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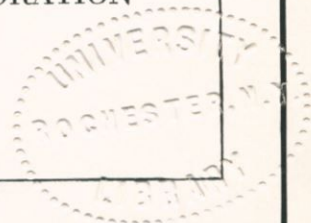
THE AMERICAN SCHOOL AND UNIVERSITY

A YEARBOOK DEVOTED TO THE DESIGN, CONSTRUCTION,
EQUIPMENT, UTILIZATION, AND MAINTENANCE OF
EDUCATIONAL BUILDINGS AND GROUNDS

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Fiske Kimball, Consulting Architect; Gavin Hadden, Engineer

GYMNASIUM FOR NEW YORK UNIVERSITY, AS PROPOSED

Four University Gymnasium Buildings

BY GAVIN HADDEN, C. E.

THE design of a modern university or college gymnasium is largely a new problem in each specific case. The problem is, however, apt to be one of new applications and new combinations of previously tried elements, and there are certain definite principles and certain definite trends which produce inevitable similarities and differences in all cases. For this reason a knowledge of what has been done and of what is being done elsewhere is of inestimable benefit to those in charge of new projects of this kind.

Two Classes of Facilities

The indoor athletic facilities of the modern university may be housed in one building or in a group of buildings, sometimes physically connected and sometimes separated by considerable distances. The facilities housed in the various units or the different buildings may be divided generally into two classifications: (a) those concerned primarily with athletic activities customarily carried on outdoors but capable perhaps of being carried on indoors during inclement weather or beyond the daylight hours; and (b) those concerned primarily with athletic activities requiring through custom or necessity to be housed indoors. The facilities of the former class (a) may include:

- A "field house" or "field gymnasium" or "baseball cage" with dirt floor and high headroom for practice and play of baseball, football, track and field, etc.;
- A "locker building" or "field house" for the use of players taking part in outdoor sports;
- An indoor hockey rink of either natural or artificial ice;
- A riding rink or indoor polo building;
- A covered tennis court building.

When units of this kind stand alone they are often located at some distance from the other

more essentially indoor units and can usually be placed with greatest advantage near the outdoor facilities to which they correspond.

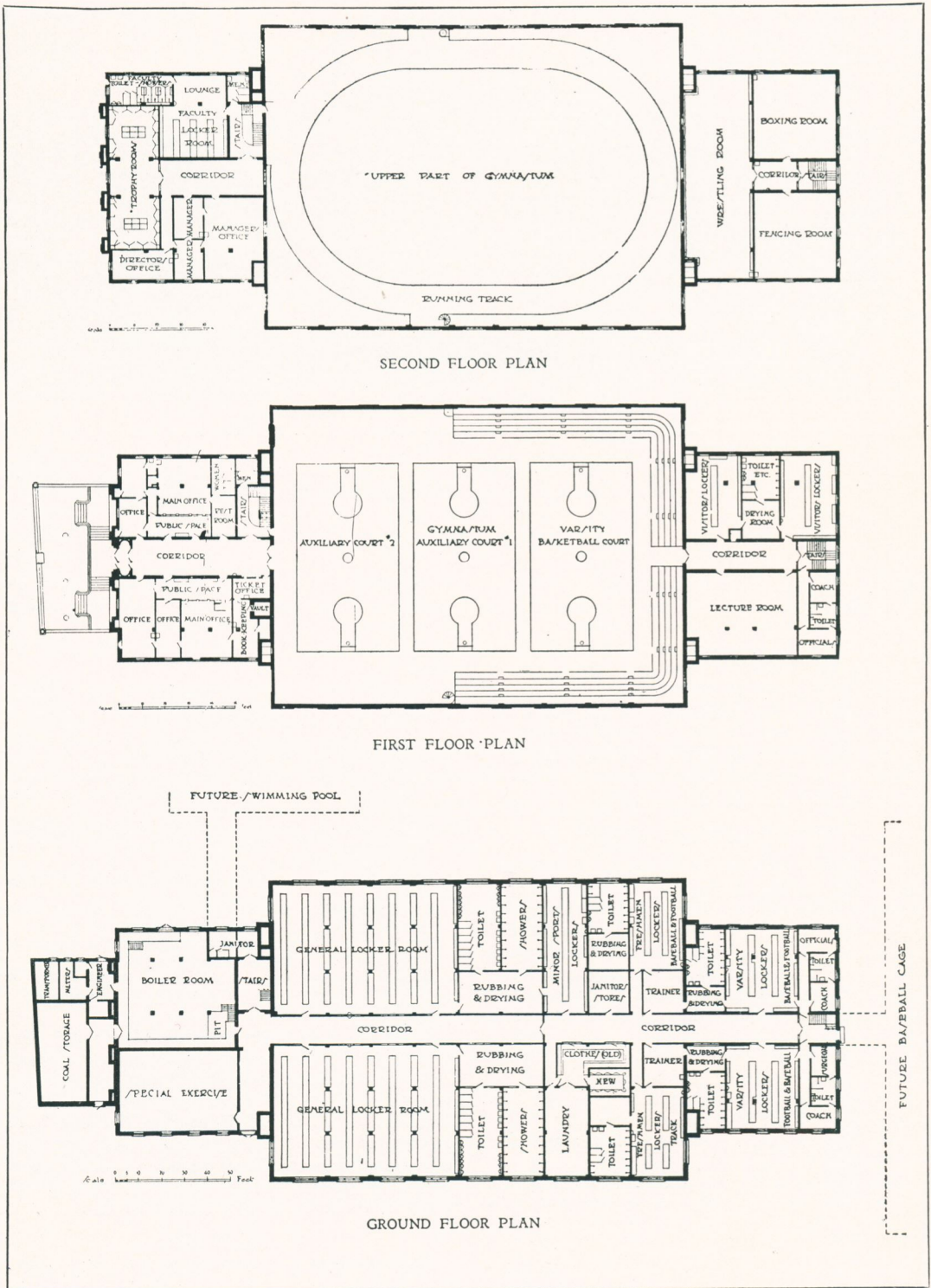
The facilities of the second class (b) may include:

- A large wood floor area with reasonable headroom, capable of use for basketball and other games and for numerous other forms of indoor activities; this room may be furnished with permanent or temporary spectators' seats;
- A swimming pool, or two or more swimming pools, with or without spectators' seats and other spectators' facilities; with full sanitary facilities, such as foot-baths, shower-baths, etc.;
- Locker-rooms, shower-rooms, etc., for all players using the indoor facilities; these may be in either general or team-room suites;
- Rooms for boxing, wrestling, fencing, special exercises, etc.;
- Courts for squash racquets, squash tennis, racquets, handball, etc.;
- Facilities for doctors, trainers, coaches, managers, physical directors, instructors, etc.;
- Service facilities, such as equipment supplies, repairs, storage, laundry, pool filtration and sterilization, heating, ventilating, etc.

It is to buildings of this class that the generic term "Gymnasium" is commonly applied, but these buildings may be known by any one of a number of different names, such as "Athletic Building" or "Physical Education Building." It is obvious that buildings such as these may present complex problems of design, especially when they may be combined with one or more of the units listed in the first classification (a).

The Illustrations

The illustrations show four university gymnasium buildings which are particularly useful in indicating some of the typical similarities and differences that are inevitable in the general design of all buildings of this kind. They are:



Clarke & Howe, Architects; Gavin Hadden, Consulting Engineer

BROWN UNIVERSITY GYMNASIUM FLOOR PLANS

The Brown University Gymnasium, in Providence, R. I., the main portion of which was completed about two years ago;

The Harvard University Athletic Building, in Cambridge, Mass., which, as this is written, is nearing completion;

The University of Rochester Physical Education Building, in Rochester, N. Y., which is also, at this writing, under construction;

The New York University Gymnasium, at University Heights, New York City, which is planned for erection in the near future.

Of these, two, at Harvard and New York University, have sites which are very limited as well as valuable, thus necessitating and justifying buildings carried to a considerable height, with the equivalent of about six and five stories respectively; one, at Rochester, is fortunate in having available a site of considerable area, thus permitting it to occupy a comparatively large ground area, for the most part only two stories high; and the fourth, at Brown, may be regarded as intermediate in character, substantially three stories high.

Basketball Courts

All four buildings provide for practice and play of the game of basketball. At Rochester there are two different floor areas primarily for this game, there being a separate varsity basketball arena with permanent seats for spectators; at Brown a comparatively small number of permanent seats for basketball spectators are provided on three sides of the main gymnasium room, to be supplemented by temporary seats at important games; at both Harvard and New York University temporary seats are to be used for all home basketball games.



MAIN GYMNASIUM ROOM, BROWN UNIVERSITY GYMNASIUM

Swimming Pools

All four buildings are planned to have swimming pools or natatoria, either immediately or in the future. At Brown a new pool is to be located in a future wing, while the existing pool in the old gymnasium building now continues to serve; at Rochester a single double-service pool (for racing, diving, games, etc., as well as for instruction) is provided; while in both the Harvard and the N. Y. U. buildings the two different uses are separated, with a major all-deep pool for racing, diving and games, and a minor all-shallow pool for instruction only. This double pool system is extremely useful wherever the size of the building permits, and materially increases the safety, capacity and efficiency of the installations as a whole.

At the Rochester pool permanent seats are lo-

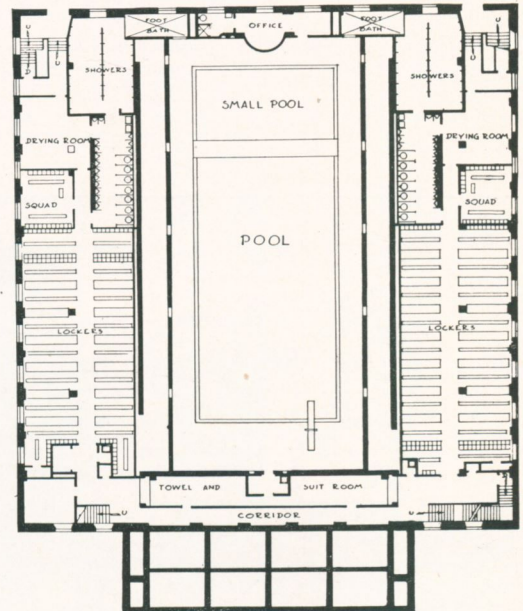
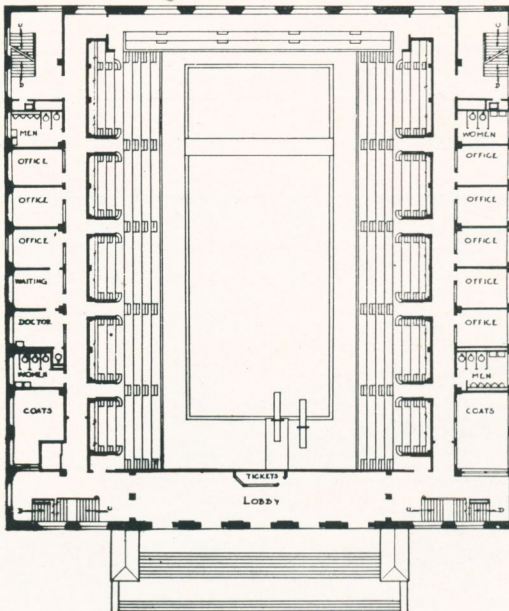
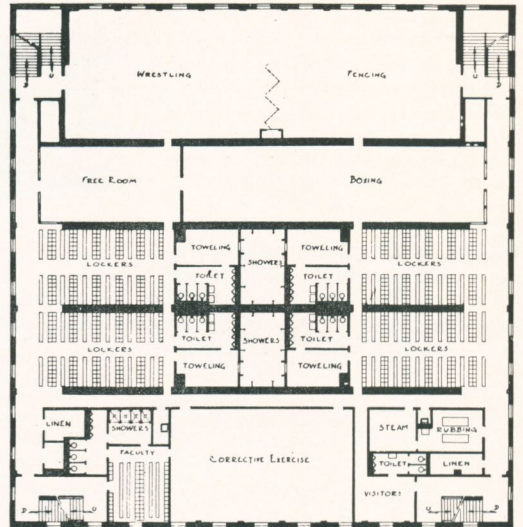
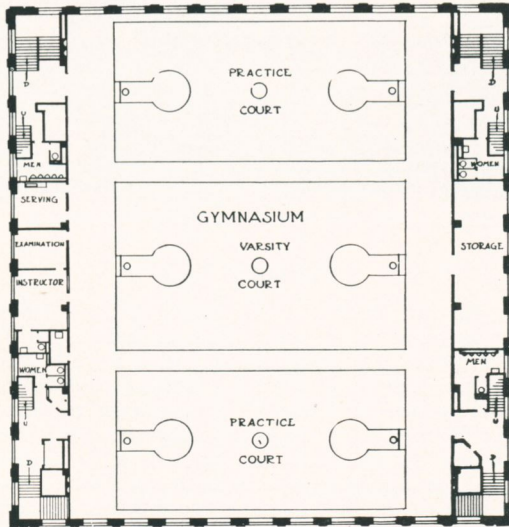


BROWN UNIVERSITY GYMNASIUM

cated at one end and one side; at the Harvard pools at the two sides, and in a balcony at one end; and at the N. Y. U. pools at the two sides only. At all these pools, some additional spectators can be accommodated with temporary seats on balconies and also at the top of the permanent tiers.

At all the pools the important sanitary and safety provisions have been carefully designed: with the routes of the swimmers entering the pool rooms leading through or by toilets, showers, and

foot-baths; with full filtering and sterilizing equipment; with facilities for inspection and observation by swimming instructors, etc. It is also useful to note that the design of all these pools provides for spans carrying the roof or the floors above them clear across both pool and seats, with no obstructing columns between the seats and the pools; that all the pools are provided with an unusual amount of natural light; and also that the space under the seat decks is in each case used to advantage.



Coolidge, Shepley, Bulfinch & Abbott, Architects; Gavin Hadden, Consultant

FLOOR PLANS, INDOOR ATHLETIC BUILDING FOR HARVARD UNIVERSITY

Gymnasium plan, upper left; gymnasium locker floor plan, upper right; first floor plan, lower left; basement plan, right

Lockers

All four of the buildings of course provide numbers of lockers for those using the athletic facilities, together with the necessary accompanying showers, toweling rooms, toilet rooms, etc. In each case the majority of the lockers are located in one or more "general locker-rooms," while additional units are divided into separate "team rooms." Two radically different locker systems are exemplified: the individual locker system at Brown, Harvard and Rochester; and the "lock-box" system at N. Y. U. With the latter system, instead of assigning a full-size locker for a whole year or a whole semester to each student who uses the building, a comparatively small lock-box only will be assigned, and the lockers in the general locker-rooms will be reserved for temporary use for one afternoon only or even for one hour only, as they may be needed. With the use of the various athletic facilities desired by different students at different hours or on different days, this system, by careful proportioning of the numbers of lock-boxes and lockers, will conserve space very materially, and will increase the potential capacity of the building enormously. The combination padlock system is proposed, whereby the full-size lockers may be used and re-used under normal conditions without supervision by attendants, and whereby the users will not need to carry keys around with them. This system is particularly useful for those using the swimming pool, as the usual method of carrying keys around the neck or wrist is an annoyance and a nuisance.

Baseball Cages and Running-Tracks

At Rochester a baseball cage or field gymnasium is an integral part of the building; at Brown a unit of this type is planned for future construction; such units are not contemplated in either of the other two buildings, the baseball cage at Harvard being located at some distance from the athletic building, near the outdoor fields.

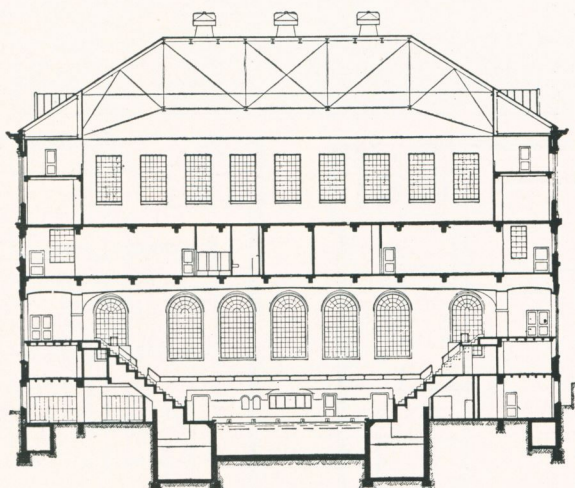
The Brown building is the only one of the four which retains the old familiar suspended running-track in the main gymnasium room. The difficulties attendant upon the installation of a track of this kind, including the obstruction of the head-room over the floor beneath, and the ventilation problems, have tended more and more to the

abandonment of this feature. At the same time the increasing number of field gymnasias (or field-houses or baseball cages) has tended to the installation of indoor running-tracks, with cinder surfaces, in these units, where they are usually more efficient and more satisfactory. In other cases, reliance for running during the winter is placed on outdoor board running-tracks.

The above discussion covers in the main the principal utility features of these four buildings, showing wherein these features are primarily similar or different, with indications of the reasons therefor.

Minor Facilities

In all the buildings there are numbers of other minor facilities, and it will perhaps suffice in this limited space to enumerate under appropriate headings some of those which may be found in one or more of the four:

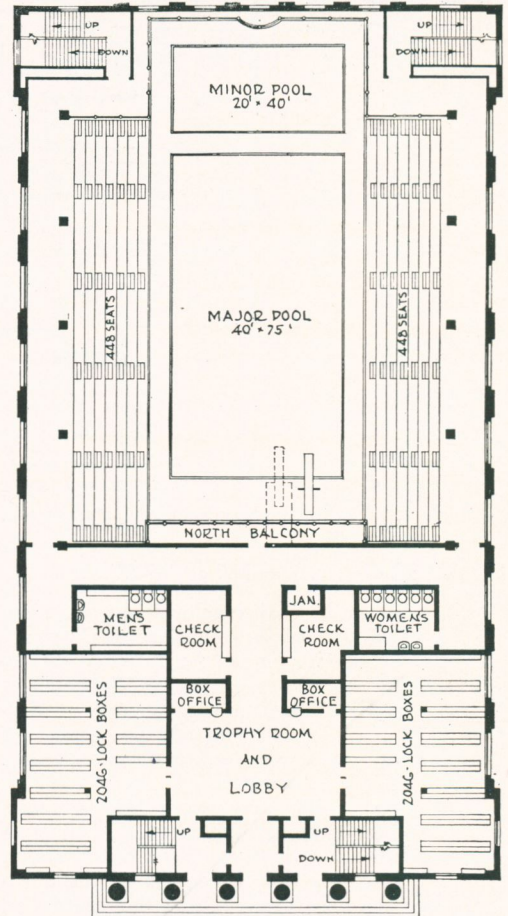
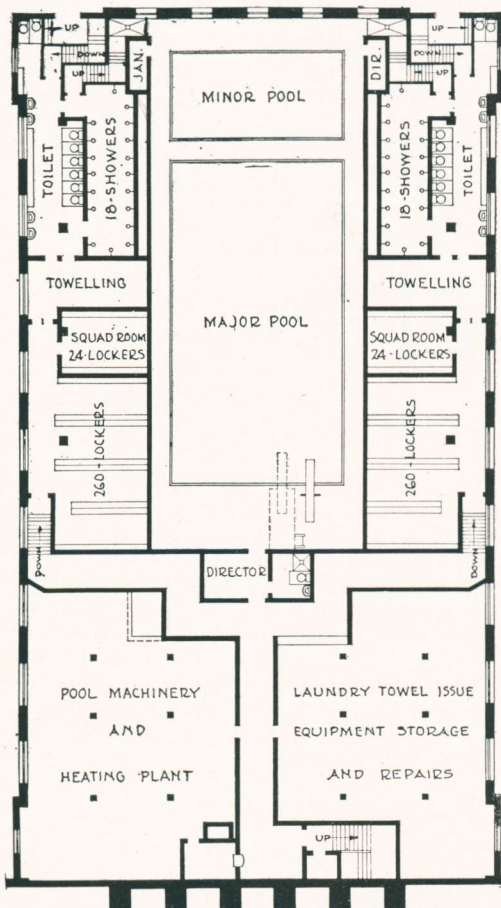
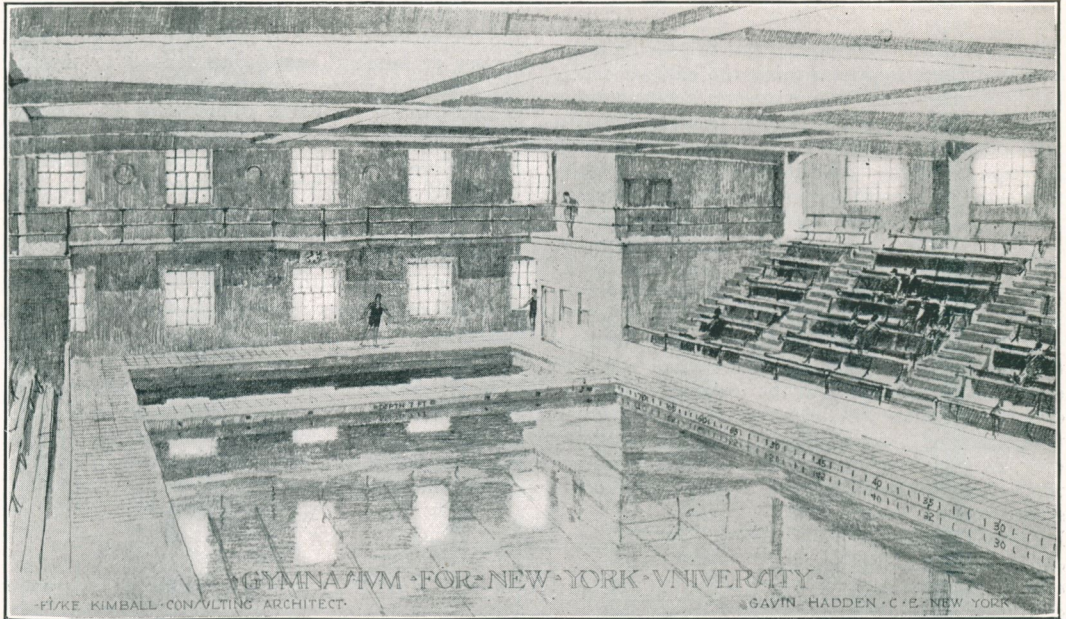


INDOOR ATHLETIC BUILDING
FOR
HARVARD UNIVERSITY
COLIDGE SHEPLEY BAUFNICH & ABBOTT ARCHITECTS - GAVIN HAZODIN, CONSULTANT

- Athletics:*
 - Boxing
 - Wrestling
 - Fencing
 - Special or corrective exercises
 - Squash courts
- Spectators:*
 - Check rooms
 - Toilets
 - Entrances, exits, tickets
- Administration and Supervision:*
 - Managers and physical directors
 - Doctors
 - Coaches
 - Trainers
 - Lecture rooms
 - Trophy rooms
- Equipment and Service:*
 - Towel issue
 - Equipment storage and repairs
 - Laundry
 - Heating
 - Ventilating
 - Pool equipment

General Considerations

Careful consideration has been given in the design of each of these buildings as a whole to the requirements of the university which it is to serve; to the facilities required as determined by past experience both locally and elsewhere, by the facilities already available in other buildings, by the wishes, habits and traditions of the undergraduates, by the athletic policy of the institution, by land areas available, and so on. Also, in the design of each unit and each combination of units, the determination of the materials to be used, the details to be included or omitted, advantage has been taken of familiarity with numerous installations elsewhere, in the effort to retain what has been proved to be excellent and eliminate what has been proved to be disadvantageous. In all these matters the aid and counsel of the directors and administrators of athletics



SWIMMING POOL AND FIRST AND SECOND FLOOR PLANS OF THE NEW YORK UNIVERSITY GYMNASIUM

has been invaluable to the architects and engineers.

The Exterior Appearance

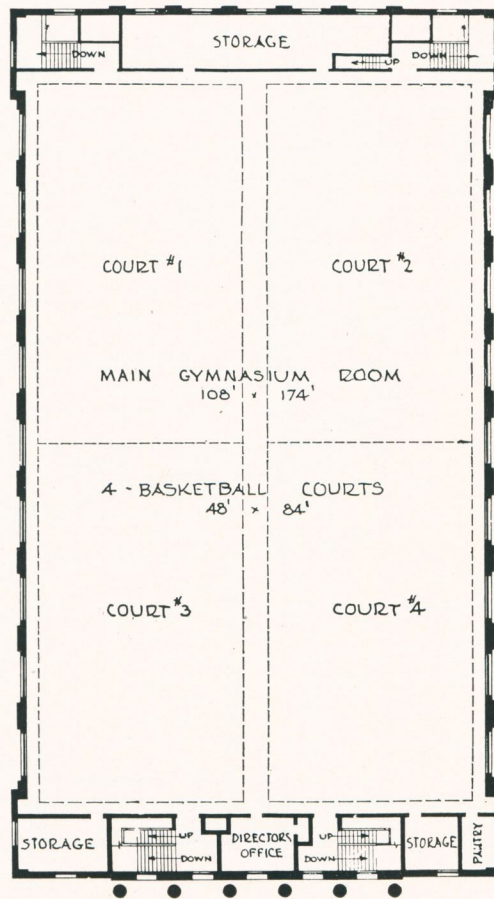
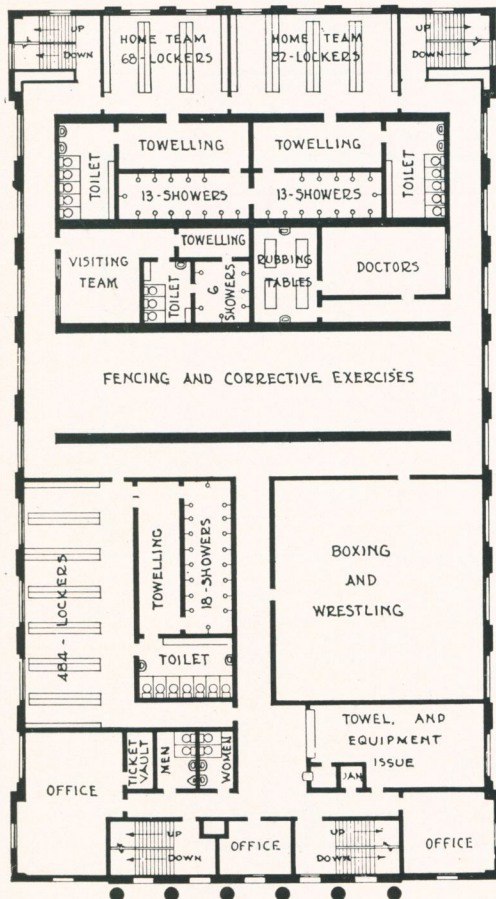
In addition to the utility features, and inseparably linked with their design, are the considerations of the appearance of the buildings as a whole. In the case of the usual university gymnasium the architectural style of the exterior is predetermined by the general style of the existing or proposed buildings with which it is to be grouped; so the Harvard Athletic Building, the Rochester Physical Education Building and the New York University Gymnasium, though all are quite different in the treatment of their exteriors, have in each case been governed by previously adopted styles. So also the general architectural treatment of the Brown Gymnasium, although it is located quite apart from all the other University buildings, has been determined by conformity to an older type of architecture long familiar in its New England setting.

In the taller buildings such as those at Harvard and N. Y. U., with their required economy of land and their substantially rectangular ground plans, there is not the same opportunity for at-

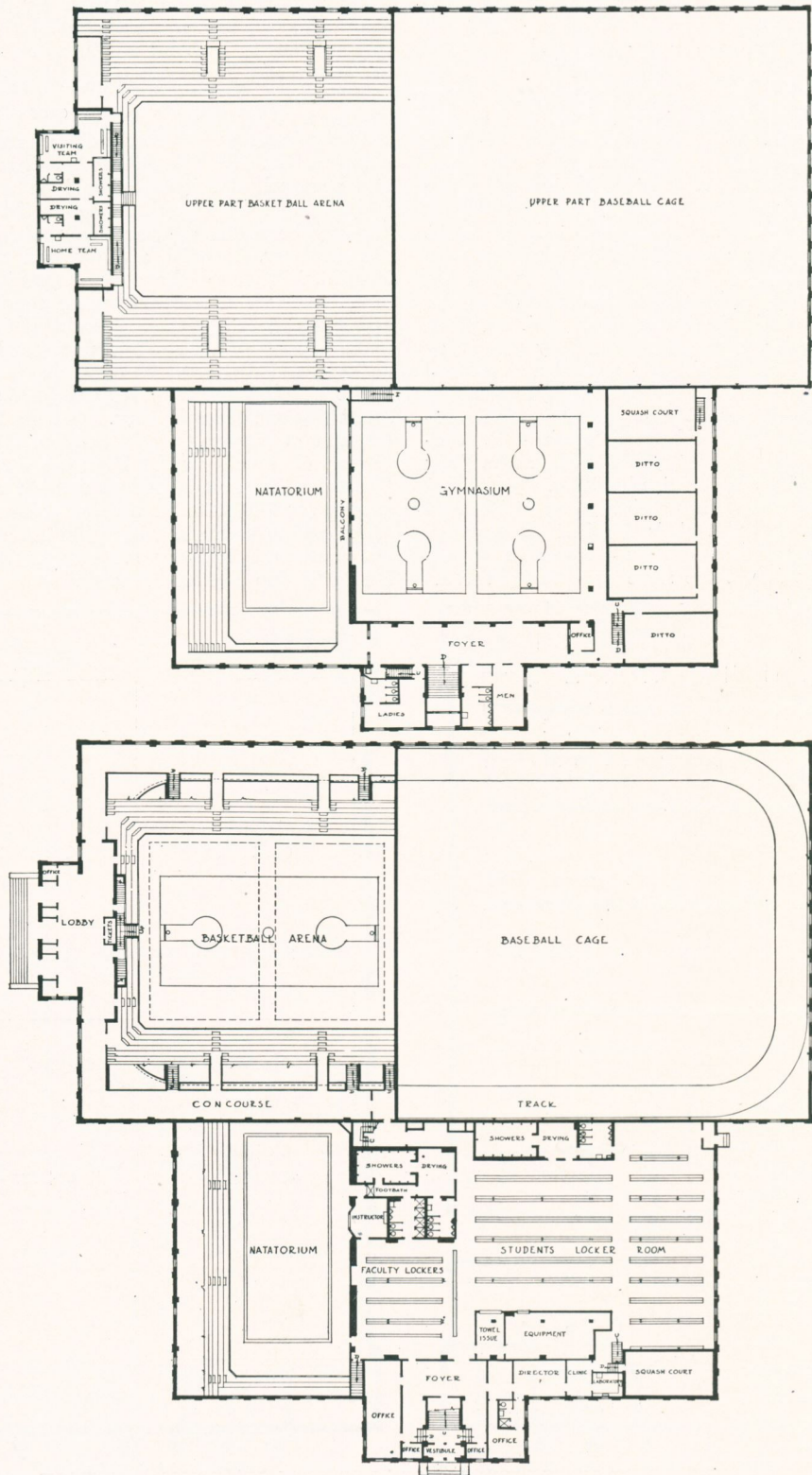
taining interest and distinction by formal or informal groupings of masses and by variations in roof lines as is found in others, such as those at Brown and Rochester.

The Interior Appearance

In the interior of these buildings, except for an occasional trophy or lounge room, there is rarely any place where loitering should be encouraged, and therefore restful comfort or inactivity cannot properly be made a keynote of the design. On the contrary, cheerful activity and recreation, efficient utility, and, above all else, sanitation and cleanliness, are necessarily ruling considerations, and it is believed that the interiors of the various units, when they are made as useful and efficient, as light and airy, and as clean and sanitary as possible, inevitably tend to reach the greatest suitability and truest beauty. As President MacCracken of Vassar College truly said in a discussion of the design of buildings for Physical Education, in *THE AMERICAN SCHOOL AND UNIVERSITY* for 1929-1930, the housing of physical education and athletics in a beautiful building "need not make the building more expensive. True beauty is also highest economy."



THIRD AND FOURTH FLOOR PLANS FOR THE NEW YORK UNIVERSITY GYMNASIUM



Gordon & Kaelber, Architects; Gavin Hadden, Consultant
 FIRST AND SECOND FLOOR PLANS, PHYSICAL EDUCATION BUILDING, UNIVERSITY OF ROCHESTER