

# The ARCHITECTURAL FORUM

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## The Educational Influence of Collegiate Architecture

By A. D. F. HAMLIN

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IF the philosophy of the necessitarians is correct, human character and achievement are determined by heredity and environment. Either of these factors may dominate the other, or they may act conjointly to produce the criminal or the saint, the hero or the coward, the millionaire or the spendthrift. Whether we accept this philosophy to the exclusion of free will and moral responsibility or not, it is impossible to deny that the circumstances and material environments of life do exercise a powerful influence on human careers. So far as this philosophy is sound, all efforts to create a favorable environment for human beings are rational and creditable aids to social betterment. The gradual elimination of the slums of great cities by provision of comfortable housing must in the long run tend to the reduction of crime and of the misery which helps to produce crime.

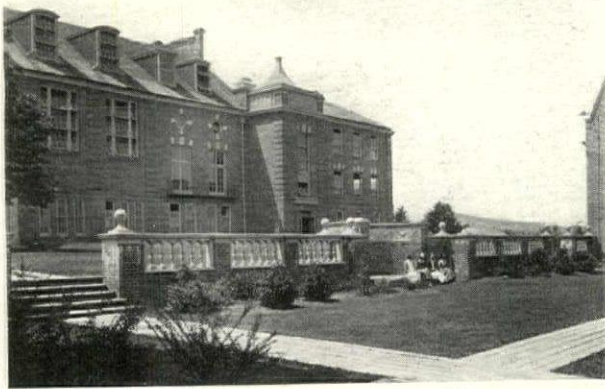
Just how far and in what way the changed environment provided by such public enterprises actually affects the public morals is a question not easy to determine. It is unfortunately true that even the splendid park system of Chicago has not reformed the habits of the criminal underworld of that city. Probably the members of that underworld do not frequent the parks except for anti-social purposes, and amid a thousand other environmental conditions favoring crime one has no right to expect any reformatory influence from grass and trees, lake front and free baths sufficient to overcome these untoward influences. A bad heredity would alone be sufficient to counteract all the sanative influences of better housing, free baths and lovely parks. Yet it may well be that if an entire generation were to grow up under these influences, and if at the same time courts and juries and legislators, city officials and state governments became wise, humane and incorruptible, cities even like Chicago and New York might in time be freed from the terrible incubus of vast criminal underworlds, while an improved heredity would, in a later generation, carry still further the deliverance of large cities from organized crime.

The constituent elements of one's environment are too many and complex for any complete or accurate evaluation of the influence of any one of them upon

character. In order to make any such evaluation, one must know the factors of the problem, which is impossible. No two men respond exactly alike to the same environment. Good music powerfully affects some natures; others are strongly influenced by motion pictures. The beauty of a fine landscape stirs one man; another finds uplift in the stir and movement of the city streets. A shiftless family in a charming house will soon reduce its charm to the disreputable shabbiness of their own characters,—which shows that sometimes it is character that shapes its new environment instead of the reverse!

In cities and populous towns the greater part of one's life is passed in and among buildings. The houses we live in, the schools in which we study, the churches in which we worship, the shops we frequent, and the edifices in which we work constitute the most constant and inescapable factors of our material environment. They are the products and exponents of our culture, and they exert an inescapable, if generally unperceived, influence in our lives and tastes. The public taste determines their architecture, and in return they react on the public taste! The architecture of Paris is both the product and the nursery of the Parisian artistic taste. The architecture of a great city is both the product and the nursery of its culture.

I was present at the opening of the Columbian Exposition at Chicago, 32 years ago. It was the first time that the hundreds of thousands who thronged it had ever seen great monumental architecture in a beautiful setting. What impressed me on the opening day was the expression of joy, of overflowing happiness, in the bustling crowds. They had never before moved amid such splendors of architecture and gardening, and in spite of all the inconveniences, hustle, and bustle, they were happy and showed it in their faces and talk. The architecture, the music and the flowers, all ministered to their sense of festive gaiety. I was then and there convinced that a beautiful architectural environment could become a potent factor in the morale of a community. Four years later Columbia University moved from its picturesque but cramped home in Anglo-Gothic brick buildings on 49th Street to its present site fronting



Women's Building and Gymnasium, University of Oregon, Eugene, Ore.  
E. F. Laurence, Architect

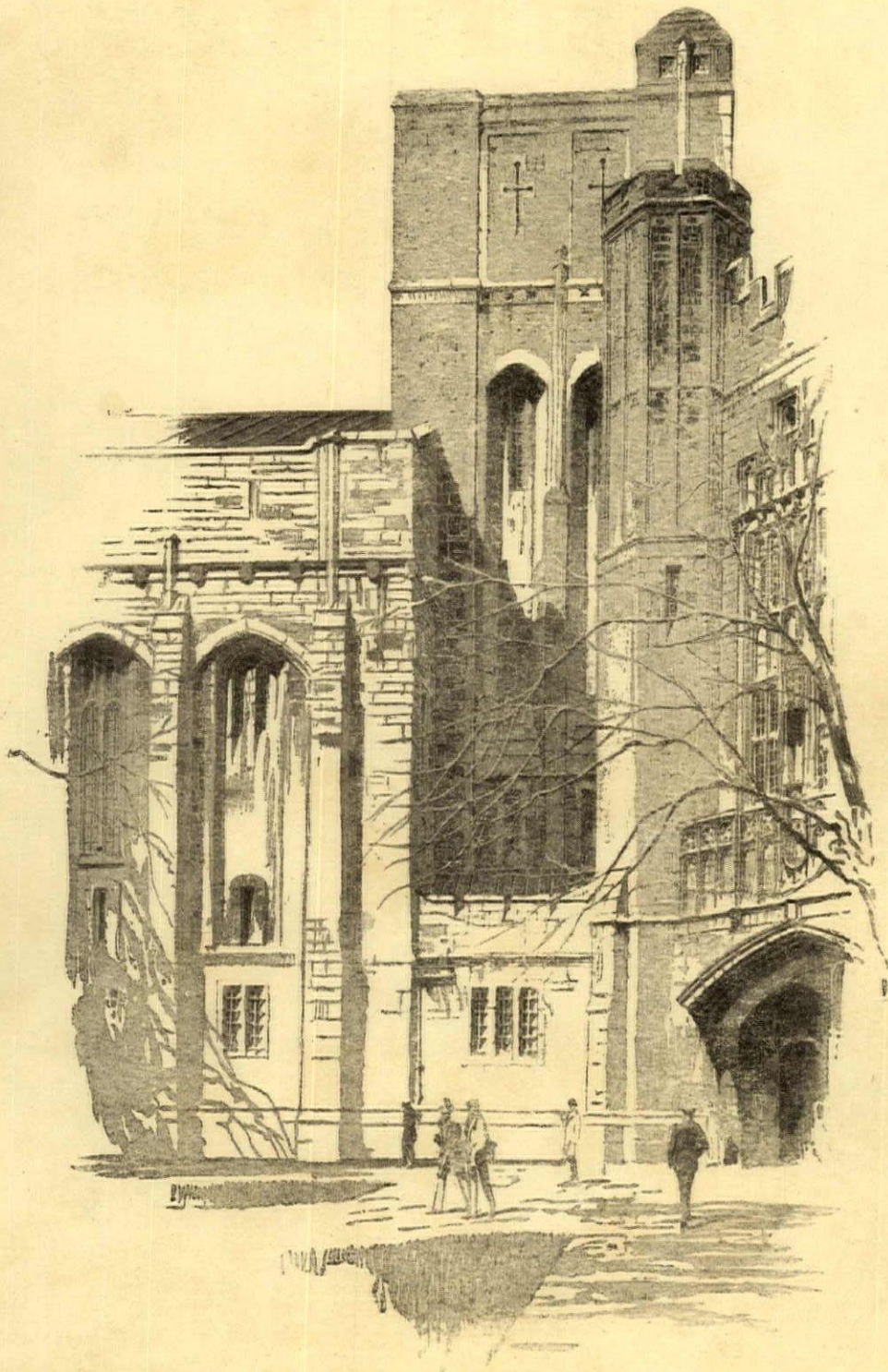
116th Street. Shortly after the occupation of this site, as one of the editors of the *Columbia University Quarterly*, I commented in one of its issues on the probable influence of the architecture of the new home of the University on the student body. I drew attention to the noble South Court, with its superb stairs of approach, to the imposing Ionic facade of the Low Library, to the majestic beauty of the interior of that great building, and to the dignity and solidity of the academic buildings and their equipment. It seemed to me then that such an environment could not fail to make some impress on student life and character; that rowdyism and student vulgarity and the blatant silliness of undergraduate life would find here a rather sterile soil for their nurture. I think my expectations have been justified. There has been marvelously little of the vulgar disfigurement of interiors, of rowdyism within the walls, such as one too often hears of in colleges housed in ugly and shabby buildings. The dignity and fine finish and maintenance of the buildings lend themselves to rational and decent behavior within them. Whether the experience of other finely-housed universities has been of the same sort I do not know. I can only "speak that I do know, and testify that I have seen."

## II

THE improvement in the architecture of our American colleges and universities during the past 25 or 30 years is abundantly evidenced in this issue of THE ARCHITECTURAL FORUM. It is precisely what one would expect in view of the general advance in American architecture during the same period. The trustees of our colleges, in spite of all the criticism leveled at them by educators and students, surely represent, on the whole, the higher levels of culture, education and taste of the communities they represent, and they have behind them both the stimulus and the criticism of large and influential bodies of alumni. The huge benefactions poured into the treasuries which they administer testify to the general confidence and respect which they enjoy. It is of course open to debate whether these benefactions have or have not been too largely devoted to buildings rather than to educational endowments,

and there are those who go so far as to lament the increasing architectural splendor of our educational buildings, as subtracting unduly from the endowments for salaries, equipment and research. I do not propose to debate this question. Mark Hopkins sitting on one end of a log, teaching and inspiring a student sitting on the other end, as the ideal of a college, constitutes a figure of speech, not a practicable program of education. For there never were and never will be enough Mark Hopkinses to go around, and the modern college student demands something more than to listen to anyone's preachment! The days are gone in which a man "read law" with the village lawyer for admission to the bar, or "read divinity" and Hebrew with his old pastor as his chief preparation for the Christian ministry. The phases of knowledge, the kinds of mental experience required by the educated man of today have so enormously increased and become so diversified, that even the undergraduate college has been compelled to develop architecturally and into a highly complex institution, to provide housing for this complexity. Especially have the natural sciences made necessary a vastly increased equipment of teachers, classrooms, museums and laboratories, and now that appreciation of the Fine Arts is at last percolating into our undergraduate courses, it has been necessary to provide other special forms of equipment,—lecture rooms, art collections and galleries. The development of libraries and of their use for study and research, even in undergraduate colleges, has been phenomenal. As I look back over 50 years of graduate life, the provision for use of the library, alike in Amherst where I was graduated and in Columbia where I began teaching in 1883, was so meager as to be absolutely ridiculous. Amherst now has a library building which cost a quarter of a million, and Columbia a library which cost very nearly a million, and these libraries are thronged all day and every day. Meanwhile, the steady increase in the student population has more than kept pace with the increasing diversity of the courses they pursue, and has added new dormitories, commons halls, student-club houses and fraternity buildings to the architectural environment of the college student. Athletics have become also so important an element in the college life, and in many cases in the curriculum, that every college worthy the name has had to add to its buildings gymnasiums, swimming pools and athletic fields, and in the larger institutions stadiums or "bowls."

The result of all these changes in the college life, curriculum and activities has been to produce an architectural environment which can only be compared to that of the great mediæval monasteries of France and Italy, like Monte Cassino and Clairvaux. Whereas in former and simpler days a college could get along very well with a chapel, a small library, a building for recitations, and two or three dormitories, fronting upon or scattered about a spacious open campus, today no college can thrive or even function without a considerable number and variety

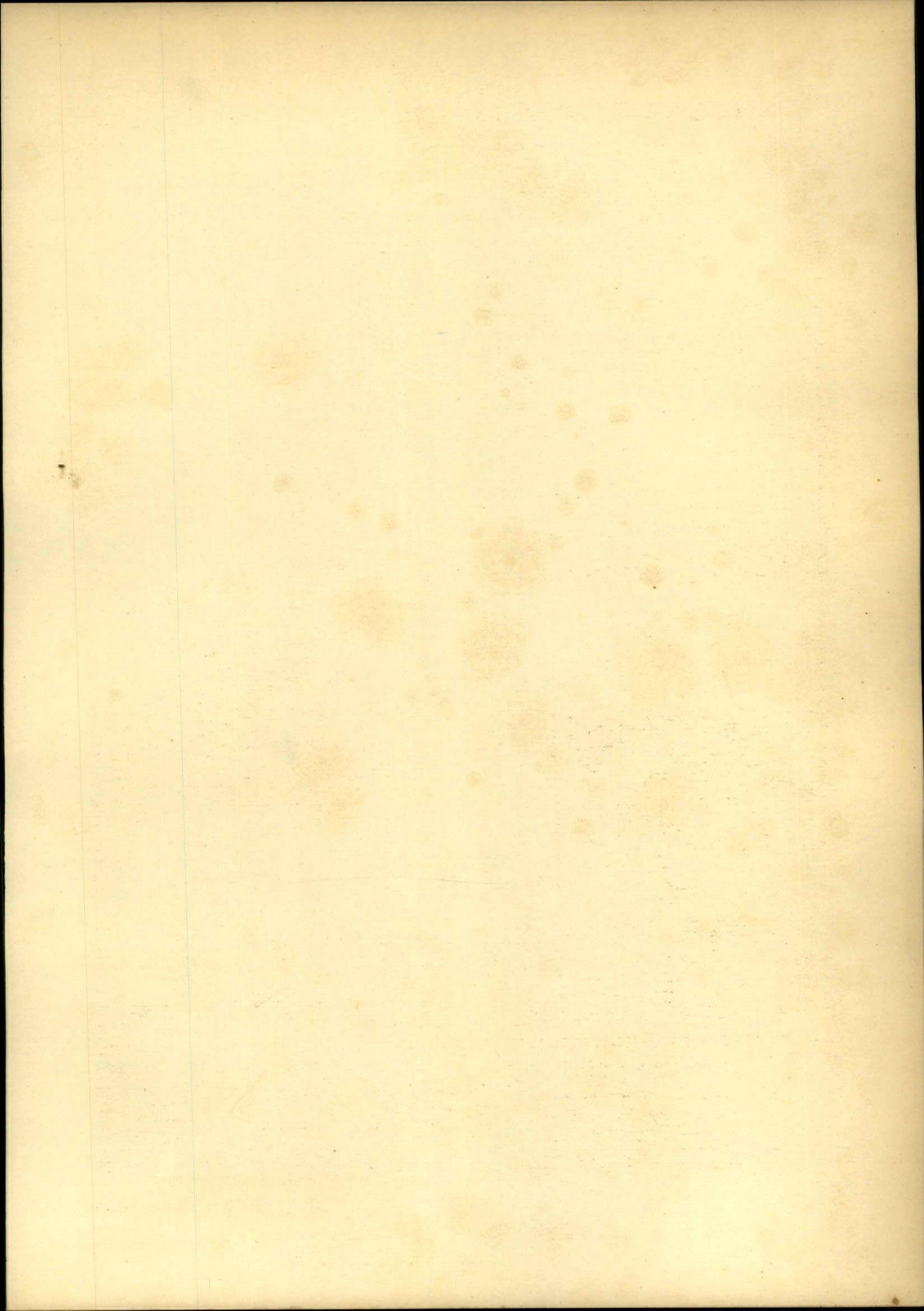


STUDY FOR GYMNASIUM, YALE UNIVERSITY

JOHN RUSSELL POPE, ARCHITECT

From a pencil drawing by Otto R. Eggers

*The Architectural Forum*



of special buildings. In some cases this necessity has been availed of to produce a homogeneous and imposing group, and to give the students a beautiful and inspiring architectural environment. In others (and alas too many cases!) the opportunity to produce such an environment has been frittered away by the lack of foresight and of large views of the opportunity. The shortsighted trustees have thereby cast away a potent means of influencing their students in the direction of good taste and of sound morale, for however subtle and imponderable such an influence may be, and however unconscious the student of its action upon him, the influence is there, and it operates silently and unperceived through all the four or more years of his residence. However unrealized by himself, it tends to form many of his ideas of art and life which influence his character.

### III

THE average American college student is probably somewhat opaque to the penetration of the rays of purely æsthetic influences; he is generally sadly ignorant of both the history and the technic of the Fine Arts; he is a good deal of a Philistine; but that he is impervious to every æsthetic influence I do not believe. Consciously or unconsciously, he reacts to his environment.

Two years ago, rambling through the deserted and silent courts of Eton College in the summer holidays, I became interested in the hundreds of memorial tablets on the walls of the cloister or arcade of the main quadrangle. Most of them commemorated Etonians who had laid down their lives in the Great War. Among them I found one which so attracted my attention that I copied it. It read thus: "In Memory of: Harry Richard: Deirghton Simpson: Lt. 6th (Inniskilling): Dragoons Att. R. F. C.: An American Boy: of Infinite Daring: Who returned: for Love of Eton: to help England: In November 1914: but was killed: after almost 2 years: of continuous Service: While testing a new machine, on Dec. 1916: *Etonam Nactus: Exornavit: Floreat Etona.*" "For love of Eton!" Why did this American lad so love Eton as to return to help England in her struggle against the Hun? Doubtless for many reasons; the pull of many and various ties of sentiment; memories of college days, of rosy-cheeked English lads with whom he had played cricket on Eton's grassy field, of friendly teachers and happy hours; all of these helped to form his love of Eton College. But no one can visit those fine old cloisters and the beautiful College chapel without realizing, to some degree at least, the potency of the spell which that rare environment must weave about all its frequenters, and which lasts as long as life itself!

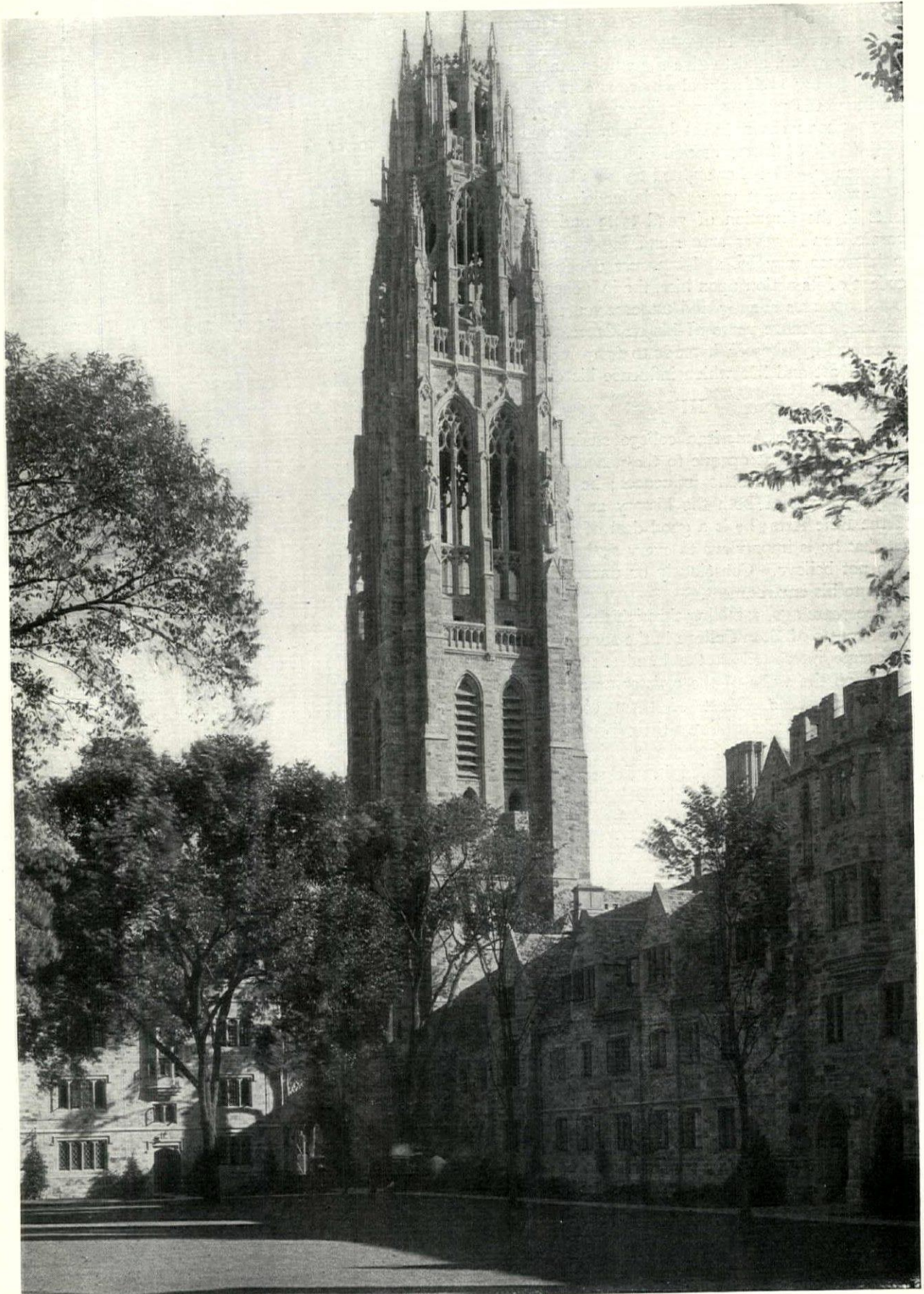
If an American lad could be drawn from across the seas to lay down his life "for love of Eton" how potent must have been the spell wrought through four centuries by the now venerable halls and cloisters of Oxford and Cambridge! However familiar and commonplace they may have become to the under-



The Library of Columbia University, New York  
McKim, Mead & White, Architects

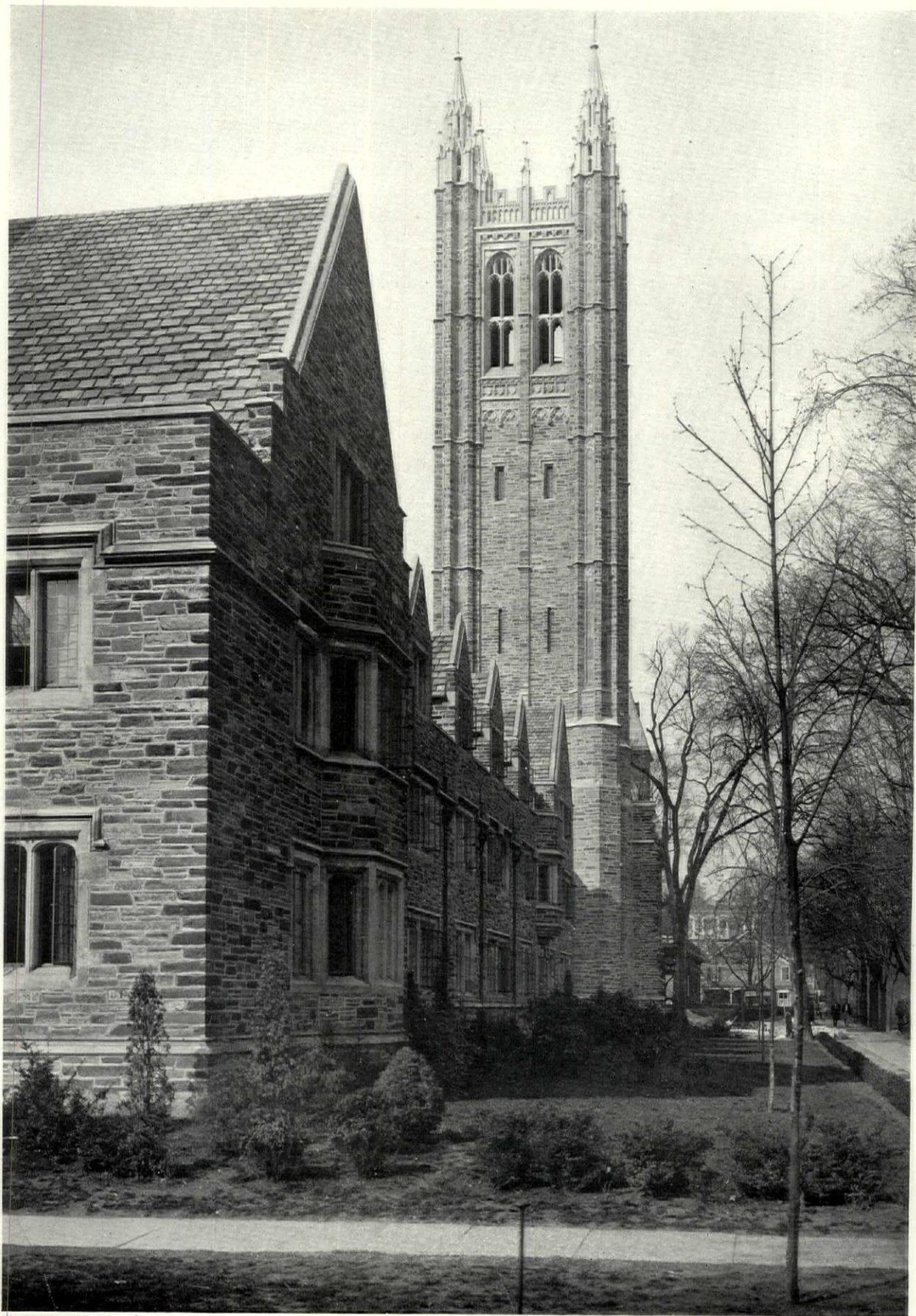
graduate, rushing from lecture or quiz by his don to the river or cricket field, and even to the fellows and dons and tutors in their old halls, the quiet and century-old beauty of those ancient "quads," of their broad gate towers, mullioned windows and crenelated parapets could not fail to become inwoven with the fabric of the lives of men who haunted them. These fine old halls, so dignified, so free from meretricious gewgaws and architectural falderal, so quiet and restful in form and color, must have wrought their spell into the lives of their inmates, unconsciously rather than consciously, because they were an essential element in the scholastic environment of life. How instinctively the mention of Oxford as the Alma Mater of any great or near-great Englishman suggests to the mind of anyone who has been in Oxford the "quad" of Balliol or the tower of Magdalen, the ivy-clad walls of the "backs," the sturdy steeple and Spanish doorway of St. Mary's, and the sleepy shelf-lined halls of the Bodleian Library! And if Cambridge boasts less of the Tudor Gothic charm of Oxford, she has the glory of King's College Chapel, the stately courts of Clare and Caius,—"Keys" they call it—the fine dignity of Wren's Trinity Library and the eighteenth century quaintness of Emanuel's quadrangle. May one not possibly assign to the more modern aspect of the architecture of Cambridge at least a part of the subtle difference between the two traditions, with mathematics and science at Cambridge taking somewhat the place of classics and religious disputation at Oxford? Such an explanation seems to be reasonable.

In our own colleges and universities the development of a characteristic monumental architecture has been too recent to allow of broad generalizations such as those I have just suggested, but I believe somewhat similar results will manifest themselves as time grows older. Making all due allowance for the increasing complexity of modern life and the multiplicity of influences that play upon the undergraduate, and bearing in mind also the fact that the new college walls can for many years to come enshrine no such wealth of ancient tradition, can commemorate no such galaxies of genius as do the memorial tablets and storied windows of old English college



*Photo. John Wallace Gillies*

HARKNESS MEMORIAL QUADRANGLE, YALE UNIVERSITY, NEW HAVEN  
JAMES GAMBLE ROGERS, ARCHITECT



*Photo. Rose & Son*

HOLDER HALL, PRINCETON UNIVERSITY, PRINCETON, N. J.  
DAY & KLAUDER, ARCHITECTS

halls and chapels, the new and finer environment of such college architecture as has been taking form at Princeton, Yale, Berkeley, Palo Alto, Philadelphia, Chicago, and Johns Hopkins, at Bryn Mawr and Vassar, must in the long run tell on the lives of the students who frequent them. To pass four years or more in their halls, to worship in their chapels, to be surrounded by monuments of good taste and to live in dormitories which are models of good planning, comfort and often of charm, can no more fail to influence the minds and tastes of their occupants for good than can base and tawdry, decrepit and filthy homes fail to discourage aspiration and debase the standards of life. As the general standards of well being and of the public taste advance,—and a backward look of 50 years to my own college days fills me with amazement at the change,—the college life should be environed with the evidences of that advance. In my day we drew all our water from the college well; carried up the coal for our stoves in coal scuttles from our private coal heaps behind the "dorms," swept our own rooms; filled our own kerosene lamps, and lived a life of almost Spartan simplicity. My sons in the same halls had modern plumbing, steam heat and electric lights. I have discovered in them no evidence of mental and moral anæmia as the result of these fabulous luxuries of living!

The Princeton graduate student, living and working in Cram's fine group of the Graduate School on its hill apart, can hardly fail to contribute to the evolution of a type distinctly different from that of the Columbia graduate student, dwelling generally in a lodging apart from the University, in the heart of the throbbing life and activities of a huge city. The two types may very probably become in time even more widely differentiated than those of the Oxford and Cambridge graduates! And it is well that there should be a different sort of environment for different types of aspirants to advanced scholarship, just as there are different types of homes for different sorts of people throughout the country. And precisely the same sort of differentiation, though with a narrower range of variation, is developing and is desirable in our higher institutions of learning. It is the glory of our American higher education that it is not controlled by any supreme federal authority. Standardization has become a sort of fetish in many American minds. But the Great War has at least demonstrated to Americans the futility of trying to centralize control and unify methods in any activity under any super-authority, federal or other. Only in mechanical industries, and therein not by super-control but by mutual agreement, has standardization produced desirable results. The human mind in these days refuses to be bound by external authority, and in our vast domain with its hundred million souls, our nation can measure up to its opportunities and responsibilities, only by allowing free play to the mind, by encouraging, not by fettering, those differences of mind and taste that develop in various communities under differences of climate, resources and

environment. Only thus is real liberty to be attained.

We shall never develop any uniform or even predominant style of collegiate architecture. The architectural contrast between Palo Alto and Columbia, between Harvard and Princeton, between Amherst and Chicago, is surely no mere accident, but expresses differences of taste or spirit, of ideals or purpose in the institutions themselves. The distinct architectural environment provided by each different type may in the long run tend to emphasize subtle differences in the spirit and tastes of its students. It would be foolish to attempt to push this idea too far. The architectural character of each group is not a mould into which each student mind must be poured, and differences of style which to the architect are obvious, may be wholly unperceived by the student. It will never be possible to distinguish by any difference of learning or character the alumnus of a college housed in a Gothic group from one graduated from a college of Colonial architecture. All that one can say is that the more susceptible the student is to æsthetic impressions and to his material surroundings, the more readily will his character and taste react to his material and artistic environment, and that the more his environment lends itself to efficient teaching, serene concentration and a life undisturbed by discomforts the more efficiently will the student's mind function, the more favorable will be his reaction to surroundings, and the more firmly grounded his taste.

#### IV

ONE of the finest ministries of American religious culture to the world has been the splendid group of colleges established by American liberality in less favored lands,—in Turkey, China, Japan, Bulgaria, and elsewhere. Housed in fine buildings of American design, though often in the local or national style, they represent thoroughly modern ideas of construction and equipment. To the complaint that these buildings are "too fine" for their communities, that students born and bred in a different and less sophisticated atmosphere would by the elegance, the comforts and conveniences of these schools be spoiled for life among their people, the answer has been given by more than a half-century of experience. Instead of being sophisticated and spoiled by education in surrounding so different from and superior to those of their home life, their graduates have become more patriotic than ever, going forth fired with a zeal to pass on their betterment to their less fortunate compatriots, raising the general standard of living in their home communities. These colleges are potent in commending the American people to foreign communities, and both directly and through their graduates, to whom these buildings have been a revelation of American Christian ideals and standards, the architecture of these colleges is constantly and silently exerting an influence for civilization, culture and international friendship. Wherever they exist, America is regarded as a home and source of beneficent and friendly influence to all.



# The Planning of Dormitories Euh

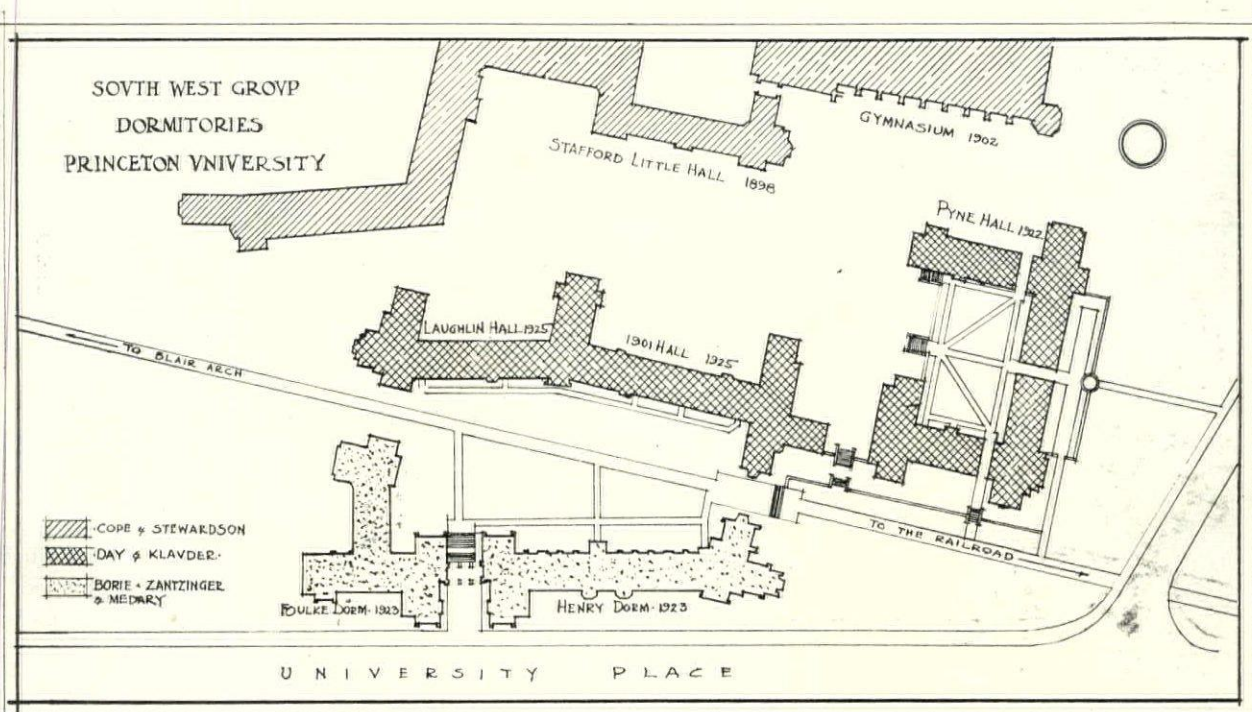
By ROBERT McLAUGHLIN

IN the days before the Revolution, when everyone who attended the College of New Jersey lived in "Nassau Hall," there occurred a battle between students and faculty in which the students bolted their doors against the faculty and declared war. Nowadays the younger instructors and professors live in the dormitories with the students, and their doors as well as those of the undergraduates are not bolted. This change in mood has been paralleled by a change in architecture. The long, bare corridors of "Nassau Hall" have been given over to the University offices, and the undergraduate now lives in one of the attractive residences that form the subject of this article. It is a pleasing picture,—these low, informal dormitories clustering about and enclosing the great Chapel, Library and Laboratories, that are the heart of the University. Completing the picture is still in process. In spite of valiant efforts to limit the enrollment and a constant building of dormitories, four hundred students still room off the campus.

*The Development.* "Blair Hall," built in 1896, is the oldest of this group and the first Princeton building to be built in the collegiate Gothic style. In the early nineteenth century several massive buildings of classic proportions had been grouped about "Nassau Hall," which for almost 50 years housed the entire College. The 'seventies and 'eighties produced a small but choice collection of romantic revivals. 1896 was the year of Princeton's sesqui-centennial, and the construction of "Blair Hall" may be said to

mark the beginnings of her renaissance in architecture. It is natural for a renaissance to disregard what is obvious and perhaps indigenous for something usually distant in time and often remote in space. Hunt's Byzantine and Potter's Romanesque were abandoned, not for the middle Colonial of "Nassau Hall," but for the Gothic of Oxford and Cambridge. No doubt a battle of the styles raged at the time, and occasional shots are still taken at Princeton's departure from her native style. But that departure was made, and there has been no swerving from the chosen road. While most other universities have been experimenting, Princeton has been adding to her architectural setting without the discordant notes of abandoned trials of different types of architecture.

Cope & Stewardson followed "Blair" with "Little" and the Gymnasium. These buildings, which then bounded the campus on the west, form a continuous line of English Gothic that turns and doubles in plan, with a roof in line that breaks up into towers and falls away with the contours of the land. It is only the recent group, built since 1921, that has reached beyond this limit. Benjamin Wistar Morris built "'79 Hall" in 1904, using a red brick that affords a pleasing variation from the local stone of other recent dormitories. "Patton Hall" is also the work of Mr. Morris, but here the nice balance of a carefully studied design was destroyed when the building committee substituted a coarse stone for that indicated on the drawings. Ralph Adams Cram, who was appointed supervising architect to the



Ground Plans of Southwest Dormitory Group, Princeton University



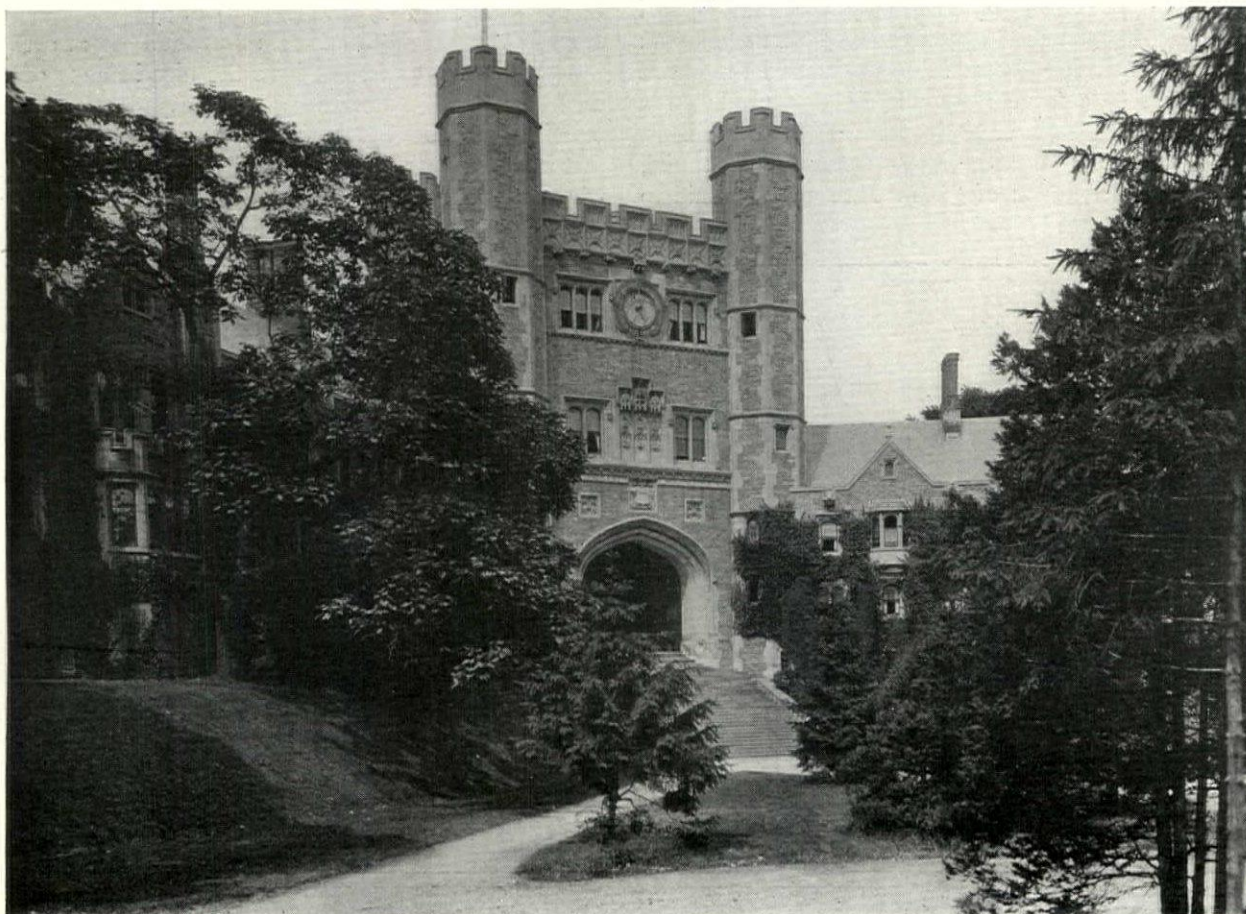
Looking Toward Blair Arch, New Dormitory Group,  
Princeton University

University in 1908, built "Campbell Hall," which eventually will be joined to "Blair," once the intervening astronomical observatory has outlived its usefulness. This is the only undergraduate dormitory that Mr. Cram has built, and here he was restrained by the fact that he was making an extension of an older building. His Graduate College, which ten years of occupancy have proved to be satisfactory practically and increasingly satisfying aesthetically, is located apart from the rest of the University. The simple charm of Day & Klauder's "Holder" and "Hamilton Courts" constitutes a foil to the dazzling

brilliance of their Dining Halls. "Cuyler Hall" is joined to the north end of "Patton," with its semi-court terminating the long stretch of the older buildings. It is a clever piece of planning, possessing its own charm as an architectural unit while fulfilling its obligations as part of a greater whole.

*The Plan of the New Group.* The new group of dormitories now awaits only the finishing of a small unit to attain completion. It is located outside the old campus boundary formed by the Cope & Stewardson buildings, and includes them in its ensemble. It occupies the site of the old railroad station and tracks that were removed in 1918 after the building of a new station to the south. With the branch railroad from the Junction running up past the Gymnasium and "Little," a great portal was built in "Blair" to form a gateway to the campus. Blair Arch is all that might be expected of such an entrance. It rises out of and is itself part of the dormitory; it has dignity without being monumental to a forced degree. The impression, as one mounts the steps, is perfect. The weight of the great portal is a little stern; one is about to be cut off from this outer universe of jangling trains and cities. Then appear through the arch the old buildings of Princeton and the trees, and the belfry of "Old North." One has come into the world of the University, with its peace and quiet.

Now the architects who laid out the plan for these



Entrance Gateway, Blair Hall, Princeton University  
Cope & Stewardson, Architects

new dormitories doubtless felt all this, but perhaps they thought it involved simply an architectural effect. At any rate, they decided to retain the importance of Blair tower, and struck an axis from the tower to the railroad station, a distance of a quarter of a mile. This axis makes a pleasing image on paper, and axes have their place in expositions where placing a great midway is a legitimate striving for effect, or in a park where sheer sweep of vista is sought. But a university is a place somewhat apart from the rest of the world, where men spend a few years of their lives in associations, in study, and occasionally in quiet. This great, open gap is beautifully laid out and finely lined with undergraduate residences, to afford an imposing avenue for Princeton townspeople on their way to work in Trenton! This is the outcome of a striving for effect that architecture falls into once it becomes self-conscious and divorced from the natural processes which bring it into being. The thoroughfare has been justified to some by recalling a parallel from the middle ages. When walled towns outgrew their battlements, the new growth took place along the lines of the old roads that had led up to the gates. Likewise, it has been reasoned, since Princeton has outgrown the limits of "Little" and "Blair," the new developments should occur along the line of the now historic railroad. This is a choice bit of the sort of modern

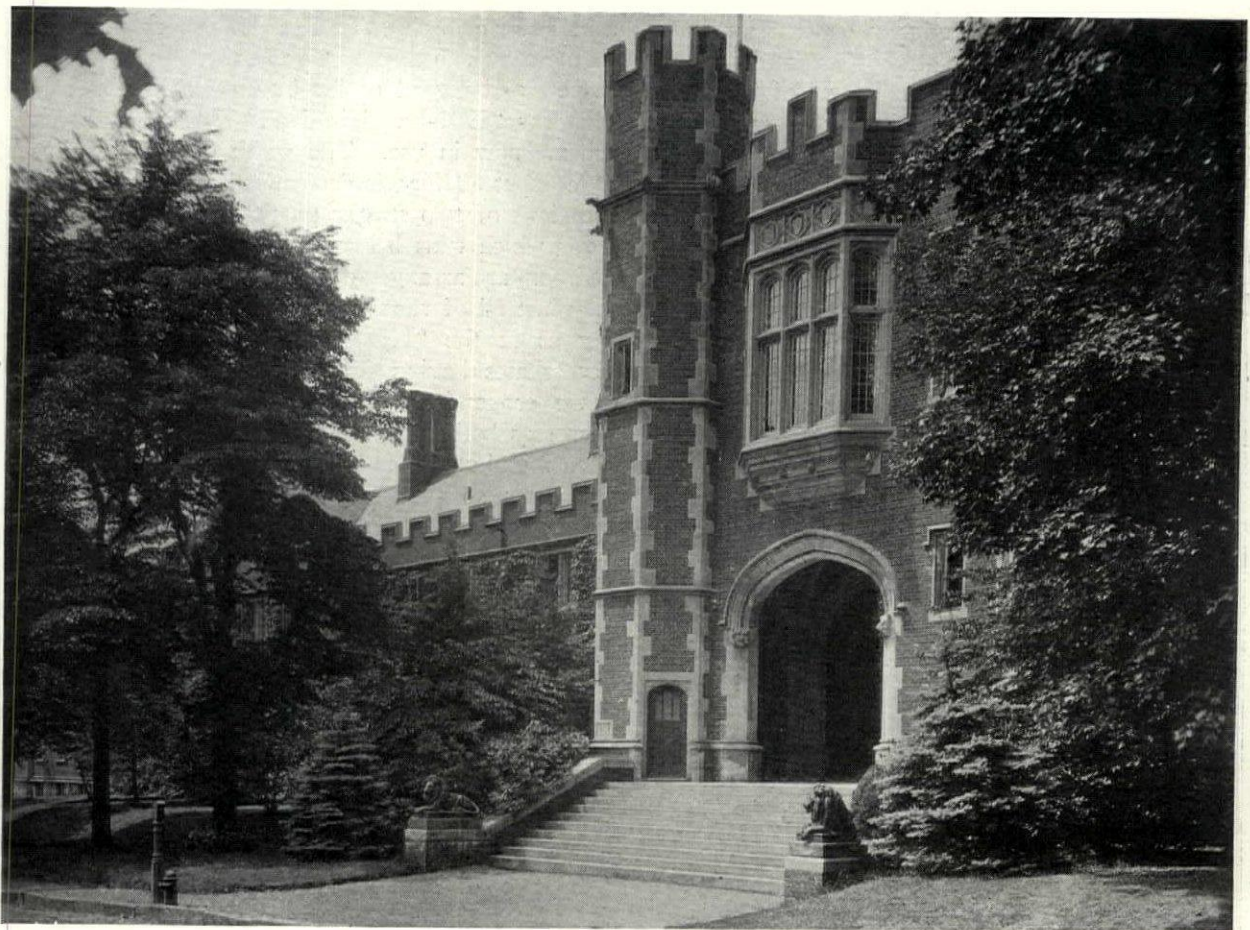


1901 Hall, Princeton University  
Day & Klauder, Architects

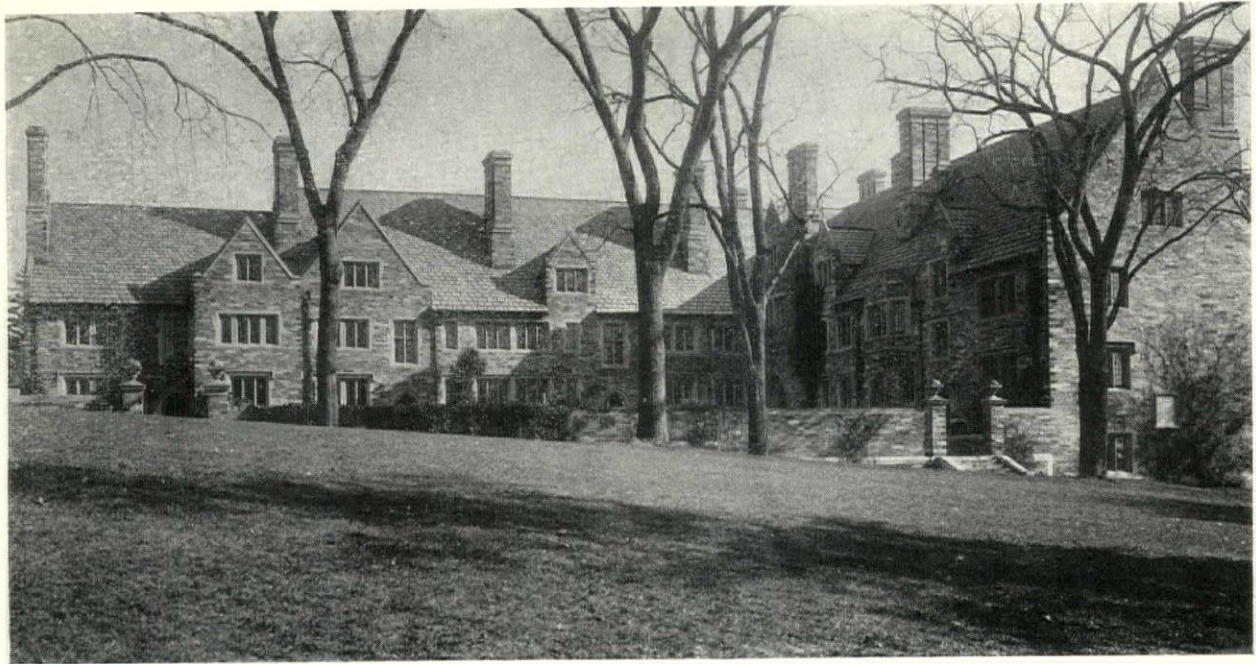
mediaevalism that is accompanied by architectural artificiality. The beauty and distinction of Princeton can be better preserved by closing this open gap.

Along the axis are arranged two groups of dormitories. Toward University Place are Zantinger, Borie & Medary's "Henry" and "Foulke Halls"; on the opposite side are Day & Klauder's "Pyne" and "1901-Laughlin" dormitories. Both "Henry-Foulke" and "1901-Laughlin" are a story lower in height on their west sides than on the east, owing to a rise in ground from east to west which affects building.

*The Planning of the Dormitories.* There have



Entrance Detail, 1879 Hall, Princeton University  
Benjamin Wistar Morris, Architect



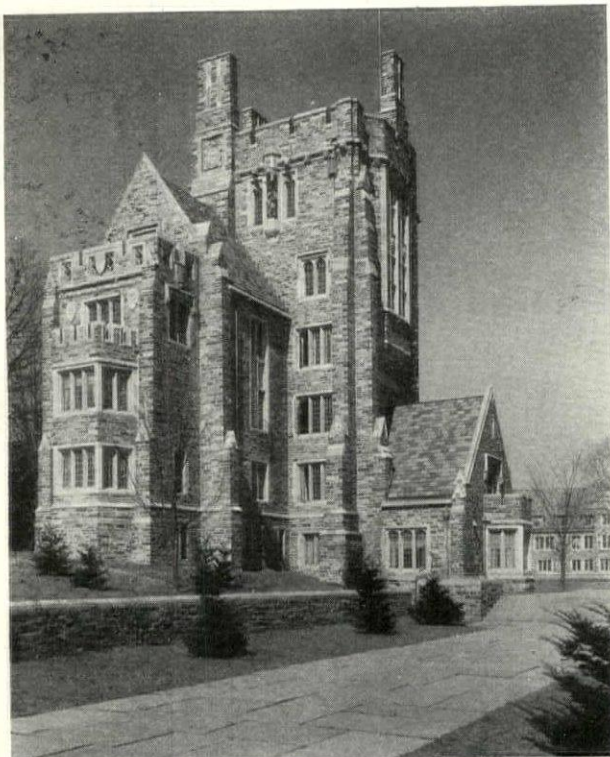
Cuyler Hall, Princeton University  
Day & Klauder, Architects

been two general schemes used in the Princeton dormitories. One plan provides for a two-and-a-half-story building, in which a suite of rooms flanks either side of the entry on each floor. The width of the building, about 35 feet including exterior walls, is fixed by the depth of the study plus the depth of a bedroom and closet. Since "Holder Hall" was finished in 1910 the cost of dormitory construction has increased from 35 cents per cubic foot to 79 cents in "1901-Laughlin" and 85 cents in "Foulke" and

"Henry." In order to maintain its policy of realizing from room rentals a return of 4 per cent on its investment, the University has been forced to build the new dormitories three and occasionally four and a half stories high. Mr. Klauder's ready acceptance of the challenge of economic needs has won him the respect and regard of his business associates. His plan for "1901-Laughlin Hall" shows an alternate scheme now in use. The width of the dormitory, here about 30 feet, is determined by the shorter dimensions of two studies plus the width of the corridor which runs between. In this plan study and bedroom are arranged on the same side of the dormitory instead of running the suite through the building as in the "Holder" plan. The "1901" plan necessitates having fewer entries, and is generally more economical. In some cases a single room serves as both study and sleeping quarters. It has been found advisable to connect pairs of these study-bedrooms so that they may be rented as double suites, each room serving as study and bedroom for two men. These dimensions are in general those of "1901-Laughlin," and are now usual for Princeton dormitories, and the volume of air in sleeping rooms is not less than 748 cubic feet per man:

Study-bedroom:	11 ft. x 15 ft., 6 ins.	=170 sq. ft.
Double study:	11 " " 16 "	=176 " "
Bedroom:	11 " " 7 " 6 "	= 82 " "

*The Design of the New Dormitories.* The southern end of "Henry-Foulke" builds up into a tower,—a pure *tour de force*, but effective from most angles. The two divisions, "Henry" and "Foulke," are joined together by an arcade which lines up with the end of Dickinson Street. Several lead statues fill niches in the building, and the detail is quite free and amply placed. A pronounced difference in scale is noticed between this work of Zantzing, Borie &



End View, Henry Dormitory, Princeton University  
Zantzing, Borie & Medary, Architects



Another View of Cuyler Hall, Princeton University  
Day & Klauder, Architects

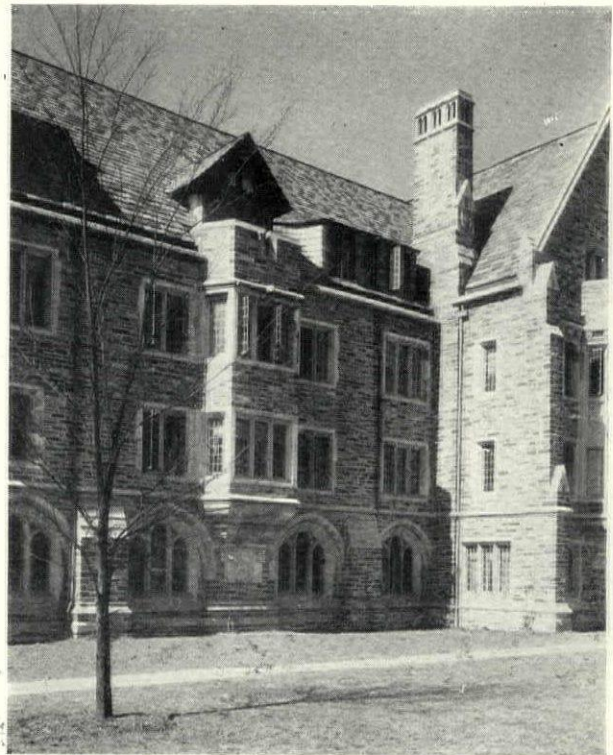
Medary and that of Day & Klauder, the detail of the former firm being considerably larger than the latter's.

Of Day & Klauder's two most recent Princeton dormitories, one was finished in 1922 and the other is just being completed. The first, "Pyne Hall," was built when the University felt an extreme need for rooms that could be rented at low prices. Mr. Klauder's broken roof line was straightened out to the unbroken run that we now see. The detail was cut down to almost a minimum. Doubtless this did not afford Mr. Klauder the most pleasing opportunity, for we remember his ideas about Gothic's being the style of variety and surprise in contrast with the quiet and peace of Classic design. But what Mr. Klauder can do with an unbroken wall surface, purely through study of proportions and openings, is shown in the facade of "1901-Laughlin Hall."

*Construction.* Dormitory construction has changed considerably during the last 30 years. "Blair" and "Little" are of Germantown stone. The limestone trim was cut by hand on the ground, due to a now obsolete belief that machine cutting "stunned" the face of the stone, causing a minute shattering of the structure so as to cause disintegration through frost. Princeton dormitories are now built of local stone with limestone trim. The stone is an argillite geologically evolved from a mud shale subjected to terrific pressure under water, thus giving the quarry many faces. The stone is laid up with a cut flush joint just as it comes from the quarry northeast of the town, without conscious arrangement of pattern. The trim of "Henry-Foulke" is in five distinct colors of Indiana limestone, running from buff to gray. The trim used for "1901 Hall" is variegated in shade, running between two limits of color values.

The floors of "Little" were constructed with two sets of joists, one set carrying the floor, the alter-

nate set, which was laid 2 inches lower, carrying the ceilings. This was an economical method of securing insulation against sound. In the fireproof construction of the recent dormitories, Zantzinger, Borie & Medary have specified a tin pan system for building floors, while Day & Klauder have used hollow tile with concrete joists. These latter systems have displaced use of the 5-inch slabs with wire mesh used in "Holder" and the Graduate College. Partitions are of hollow tile faced with rough plaster in which a



Facade Detail, One of Southwest Group Dormitories,  
Princeton

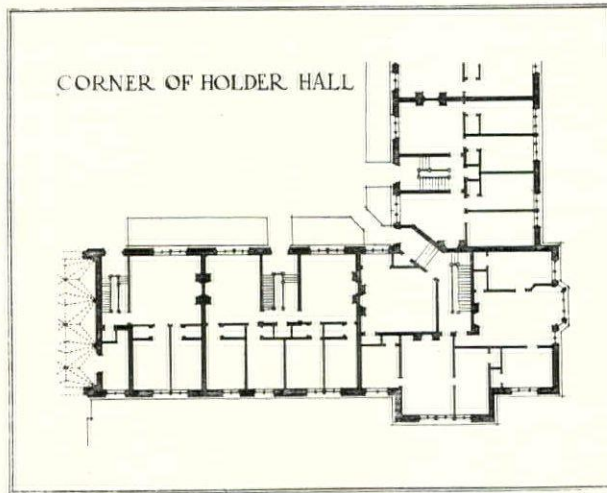
Zantzinger, Borie & Medary, Architects

gray bar sand is mixed to give texture and a yellow sand used to give warmth of color. Stairs are fireproof, built of 4-inch concrete slabs reinforced, with simple iron railings set in the concrete. Roof rafters are of structural steel with 2-inch wood sheathing as a base for nailing the slates used for roofing.

The slate roofs of the group show considerable variation; on "Pyne Hall," Day & Klauder used a more varied range of colors than in their earlier work. The roofs of "Henry" and "Foulke" show an even greater spotting of purple and brown, thus carrying out the more alive treatment of their surfaces. In "1901 Hall," Day & Klauder have reverted to a more restrained use of the darker shades than in "Pyne." The nice balance that produces both quiet and interest in this roof is an extremely subtle matter, and so a record of the formula may be valuable. The slate, with rough butts and sides, was furnished in these excellent proportions:

- 50 per cent unfading green;
- 25 per cent variegated green and purple;
- 25 per cent light and medium gray.

The pitch of the roof rafters is 50° 30' from the horizontal, and the slate was laid with diminishing courses according to this schedule commencing at the eaves always with the largest and heaviest slates:



Typical Floor Plan, Holder Hall, Princeton University

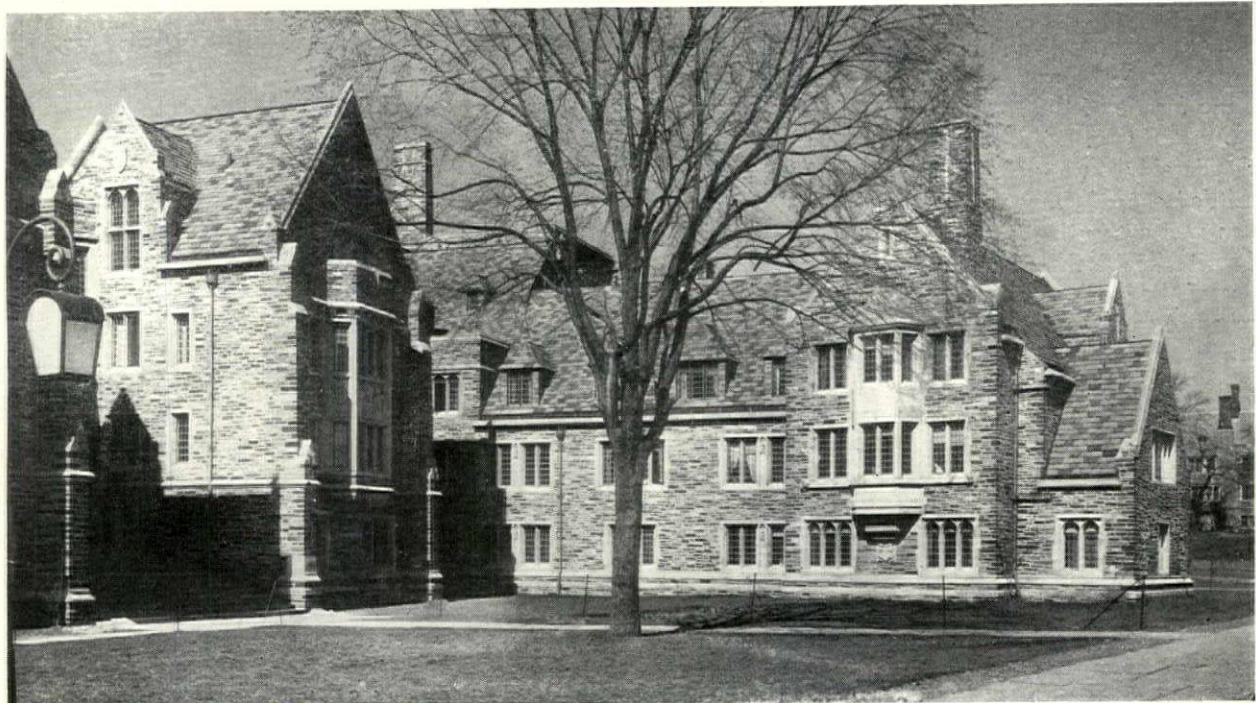
5 courses 3/4 in. thick, weathering 10 1/2 ins.; 6 courses 5/8 in. thick and weathering 9 1/2 ins.; 7 courses 5/8 in. thick, weathering 8 1/2 ins.; 8 courses 1/2 in. thick, and weathering 7 1/2 ins.; 6 courses 1/2 in. thick, weathering 6 1/2 ins.; 5 courses 3/8 in thick and weathering 5 1/2 ins.

Back before the war the Philadelphia Chapter of the American Institute of Architects visited Princeton. As one of the results of the members' architectural pilgrimage, they

placed a tablet in "Blair Hall," beautifully designed and carved, to the memory of the architects of that building. A freshman, who evidently believed what he read, long held a high regard for the "Faia brothers" as the architects of the building. The tablet has been dedicated to WALTER COPE FAIA and JOHN STEWARDSON FAIA. He never knew quite how to pronounce the name of this fraternal firm, but we may be sure that during the four succeeding years he learned something of architecture.

Dormitory	Total Cost	Cost per Cu. Ft.
"1901-Laughlin"	\$550,000	79 cents
"Henry-Foulke"	600,000	85 "
"Pyne"	500,000	about 80 "

The cubic foot cost of "1901-Laughlin" does not include the heat connection from the power house, nor that of "Henry-Foulke" the connecting arches.



Foulke Dormitory, Princeton University  
Zantzing, Borie & Medary, Architects

# Planning Gymnasiums

By AARON G. ALEXANDER

Of the Office of Hobart B. Upjohn, New York

*Sub  
Gymnasium*

IT seems only a few years ago that the only gymnasium in town was in the Y. M. C. A. Most of the high school winter athletics were practiced and played in the "Y" gymnasium, and I recall that in the public school I attended, I practiced basketball in an unfinished cellar. What a change has come over all this in a few short years! Today no school or college is complete without a gymnasium. It certainly is a wonderful institution, especially in the more crowded cities, and it has won its place in our life.

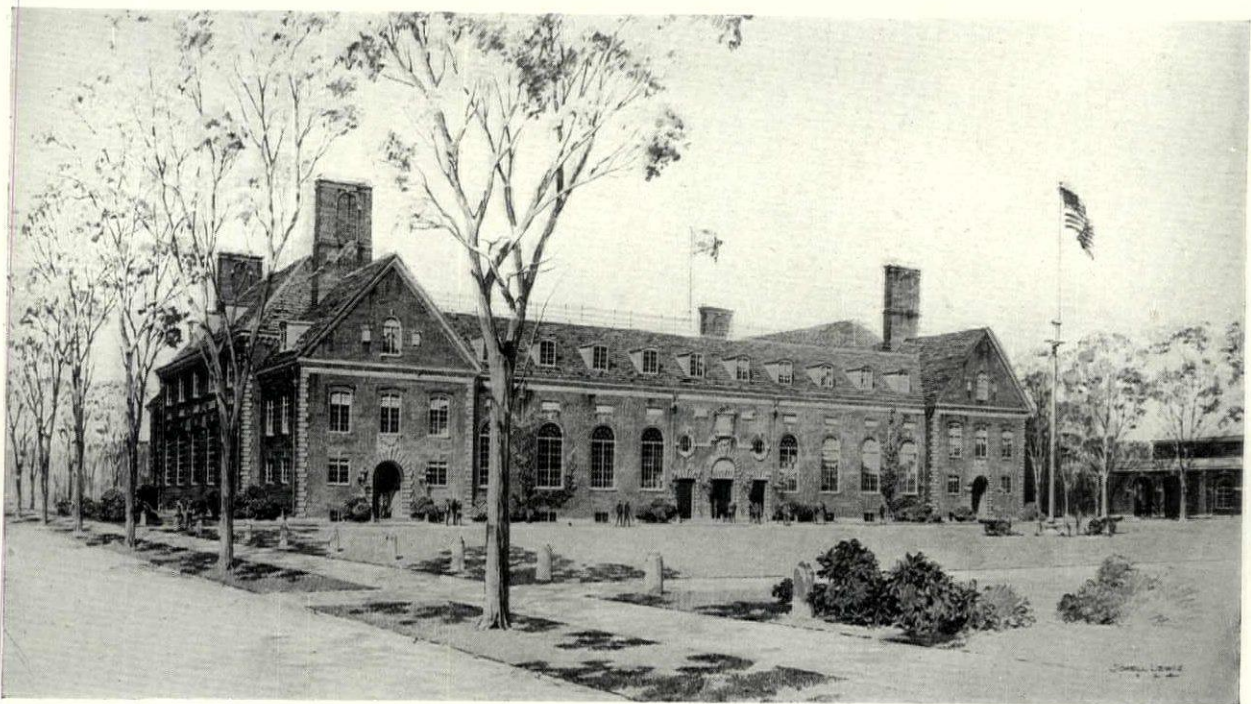
The problem of planning a gymnasium may seem at first to be rather easy,—just a gymnasium, locker rooms and pool. But when you consider the advance made in teaching athletics and the interest taken by the public in indoor sports, the problem seems to be of considerable size. The architect has to consider and advise on such items as organization; the gymnasium's class and location; auxiliary gymnasiums; pools, lockers, etc., as well as on all the details of mechanical installation necessary to properly heat, light and ventilate each unit, and other matters.

Let us consider the requirements of a gymnasium for a college of approximately from 3000 to 4000 students. First as to organization, for usually a college of this size requires compulsory athletic training during one or two years of the course. This means regular athletic directors and assistants and quarters for them. In addition, there are all the "teams" such as those for basket ball, indoor baseball, handball, squash, football, rowing, water sports, etc. These require special rooms in some cases, as well as special coaches' and trainers' quarters and

separate complete quarters for visiting teams. When one considers all these, along with the main gymnasium not only large enough for standard games but of sufficient seating capacity to accommodate audiences large enough to sustain the athletics, one can soon realize that the architect has a real problem to solve in planning such an exacting building.

The physical director in charge, and his assistant, should not be located merely off the gymnasium, but should control the entrances to and the exits from the physical departments. The gymnasium, locker rooms, shower rooms and swimming pool constitute the main physical departments. The locker rooms and showers are generally located beneath the gymnasium, and the nearer to it the better. The locker rooms and baths are the most closely related of all departments, and each must be easily accessible from the other, and naturally under the heading of baths is included the swimming pool, which it is quite important should be easily accessible from the showers.

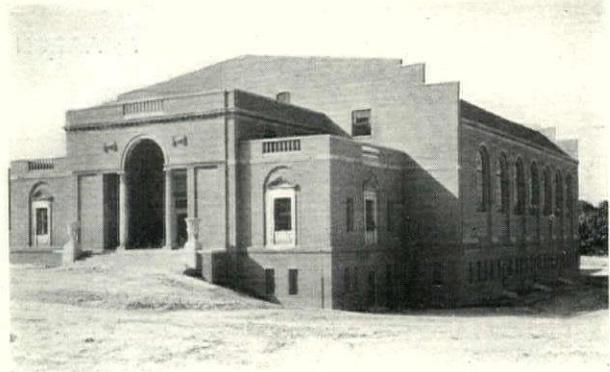
If possible, plan the pool partly *outside* the main building, so as to have a skylight over it. It has been demonstrated that a dark, poorly lighted pool will become filled with organic matter which infects water much more quickly than a well lighted pool. In addition to this skylight, have all the windows possible. The size of the pool is usually determined by the funds available. A pool 35 feet wide by 75 feet long is excellent for a college. This gives six 5-foot racing lanes, the two outside or end lanes on each side being 2 feet, 6 inches from the side, which is official for racing. The depths should be plainly marked in the



Perspective of Men's Gymnasium, University of Illinois, Urbana, Ill.  
James M. White and Charles A. Platt, Architects



Gymnasium, Smith College,  
Northampton, Mass.  
J. W. Ames and E. S. Dodge, Architects



Gymnasium, North Carolina State College of  
Agriculture, Raleigh, N. C.  
Hobart B. Upjohn, Architect

border, ranging from 3 feet, 6 inches, to 8 feet at the deepest part, which should be 12 feet from one end, with colors usually following those of the college. It is also a great saving to use a glazed brick wainscoting around the pool, since it can be built as part of the masonry walls. The pool should be situated a little off center of the room, so as to allow space for the spectators at one side and at the end, leaving a narrow end and side for the contestants. Under the wide end the filters, pumps, etc., can be economically placed, since the pool should never be just sunk in the ground but should have a trench all around it for pipes, etc. The specifications of the different materials to use for lining the pool and for its construction, filtration, etc., would fill a fair sized book, but suffice it to say that the usual lining is ceramic tile on waterproof concrete with tile overflow gutter and chemical filters, water being pumped into the pool by circulating pumps. There is a vacuum system for a pool for removing growth or sediment that accumulates at the bottom of the pool without emptying it.

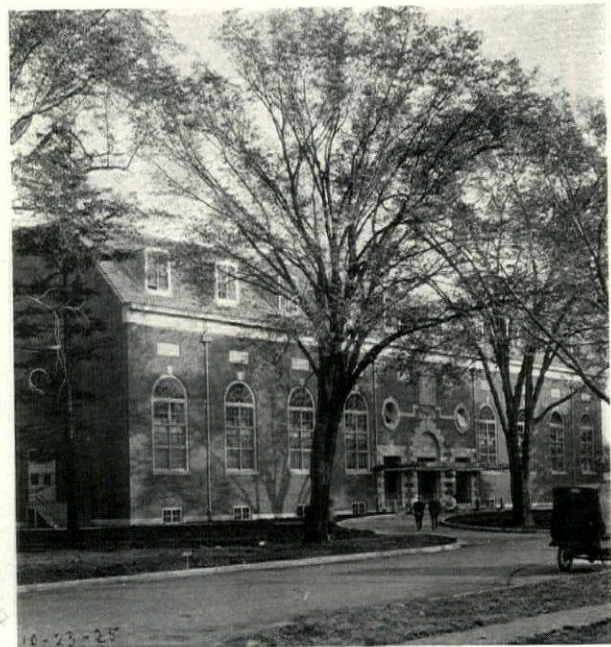
The shower room, which must be situated between

the pool and the locker rooms, should have its showers controlled by mixing valves, which should be under the direction of the physical director, who in this way is able to fix the proper temperatures of the water used. One or two cold water showers are generally installed, since they are almost certain to be called for.

The locker room offers, of course, the next problem, and it must be properly heated and ventilated. This department has received considerable thought of late because of the odors from the gymnasium clothes, which are anything but agreeable. The size of the locker room depends upon the system of the locker equipment adopted. The best and most efficient planning includes the provision of large lockers of a sufficient number to take care of the largest number of students that may use the gymnasium at one time. Provision must be made for both the incoming and the outgoing classes. In addition to the large lockers, there are often smaller lockers or drawers where the gymnasium suits of the students are kept. The student first goes to the small lockers, obtains his gymnasium suit, and then proceeds to the

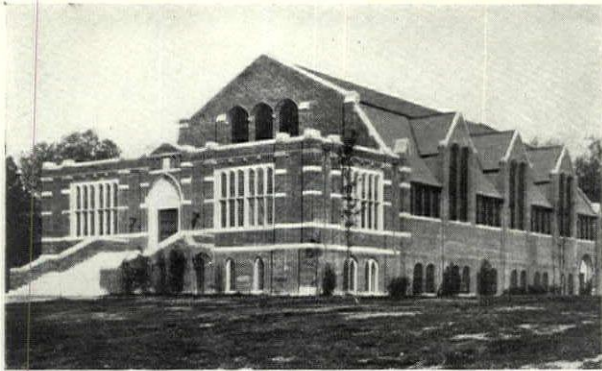


Gymnasium, Manhattan College,  
Riverdale-on-Hudson, N. Y.  
James W. O'Connor, Architect



Men's Gymnasium, University of Illinois,  
Urbana, Ill.  
James M. White and Charles A. Platt, Architects





Millhiser Memorial Gymnasium, Richmond College,  
Richmond, Va.  
Cram & Ferguson, Architects



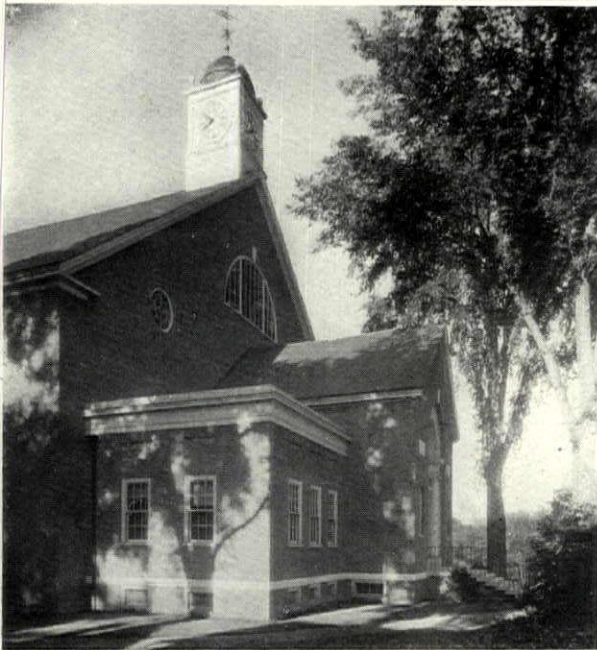
Yost Field House, University of Michigan,  
Ann Arbor, Mich.  
Smith, Hinchman & Grylls, Architects

corresponding large locker and places his day clothes in it until he is through exercising. When he dresses, he replaces his gymnasium suit in the small locker, leaving the large locker for the next student. In this way as many as four or even six students can use one large locker, and the gymnasium suit, being kept separately, may be placed in another room, where it can be properly dried out. The latest system includes even a washing machine, so that the pupil is given a clean suit each time he uses the gymnasium, though giving this service is rare.

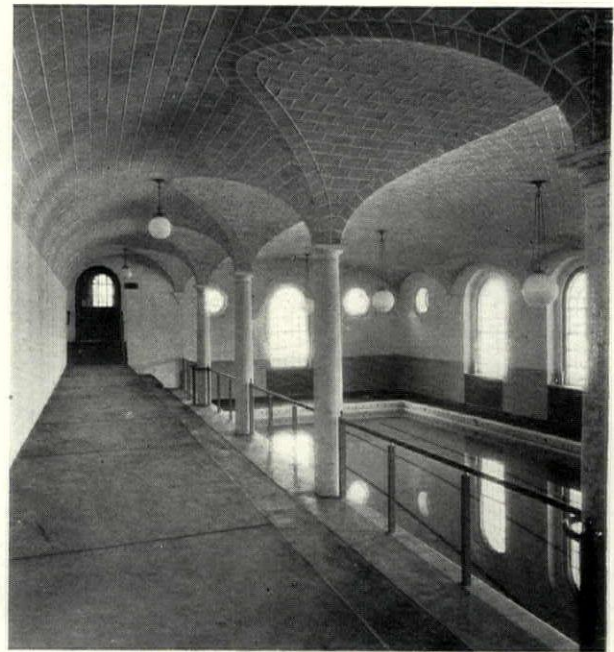
Usually the remainder of the lower floors of a gymnasium is given up to bowling alleys and storage facilities, as well as to visiting teams' quarters. The quarters of the visiting teams should, of course, contain rubbing rooms, dressing rooms, lockers and showers, all being complete units. If military training is given in the college, a large armory for the storage of military equipment is likely to be included on this floor. This armory is also useful for drilling.

The main gymnasium should be placed above the ground so as to receive all the light possible. The

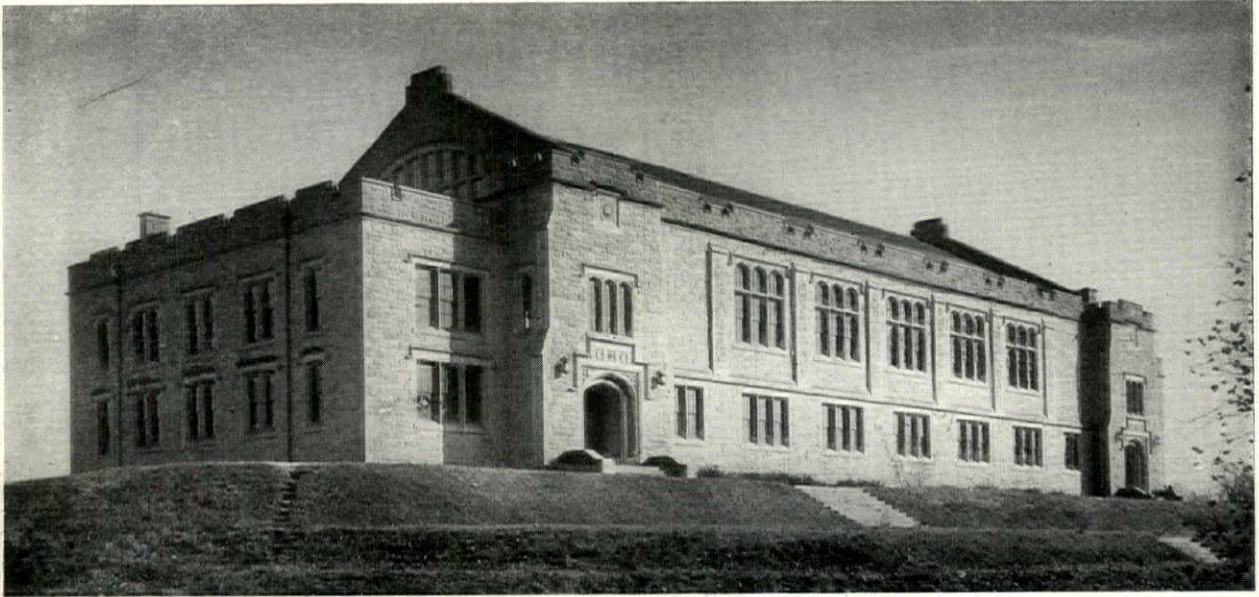
use of a skylight is advisable, as is also use of the largest windows that can be placed in the side walls. These windows must not be close to the floor of the gymnasium, because cross light on a playing court is not considered the best. The size of the gymnasium should not be determined so much by the number who will use it as by the character and the kinds of exercise which are to be taught and by the policy of the gymnasium's organization. Anything less than a 40 by 60 gymnasium is too small for standard indoor games. Most college gymnasiums have at least two practice standard baseball courts. The width of the main room should be approximately two-thirds its length. This shape usually serves best for the apparatus work, games and classes, as well as permitting the best design of a running track, if one is installed. For exercising, 45 square feet are generally allotted to each person. The height of the bottom of the trusses, to which apparatus may be hung, should never be less than 16 feet. This is the standard height for basket ball also. If a running track is installed, it is generally 12 feet above the



Gymnasium, Smith College, Northampton, Mass.  
J. W. Ames and E. S. Dodge, Architects



Swimming Pool, Smith College Northampton, Mass.  
J. W. Ames and E. S. Dodge, Architects

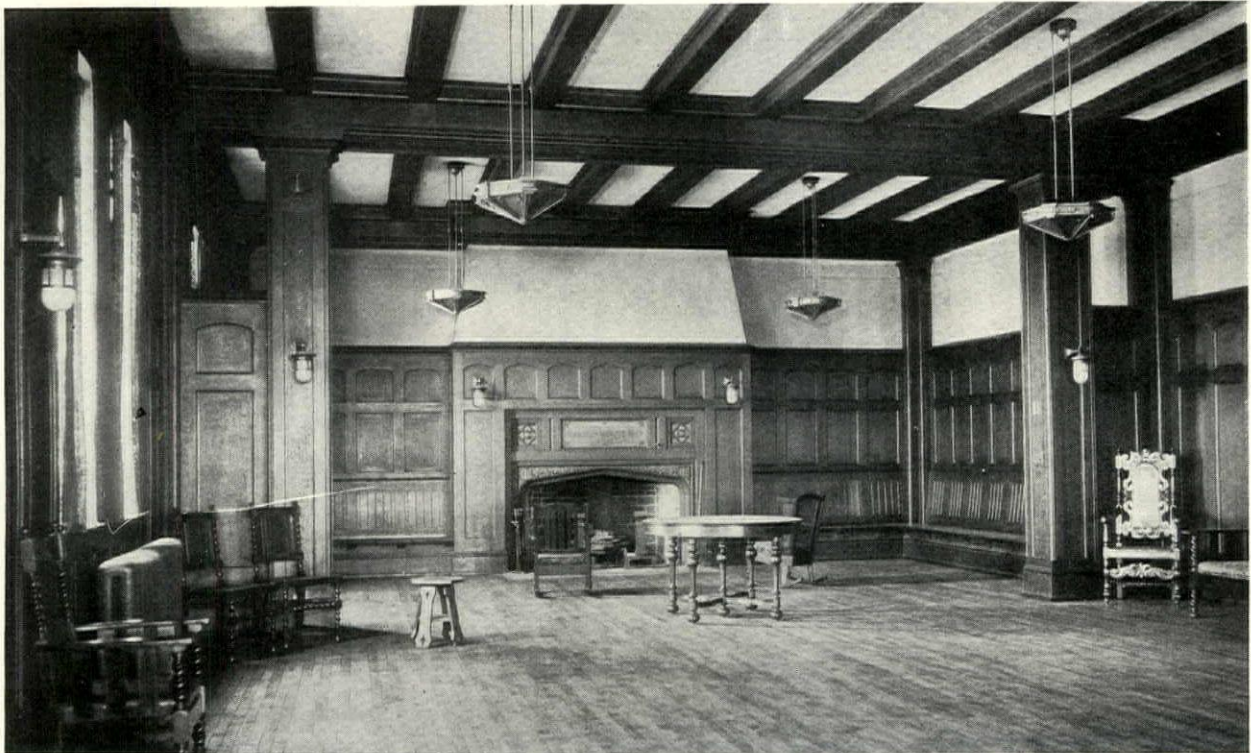


Gymnasium, University of Indiana, Bloomington, Ind.  
R. P. Daggett & Co., Architects

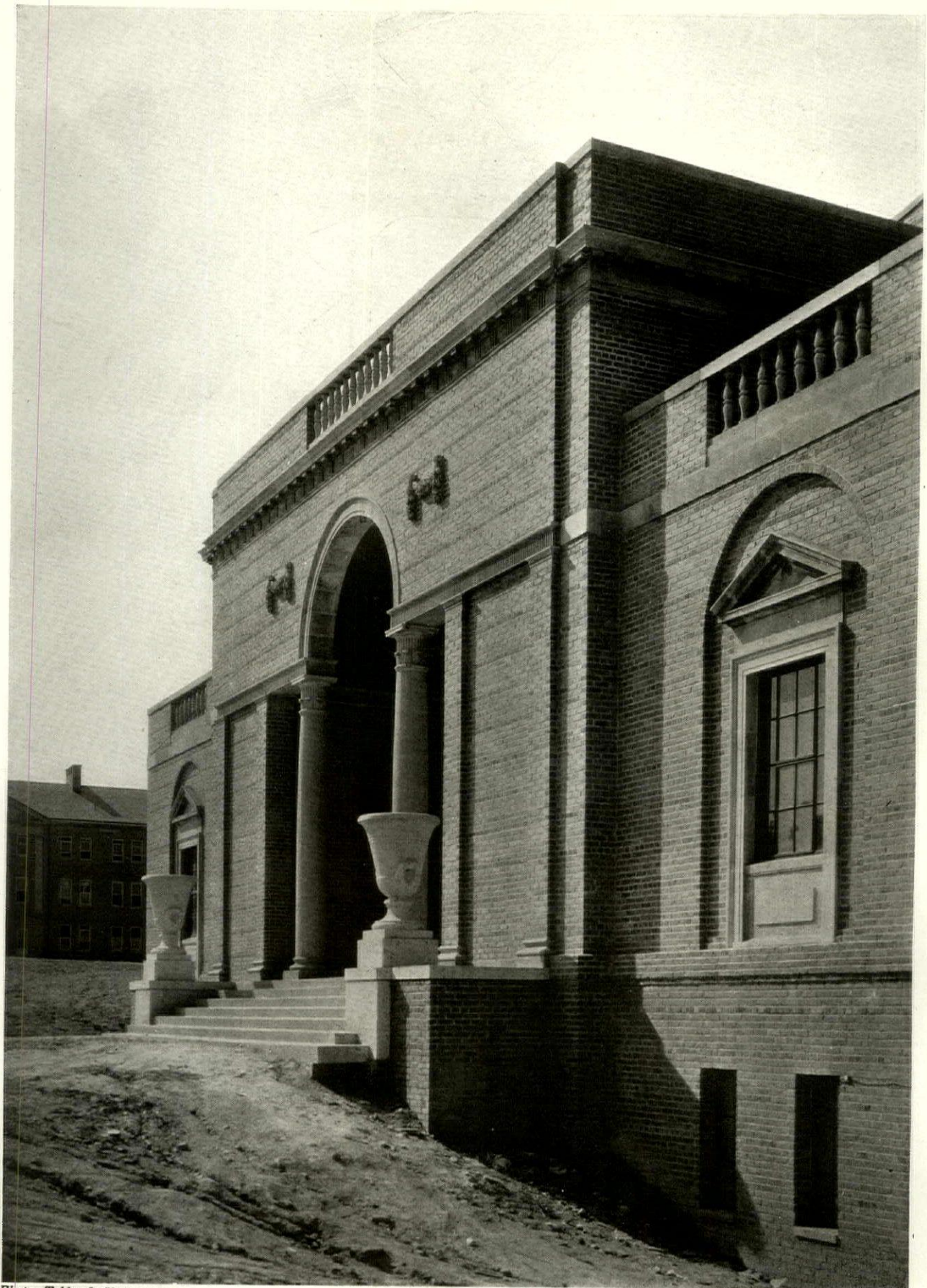
floor, and is banked at the ends. Seating of spectators in the gymnasium is generally taken care of with collapsible bleacher seats. In heating a gymnasium it must be borne in mind that wall radiators, not less than 6 feet above the floor at the lowest point, are the best and that a temperature of from 62 to 65° Fahr. is preferable; also that change of air at the rate of 7,000 to 9,000 cubic feet per hour, while classes are exercising, should be arranged for.

Provision of apparatus is a general problem for which architects have a lot of data, and this again is dependent upon the policy of the organization and

the views of the athletic directors. Many times provision of an auxiliary gymnasium, where special classes may be formed, is desirable. In this auxiliary gymnasium special apparatus can be installed for the development of certain branches of sport not indulged in by the majority of students, such as rowing, etc. Consideration should also be given in planning to the convenience of the spectator, and he should enter in such a way as to not interfere with any of the sports he is to view. This last mentioned detail is of particular importance, and it should be carefully studied by the architect of a gymnasium.



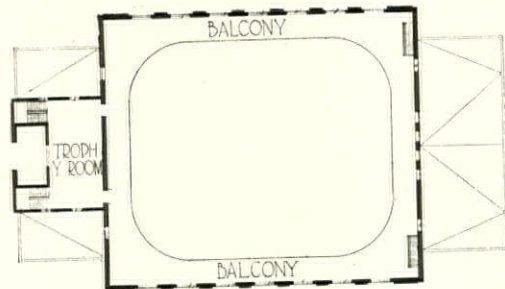
Club Room, Gymnasium, University of Indiana, Bloomington, Ind.  
R. P. Daggett & Co., Architects



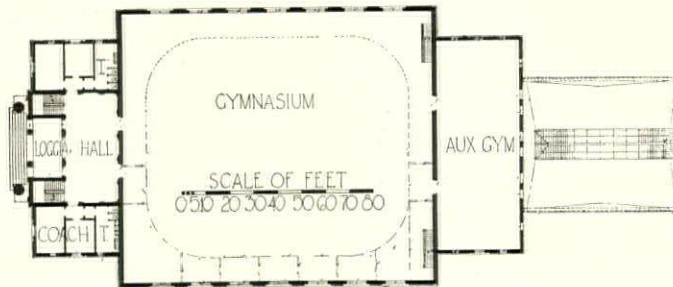
*Photo. Tebbs & Knell, Inc.*

*Plans on Back*

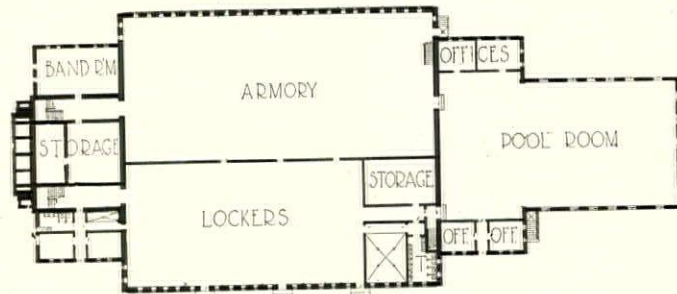
ENTRANCE, GYMNASIUM  
NORTH CAROLINA STATE COLLEGE OF AGRICULTURE, RALEIGH, N. C.  
HOBART B. UPJOHN, ARCHITECT



SECOND FLOOR



FIRST FLOOR



BASEMENT

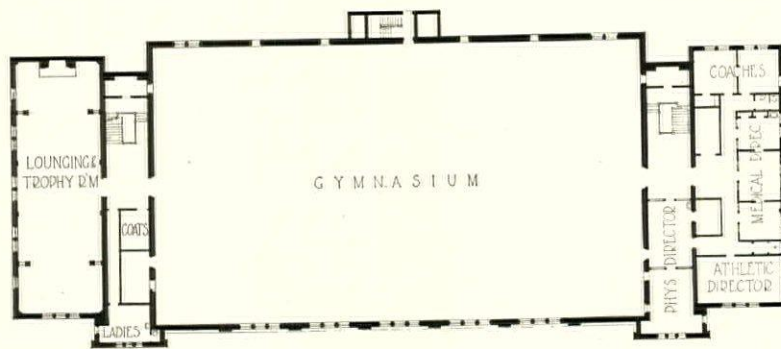
PLANS, GYMNASIUM, NORTH CAROLINA STATE COLLEGE OF AGRICULTURE, RALEIGH, N. C.

HOBART B. UPJOHN, ARCHITECT

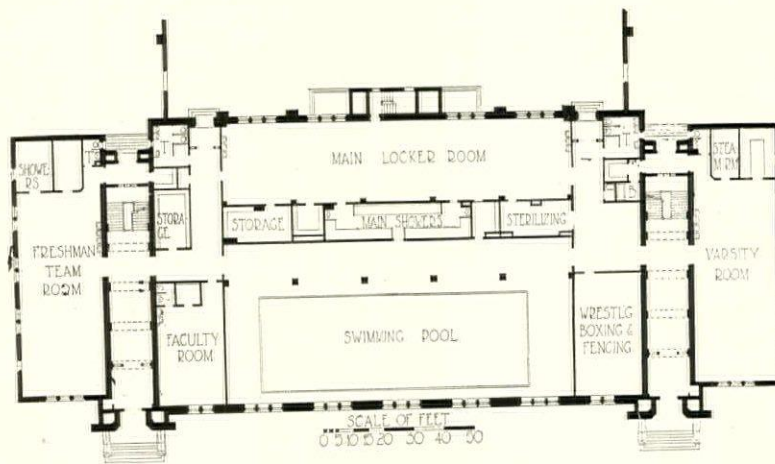


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ENTRANCE, GYMNASIUM  
UNIVERSITY OF INDIANA, BLOOMINGTON, IND.  
R. P. DAGGETT & CO., ARCHITECTS



SECOND FLOOR



FIRST FLOOR

PLANS, GYMNASIUM, UNIVERSITY OF INDIANA, BLOOMINGTON, IND.

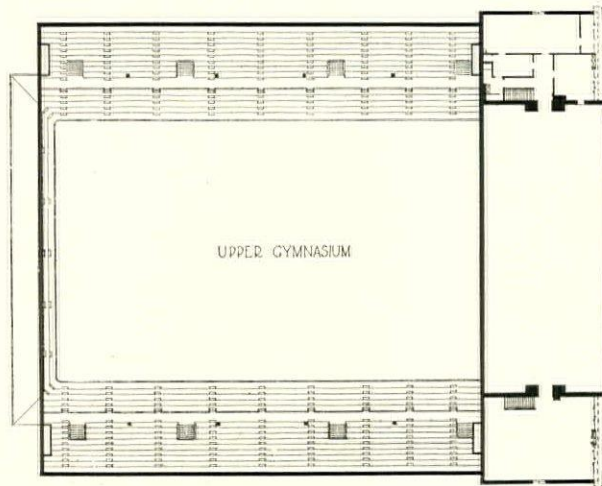
R. P. DAGGETT & CO., ARCHITECTS



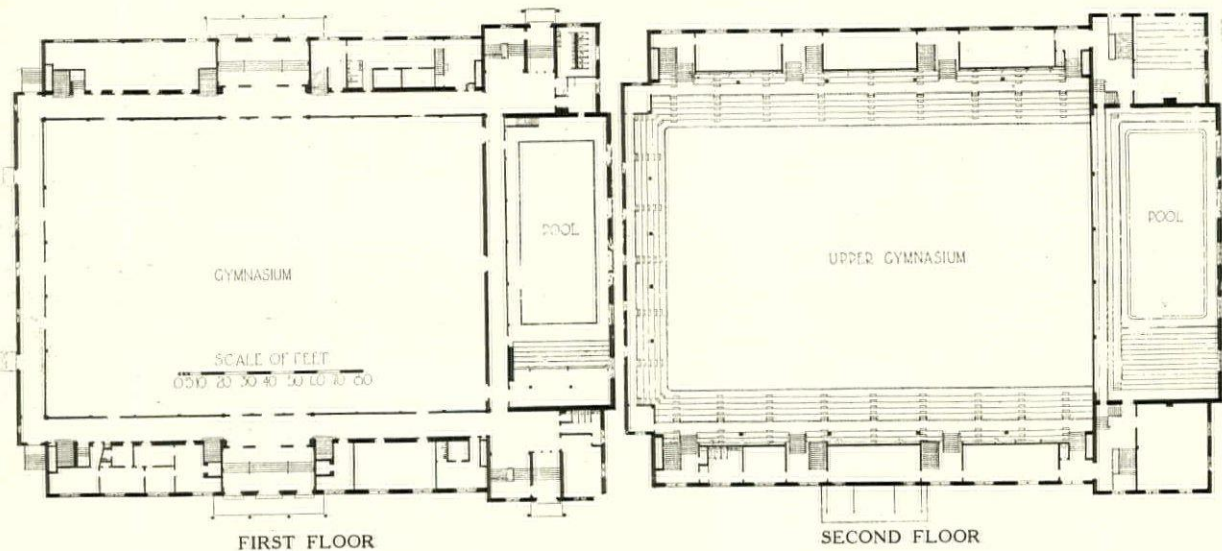
*Photo. Tebbs & Knell, Inc.*

*Plans on Back*

EAST ENTRANCE, MEN'S GYMNASIUM  
UNIVERSITY OF ILLINOIS, URBANA, ILL.  
JAMES M. WHITE AND CHARLES A. PLATT, ASSOCIATED ARCHITECTS



THIRD FLOOR



PLANS, MEN'S GYMNASIUM, UNIVERSITY OF ILLINOIS, URBANA, ILL.

JAMES M. WHITE AND CHARLES A. PLATT, ASSOCIATED ARCHITECTS

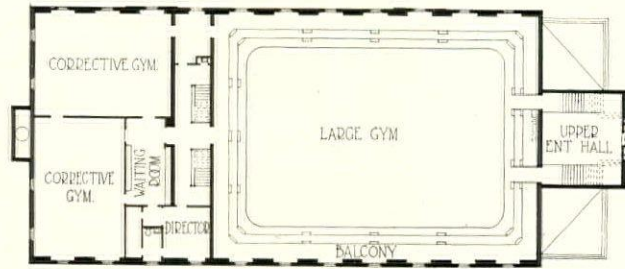




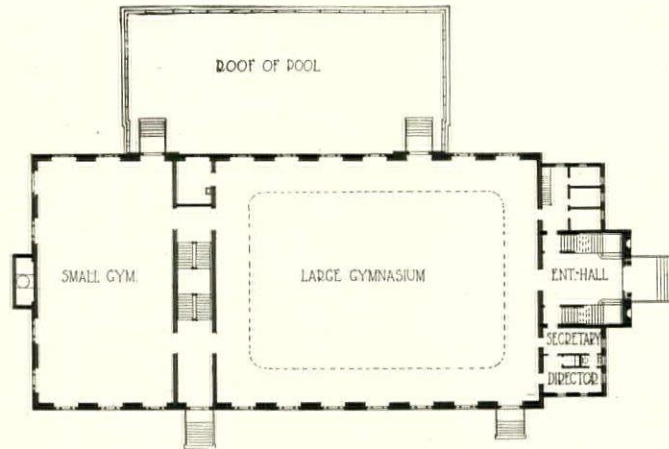
*Photo. Paul J. Weber*

*Plans on Back*

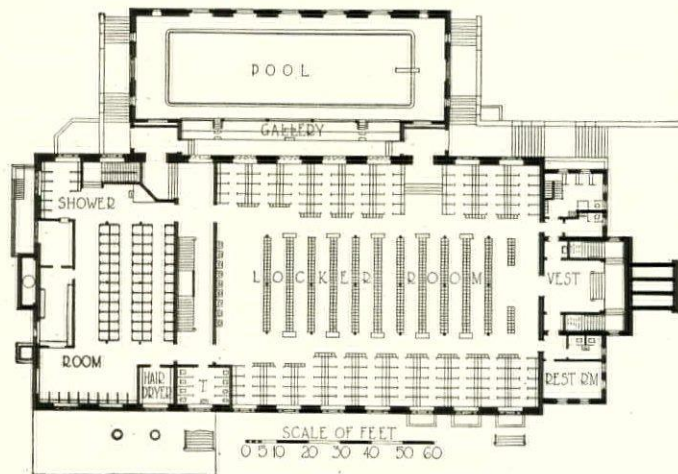
ENTRANCE, GYMNASIUM  
SMITH COLLEGE, NORTHAMPTON, MASS.  
J. W. AMES AND E. S. DODGE, ARCHITECTS



SECOND FLOOR



FIRST FLOOR



BASEMENT

PLANS, GYMNASIUM, SMITH COLLEGE, NORTHAMPTON, MASS.

J. W. AMES AND E. S. DODGE, ARCHITECTS



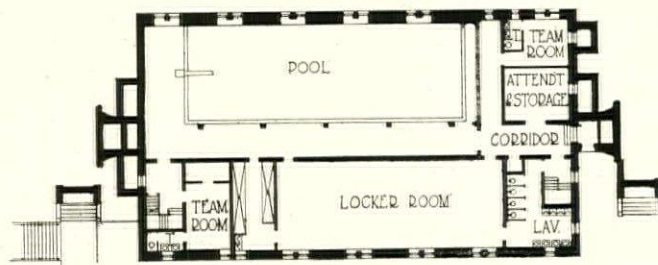
*Photo. Drix Duryea*

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ENTRANCE, GYMNASIUM  
MANHATTAN COLLEGE, RIVERDALE-ON-HUDSON, N. Y.  
JAMES W. O'CONNOR, ARCHITECT



FIRST FLOOR



BASEMENT

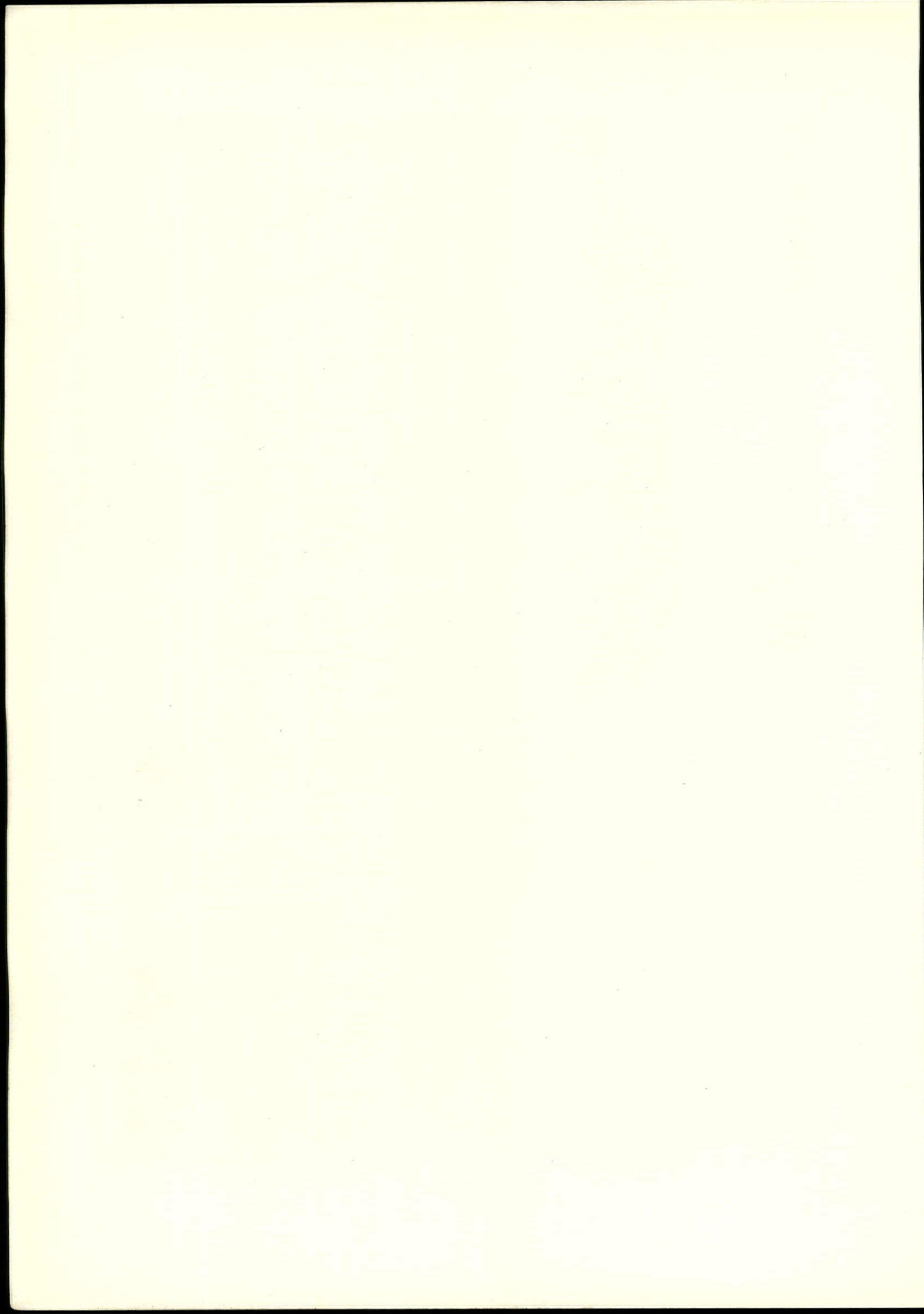
PLANS, GYMNASIUM, MANHATTAN COLLEGE, RIVERDALE-ON-HUDSON, N. Y.

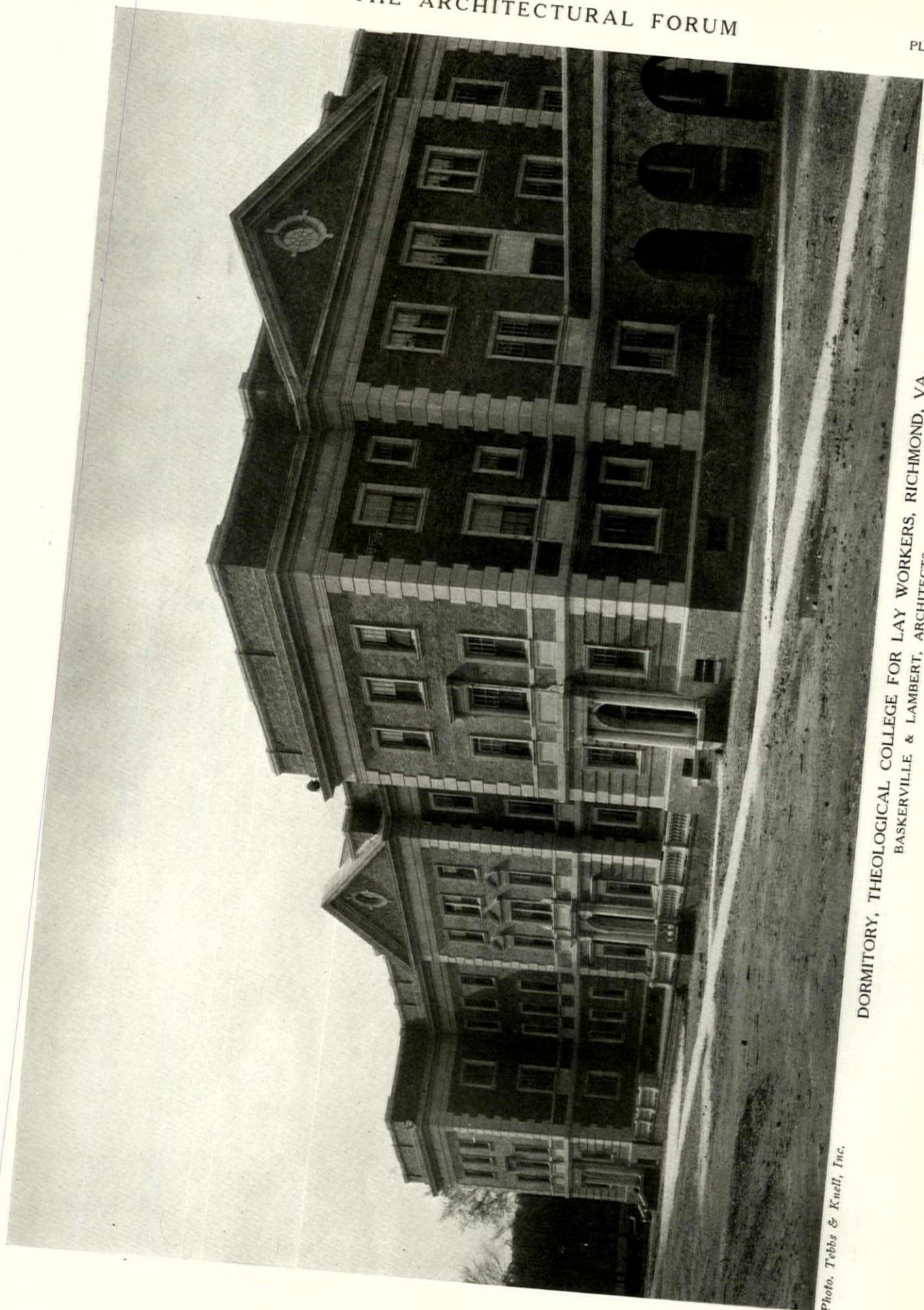
JAMES W. O'CONNOR, ARCHITECT



*Photo. Tebbs & Knell, Inc.*

DORMITORY, COLUMBIA THEOLOGICAL SEMINARY, COLUMBIA, S. C.  
WILSON, BERRYMAN & KENNEDY, ARCHITECTS

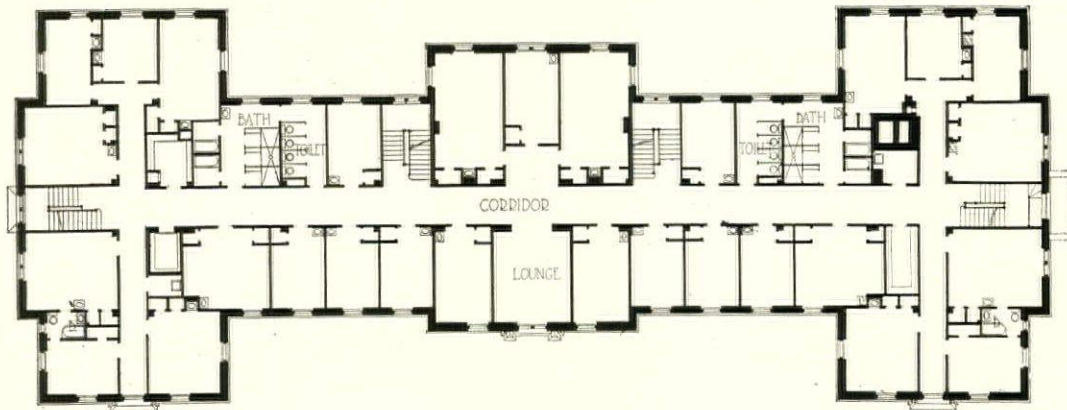




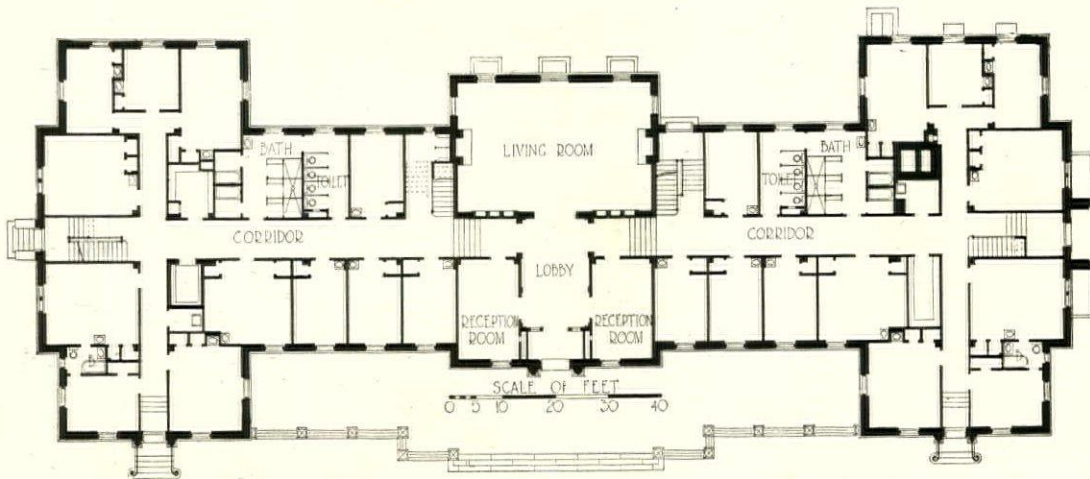
DORMITORY, THEOLOGICAL COLLEGE FOR LAY WORKERS, RICHMOND, VA.  
BASKERVILLE & LAMBERT, ARCHITECTS

*Plans on Back*

*Photo. Tebbis & Kneel, Inc.*



SECOND FLOOR



FIRST FLOOR

PLANS, DORMITORY, THEOLOGICAL COLLEGE FOR LAY WORKERS, RICHMOND, VA.

BASKERVILLE & LAMBERT, ARCHITECTS

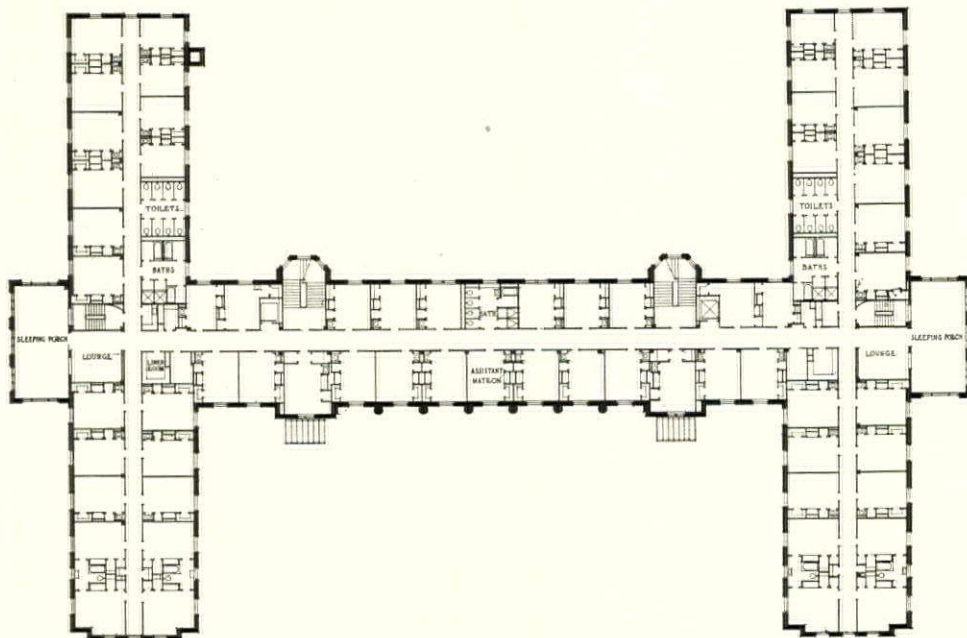




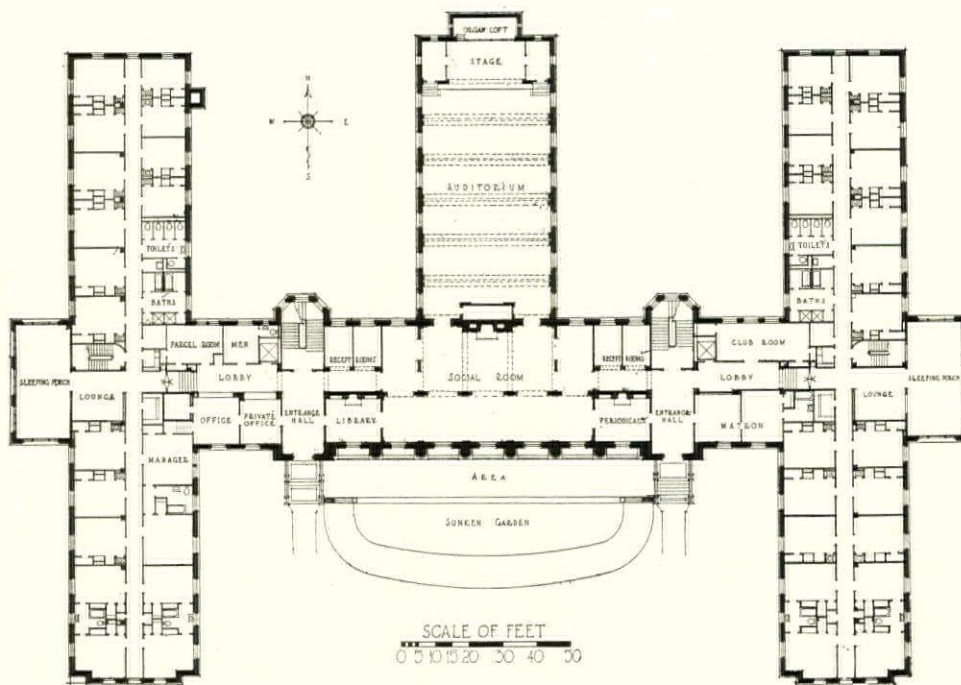
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SOUTH FRONT, SCOTTISH RITE DORMITORY FOR WOMEN  
UNIVERSITY OF TEXAS, AUSTIN, TEX.  
HERBERT M. GREENE COMPANY, ARCHITECTS

*Photo, Jordan Company*



SECOND FLOOR



ENTRANCE FLOOR

PLANS, SCOTTISH RITE DORMITORY FOR WOMEN, UNIVERSITY OF TEXAS, AUSTIN, TEX.

HERBERT M. GREENE COMPANY, ARCHITECTS

# Common Rooms and Dining Halls

By LEIGH FRENCH, JR.

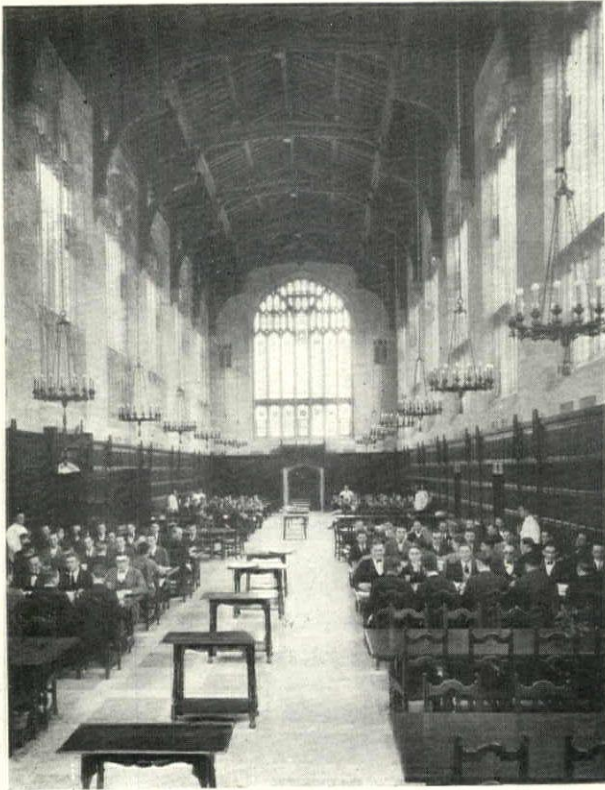
**A**N indication of the importance of attractive physical environment, which gives reason for the production of objects of decorative art, may be found in the character which is being given to many of the dining halls and common rooms of great and small educational institutions in America. Here we find given practical exemplification the theory that dignified and beautiful surroundings exert upon those who are associated with them an influence which makes for greater human happiness. It is this consideration which gives a reason for the erection of fine rooms, for the creation of fine furniture and other appointments,— the æsthetic reactions which such things draw from those who are conscious of their qualities, as well as from those who are only subconsciously affected, although influenced, by harmony of color, line, proportion and texture.

There is a far-reaching tradition behind the present treatment of the general rooms given over to students, such as refectories and common rooms. A composite of the great halls of the castles and manor houses of the earliest date and the monastic refectories of the middle ages, the dining halls of English colleges took on a special dignity of their own. From earliest times the ceremony of breaking bread, re-

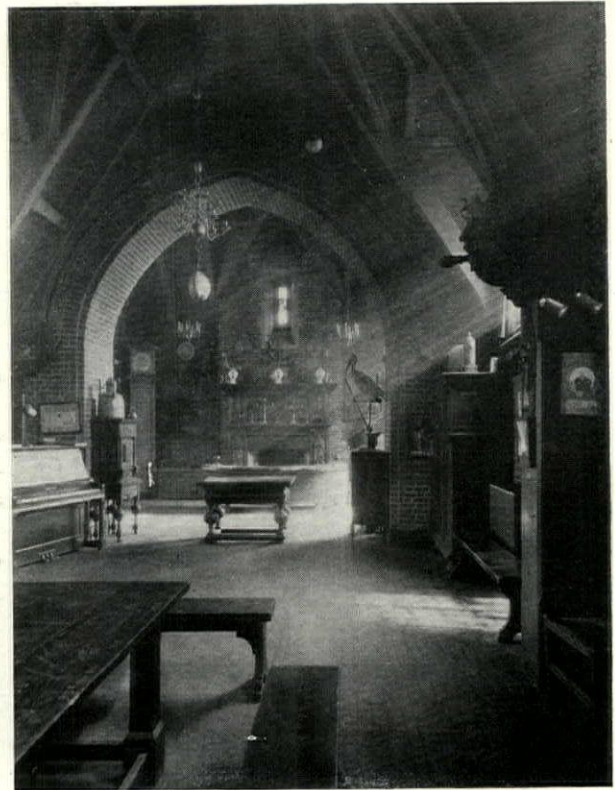
sponsive to one of the most primitive instincts of mankind, has been surrounded with a certain formality and ceremony wherever civilized peoples have developed an organized social life. In mediæval England, the meals in the great hall typified the feudal spirit of the time, the social distinctions of those at table being emphasized by their seating. On a raised dais at the end of the hall sat the lord of the manor with his family and guests of equal rank. Below them came the upper servants, who were seated in order of their relative importance in the scheme of the household organization. In collegiate dining halls much this same seating scheme was observed. On a raised dais at one end sat the masters or others who represented the authority of the college. Below them, at the long tables, sat the students. This scheme is followed in many dining halls of American universities, more particularly in graduate colleges, where faculty and students mingle more closely than in undergraduate life. In the general run of dining halls for undergraduates, the raised dais is omitted, the whole room being given over to long tables for students. In larger colleges and universities each of the different classes has its own dining hall; in smaller colleges, one large dining



Common Room, Smith Hall, Harvard Freshman Dormitories  
Shepley, Rutan & Coolidge, Architects



Dining Hall, Law School, University of Michigan,  
Ann Arbor  
York & Sawyer, Architects



Meeting Room, Lagoon Building, Harvard University,  
Cambridge, Mass.  
Edmund W. Wheelwright, Architect

hall serves all those who partake of the college fare.

In architectural style, the schemes and decoration of these rooms follow those of all periods,—mediæval, Renaissance, and eighteenth century Georgian. The form of such a room is almost invariably rectangular, of considerably greater length than width. The direct lighting comes chiefly from windows set high in the walls, the artificial lighting being from chandeliers hung from the ceiling. Paneling is frequently, although by no means invariably, used. Handsome fireplaces give the strongest accent to the design, and they should be carefully considered.

Our illustrations show a group of four rooms, the stylistic basis of which is that of the middle ages.

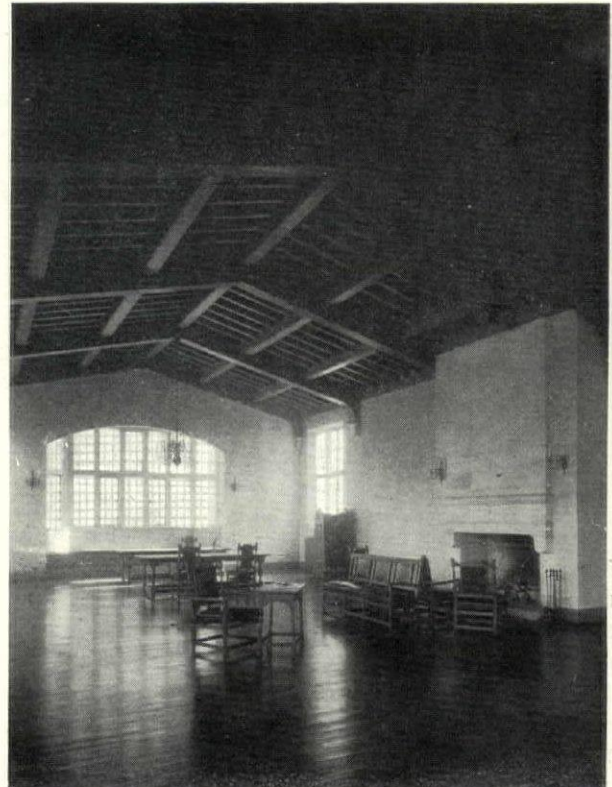
The great Dining Hall of the University of Michigan Law School is of considerable archaeological correctness. It is a room conceived on a grand scale and consistently carried out in excellent and appropriate materials. The wooden roof, perhaps a trifle too fine in scale for its height from the floor, is well designed. The great window at the end is too conventional in form and smacks perhaps rather too much of that in the Great Hall of the Princeton Graduate College. The arrangement of the tables, parallel to the short axis of the room, is somewhat unfortunate. In the Meeting Room of the Harvard Lagoon building, there is sensed a less serious mood of modern mediævalism. Here a certain exaggerated pitch to the



Dining Room, Standish Hall, Harvard Freshman Dormitories, Cambridge, Mass.  
Shepley, Rutan & Coolidge, Architects



Common Room, Wesley Foundation, University of Illinois, Urbana, Ill.  
Holabird & Roche, Architects



Common Room, Students' Memorial Building  
Vanderbilt University Nashville, Tenn.  
H. C. Hibbs, Architect

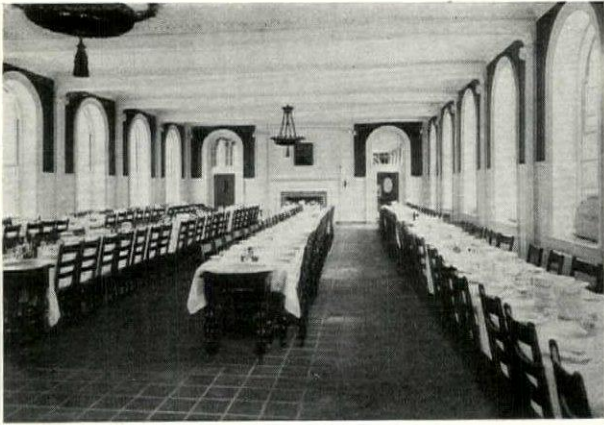
room, contrasts with the fat arch underneath, the combination producing the quaintness, just falling short of grotesquerie, which is well adapted to the uses of the building. The Common Room of the Wesley Foundation, Urbana, is more quaint than fine, suggesting rather a cottage prototype than that of a castle. It exhibits simplicity and economy to the minimum. Its effect suffers very much from inadequate furnishing. The room in the Students' Memorial Building, at Nashville, is again a much simplified rendering of a much finer original style. In these rooms, as in most "great halls" based on the mediæval, the principal decorative element is the ceiling. Use of the more expensive hammer-beam type is avoided, a

simple pitch roof, in some cases elaborated with trusses, being generally employed. It is doubtful whether this mediæval style is susceptible of being given a successful rendering in simplified form. The result is usually coarse and often banal, and carries neither the conviction of an authentic original old nor the spirit of a spontaneous new form.

In the Harvard Freshman Dormitories an appropriate and successful use has been made of precedent of Georgian character. Together with a simple dignity there is preserved a certain atmosphere of home-like comfort. The rooms are all comparatively low and are flooded with light. Decoration is sparingly used, and is placed with care and discretion. There

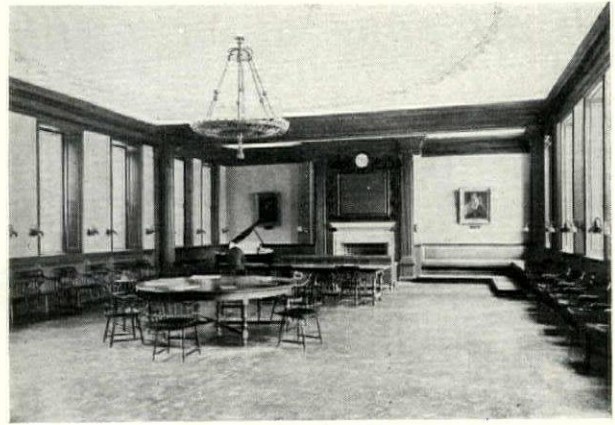


Dining Room, Gore Hall, Harvard Freshman Dormitories, Cambridge, Mass.  
Shepley, Rutan & Coolidge, Architects



Dining Room, Smith Hall, Harvard Freshman Dormitories

Shepley, Rutan & Coolidge, Architects



Common Room, Smith Hall, Harvard Freshman Dormitories

Shepley, Rutan & Coolidge, Architects

is variety in the use both of naturally finished wood trim and of painted woodwork and paneling. The fireplaces, as is proper, form the center of the decorative scheme. These lounge rooms, libraries and refectories in the Freshman Dormitories acquire a certain veracity of effect through the consistency between the exteriors of the buildings and the interiors.

The Social Room of the Scottish Rite Dormitory for Women at the University of Texas possesses little more than the correctness of hotel architecture. It recognizes no original prototype, and yet fails to create any real form of its own. The architectural

treatment, however, forms a harmless background for the furnishing, which in itself is very inadequate.

There would seem to be one general tendency in designing such interiors as these which we are considering,—this is to refer or relate the design to some earlier prototype, but, whether because of shortness of funds or lack of appreciation of the finer and essential points of the design, to stop short of a completely studied and really satisfactory result. This is unfortunate, since such great rooms as are required in collegiate or university buildings present an opportunity for achieving a distinguished effect.



Common Room, Standish Hall, Harvard Freshman Dormitories, Cambridge, Mass.

Shepley, Rutan & Coolidge, Architects

# College Y. M. C. A. and Religious Buildings

By REXFORD NEWCOMB

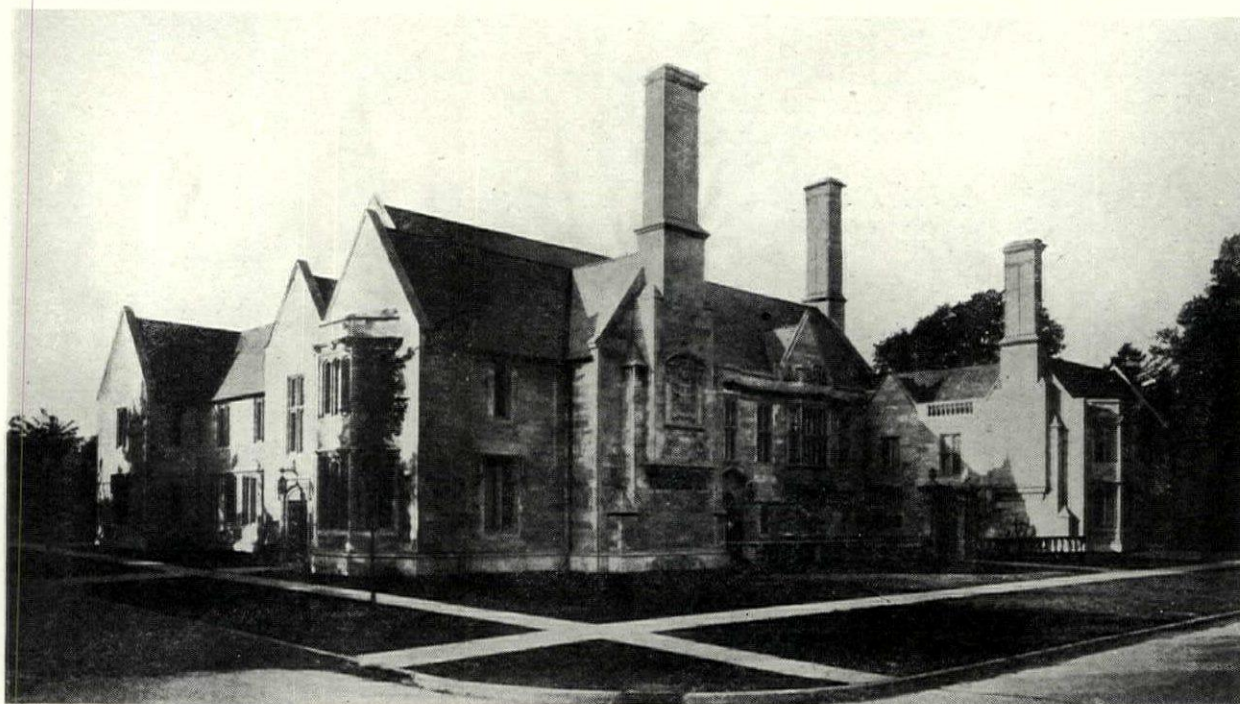
THE relationship between religion and education in the United States has been long and far-reaching. At one time in our history, educational institutions owed their origin and support almost entirely to the great religious bodies of our land, and our lads went to Presbyterian, Methodist, Congregational, Baptist or Catholic colleges, their choices depending pretty largely upon the faith of their parents. All of our older institutions of learning, with very few exceptions, grew out of educational movements in the Church, and indeed the guardianship of the Church over the College is still one of the salient factors in American education at large, just as, in fact, it always has been.

But with the growth of our commonwealths and the development of the public school system, the State as an educating agency came forward. In the beginning many of these state-supported institutions, as well as the church-owned schools, offered religious instruction under various guises and names, such as Mental and Moral Philosophy, but as time has gone on the general tendency has been to eliminate all religious teaching, and in some of our larger institutions to completely ignore giving such teaching as a university function. This was doubtless due, in part at any rate, to the same popular demand that ruled the reading of the Bible out of the public schools, on the ground that it was often read with sectarian bias and intent. Moreover, the institutions of this period were largely concerned with the development of professional instruction, especially in the sciences, engi-

neering and agriculture, and with these material occupations it was considered, strange to say, that religion had little to do. During this period there was a tendency to prescribe the *curricula*, leaving little in the way of elective subjects, with the result that the student mind became accustomed to having courses chosen for it, and since religious instruction was omitted, it made little attempt to demand such courses, or to obtain their equivalent in other ways.

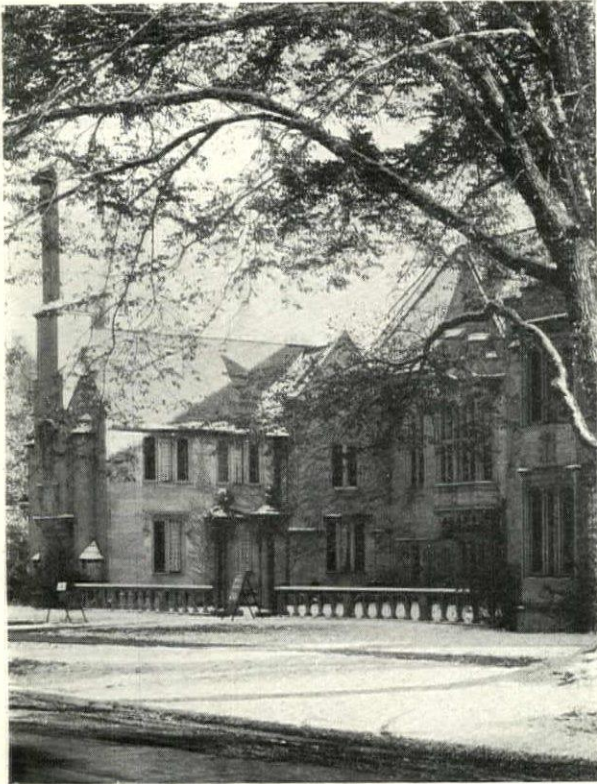
The great religious agencies in the state-owned institutions of the latter half of the nineteenth century were the Young Men's and the Young Women's Christian Associations. That these were all-inclusive or as far-reaching in their influence as they should have been, no one would attempt to prove; yet they ministered to the moral and religious aspects of life in our educational institutions at a time when the public press was claiming that our colleges and universities were becoming "godless," and that higher education in our land was a failure. The Y. M. C. A. building of this period was an ample and often costly club house, containing large dormitory and study accommodations, committee rooms, lounging rooms, baths, billiard rooms, bowling alleys, and other amusement rooms, dining halls, etc. Many of these institutions maintained the appearance of great campus club houses up until the time of the World War.

When the war came, the Y. M. C. A. secretaries went in, and in common with other agencies operated both at home and abroad those serviceable little "hospices" popularly known as the "Y huts." The



Social Center, Wesley Foundation, University of Illinois, Urbana, Ill.

Holabird & Roche, Architects

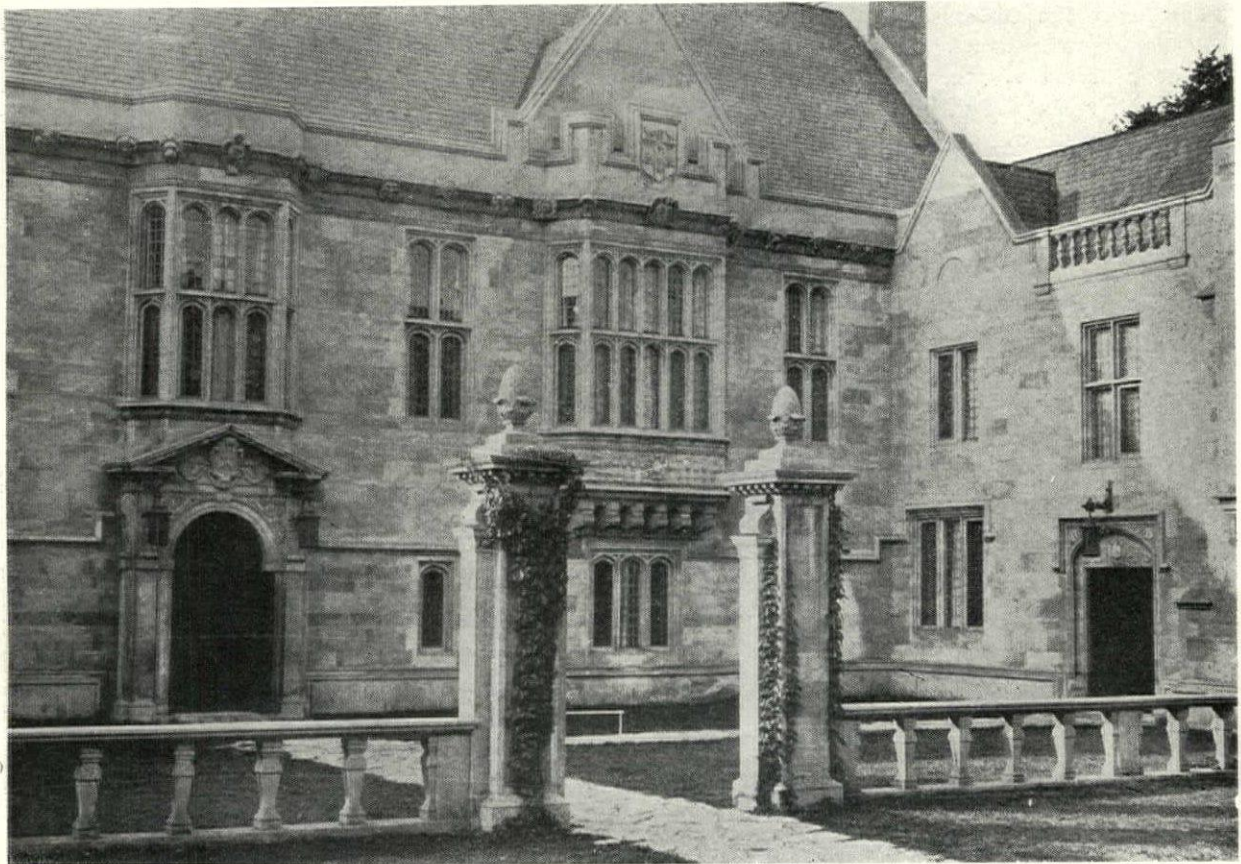


Entrance Court, Social Center, Wesley Foundation,  
University of Illinois, Urbana, Ill.  
Holabird & Roche, Architects

experience of the directors and secretaries of the Association during this period of changing values convinced the alert that the college Y. M. C. A., club-hotel of the pre-war period, was no longer an efficient or a desirable type of institution. Thus the "hut idea" came to the front to dominate Y. M. C. A. architecture. While many of the older local Associations still find themselves in possession of the old type of structures, the tendency among the college Y. M. C. A.'s is to dispose of the old properties and to erect buildings of the newer type. As compared with that of the older structures, the program for the newer is very much simplified and makes only these comparatively few and broad requirements:

- (1) A social hall for general mixing and intercourse of students, who "drop in" for a few moments between classes or at other times.
- (2) A great hall for large general social functions. This room serves much as a living room in the residence.
- (3) A group of offices for the general secretary and his assistant secretaries.
- (4) Several committee rooms, which are used for Association functions or loaned to other college agencies.
- (5) The necessary toilets, washrooms and similar utilities.

This simple program has found a very happy expression in the Young Men's Christian Association Building at the University of Minnesota, which was designed by Prof. Frederick M. Mann. This structure, in the estimation of the writer, represents the most satisfactory exemplification of this type thus



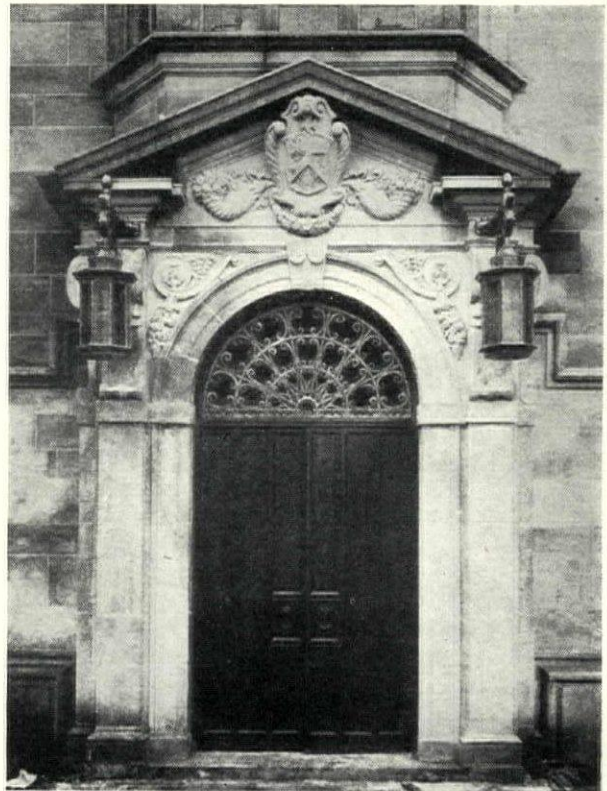
Entrance Court, Social Center, Wesley Foundation, University of Illinois, Urbana, Ill.  
Holabird & Roche, Architects



far erected upon any American university campus.

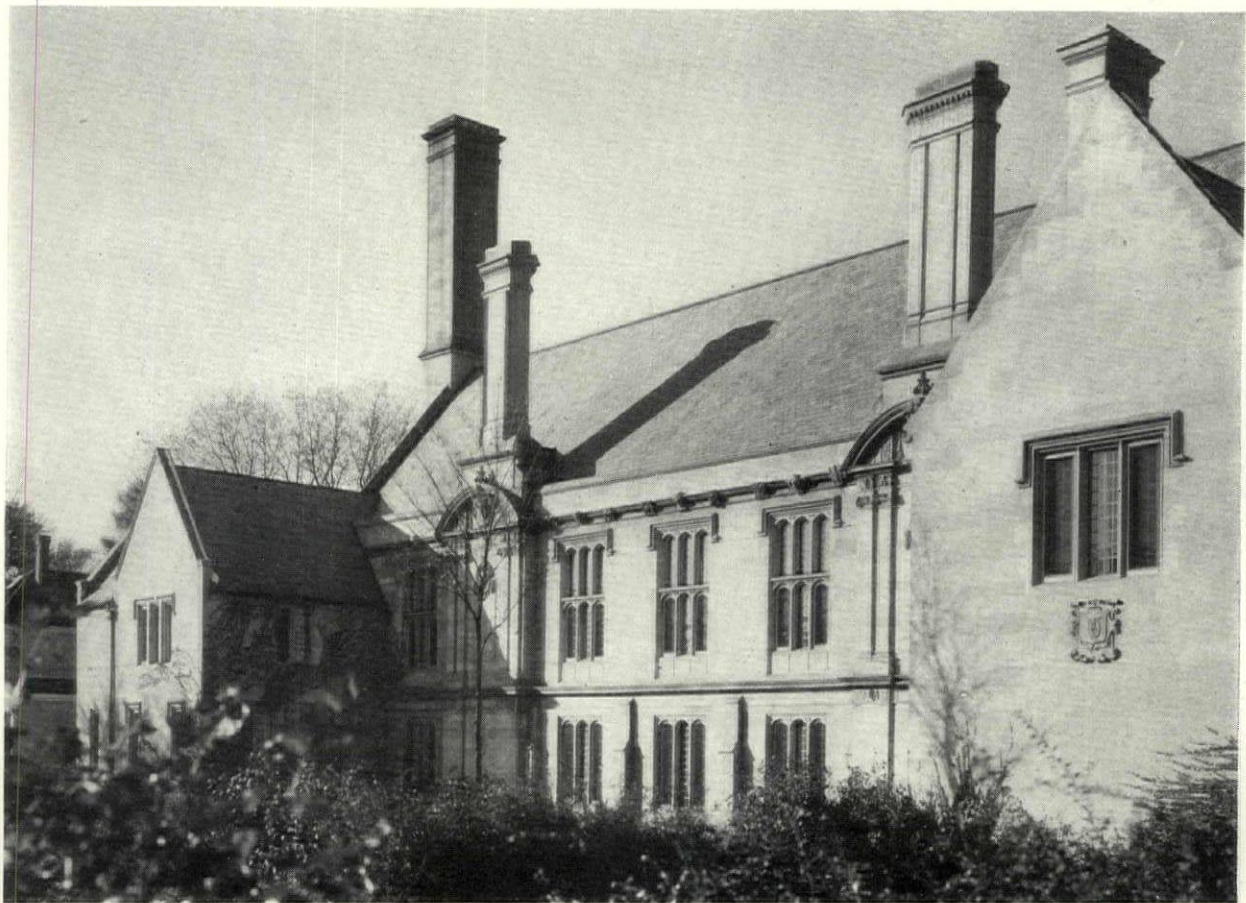
The place formerly taken by the Y. M. C. A. has, upon many a college campus, been given over to what is generally termed the "Student Union," which is really a great democratic campus club. It offers many of the services formerly supplied by the Association, a type of service, be it said, which should be delegated to the general student body rather than to a special agency such as is the Y. M. C. A. At many of our colleges large social clubs or "Union buildings" have already made their appearance, that at the University of Michigan, of which Pond & Pond are the architects, being perhaps the most elaborate thus far erected. Thus it would seem that the Y. M. C. A. is specializing its functions, and giving over such general activities as those named here to this new agency in campus life, as seems to be proper.

Another religious influence has in recent years made itself felt in the state-owned institutions. Originating first in a desire upon the part of the religious denominations to have chapels for the use of their adherents resident at the state universities, the movement has grown, with the result that in most of our state institutions there are now churches for the use of such students. Within rather recent years these churches have taken on added duties, attempting not only to supply religious influence in the life of the student but also to occupy a large place in the social life of the student body. Added to this there has



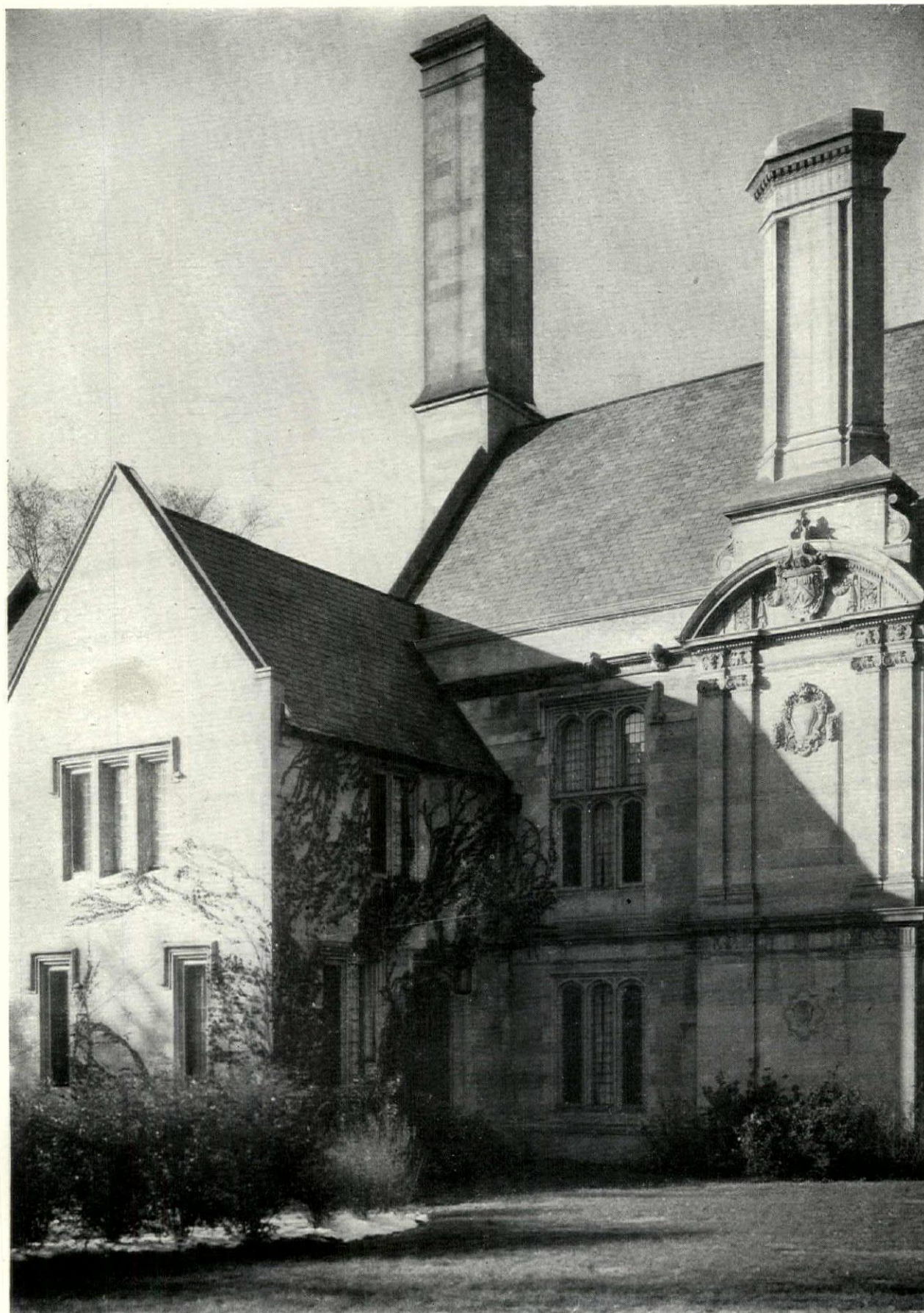
Detail, North Entrance, Social Center, Wesley Foundation, University of Illinois, Urbana, Ill.

Holabird & Roche, Architects



Garden Front, Wesley Foundation, University of Illinois, Urbana, Ill.

Holabird & Roche, Architects



*Photos. Tebbs & Knell, Inc.*

DETAIL, WESLEY FOUNDATION, UNIVERSITY OF ILLINOIS, URBANA, ILL.  
HOLABIRD & ROCHE, ARCHITECTS



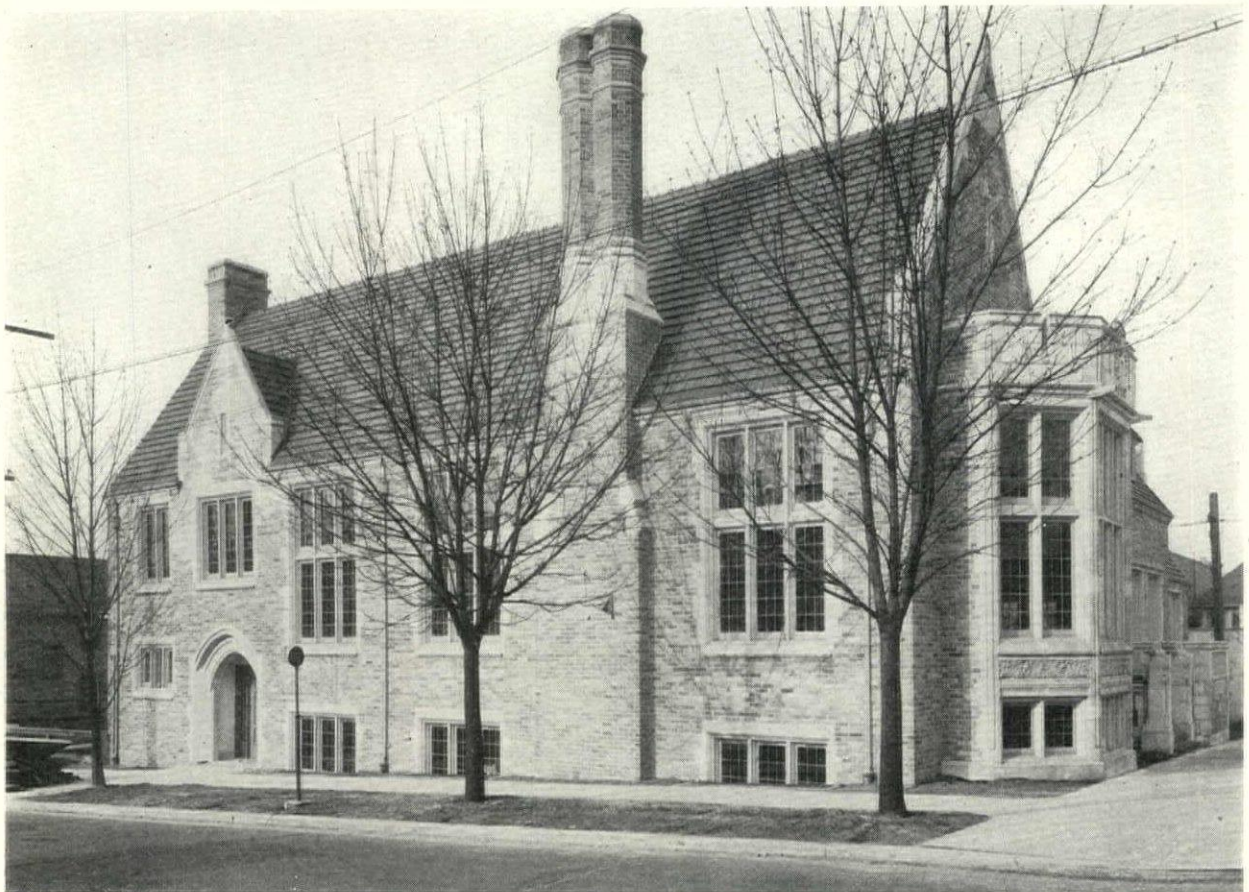
*Photos. Tebbs & Knell, Inc.*

NORTH ENTRANCE, SOCIAL CENTER, WESLEY FOUNDATION, UNIVERSITY OF ILLINOIS, URBANA, ILL.  
HOLABIRD & ROCHE, ARCHITECTS

been a demand on the part of many for something in the way of religious instruction other than that afforded by the Sunday Schools conducted by college churches. This movement for some years found expression in the little study groups conducted in various churches by the college pastors or by interested professors. The facilities for carrying on such functions, especially in the larger institutions, were meager in relation to the work at hand, and so taxed the local college churches that recently a movement was instituted to enlist the attention of the general church bodies in this work. This movement in the Methodist Church resulted in the establishment of what are known as the "Wesley Foundations," and organizations bearing this name have been incorporated in several states and have established instruction-giving institutions at several state universities. The work is supported by the church at large and by the state church organizations, the division of labor and support being by states. This development on the part of the Methodist body has been paralleled by that of other denominations, with the result that such an institution as the University of Illinois finds clustered about its campus these religious organizations: "Wesley Foundation" (Methodist); "Illinois Disciples Foundation" (Church of Christ, Disciple); "Pilgrim Foundation" (Congregational); "Hillel Foundation" (Hebrew); "McKinley Memorial Foundation" (Presbyterian); "Columbus Foundation" (Catholic).

Most of these institutions are still seeking their architectural expression, and as yet one only, the "Wesley Foundation," has begun the group of buildings that it proposes eventually to erect at the University. Having secured, adjacent to the campus in Urbana, a city square, the Foundation began its architectural realization by the erection of the "Social Centre Building." This structure, designed by Holabird & Roche, will doubtless wield a large influence.

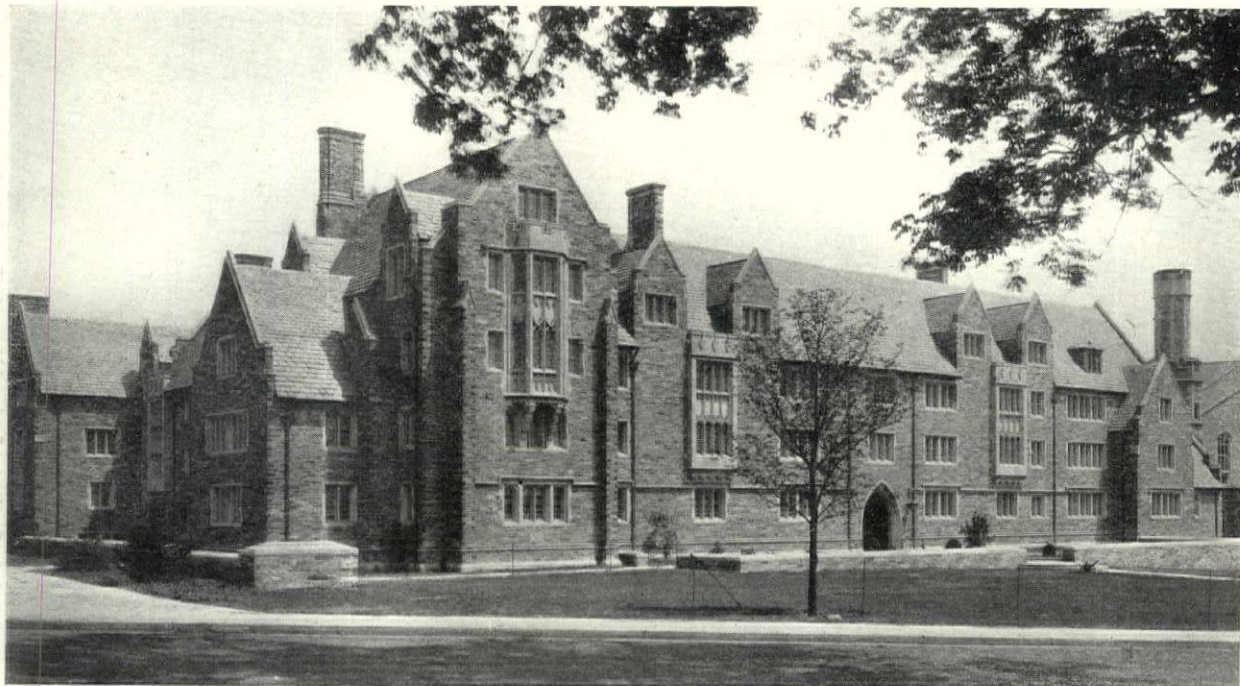
At other mid-western colleges plans are going forward for the erection of similar "Wesley" groups, and in many of our states endowments and building funds are now being raised to finance the erection and support of similar institutions by other churches. To the architectural profession the development of the expression of this new type of structure, with its interesting symbolism and practical demands, will be most interesting. These "institutional plants" will constitute the collegiate churches or chapels of the future. As will be readily seen, buildings of this type make special demands, since a structure such as has been built by the Wesley Foundation at Urbana fulfills many of the functions of a fraternity house, some functions which one thinks of as belonging to the Y. M. C. A., and other functions which are peculiarly its own. A building of this character is of course likely to be placed in an important location in a college or university town, and it is almost certain to be designed upon a scale which renders it impressive.



Y. M. C. A., University of Washington, Seattle, Wash.  
Bebb & Gould, Architects

# Dormitory Designs by Day & Klauder

By MATLACK PRICE



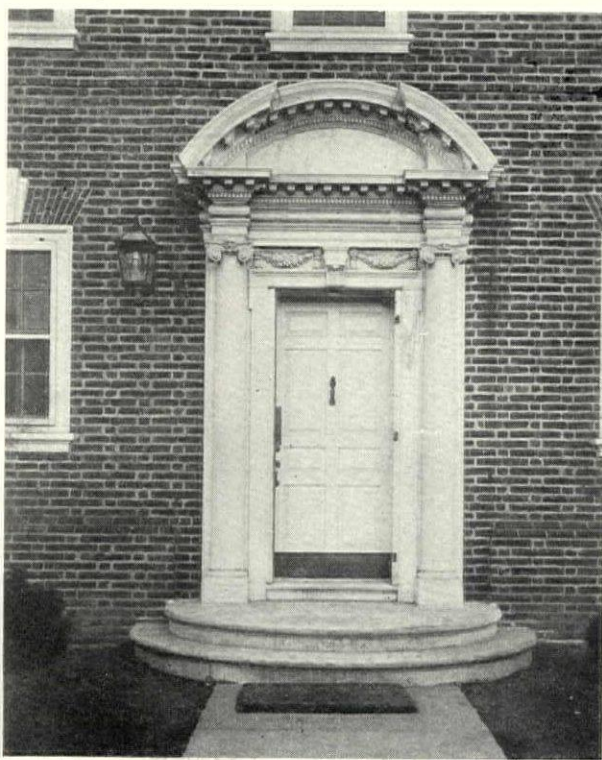
Pyne Hall, Princeton University

THE problem here, as in all modern architectural practice, is highly specialized, involving far more than meets the eye. The visitor at our universities and colleges quite naturally sees the buildings in terms of picturesque suggestion. Their measure is the degree to which they create illusions of the charm and historic association of, for instance, the old buildings of Oxford and Cambridge in England. There are traditions in scholastic architecture, and though these are essential and often exacting, their maintenance is the least difficult part of the architect's task, as certainly it is the most pleasant. To build towers and broad Gothic portals, to diversify facades with mullioned oriel windows and leaded casements, is to design with some of the most picturesque elements that characterize any style of architecture.

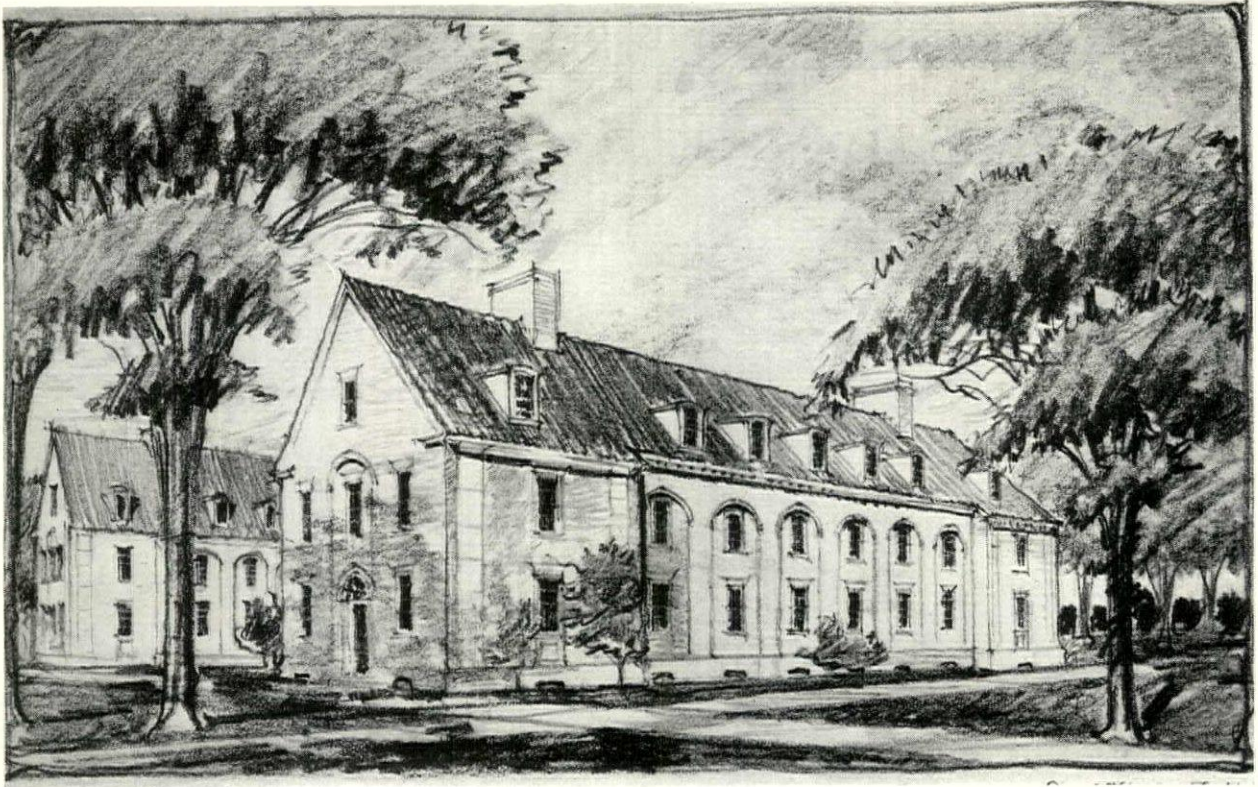
In saying that this is the least difficult part of the designing of college dormitories I do not mean that it is easy, or that it

does not call for a great deal of sympathy and a thoroughly assimilated knowledge of precedents, as well as for the highest order of architectural technique in execution. In the best renderings of the scholastic type of Gothic architecture there are the qualities that James Gamble Rogers achieved in the Harkness Memorial Quadrangle at Yale, the spirit of Goodhue's Gothic, the erudition of Cram's, and the consistently fine work of the office of Day & Klauder.

It is perfectly understandable that a college, when confronted with the question of choosing a style, leans toward use of the old scholastic Gothic of Oxford and Cambridge, and seeks, as at Princeton, to build preponderantly in that style. Many of our universities and colleges, notably Yale and Harvard, have been unfortunate in securing the architectural miscellany that results from putting up buildings at different times, in the mode of the moment, especially when this prac-



Entrance Detail, Sussex Hall (Women's Dormitory)  
University of Delaware



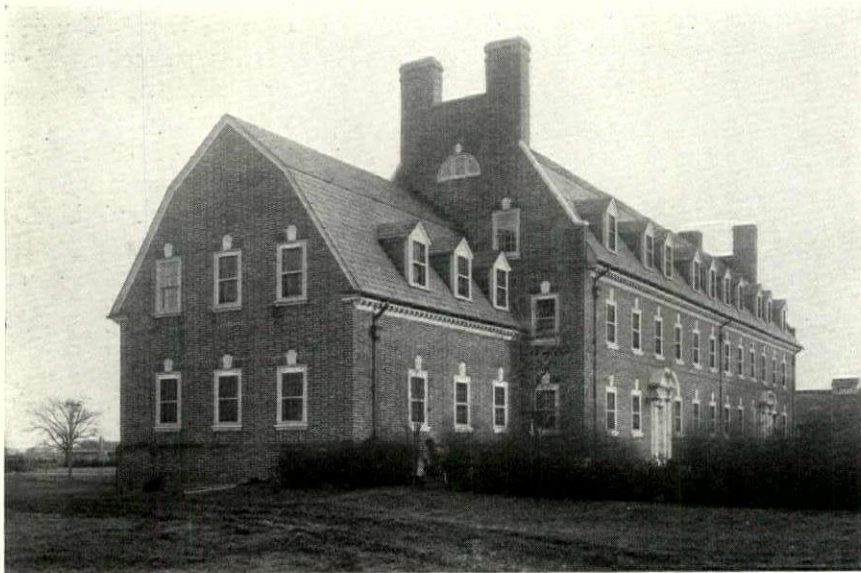
Franklin and Marshall College Dormitories  
Day & Klauder, Architects

tice saddled them with the architecturally atrocious buildings of the 'eighties. For we could have had consistently designed and beautifully designed college groups even if Oxford and Cambridge had not been in the picture at all; we could have followed as models the first old brick buildings of Harvard or, for more southern localities, the somewhat later classicism of Jefferson's University of Virginia. This is precisely what Day & Klauder have done in several instances. Their Littlefield Dormitory at Brown, in Providence, might have been taken from

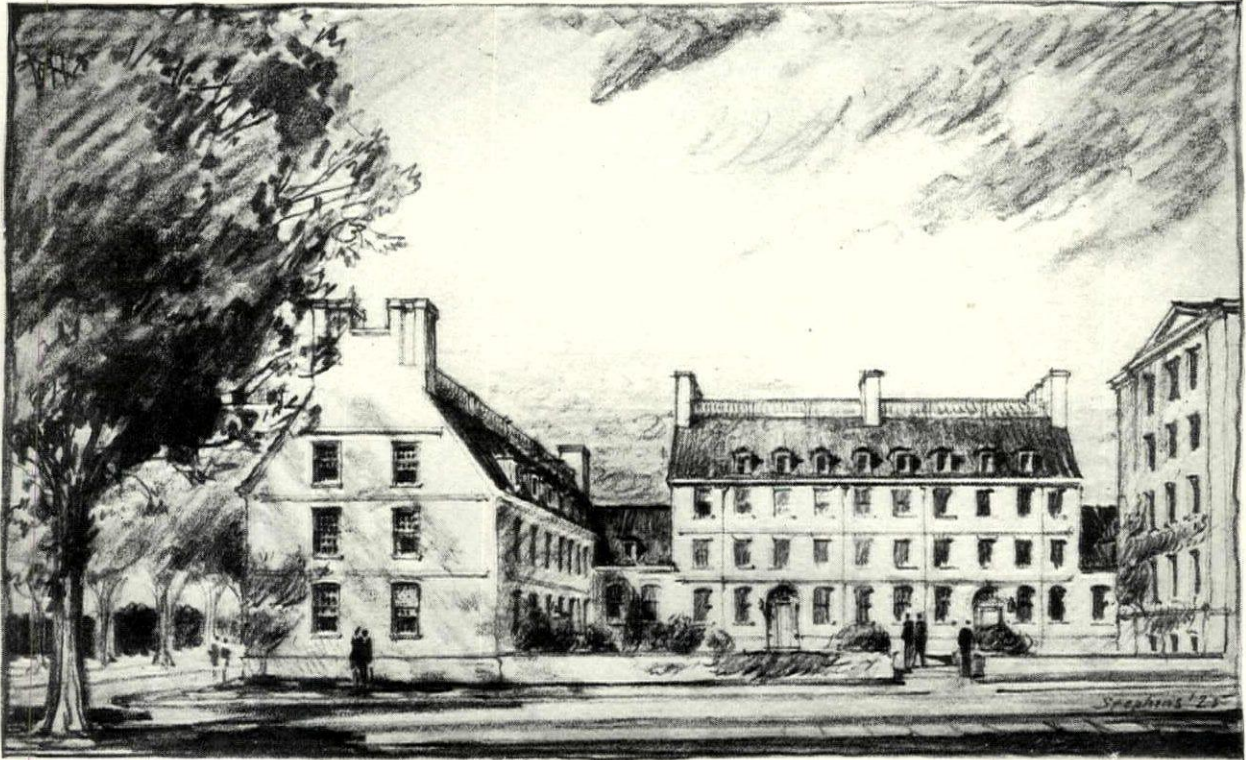
an old print; it has an absolutely authentic flavor of antiquity, and it is "New England" to the core. And the same is true of the John Rogers Hegeman dormitory group at Brown. There is more than mere architectural design in these buildings; there is an authentic quality, a sense of the spirit of the founders of the University which is unusually successful.

Going farther south for the Georgian type, it has been revived in Dietz Hall and Santee Hall at Franklin and Marshall College (Lancaster, Pa.), in Sussex Hall at the University of Delaware, and in Frederick Watts Hall at the Pennsylvania State College. Day & Klauder have made admirable use of the Delaware and Maryland type of brick architecture. It is a style that lends itself admirably to the design of college buildings, whether single or in groups, and its inherent quality of domesticity makes it particularly an excellent style for dormitories or residence buildings. Its use is almost always successful.

There are not a few critics who argue, from really unassailable premises, that these Georgian Colonial types are more to be desired than adaptations of the English scholastic Gothic type, on the ground that they represent a native



Sussex Hall (Women's Dormitory), University of Delaware  
Day & Klauder, Architects

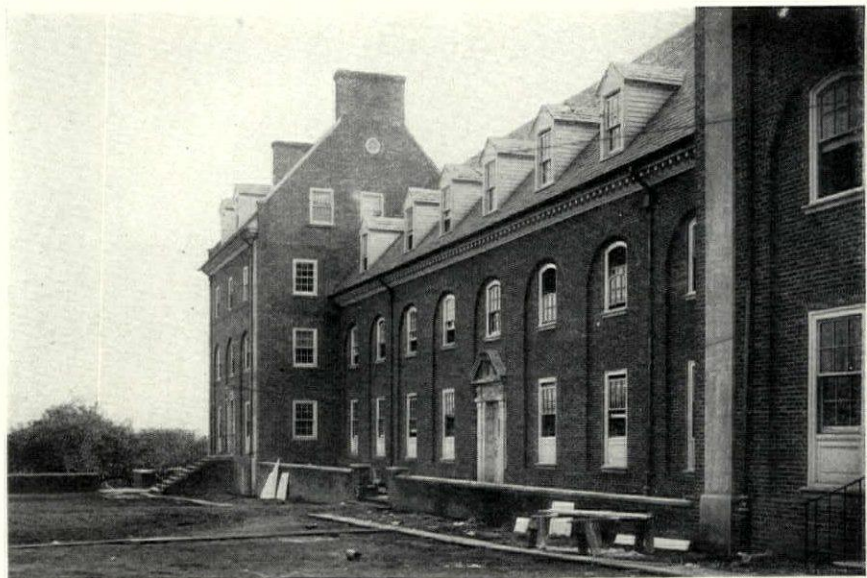


John Rogers Hegeman Dormitory, Brown University, Providence  
Day & Klauder, Architects

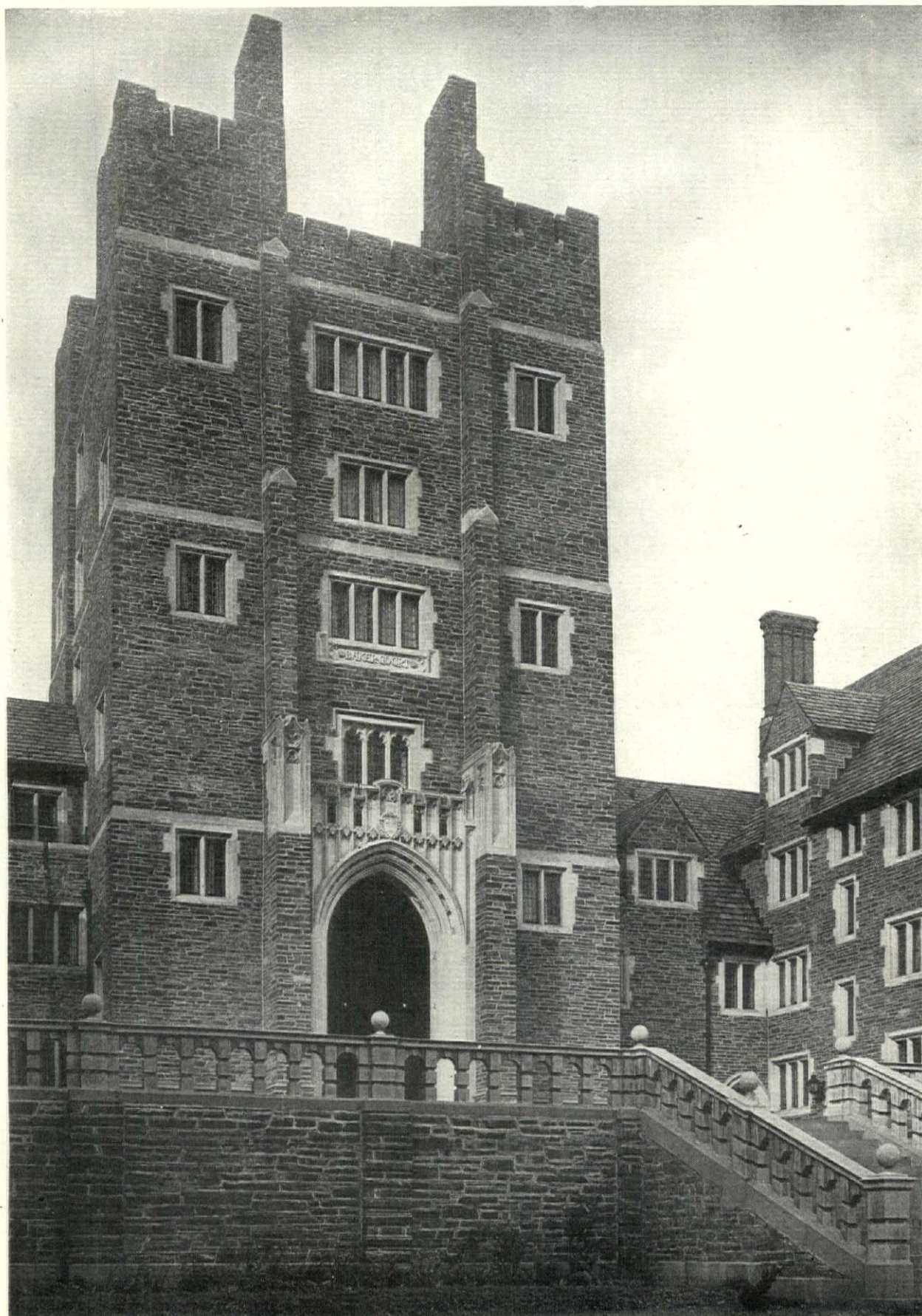
style. Personally, I can think of no refutation of this that would degenerate into a highly specious argument; and yet, at the same time, I should be very sorry to think that there were no place in this country for the scholastic Gothic. It is as admissible, certainly, through historic association, as the use of Gothic for the design of churches in this country, and if its qualities of old, quiet charm can give to our students any of the cloistered spirit of old-world scholarliness, or store up in their memories any impressions of their college days comparable with the memories that Englishmen have of Oxford and of Cambridge, all empirical arguments against them may well be dismissed at once.

In the scholastic Gothic manner of England, which was really a Tudor Gothic manner, transitional to the Renaissance, Day & Klauder have done exceedingly well. In Pyne Hall at Princeton there is pleasant diversity in a facade which is essentially simple. The gables have been managed with fine effectiveness, the stone masonry is of the best, and mullioned windows create the essential picturesque interest. Buildings of this kind are at their best

in group design, preferably about a quadrangle, or flanking two sides of a quadrangle. The long plan is always adaptable, and the more there is achieved an effect of random, rambling informality the more in character the structures are with the buildings that are their prototypes. The plan of the 1901 Hall at Princeton (p. 327) is ideal in this respect, for it has not only two cross-wings at right angles with the main building but a long splayed wing running off from one end. The architects expressed a fine quality of vigor in the Baker Tower at Cornell,—a great



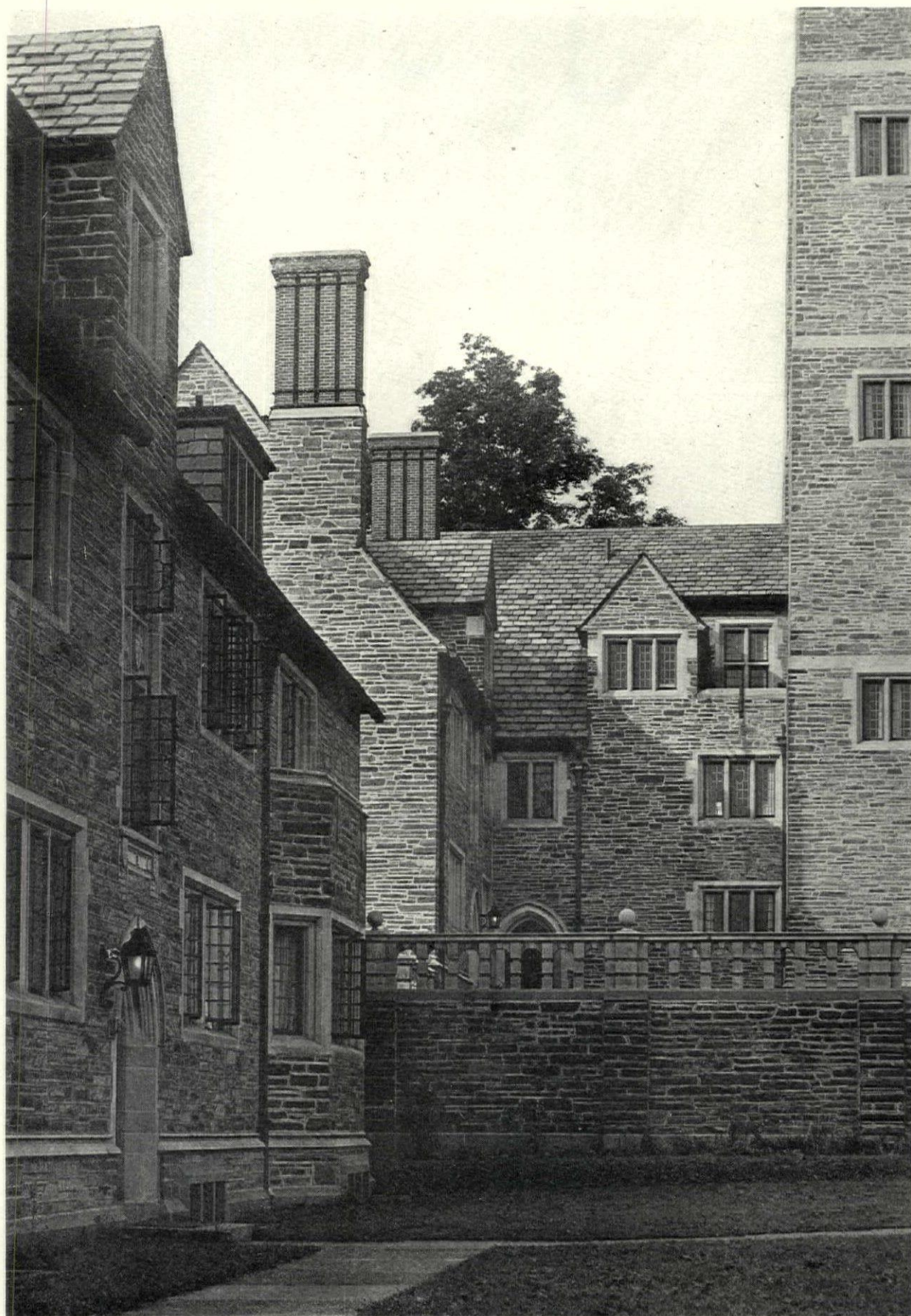
Frederick Watts Hall, Pennsylvania State College  
Day & Klauder, Architects



*Photo. Roger B. Whitman*

DETAIL, BAKER TOWER  
CORNELL UNIVERSITY, ITHACA  
DAY & KLAUDER, ARCHITECTS





*Photo. Roger B. Whitman*

COURT WITH BAKER TOWER AT RIGHT; NORTH BAKER DORMITORY AT LEFT  
CORNELL UNIVERSITY, ITHACA  
DAY & KLAUDER, ARCHITECTS

square mass with buttresses mounting its full height. The scale and character of the stone masonry can stand as exemplifying the technique that should be used with this style; it could not be better done. In conjunction with the Baker group, the Renaissance railing on the terrace, so definitely remindful of Haddon Hall, is an interesting bit of design, and not unlike, somehow, the handiwork of Lutyens, of strong, vigorous character.

The element of specialization in the design of college dormitories lies in the plan, which calls for a full measure of study and ingenuity to provide for a maximum number of students, comfortably quartered, at a reasonable cost per student. The "cost per student" basis is customary in estimating the cost of college dormitory buildings, and it will be seen at once that in any given building the cost per student will depend upon whether a dormitory is made up wholly of bedrooms, or whether a certain proportion of the rooms are in suites for two students with a study, or for one student with a study. Space occupied by large hallways, "commons" or committee rooms naturally tends to increase the cost per student, and in comparing figures on some of the dormitories illustrated here it seems that approximately

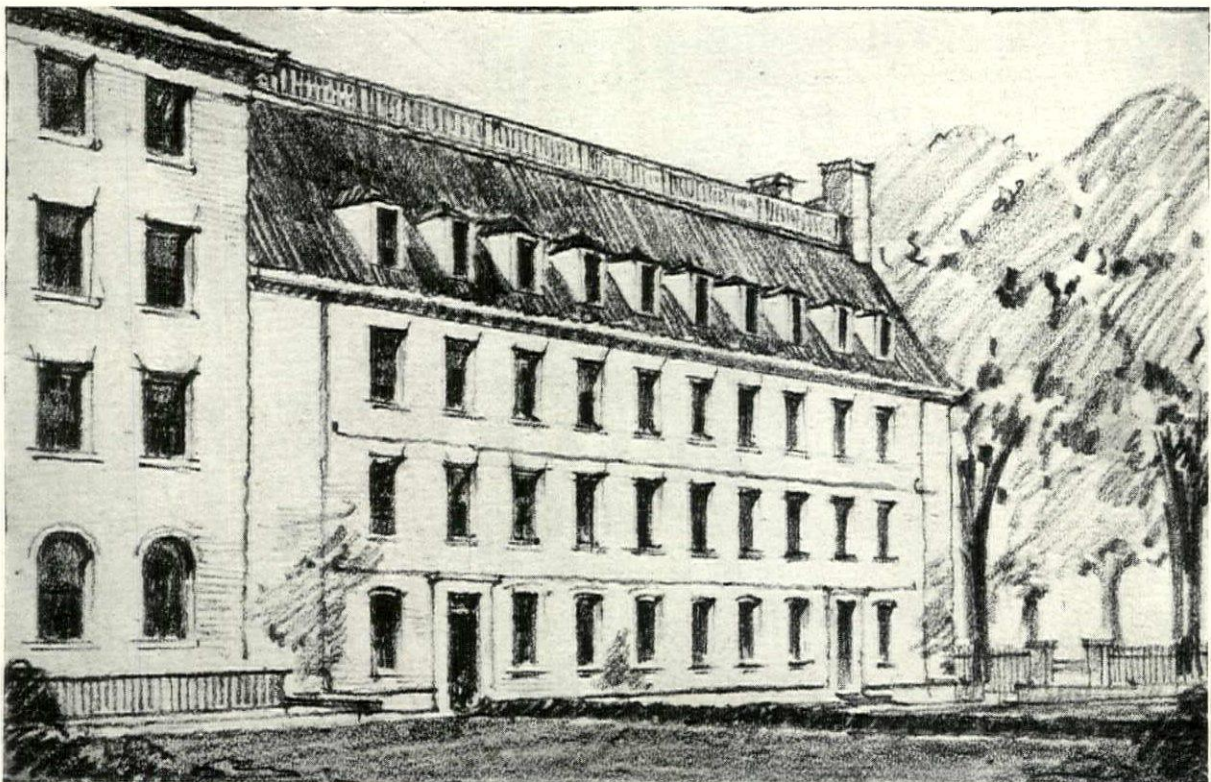


Harter Hall, University of Delaware  
Day & Klauder, Architects

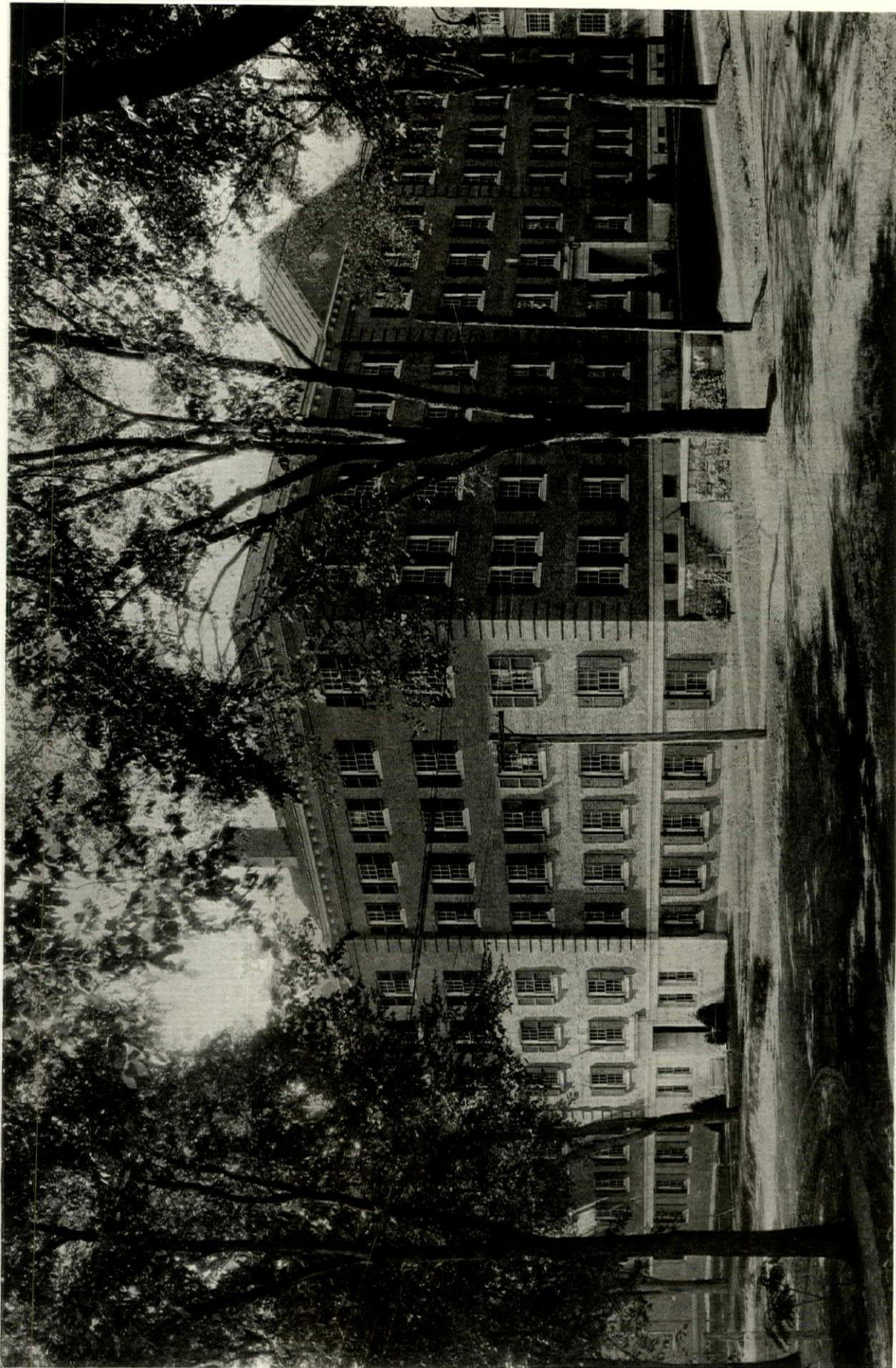
\$1,500 per student is the lowest, approximately \$3,500 is the highest, and that figures between \$2,000 and \$2,500 are the average allowance. This "cost per student" is figured on a basis of the total cost of the building, and should prove a valuable check figure for all architects who are planning college or university dormitories.

There is no standardization in the proportion of single rooms to rooms with studies, as this varies with the requirements of each case. Other variables make it still more difficult to develop anything like a formula. But Day & Klauder have developed something far better than a formula; they have developed a variety of eminently fine college buildings for America, and have proved that the stylistically suitable college dormitory is as thoroughly suited to its location as its planning and equipment are practical.

For buildings of the college dormitory type there are not infrequently fixed cost limitations within which the architect must work, and certain factors, obviously, will reduce the cost per student,—factors of material and type of construction and factors of plan. Generally speaking, the solution is best found in the plan of maximum economy in which a greater number of students provided for will reduce the cost.

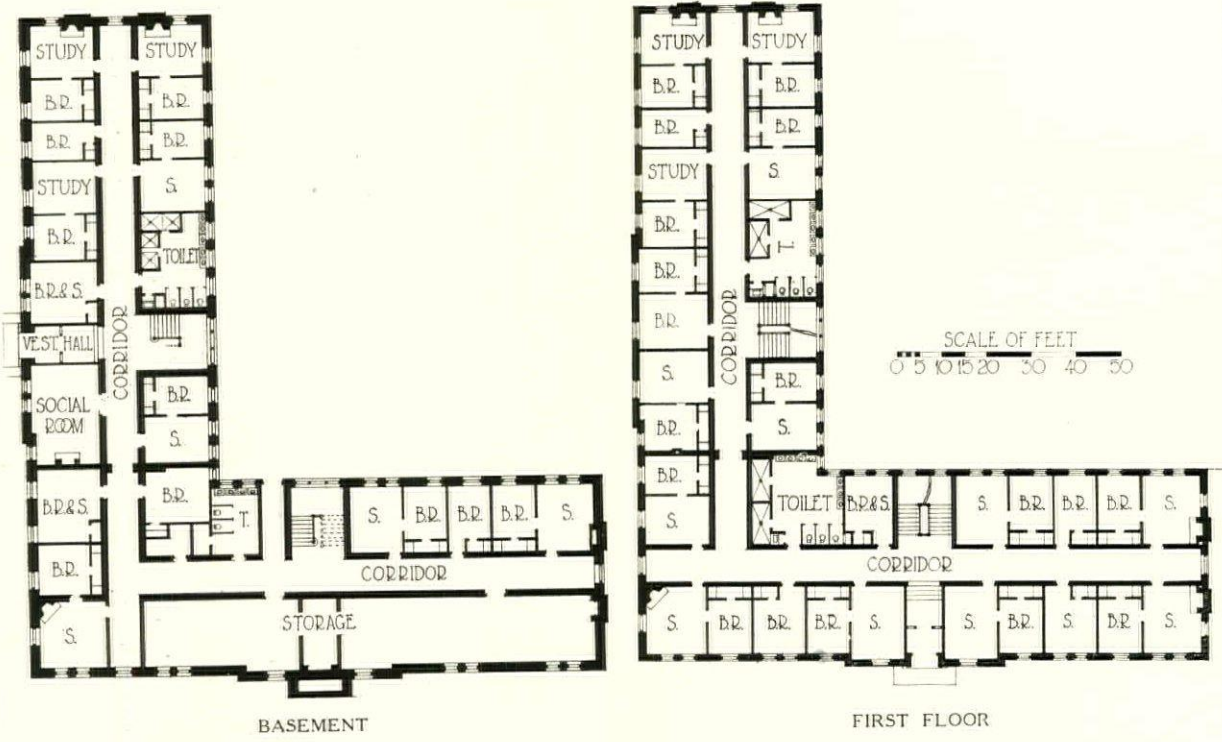


From a Pencil Rendering of Littlefield Dormitory, Brown University, Providence  
Day & Klauder, Architects



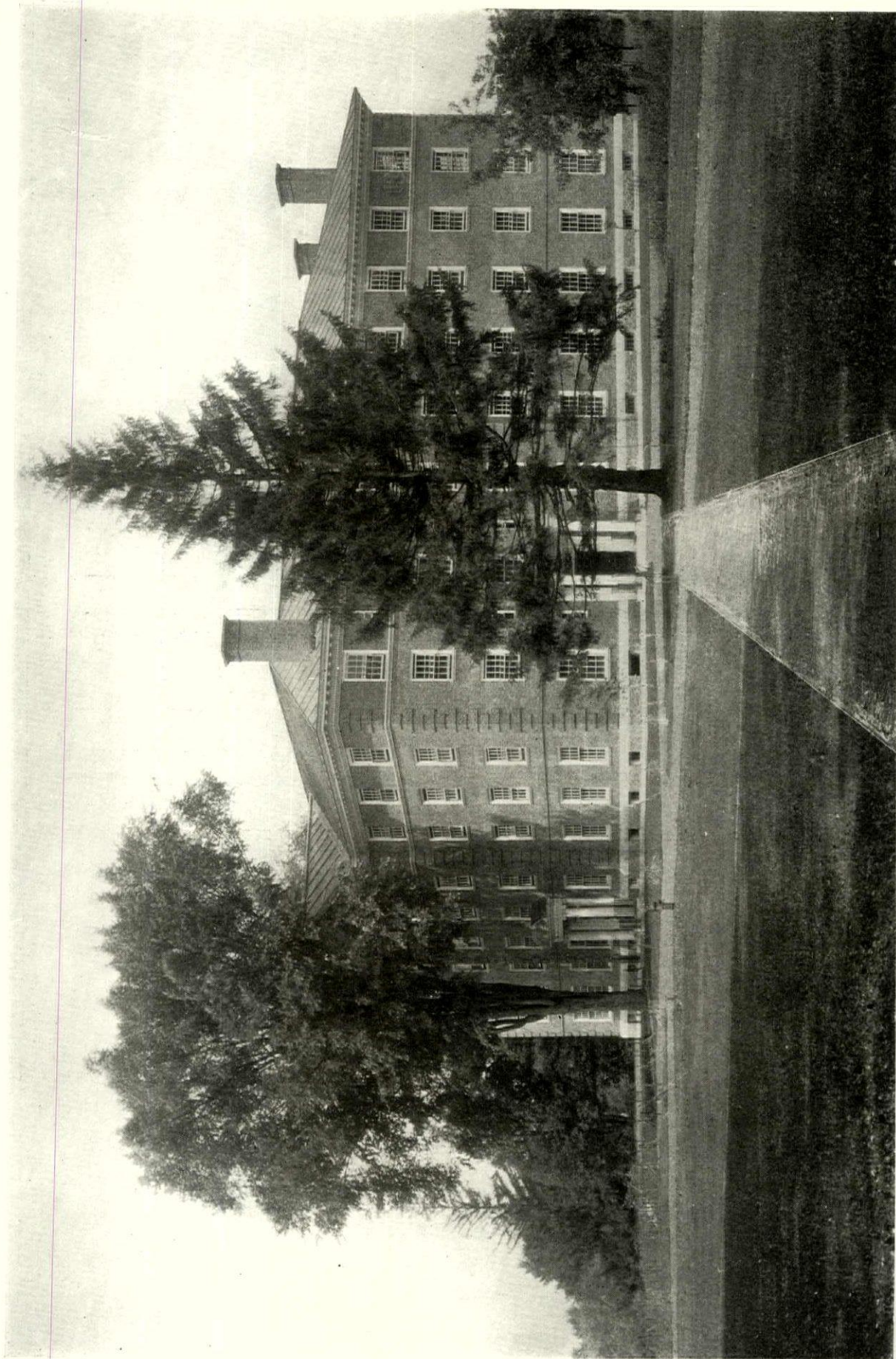
*Plans on Back*

TOPLIFF HALL  
DARTMOUTH COLLEGE, HANOVER, N. H.  
LARSON & WELLS, ARCHITECTS



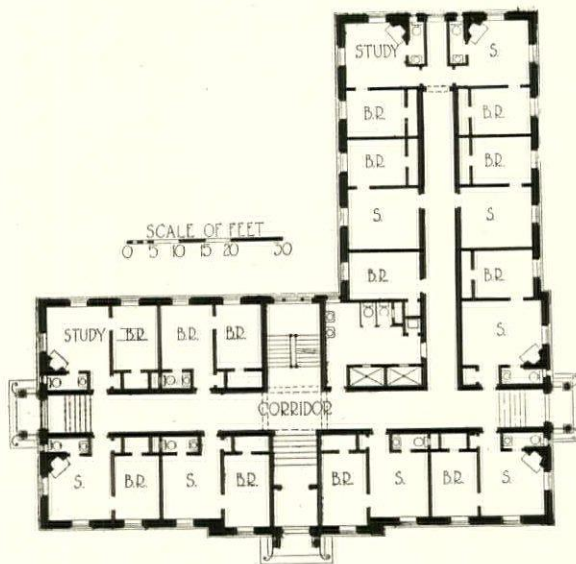
PLANS, TOPLIFF HALL, DARTMOUTH COLLEGE, HANOVER, N. H.

LARSON & WELLS, ARCHITECTS

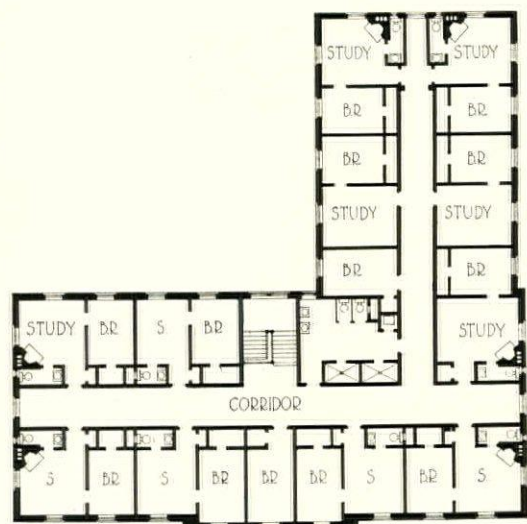


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RUSSELL SAGE HALL  
DARTMOUTH COLLEGE, HANOVER, N. H.  
LARSON & WELLS, AND OFFICE OF JOHN RUSSELL POPE, ARCHITECTS



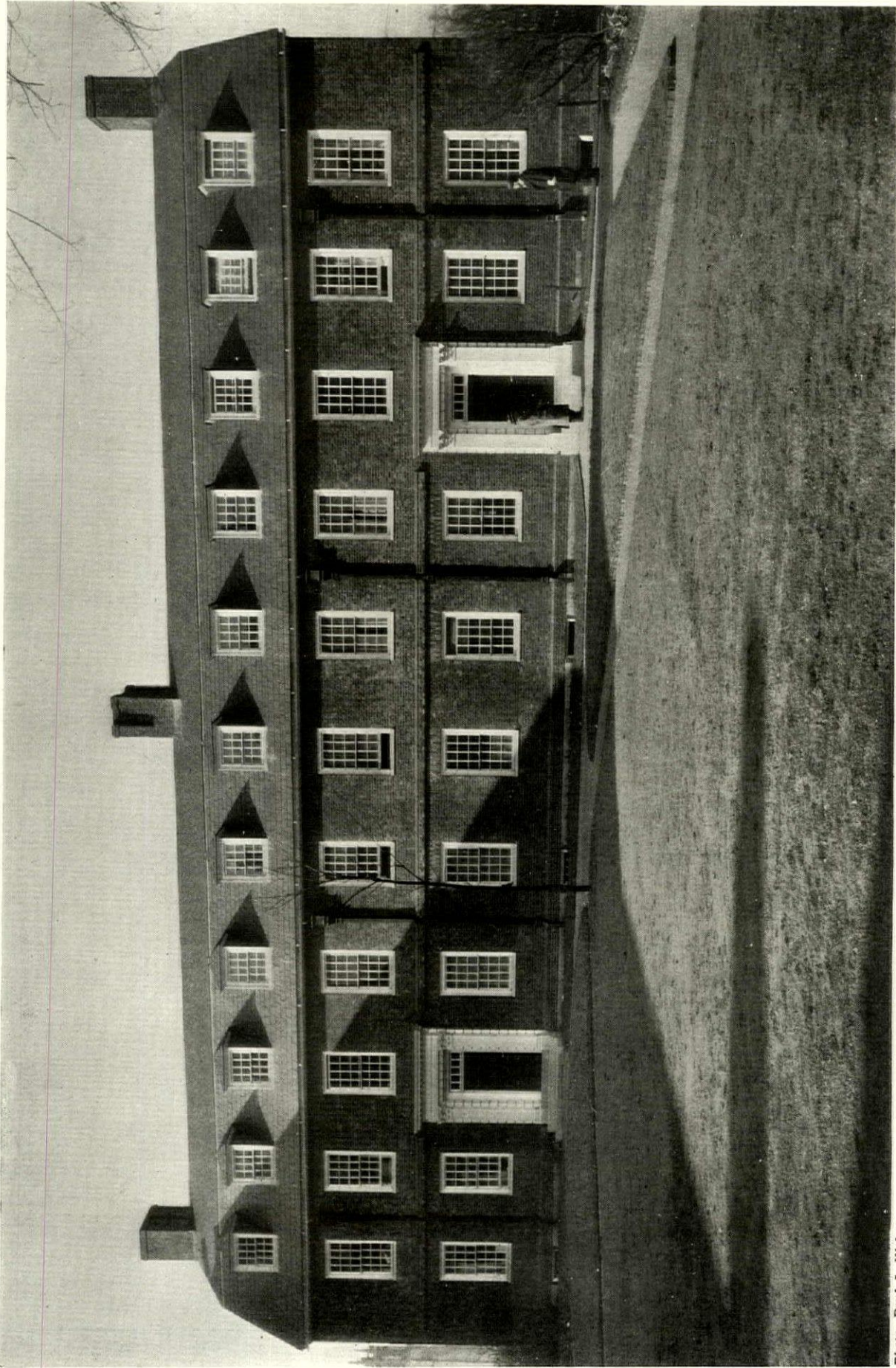
FIRST FLOOR



SECOND FLOOR

PLANS, RUSSELL SAGE HALL, DARTMOUTH COLLEGE, HANOVER, N. H.

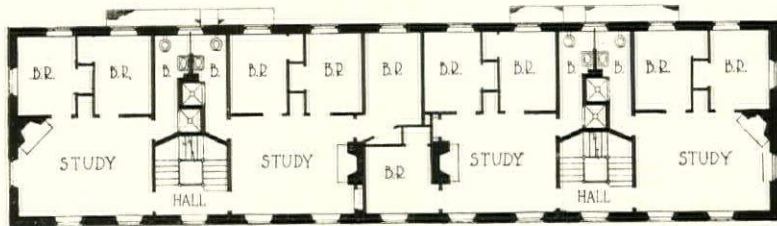
LARSON & WELLS AND OFFICE OF JOHN RUSSELL POPE, ARCHITECTS



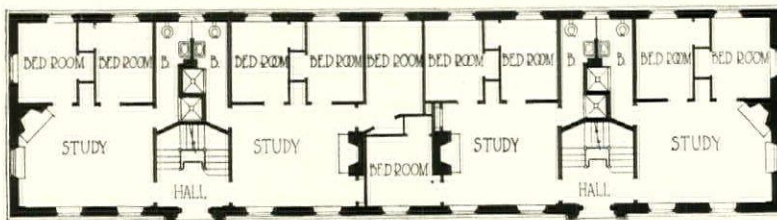
*Photo, Paul J. Weber*

*Plans on Back*

LIONEL HALL  
HARVARD UNIVERSITY, CAMBRIDGE, MASS.  
COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS



SECOND FLOOR



SCALE OF FEET  
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FIRST FLOOR

PLANS, LIONEL HALL, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS

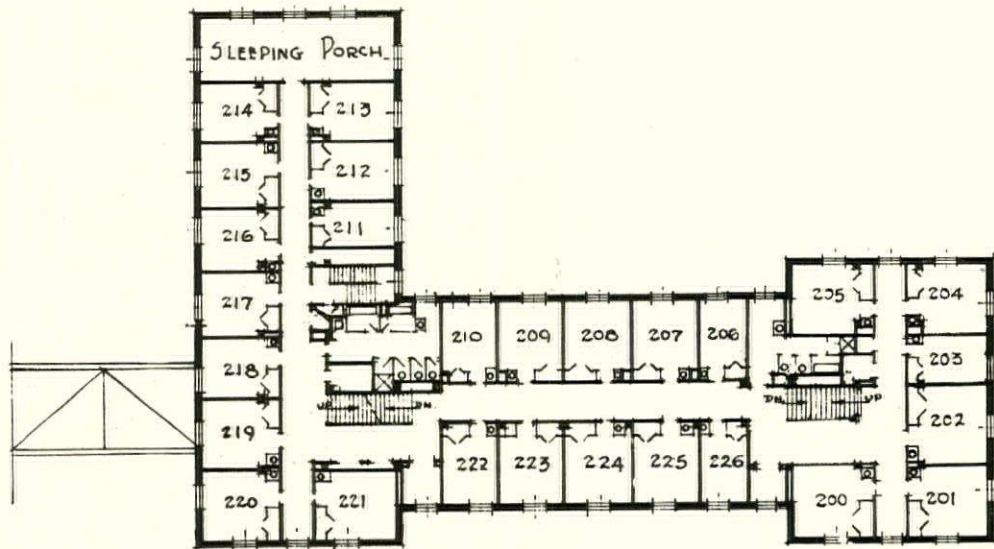




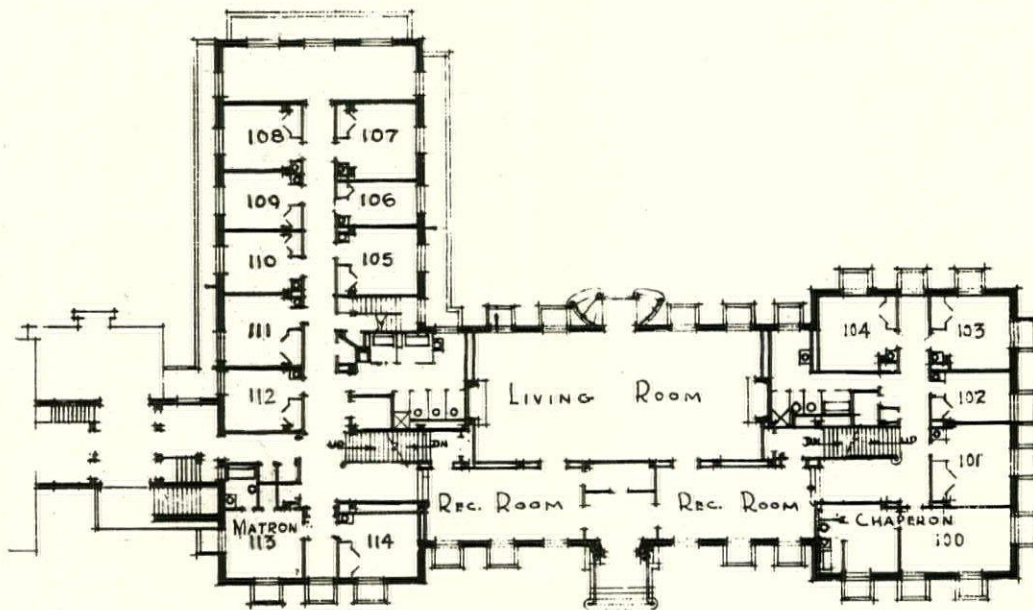
*Photo. Tebbs & Knell, Inc.*

*Plans on Back*

WEST RESIDENCE HALL  
UNIVERSITY OF ILLINOIS, URBANA, ILL.  
JAMES M. WHITE AND CHARLES A. PLATT, ASSOCIATED ARCHITECTS



SECOND FLOOR



FIRST FLOOR

PLANS, WEST RESIDENCE HALL, UNIVERSITY OF ILLINOIS, URBANA, ILL.

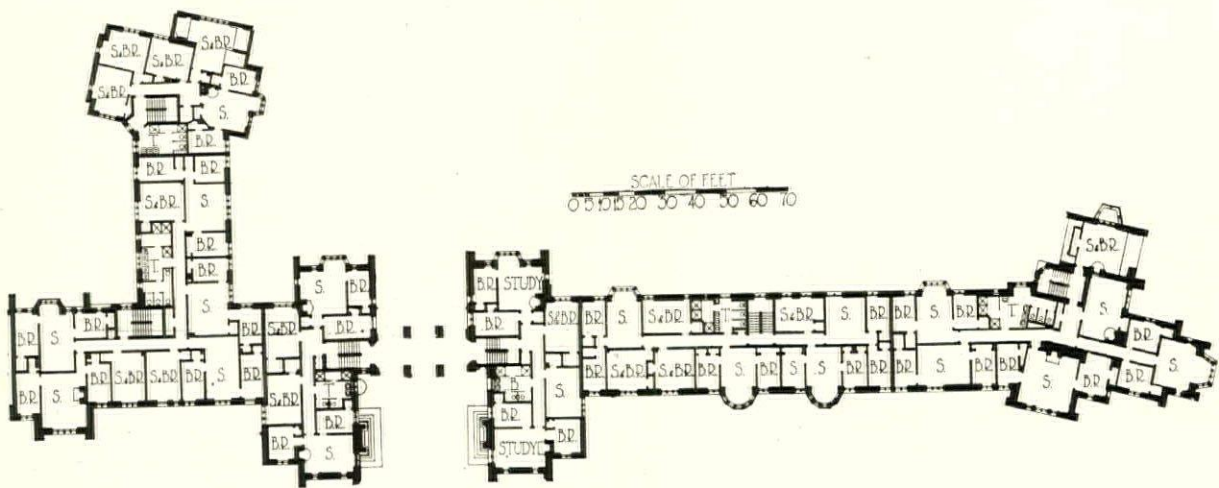
JAMES M. WHITE AND CHARLES A. PLATT, ASSOCIATE ARCHITECTS



*Photo. John Wallace Gillies*

*Plans on Back*

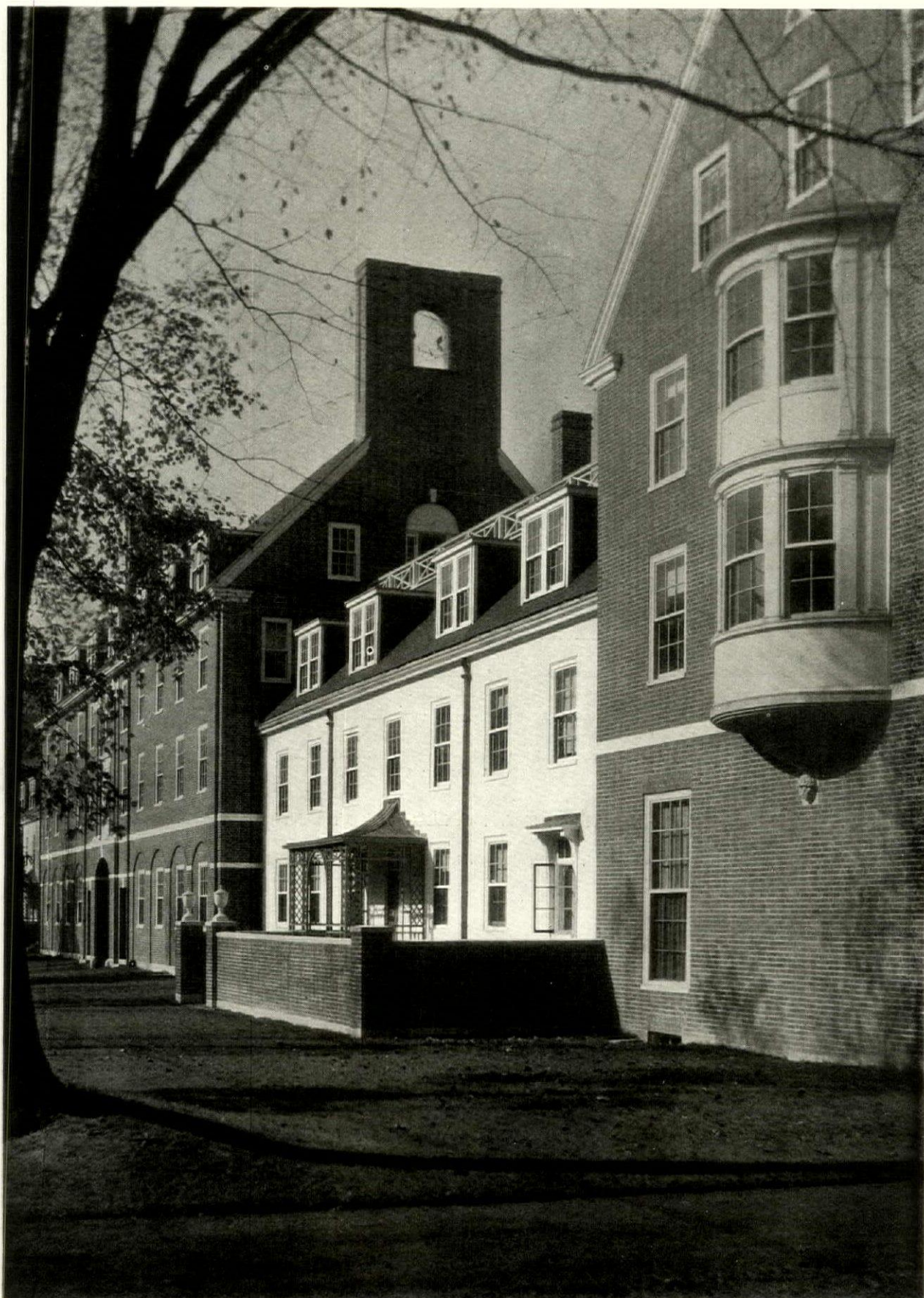
GROUP OF DORMITORIES  
PRINCETON UNIVERSITY, PRINCETON, N. J.  
ZANTZINGER, BORIE & MEDARY, ARCHITECTS



FIRST FLOOR

PLANS, FOULKE AND HENRY DORMITORIES, PRINCETON UNIVERSITY, PRINCETON, N. J.

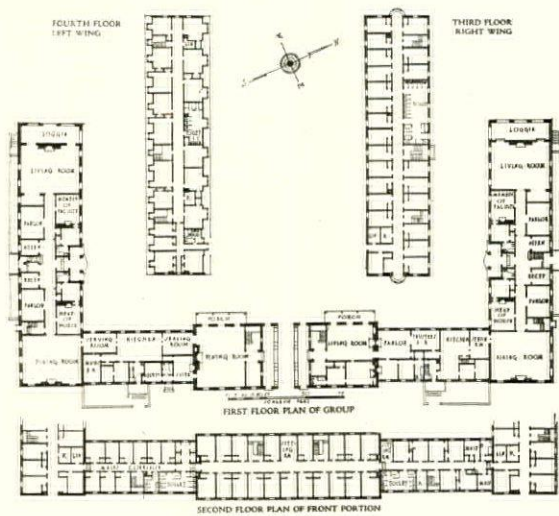
ZANTZINGER, BORIE & MEDARY, ARCHITECTS



*Photo. Paul J. Weber*

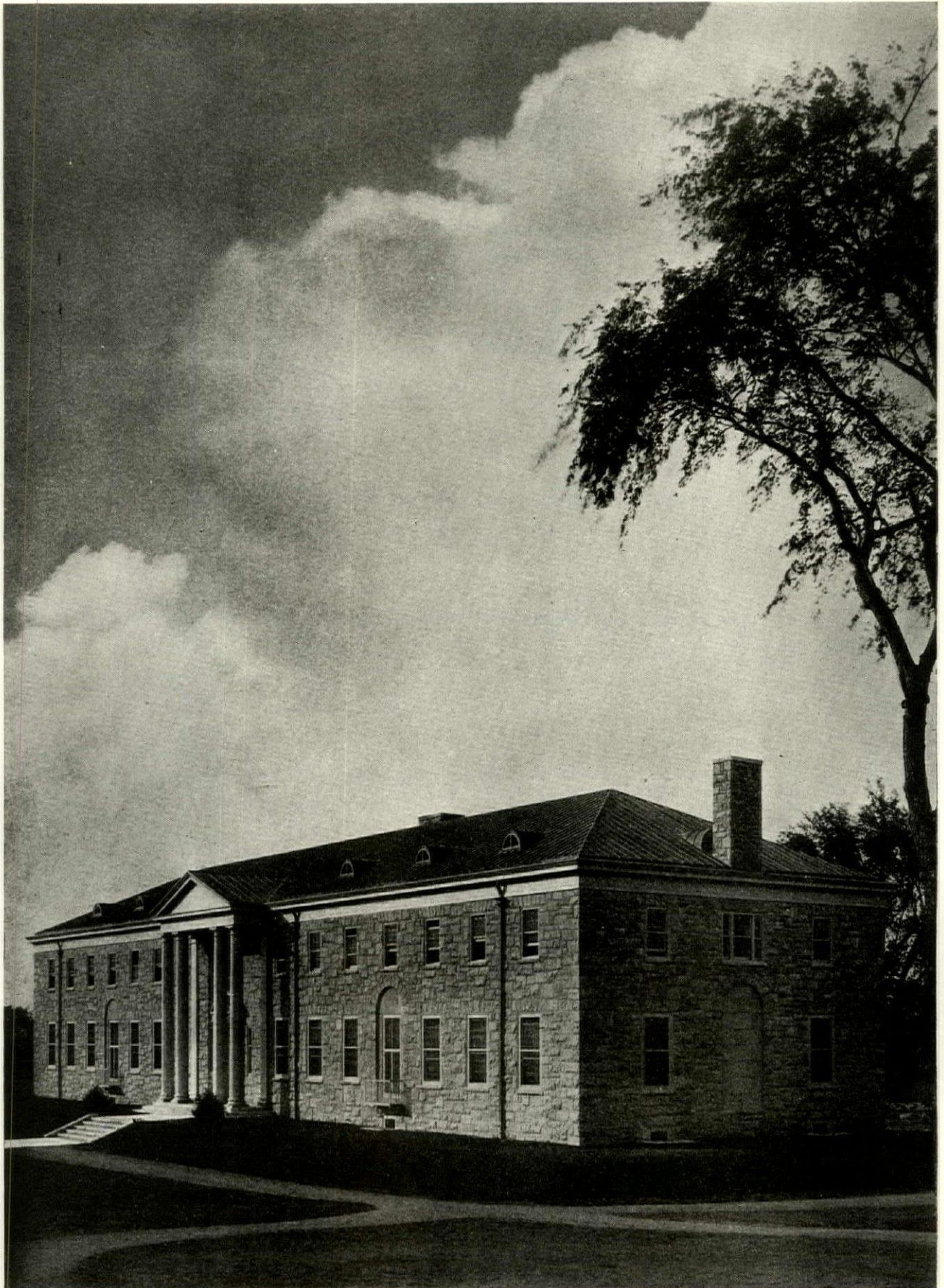
*Plans on Back*

DORMITORIES, SMITH COLLEGE, NORTHAMPTON, MASS.  
J. W. AMES, K. S. PUTNAM AND E. S. DODGE, ARCHITECTS



PLANS, DORMITORIES, SMITH COLLEGE, NORTHAMPTON, MASS.

J. W. AMES, K. S. PUTNAM & E. S. DODGE, ARCHITECTS

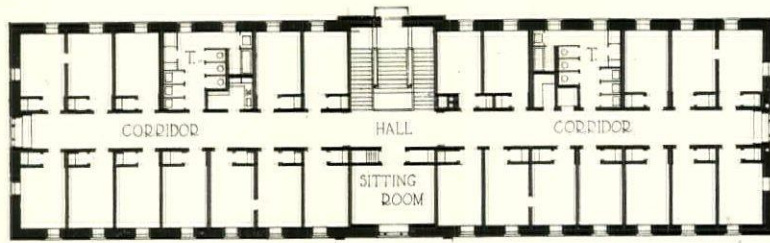


*Photo. Sigurd Fischer*

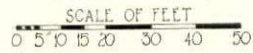
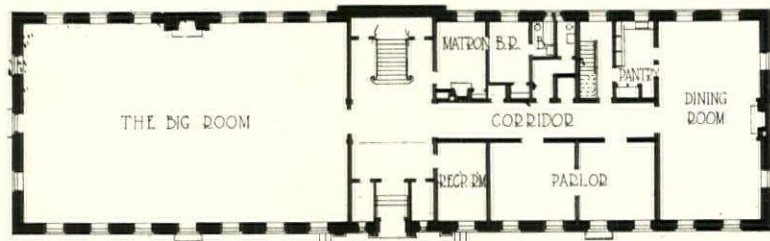
*Plans on Back*

COLONIAL HOUSE, CONNECTICUT COLLEGE FOR WOMEN, NEW LONDON, CONN.

HERBERT R. LOUD, ARCHITECT



SECOND FLOOR

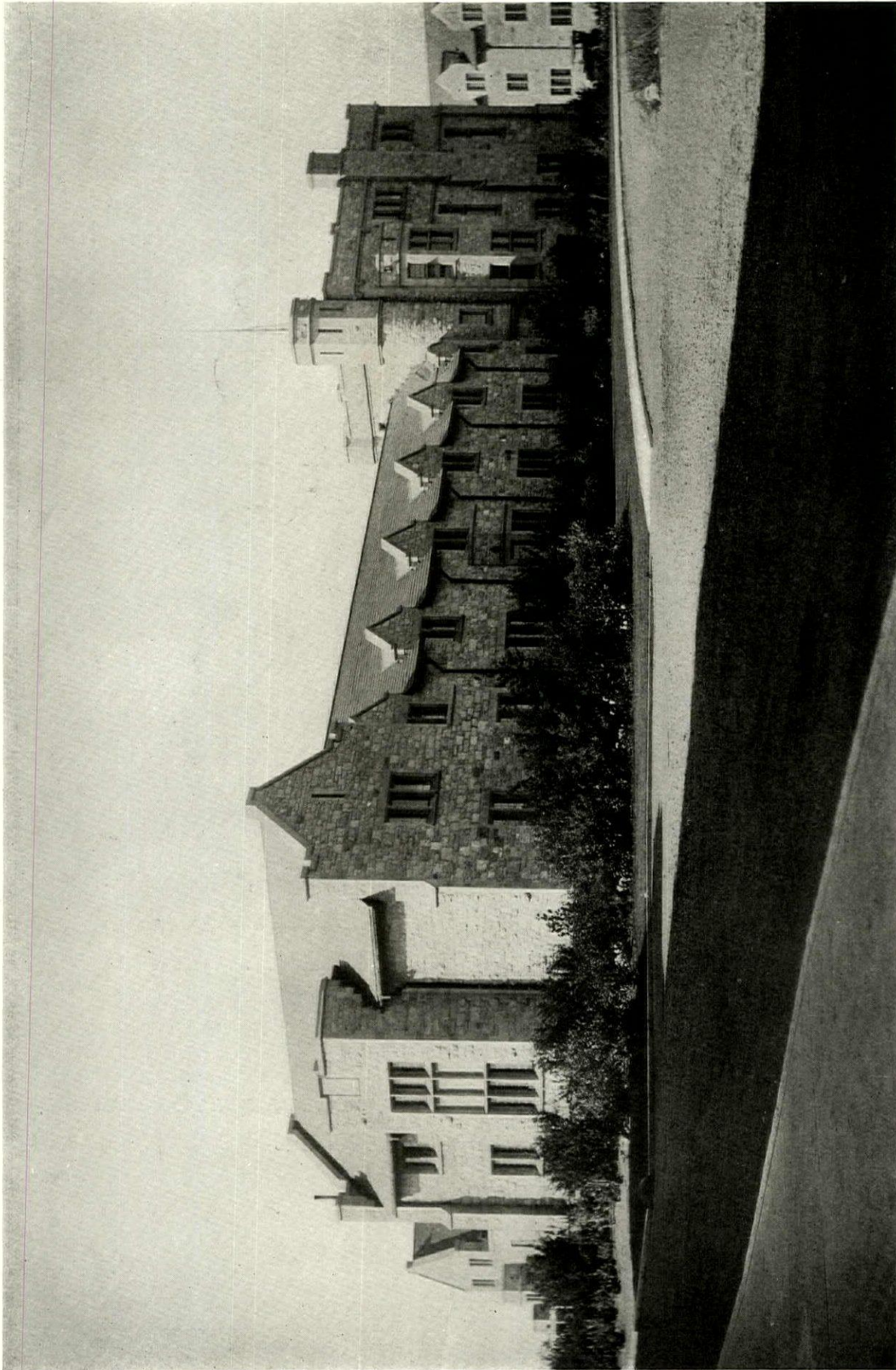


FIRST FLOOR

PLANS, COLONIAL HOUSE, CONNECTICUT COLLEGE FOR WOMEN, NEW LONDON, CONN.

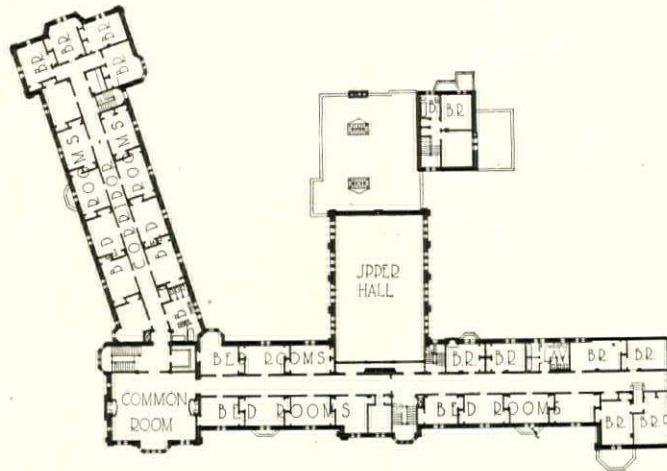
HERBERT R. LOUD, ARCHITECT



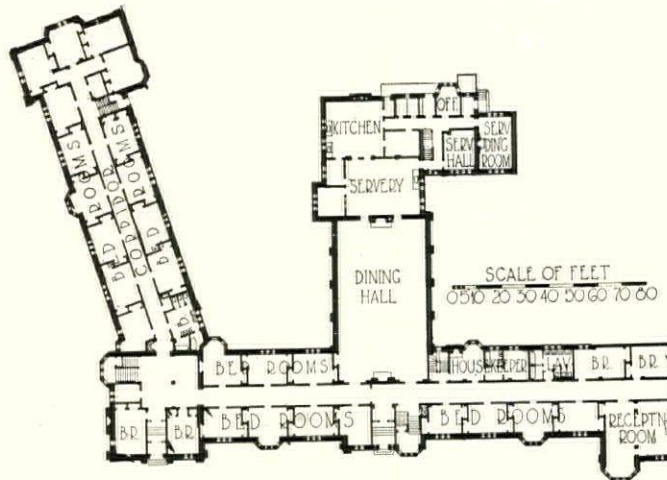


*Plans on Back*

STUDENTS' RESIDENCE  
UNIVERSITY OF SASKATCHEWAN, SASKATOON, CANADA  
DAVID R. BROWN & HUGH VALLANCE, ARCHITECTS



SECOND FLOOR



FIRST FLOOR

PLANS, STUDENTS' RESIDENCE, UNIVERSITY OF SASKATCHEWAN, SASKATOON, CANADA

DAVID R. BROWN & HUGH VALLANCE, ARCHITECTS

*Ent. fraternities*

# College Club and Fraternity Buildings

By MARY A. ROLFE

THESE exist two distinct university policies so far as fraternities and sororities are concerned. In the schools where these organizations found an early foothold, largely because they helped to solve the housing problem and in a sense set the standard for rooming houses and social usage, each organization soon acquired a house of its own, first by rental and then later by purchase or building. During the last ten years most of the chapters so started have very largely increased their active memberships, so that larger quarters have become necessary. This has led to an extensive building program throughout the country. Fortunately, the national organizations had foreseen this development, and many years ago started building loan funds. These funds, together with the increase in the number of alumni and in their wealth, have made possible the rapid building of new houses. These houses are being constructed on land owned by the fraternal organizations and are built with an increasing freedom from university oversight. This policy of relaxed supervision on the part of the authorities is due to the fact that the organizations now number among their alumni architects who through four years of experience learned the needs of fraternity house living and who are anxious to benefit by all the advice that they can obtain. It is these trained-by-experience architects who are responsible for the present policy of securing comfort and convenience as the

first essentials, although the arrangement of the study rooms is in part due to the regular publishing by the universities of fraternity house grade averages. The fraternity is very important in university life.

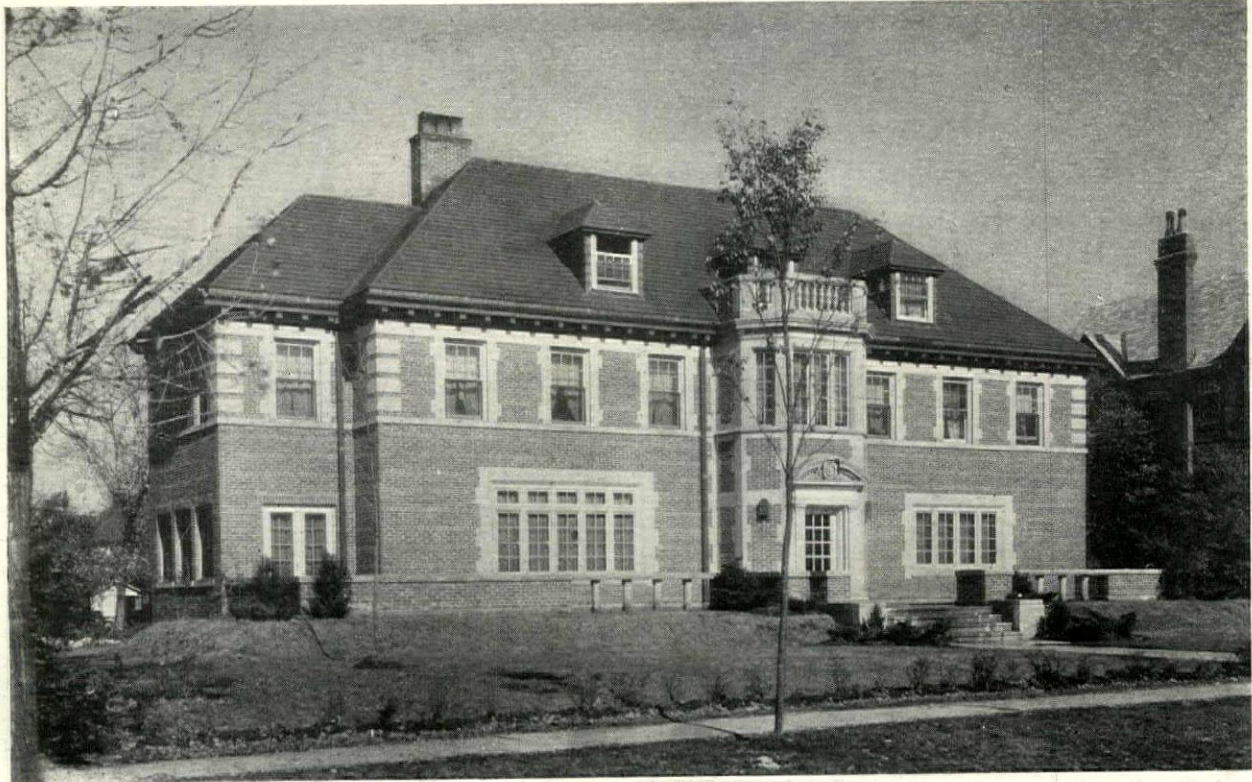
The second policy is somewhat different. In those schools that were able to furnish dormitory facilities for a large number of their students, the fraternity and sorority developed as wholly social organizations within the dormitories. When the demand for permission to have their own homes came, it was discontinued until the need of additional dormitory facilities and the rise in the costs of building materials caused the authorities to look kindly upon the proposal. In most of these schools the plan has been followed of permitting the fraternal organizations to build on specified land, either on land held in their own names but bought under university jurisdiction so that the location might be controlled, or on land owned by the university and kept in its name but rented year by year to the organization. In the latter case, the university underwrites the building contracts. Money for the buildings is raised through the national loan funds and the alumni as in the first case, outlined in the preceding paragraph.

Northwestern University is following the second policy. Some ten years ago it began the construction of the fraternity house group on the north campus. Fifteen of these houses have been completed and occupied, and the plan has been found so successful



Psi Upsilon House, University of Illinois, Urbana, Ill.

Frank T. Kepley, Architect



Phi Kappa House, University of Illinois, Urbana, Ill.

Benson & Son, Architects

that James Gamble Rogers has been retained to design 14 sorority houses for the south campus. These will be constructed of stone and will cover a block and a half of land in the heart of Evanston, adjoining the present campus. The cost, including the land, will be approximately \$2,000,000. The plan for building is that the University rents the land, the organization raises at least one-quarter of the amount needed for building, and then the University underwrites the bonded indebtedness by guarantee. The balance due is paid in the form of yearly rental to the University, and thus the mortgage notes are gradually taken up. The architect consults with representatives of the different organizations, so that he can meet their needs as to sizes and arrangement of rooms, while yet keeping the parts in accord with the whole. This of course involves a liberal policy.

Socially, there are advantages and disadvantages in each policy; architecturally, there is no doubt but that the close grouping of houses all of the same type leads to more beauty and offers a finer problem to solve than does the heterogeneous, scattered building brought about under the older policy. It is also to be noticed that where a university has selected a type of architecture which it purposes to follow in its future building program and has completed some new buildings of that type, the fraternal organizations are increasingly likely to select designs in accord with the university type. Sometimes, where the architect is an alumnus of the organization, the building may be built after a design conceived by him when in his young, just-after-graduation days he

traveled in Europe. Thus Scottish castles, English country houses, Italian villas and French *chateaux* may live again near our campuses, almost always shorn of many of their old-world accessories which cannot be reproduced with the limited means at the architects' disposal. Where an architect is employed who has had no connection with the university, he is very likely to follow the suggestion of the university architect that he build after the chosen style and get his materials from the same sources. Alumni who have become familiar with the campus plans of the university while students will also sacrifice their individual desires to the general scheme in the expectation that the day will come when the university campus will reach out and join hands with the land on which their fraternity houses at present stand.

#### Planning Fraternity and Sorority Buildings

Because architects who have lived in fraternity houses or else those who through being members of architectural faculties or through residence in university towns have become familiar with the needs of such buildings are very largely being employed as the designers of the new buildings, these houses are being planned primarily for comfort and convenience rather than for display. In fact the tendency away from the "individualistic" and toward the "common" type on any given college or university campus is very marked—the type being that which has been chosen as the future "university" type. This merging of each social unit into the whole is reflected in the keener interest being felt in the interiors of the houses—in finer



Delta Phi House, University of Illinois, Urbana, Ill.

Cervin &amp; Horn, Architects

woodwork, more interesting doorways and fireplaces, more and larger bathrooms, etc., and in other ways.

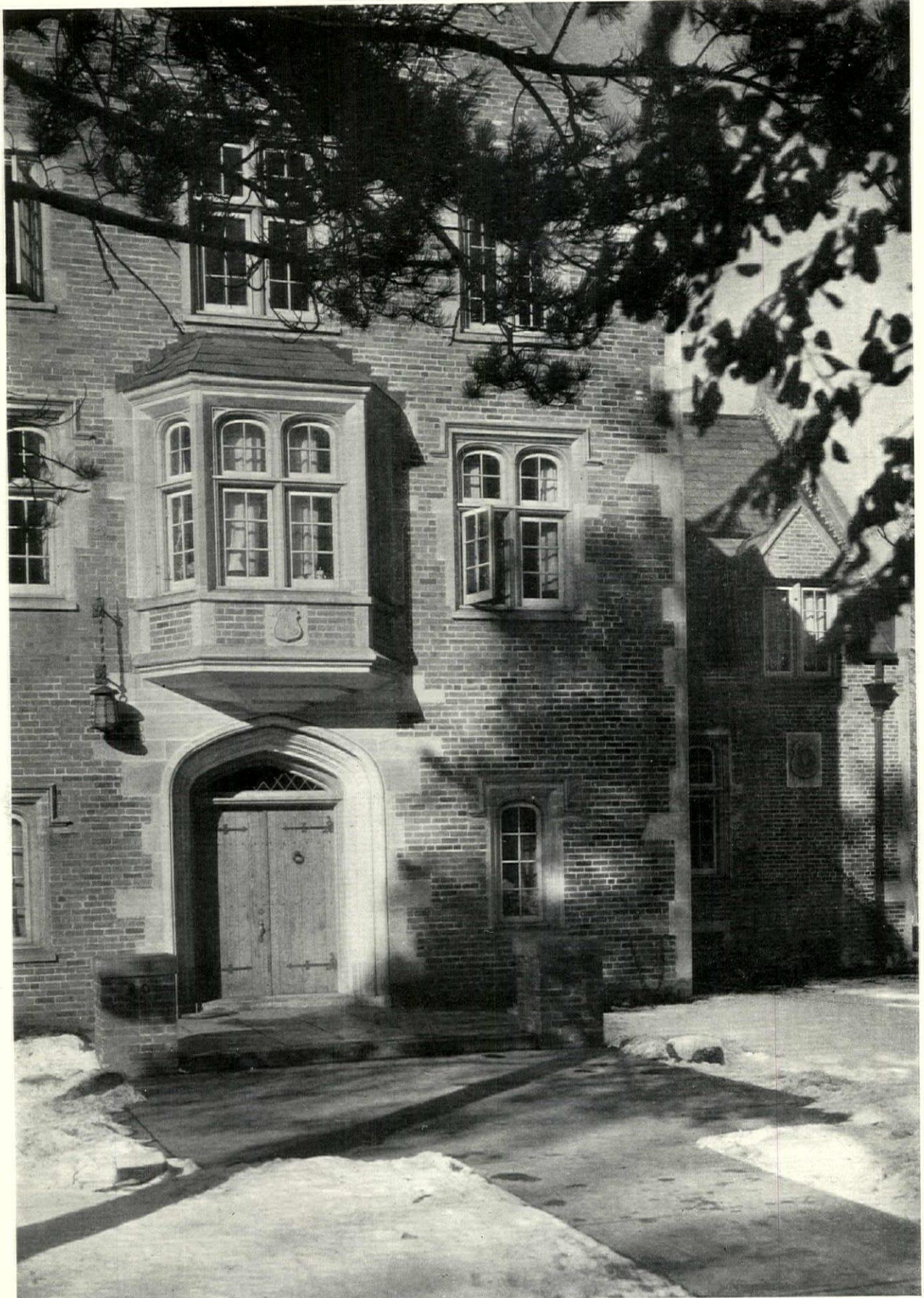
The present tendency in planning seems to be to have one large living room,—large enough to accommodate from 40 to 50 members and their guests, with one or more smaller rooms opening off or opening in series from it. These rooms are on the same floor level, and have wide openings or French doors between them, so that they can be opened up for dancing. It has been found that it is much more economical to design the houses with this purpose in view than to rent halls for the dances, and it is certainly far more pleasant. The dining room is often across the hall from the living room, and is so arranged that it can be made to enlarge the dancing space. Because it is thus designed to serve a double purpose, there is likely to be a fireplace in the dining room as well as in the living room. In a number of fraternity houses alcoves form parts of the dining rooms. These connect with the serving pantries, and are used for serving refreshments during dances. The general plan of the main floor of a house should include an appropriate place for the orchestra which will be required for dances. Sometimes this is a space in the main hall, sometimes it is on a balcony, and again in the reception room, according to the arrangement as well as the sizes of the rooms.

In order to save the trouble of arranging the rooms for meetings, and also in order to have the archives near by, many of the new fraternity houses are being built with their chapter rooms in the basements, with the fireproof safes in the same rooms or in adjoining

rooms or corridors. This arrangement permits the routine of the houses to go on as usual in spite of the fact that meetings are being held in the chapter rooms. It also permits the calling of meetings at only short notice, because there is no need for rearrangement or adjustment of furnishings. Some of these chapter rooms are without windows, thus returning to the primitive secret society's idea. These have, instead of the suction air currents common with the old pueblo Indian *kiwa*, which served the purpose of ventilation, the most approved fan ventilating systems and other apparatus known today.

Sleeping quarters in these fraternity buildings are usually at the tops of the houses or divided into two or more sections occupying the corners of the buildings. These are large rooms, fitted with double-deck beds. Most of these dormitories are unheated, and house rules demand that the windows shall be kept open day and night. In a few of the newer houses a fan ventilating system keeps the air in the dormitories moving at all times. In such buildings the windows may be closed during storms. The placing of the dormitories up under the roofs prevents the entrance of rain unless the wind is strong.

The better houses are building their study rooms for two people, with two closets or built-in wardrobes. Experience has taught that more than two students in a room cannot do good work. These rooms are of fair sizes, well lighted and ventilated, and furnished with desks and chairs. They are not lounging rooms, and therefore they do not have couches, easy chairs, etc. Living rooms, card rooms,



*Photos. Tebbs & Knell, Inc.*

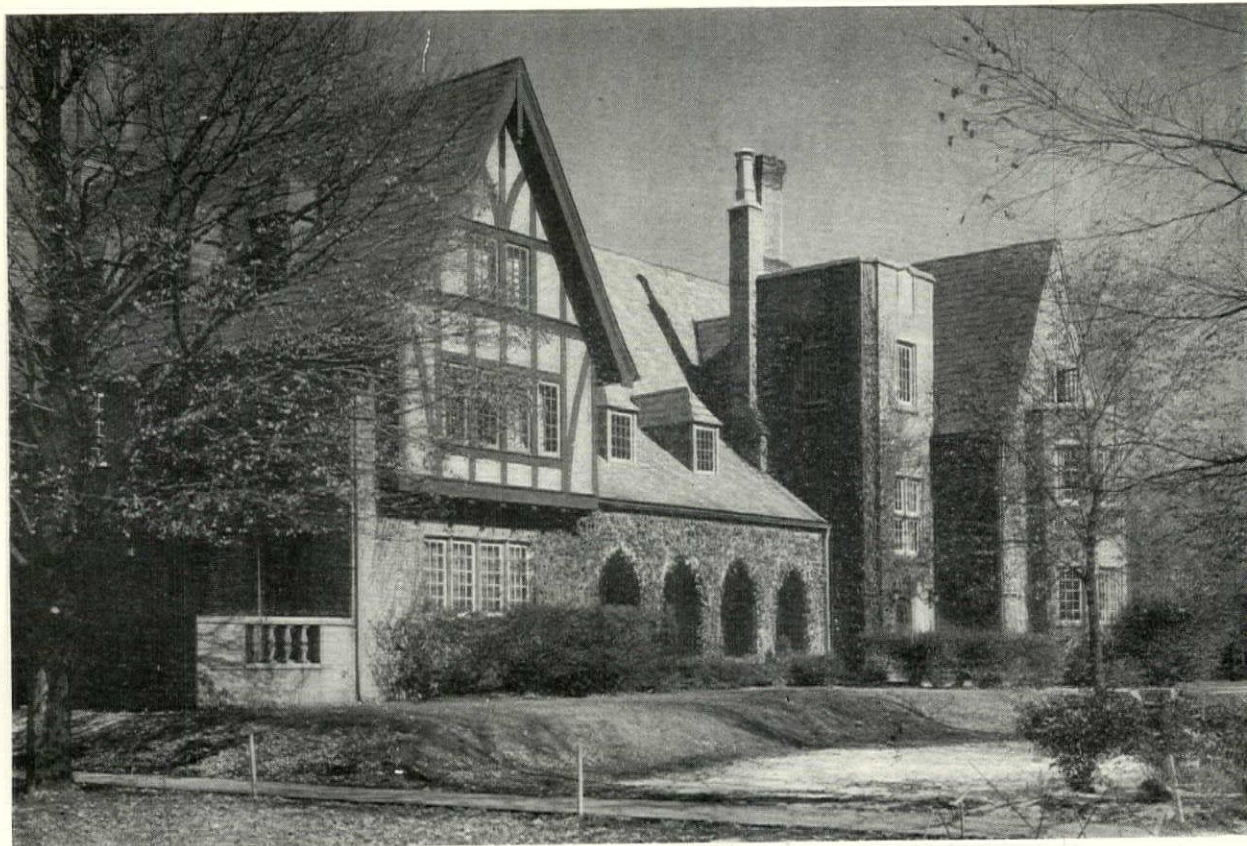
DETAIL, ENTRANCE, ALPHA DELTA PHI HOUSE, UNIVERSITY OF ILLINOIS, URBANA, ILL.  
VARNEY RANDALL, ARCHITECT



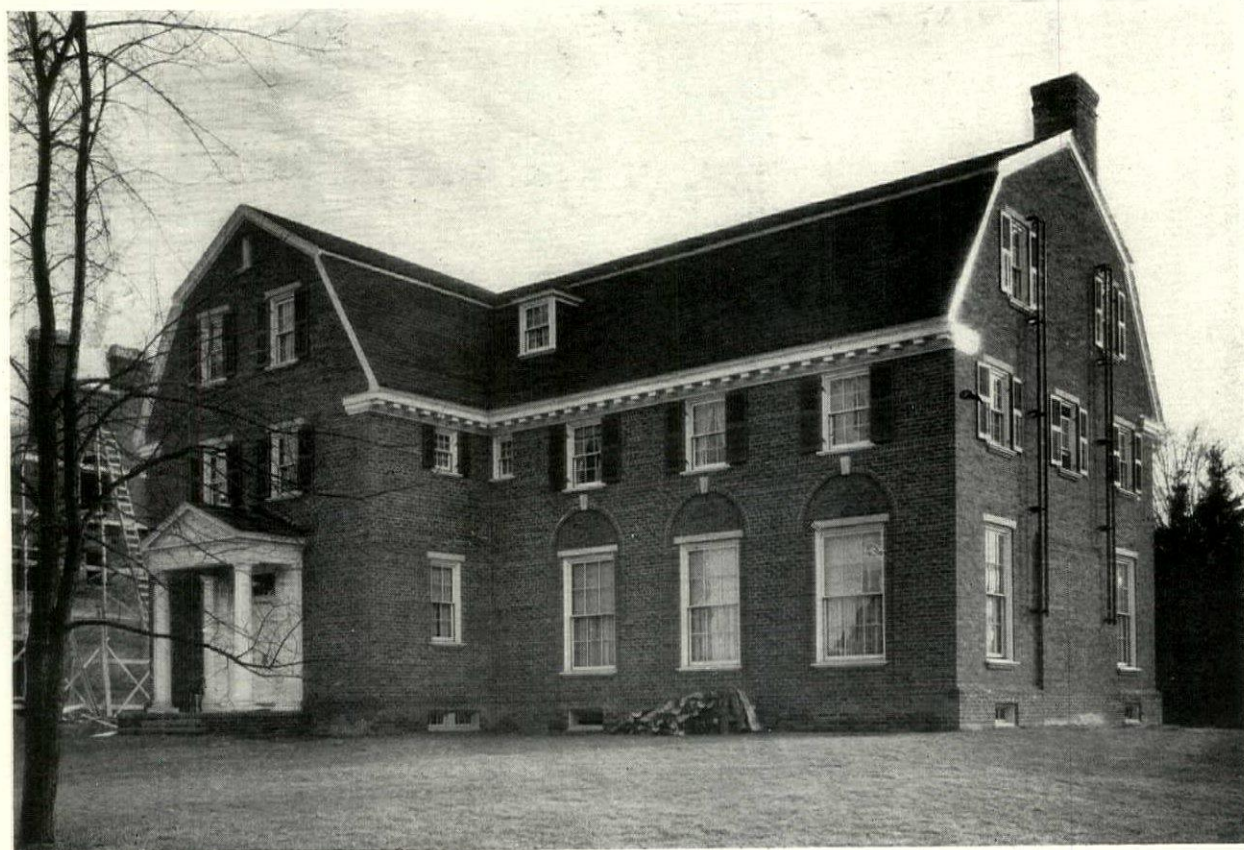
*Photo. Paul J. Weber*

DETAIL, ENTRANCE, SIGMA NU HOUSE, DARTMOUTH COLLEGE, HANOVER, N. H.

LARSON & WELLS, ARCHITECTS



SIGMA PI HOUSE, UNIVERSITY OF ILLINOIS, URBANA, ILL.  
J. W. Royer, Architect



DELTA TAU DELTA HOUSE, DARTMOUTH COLLEGE, HANOVER, N. H.  
BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS



music rooms, libraries and sun parlors are open to those who do not wish to study. Women's houses often have upstairs living rooms also. Small study rooms are provided near the telephone booths, so that students operating the telephones may work while on duty. Systems of bells summon the persons wanted, and the number of rings tells them whether they are telephone or doorbell calls. Some of the houses provide special single study rooms for the president and secretary, so that they may be alone for conferences and may work without interruption when they can be free for work.

Bathrooms have a tendency to be split up, each in two or three units,—wash room, shower room, and toilet room. A fraternity house built for 32 members will have as many as ten wash bowls, with other facilities in proportion. Tubs for bathing are seldom found in the new houses, except off from the guest room, the hospital room, or the chaperone's room. A number of the houses vary the ceiling heights, having high ceilings for important living rooms, but lower ceilings for the dining rooms and smaller living rooms. Sometimes this is made possible by going down a step or two to the living room; sometimes by putting the dining room in the basement, where it makes a convenient lounging and refreshment room during dances, and is convenient in other ways.

Guest rooms for alumni and parents are provided in all the new houses. If these are on the first floor, they also occasionally serve as dressing rooms for the girls who attend the parties. When the guest

rooms are on the upper floors, dressing rooms for visitors are provided on the first floors or on the landings leading to the second floors. Chapters having many non-resident members also provide rooms for them. Such a room will contain study tables, lockers, etc., for the use of the members between classes. Valet or pressing rooms of fireproof construction are provided by some of the houses. Hospital rooms with bathroom facilities are also provided, so that those having colds and minor ills may be cared for until the patients are ordered to the hospital. In sorority houses and in some fraternity buildings a suite of rooms is provided for the "house mother." Sometimes her bathroom also serves as the guests' bath. In women's houses her suite is conveniently located near the head of the stairs leading to the second floor, or else off the main hall on the first floor.

Most of the newer fraternity houses are of fireproof or semi-fireproof construction, and are built to last. The bathrooms are finished in tiles or marble, and the halls and sun parlors are paved with tiles, which are often very beautiful, with composition tiles, or else are laid with hardwood floors, according to the type of house. The hardware used is generally strong, and the woodwork simple and durable. Ornament is used at only a few well chosen points, and the walls are not covered with inferior paintings. When new furnishings are bought, an effort is made to buy objects in keeping with the type of the house and of kinds that have proved to be of lasting worth. This makes for consistency.



Lounge, Sigma Nu House, Dartmouth College, Hanover, N. H.

Larson & Wells, Architects

The building of garages adjacent to fraternity houses is simply not done. This is in part due to lack of funds, and in part due to the movement against the use of automobiles by students. No provision is made for space for them in locating the houses on the lots, and their use is discouraged.

A real effort is being made to secure lots of adequate sizes for the houses, and to landscape what space there is and keep it in order. Much pride is shown in trees, hedges and shrubbery, and these receive a great deal of attention from the members and "pledges" or prospective members. The older organizations that foresaw the need for larger quarters and purchased lots years ago have, naturally, the larger areas. There is a decided tendency on the part of the younger organizations to buy farther away from the active center of the campus in order to get larger plots of land. They also try to buy adjacent to the newer portions of the campus, in order to gain the advantage of the open spaces in front of their houses which will be thus provided.

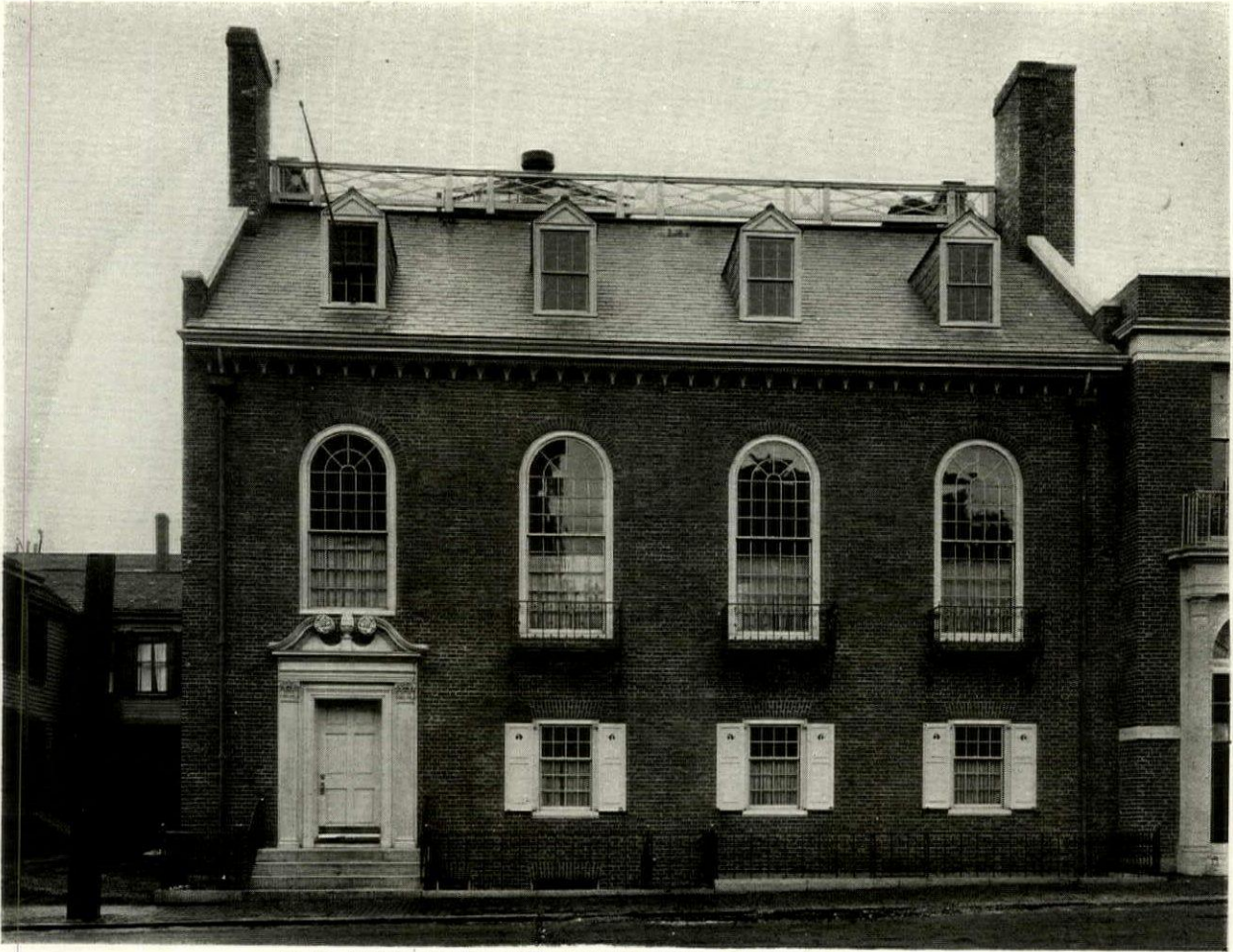
The majority of the new houses which are built independently of the universities at which they are located, seem to be costing about the same amounts—from \$60,000 to \$80,000. Here and there the cost is only \$40,000, and now and then it runs up to \$100,000. As a rule, these more expensive houses are not any larger than are those costing less. The increased cost is due to more costly stone construction or to use of finer interior finish, or to both. The cost price to the fraternity does not, however, repre-

sent the building's actual cost, since every house so built receives help from its alumni members in different professions or lines of business. Perhaps it is the architect whose services are donated, or those of the contractor or the supervisor or (as in one house of which I have knowledge) the materials were given at cost. This house paid a price over cost for no material save the steel beams used in the construction. It did, however, pay for its architect's service. One of the members supervised the building, which cost about \$80,000. The value of the structure is therefore far above its actual cost price. These houses are generally planned for from 35 to 50.

There seems to be a very real tendency to build the plan of the house around a single object,—generally a gift from someone. In one instance it was an ancient Scottish door knocker which caused the design of the house to be Scottish. In another instance, two beautiful Italian vases established the scheme of the hall. In another case an overmantel was built to include a rare painting. All sorts of objects are thus made the shrines around which the houses are designed, and as a rule the thought which is thus necessitated has produced something beautiful and distinctive. Fraternity and sorority houses are centers about which there often cluster fond recollections, and frequently they exercise a powerful appeal upon former residents. Often, too, they receive gifts which frequently add greatly to the interest of their buildings, and have even been known to determine the entire character of new structures.



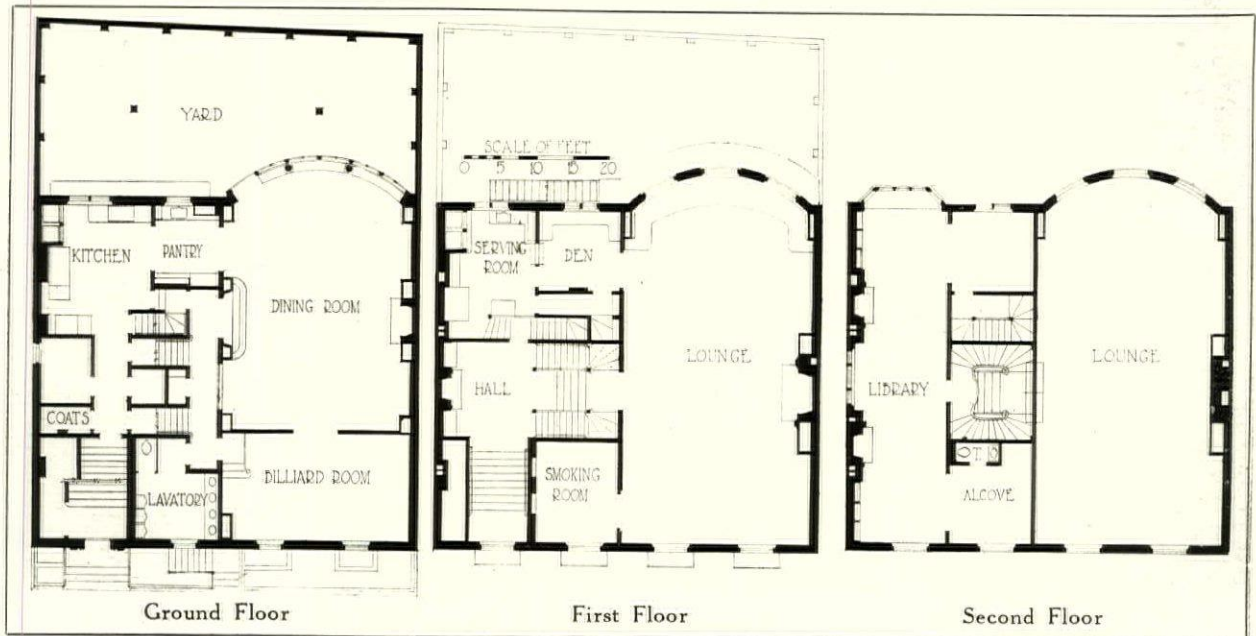
Lounge, Kappa Kappa Kappa House, Dartmouth College, Hanover, N. H.  
Larson & Wells, Architects



S. K. CLUB, HARVARD UNIVERSITY, CAMBRIDGE, MASS.  
 COOLIDGE & SHEPLEY, ARCHITECTS

A SUCCESSFUL example of the use of Colonial architecture for college and fraternity clubs is that of the S. K. Club House in Cambridge. The exterior design shows a two-story, brick facade in which the entrance door is located at the end of the building, directly under one of the four tall arched win-

dows which mark on the exterior the location of the living room within. Below these windows, the lower floor or basement rooms are indicated by small, rectangular windows with white painted wooden shutters and small panes of glass. Rain water leaders with ornamental leader heads make strong lines



## FORUM SPECIFICATION AND DATA SHEET—72

S. K. Club House, Cambridge, Mass.; Coolidge &amp; Shepley, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Brick and wood, slow-burning.

## EXTERIOR MATERIALS:

Brick with limestone and wood trim.

## ROOF:

Slate.

## WINDOWS:

Wood frame and sash; double-hung.

## FLOORS:

Wood.

## HEATING:

Hot air.

## PLUMBING:

Enameled iron fixtures.

## ELECTRIC EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

Oak.

## INTERIOR WALL FINISH:

Smooth plaster.

## DECORATIVE TREATMENT:

Walls and trim painted.

## APPROXIMATE CUBIC FOOTAGE:

117,580

## COST PER CUBIC FOOT:

24 cents.

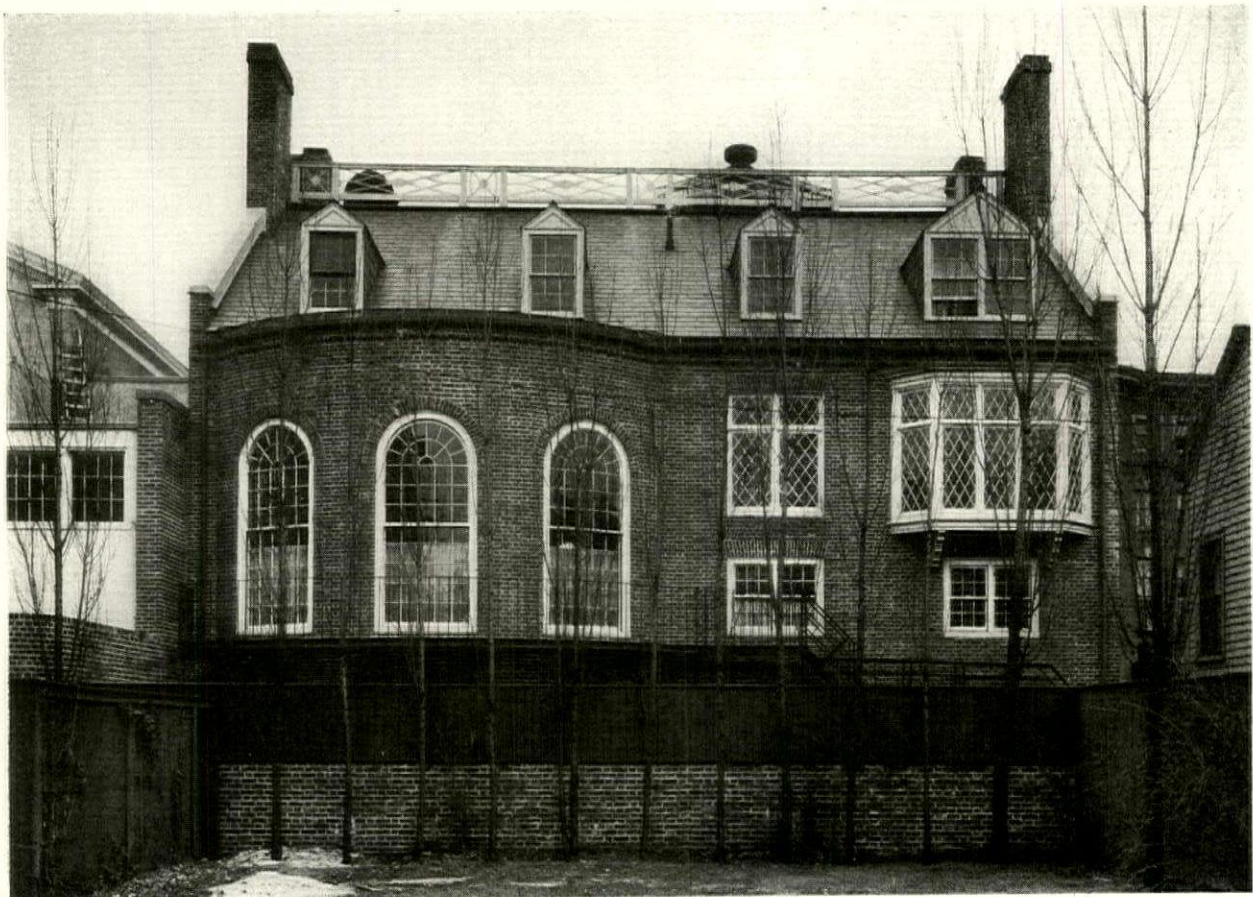
## YEAR OF COMPLETION:

1916.

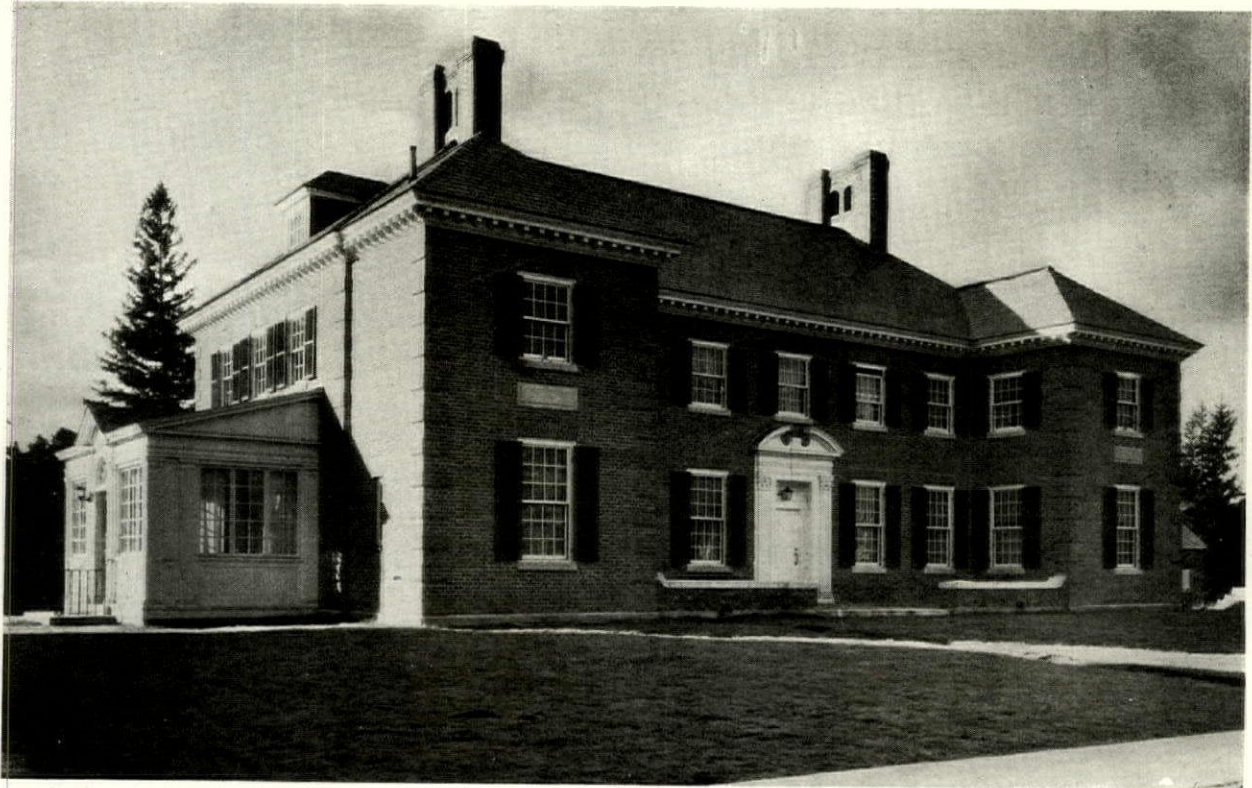
of demarcation at either end of this main facade.

The plans show a convenient arrangement on the ground floor of dining room and billiard room, with adjacent kitchen and pantries, coat room and lavatory. The main floor shows a large lounge which extends through the entire building from front to rear. On this floor, there are also a den, smoking room and serving room, the latter connected by dumbwaiters with the kitchen below. The main hall

and double stairway form one of the architectural features of the building. Half of the second floor is taken up by the upper part of the lounge, which is two stories in height. The long, narrow library, extending the full length of the building, has two fireplaces and two spacious alcoves, one on the front and another at the rear. The plans of the building, as a whole, are interesting and unusual, as well as practical and convenient for the purpose it serves.



Rear View



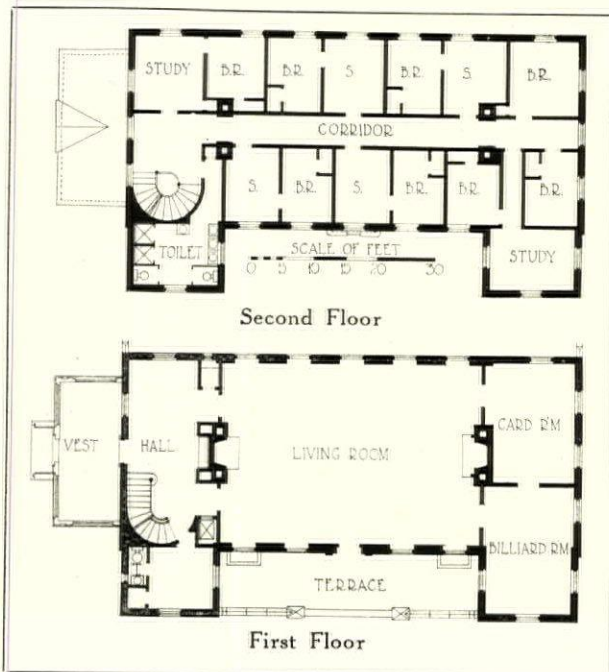
SIGMA NU HOUSE, DARTMOUTH COLLEGE, HANOVER, N. H.  
LARSON & WELLS, ARCHITECTS

AMONG the many excellent examples of fraternity house architecture completed in the last two years, that of Sigma Nu at Dartmouth College must be placed near the top of the list. The building represents a conscientious and successfully studied adaptation of Georgian architecture. The scale of the detail suggests the Renaissance architecture of England rather than its Colonial counterpart in the United States. The front elevation shows two projecting bays, which terminate a narrow, brick-paved

terrace across the center of the front. The relative scale of windows, the size of the panes of glass and the detail of the entrance doors are among the many features which confer architectural distinction.

One of the interesting features of the plan of this house is the location of the entrance hall and vestibule at one end instead of at the center of the building. This arrangement makes it possible to place a large and well proportioned living room at the center of the house, with windows on two sides and a fireplace at each end. This living room is immediately accessible from the entrance hall, where a fine circular staircase adds to its Georgian spirit and charm. The projecting bay at the entrance end of the house is occupied, on the first floor, by a large coat room and lavatory. Opening off the entry way between the hall and living room are located on one side, the telephone closet, and on the other the dumbwaiter. At the end of the house opposite the entrance hall, the first floor plan shows a card room and a billiard room, each of which opens off the living room. The main hall is reached through a spacious vestibule or glassed-in porch. This arrangement is particularly adaptable and desirable in such a climate as that of Hanover, where winters are long and severe. The details of this entrance porch show the same refinement and study as does the rest of this building.

The second floor plan shows a balanced arrangement of 14 bedrooms, practically equal in size. Above the coat room and lavatory on the first floor, a large washroom with showers and toilets is located. This adequately takes the place of individual bath-



## FORUM SPECIFICATION AND DATA SHEET—73

Sigma Nu House, Dartmouth College, Hanover, N. H.; Larson &amp; Wells, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Brick and hollow tile; wood stud partitions and floor joists; slow-burning construction.

## EXTERIOR MATERIALS:

Brick with painted wood trim.

## ROOF:

Slate.

## WINDOWS:

Wood frame and sash; double-hung.

## FLOORS:

Marbleoid, basement and toilets; white oak, first floor and clear maple for upper floors.

## HEATING:

Vapor steam.

## PLUMBING:

Cast iron and brass piping; enameled iron fixtures.

## ELECTRIC EQUIPMENT:

Lighting and cooking connections.

## INTERIOR MILL WORK:

Plain oak, first floor; elsewhere, stained pine.

## INTERIOR WALL FINISH:

Plaster, painted.

## DECORATIVE TREATMENT:

Walls painted, and trim painted and stained.

## APPROXIMATE CUBIC FOOTAGE:

94,800.

## COST PER CUBIC FOOT:

45 cents.

## DATE OF COMPLETION:

September, 1925.

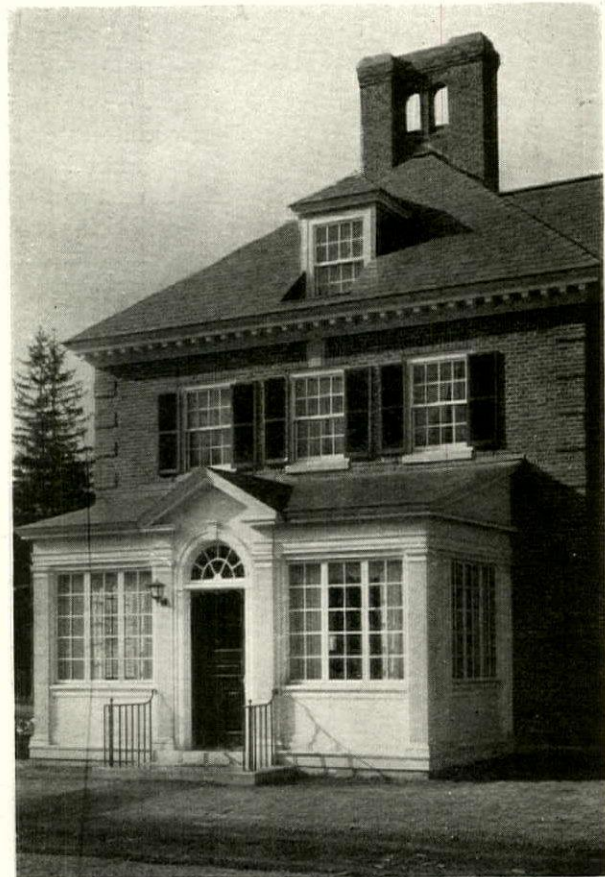
rooms, which would have occupied much of the space on this floor now available for bedrooms. The main staircase continues up to the third floor or attic, which is lighted by a number of dormer windows. This floor contains three additional bedrooms and a large assembly room designed for special fraternity occasions. In the basement are located a laundry, large trunk room, boiler room and coal storage space, as

well as a good sized room to be used as a living room.

Study of this building shows that its strikingly pleasing qualities are the result of infinite care taken in working out the details of plan and design. It would be difficult indeed to find a fraternity building more distinguished or more notable for its quiet good taste and architectural reserve. It is a structure of which its architects may well be proud.



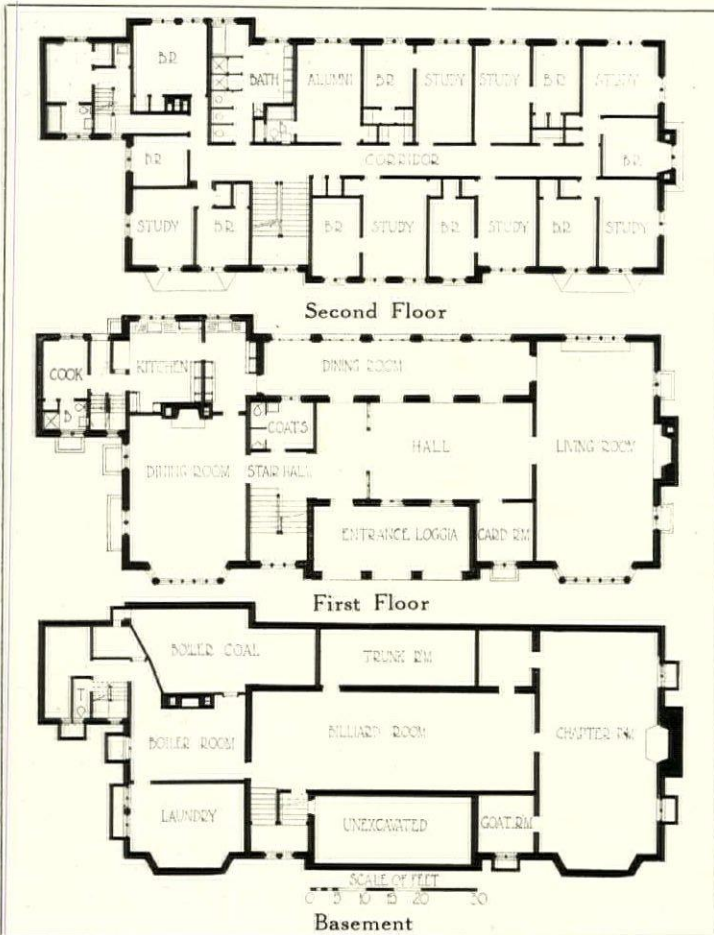
Terrace Entrance



Main Entrance



PHI DELTA THETA HOUSE, UNIVERSITY OF ILLINOIS, URBANA, ILL.  
HOWARD VAN DOREN SHAW, ARCHITECT



A FRATERNITY house of outstanding architectural importance is that of Phi Delta Theta at the University of Illinois. Built of local limestone laid random, a simple adaptation of Elizabethan architecture has been successfully used. The length of the building is broken on the front facade by two gables which balance a central entrance bay composed of an open porch with square piers on the ground floor and windows above. The parapet of this bay happily breaks the long line of eaves. The design, as a whole, successfully and adequately interprets the purpose and use of the building, which has the semblance of a private house with the added formality of a balanced design in keeping with the dignity of one of the leading college fraternities. At one end of the building, a tall chimney provides a picturesque terminal feature which adds to the architectural character of the structure. The rear or garden facade gives an even better idea of the purpose for which the building is intended. The end gables, which balance those of the front facade, are carried through to the rear, where one gable is brought out slightly from the body of the house to give contrast and relief to the otherwise unbroken wall surface. Five

## FORUM SPECIFICATION AND DATA SHEET—74

Phi Delta Theta House, University of Illinois, Urbana, Ill.; Howard VanDoren Shaw, Architect

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Reinforced concrete; roof, frame.

## EXTERIOR MATERIALS:

Limestone trimmed with cut stone.

## ROOF:

Random slate.

## WINDOWS:

Metal casements.

## FLOORS:

Black terrazzo in dining room; hall and living room, oak; upper floors, concrete; toilets and baths, terrazzo.

## HEATING:

Vapor steam.

## INTERIOR MILL WORK:

White oak.

## INTERIOR WALL FINISH:

First floor, sand-finish plaster walls; upper floors, smooth plaster with three coats of lead and oil; Bedford stone window enframements throughout.

## DECORATIVE TREATMENT:

Simple English.

## APPROXIMATE CUBIC FOOTAGE:

162,800.

## COST PER CUBIC FOOT:

50 cents.

## DATE OF COMPLETION:

November, 1922.

arches on the first floor mark the location of the dining loggia, which also serves as a living porch.

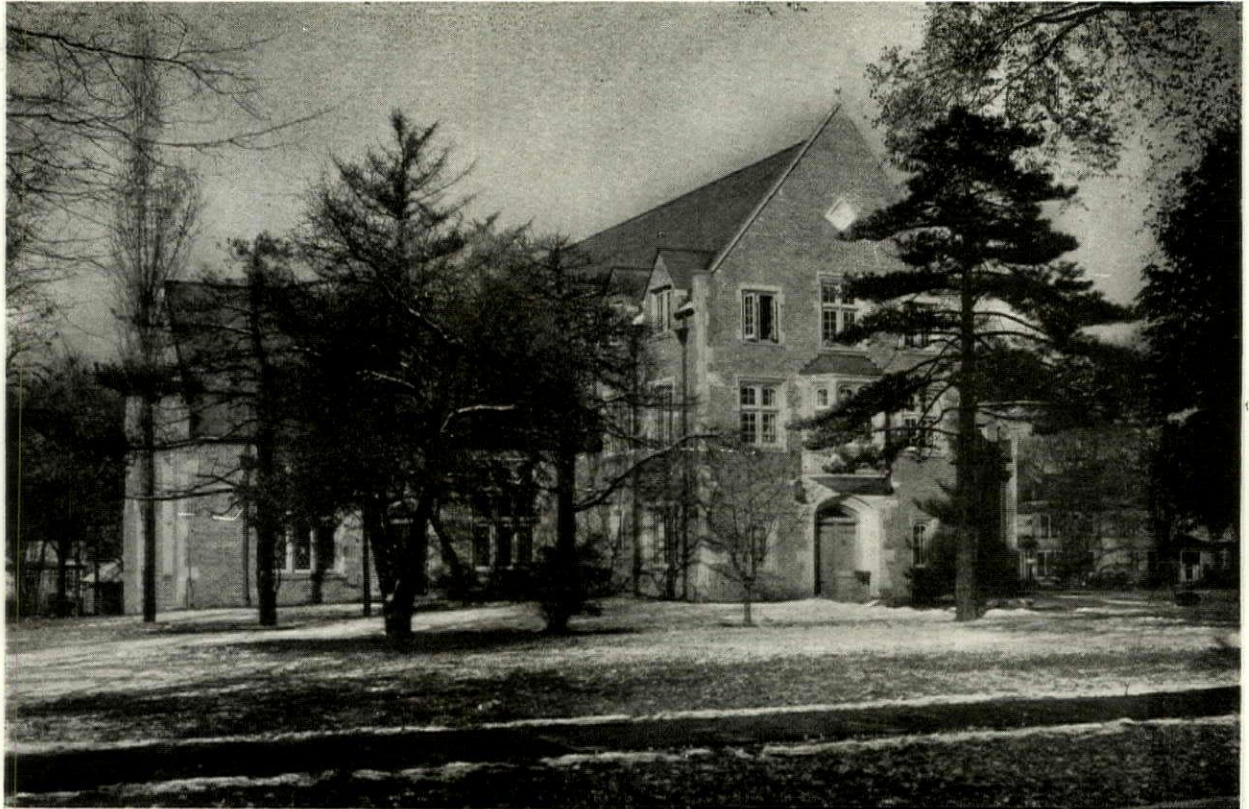
The first floor plan shows a spacious entrance loggia, in which is located the entrance door. This floor contains, besides a large center hall, a spacious living room across one end of the building with bay window on the street end, and a card room, coat room, lavatory, and dining room with serving pantry and kitchen adjacent on the other end. The plan is simple and straightforward and is as balanced in arrangement as the exterior design. The second floor, reached by a wide staircase, contains nine bed-

rooms, most of which connect with separate studies; an alumni room, and a housekeeper's room and bath. Each bedroom is sufficiently large to accommodate two single beds. One large dressing room with showers and toilets serves all the bedrooms on this floor. The third floor has rooms to be used as combination studies and bedrooms, a store room, a general dressing room and bath, and a large dormitory accommodating 13 beds. A door at the rear of this dormitory connects with the servants' stairway at the end of the building. These bedrooms are all well lighted by carefully designed triple dormer windows.



Rear View



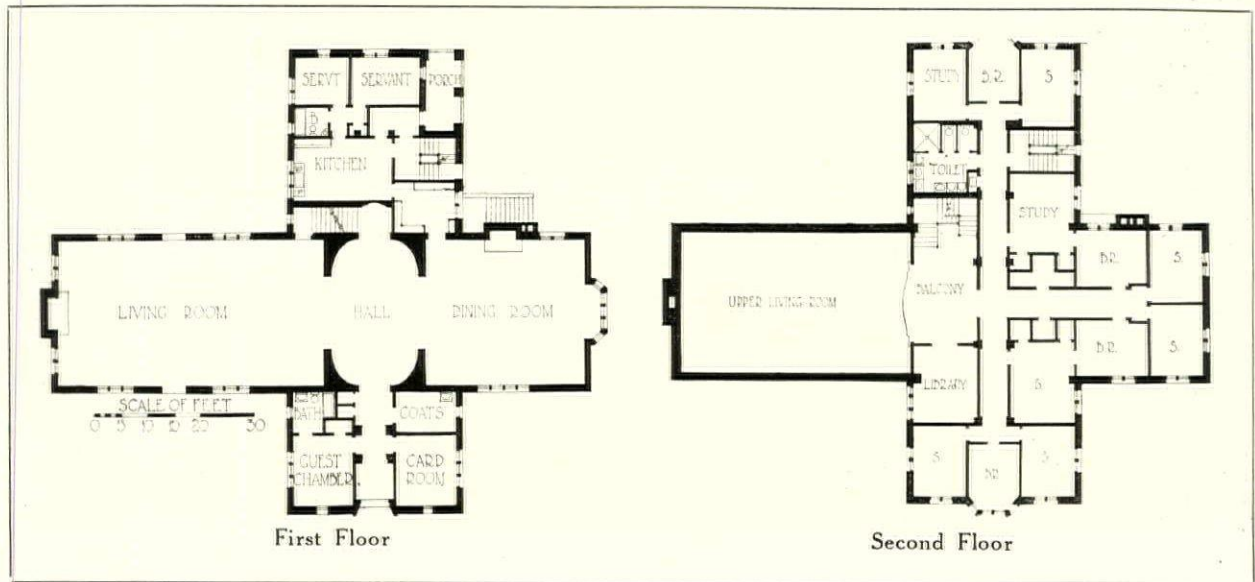


ALPHA DELTA PHI HOUSE, UNIVERSITY OF ILLINOIS, URBANA, ILL.  
RALPH W. VARNEY, ARCHITECT

ENGLISH collegiate architecture executed in brick with limestone trimmings is used for this spacious fraternity house. The design, resembling more that of a large parish house than that of a club, owes much of its charm to the wide range of color given by the brick of which its walls are built.

The cross shape of the building permits an interesting layout of rooms. Entering from one of the short arms of the cross, a guest room and bath are balanced on the opposite side of the vestibule by a card room, back of which is a large coat room. A short passageway leads from the entrance door into

a large center hall, somewhat oval in shape. Large openings give access from this center hall to the living room on one side and the dining room on the other. These two rooms and the center hall occupy the main part of the cross plan. The remaining or top arm of the cross contains, besides a main stairway, a pantry connecting with the dining room, service stairs and two servants' bedrooms and bath. The living room is a story and a half high with rafters and ridgepole exposed. The stone-faced fireplace as well as the mullioned windows and diamond panes gives English charm and atmosphere to this



## FORUM SPECIFICATION AND DATA SHEET—75

Alpha Delta Phi House, University of Illinois, Urbana, Ill.; Ralph W. Varney, Architect

**OUTLINE SPECIFICATIONS****GENERAL CONSTRUCTION:**

Fireproof.

**EXTERIOR MATERIALS:**

Red face brick with limestone trim.

**ROOF:**

Slate.

**WINDOWS:**

Wood casements; mostly leaded glass on first floor.

**FLOORS:**

Dining room, red concrete with black border; kitchen and upper floors, finished concrete; remainder of first floor, wood.

**HEATING:**

Steam.

**ELECTRICAL EQUIPMENT:**

Lighting; special wrought iron fixtures for first floor.

**INTERIOR WALL FINISH:**

Walls of living room and wainscot of dining rooms in brick; living room ceiling of pecky cypress; other surfaces plaster.

**APPROXIMATE CUBIC FOOTAGE:**

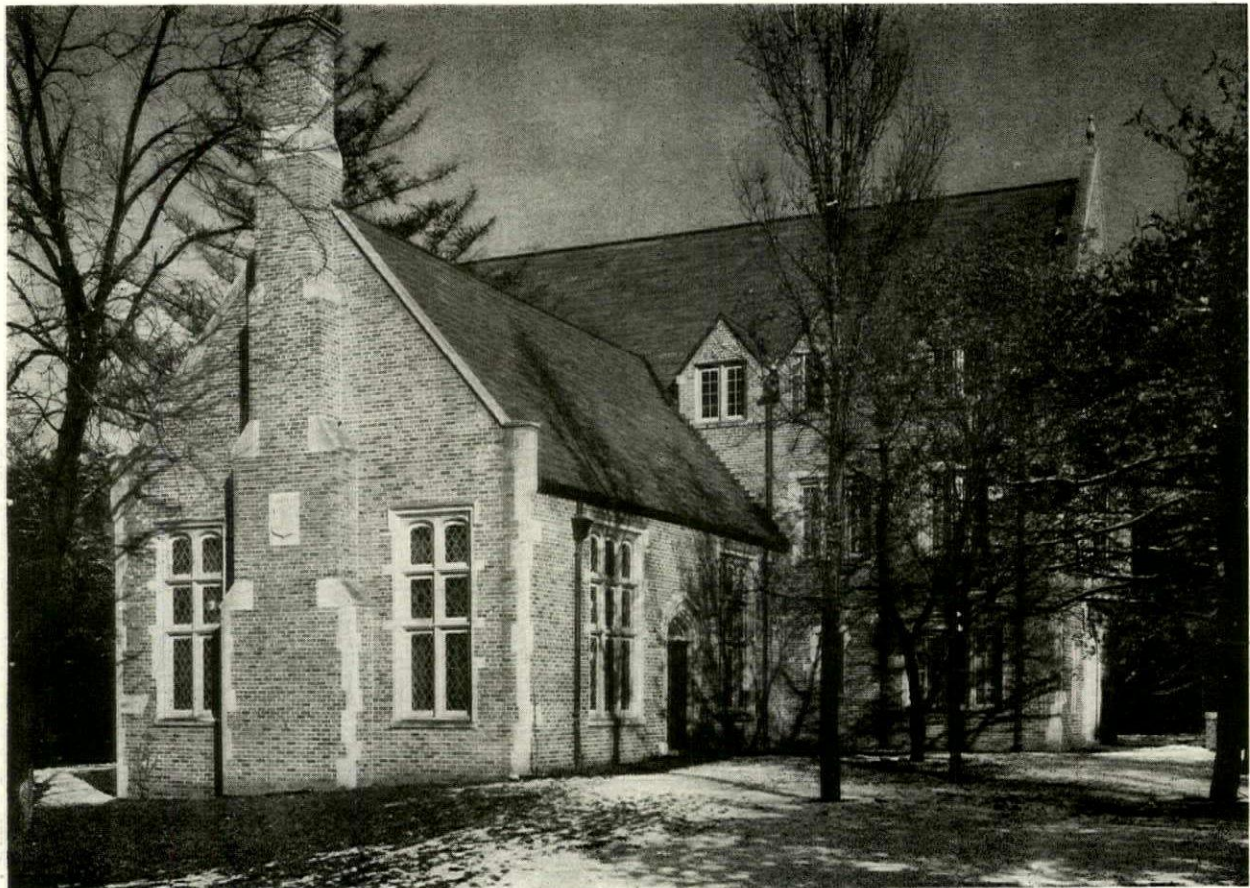
185,000.

**COST PER CUBIC FOOT:**

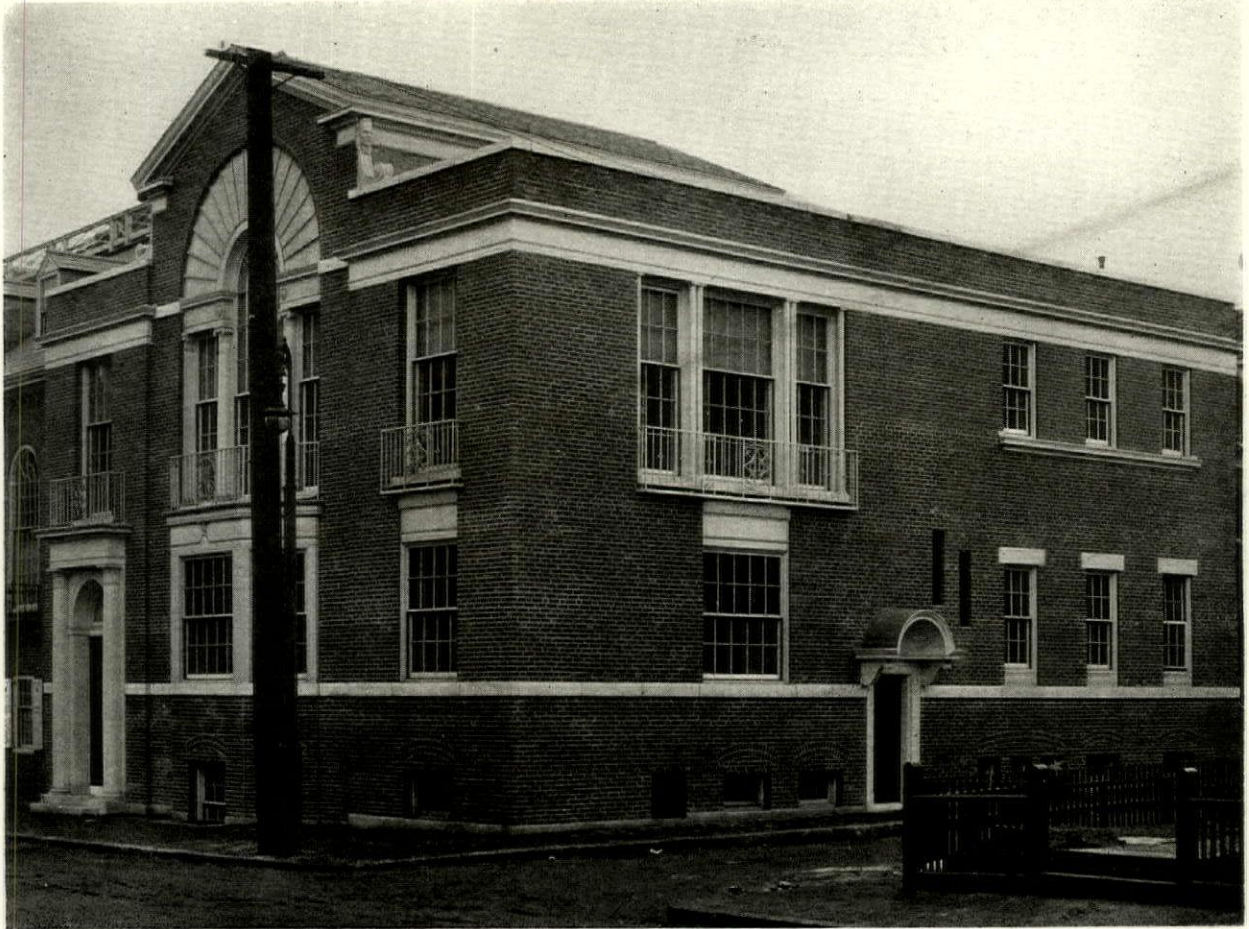
38 cents.

fraternity house. In fact, the entire design and treatment of this fraternity building is carried out in a rather simple adaptation of the English Tudor style. The second floor, which occupies only the arms and top of the cross, contains a balcony overlooking the large living room, a small library, four bedrooms and eight studies. This arrangement calls for the use of two beds in each bedroom and an individual study for each man. No individual bathrooms are

connected with the bedrooms or studies. Instead, one large dressing and toilet room is provided for the use of this entire floor. The plan of the third floor is similar to that of the second, providing four bedrooms and eight studies. The height of the building as well as the design and size of the living room wing fails to give any suggestion of a semi-domestic character to the structure; but as an example of the use of the Tudor style, it is eminently successful.



Two-Story Living Room Wing

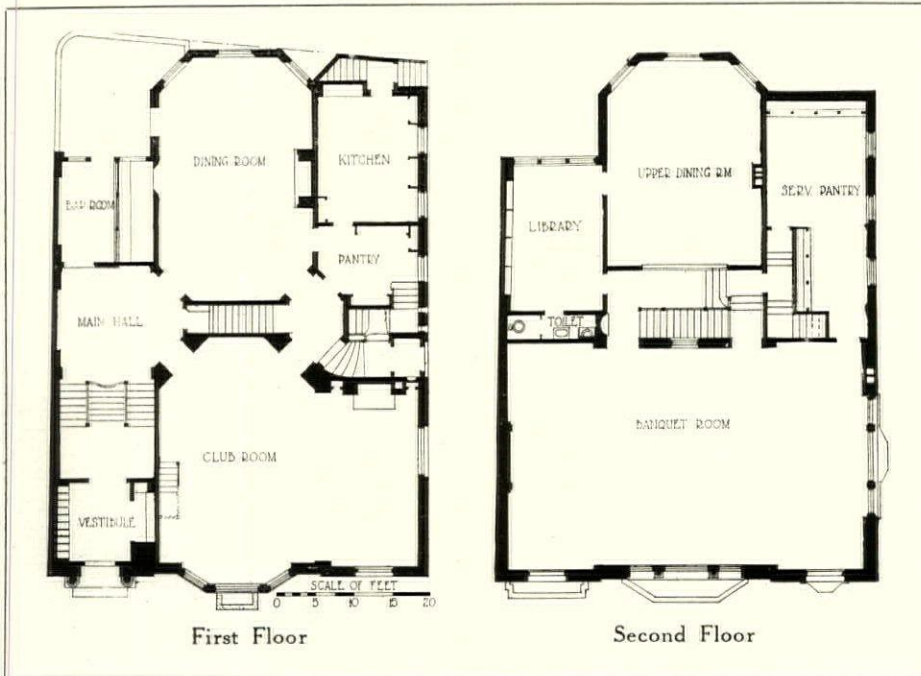


IROQUOIS CLUB, HARVARD UNIVERSITY, CAMBRIDGE, MASS.  
WARREN & WETMORE, ARCHITECTS

ADJACENT to the S. K. Club, on one of the narrow streets in Cambridge, is located the building of the Iroquois Club. Unlike the building of the S. K. Club, this design shows a studied use

of the details of the Adam period of the English Renaissance. Here again, the size and arrangement of the windows of the two street facades indicate quite clearly the arrangement and importance of the

rooms within. The entrance door, located at the street level, leads into a marble paved vestibule and stair hall. Here a double stairway leads up to the main floor, while below five steps connect with the basement, where are located a coat room, boiler room, and at the rear a storage cellar, laundry, large toilet room and two servants' bedrooms and bath. On the main floor are located a large living room and a spacious, two-story dining room. At the rear of this floor, adjacent to the dining room, is a small bar, reminiscent of pre-prohibition days, as this



First Floor

Second Floor

## FORUM SPECIFICATION AND DATA SHEET—76

Iroquois Club House, Harvard University, Cambridge, Mass.; Warren &amp; Wetmore, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Brick and frame.

## EXTERIOR MATERIALS:

Brick; wood and marble trim.

## ROOF:

Slate.

## WINDOWS:

Wood frame and sash.

## FLOORS:

Hardwood; main rooms, teakwood in random widths.

## HEATING:

Hot water.

## PLUMBING:

Brass water lines.

## ELECTRICAL EQUIPMENT:

Iron conduit for lighting.

## INTERIOR MILL WORK:

Oak.

## INTERIOR WALL FINISH:

Painted.

## DECORATIVE TREATMENT:

Oak and plaster in main rooms.

## YEAR OF COMPLETION:

1917.

club house was built in 1916. The serving pantry and kitchen are located at the side of the dining room opposite the bar. A small center hall between the living room and dining room gives access to a stairway leading to the second floor. Here a banquet room, 45 feet long by 27 feet wide occupies the entire front of this floor. At the rear is a library, a gallery overlooking the two-story dining room, and a large serving pantry, which is arranged as an auxiliary kitchen. These kitchens are completely equipped.

The plan of this Iroquois Club House is typical of this type of undergraduate club buildings to be found in universities where clubs rather than fraternities exist. Unlike fraternity houses, most college club

houses provide no sleeping quarters for their members. This characteristic is particularly true of the club houses at Harvard. While a club inevitably lacks something of the domestic atmosphere of a fraternity house, in which the members actually live, the absence of bedrooms, baths, etc., makes possible a dignified, somewhat formal treatment of living rooms, dining rooms, and other rooms of a general nature. So in this instance, since owing to the nature of the building it has been possible to give it a highly architectural form of English Renaissance treatment, with windows of a scale and character which accord well with the style. The building presents a distinguished aspect.



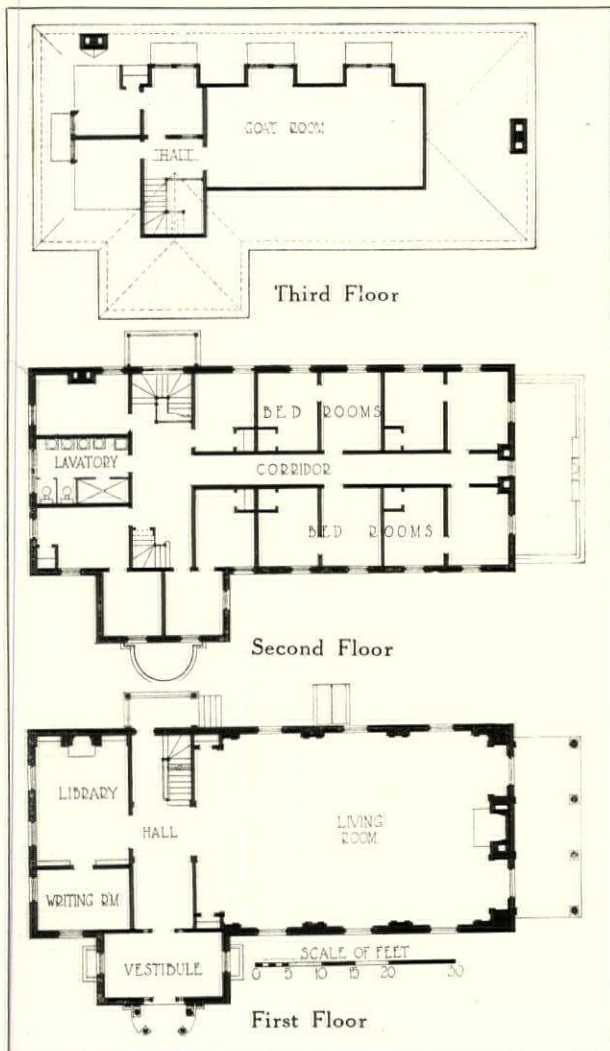
Front Elevation



Detail of Entrance



KAPPA KAPPA KAPPA HOUSE, DARTMOUTH COLLEGE, N. H.  
LARSON & WELLS, ARCHITECTS



APPROPRIATE to the New England antecedents and background of this New Hampshire college, the Colonial style of architecture has been pleasingly employed as inspiration for the design and details of the Kappa Kappa Kappa House at Dartmouth. As an example of a small fraternity house, this is one of the best. Two stories in height, built of red brick with brick corner quoins, the white painted porches, small paned windows, trim and simple cornice, make a pleasing impression. The front elevation shows a semi-circular entrance porch, employing the Corinthian order, located in the center of the projecting bay at one end of the facade. Three long casement windows with white painted shutters indicate the location of the large living and dining room, which is the heart of the house. At the end of this living room, a covered porch gives a decorative note, which adds much to the exterior design of the building. The use of simple Tuscan columns with sturdy entablature and roof parapet is so pleasing and successful that it is rather to be regretted that this same order was not employed for the semi-circular entrance porch, which seems too delicate and refined in character for use at the entrance to an undergraduate fraternity house. The simple and successful dignity of the exterior of this building is further maintained by the unbroken slopes of the hip roof on the front elevation. In plan, the first floor shows, besides the large living room, a stair hall extending through the entire building, a library and a writing room. On the second floor are located 14 bedrooms of equal size, and a general toilet and washroom, placed at one end of the long corridor.

## FORUM SPECIFICATION AND DATA SHEET—77

Kappa Kappa Kappa House, Dartmouth College, Hanover, N. H.; Larson &amp; Wells, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Brick and hollow tile; wood stud partitions and floor joists; slow-burning.

## EXTERIOR MATERIALS:

Brick and hollow tile.

## ROOF:

Slate.

## WINDOWS:

Wood sash and casements; double-hung.

## FLOORS:

Basement and toilets, composition; first floor, plain oak; elsewhere, soft pine.

## HEATING:

Steam.

## PLUMBING:

Cast iron and brass piping; enameled fixtures.

## ELECTRICAL EQUIPMENT:

Lighting and cooking connections.

## INTERIOR MILL WORK:

Basement in oak; first floor, whitewood; elsewhere, hard pine.

## INTERIOR WALL FINISH:

Painted plaster.

## APPROXIMATE CUBIC FOOTAGE:

93,800.

## COST PER CUBIC FOOT:

40 cents.

## DATE OF COMPLETION:

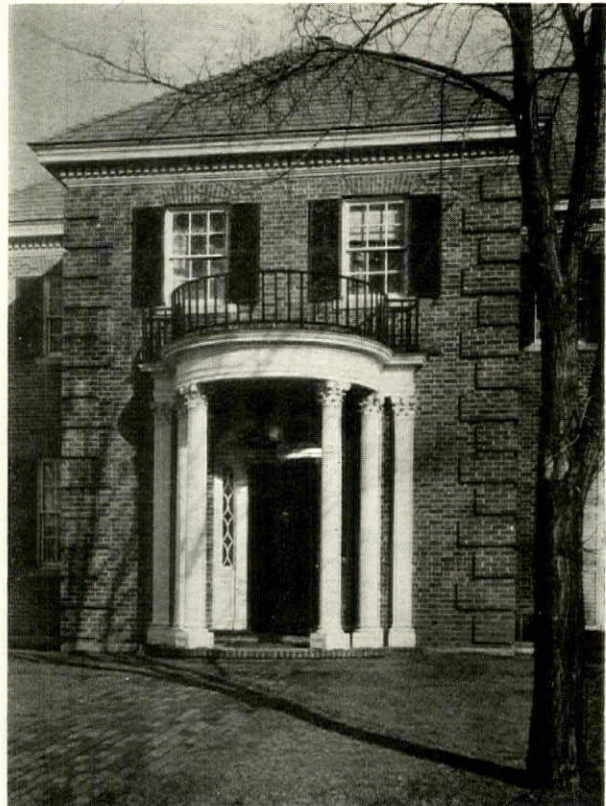
June, 1923.

The carefully designed, white painted wooden trim,—columns, cornices and shutters,—of the exterior suggest that equal thought and care have been devoted to designing the trim for the interior. This has been done, and the rather late Colonial style in which the exterior of this fraternity house has been designed is carried out within by mantels, pilasters, wainscots and the newels and balusters of the stairway, which are true to the forms the eighteenth century American builders were using, following the details invented or adapted by the architects of Eng-

land. The grace and delicacy with which the interiors of this building have been developed may be studied in the illustration at the lower left hand corner of this page. Here, at one end of the great living room are two deep alcoves wherein windows are set. Between the two is placed the chimney-piece, with a recessed panel in lieu of an overmantel. This chimney-piece is flanked by pilasters which support the heavy cornice extending around the room. The interior well fulfills the promise of the graceful, polished exterior of this highly satisfying building.



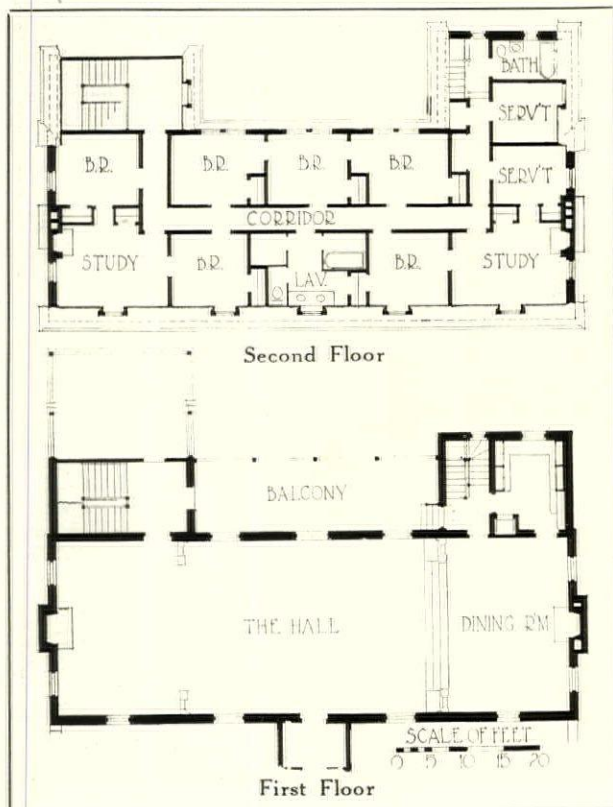
Living Room



Main Entrance



D. U. CLUB, HARVARD UNIVERSITY, CAMBRIDGE, MASS.  
R. CLIPSTON STURGIS, ARCHITECT



ANOTHER of the interesting club house designs found in Cambridge, Mass., is that of the D. U. Club, which, although built ten years ago, ranks as one of the most unique and interesting examples of small club house architecture. The front elevation, of balanced design, is quite unusual. A long flight of stone steps leads up to a projecting entrance vestibule, Colonial in character and detail. This vestibule is balanced at the sides by unusually tall windows, which indicate the two-story living room within. A simple cornice supports the overhang of a well proportioned gambrel roof, the lower slope of which is broken by five dormer windows on each side of the house. These dormers, combined with the added height provided by the gambrel roof, make possible several bedrooms for the accommodation of visiting graduate members of the Club on the upper floor. The white painted trim and window frames successfully offset and contrast with the red Harvard brick of the walls. The Colonial effect is still further heightened by the use of white painted wooden gates and fence in front of the house. The fence is low and surmounts a 4-foot stone wall.

The locating of the building itself, some 15 feet back of the sidewalk line, and at an elevation of nearly 10 feet above the street, provides an atmos-

## FORUM SPECIFICATION AND DATA SHEET—78

D. U. Club, Cambridge, Mass.; R. Clipston Sturgis, Architect

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Second-class or slow-burning.

## EXTERIOR MATERIALS:

Brick.

## ROOF:

Slate.

## WINDOWS:

Wood sash and frame, double-hung.

## FLOORS:

Oak.

## HEATING:

Steam.

## PLUMBING:

Enameled iron fixtures.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

Plain standing finish; ornamental screens in great hall.

## INTERIOR WALL FINISH:

Plaster and wood.

## DECORATIVE TREATMENT:

Painted walls; stained woodwork.

## APPROXIMATE CUBIC FOOTAGE:

140,000.

## COST PER CUBIC FOOT:

22½ cents.

## YEAR OF COMPLETION:

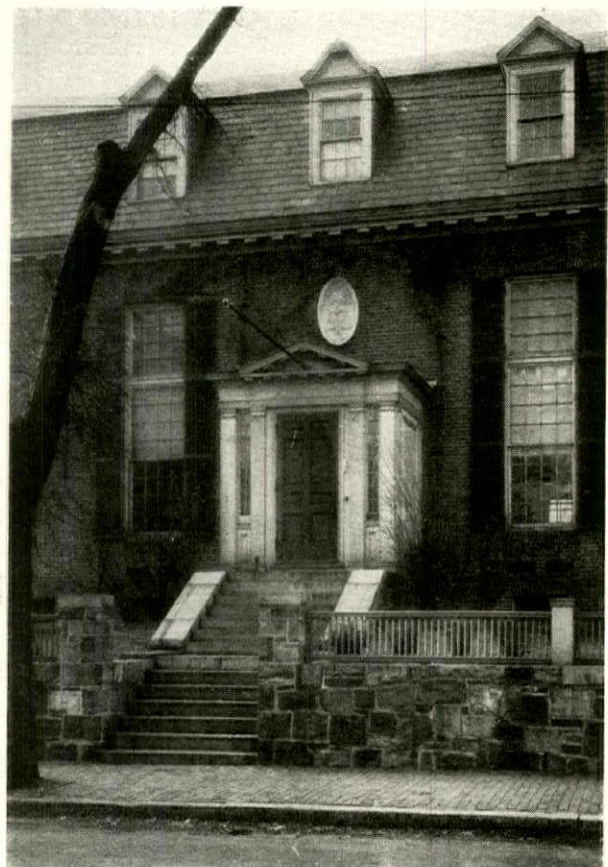
1915.

phere of seclusion and retirement, particularly desirable in a club of this sort. The entire main floor of this club house is one long room, at one end of which three steps lead to a higher level, which is used as the dining room of the house. Above the dining room end and also above a space of similar character at the opposite end of the building is an open gallery with high paneled parapet, a staircase and a serving room as well as a long open balcony, which is used in the warm months of the year for out of door dining.

The character of the structure as a club house rather than a fraternity building, which is likely to contain bedrooms, makes possible an interior which is both interesting and highly architectural. The exterior agrees well with that of the older structures in the Harvard Yard, not far away, and aids in suggesting the connection which a college club might well sustain to the institution to which its members belong. Even in a town containing many notable buildings, none more distinguished is to be found.

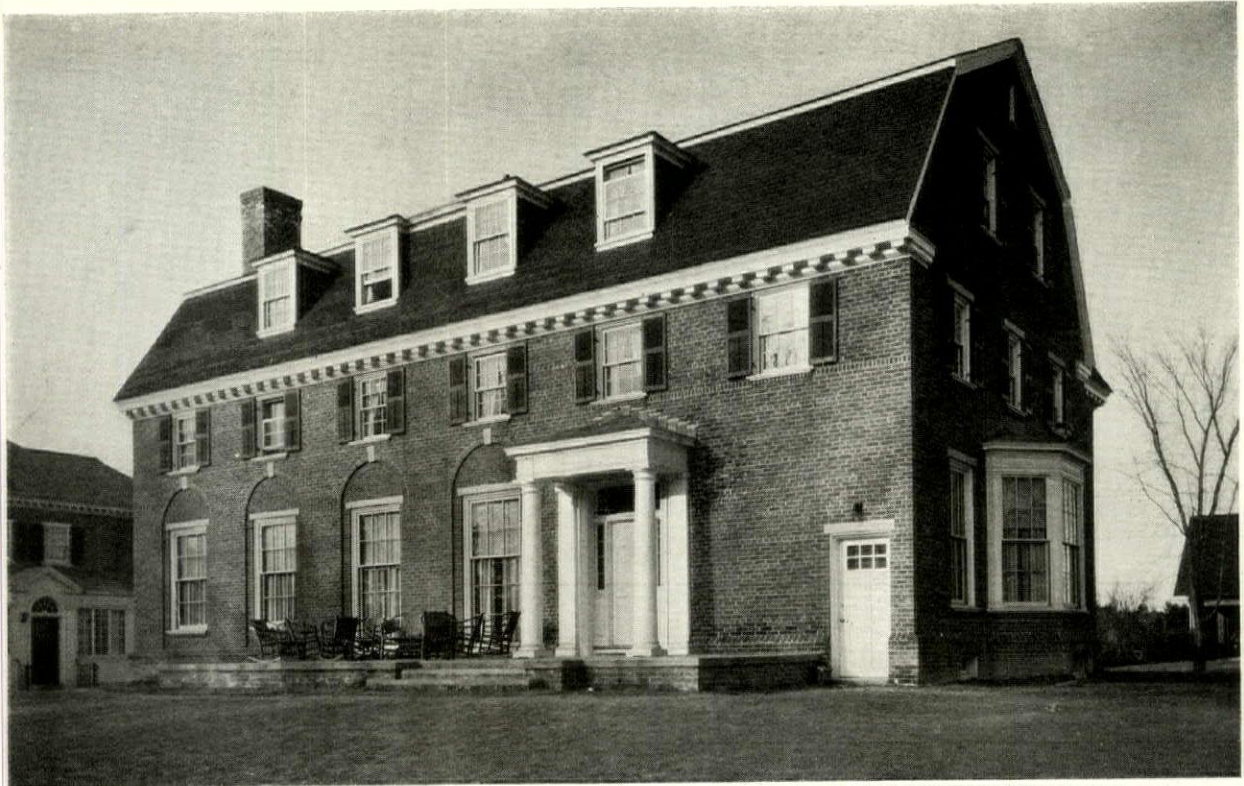


The Hall



Entrance

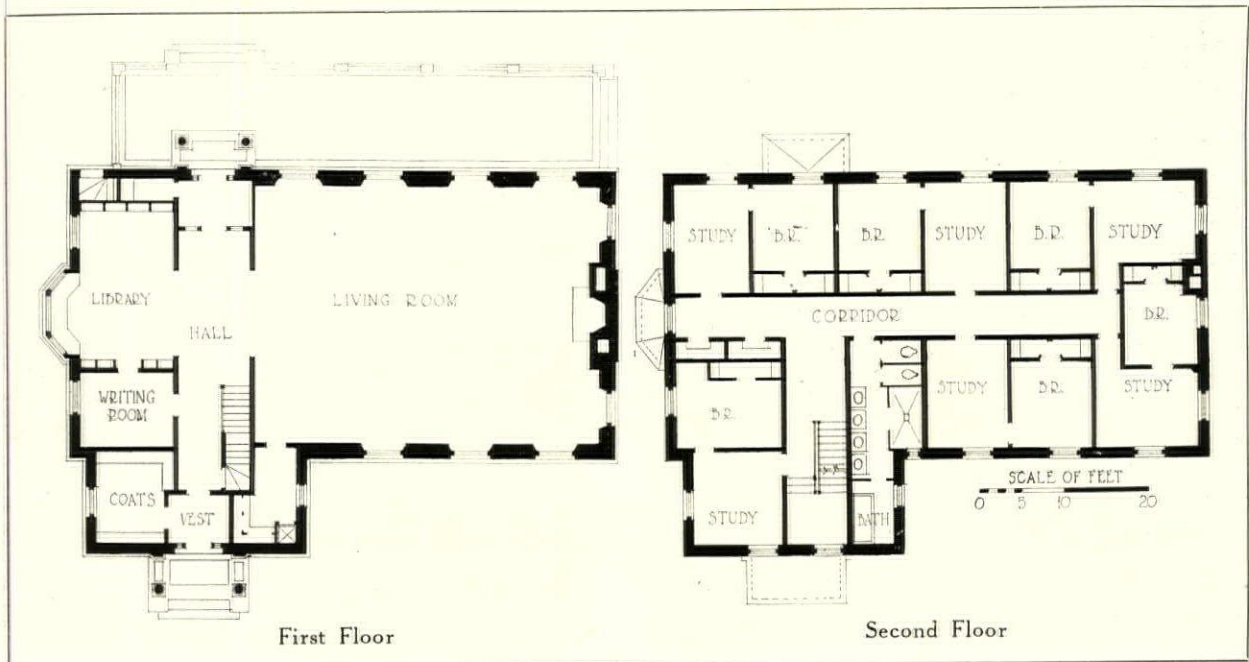




DELTA TAU DELTA HOUSE, DARTMOUTH COLLEGE, HANOVER, N. H.  
BLACKALL, CLAPP & WHITEMORE, ARCHITECTS

ANOTHER of the recently completed fraternity houses at Dartmouth is that of Delta Tau Delta. This simple brick building with gambrel roof follows the Colonial style as regards the exterior details. Both the entrance porch on the front of the house with its simple entablature and low pediment, and the entrance at the rear of the main hall, which opens onto the living porch, are carried out in the Tuscan style of Classic architecture. The entrance porch on

the front of the building is located in the center of a bay which projects about 11 feet from the main building, creating a pleasing break in the length of this facade. At the right of this entrance motif three tall rectangular windows set in brick arched openings add a decorative note to the front facade of the building. A carefully proportioned window on the second floor is placed on the axis of each of the wall arches of the first story. This same deco-



## FORUM SPECIFICATION AND DATA SHEET—79

Delta Tau Delta House, Dartmouth College, Hanover, N. H.; Blackall, Clapp & Whittemore, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Non-fireproof.

## EXTERIOR MATERIALS:

Brick with stone and wood trim.

## ROOF:

Asphalt shingles.

## WINDOWS:

Wood frame and sash, double-hung.

## FLOORS:

Oak and hard pine.

## HEATING:

Steam.

## PLUMBING:

Enameled iron.

## ELECTRIC EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

White wood painted, and cypress stained.

## INTERIOR WALL FINISH:

Rough-cast plaster.

## DECORATIVE TREATMENT:

Simple English style; white wood painted, and cypress stained.

## APPROXIMATE CUBIC FOOTAGE:

100,000.

## COST PER CUBIC FOOT:

46½ cents.

## DATE OF COMPLETION:

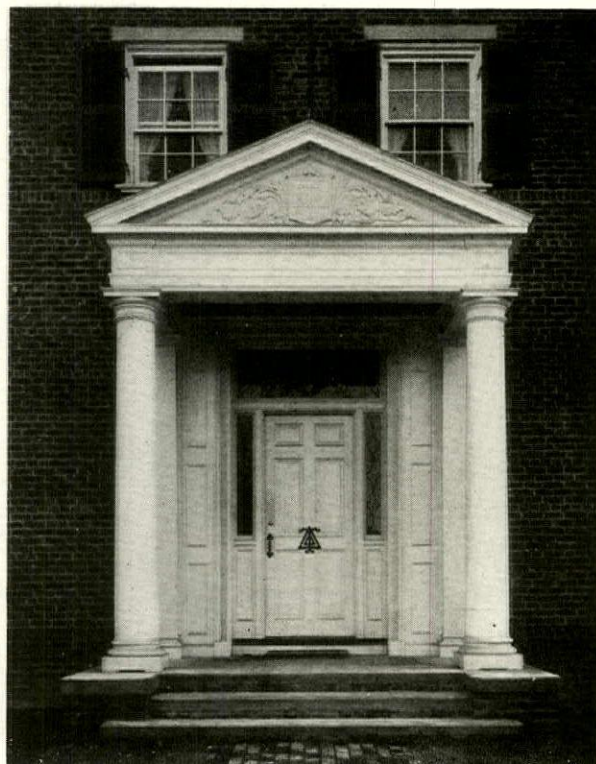
July, 1925.

rative treatment of filled-in brick arches with small windows above is repeated on the rear or garden elevation of the building. Carefully spaced, well proportioned dormers break the slope of the roof above the windows in the wall below, giving a homelike and comfortable aspect to the house. The plan is simple and direct. Rectangular in shape, the first floor provides a long center hall extending through the building. This center hall opens into a spacious living room on one side and on the other into a small library with a bay window. Other rooms on this floor are a coat room and serving room, located on either side of the entrance vestibule. This serving room

permits the living room to be used also as a dining room. At the rear of the first floor, a long, open, brick-paved terrace is used as an outdoor living room during the warmer months of the year. On the second floor are located six bedrooms and six studies, as well as a large washroom with showers and toilets. The third floor also contains bedrooms and studies, three of each, with a common washroom. Part of this floor is occupied by a room arranged for fraternity functions and ceremonies. Perhaps the most notable single detail of the exterior of the building is the excellent placing of the main floor windows in arched recesses, a means of securing character.



Living Room



Entrance

# The Designing and Planning of Stadiums

By MARY A. ROLFE

IN a paper read by Gaven Hadden, C. E., before the American Society of Civil Engineers last May, Mr. Hadden drew attention to the fact that stadiums should be built primarily for the games to be played within their enclosures. The Greek stadium, which dates from 330 B. C. and was built in the shape of a long U, was intended to provide seats for the witnessing of foot races. According to the custom of that day these races were run back and forth on a straight path until the required distance had been covered. The arena enclosed would therefore not be of the right shape or size for a stadium built for spectators of modern foot races which are run on closed tracks; much less would it be suitable for baseball or football. The Roman circus, built for the witnessing of chariot races, followed closely the Greek shape, but added a high wall surrounding the arena for the protection of spectators and a central wall dividing the first course from the return, neither of which is needed in our modern stadiums. In spite of this fact, certain stadiums have walls built around the arenas, thus cutting down the possible number of good seats,—seats within a distance from the playing field which is convenient for human eyes, since every 10 feet away from the field adds to the strain on the eyes. This enclosing wall also makes

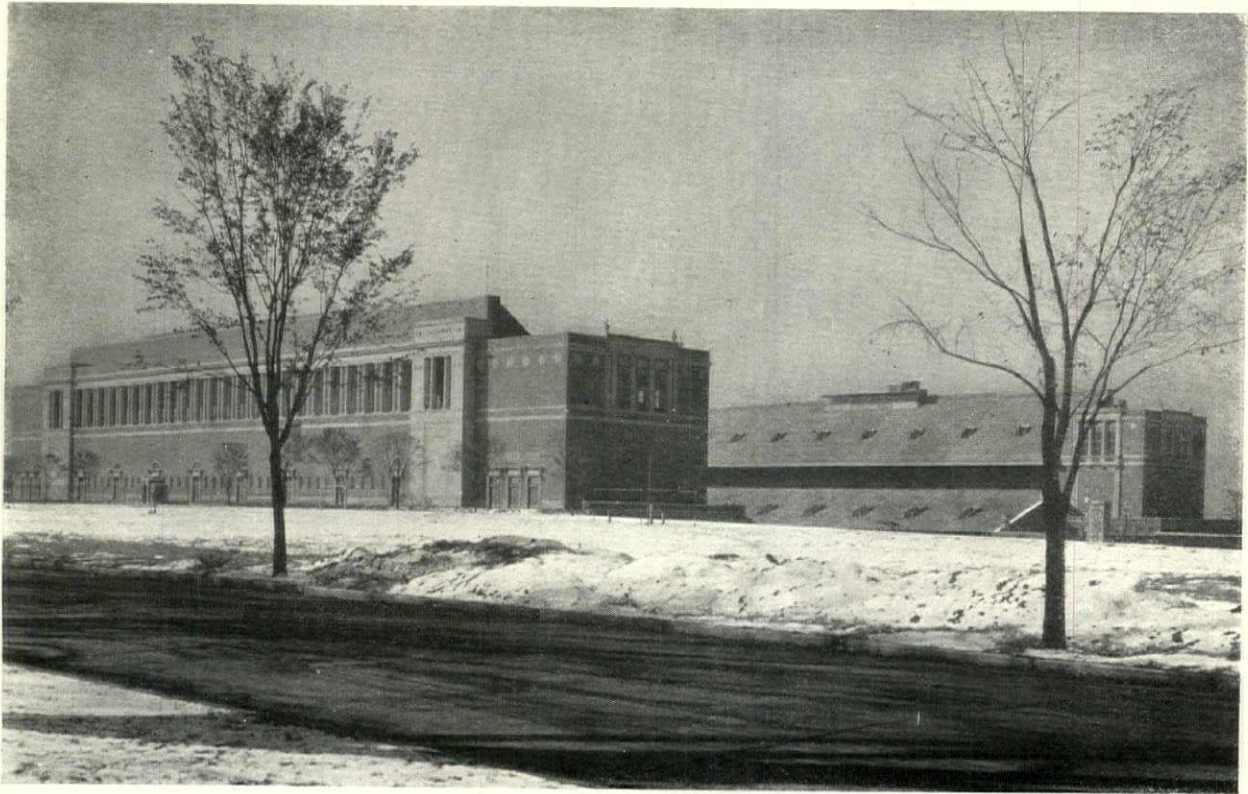
necessary the pitching of the deck to a greater slope, since otherwise the spectators would have the near part of the field cut off from view by the seated height of those in front of them added to the height of the wall. The only other alternative is the widening of the field to make up for the space so cut off. This again reduces the number of good seats possible within the visual limit which is found convenient.

The amphitheater, built for the purpose of witnessing wild animal and gladiatorial shows, was oval or elliptical. The Yale Bowl follows the lines of the amphitheater, although the shows for which the amphitheater was designed were of a character that made any seat on any side as good as any other seat, whereas football, which is the only game played in the Yale Bowl, is played on a rectangular field. Thus the shape of the stadium makes impossible for the spectators any of the seats which are usually considered the choice seats at a football game,—the close-in, central, side seats. There are no such seats to be had when the stadium follows the lines of the Roman amphitheater. Furthermore, the enclosing wall around the arena, made necessary in the amphitheater for the protection of the spectators and for the retention of water when a sea fight was to be staged, is not needed today, even though the design



Airplane View, Yale Bowl, New Haven

Designed by Charles A. Ferry, C. E.; Architectural Details by Donn Barber



Stadium, University of Illinois, Urbana, Ill.  
Holabird & Roche, Architects

of the amphitheater is retained. Fortunately, the demands of the early baseball games indicated very definitely the shape needed for baseball stadiums, so that the arrangement of the seats in permanent baseball parks has never yielded to that of the ancient stadium. Mr. Hadden showed a very interesting plan for using partially stationary and partially mov-

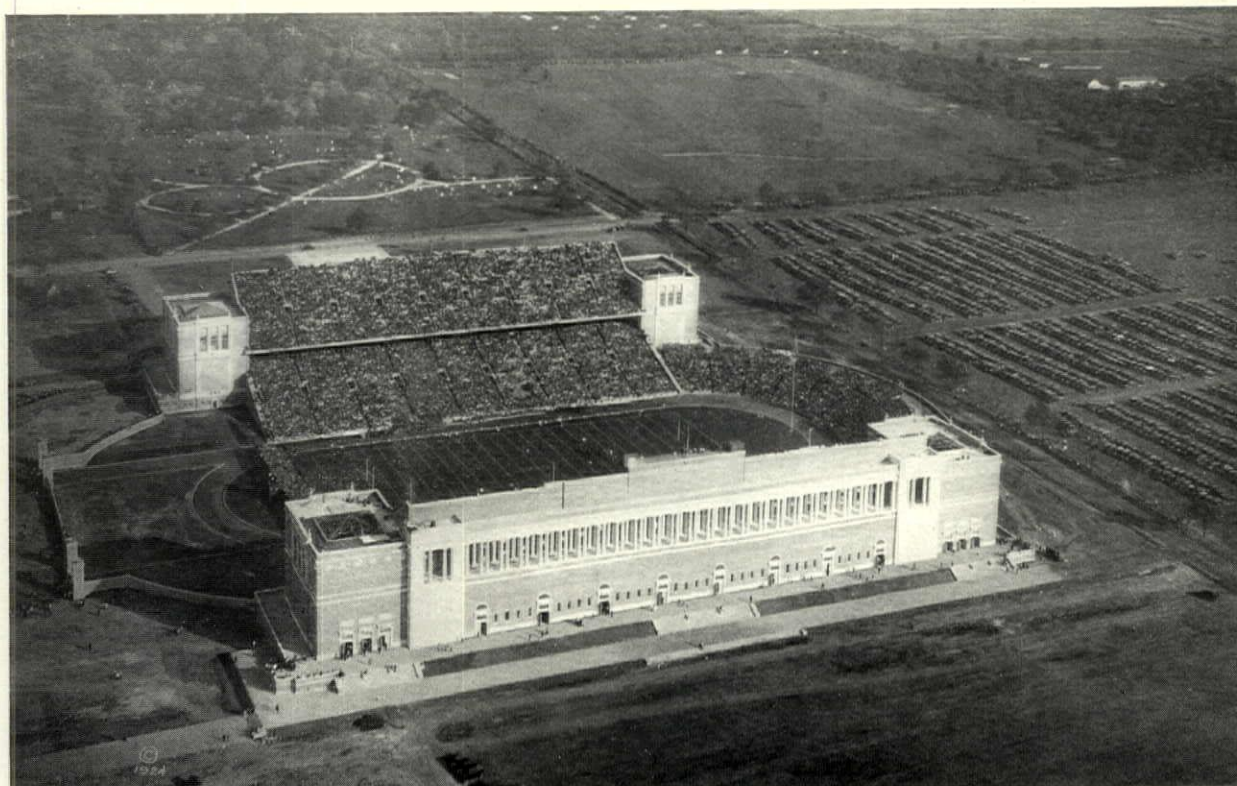
able (although permanent) seats, so that the same stadium could, by the swinging of the decks of seats on an axis, be made to serve the needs of both baseball and football. This is perhaps the best modern example of the movement away from the old stadium forms and toward forms adapted to the game for which the stadium is probably intended to be used.

With the exception of the Yale Bowl, every stadium of any importance has been designed for more than one sport. With this purpose in mind, something of the ideal for each game has necessarily been sacrificed. The addition of a running track around the gridiron means a sacrifice of large numbers of choice seats for viewing football, because of the visual limit of convenience. When, however, the stadium is built with a double deck, the added width of the field permits a lower pitch of the upper deck, and hence at Illinois the track was added, the additional deck making up for the loss of good seats due to the width. A small crowd seating itself in order to witness a game of football will form a close mass at the middle of each side and will fill the lower rows of seats, extending back up the bleachers in an inverted fan shape, keeping the distance from the center of the field about equal whether the occupied seats be along the lower tiers or upward. With this natural grouping in mind, the Cornell Crescent was built. It was intended to meet just these conditions.

The first step in breaking away from the traditional type of stadium structure was to widen the U; the second step was to flatten the curved end or ends, thus bringing the form of stadium more



Detail, Stadium, University of Illinois  
Holabird & Roche, Architects



Airplane View, Stadium, University of Illinois, Urbana, Ill.  
 Holabird & Roche, Architects

nearly in line with the form of the gridiron. A true rectangle would not serve, because the seats in the angle would be very undesirable. The third step in modernizing the plan of the stadium was to forget the ends and to build on the sides only. While recognizing the natural plan of seating arrangement, most of these sidestand buildings have rectangular decks. While the corner seats are not as desirable as are those nearer to the center of the field, they are preferable to end seats, and when the playing is near the goal posts they are as good as any seats anywhere, provided the stands do not extend too far beyond the lines of the goal posts, which they need not do.

So long as the space under the stands is of no value for athletic purposes, the traditional architecture of the Greek and Roman buildings is likely to be retained wherever the embankment type is not used. Only where modern steel beams are used can the space below the seats be made valuable. A long central beam under the lower deck of the Illinois stadium has done away with the need of a supporting row of pillars, making possible two halls 50 feet wide and as long as the stands. These, being free from all obstructions, can be enclosed, heated and used for athletic contests, practice or sports. Open concrete arches of some type will give entrance to such areas. As soon, however, as the space is opened up by the use of steel beams, the design of the exterior must change, because the use of the halls so formed necessitates the walling in of the structure. The Illinois stadium has departed very markedly from the use of the traditional concrete in building

these enclosing walls of brick with stone trimmings, and in using an American adaptation of an English type of architecture. The arch is entirely lacking, square-topped entrance doors giving access to great halls from which entrance is made onto the decks. The use of this type of enclosure is the more definitely marked because of the placing of carving,



Detail, Franklin Field Stadium, University of Pennsylvania, Philadelphia  
 Day & Klauder, Architects



Franklin Field Stadium, University of Pennsylvania, Philadelphia  
Day & Klauder, Architects

tablets and plaques as they might be placed on any building, such as an auditorium. The only bit of reminiscent architecture is the use of the Roman Doric columns in the colonnade which occupies the space under the upper deck. It is to be expected that this movement away from the use of the classical types will continue, since it proves advantageous.



Entrance, Memorial Field, Dartmouth College,  
Hanover, N. H.  
Larson & Wells, Architects

In considering the plan of a stadium the points to be considered are: (1) the allotment of land on which to build; (2) the purpose for which the stadium is designed; (2) the seasons when the different sports for which it will be used are played; (4) the approximate sizes of the crowds at different seasons; (5) the direction of the wind and the position of the sun at those times of the year and during the hours of the day when the games will be played; (6) the sources from which the crowds will come, whether local or from the surrounding country or from long distances; (7) approaches necessary to accommodate the crowds; (8) parking spaces necessary for cars; (9) the weight of the crowd when seated, when moving or when standing suddenly; (10) the weight of the material used in construction; (11) the force of the wind, and (12) the safety of the people. All this has to do with "planning for crowds" and each detail is of considerable importance.

The first point will inevitably make a great difference in the plan. Illinois, with 40 acres on which to build, and Pennsylvania with only a narrow strip between two streets, would necessarily use different plans. Illinois could use the space under the decks for athletic purposes, while Pennsylvania was happy to be permitted to extend its decks out over the sidewalks of the streets on either side, forming arcades. Illinois had no limit to the width of deck that necessarily restricted it, while Pennsylvania's sidelines were restricted by the shorter width between the playing field and the outer edges of the arcade. As a consequence, Pennsylvania had to do without some of the best seat locations, owing to these limitations.



Memorial Field Stadium, Dartmouth College, Hanover, N. H.

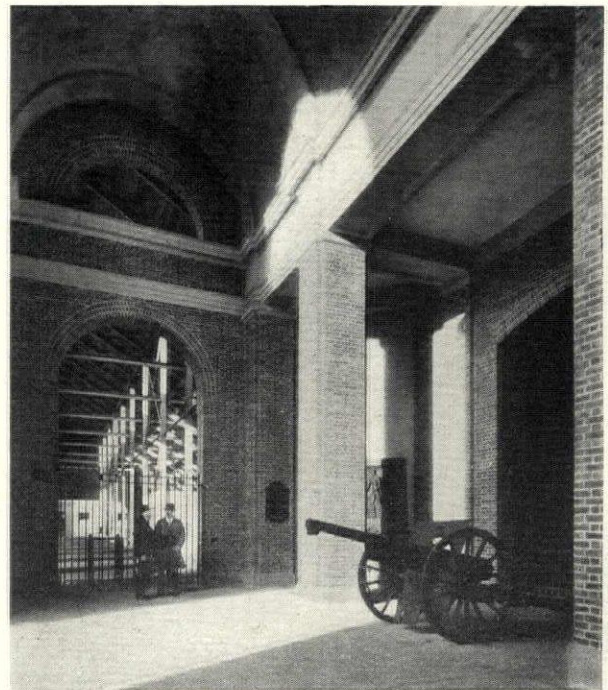
Larson & Wells, Architects

The relative importance of the different games which are played during the season limits the choice of sports for which the stadium is primarily intended. The season of the year and the hours of the day bring considerations of sun, heat and shadow, as well as of rain and snow. Prevailing winds become very active factors on open land, not only as retarding agents during the game, but as force constantly bearing against the exterior walls of the building.

The stadium is useful in proportion to the speed with which the crowd can enter it and leave it with comfort and safety. Where (and where is this not true today?) a large part of the crowd comes in for the game and departs soon after the game by train or in automobiles, the planning of the building and its usefulness must depend in part on the terminal facilities of the location, its distance from the places from which crowds come, transportation from the railroads and parking areas for automobiles, as well as wide paved walks leading to the building. Furthermore, the distribution of the crowd outside of the stadium, so that persons going to different tiers and sections of seats will enter by different openings or doors and so that these lines of spectators cannot cross each other in a time of panic, is a prime essential. The safety of the people also brings up the relative merits of steps or ramps, the latter affording by far the safer means of entrance and exit to and from the higher seats. This is especially important where more than one deck is used for the seating.

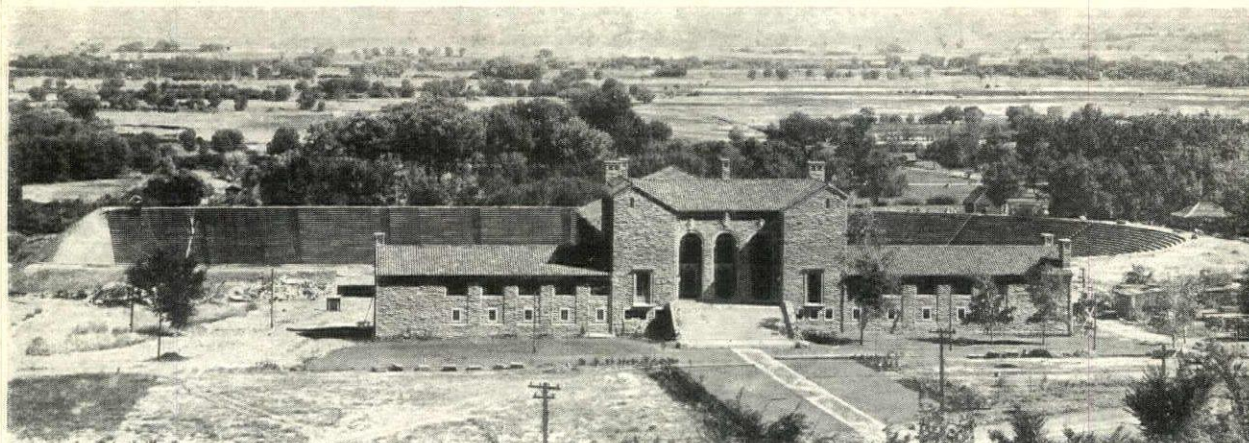
In planning for the safety of the people after they have entered the structure, the dead load or weight

of the material is the first consideration. The all-concrete, the concrete and earth, the earth and wood, the earth, wood and steel, and the concrete, steel and wood structures will all have a different dead weight, and none of these will be the same as the dead weight of the steel, concrete and brick structure. Added to this weight there will be the weight of the



Detail, Memorial Field Stadium, Dartmouth College, Hanover, N. H.

Larson & Wells, Architects



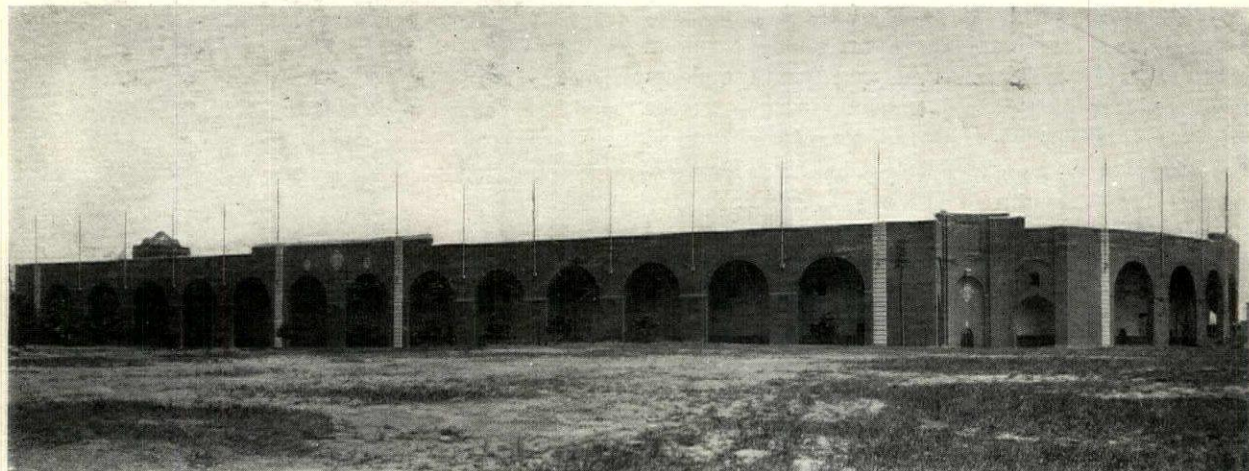
Stadium, University of Colorado, Boulder, Colo.  
Day & Klauder, Architects

spectators themselves. This weight will be greatly increased by the movements of the spectators. The seating capacity and weight allowance of the Illinois stadium, for example, allow one person to each 3.2 square feet, the seats being raised wooden seats set on blocks, bolted to the concrete steps, thus giving foot room under each seat for the person in the next seat behind; by figuring the average weight of the spectators as 150 pounds, the weight per square foot resulting was figured as 47 pounds or thereabouts over the area covered by the seats. By figuring in the areas of the aisles, press boxes, etc., this would be decreased to 42 pounds per square foot. By somewhat more than doubling the strength for the support of this weight, the increase of the weight of the crowd when moving was cared for. As people crowd together on leaving, the movement is less, and so the decrease in the live weight due to movement offsets the increase in the weight per square foot due to the crowding of the people together.

Certain movements of the crowds at football games produce horizontal thrusts which must be provided for by bracing. The Illinois stadium was braced to provide for a horizontal load of 20 pounds per square foot of vertical surface in the upper deck. The pre-

vailing winds are such that this bracing also takes care of the weight due to the force of the wind, but as an extra precaution a considerable amount of further bracing was introduced into the structure to care for the wind pressures. The total dead and live weight were added together, and the structure built to sustain twice this load.

Considerations of economy with safety have caused certain stadiums to be built on the embankment plan,—structures without architectural merit. Having replaced the supporting arch with tamped earth, their construction is an engineering rather than an architectural problem. Furthermore, on account of the material used, it is necessary for them to assume the circular or elliptical form, and thereby they lose in convenience what they gain in economy. The exterior of what seems to be the future modern stadium—a series of gymnasiums or field houses with seated roofs arranged around a playing field, adapted to the contests staged there—may be designed to accord with any prevailing campus style of architecture, and the material used may be of any local sort that has been adopted for economy's sake by the university. There is no fixed standard of design or material, nor can there be, once tradition is forgotten.



Franklin Field Stadium, University of Pennsylvania, Philadelphia  
Day & Klauder, Architects



# Interesting Possibilities of "Efficiency Plan" Dormitories

By C. STANLEY TAYLOR

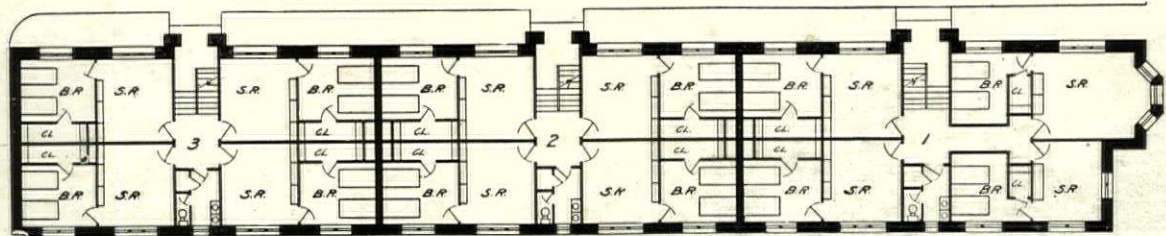
IN various preceding articles and illustrations the problems and methods of planning modern college dormitories have been presented in considerable detail. It is felt, however, that this discussion would not be complete without giving some consideration to the application of the "efficiency planning" idea in the layout of dormitory buildings.

Efficiency planning has already been strongly established in the apartment building field, particularly in the west and Pacific coast districts, and today it is being adopted more and more in the large eastern cities of the United States. This type of planning consists primarily of establishing a double-utility purpose for rooms, which will allow a maximum of service with the smallest possible space requirement. The essentials of efficiency planning are to be found in the equipment, particularly in the use of door beds, making it possible to use a room as a living room in the daytime and a bedroom at night. In the planning of college dormitories this efficiency idea is already beginning to show its influence and to prove the desirability of providing two-room efficiency in one-room space for this type of occupancy, and the advantage is sufficiently obvious, so that the various factors need not be described in detail.

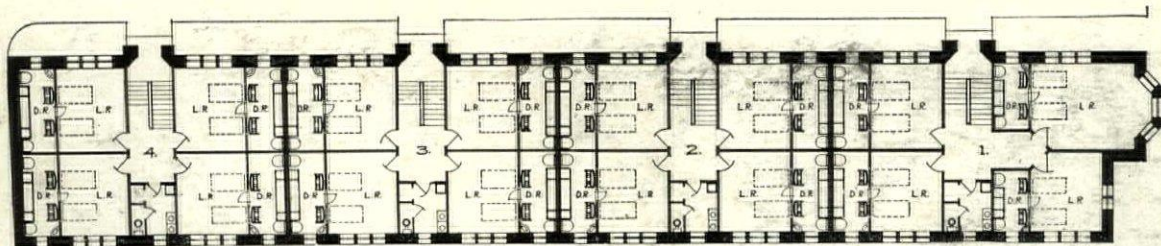
In order to facilitate an analysis of this method of planning as compared to the usual method, there are shown here two plans having exactly the same perimeters. The first plan shows a typical dormitory layout which has been selected from a recently con-

structed building in the middle west. This layout provides 12 two-room apartments, each consisting of a bedroom and sitting room, with a bathroom serving each four apartments. The second plan shows the identical perimeter worked out under the system of efficiency planning by providing 16 apartments, having the efficiency of two rooms each, but allowing for the housing of four or eight more students on the same floor and still retaining the same ratio of bathrooms to room occupancy. In the efficiency plan shown here the sitting room serves as a bedroom at night in the manner illustrated on the next page, while ample dressing rooms with chiffoniers for each occupant are provided. On the next page is illustrated the new dormitory building of the Chicago Theological Seminary, of which H. H. Riddle was the architect. Here the efficiency idea is carried throughout the plan, but dressing rooms are not provided, the beds being concealed in large closets during the daytime. The illustrations of a typical room indicate that this method of planning provides an attractive living room during the daytime and a comfortable bedroom for two persons at night, thus making possible the doing of double duty by the room.

It is quite probable that use of this type of planning will increase considerably during the next few years, since it represents not only conservation in the amount of building space provided but lowers the cost of housing for students from the points of view of both the college administration and the students.



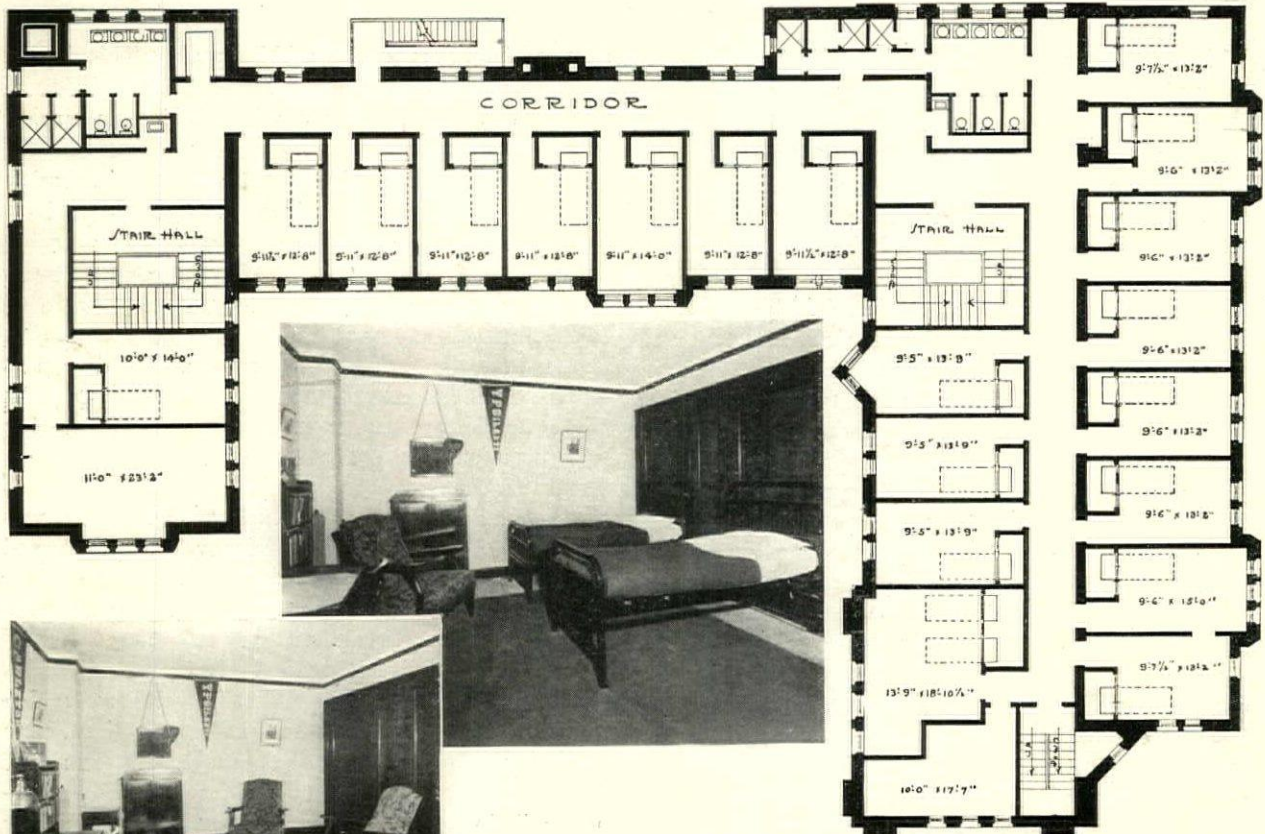
Typical Dormitory Layout Providing 12 Two-Room Apartments



Same Perimeter Laid Out to Provide 16 Apartments of Two-Room Efficiency

# "Efficiency" Dormitory of the Chicago Theological Seminary

H. H. RIDDLE, Architect



An interesting feature of this plan is the use of door-beds, providing for each room a double utility of purpose as shown in the two illustrations included here



The Quality of Exterior Design Is Not Impaired by This New Planning Method