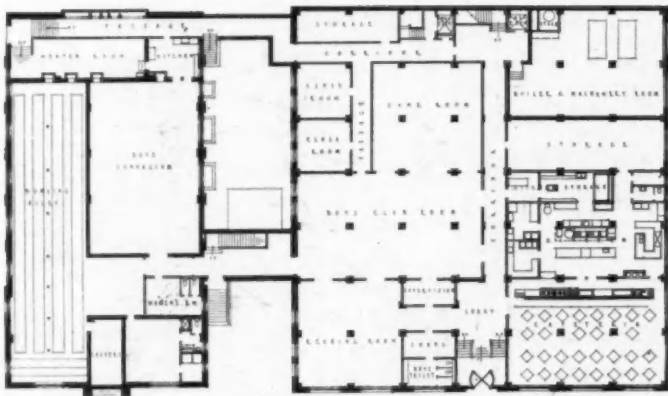
KNIGHTS OF COLUMBUS BUILDING, COLUMBUS, O.  
RICHARDS, McCARTY & BULFORD, ARCHITECTS



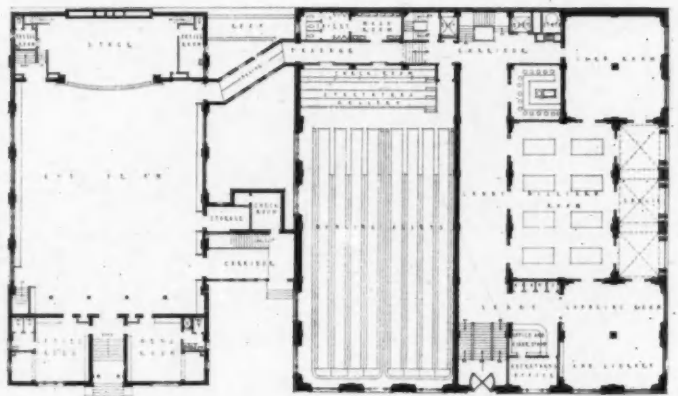
SECOND FLOOR



THIRD FLOOR



GROUND FLOOR

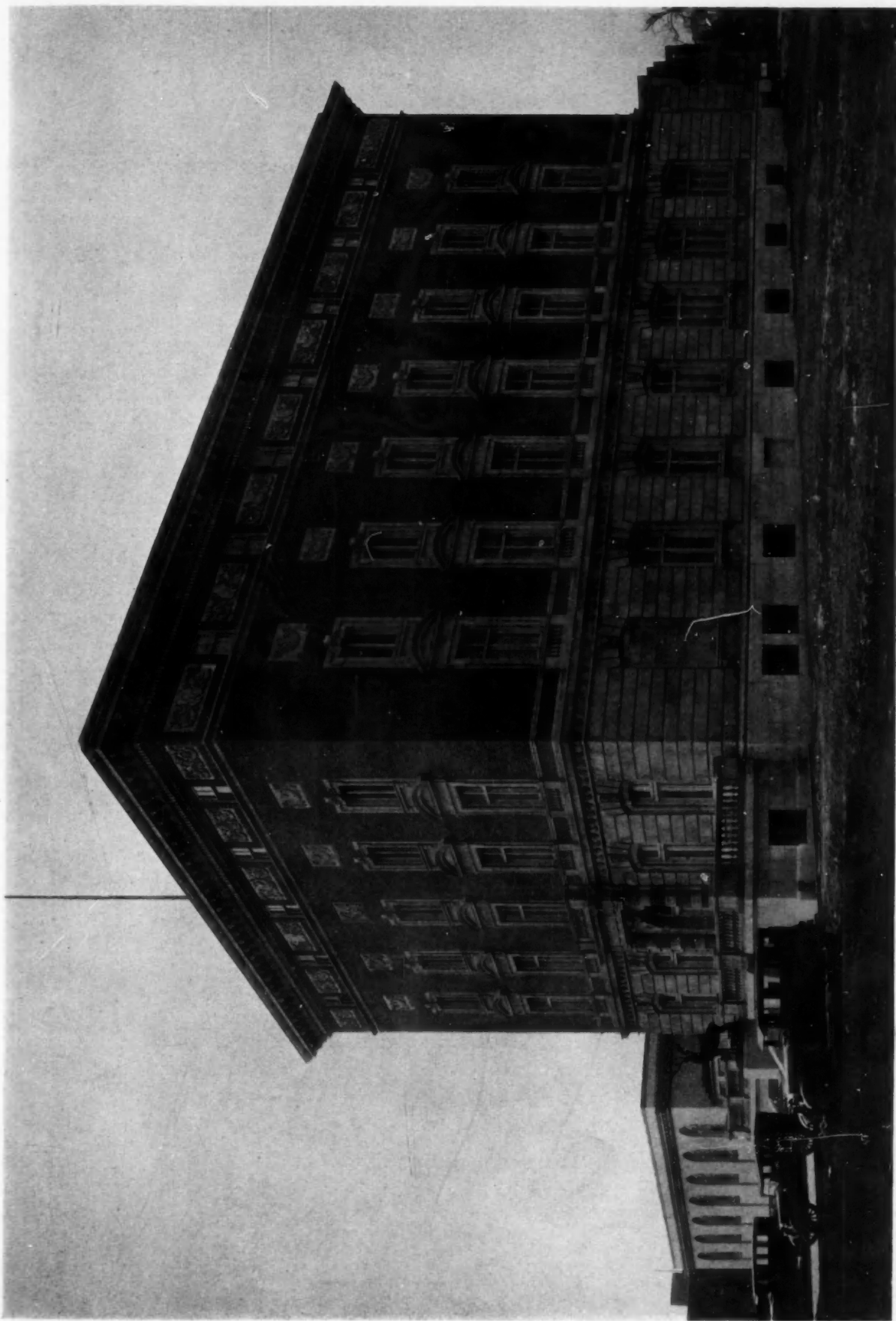


FIRST FLOOR

PLANS, KNIGHTS OF COLUMBUS BUILDING, COLUMBUS, O.

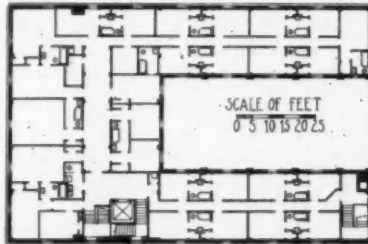
RICHARDS, McCARTY & BULFORD, ARCHITECTS



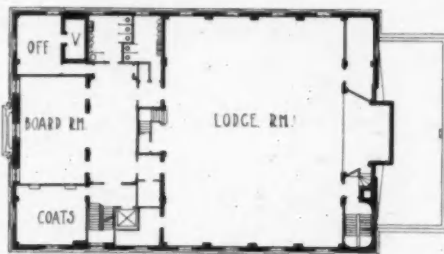


*Plans on Rack*

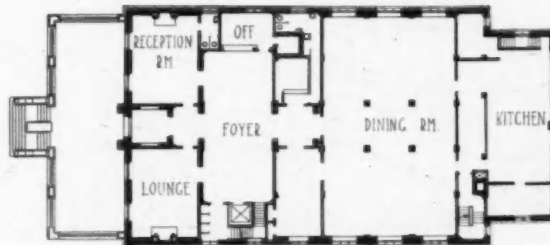
ELKS' LODGE, ELMHURST, N. Y.  
THE BALLINGER CO., ARCHITECTS



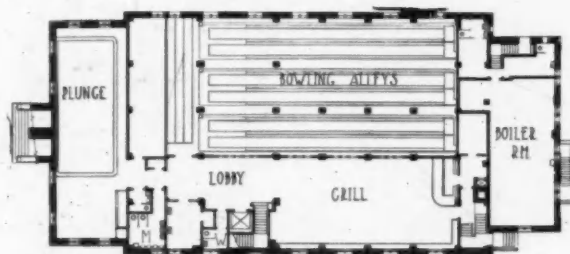
THIRD FLOOR



SECOND FLOOR



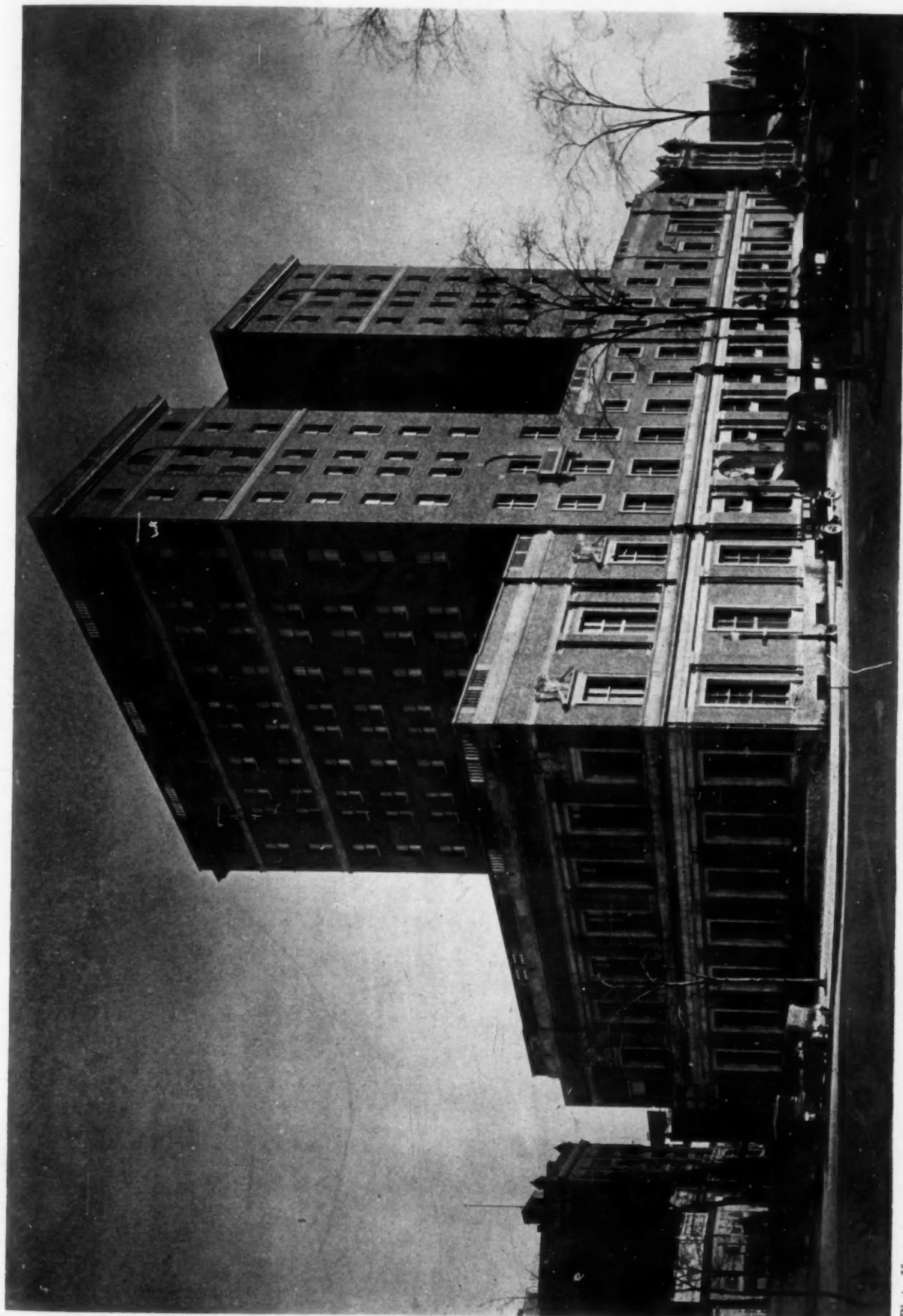
FIRST FLOOR



BASEMENT

PLANS, ELKS' LODGE, ELMHURST, N. Y.

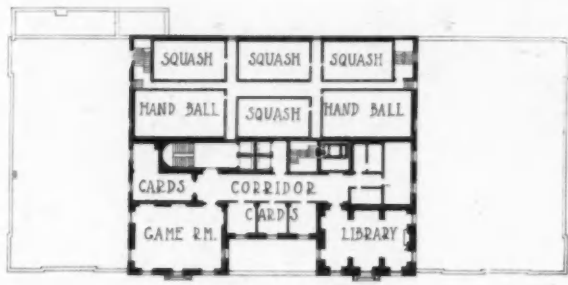
THE BALLINGER CO., ARCHITECTS



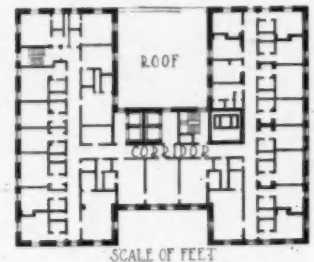
*Photo. Here*

**BUFFALO ATHLETIC CLUB, BUFFALO  
EDWARD B. GREEN & SONS, ARCHITECTS**

*Plans on Back*

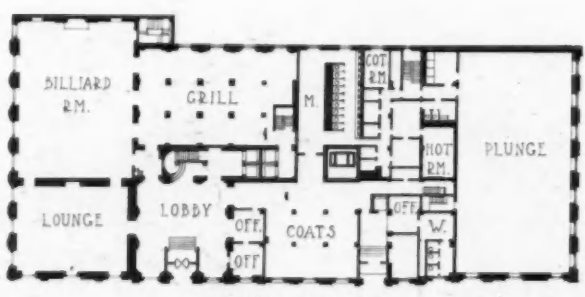


GAME ROOM FLOOR

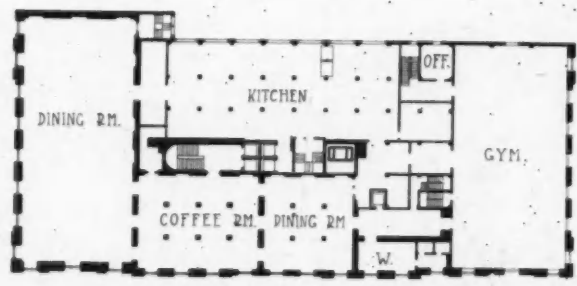


SCALE OF FEET  
0 10 20 30 40

TYPICAL FLOOR



GROUND FLOOR



DINING ROOM FLOOR

PLANS, BUFFALO ATHLETIC CLUB, BUFFALO

EDWARD B. GREEN & SONS, ARCHITECTS



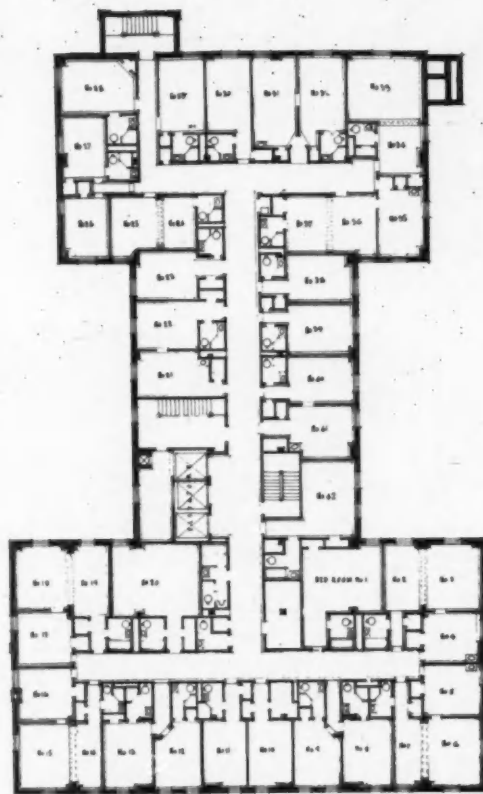
*Photo. Walters Studio*

*Plans on Back*

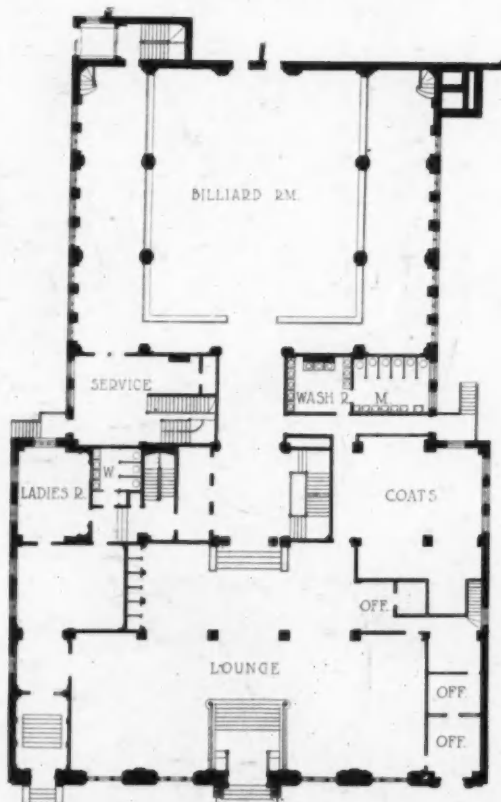
NEWARK ATHLETIC CLUB, NEWARK  
JORDAN GREEN, ARCHITECT  
ROBERT NORDIN, SUPERVISING ARCHITECT



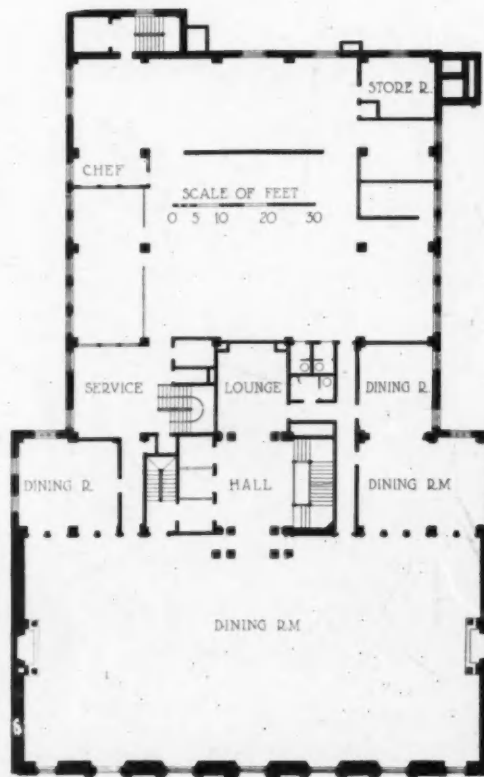
Third Floor



Typical (4th to 9th) Floors

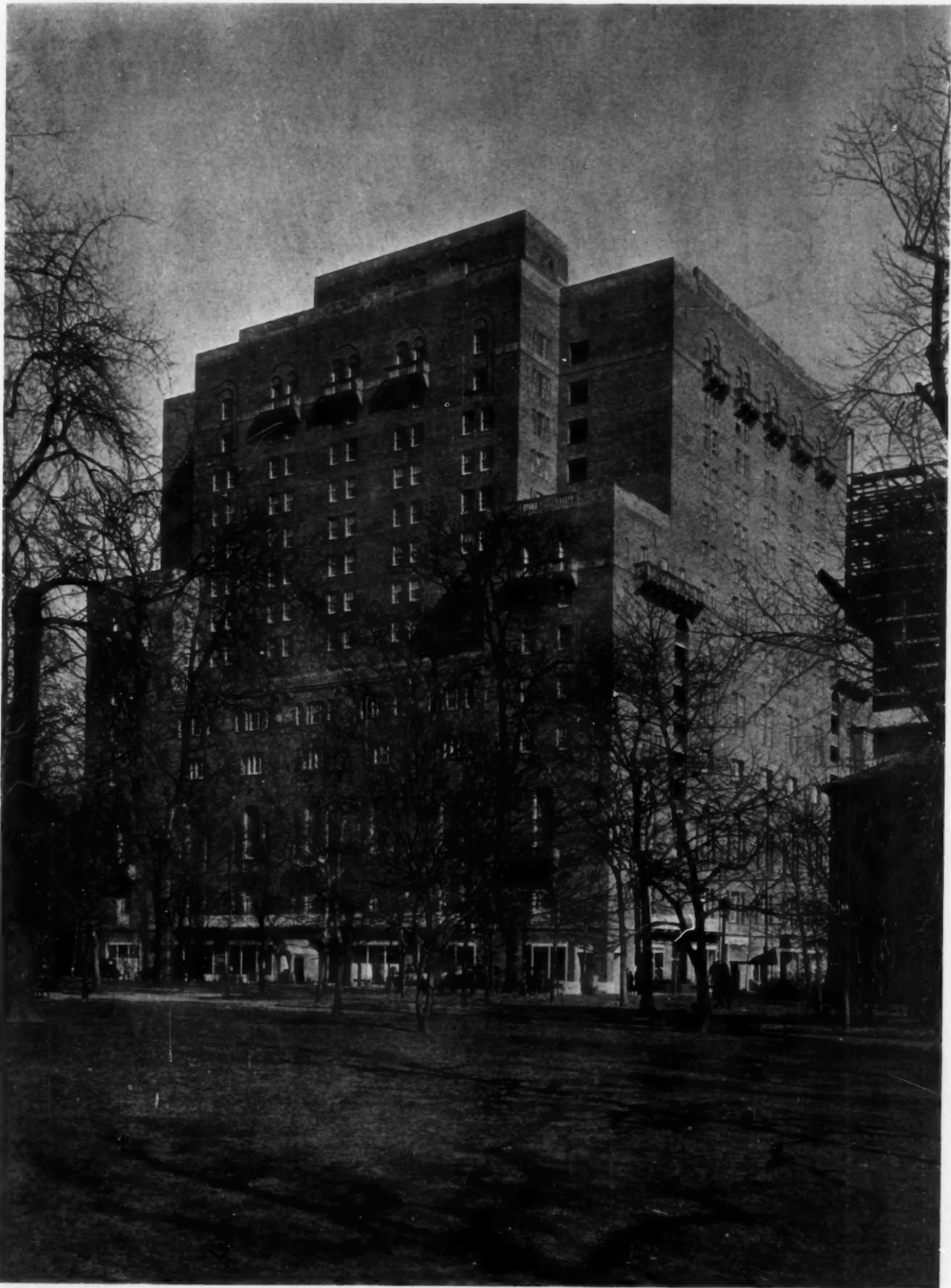


First Floor



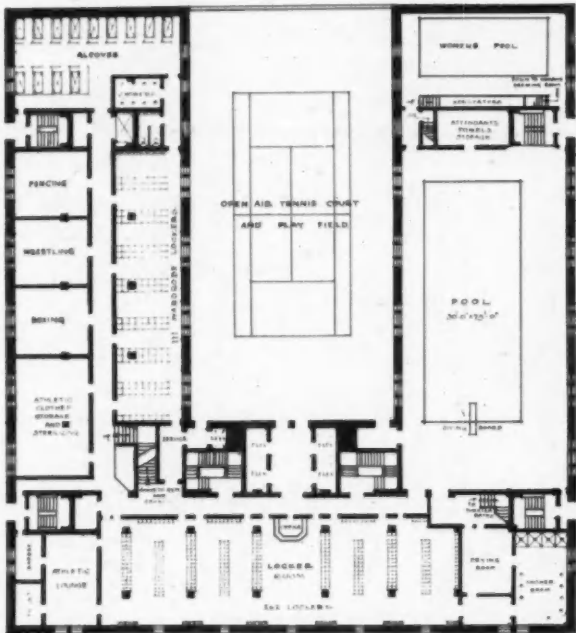
Second Floor

PLANS, NEWARK ATHLETIC CLUB, NEWARK  
 GORDON GREEN, ARCHITECT  
 ROBERT NORDIN, SUPERVISING ARCHITECT

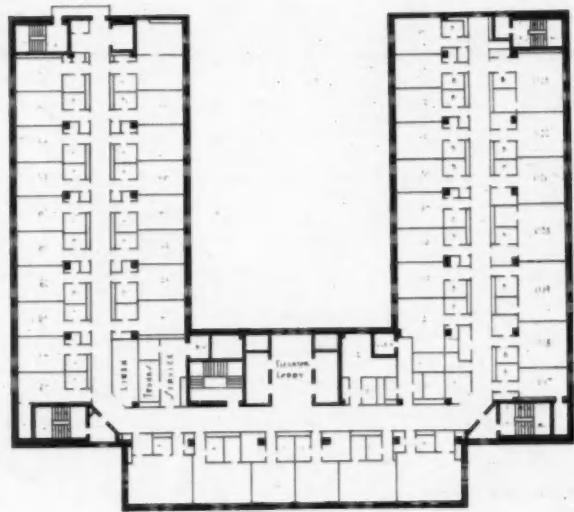


*Photo. John Wallace Gillies*

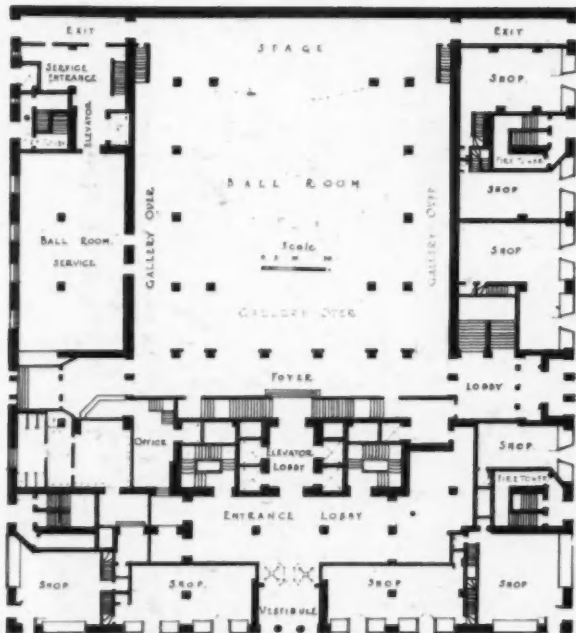
PENN ATHLETIC CLUB, PHILADELPHIA  
ZANTZINGER, BORIE & MEDARY, ARCHITECTS



FIFTH FLOOR



TYPICAL BEDROOM FLOOR



FIRST FLOOR

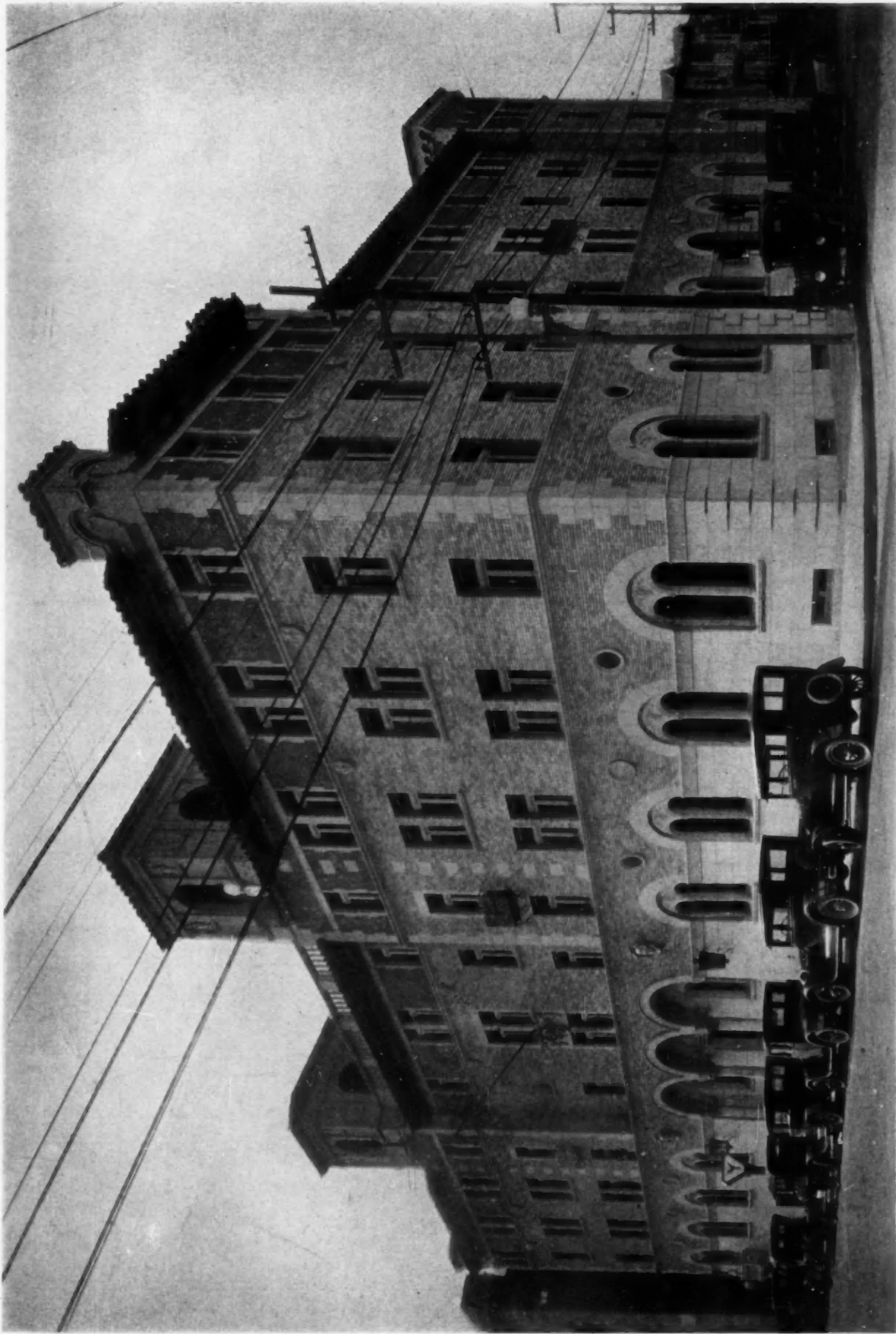


SECOND FLOOR

PLANS, PENN ATHLETIC CLUB, PHILADELPHIA

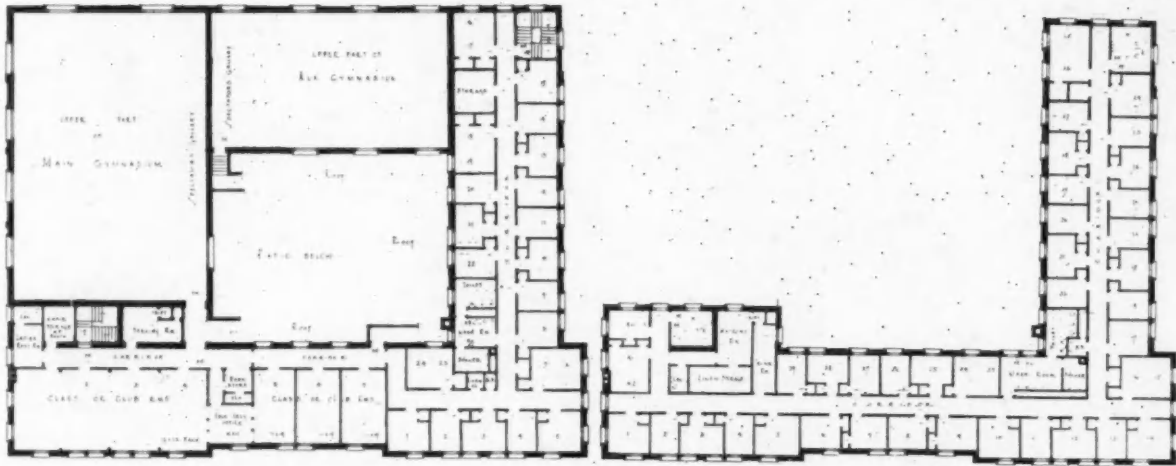
ZANTZINGER, BORIE & MEDARY, ARCHITECTS





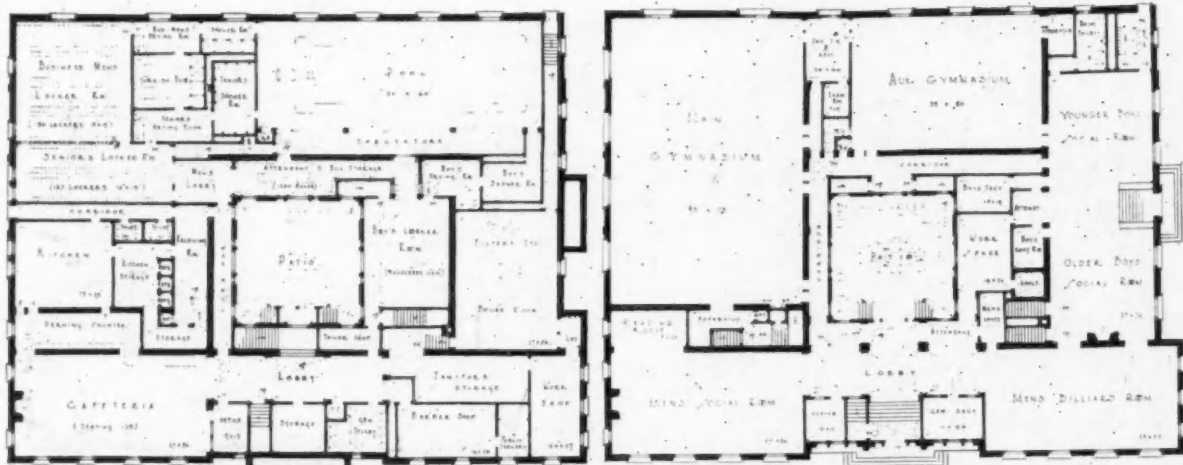
*Planned by Beck*

Y. M. C. A. BUILDING, SHREVEPORT, LA.  
CLARENCE W. KING, ARCHITECT



SECOND FLOOR

THIRD AND FOURTH FLOORS



BASEMENT

FIRST FLOOR

PLANS, Y. M. C. A. BUILDING, SHREVEPORT, LA.

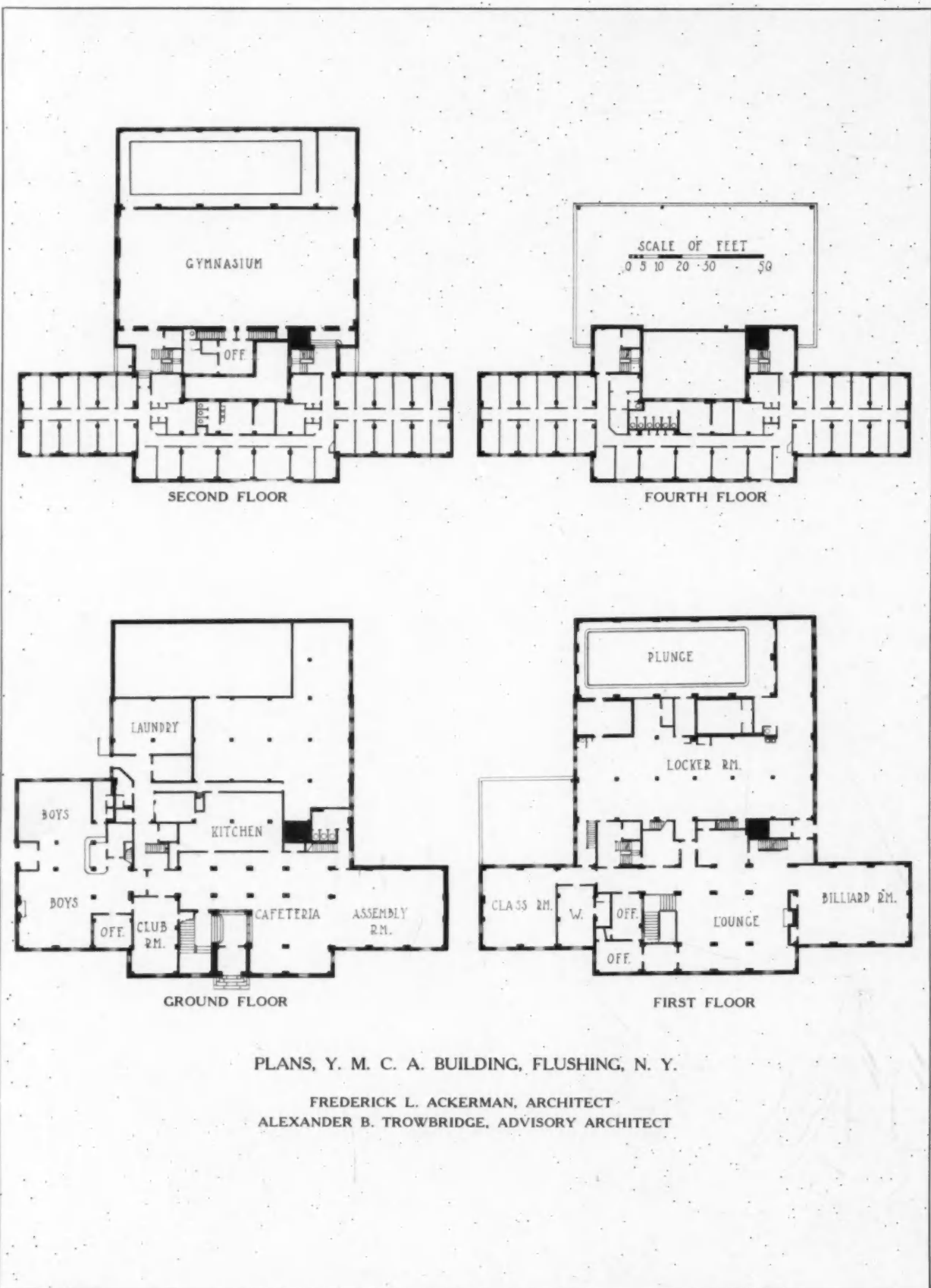
CLARENCE W. KING, ARCHITECT



*Plans on Back*

✓ Y. M. C. A. BUILDING, FLUSHING, N. Y.  
FREDERICK L. ACKERMAN, ARCHITECT  
ALEXANDER B. TROWBRIDGE, ADVISORY ARCHITECT

*Photo, Kenneth Clark*



PLANS, Y. M. C. A. BUILDING, FLUSHING, N. Y.

FREDERICK L. ACKERMAN, ARCHITECT  
 ALEXANDER B. TROWBRIDGE, ADVISORY ARCHITECT

## ✓ Planning the Y. M. C. A.

By LOUIS E. JALLADE

IN writing an outline of the principles underlying the planning of the Y. M. C. A. structure, it is necessary to review briefly its building program up to date. The Association first started with an assembly room, and it grew around this idea of a meeting room for Christian association until it had reached its highest development as exemplified in the old 23rd Street Branch, New York (demolished about 1902). This building consisted of a large auditorium for the holding of religious meetings and membership entertainments, and for income. It had an unusually large reading room in which were kept periodicals, and a memorial library containing 48,000 volumes. There were a number of classrooms in which were taught languages and mechanical drawing. On the street level were stores for the raising of revenue. The upper part of the building contained a number of studies, and on the upper floors there was a Boys' Department. In the basement there were small locker rooms, a small number of showers, and a very poor gymnasium. This constituted the contents of the building, which was then considered the last word in Association planning.

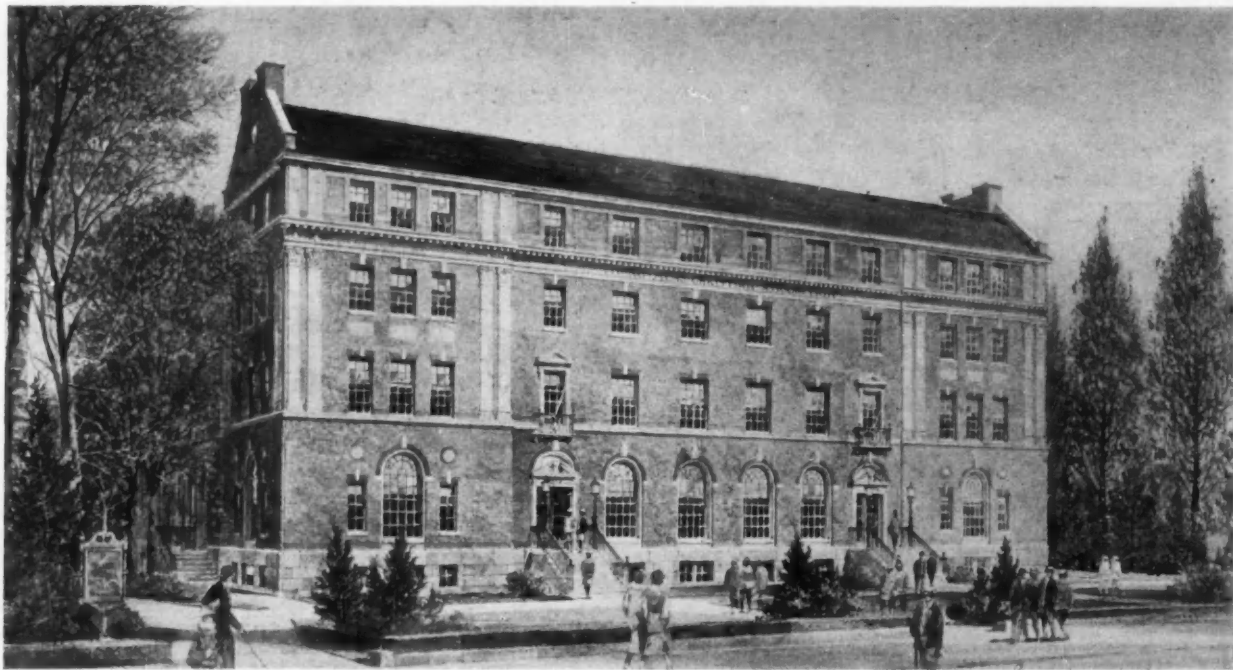
After this structure had been built there were a great number of Associations organized in the larger cities, and they copied more or less the building program of 23rd Street. They came much later, but nevertheless they copied many of the errors that 23rd Street contained. The Y. M. C. A. had not yet developed its full program. However, buildings were needed, and it is curious to note that most of these structures throughout the country were designed by an Albany firm of architects who became specialists in this type of work much as we have specialists today. The older buildings, many of them now destroyed, such as those at Cincinnati, Columbus, Philadelphia, Hartford, etc., were all alike in general appearance, without as well as within.

After 1900 the Association began as a body to develop the idea that it was more profitable from an Association point of view of service to young men to house them within their own buildings rather than to send them out to the questionable comfort of outside rooming houses, and to the new building programs the building committees began to add dormitories. The experience has developed that most Associations never have enough dormitories; in other words, they almost always erect buildings too small. The Association also began to find that it needed the space devoted to the reading room and libraries for its more active developments. The reading room was usually a place for idlers, and the Association was taking on an intensive program for the development of a greater number of young men. Later it began to do away with the auditorium, when it was found that it could only be used once a week, and that usually when rented out it interfered with

the program of the Association. Most of the older buildings that have been remodeled recently have made an attempt to turn their auditoriums into smaller classrooms or into dormitory rooms, and only a small percentage of the newer buildings have included auditoriums. The Boys' Department began to grow in importance, and soon large sections of the buildings were devoted to boys. In the new buildings the boys have their separate entrance lobbies, in fact a duplication of those of the Men's Department, and their department is of importance.

The restaurants, which had been popular in the old buildings, were discontinued in most cases because better eating facilities could be found elsewhere or because the neighborhoods did not particularly respond to the restaurants. Stores were done away with because it was found necessary to bring the activities of the Association down to the street level,—it was more important to lose the revenue of the stores, which is now made up for by the new idea of the dormitories, and to place within sight of the public the advantages of the Association. This was particularly noticeable in Schenectady and Bridgeport, where bowling alleys replaced the street level stores. In examining the remodeled exterior of the Pittsfield Association building, one will find that the show windows on the street level are now used for giving the public a view of the Association cafeteria, a department which has become increasingly popular.

In 1906 I received my first commission to design an Association building, and while I understood the problem well, I toured the country to find what new ideas had developed. There were some, but what was most remarkable was the absence of any idea of standardization as to units required or their sizes. The tendency on my part was to do what so many other architects have subconsciously done, and that was to copy more or less what I had seen. It never occurred to me then that the whole Association planning problem could be put on a scientific basis, analyzed and standardized. After I had obtained several additional commissions, I began to develop an intimate view of the problem from the standpoint of the secretary in charge, and soon found that if the Association was to be successful, and by that I mean, to give adequate gymnasiums, swimming pools, etc., and to operate them at a lower cost, it was necessary to establish some certain definite principles. The first I formulated was that the plans should be so arranged that the working staffs could be reduced in size so that better supervision of the various activities could be had. In other words, fewer paid attendants and better pay for such help. Another principle that was formulated later was that the buildings should be flexible, and by that is meant that all rooms should be in continuous use by



Perspective, Y. M. C. A. Building, Montclair, N. J.  
Starrett & Van Vleck, Architects

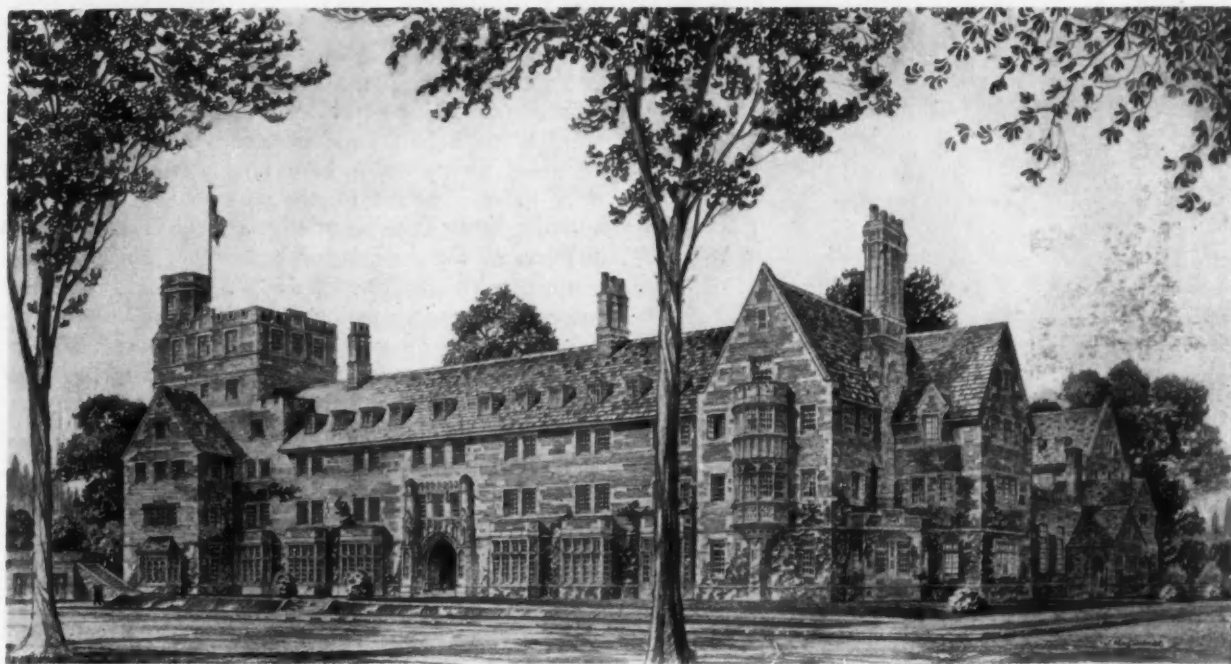
various activities. To illustrate, an auditorium used once a week or a Trustees' Room used less often, was a waste of space unless it could be arranged to accommodate other activities. Then there came the principle of circulation, and that means that rooms for the activities should be grouped so that the passages to and from these rooms should be short. Most of the old buildings had endless corridors, and in a highly specialized building, like those of the Association, a square foot of building space that is not used means so much first cost, insurance, main-

tenance, janitor service, heating and lighting. Accordingly by rearrangement of the plan, I endeavored to eliminate as far as possible corridors and passageways, all this being in the interests of economy.

Meanwhile, there was another firm of architects, in Chicago, that was planning numerous Association buildings in the middle west, and much credit is due to Shattuck & Hussey for having developed on their part the first building with centralized supervision, which was well expressed in the building at Kokomo, in Indiana. Thus firms working independently of



Lounge, International House, New York

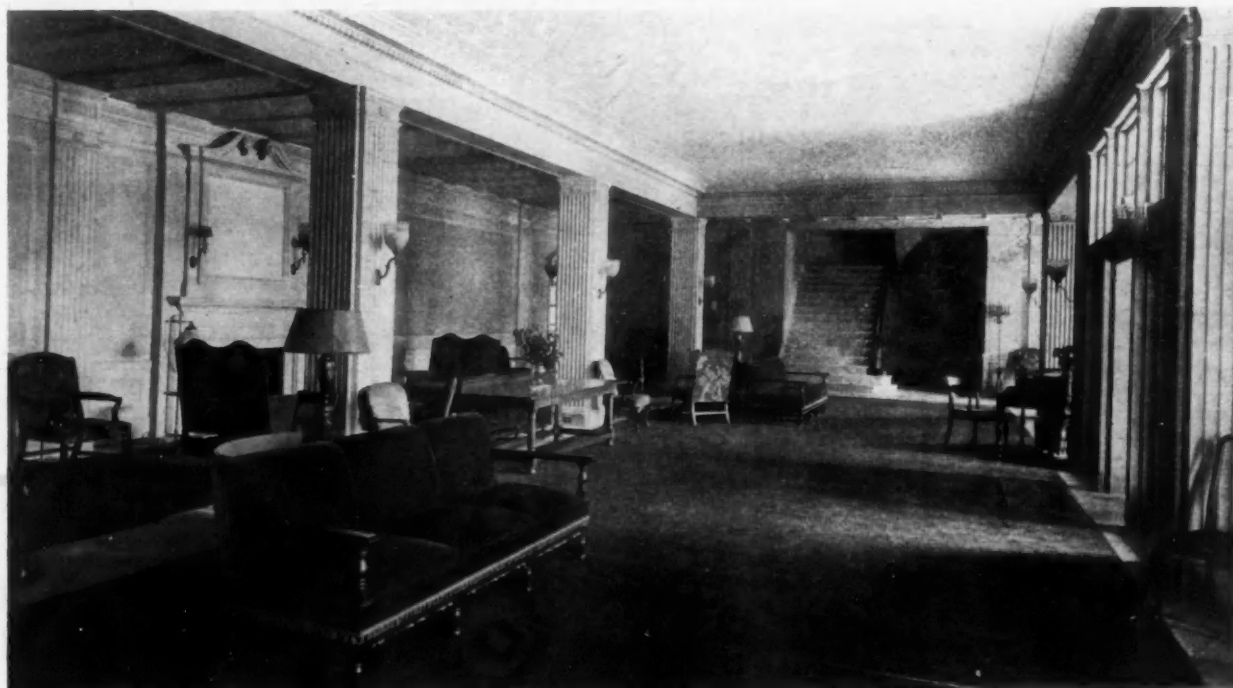


Proposed Building at Ardmore, Pa., for Combination Y. M. and Y. W. C. A.  
Louis E. Jallade, Architect

each other developed certain underlying principles which are still the basis upon which the model Association structure is planned. A great wave of Association building went over the country about 1910, and this new technique in the designing of the Association building is to be found used in such structures as those at Providence, Brockton, Mc Keesport, Roanoke and elsewhere over the country.

In reviewing the work of the last decade, one would immediately say that efficient buildings have been planned, but that the Association had gone far

wrong in the matter of taste. This was due, on one side, to the idea which was often expressed by the secretaries that the interiors of the buildings should be simple so as not to frighten away the young men. That was one of the criticisms that were made of the Baltimore and Washington buildings at the time. Of course the idea was all wrong. Every one of the Associations tried to get too much for the money, and the main idea of the building committees was to get the largest buildings possible by eliminating refinements of exterior and interior



General Lobby, International House, New York



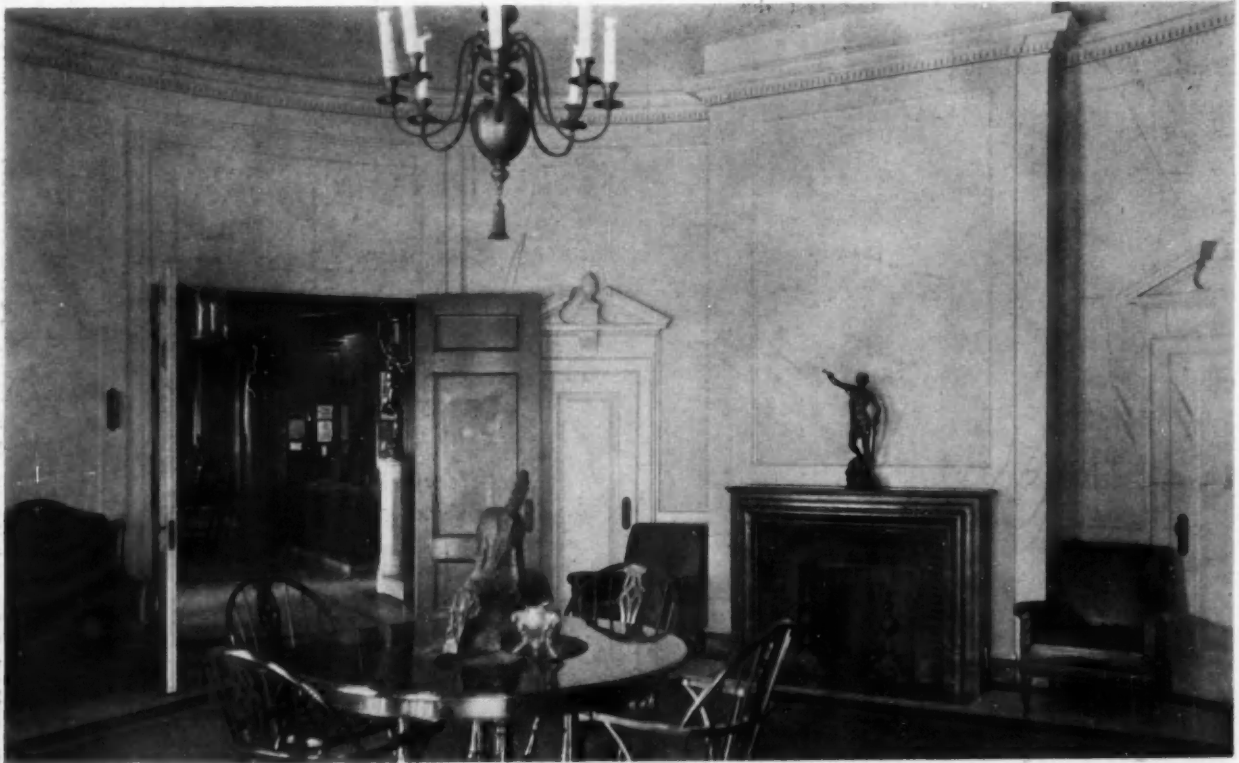
Y. M. C. A., Roanoke, Va.  
Jallade & Lindsey, Architects

finish. When the building was finished there usually was not enough money left for the purchase of proper furniture and decorations, and in many cases these two important items were entirely overlooked.

While the Y. M. C. A. had been standardizing as to its plans and materials and operation and erecting purely utilitarian buildings, the young women, on the other hand, had been carrying on quite a definite building program without much regard to standardization, but quite a good deal of study was being given to their decorations and furniture, and there began to exist quite a marked difference in the character of the two buildings, although both are very much alike in requirements. The Brooklyn Central Y. M. C. A. was the first large building where an attempt was made to give the interior an

architectural treatment and where good furniture was used. The first small sized city that made a positive attempt at architectural treatment and decoration was Trenton, N. J., and this result was so far ahead of what had been done elsewhere that it immediately attracted attention. There is a decided tendency since the war period on the part of secretaries and building committees to raise the general tone of the interiors of the Association buildings from an architectural point of view. This is very interesting, but there is yet much missionary work to be done.

The "International House" in New York, a Y. M. C. A. type of building, was really the first structure in which an attempt was made to put the interior of this type of building where it belongs. It was the intention of the building committee and the architect to set an example, and much time was spent in the study of the interior and furniture. They believed that buildings of this type should set a definite standard of good taste that might be carried to the home, and they made an attempt to surround the youth with a higher grade of interior. In addition to spiritual and physical development, it was desired that he might be taught an appreciation of the beautiful, and whereas the idea of durability that was so much desired in the old type of building was almost always expressed in furniture by the so-called "mission" type, it was decided that in International House it should be expressed by graceful furniture and well selected coverings, and where the old time Association building did away with window hangings, International House went to great pains to use beautiful draperies, and the old fumed



Directors' Room, Y. M. C. A., Greenwich, Conn.  
M. L. & H. G. Emery, Architects



oak which was used because it did not show finger marks was replaced by well selected furniture.

The Association owes its success to the fact that it anticipates the needs of the community. In the way of education, it has always tried to supply that which was wanted and not yet given by the public school authorities, and in many cases as soon as these requirements were supplied by the public schools, the Y. M. C. A. turned to some new activity. This is not only true in the educational field but in the field of physical education or in dormitory facilities as well, and it is for this reason that in another part of this article the claim has been made that the plan of the Association building should be flexible so that the structure can be changed to accommodate these many and varied program changes as they come.

The Y. M. C. A. divides its centers into several groups. There is first the large city Association, such as the West Side in New York, the Brooklyn Central, or that in Boston, which can only find place in a congested city and on main lines of traffic, and while the Association does its best work in small communities, the large city building is necessary in some cases. But these larger centers are usually supplemented by an outlying group of small branches, because it is found that younger men and particularly boys cannot travel long distances to the large central buildings. Then there is the small town building, such as those at Trenton, McKeesport, Plainfield, Brockton and other places of that type. This building is a unit by itself, and is merely a small reproduction of the larger building. Its program and requirements are much the same, but smaller.



Y. M. C. A., Williamsport, Pa.  
Thomas, Martin & Kirkpatrick, Architects

Then there is the Railroad Branch, which has an entirely different program, different because of the nature of its membership. The students' group is another type, large on club rooms and social layouts, but small on physical education plant, — or in other words, it does not duplicate college equipment.

There is a new idea being seriously considered by a commission composed of officials of the Young Men's and Young Women's Christian Associations, and that is the development of a combined men's and women's building. This idea is in agreement with the theory, which is sometimes correct, that the smaller town cannot afford two separate and independent organizations, one for men and one for women, and that if a combination building could be devised it would mean one campaign for funds, one



Y. M. C. A., Greenwich, Conn.  
M. L. & H. G. Emery, Architects

budget, one boiler and one roof, one operating force, and the use in common of such details as the natatorium, gymnasium, etc. The idea is being tried in existing buildings. It will be impossible to arrive at a conclusive decision as to whether it is practical until an efficient structure has been specially built in which to try the experiment and to do it real justice.

This is to be tried in a new building now under course of construction in Hackensack, and the plans are reproduced herewith. This building is to contain a department for men and boys and one for women and girls, and it would be well to analyze in general what this means. The boys have a separate entrance and their own department complete with all secretarial, physical training and educational features, as in an ordinary Y. M. C. A. building. Similar accommodation is provided for girls on the opposite side of the structure. The main entrance and central portion of the building are for both the men and the women. The natatorium and gymnasium are planned so that they can be used by any of the four departments without interference with other departmental activities. The main gymnasium is so arranged that it can be used as a public auditorium without interrupting the physical training program of other departments in the supplementary gymnasium. If the town is carrying on an active program for both sexes, then there is danger that the programs of both will interfere with each other. For instance, it is expected that the combination building will have set aside for the exclusive use of the women and girls a set of social and recreation rooms.

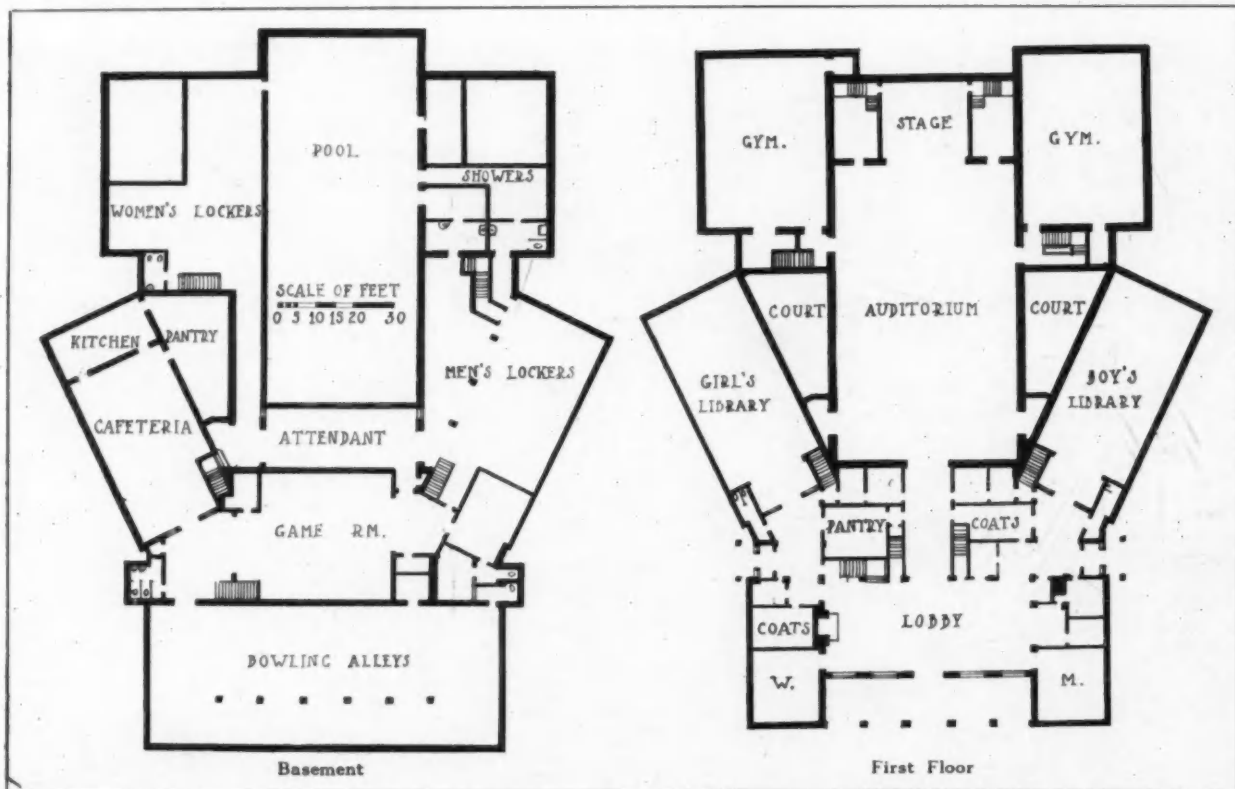
There will be the same for the men and boys; that is, there will be two lobbies, there will be two game rooms, etc., but there will be only one natatorium, the women using it on certain days, the men on others.

This idea of a combination building, while extremely interesting, is not to be recommended for every community. A decision can be arrived at only when a thorough survey and analysis have been made of the number of young people in the town and the hours which they can devote to their activities. Then there is the question of whether women's work will be handicapped in its growth through its being joined to the men's work in the same building. It will be very interesting to watch the experiment.

**The Y. M. C. A. Architectural Bureau**

One of the developments of the past 12 years in Y. M. C. A. building has been the establishment of the Architectural Bureau of the National Y. M. C. A. Organization. Its functions, briefly, are those of Consulting Architect in the specialized planning of Y. M. C. A. buildings. The Bureau, when retained by the local Associations, is prepared to supply the architect with scale details of the special portions of the building such as gymnasiums, handball courts, swimming pools, locker rooms, showers, etc. A complete outline of special requirements as a basis for specification writing and a floor layout of each room showing the furniture and equipment, as the basis for the general decorative scheme are provided. Lists indicating every item of the furnishings are made, and detailed drawings and specifications prepared for the competitive bidding of furnishing and equipment houses. Every effort is made to place in the architect's hands such complete and tested data that he will be able to produce necessary plans with the least expenditure of time.

While the use of this service by the local Y. M. C. A. is in no sense obligatory, the results secured in finished buildings have been regarded as so satisfactory that the Bureau is functioning wherever Y. M. C. A. building is going on.



Plans, Proposed Combination Y. M. and Y. W. C. A., Hackensack, N. J.  
Louis E. Jallade, Architect

# Heating and Ventilating Club Buildings

By DWIGHT D. KIMBALL

THE mechanical equipment of a club building is doubtless the most important single factor entering into the efficiency of operation of the structure and into the comfort of the occupants thereof. This equipment includes the heating of the building, the ventilation of its departments, and provision for cooking by steam and for laundry work.

The installation of the heating system is a relatively simple matter. It may consist of either a one-pipe or two-pipe gravity steam heating system. Frequently, however, the vacuum return steam heating system is used to promote efficiency and economy in operation. This involves the installation of a two-pipe vacuum return line system, together with the installation of duplicate automatically controlled centrifugal vacuum condensation and air pumps. Direct radiation is customarily provided in all rooms of the building, those radiators located in the public rooms being generally concealed or recessed under the windows, while those in the bedrooms and minor rooms are usually exposed. All piping above the basement should preferably be concealed. In bedrooms and other small rooms a modulating control valve should be applied at the steam supply end of a radiator if a vacuum heating system is used. This permits the occupant readily to control temperature.

For small buildings the boiler plant may consist of cast iron sectional low-pressure steam boilers. The firebox type of boilers is better suited to medium-sized buildings. For larger buildings, and especially where high-pressure steam is required for cooking and laundry use, horizontal return tubular boilers enclosed in brickwork are frequently used.

Only in very large club buildings would automatic stokers be desirable; hand-firing is generally practiced. The fuel used in a club building is generally anthracite coal, and to promote economy the boiler plant should be adapted for the use of "buckwheat" coal. In many cases the blower type of "pinhole" grate, using No. 2 or No. 3 buckwheat coal, will be found the most economical. For large plants, especially where high-pressure boilers are used, bituminous coal will be found the most economical in use. Local conditions and local prices of coal will largely govern the selection of fuel. Oil burning is rarely chosen for economy alone in club buildings, unless the building is small and the engineer is, by the use of oil, freed from work in the boiler room so as to be of service elsewhere, or where the price of oil is low with the price of coal very high. Oil is a clean fuel, however, and promotes ease of operation of the boiler plant. In selecting the location of the boiler room, provision should be made for the replacement of the boiler units when they become worn out. Provision for ash removal may consist of a hand hoist, an electric hoist, a platform elevator

to the sidewalk, or, in very large buildings, a suction ash removal system may be advantageously provided.

The ventilating equipment for club buildings is perhaps its most important feature, for it goes far in making comfortable and enjoyable the occupancy of the entire structure. In general it will be found desirable to install a number of separate ventilating systems, that is, units for the different departments of the building. A typical arrangement or provision of ventilating units would be something on this order:

*Dining room.* A supply fan system, with an exhaust fan system; or else the air from the dining room may be exhausted through the kitchen without the use of a separate exhaust fan for the dining room. The latter plan has the advantage of preventing the escape of odors from the kitchen to the dining room and other portions of the building.

*Kitchen.* An exhaust fan system only, drawing air from the dining room; except that in very large kitchens an air supply system is also desirable.

*Lounge, library, billiard and card rooms.* These may well be provided with a ventilating system common to all, having a supply system and an exhaust system. The ventilation of the card room is perhaps the most important of all of the rooms in this group.

*Class rooms (if any, as in Y. M. C. A. buildings).* These, if frequently and largely used, should be provided with supply and air exhaust systems.

*Auditorium.* Where a large auditorium is included in the building, it should be provided with a complete ventilating system, including supply and exhaust fan units. If the auditorium is large, it should be ventilated much as is the modern theater, with an overhead supply of air and an exhaust through the floor or from the floor level. If a motion picture machine room is included, this should have a separate exhaust system of its own.

*Gymnasium, locker room, bowling alley and hand ball court.* These departments may be grouped, if adjacently located, into one ventilating system, having supply and exhaust fan units. The gymnasium, if it has windows on two or three sides, will hardly require ventilation if the window area equals 10 or 15 per cent of the floor area. In the case of some large buildings, a separate ventilating system (especially exhaust) may be desirable for the locker rooms, if these be extensive. Fresh air to the swimming pool room may well be supplied from the gymnasium ventilating unit. If an extensive equipment of showers is provided, a separate exhaust system is desirable for the shower rooms for proper ventilation.

*Toilets.* These rooms throughout the building should be grouped into a separate exhaust system of ventilation. In some cases the ventilation of the gymnasium locker rooms may be combined in this system. Ordinarily, only exhaust ventilation is pro-

vided from the toilet rooms, but to assure the ventilation thereof, louvered openings should be provided in the base or lower panel of each door.

*Boiler room.* Where this is an entirely inside room, and where the boiler plant is of a considerable size, ample ventilation must be provided. In any case, a liberal supply of air should be assured to the boiler room. In a large plant with a congested boiler room both supply and exhaust ventilation should be provided, with ducts to distribute the air to the hot areas of the boiler room, to render them bearable.

The amount of ventilation required in the different departments will be found to be equivalent to the number of air changes per hour indicated here:

*Dining rooms:* Supply 12 changes; exhaust the same number.

*Kitchens:* Exhaust 30 to 60 changes of air per hour, depending upon the size and number of windows in the kitchens. Where an air supply appears desirable, the quantity of air supplied should be equal to half that exhausted.

*General public rooms:* Supply 12 changes per hour, and exhaust the same number.

*Class rooms:* Eight changes supplied, and the same number exhausted.

*Auditorium:* Supply and exhaust 30 cubic feet of air per minute for each occupant.

*Picture machine room:* Exhaust 60 changes.

*Gymnasium:* Supply 12 changes per hour, if supply is required. Exhaust 12 changes per hour.

*Locker room:* Exhaust 20 changes per hour. Where a direct supply of air is required, supply 12 changes per hour.

*Bowling alley:* Supply 12 changes per hour in the section occupied by spectators and players, and exhaust the same number.

*Plunge:* Supply and exhaust 12 changes per hour.

*Shower room:* Supply 10 changes per hour; exhaust 15 changes per hour.

*Hand ball court:* Supply and exhaust 12 changes.

*Toilet rooms:* Exhaust 20 changes per hour.

*Boiler room:* Supply 60 changes per hour. Where air supply is required, provide 40 changes.

Each fresh air supply unit or system necessarily includes air heaters, fan, motor, usually air filters, and duct system. The motors installed are usually of the belted type. Where small units of fresh air supply are required, the ventilating units so generally used in school room ventilation may often be used.

Whether the various ventilating units shall be grouped together or be distributed locally throughout the building will depend largely upon the plan of the structure. Usually the expense of installation is less with local distribution, due to the saving in duct work. While this adds something to the labor of attendance involved, the attention required by these fans and motors is only slight and insignificant.

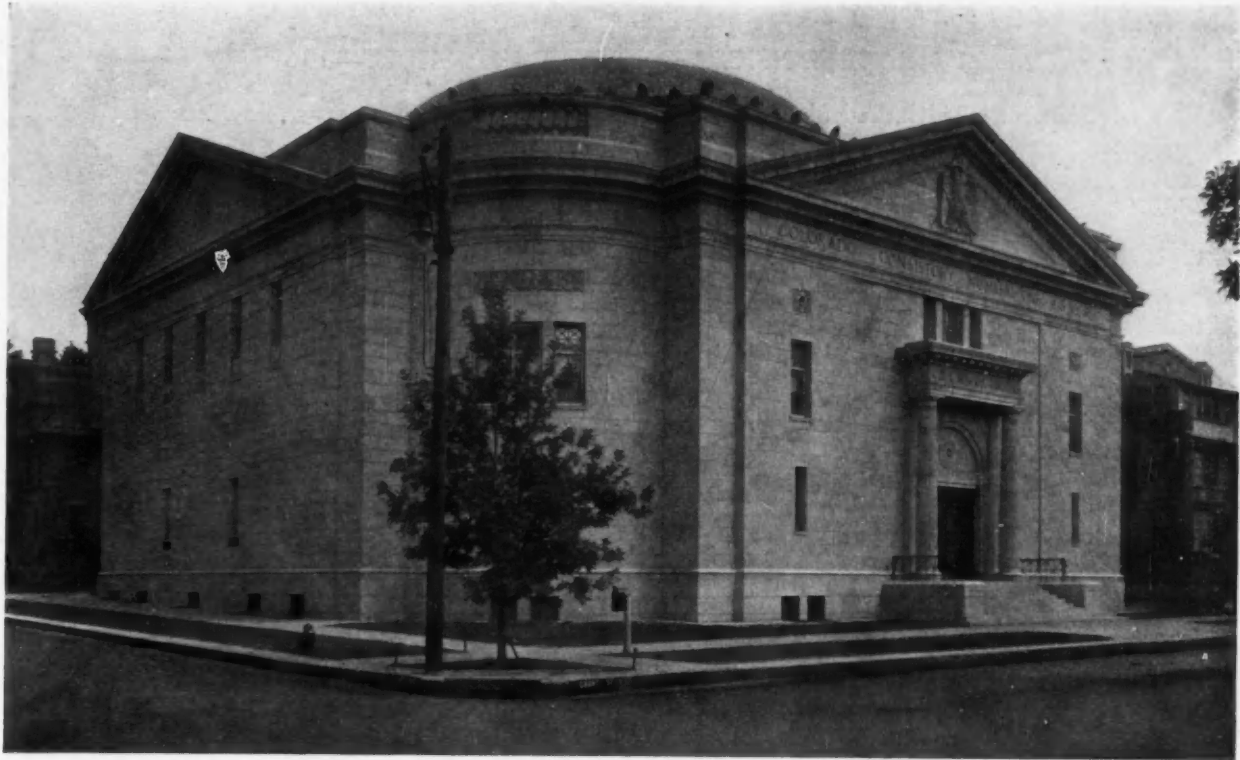
The heating of the club building and the ventilation of its public and service rooms are admitted necessities. The question is often raised whether the cooling of the public rooms in a club building during

hot weather should not be deemed a desirable, if not a necessary, feature. Such rooms to be cooled would include the dining rooms, lounge, library, billiard and card rooms, and the auditorium. Cooling systems are now applied generally to first class motion picture and vaudeville theaters, and the movement is extending to other theaters. An air-cooling installation involves but a slight elaboration of the ventilating plant itself, but it does require the installation of a refrigerating plant, the capacity of which must be approximately one ton for each 10 or 12 people occupying the spaces to be cooled. Of course factors other than occupancy enter into a determination of the capacity of the refrigerating plant required. The necessary additions to be made to the usual ventilating equipment include in the average instance a de-humidifier type of air washer and additional temperature and humidity control equipment.

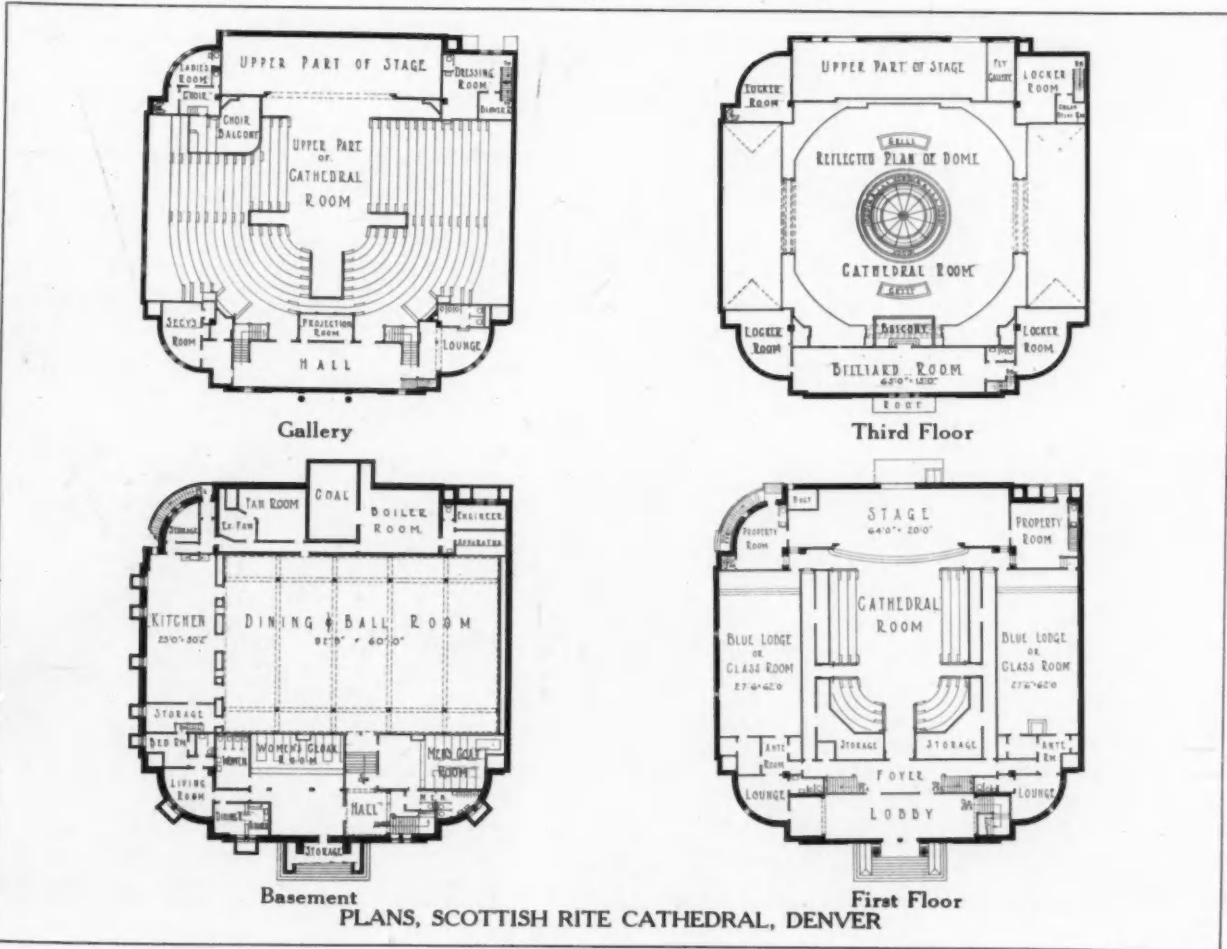
Minor but essential features of a club building heating and ventilating equipment include the installation of a system of temperature regulation applied to all direct radiators in important rooms, and to the regulation of the temperature of the air supplied by the ventilating units. There is also to be included the installation of pipe covering on all steam piping, which should be 85 per cent magnesia covering on all high-pressure piping, and air cell covering on low-pressure piping, and air cell covering on low-pressure piping. The hot water supply for the building may be provided by means of hot water storage tanks in which the water is heated by means of steam coils. In small plants a low-pressure auxiliary heater or hot water tank heater may be provided for heating water in summer.

If a swimming pool is provided in the building, the equipment provided for the care of the water must be selected with extreme care. With a proper installation, carefully operated, the water in the pool may be kept at all times and under all conditions so clear and pure as to meet all the requirements of the U. S. Public Health Service for drinking water, regardless of the extent to which the pool is used. A sterilizing equipment, of any one of several makes now on the market, is also essential. Water-heating equipment must be provided of such capacity that the pool may be filled with warm water within from 8 to 16 hours, provision also being made for adding five degrees to the temperature of the water each day during a period of four hours. With the equipment as here described, the cost of water in swimming pools is a negligible item because the water may be continuously used for periods of months at a time, the pool being emptied only occasionally for washing off the walls and the bottom of the pool.

Editorial Note: Other articles on subjects related to "Heating and Ventilating Club Buildings" have appeared in these ARCHITECTURAL FORUM Reference Numbers. November, 1923: "Hotel Power Plant and Refrigeration Equipment;" "The Planning and Equipment of Hotel Kitchens;" "Hotel Heating and Ventilating;" "Sanitation and Water Supply in Modern Hotels." June, 1925: "Ventilating and Cooling Motion Picture Theaters." These articles will be found helpful.



SCOTTISH RITE CATHEDRAL, DENVER  
WILLIAM N. BOWMAN COMPANY, ARCHITECTS



PLANS, SCOTTISH RITE CATHEDRAL, DENVER

## FORUM SPECIFICATION AND DATA SHEET—136

Scottish Rite Cathedral, Denver; William N. Bowman Company, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Fireproof.

## EXTERIOR WALLS:

Granite base, balance terra cotta.

## ROOF:

Tile.

## FLOORS:

Tile in lobby; maple in ballroom; concrete elsewhere.

## HEATING:

Steam; equipment for ventilation.

## PLUMBING:

Porcelain and enamel.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR WALL FINISH:

Paint.

## INTERIOR DECORATIVE TREATMENT:

Paint.

## APPROXIMATE CUBIC FOOTAGE:

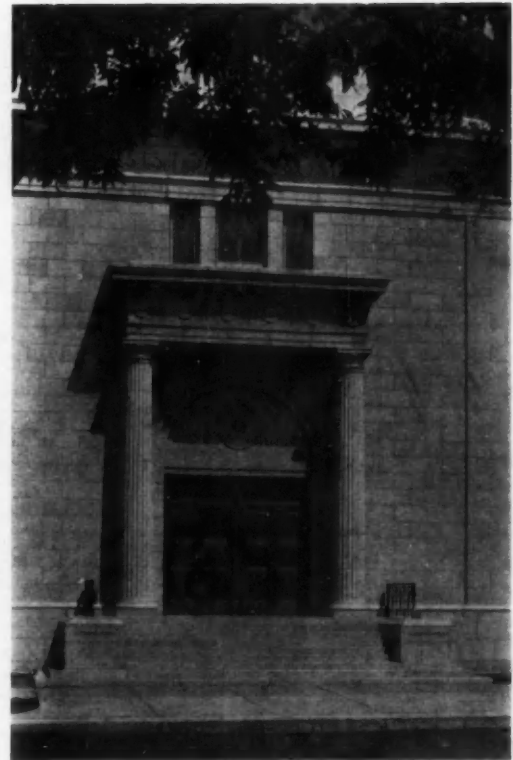
900,000.

HERE is a monumental building almost a perfect square in plan, designed for the use of one of the branches of the Masonic order. The chief feature of the building is the center cathedral room, which occupies the greater part of the first and second floors. The tiers of seats of this great auditorium extend up and back over classrooms on either side of the first floor. A billiard room and spacious stage form important details of the building. In the basement a large dining and ballroom occupies most of the floor space. Adjacent to this room are a kitchen and coat and toilet rooms for

men and women. Renaissance architecture of a rather Roman type is used for the exterior elevations, the wall surfaces of which are broken by a few small and carefully placed windows. The fine entrance portico, carried out in the Tuscan order, would have still greater dignity had it been possible to use a pair of monumental bronze doors the full height of this portico. The building as a whole is such a good example of carefully studied scale and proportion that it is unfortunate that it was impossible to make these entrance doors sufficiently high to be in scale with the highly dignified portico which enframes them.



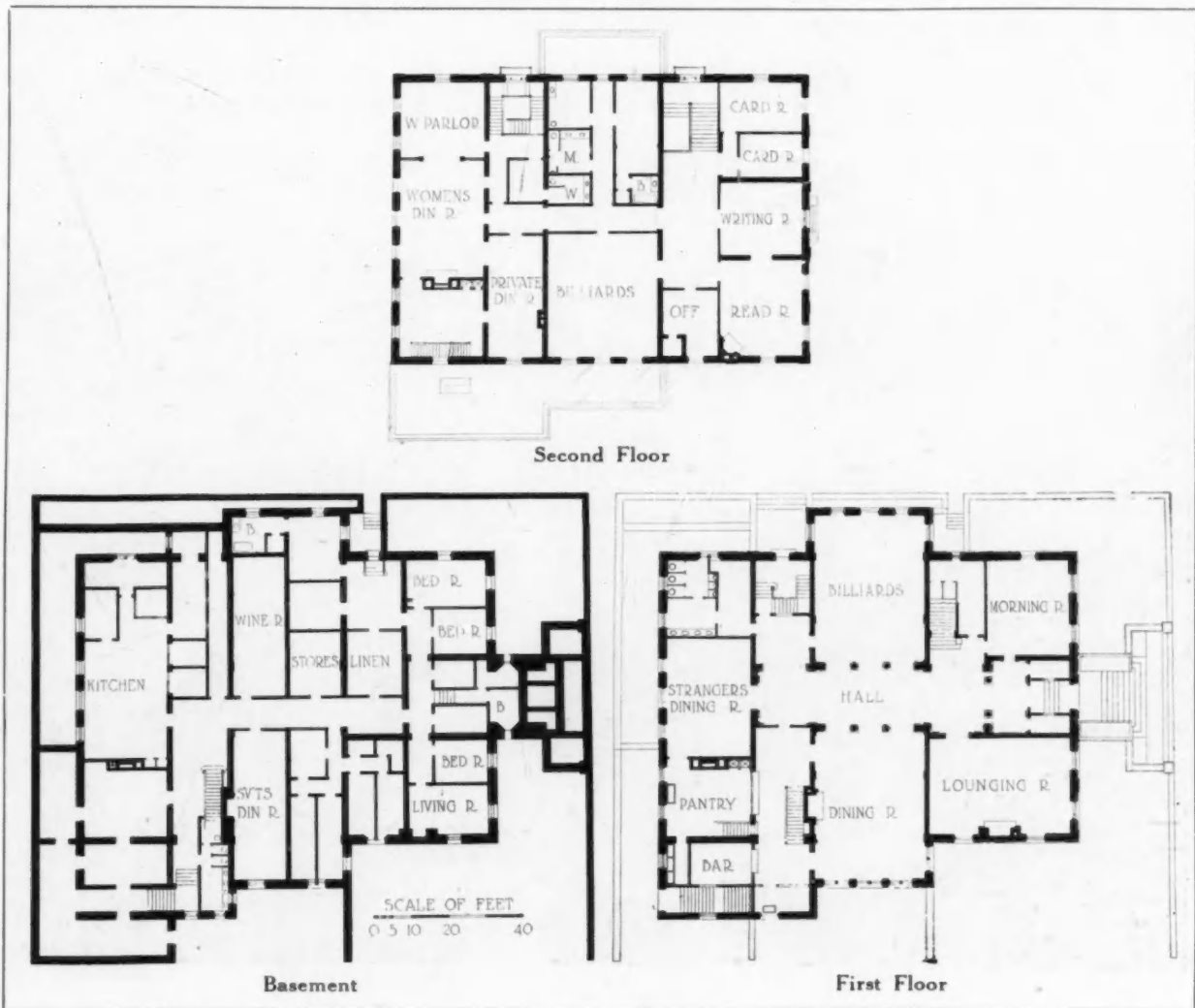
Auditorium



The Entrance



MOUNT ROYAL CLUB, MONTREAL  
McKIM, MEAD & WHITE, ARCHITECTS  
HUTCHINSON & WOOD, ASSOCIATED ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—137

Mount Royal Club, Montreal

McKim, Mead &amp; White, Architects

HUTCHINSON &amp; WOOD, ASSOCIATED ARCHITECTS

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Fireproof.

## EXTERIOR MATERIALS:

Street facades and cornice, stone tooled; rear walls, limestone.

## ROOF:

Felt with asphalt topping, graveled surface. Flashings, copper.

## WINDOWS:

Double-hung, wood.

## FLOORS:

Service portion, granolithic. Main halls and

stairs, stone. Coat rooms and lavatories, white Italian marble. Main rooms, oak.

## INTERIOR WALL FINISH:

Hard finish plaster, except where wood paneling is used.

## DECORATIVE TREATMENT:

Except where wood paneling is used, all walls and ceilings are finished in lead and oil.

## APPROXIMATE CUBIC FOOTAGE:

470,000.

## COST PER CUBIC FOOT:

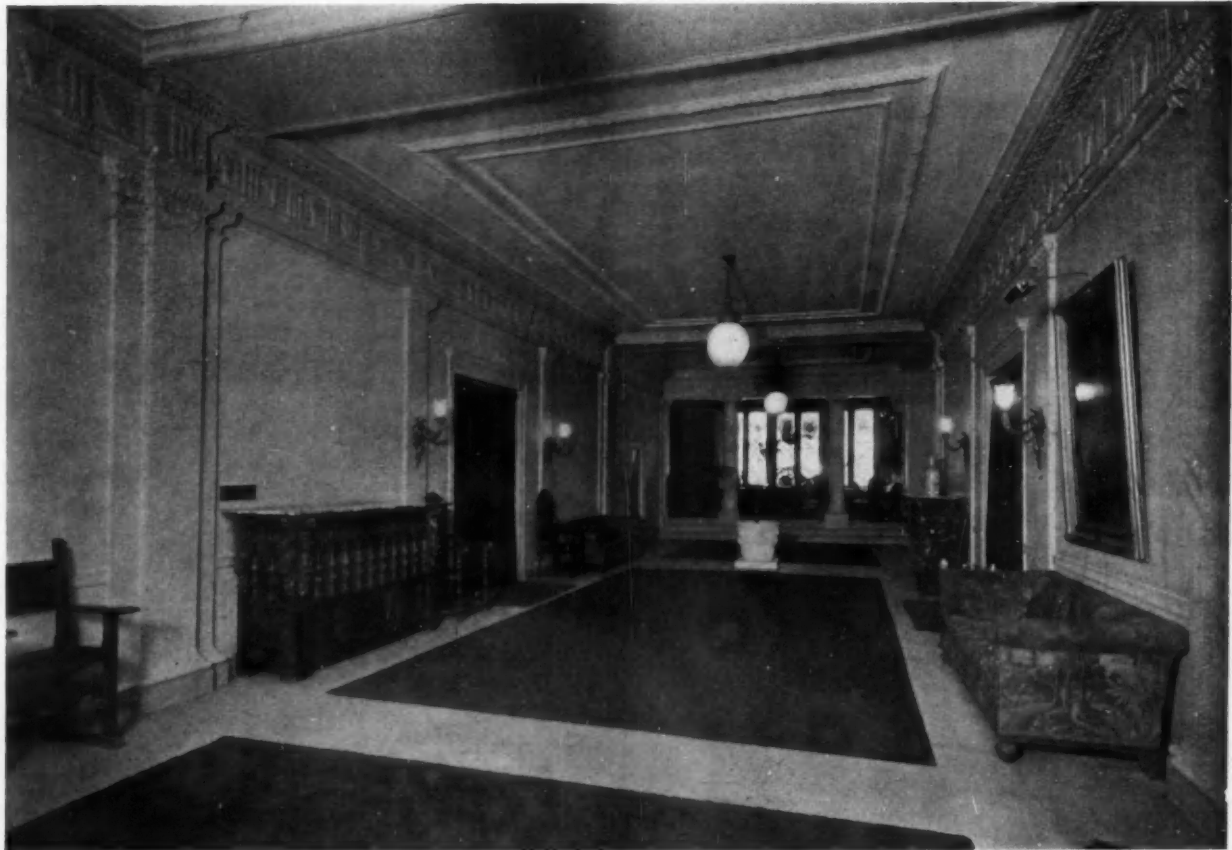
30 cents.

## YEAR OF COMPLETION:

1906.

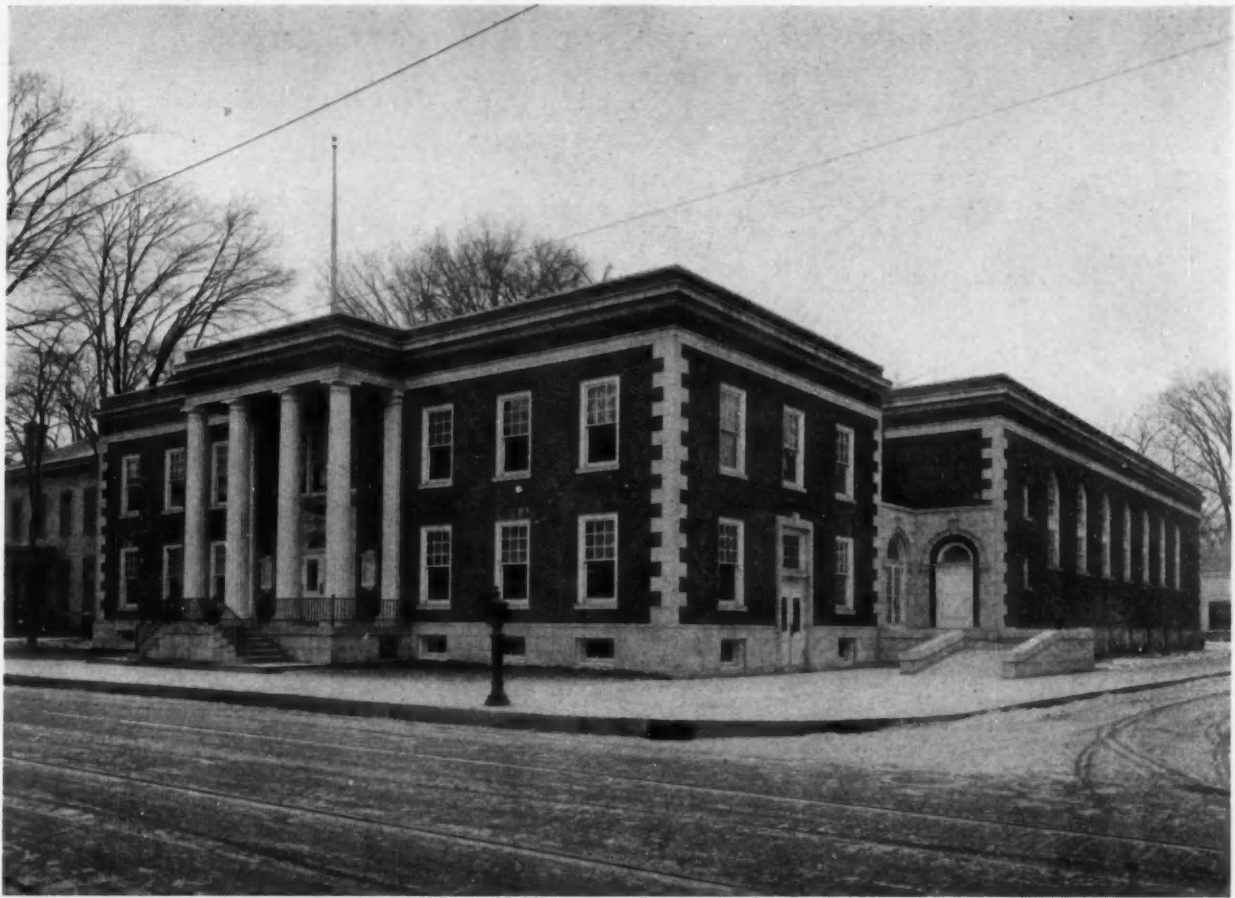
DISPLAYING a dignity and refinement of design characteristic of the work of this famous old firm of architects, the Mount Royal Club is an excellent example of a small city club. Italian Renaissance details have been consistently used in the interior as well as on the exterior of this building. The front elevation shows a balanced design of center entrance door with imposing terrace steps, balanced on either side by four well proportioned win-

dows, and a certain architectural severity and restraint in design. The plan is as perfectly balanced as is the exterior elevation. A long center hall extends through the building with lounging and reception rooms, a main dining room and billiard room on either side. A small dining room for guests as well as serving pantry and bar are located at the rear of the first floor. The second floor contains game rooms, a reading room and additional billiard rooms.

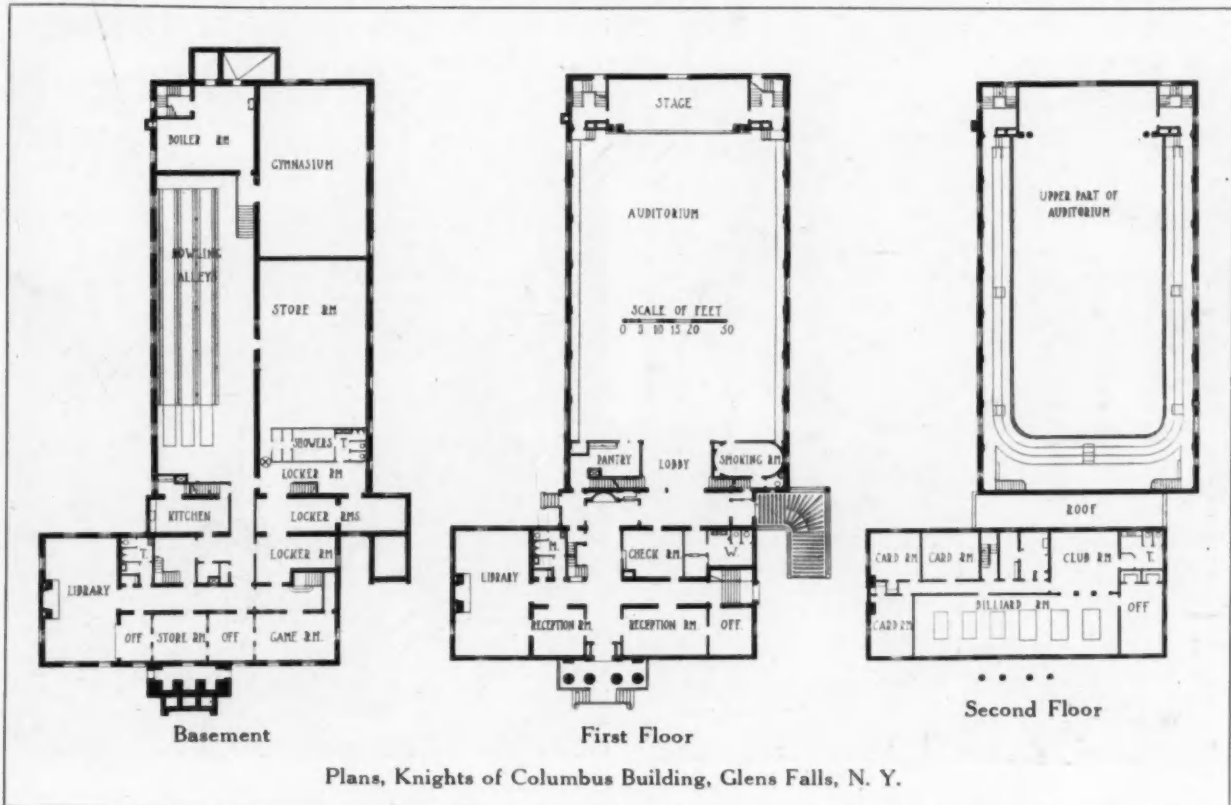


A View of the Entrance Lobby





KNIGHTS OF COLUMBUS BUILDING, GLENS FALLS, N. Y.  
THOMAS L. GLEASON, ARCHITECT; HENRY HORNOSTLE, CONSULTING ARCHITECT



## FORUM SPECIFICATION AND DATA SHEET—138

Knights of Columbus Building, Glens Falls, N. Y.  
 Thomas L. Gleason, Architect; Henry Hornbostle, Consulting Architect

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Semi-fireproof. Steel girders, wood joists.

## EXTERIOR MATERIALS:

Cast stone and tapestry brick.

## ROOF:

5-ply slag roof.

## FLOORS:

Basement, concrete and maple; upper floors, oak, maple, marble and tile.

## INTERIOR MILL WORK:

Chestnut.

## INTERIOR WALL FINISH:

Paint.

## INTERIOR DECORATIVE TREATMENT:

Stone and composition fireplaces, emblems and heraldic designs; niches treated architecturally in chestnut woodwork stained.

## APPROXIMATE CUBIC FOOTAGE:

480,000.

## APPROXIMATE COST PER CUBIC FOOT:

31 cents.

## SEATING CAPACITY, AUDITORIUM AND BALCONY:

2,500.

## YEAR OF COMPLETION:

1923.

RED brick with limestone trimmings are used to somewhat express the Colonial spirit in this club building at Glens Falls. Two stories in height, with a well lighted basement, it provides ample space for the various rooms required for a modern club building. The club proper occupies the building which faces the main street, located on the front part of the lot. At the rear and connected with the club house by a one-story corridor is a large auditorium or council chamber. This room, 105 feet in length, is provided with a large stage at one end and a shallow balcony around three sides. The location of the smoking room and serving pantry on either side of the wide entrance lobby leading into this hall is excellent, as is also the introduction of the wide cor-

ridor with exits at both ends, separating the club house proper from this auditorium building. The first floor of the club house shows a logical arrangement of well proportioned rooms designed for use as reception rooms, members' library, manager's office, toilets and dressing rooms for women as well as for members. On the second floor is a long pool room, containing six tables, and there are several card and game rooms and officers' rooms, serving pantry and storeroom. In the basement under both the club house and auditorium building are located bowling alleys, a large gymnasium, locker rooms and shower baths, a kitchen and serving pantry, a boys' library, and boys' game and play rooms. The building as a whole is unusually well designed and planned.



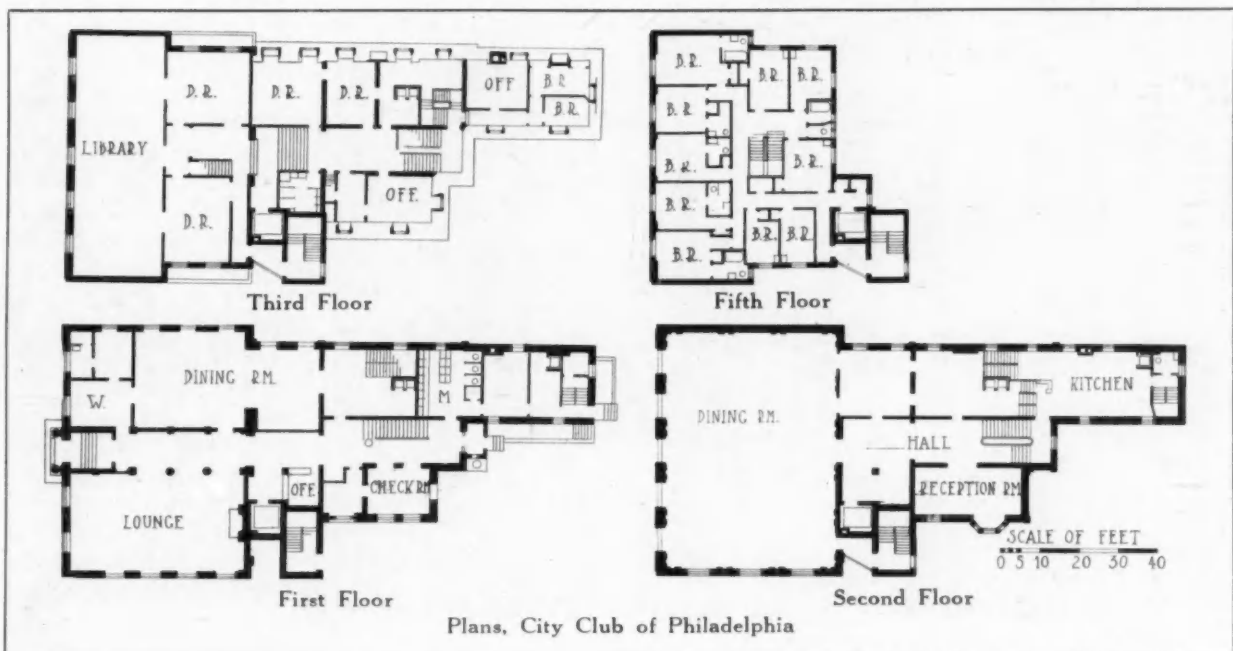
The Main Entrance



Approach to Auditorium



CITY CLUB OF PHILADELPHIA  
THE BALLINGER COMPANY, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—139

City Club of Philadelphia; The Ballinger Company, Architects

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Reinforced concrete.

## EXTERIOR MATERIALS:

Face brick; white marble trim and entrance.

## ROOF:

Felt and slag.

## WINDOWS:

Wood, double-hung.

## FLOORS:

Maple.

## HEATING:

Down feed, single-pipe steam, with mechanically operated air removal.

## PLUMBING:

Single-pipe system of drainage, with yoke type ventilation. Hot and cold water system.

## ELECTRICAL EQUIPMENT:

Complete equipment for light, power and telephone systems. Knife switchboard.

## INTERIOR WALL FINISH:

Oil paint.

## INTERIOR DECORATIVE FINISH:

Oil paint.

## APPROXIMATE CUBIC FOOTAGE:

312,867.

## COST PER CUBIC FOOT:

32 cents.

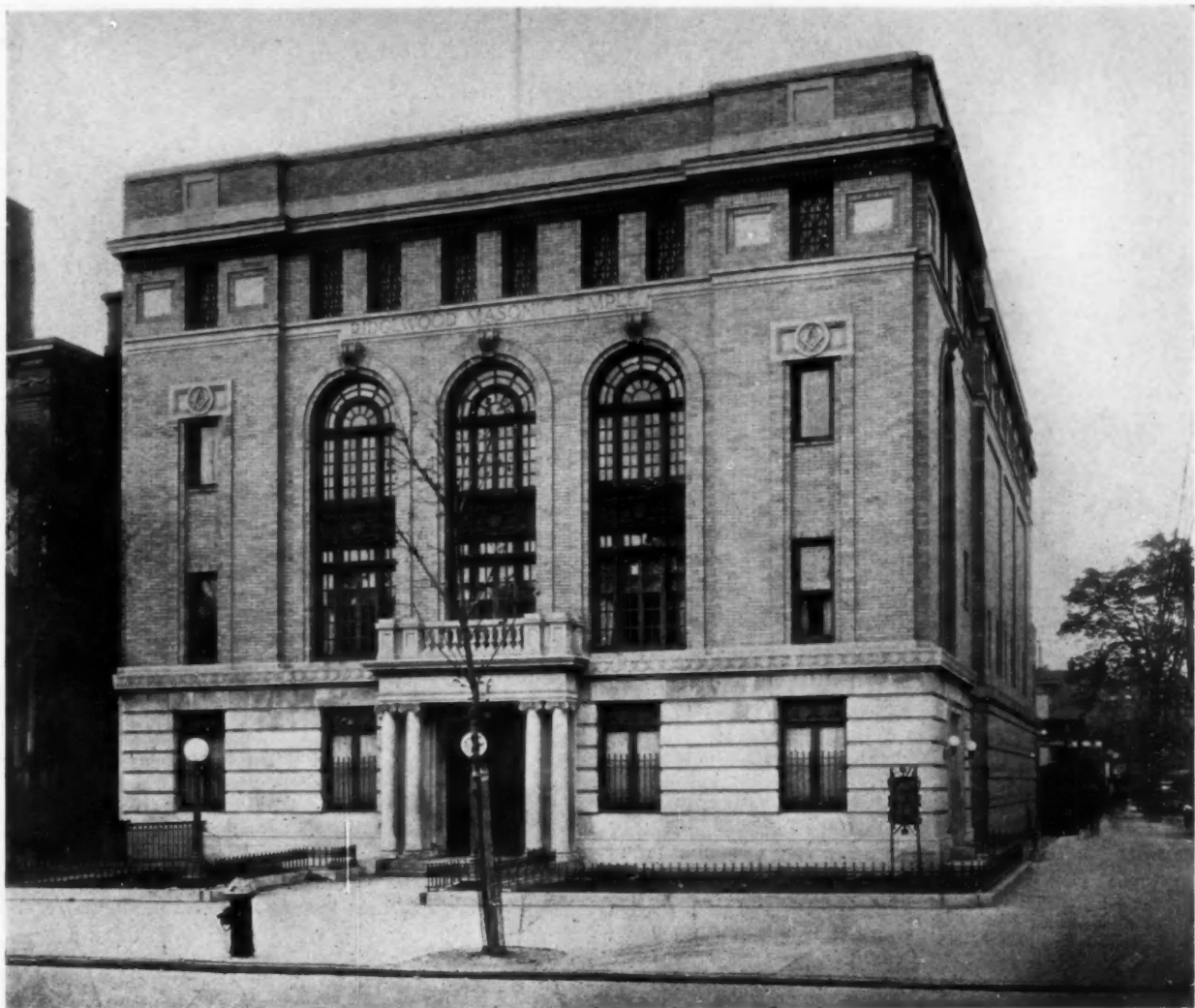
## YEAR OF COMPLETION:

1918.

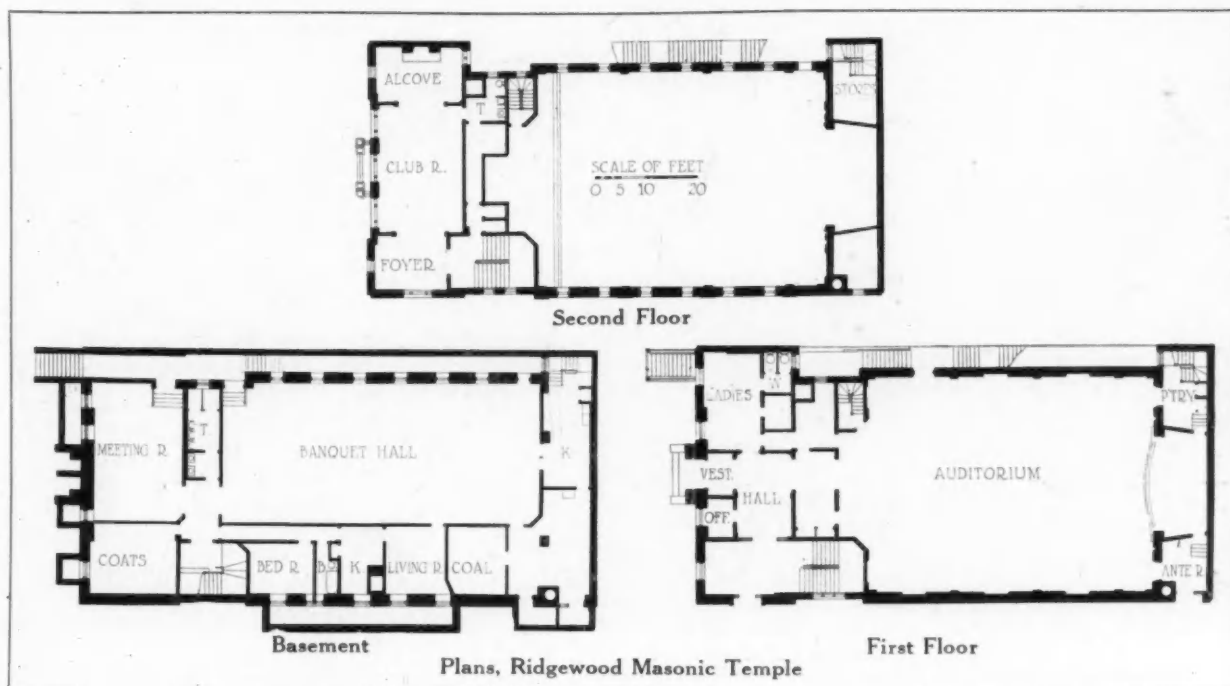


The Entrance

IN keeping with the revolutionary background of Philadelphia, this City Club house shows in its design a simple and straightforward adaptation of the Colonial style. The five stories of the building are successfully indicated by the series of well proportioned windows, those of the main floor indicating by their size and design the large dining room which is the chief feature of the club. The entrance doorway, executed in limestone, is particularly successful, not only in the Colonial feeling of its design but also in its scale, which is in perfect relation to the rest of the facade. The rear part of the structure, originally a private house, now contains the service department of the building and additional reception and private dining rooms. On the first or entrance floor is located the women's department, which includes two connecting dining rooms, a reception room, retiring room, and toilet.



RIDGEWOOD MASONIC TEMPLE, BROOKLYN  
KOCH & WAGNER, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—140

Ridgewood Masonic Temple, Brooklyn; Koch &amp; Wagner, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Semi-fireproof; brick walls.

## EXTERIOR MATERIALS:

Brick, limestone and terra cotta.

## ROOF:

Tar and slag.

## WINDOWS:

Wood frames and sash.

## FLOORS:

Terrazzo, maple and cement.

## HEATING:

Steam.

## PLUMBING:

Cast iron pipe; galvanized pipe for water lines.

## INTERIOR MILL WORK:

White pine, enameled; oak, filled, stained, and varnished.

## INTERIOR WALL FINISH:

Plaster. Marble in vestibule and for stairs.

## DECORATIVE TREATMENT:

Stair, halls and lobby in oil paint. Lodge room and auditorium and banquet hall in plaster.

## APPROXIMATE CUBIC FOOTAGE:

239,000.

## COST PER CUBIC FOOT:

68 cents.

## DATE OF COMPLETION:

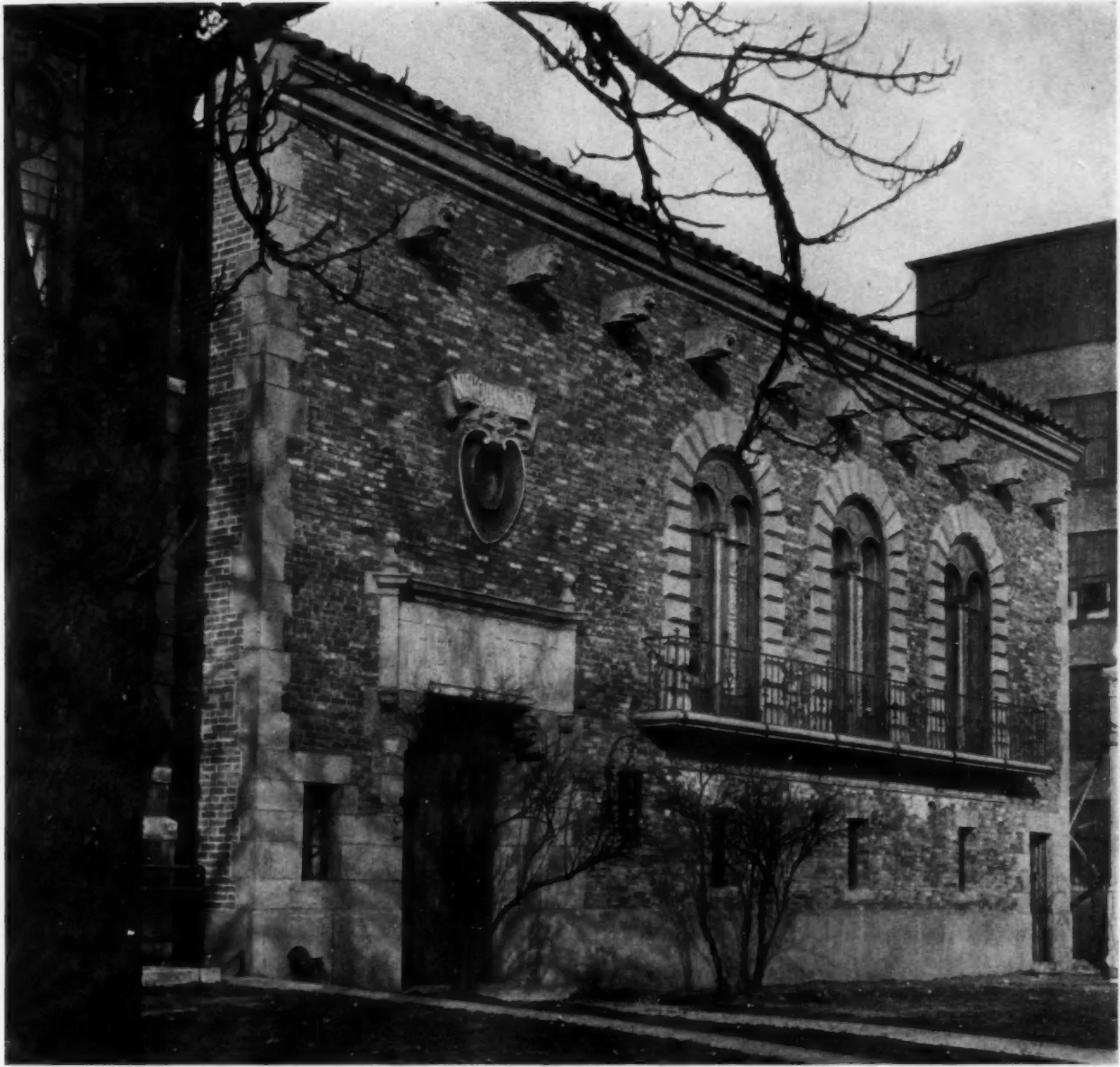
July, 1921.

THIS four-story building, faced with limestone and buff brick, shows a monumental design embodying details in the Renaissance style. Three tall arched windows form the chief architectural feature of the front facade, providing light for a large club room on the second floor and for another large room above on the third floor. The plan shows an auditorium on the first or ground floor, which extends up two stories in height, occupying the greater part of the building. This large hall is provided with a stage and adjacent pantry and anteroom. The front

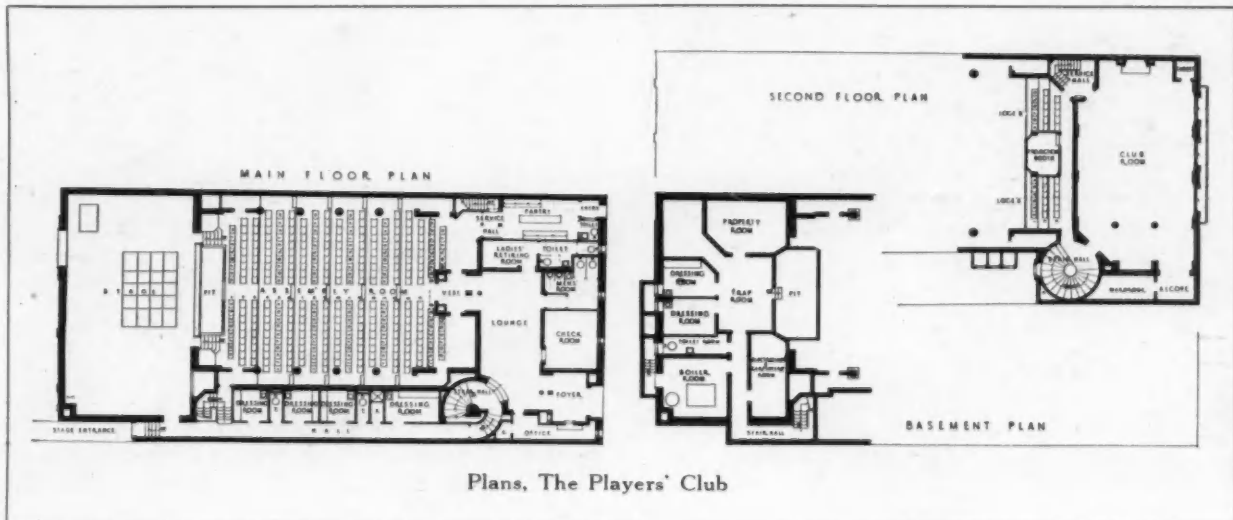
part of the first floor is cut up into a number of small rooms for offices, reception and fraternal uses. A fireproof stair hall occupies one corner of the building. In the basement are located a large banquet hall, meeting room, coat room, kitchen and boiler room. On the two upper floors are additional club and ritual rooms. This building represents the type of Masonic temple generally found in the smaller cities and suburban districts throughout the country. It adequately suggests and expresses the fraternal purposes for which the structure was built.



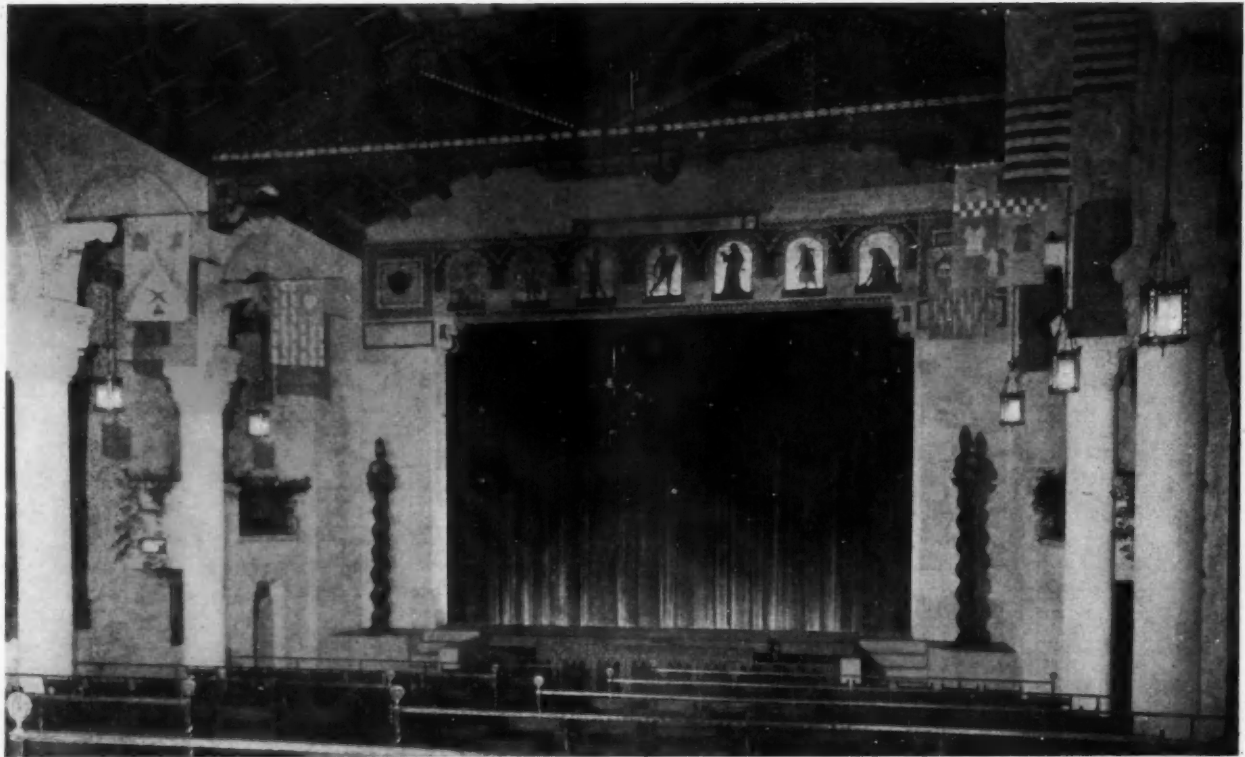
The Lodge Room



THE PLAYERS' CLUB, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS



Plans, The Players' Club



ONE of the most unique and charming club houses recently completed is "The Players," in Detroit. In style the design suggests both on the exterior and interior some of the examples of early Renaissance architecture in Florence. It possesses an individuality few structures of similar kind may claim and an element of truth unfortunately lacking in most modern architecture. It is individualistic because of its design and decorative scheme, and truthful because of the way the building materials

and the structural materials which support the work have been largely exposed and made beautiful. In planning the building economy as well as artistic effect was essential to the successful solution of the problem. As the interiors were studied by the architects, interesting and pleasing effects developed in the most natural sort of way. Materials originally looked upon as cheap and common were so used that they possess greater interest than would have been possible if treated in a much more expensive manner.



Club Room



Entrance

At Top, The Auditorium

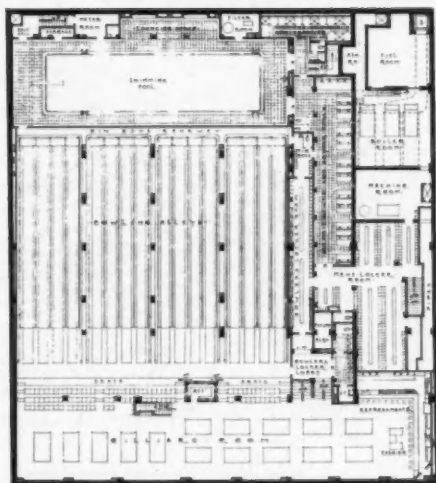




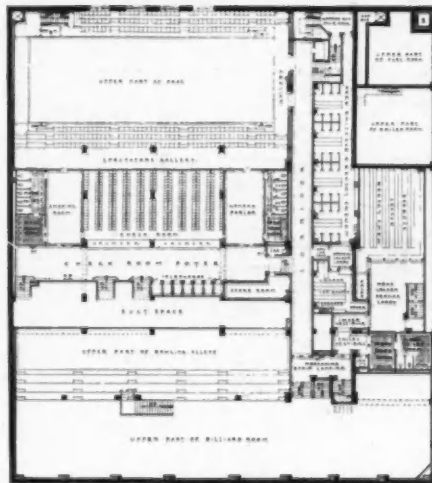
WEST SIDE KNIGHTS OF COLUMBUS CLUB AND COMMUNITY CENTER, CHICAGO  
SHATTUCK & LAYER, ARCHITECTS

**G**OTHIC details executed in limestone and terracotta are combined with dark red brick in this building for the Knights of Columbus on the West Side of Chicago. There is a certain dignity obtained by the use of the large Gothic windows which emphasize and indicate the arrangement of the club rooms within. At one end of the front elevation there is a tremendously wide vestibule, protected by swinging glass doors. This vestibule leads into a wide

foyer, from which the main ballroom is reached. This ballroom is so located that the gymnasium beyond it may be used either as a stage for theatrical performances or as an additional ballroom. This unusual and excellent arrangement indicates how much thought and care were spent upon the planning of this Knights of Columbus community center, which combines a fully equipped gymnasium with club rooms, recreation rooms and several council rooms.



The Basement Floor



Basement Mezzanine

FORUM SPECIFICATION AND DATA SHEET—141

West Side Knights of Columbus Building, Chicago; Shattuck & Layer, Architects

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Brick walls; reinforced concrete framing.

EXTERIOR WALLS:

Light brown brick; terra cotta trim.

ROOF:

Composition on concrete slabs.

WINDOWS:

Metal.

FLOORS:

Terrazzo and wood.

HEATING:

Steam.

PLUMBING:

Enameled fixtures, sewage ejectors, filters and pumps.

ELECTRICAL EQUIPMENT:

Lighting and power for motors; ventilation fans and air washers.

INTERIOR MILL WORK:

Red oak stained silver gray.

INTERIOR DECORATIVE TREATMENT:

Painted plaster.

APPROXIMATE CUBIC FOOTAGE:

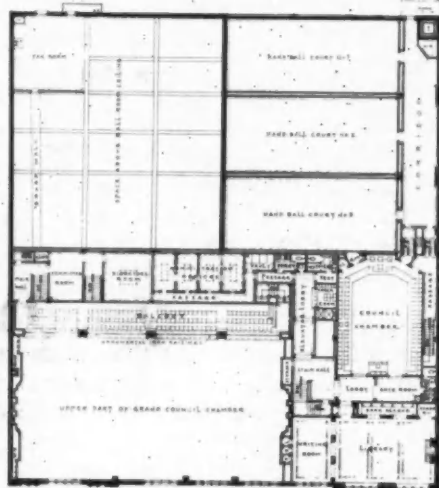
1,681,375.

COST PER CUBIC FOOT:

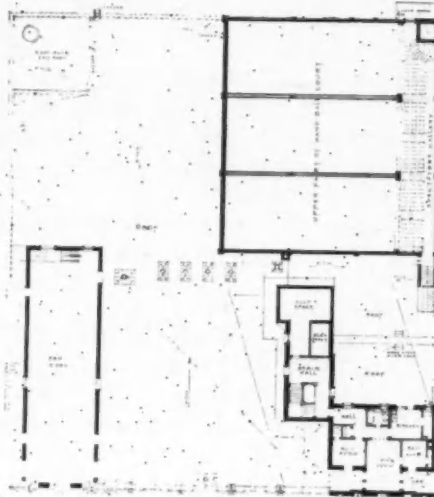
44 1/4 cents.

DATE OF COMPLETION:

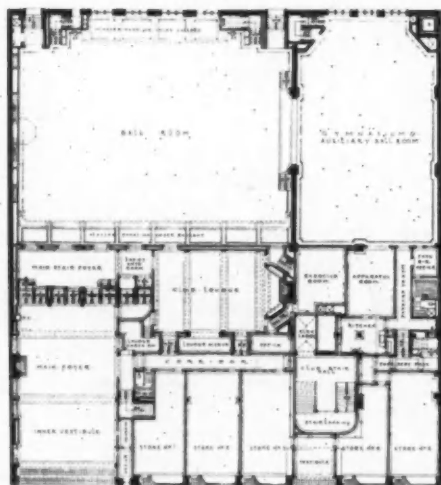
January 1, 1924.



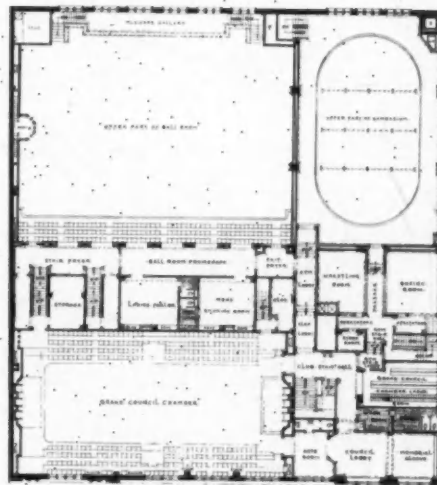
Third Floor



Fourth Floor and Roof



First Floor



Second Floor

Plans, Knights of Columbus Club and Community Center, Chicago  
SHATTUCK & LAYER, ARCHITECTS



REAL ESTATE BOARD BUILDING, PHILADELPHIA  
THE BALLINGER COMPANY, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—142

## Real Estate Board Building, Philadelphia

## OUTLINE SPECIFICATIONS

GENERAL TYPE OF CONSTRUCTION:  
Reinforced concrete.

EXTERIOR MATERIALS:  
Face brick, limestone trim and entrance.

ROOF:  
Felt and slag.

WINDOWS:  
Wood, double hung.

FLOORS:  
Maple.

HEATING:  
Up-feed, two-pipe gravity steam.

PLUMBING:  
Single-pipe system of drainage with yoke type ventilation. Hot and cold water system.

## ELECTRICAL EQUIPMENT

Complete system for light, power and tele-  
phones.

INTERIOR WALL FINISH:  
Oil paint.

INTERIOR DECORATIVE TREATMENT:  
Oil paint.

APPROXIMATE CUBIC FOOTAGE OF  
BUILDING:  
206,800.

COST PER CUBIC FOOT:  
51.7 cents.

YEAR OF COMPLETION:  
1923.

ALTHOUGH called a Board Building, this excellent example of modern Colonial design is in reality a small club house devoted to the use of the Real Estate Association of Philadelphia. In order to cover the carrying costs of this building, such as taxes, insurance, etc., the basement floor is divided into several shops, the windows of which are so logically located that the apparent structural strength of the building as a whole is in no way impaired. Strong brick piers are carried down to the foundation level both at the corners of the structure and between the shop windows. The main entrance to the club rooms above is successfully indicated by a dignified ornamental doorway in the middle of the principal facade. This doorway leads into a hall

which connects at the rear with a broad stairway leading to the floors above. The plans show a general office, committee rooms, private offices and a lounge on the second floor. A large assembly and dining room together with a kitchen and serving pantry occupy the third floor. This is an excellent plan for a small club house devoted to a particular business and used principally for lunching and dining. It is unfortunate that the photographs of the interior were taken just before or after some particular ceremony or occasion, as the potted palms in no way add to the simple but straightforward architectural design of the interiors. How truly is it to be wished that the general public might acquire some appreciation of the beauty of architectural interiors!



The Lounge



Committee Room

## Planning and Construction of Swimming Pools

By JAMES O. BETELLE

IN the inclusion of a swimming pool in the plans for any Y. M. C. A. or club building, a committee should recognize at the outset that it is contemplating an expensive feature both as to installation cost and to maintenance thereafter. Whatever architectural compromises or structural economies may be practiced elsewhere, there is no possible compromise on the structural necessities of a swimming pool. This, then, will be the first as well as the last consideration of the inclusion of a swimming pool: definite recognition of its cost, from which there can be no departure in the way of economy.

In the first discussion of the plans it should be decided whether the pool is to be placed in the basement of the building or at or near the top of the structure. The basement location is most frequent, though the top location is favored for city clubs because it provides more light and air, and because the basement space is frequently more needed for the heating plant and other operating necessities, and for the special equipment required by the pool. In the top location it is obvious that amply adequate provision must be made to take care of the great weight in the framing of the sub-structure; otherwise, the actual construction of the pool itself is virtually the same in either location. It is an unfortunate piece of planning when the gymnasium (if any) and the swimming pool are separated by so many floors of the building as to necessitate use of the elevator between the two, and such an arrangement should be sedulously avoided. It is, obviously, impossible to generalize as to the top or basement location of a swimming pool in a club building, because the nature of the site and the total area of the site in any given instance would greatly affect the decision as to where the pool should be situated.

Generalizations, too, are difficult in the matter of planning the locker and dressing room arrangements

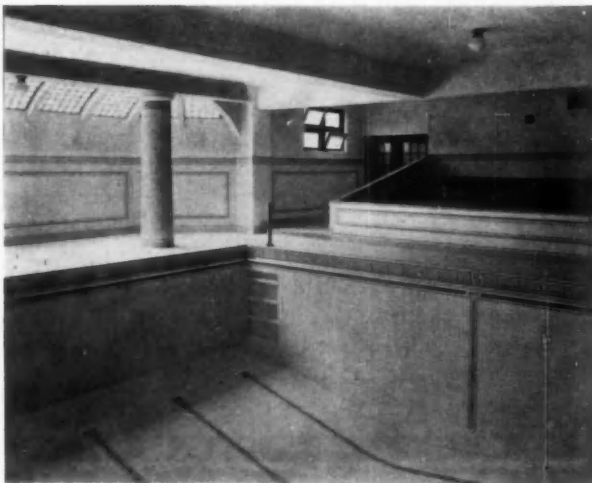
connected with the pool, because they vary according to differing requirements in Y. M. C. A. buildings and in clubs. The architect should, in every case, familiarize himself in advance with whatever rules and regulations the house committee may have with regard to members' use of the pool, and arrange his accommodations to meet requirements.

An example of such planning is seen in the usual arrangement found in the swimming pools in Y. W. C. A. houses, the so-called "wet and dry aisle" scheme. Bathers enter a dry aisle from which the dressing compartments open. Ready for the pool, the bathers leave the compartments and step into an aisle which is the wet aisle, since it is also the aisle into which bathers emerge from the pool. We all know how a wet tile floor tracks dirt from shoes, and as a floor in this condition is unpleasant for either shod or unshod feet, this two-aisle system commends itself as being exceedingly practical. The showers, obviously, would be accessible from the wet aisle. Plans of the accommodations adjoining swimming pools should be very carefully studied for practical convenience, minimizing of confusion, and segregation of bathers entering clothed and bathers coming from the water. Non-bathers, the audience for instance, of aquatic sports, should be accommodated in a gallery well above the pool, with entrances and exits separate from those to the pool itself. Nothing but inconvenience to bathers and audience alike results from any other possible arrangement.

In designing the room which contains the pool, the most difficult problem, and that most to be reckoned with, has to do with condensation. Second, but not so vital, is the problem of acoustics. Condensation is minimized as much as possible by heating the inflowing water in the pool as closely as can be managed to the temperature of the room, but even when this is done there is still enough condensation to



Swimming Pool, Missouri Athletic Association, St. Louis  
William B. Ittner, Architect



Swimming Pool, Y. M. C. A., Trenton, N. J.  
Note markings on sides and bottom of pool

make the use of plaster or corrodible metal more than unwise. Plaster will invariably sweat and disintegrate, and metal will rust, so that furred plaster ceilings on metal lath are out of the question entirely. The walls should be of encaustic or porcelain tile or, where economy is necessary, of brick, and the best ceiling material has been found to be acoustic tile. It is desirable to reduce the noise in a swimming pool as much as possible, and with the prevalence of non-absorbent surfaces the noise is likely to be considerable, in spite of the architect's best efforts. As a further provision against condensation, it is well to thoroughly insulate the ceiling, and to provide air space in the wall construction. The provision of

ventilation is aided by natural means in swimming pools located in the upper portions of buildings, and the best artificial means devised by ventilating engineers are necessary in basement swimming pools.

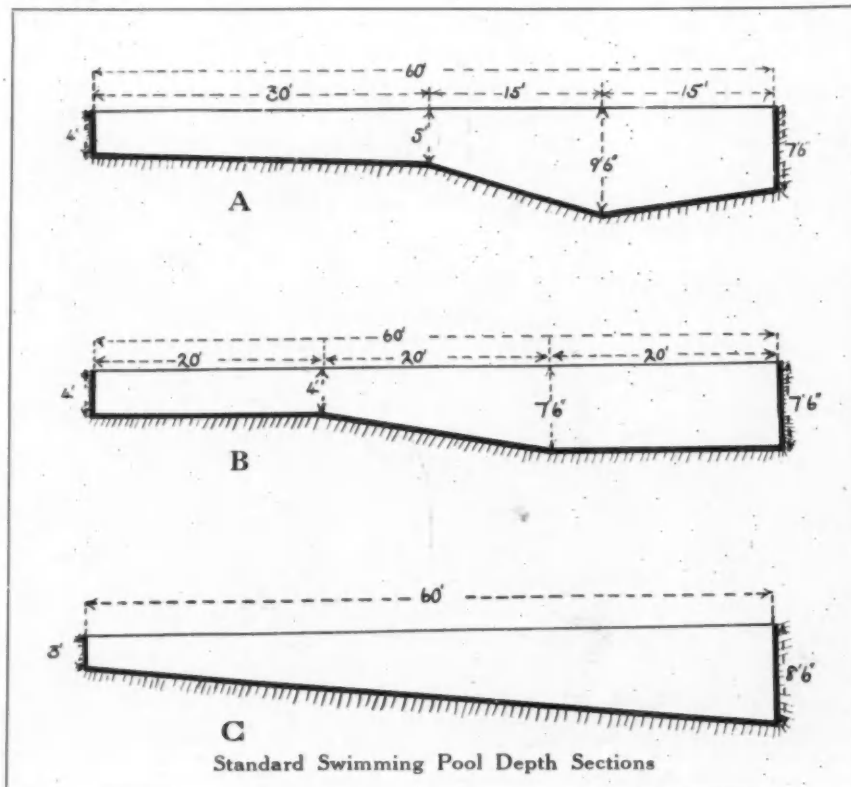
Intercollegiate rules for swimming contests establish the minimum dimensions as 20 x 60 feet, which have been adopted as those of the standard Y. M. C. A. pool. The dimensions of the "Championship" pool, customary in athletic clubs, are 25 x 75 feet. Multiples of 5 feet of width and 15 feet of length have been found convenient to figure, and typical dimensions, therefore, are:

20 x 60	20 x 75
25 x 60	25 x 75
30 x 60	30 x 75

Depths have been ruled to be not less than 3 feet at the shallow end nor less than 7 feet at the deep end. For diving contests the deep end of the pool is usually 8 or 8½ feet, with a maximum of 10 feet. Several types of depth graduation are used, the most popular being the so-called "spoon-shaped" bottom, (A), gradually sloping to the middle of the total length, beyond which point it is sloped both ways to a maximum depth 15 feet from the deep end.

Where a pool is likely to be used by persons unable to swim, as well as by swimmers, division into three parts is often made, the shallow third being 4 feet deep, the deep third 7 feet, 6 inches, and the center third graded between the two end sections (B). These depths may be varied to suit requirements, while (C) shows the type in which the bottom pitches unbrokenly from 3 feet at the shallow end to 8 feet, 6 inches at the deep end of the pool.

The construction of the swimming pool is likely to be of reinforced concrete or of steel, with thorough waterproofing. The pool built in a heavy, riveted steel box is seldom used except for elevated locations, unless there is infiltration from outside to be provided against. The factor of safety in the steel shell for a swimming pool placed in an upper story of a building is found in its protection from developing cracks which might result from any slight settling of the building. Whether the shell or main casing of the pool is of heavy steel, concrete lined, or of reinforced concrete, its section will consist, from this shell out, of (1) a five-ply membrane waterproofing of felt and asphalt; (2) a brick wall, slightly battered from 4 inches at the top; (3) tile lining,—the floor of the pool is usually of hexagon



or small-unit white floor tiling. It must be remembered that the most important of these items is the membrane waterproofing, in which the best asphalt, and not pitch should be used. It has been found that pitch tends to work out, even through the brick lining and the finished tile, thus weakening the fabric.

Manufacturers of tile have added to their stock pieces all the necessary copings, scum gutters, coves, ladder pockets and other special pieces for the finish of swimming pools. Of these the scum gutter is the most important, not only taking the place of the old fashioned life-line, but providing for the necessary disposal of the inevitable accumulation of surface matter on the water. These gutters, with drains piped through the shell of the pool structure, are exactly at the water level, and if the incoming water is forced into the pool at a sufficient pressure, the resulting ripple will float the surface scum over lip of the gutter, thus keeping the water's surface fresh.

In laying out the tilework for standard athletic swimming pools, certain markings are usually required, and are indicated by colored tile. There are the distance and depth numerals, shown by figures at 5-foot intervals; swimming lanes 5 feet wide, marked by lines 3 inches wide, extending along the bottom; safety lines extending across the pool and up the sides at 5-foot intervals; at 5 feet from the ends similar lines, called turning lines, which are extended across bottom and sides. In addition to these are jackknife limits, which are 3-inch wide lines 6 feet from the end of the diving board, crossing the curb and extending a short distance below water level as required by rules for the assistance of contest judges. The official diving board is 12 to 13 feet long by 20 inches wide, with its end projecting not more than 2 feet over the pool, and the fulcrum placed one-third of the length from the free end. The height is not less than 2½ feet or more than 4 feet above the surface of the water. Where swimming lessons are given, a wire cable to support belts is run the length of the pool, and provision should be made for anchoring this cable near the ceiling so belts supporting beginners in swimming will run along easily.

All spaces about the pool should be tiled, and it has been found that the walk or gangway at the sides should not be less than 3 feet or 4½ feet wide, and at least 6 feet at the ends. Special non-slip coping tile is made, providing a slight, even slope up from the floor of the room,—an improvement over the old type, which was abrupt, like a curb, and frequently tripped bathers about to enter or leave the pool.

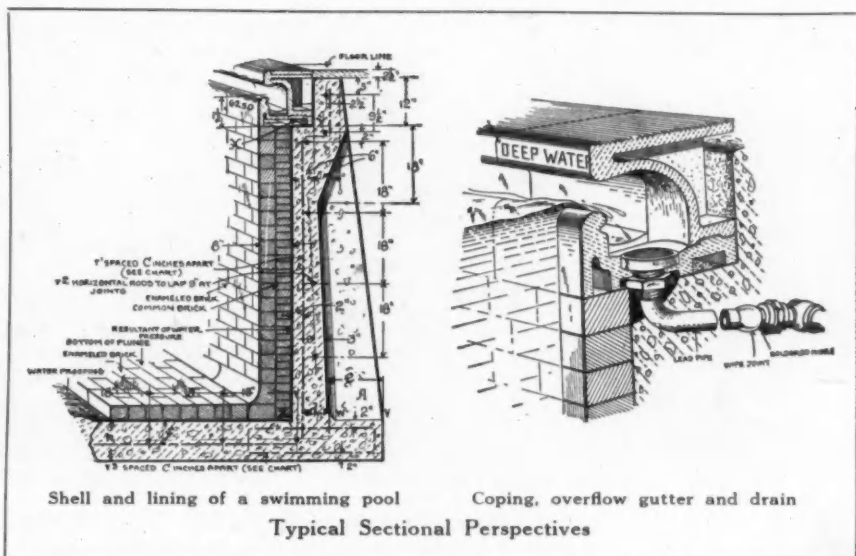
The water in the swimming pool goes through a



Swimming Pool at Columbus, O.  
Richards, McCarty & Bulford, Architects

cycle of five operations: (1) it is sterilized, (2) filtered, (3) enters pool, (4) circulates and (5) leaves pool,—and this cycle is continuous for a period of from three to four months. It is claimed that the successive sterilization and filtering makes the water purer at the end of this time than when first used. Various methods of sterilization are employed, and there are required special study and conference with local boards of health, which boards usually inspect all swimming pools in their jurisdiction at frequent intervals. Expert opinion differs on the merits of the types of sterilization employed, the three in general use being liquid chlorine, ozone, and ultra-violet ray. Great care should always be given to this detail.

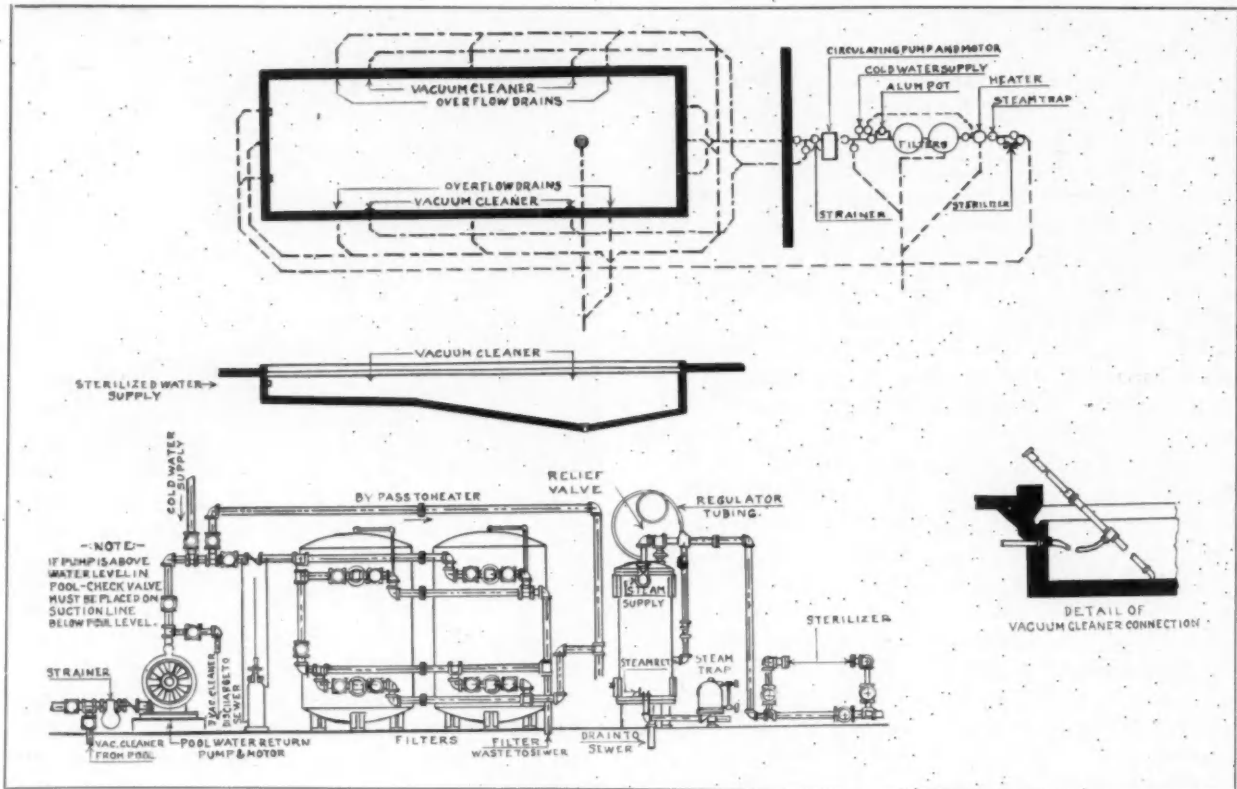
The water should be heated as nearly as possible to the exact temperature of the room in which the pool is located, in order to minimize condensation on walls and ceiling and to avoid humidity. Ventilation will help in this, of course, but a certain amount of condensation is bound to occur, and careful consideration of the factors producing it can only help to reduce it to a minimum. It is very desirable to



Shell and lining of a swimming pool

Coping, overflow gutter and drain

Typical Sectional Perspectives



Typical Swimming Pool Layout

force the water into the pool, as already said, with sufficient pressure to create a ripple that will dispose of surface scum through the scum gutters. Sediment at the bottom of the pool is generally removed by means of a long-handled vacuum cleaner.

Certain architects whose practice has called for the frequent installation of swimming pools have devoted a great deal of study to their construction and operation; much, also, has been accomplished by the manufacturers of tile and other materials, and by the manufacturers of heating, filtering and sterilizing

apparatus. Their booklets, diagrams, data and blue prints are always available to the architect, and with the experience of the profession as a guide, and scrupulous care in specification and supervision, the construction of a swimming pool has become as much a matter of standard practice as the design of a double-hung window, presenting no difficulties.

EDITORIAL NOTE: An article on "Swimming Pools for Country Clubs" appeared in THE ARCHITECTURAL FORUM Golf and Country Club Reference Number, March, 1925.



Swimming Pool, Penn Athletic Club, Philadelphia  
Zantzinger, Borie & Medary, Architects



# Gymnasiums and Locker Rooms

By FREDERICK L. ACKERMAN

**U**NDER such a heading one might expect, in an architectural publication, an exposition of what had recently been said and done with reference to these two features in structures given over in part or in total to physical training or athletic activities. Glancing through the files of recent years, that is precisely what one finds. And one finds a mass of dogmatic assertions concerning shape, length, width, height, spacing, lighting, heating and ventilation. Things are right because they are done. So one may be pardoned for approaching this subject from a somewhat different point of view. This could hardly fail to be helpful.

It is ordinarily advantageous to take at least a look at the genetic account of any subject dealt with. In this case it need be no more than a peep. For the Baths of Caracalla and the other Romans do not greatly concern us and need not detain the argument; we are dealing with modern American institutions—their gymnasiums and their locker rooms.

The modern American gymnasium is a direct lineal descendant of the armory and the assembly hall; it bears the distinct and indelible marks of its parentage. The locker room has for its forebears the basements and waste spaces of buildings containing gymnasiums and other features, and it also carries the marks of its line of architectural descent. The truth of this may be tested quite easily; examine the gymnasiums attached to our schools, colleges and universities. These older structures had to serve in a variety of ways,—for military training, senior proms, presidential addresses and the physical training or recreation of the student body. It was out of the necessity of serving a set of widely differing functions that a type of structure, both in respect to plan and general architectural character, was created. A type once created is durable; it long persists against changing needs. A structure designed for the playing of "mumble-ty-peg," to be "in character," must needs expose the characteristic features of this type,—the long span roof along with the armorial features.

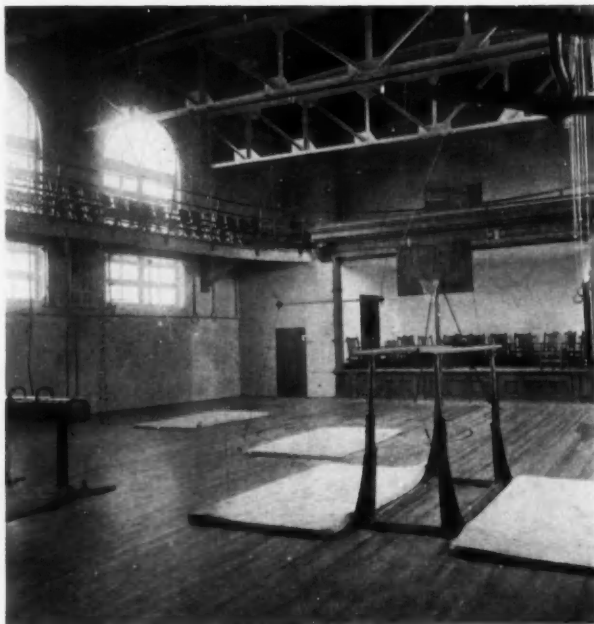
But times have changed; the drift toward special-

ization and the demand for diversity have touched the sphere of recreation and physical training as it has the making of automobiles. In place of a relatively limited demand for facilities for calisthenics, apparatus work and a game or two for those so inclined, the demand now centers in the provision of facilities for a long list of activities and games that lend themselves to casual play and contests for supremacy. Intra-mural or inter-college contests in the universities, contests between groups such as athletic clubs, Y. M. C. A's., etc., require special provisions in the enveloping structure. So that a program for a modern gymnasium, formulated to satisfy the present demand, would contain in addition to provisions for calisthenics, apparatus work, running and basket ball, a long list of required facilities providing for boxing, fencing, wrestling, rowing (machines and tank), vaulting, jumping, hand ball, four-wall hand ball, squash, indoor tennis, indoor soccer, etc. This statement of the case is not to suggest that the several last named activities found no place in the earlier scheme of things. These games were played, but for the most part under the handicap of temporary or inadequate quarters, a handicap often fatal.

The idea that the modern gymnasium shall serve the maximum number through the provision of facilities for diversified activities renders the old type of structures inadequate and inefficient. This idea, at the same time, constitutes the new program and creates the problem of the modern structure. Serving the maximum number under conditions set by the demand for

diversified activities constitutes the core of the modern gymnasium problem. The area and volume of requirements for different sports vary over an extremely wide range. The relative floor area required for players of various indoor athletic games is indicated in the table on page 190.

Inasmuch as many of these activities require permanent, fixed arrangements of floor, walls, ceiling and lighting, choice as between one and another becomes a matter of the utmost importance in setting up a program for a gymnasium. Obviously, indoor tennis, which requires 1800 square feet per



Combination Auditorium and Gymnasium in Y. M. C. A. building. Steel shutter can be rolled down before platform  
Louis E. Jallade, Architect



Running Track, Plainfield, N. J., Y. M. C. A.

Note single-control windows connected by one gear; space between floor and rail to permit hand-balls to roll out, and screen to prevent runners from falling from the track to the floor  
Louis E. Jallade, Architect

player, cannot be provided for all; on the other hand, unlimited provision for calisthenics, requiring 50 square feet, will hardly satisfy the modern demand. So the preparation of a program is, as ever, a matter of compromise between budget and demand. In Y. M. and Y. W. C. A. structures, built ordinarily on expensive land near the centers of things, it is ever a case of extreme compromise. Diversified facilities are not to be had within the budgets usually

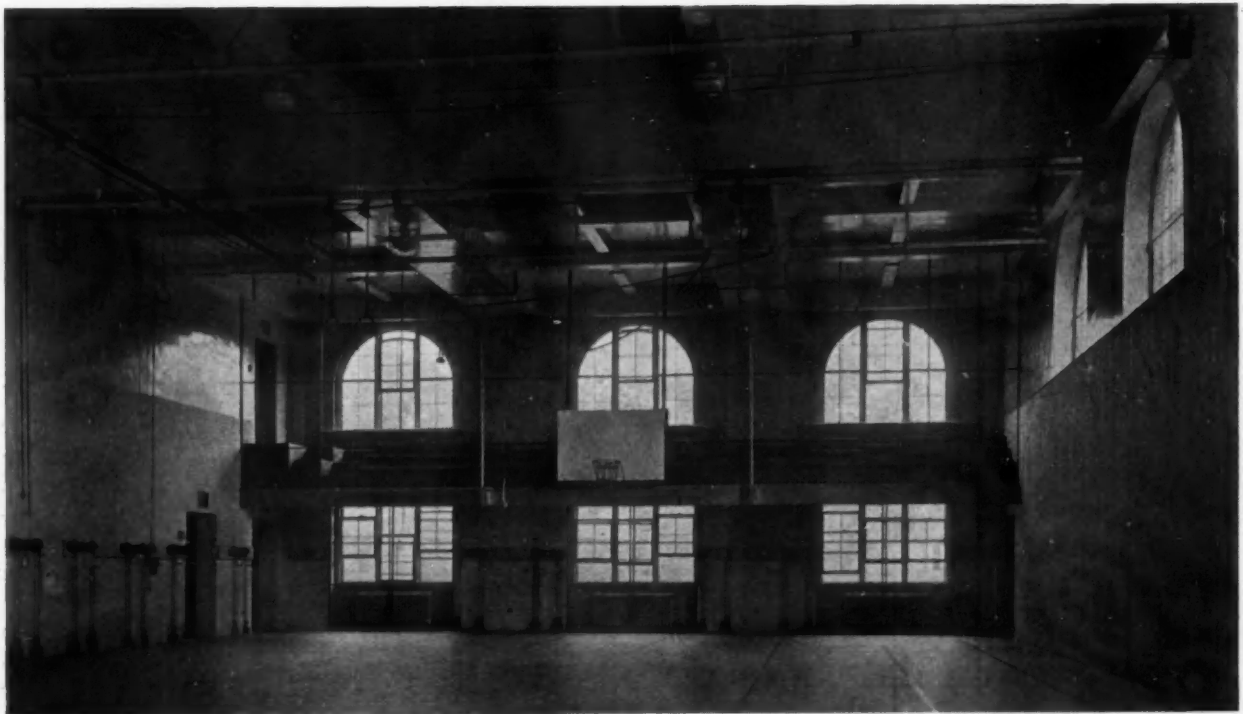
established. But in the case of educational institutions generally, it would seem that provision for a fairly wide range of facilities is very largely a matter of choice and decision,—that is to say, point of view in establishing the program. There can be no doubt but that with the same cubic feet of structure, accommodation could be had for a broader program.

#### Floor Areas Required for Different Sports\*

Activity	Sq. Foot Per Player
1. Calisthenics	50
2. Apparatus exercises	50
3. Running (indoor track)	50
4. Volley ball	75
5. Rowing (machines)	80
5a. Water polo	130
6. Basket ball	175
7. Fives	195
8. Fencing	200
9. Wrestling	200
10. Boxing	200
11. Indoor baseball	210
12. Handball (4-wall)	270
13. Squash tennis	290
14. Squash racquets	300
15. Handball (1-wall)	300
16. Swimming races	375
17. Jumping, vaulting, etc.	400
18. Badminton	405
19. Paddle tennis	415
20. Racquets	500
21. Hockey (artificial ice rink)	1,000
22. Court tennis	1,050
23. Indoor tennis	1,800
24. Indoor football	1,800
25. Indoor polo	5,000
26. Pelota (doubles)	7,200
27. Pelota (singles)	14,400

\*See article by Gavin Hadden in *The American Physical Education Review*, September, 1924.

The provision for natural lighting in the older structures was presumably, judging from the con-

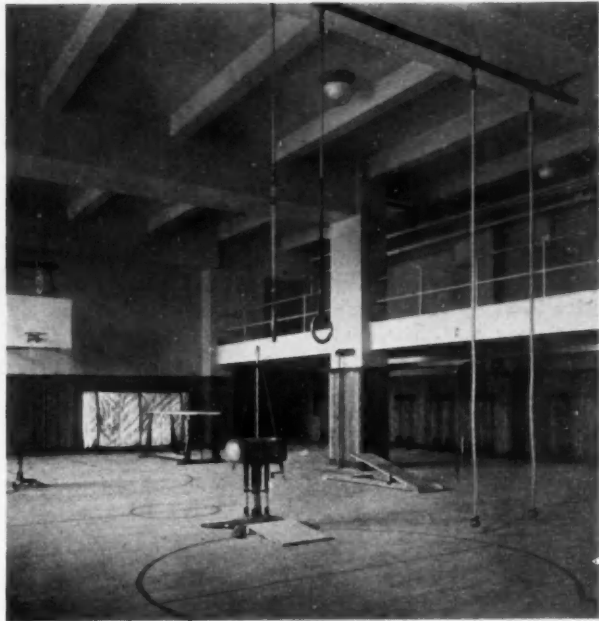


Gymnasium, Y. M. C. A., Flushing, N. Y.

Frederick L. Ackerman, Architect; Alexander B. Trowbridge, Advisory Architect

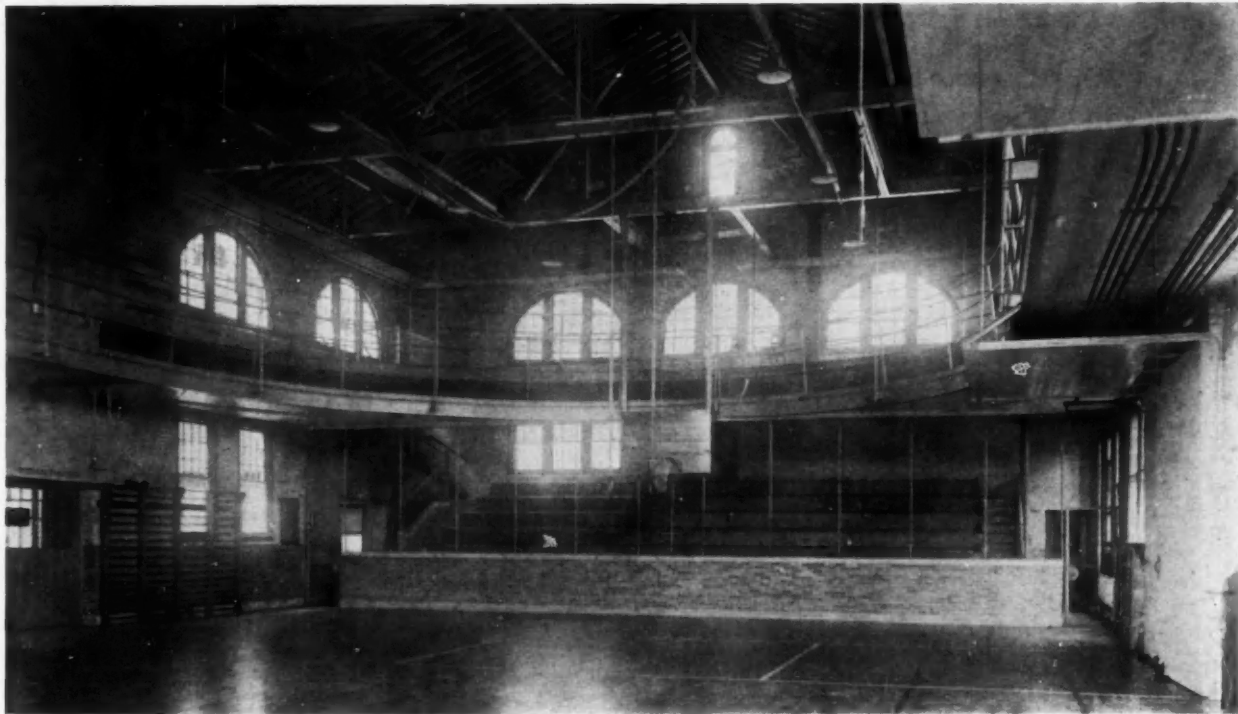
ditions, a matter of guesswork pure and simple. Certain activities such as calisthenics, apparatus work, running, rowing, etc., present no serious problem in this respect; but the lighting of games for which a rapidly moving ball is used is a different matter. These games should be lighted from above; in some cases the sky zone must be limited to a certain portion of the roof area and placed in a definite relation to the side walls. In other cases the maximum sky zone must be provided and the glass set at definite limiting angles to the horizon. In all cases of top lighting a system of ventilighters must be used; otherwise the intensity of direct sunlight in relation to shade and shadow areas on walls and floor will be so great as to make play almost impossible. While some small amount of data is available on the lighting of such games, it is fair to say that the natural and artificial lighting of indoor games of this latter sort is as yet an unexplored field. At least I know of no data based upon a thoroughgoing scientific study which may be safely used to guide the designing of rooms to be used for games played with a rapidly moving ball, as many games are played.

But with accurate data available covering the problem of adequate lighting of such spaces, a perplexing problem, in view of the tenacious quality of our preconceptions, still remains in the case of structures built in restricted areas where many stories are required. For such structures artificial lighting would seem to be a necessity. That being the case, windows would have to be abandoned and mechanical ventilation resorted to. While this suggestion may seem revolutionary, it may be said that for such cases in this latitude a system of artificial illumina-



Corner of Gymnasium, Penn Athletic Club, Philadelphia  
Zantinger, Borie & Medary, Architects

tion can be made superior to natural top lighting. Artificial illumination may be controlled and maintained at a uniform intensity. During the winter months natural top lighting is adequate only during a very brief time at mid-day. The cost of artificial illumination plus ventilation is definitely less than the cost of heating and ventilating top lighted spaces. This is not to argue the case of walls *versus* windows on psychological or grounds other than those stated. In point of fact, the argument has nothing



Gymnasium, Y. M. C. A., Greenwich, Conn.

to do with that question. The question is merely:— what had best be done where adequate top lighting is required but cannot be had? On the face of it, it looks as if artificial lighting should be used, and it should be definitely and plainly acknowledged in the program.

Although much has been written about the ventilation of gymnasiums, it is again fair to remark that the last word has not been said. A fair case may be made in favor of any of the systems commonly used; and an equally good case may be made for those used rarely. But the question as to whether to ventilate or not turns upon more than a theory of ventilation. Theory and practice agree as to what areas should be top lighted. Here a system of supply and exhaust is necessary. Theory calls for the ventilation of practically all areas used by a fair number of people; but practice frequently cuts out the apparatus upon receipt of bids; or even when the apparatus has been installed, the management very often cuts off the motors in order to reduce the operating expense! This has happened in scores of instances.

One may well pause before denying the authorities with respect to the need for mechanical ventilation generally. But until more convincing evidence is presented, one may be pardoned for taking the stand that windows on opposite sides of a room should serve to adequately ventilate. In the case of such activities as calisthenics, apparatus work, etc., which do not require top light, windows on opposite side walls will serve both to adequately light and ventilate. For those spaces where top light is required, small windows with ventilators low in the side walls will serve adequately, except of course in the case of games using the side walls for play. All this will be denied by the authorities, and I cannot prove the case for fresh air *via* side windows. But out of the contradictory data and theories that have been put out by those who are supposed to know, I gain the impression that much that has been said about the ventilation of spaces for physical training and games belongs in the same category with what Grandmother said about red flannels and the damp night air. Something might be said in favor of physical training, games and tests for supremacy without both walls and windows. Such an arrangement would naturally greatly simplify the problem.

The provision of locker facilities in structures of the general class under discussion presents an extremely wide range of problems,—location of locker rooms, lighting, ventilation, systems of control and use, dimensions of lockers, spacing of aisles, etc. Conditions with respect to use differ so widely that only a



Gymnasium, Knights of Columbus Building, Columbus, O.  
Richards, McCarty & Bulford, Architects

few general remarks will serve to cover the case of how locker rooms and lockers should be arranged and equipped.

In a structure containing a swimming pool, it is this feature that ordinarily controls the location of the locker room. For the connection between locker room and pool must be direct and should be upon the same level, the locker separated from the pool only

by the showers. And since the swimming pool is so often placed in the basement,—for no very adequate reason,—it follows that the locker room, which of all rooms in the building needs light and ventilation, is relegated too often to dark, poorly ventilated spaces. But it is difficult to convince committees that swimming pools may quite easily and safely be placed in the upper stories, and that locker rooms should be placed in such locations as may be adequately served by (natural) light and air.

The area and size of the locker room depend upon many factors. Country clubs, athletic clubs, etc., ordinarily have memberships that demand ample, full-length lockers with a generous arrangement of aisles and spacing. College and university gymnasiums, largely by reason of the bulk of clothing kept in them, require full-length lockers. And here the preference for adequate spacing ordinarily prevails. Y. M. C. A. buildings and the like are ordinarily forced to resort to many space-saving devices.

Where single or two-tier lockers are used without tote boxes, it is necessary to canvass many factors. the facilities of the building. With the tote box system, the number of tote boxes required is in direct relation to the total membership; but the number of lockers depends upon the number using the facilities during the peak load. In order to determine the number of lockers used in connection with tote boxes, it is necessary to canvass a variety of local factors bearing upon attendance and capacity.

No matter how nearly ideal may be the arrangement of plan and the provision for mechanical or natural ventilation, there remains the fact that the freshness of the locker room depends upon what is kept in the lockers. To overcome the odors,—to express the idea politely,—that so often disclose the position of the locker room, it is necessary merely to remove the sources of the odors,—that is to say, used towels and clothing. With a system of use that eliminated the source of difficulty there would remain little more to do than to so place the locker rooms that they would be well served by sunlight and air.

EDITORIAL NOTE: An article on "Ventilation of Locker Rooms" appeared in THE ARCHITECTURAL FORUM Golf and Country Club Reference Number, March, 1925.