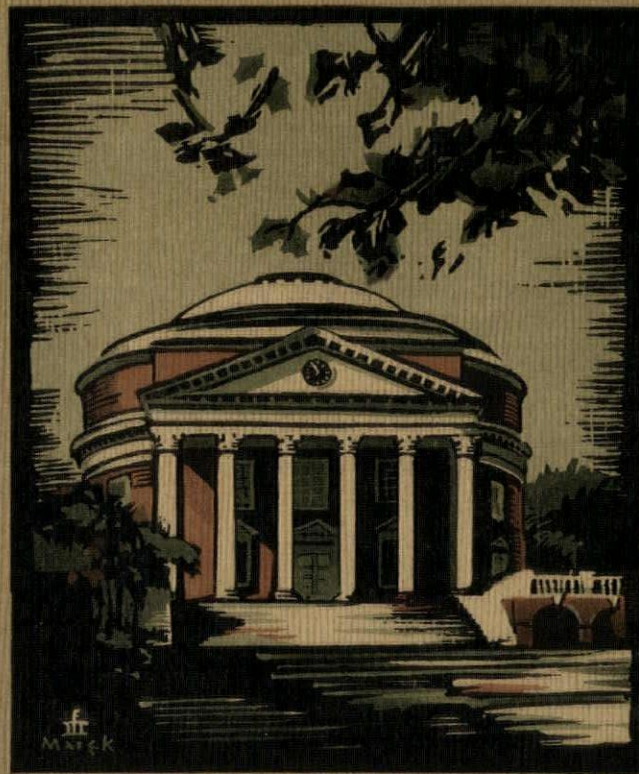


THE ARCHITECTURAL FORUM



JUNE 1931

IN TWO PARTS—PART ONE

ARCHITECTURAL DESIGN
UNIVERSITY BUILDINGS REFERENCE NUMBER

P

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Yesterday merely a nebulous idea; today buildings all over the country are equipped with Mills Metal interchangeable partitions.

The reason is altogether logical. Re-arranging offices in the old-fashioned way cost, according to a Building Managers Association survey \$15,000,000 a year, a large part of which is saved with Mills Metal Interchangeable Partitions.


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HANLEY FLAME-TONE HAND FETTLED TILE

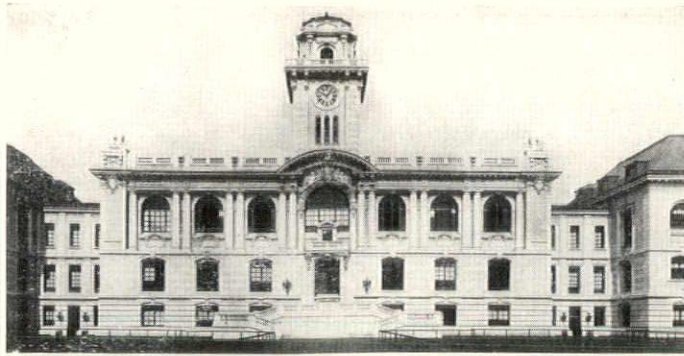
Tan, russet, olive—no two exactly alike . . . These hand fettled tile offer architects and decorators new decorative possibilities. In combination with Holland brick, their mellow appearance of age is particularly adaptable.

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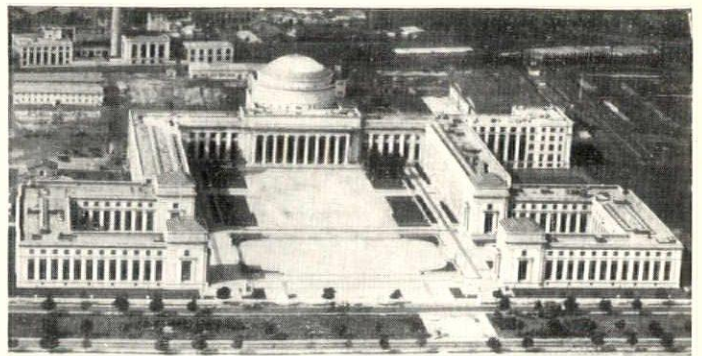
BOSTON: 260 TREMONT ST.

BRADFORD, PA.

NEW YORK: 565 FIFTH AVE.



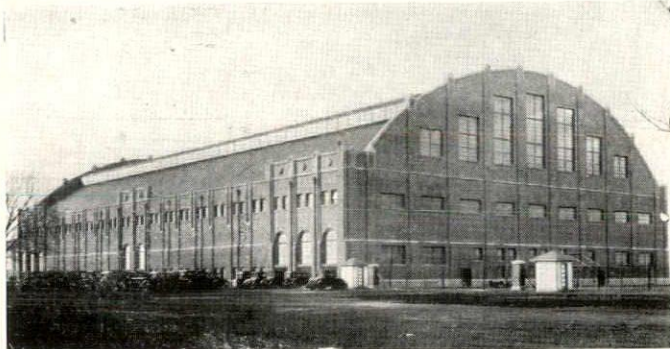
Library Building, U. S. Naval Academy, Annapolis, Md.
Ernest Flagg, *Architect*



Massachusetts Institute of Technology, Cambridge, Mass.
Wm. W. Bosworth, *Architect*



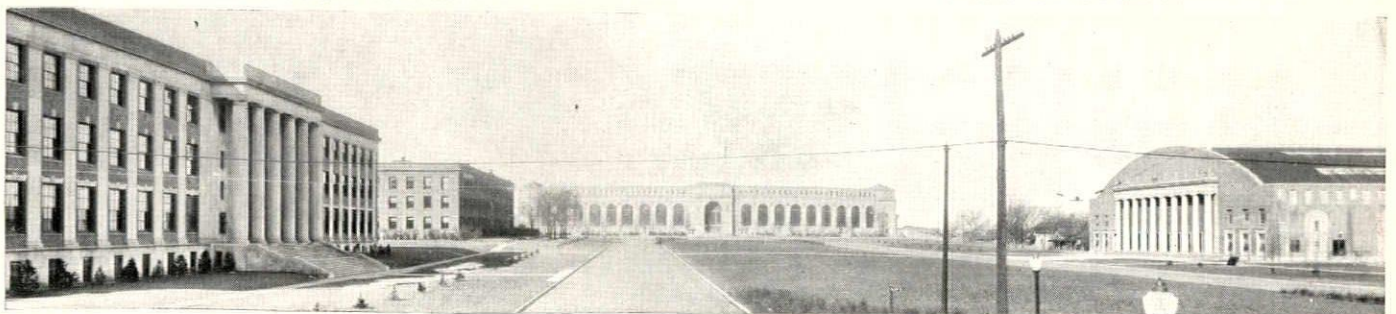
Hill Auditorium, University of Michigan, Ann Arbor, Mich.
Albert Kahn, Inc., *Architect*



Field House, Butler University, Indianapolis, Indiana
Fermor S. Cannon, *Architect*



Normal Training School, Kent State Normal College, Kent, Ohio
Ronan & Ingleson, *Architects*



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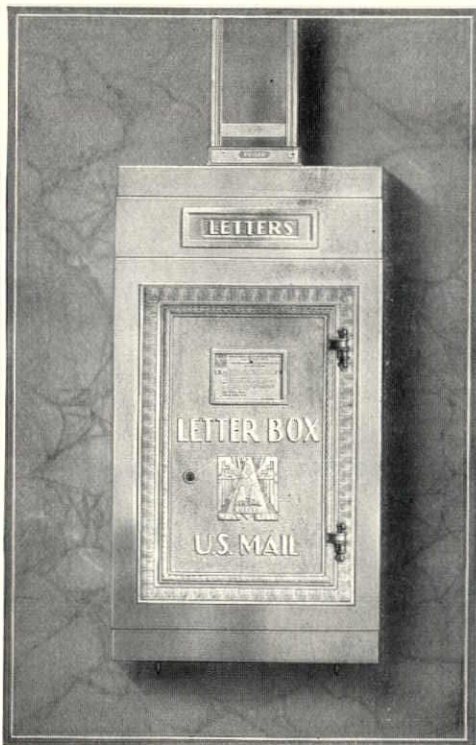
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Davis & Wilson, *Architects*

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The business is limited and restricted by stringent Postal Regulations, but centered in one establishment it is possible to maintain the organization necessary to give to our customers, the public, and the Post Office Department a quality of work and service satisfactory to them, and to us.



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This also justifies the employment of specially designed machinery by which the highest standard of quality is maintained, and the cost of production reduced to the lowest possible level.

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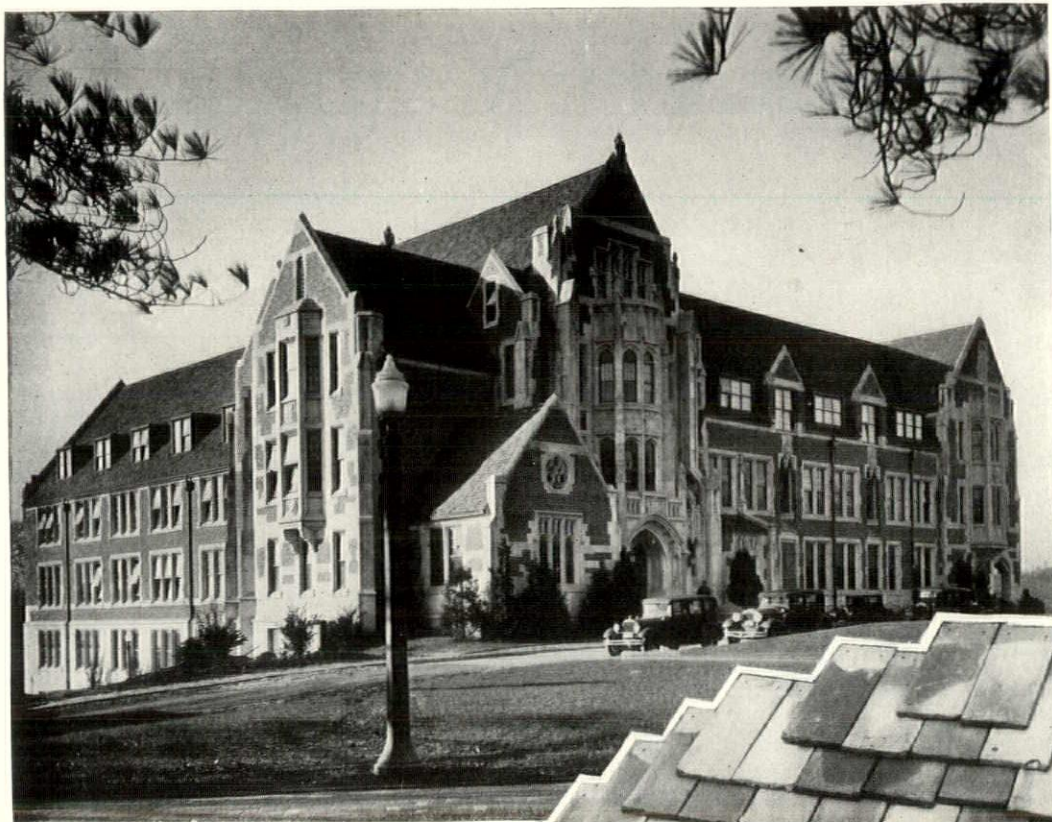
The Mail Box, which is an integral part of the equipment is furnished in a variety of forms, either from stock or special designs. By the use in part, of stock models and patterns special Architectural requirements

can be met at moderate cost. Expert advice, full information and estimates will be gladly given on request.

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A varied selection from the most formal mechanical unit to the crude, time weathered, thick butt slab, gives a choice of color and roof texture to meet almost any individual taste or requirement.

The college building above is a pleasing confirmation of the wisdom in the choice of Hood's Yorkshire shingles laid in a flowing graduation from the dark weathered browns and gunmetals at the eave, to the lighter tans and biscuit browns at the ridge.

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Above all things use Hood Roofing Tile

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THE architects of the already famous Empire-State Building knew that in the proven quarries owned by Indiana Limestone Company they were certain of finding exactly the class of limestone they wanted . . . in unlimited quantity . . . delivered with a service that would measure up in every detail to their requirements.

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Whether you need proof with which to convince a client of the desirability of using our stone . . . or whether it is technical information on some particular problem with reference to stone . . . do not hesitate to call upon us. The nationwide facilities of this Company are at your disposal at all times.

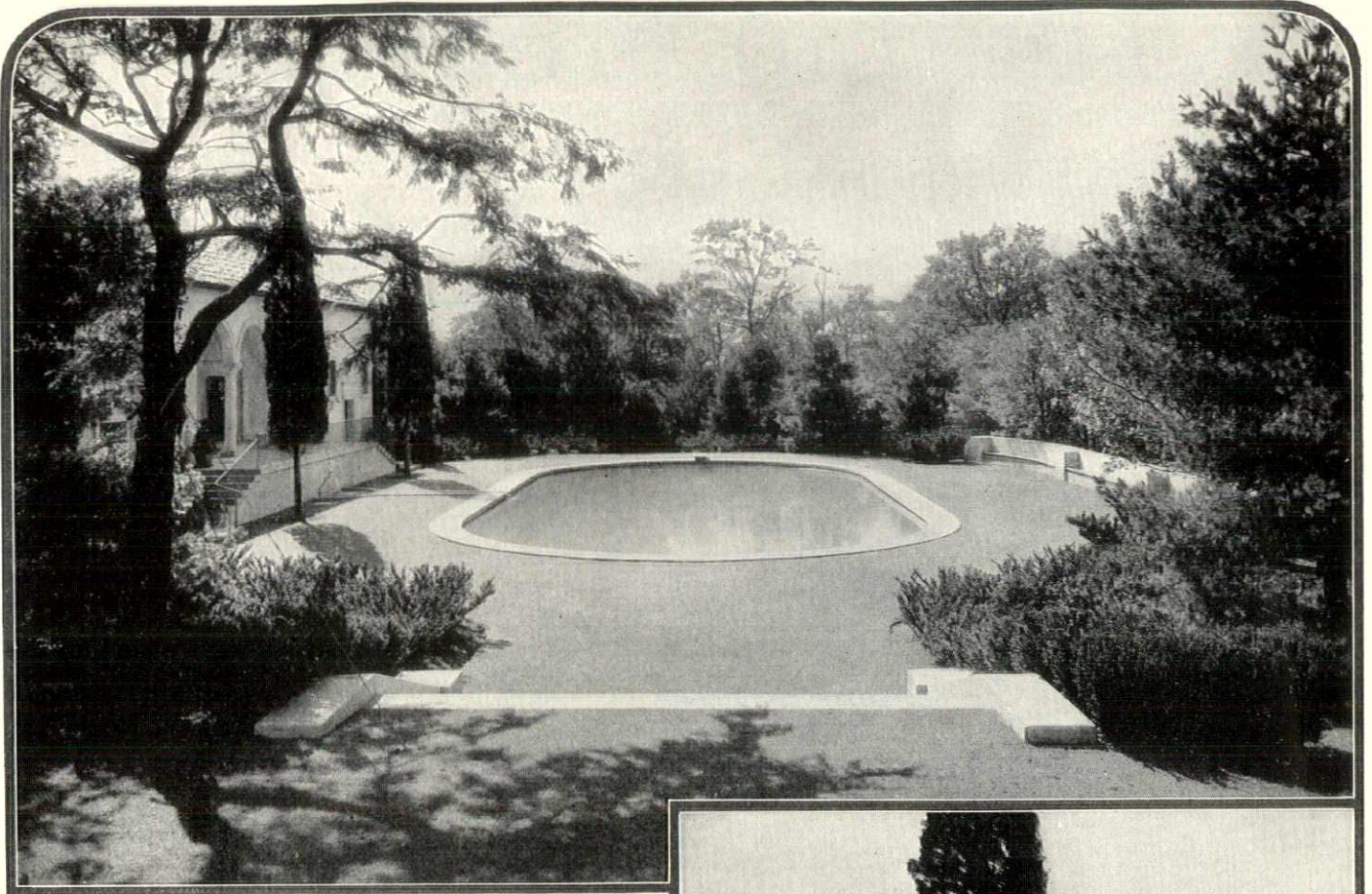
Let us send you illustrated literature showing examples of the type of building you are now engaged upon. Address box 1666, Service Bureau, Indiana Limestone Company, Bedford, Indiana. (Executive Offices: Tribune Tower, Chicago.)

Our complete specification manual is printed in Sweet's Vol. A. Page 591 to 616.



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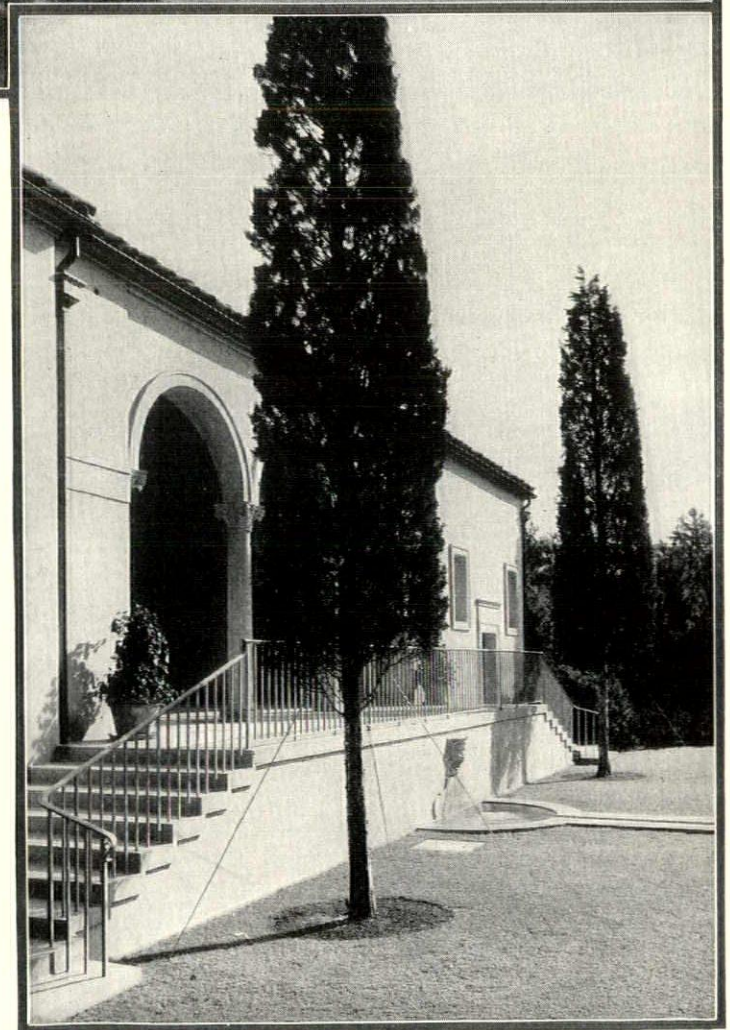
Arthur V. Davis Swimming Pool and Pavilion at Mill Neck, Long Island . . . Vitale and Geiffert, Landscape Architects

The
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 of Ornamental Metal
 . . . by FISKE

The Arthur V. Davis swimming pool pavilion at Mill Neck, L. I., views of which are adjacent, is another example of the excellence of FISKE "craftsmanship in metal."

Architects who have worked with FISKE realize that FISKE experience of over 72 years is largely responsible for the complete owner satisfaction which always identifies FISKE installations.

J.W. Fiske IRON WORKS
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SPECIALISTS IN ORNAMENTAL METAL WORK

ANACONDA

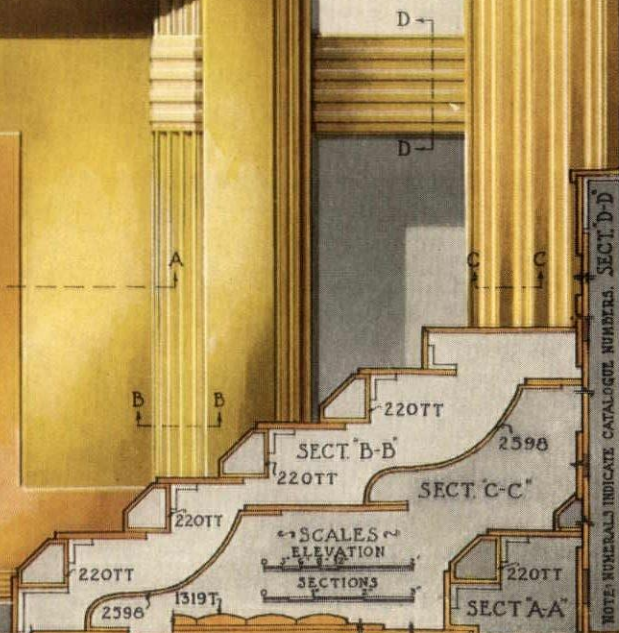
ARCHITECTURAL DRAWN SHAPES

PLATE 28

THIS PLATE ILLUSTRATES THE ADAPTABILITY TO ORIGINAL DESIGN OF STANDARD ANACONDA DRAWN SHAPES. COPPER, COMMERCIAL BRONZE, BRASS ALLOYS, NICKEL SILVER AND AMBRAC CAN BE FURNISHED IN MANY DRAWN SHAPES—OFFERING A CHOICE OF METALS WHICH MAKE POSSIBLE THE ACHIEVEMENT OF PLEASING CONTRASTS OR SUBTLE VARIATIONS IN THE COLOR OF FINISHED METAL WORK.

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**A century
and a half
of exposure
did not
damage
this grill work
of**

This simple, vigorous bit of decorative Wrought Iron was set where it would be exposed to the elements with the full confidence of its makers that it would survive the centuries. Even in Colonial days, Wrought Iron was well established as a metal of supreme endurance. It had already created thousands of records of resistance to rain, steam, salt air, smoke and fumes.

WROUGHT IRON

THE KIND THAT
HIGHLAND MAKES

About the time our restless and rebellious forebears were dumping tea into Boston Harbor, writing and signing defiant declarations and generally making themselves unpopular with His Majesty, King George the Third, Littleton Dennis built this home, Beverly House, in Worcester County, Maryland.

He imported the Wrought Iron grill work from England. Today—about 150 years later—this lovely framing of the entrance facing the Pocomoke river is as little affected by the elements as if it had been installed last year.

It's Wrought Iron—the Kind that Highland Makes. Its structure contains millions of tiny microscopic layers of Iron Silicate that through the centuries repel the invasion of Rust.

Write us for more of the Wrought Iron story—and why it will save you money.

*Architects Apply Highland Wrought
Iron to New Uses*

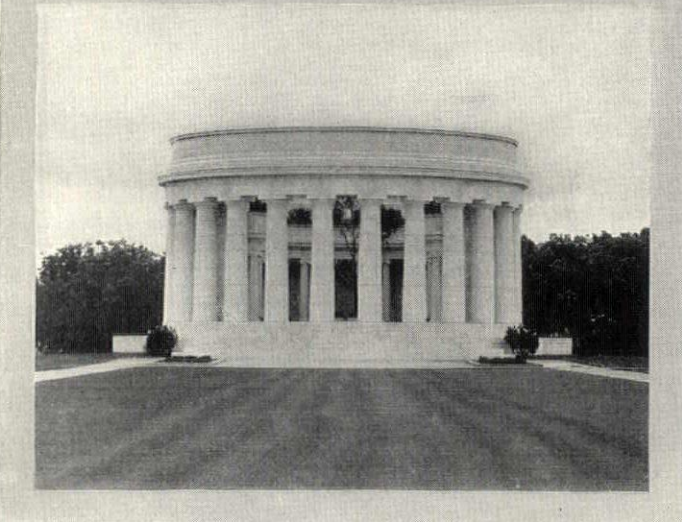
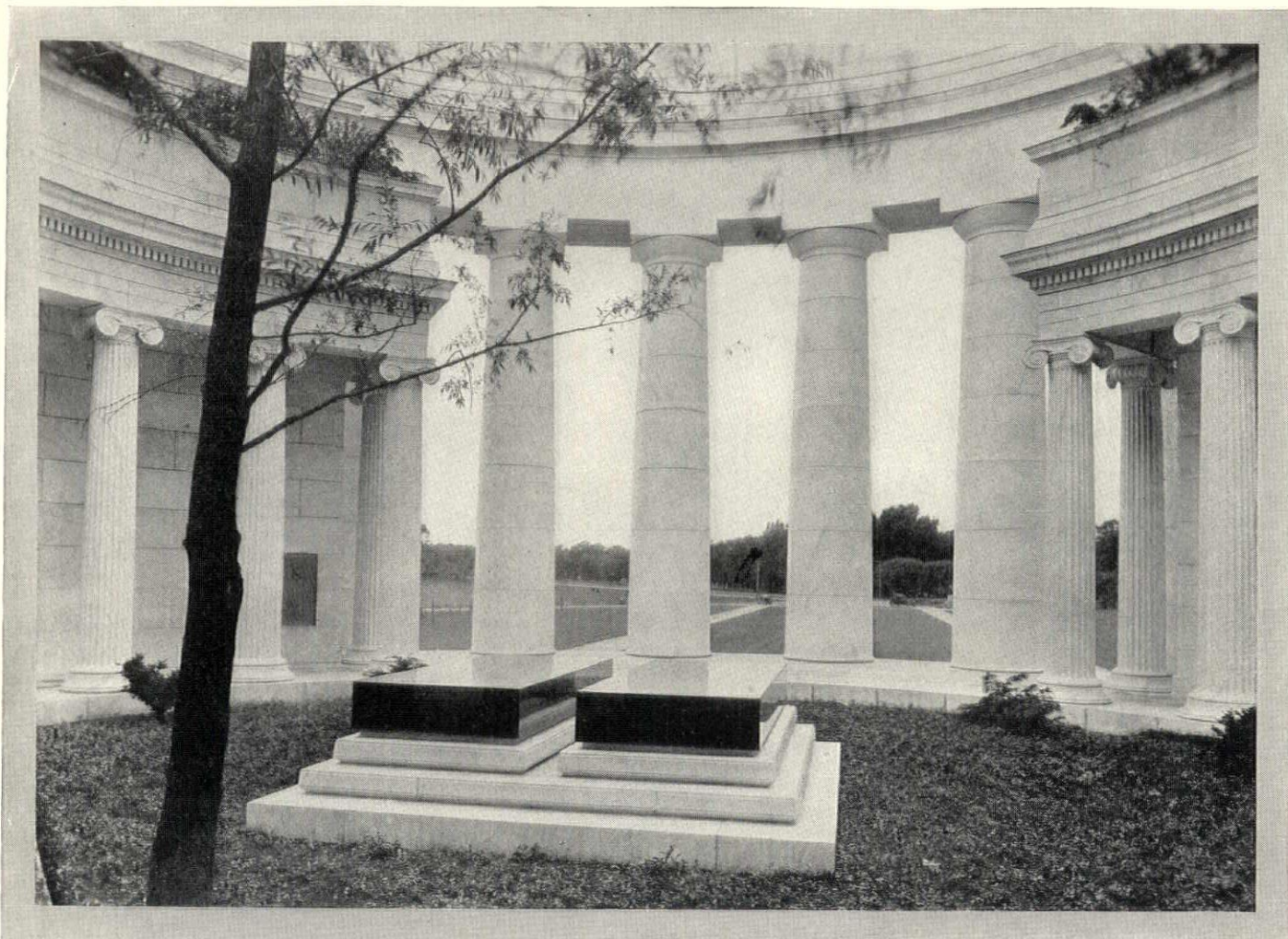
REVIVING the ancient glory of wrought iron decoration, architects are finding many new uses to add to those which have been established for centuries. Especially in those exposed portions where corrosion causes rapid depreciation, Wrought Iron—the Kind that Highland Makes—is coming into greater possibilities than ever in many forms of construction.

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THE WARREN G. HARDING MEMORIAL

Henry Hornbostel and Eric Fisher Wood, Archts., E. P. Mellon, Professional Adviser

Dedicated in June by President Hoover

This superb monument of marble at Marion, Ohio, a memorial to the late President Harding, will be dedicated on June 16, 1931 by President Hoover.

National monuments, such as this, are built to stand for all time. For this reason, only the most durable materials were even considered for this structure. The requirements were strict, and the tests to which each material was subjected were severe. Georgia Marble stood out as the wisest choice—considered both for durability and beauty.

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648 Builders' Bldg.
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622 Construction Industries Bldg.
DALLAS

1200 Keith Bldg.
CLEVELAND

★

★

The Beauty of Hand Craftsmanship—

The new Lupton Georgian Steel Window



AGE-OLD in pattern, the Lupton Georgian Steel Window is wholly new in utility, simplicity and economy. It employs an improved spring balance suspension. Housed in water-and-dust-tight casings, the balances are mounted above the meeting rail on either side of the frame. Provision is made to permit nesting the balances when a narrow mullion is desired. Balances are readily adjustable, and will withstand years of service.

The window is inherently weather-stripped. This is done by the use of a simple combination parting and weather-strip at the jambs; an extruded aluminum weathering member at the meeting rail; and by double lap contacts at head and sill.

Another important feature is that all fitting is done at the factory to assure correct sash clearances and proper operation. These clearances are maintained until window is ready for glazing by an ingenious method of self-bracing during shipment and installation.

In cost, the new Lupton Georgian Steel Window compares favorably with the first cost of wood sash with weather-stripping, hardware and fitting—while its long life makes it far more economical and satisfactory in the end. To any building in which wood sash might be used, the new Lupton Georgian Steel Window will bring higher lighting efficiency and far greater beauty.

Write to David Lupton's Sons Company, Philadelphia, Pa., for the free booklet, "The New Georgian Steel Window," describing this window in greater detail.

(On opposite page) One of the 20 sheets of Lupton Approved Installation Details, greatly reduced. Note how this sheet indicates correct construction around (lintel, jambs and sills) a Georgian Steel Window.



[ABOVE]

With its light muntins and slender meeting rail and framework, the new Lupton Georgian Steel Window combines with beauty all the advantages of steel construction—and at a cost that compares favorably with weather-stripped wood sash.

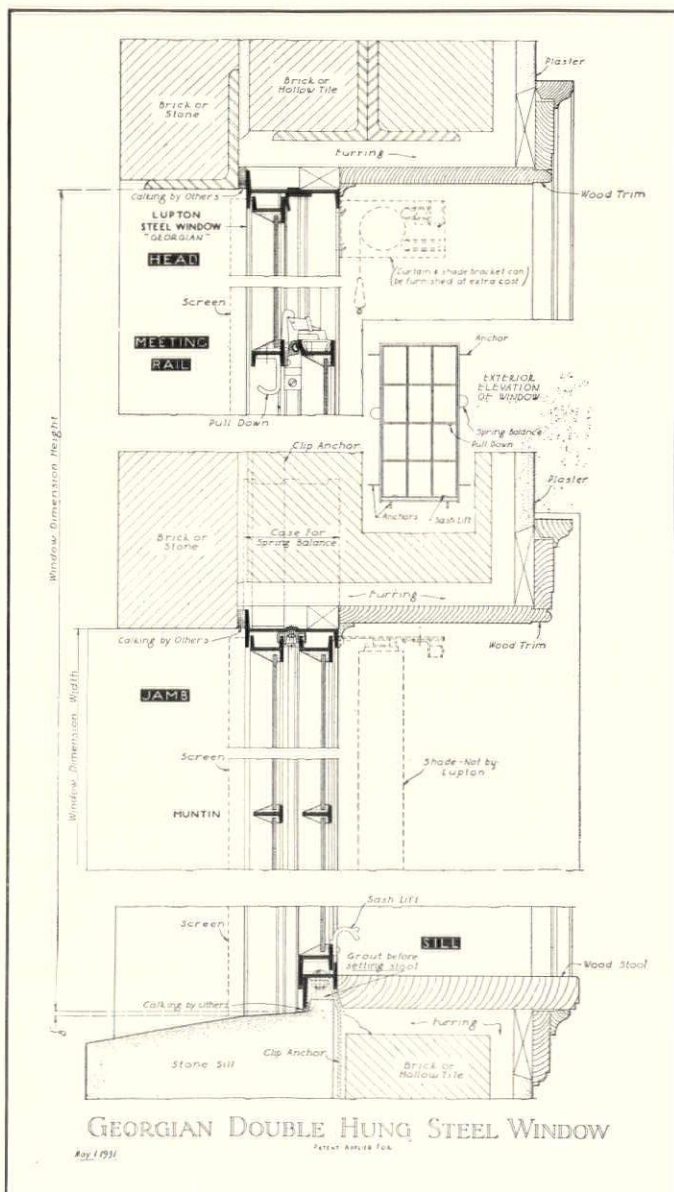
[LEFT]

Employing spring balance suspension, the new Lupton Georgian Steel Window has finger-tip action. Notice the large clear glass opening. Not even a steel casement window gives a larger glass area within the window opening.

Lupton

★ in a Low-cost Steel Window—★

A new Lupton service—approved installation details that include the entire window opening



THE correct design of a window opening is a matter of proper detailing of the surrounding construction as well as of the setting of the window in the opening. This matter, long neglected by window manufacturers, is a constant problem for every architect and builder.

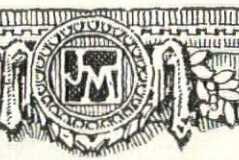
Lupton has solved this problem through the preparation, by competent architectural consultants, of a series of Lupton Approved Installation Details. These show at 3" scale or at full size, correct and time-tested construction of window openings in solid masonry, masonry veneer, stucco and frame construction. Every detail of flashings, wind stops, and caulking is correctly indicated to assure weather-tight installation of steel windows.

Now the architect can obtain a portfolio of 3" scale details, ready for tracing on his own drawings, for the Lupton Georgian, Residence Casement, Master Casement, Master Office Window and other popular Lupton products. The draftsman may follow them with complete assurance of their correctness and adequacy. If preferred, the architect or builder may obtain from his local Lupton representative full-size details in blueprint or tracing form for use with the architect's job drawings.

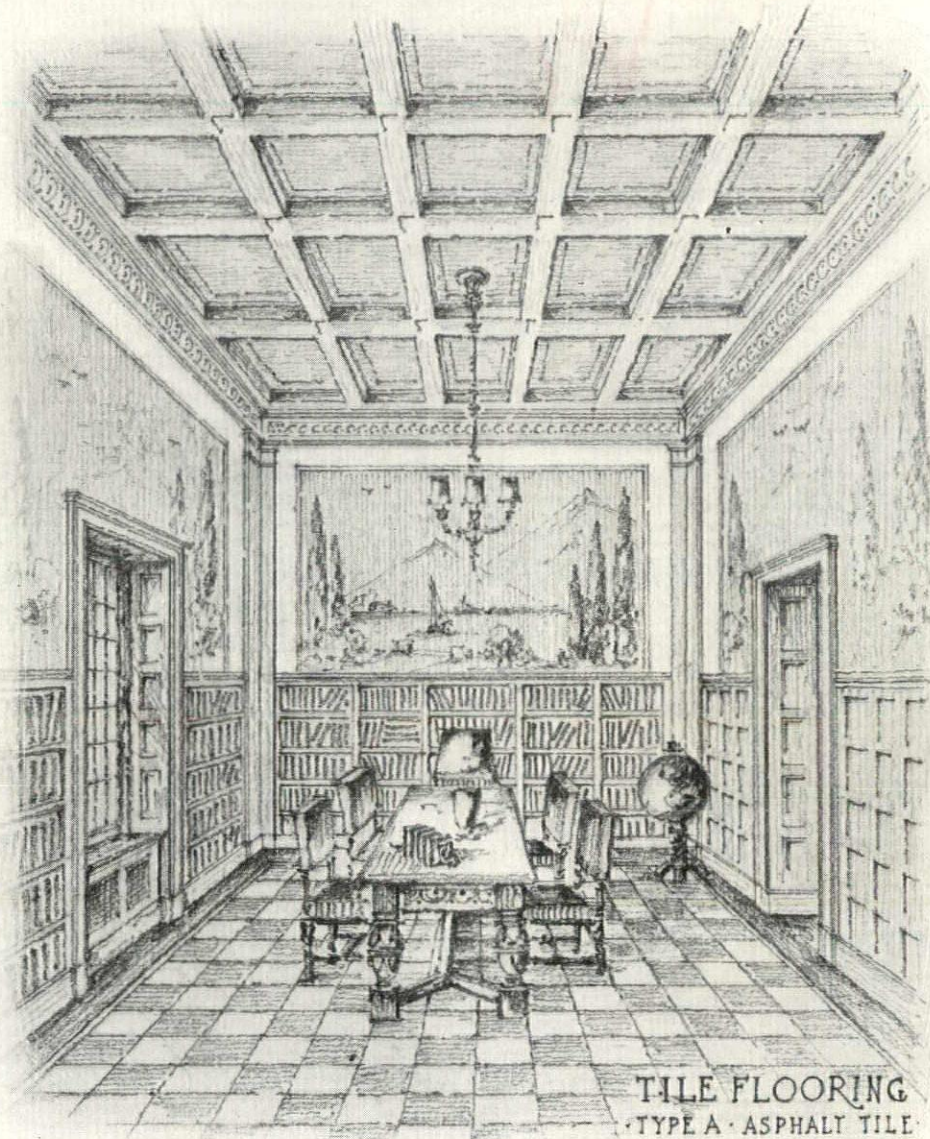
Hitherto steel window installation details have been confined to anchorage of the window in the opening. The new Lupton Approved Installation Details show, for the first time, correct construction of the window "surround." The saving to architects in designing and drafting time through the use of these sheets is incalculable.

Write to David Lupton's Sons Company, Philadelphia, Pa., for your portfolio of these Lupton Approved Installation Details, together with a booklet explaining their use and special features.

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JOHNS-MANVILLE TILE FLOORING



TILE FLOORING
·TYPE A· ASPHALT TILE

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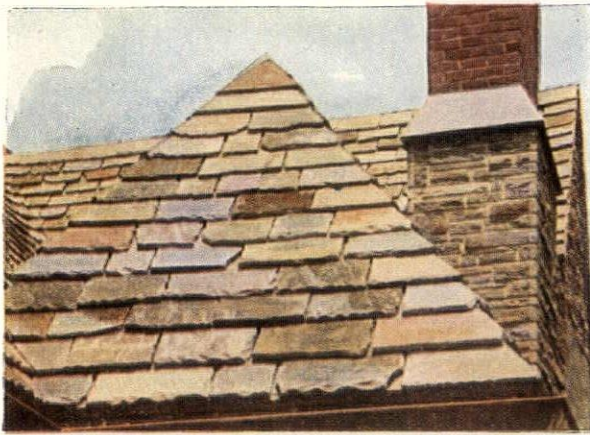


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Pleasing Texture . Great Durability

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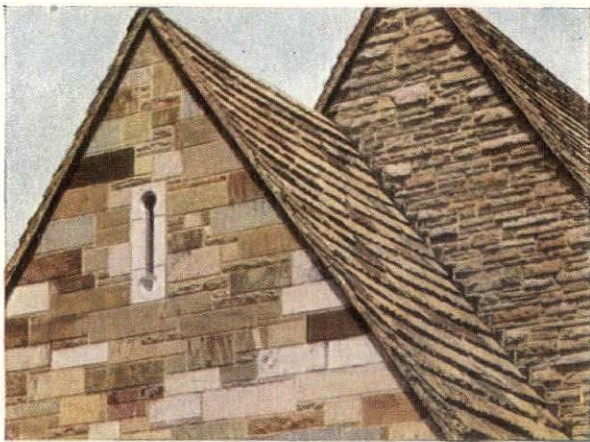


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In addition to the colorings shown we are able to supply subdued tones of gray and tans, and to ship promptly in sizes up to transportation limits. Our Crab Orchard Quartzite lies in the quarry in separate strata 1/2" to 22" in thickness. The thicker material is used for Dimension stone and Rubble. Write for complete information.

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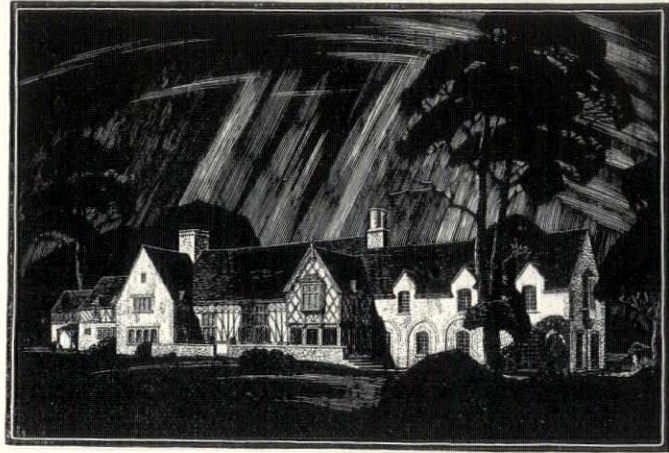


1860-1930 MEMORIES. By Glenn Brown. Cloth, 578 pages, not illustrated. Copyrighted by the author.

THE sub-title of this volume by one who was for so many years associated with the American Institute of Architects as its general secretary is an accurate resume of its contents. That title is: "A Winning Crusade to Revive George Washington's Vision of a Capital City." In his position as the Institute's most active official, Mr. Brown was one of the most aggressive participants in the development of Washington under Theodore Roosevelt and William H. Taft. His associations with McKim, Burnham, Saint Gaudens and others who were interested in one phase or another of national art are related here with an abundance of interesting anecdotes.

To Mr. Brown's persistent endeavors, the nation owes a debt of size. It was he more than anyone else who was responsible for the prominence which was finally accorded the Lincoln Memorial in the Washington plan, and it was he whom McKim depended upon in the fight for the preservation of the Park Commission's plan. These struggles Mr. Brown relates with good grace and interest.

In one chapter, the author traces the development of the A. I. A. from its inception in 1857, through its early days and its gradual growth to an organization of real power. Mr. Brown became secretary in 1898, and held that office until 1913. He recalls many interesting incidents that occurred during his regime, and gives fine portraits of the men with whom he was associated during that time. The book is not a history of American Architecture, but rather one of American Architects. To those whose interest lies in the personalities which have contributed so much to the high standing of the profession, this book should be appealing.

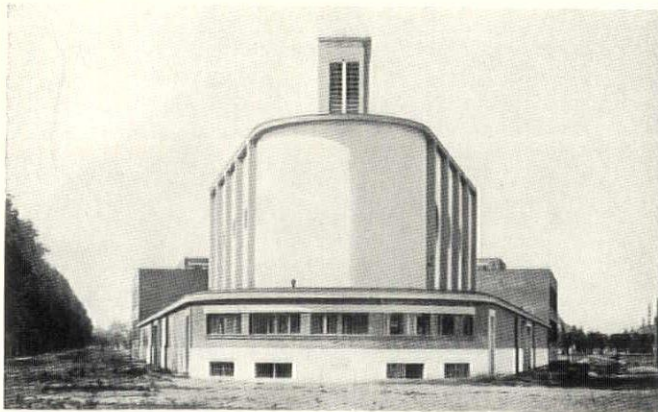


COUNTRY HOUSES. The Work of Frank J. Forster. Illustrated, cloth. Price \$15.00. William Helburn, Inc., 15 East 55th Street, New York.

FRANK FORSTER'S popularity as an Eastern residence architect makes this collection of his recent work of interest and value to anyone engaged in that type of work. The book is made up of 183 plates with a short introduction by Mr. Forster on the general character of his work. Photographs, detail drawings and plans are included.

The houses in general follow the French tradition, the Norman Farmhouse, the French Provincial, and the Domestic Gothic. Of these, Mr. Forster expresses his particular liking for the French Provincial. Perhaps this partiality is due to his enthusiasm for detail which is characteristic of almost all his houses.

The illustration above is a country house by Mr. Forster for Harwood Nelms, Esq., in Houston, Texas. The drawing was made by H. R. Bishop, who has contributed several of this type to the book; some of his details are very interesting.



A Czecho-Slovakian church, Joseph Gocar, Architect

MODERN CHURCHES IN EUROPE AND AMERICA. By Prof. Ir. J. G. Wattjes. Cloth, illustrated. Price \$17.50. Published by N. V. Uitgevers-Mij "Kosmos," Amsterdam, Holland.

PROFESSOR WATTJES has not attempted anything in this book but a complete presentation of modern church architecture through the medium of photographs and plans. His scope is international, including work from almost every European country, and despite the title, only two from America, one by Roland Coate of California, and the other by Julius Gregory of New York. Whatever one might think of the trend of ecclesiastical buildings, this book is adequate proof that there has been more than a superficial revision of style, or perhaps progression of style.

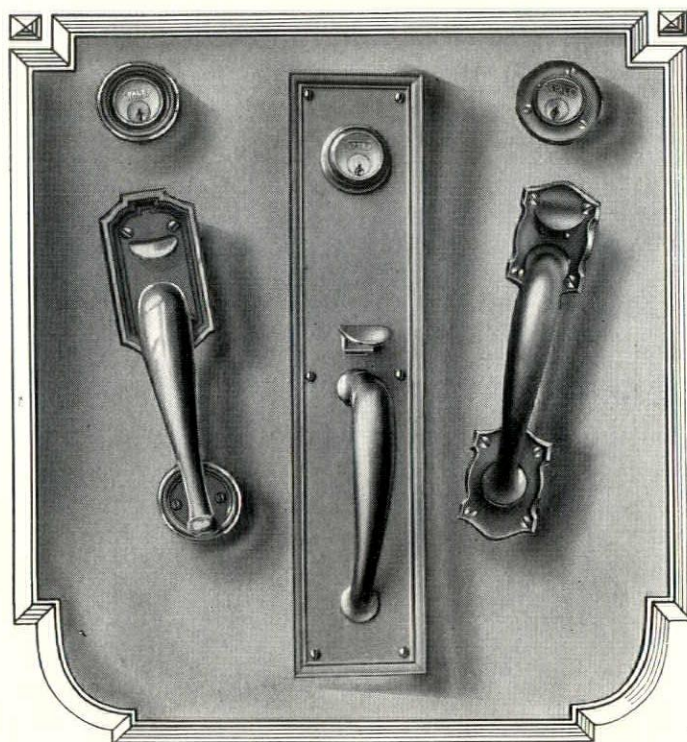
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ART STUDIES, 1930 AND 1931. Edited by members of the Departments of the Fine Arts at Harvard and Princeton Universities. 2 volumes, illustrated, cloth. Price \$25.00. Harvard University Press, Cambridge, Mass.

THOSE who enjoy the research findings of able scholars will delight in this collection of fine arts studies of generally unfamiliar subjects. There is no definite link between the treatises found in both volumes, each being a separate consideration by a man whose knowledge of his topic is unquestionable. From the latter, one gets that feeling of satisfaction which comes with the knowledge that what is being read is authentic.

Of greatest interest to architects is the thorough treatment of "Turkish Architecture in Southwestern Anatolia" by Rudolf M. Riesf Stahl, which is found in both volumes. It is an account of an expedition to Smyrna, Manissa, Birgeh, Aidin, Antalia, and Alaya, undertaken in connection with a series of lectures on Turkish art given at the International College in Smyrna. Mr. Riesf Stahl, although primarily interested in his subject as an art commentator, presents his material in such detail that architect as well as lay reader will find pleasure and instruction in it.

Another very interesting discussion is that by Alan Burroughs on "Some Aesthetic Values Recorded By The X-Ray", in which the author tends to reveal the methods of various artists by analyzing the amount and disposition of the dense pigment used in creating illusions of space and bulk. The rays also record the disposition of strokes showing what parts of the picture were the special concern of the artist. The text is well illustrated with reproductions of the x-ray pictures.

Other authors are Georgianna Goddard King, Ellis K. Waterhouse, Victor Lasareff, Donald Drew Egbert, Frank Jewett Mather, Jr., J. Puigi i Cadafalch, Timoteo Rojo, Evelyn Sandberg-Vaivalx, Guiseppe Gerola, C. R. Morey, Carl H. Kraeling, Edward Kennard Rand, and Raymond S. Stites.



A Birgeh Mosque from a chapter of "Art Studies"

SELECTING FINISHED FLOORING MATERIALS for SCHOOLS

Relative Importance of Various Characteristics of Finished Flooring Materials Governing Their Use in Twenty Divisions of the School Plan
Amount of attention to be given each characteristic is indicated by points in 100. Thus, the properties of predominant importance rate 100; secondary properties by lower figures.

Type of Space	Appearance	Sensation	Durability	Maintenance	Quietness	Conduct	Resistance to Stains and Abrasion	Ease of Repair
Entrance Vestibules and Lobbies	80	40	100	90	60	0	0	90
Stairways or Ramps	50	40	100	90	80	60	0	90
Corridors	90	40	90	90	100	80	0	90
Administration Offices	100	30	70	70	100	80	0	60
Library	100	20	60	60	100	80	0	50
Assembly Hall	100	40	90	70	80	60	0	80
Class Rooms	80	100	100	90	80	90	10	70
Kindergarten	80	100	70	90	80	100	50	40
Music Department	90	30	60	50	100	80	0	40
Physics Laboratory	40	100	80	90	50	70	80	70
Chemical Laboratory	40	100	80	90	50	70	100	80
Gen'l Science and Biology Labs.	40	100	80	90	60	60	90	70
Commercial Department	50	80	80	70	70	70	10	70
Drawing	80	70	80	90	90	100	30	40
Industrial Arts	10	70	100	90	50	80	70	60

PRACTICAL USE OF SEALEX FLOORS IN SCHOOLS

The Logical Allocation of Various Types of Sealex Floors in Twenty Divisions of the School Plan

A—Excellent for This Space
B—Optional Choice
C—Alternate for Maximum Economy
Blank—Other Materials

Type of Space	Sealex Type (See Table on Page 10)	Sealex Linoleum			Cork Composite with Sealex Linoleum	Neutral Cork Tile	Grit and Cork Carpet
		Butterfly	Joseph	Inland			
Entrance Vestibules and Lobbies	A	C	C		B		
Stairways or Ramps	B	A					
Corridors	B	A	B		B		
Administration Offices	A	C	C	B	B	A	B
Library	B	C	B	B	C	A	B
Assembly Hall	B	A	A		A		
Class Rooms	B	A	B		A		
Kindergarten	A	A	A	B	A	B	
Music Department	B	A	A		A	B	B
Physics Laboratory		A	B		B		
Chemical Laboratory							
Gen'l Science and Biology Labs.		A	B		B		
Commercial Department	B	A	B		B		
Drawing	B	A	A		B		B
Industrial Arts							
Home Economics	A	C	C	B	B		
Cafeteria	A	C	C		B		
Physical Education—Gymnasium		A	B			B	B
Rest and Medical Rooms	A	A	A		B		

For your files

... a book on floors ...
for schools

Ohio State University, Columbus, Ohio . . . American Academy of Arts & Letters, New York City . . . University of Florida, Gainesville, Florida . . . University of Arizona, Tucson, Arizona . . . Johns Hopkins University, Baltimore, Md. . . . University of Pennsylvania, Philadelphia, Pa. . . . University of Minnesota, Minneapolis, Minn. . . . Albany Law School—Union University, Albany, N. Y. . . . University of Kentucky, Lexington, Kentucky . . . Yale University, New Haven, Conn. . . . Harvard University, Cambridge, Mass. . . . Mass. Institute of Technology, Cambridge, Mass. . . . University of Illinois, Urbana, Ill. . . . Cornell University, Ithaca, N. Y. . . . Princeton University, Princeton, N. J.

“Facts You Should Know About Resilient Floors for Schools” is a concise study prepared for us by architects. Much of its information is in chart form so that it can be comprehended at a glance.

The recommendations in this booklet are not based on guesses as to what our materials might or might not do. Sealex floors have been installed in many of the country’s leading Universities (see partial list at left), and in thousands of high schools and elementary schools. When Sealex materials are installed by Authorized Contractors of Bonded Floors we back them with a Guaranty bond.

Write our Architectural Service Department for a copy of this book and for further information.

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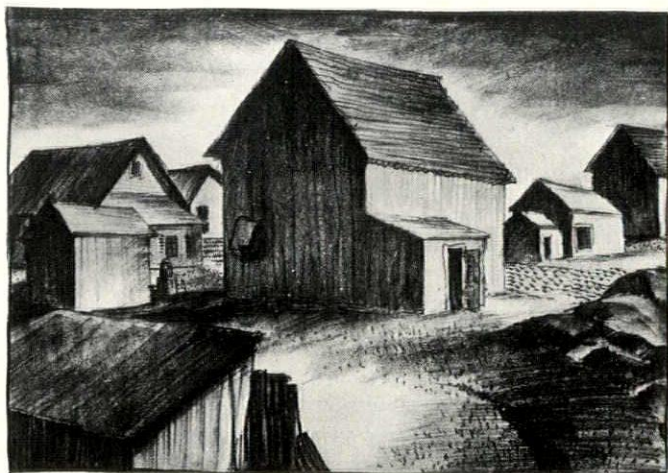
METAL PLATE LITHOGRAPHY FOR ARCHITECTS AND DRAUGHTSMEN, by C. A. Seward, 69 pages, 9 x 11 $\frac{3}{4}$ ins. Price \$3.50 postpaid. The Pencil Points Press, Inc., 419 Fourth Avenue, New York, N. Y.

THIS book presents a brief and concise, yet adequate manual of the process of drawing on and printing from zinc and aluminum plates to produce lithographs. Illustrations include thumb nail sketches showing each step in the process and twenty full-page reproductions of prints by Rockwell Kent, Ernest Born, Birger Sandzen, Mildred Rackley, John Richard Rowe, Wanda Gag, Kenneth M. Adams, George Biddle, William Dickerson, Louis Lozowick, Lloyd C. Foltz, Gerald Cassidy and the author.

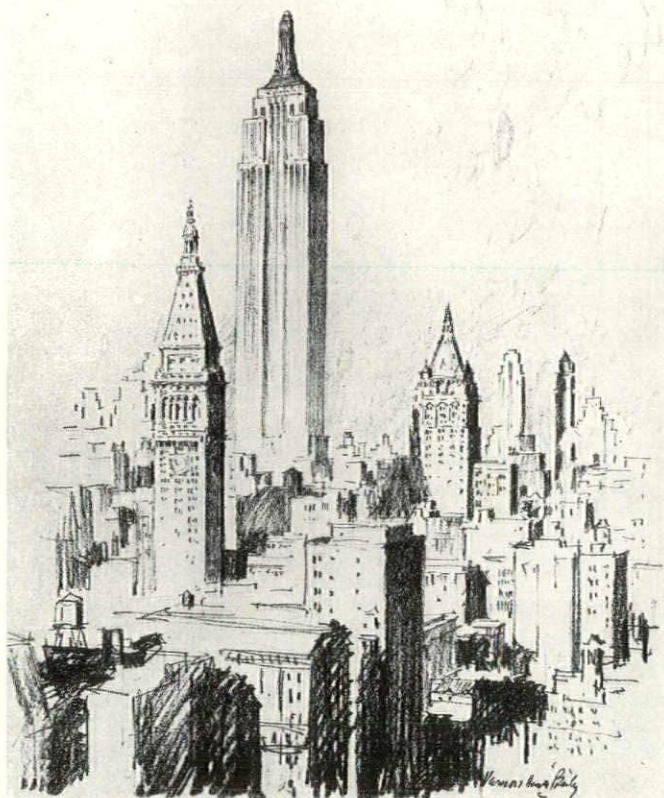
The text covers graining and preparation of plates to receive the drawing, making the drawing with crayon or wash, finishing the plate, gumming up, selecting and preparing the paper for printing, preparing the plate and etching it, printing by several methods, protecting the plate after printing, storing plates, the transfer method, and miscellaneous points concerning manipulation. Formulas for the various solutions required and a complete list of required materials are given. There is also appended a list of supply houses and professional printers from whom requisites may be obtained.

The use of the lithographic process as a means of securing multiple copies of original drawings, whether for pictorial prints or for architectural renderings, is not new. Artists and draftsmen have been making lithographs for years and have found that the medium possesses many advantages. Strangely enough, however, most of the available literature on the subject has been addressed to the professional lithographic printer. A recent book has provided admirable data for artists concerning stone lithography, but the volume here described is the first to present the allied subject of metal plate lithography from the standpoint of the artist using this medium.

The process is becoming better known and more widely used for making fine prints and architectural presentation drawings. Each print, properly made, is an exact duplicate of the original drawing, whether that drawing was made on stone, metal, or transfer paper. The possibility of duplicating drawings in this way, readily and inexpensively, makes the process of particular value to the architect.



Wm. Dickerson sketch in "Metal Plate Lithography"



A sketch from "The Empire State Building"

THE EMPIRE STATE BUILDING, by Col. William A. Starrett, illustrated by Vernon Howe Bailey. Published by William Edwin Rudge. Limited edition.

ASERIES of twenty-five sketches by Vernon Howe Bailey, with a foreword by Colonel Starrett comprises this book on the world's tallest building. It is intended more for the public than for the architectural profession, but the illustrations will appeal to all.

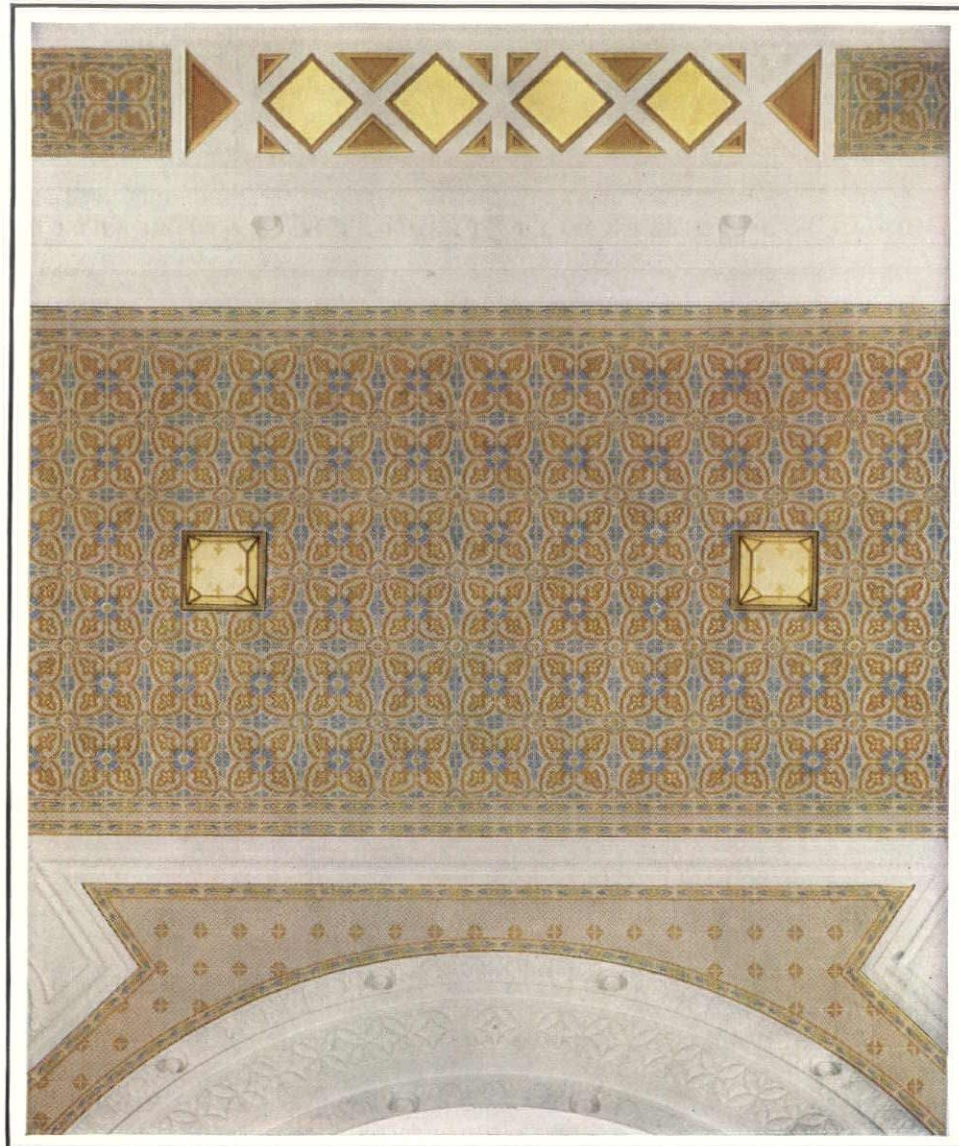
BYRNE'S INSPECTOR'S POCKET BOOK, by Austin T. Byrne, revised by Samuel T. Goldsmith. Published independently, copyrighted by the author and editor.

THIS is the fourth edition of the Pocket Book, the last having appeared in 1911. It is a concise manual on the duties of building inspectors, including a discussion of the materials and their defects, construction and fabrication methods, and a general consideration of the particular things which an inspector must be on the watch for. It would be valuable to the supervising department of an architect's office.

CONSTRUCTION COSTS, 1930. Compiled by Engineering News Record. 9 x 12, 109 pages, paper, illustrated with graphs and charts. Published by Engineering News Record, 342 West 42nd Street, New York City. \$1.00.

THE material gathered together in this survey of construction costs includes prices of materials and labor in various sections of the country. While it is of more interest to those engaged in public works and utilities construction than it is to those engaged in building construction, many of the facts presented are of significance to both branches of the allied construction industries. For comparisons and estimates it should be helpful to architects and general contractors.

NATURAL color photograph of the ceiling showing decorated Acousti-Celotex in the auditorium of the Eighth Church of Christ, Scientist, St. Louis, Missouri. The architects: Aegerter and Bailey.



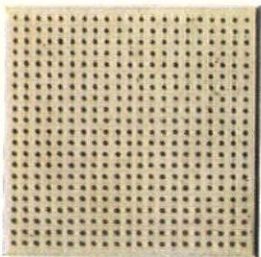
THIS INTERESTING design is the work of architects Aegerter and Bailey, St. Louis, for Eighth Church of Christ, Scientist, in that city.

The pattern was stenciled on Acousti-Celotex sound absorbing tiles, type BB, which assure perfect acoustics and, in addition, provide an attractive base for the decorative scheme.

The latter feature makes

Acousti-Celotex unique among acoustical materials . . . for it can be decorated repeatedly with any kind of paint without loss of efficiency in maintaining excellent acoustics.

The Celotex Company, 919 North Michigan Avenue, Chicago, Illinois. In Canada: Alexander Murray & Co., Ltd., Montreal. Sales distributors throughout the World. Acousti-Celotex is sold and installed by Acousti-Celotex contracting engineers.



The perforations tell the story —this Acousti-Celotex feature permits repeated painting without danger of impairing the sound absorbing value.

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NOTICES AND EVENTS



ALLEN H. STEM
1856-1931

ALLEN H. STEM, prominent railroad building architect, died May 19 in St. Paul, Minnesota, after an illness of about three weeks. Mr. Stem, until 1911 a member of the firm of Reed & Stem, was 75 years old.

Perhaps the greatest single project in which he engaged was the Grand Central Terminal in New York. In association with Warren & Wetmore, the firm of Reed & Stem designed the existing terminal and the Biltmore Hotel. Besides the New York Central, other railroads for which he designed stations were the Great Northern, The Northern Pacific, Great Western, Michigan Central, and Norfolk & Western. In all, the firm completed more than 100 stations.

He was also the architect for many buildings in St. Paul, among them the St. Paul Auditorium, the Metropolitan Opera House, medical buildings at the University of Minnesota, St. Paul Athletic Club, and the Hotel St. Paul.

BRIDGE CONTEST WINNERS

FIVE prizes totaling \$1,200 were awarded to architectural and engineering students by the American Institute of Steel Construction for the most æsthetic design of a bridge in steel. The first prize of \$500 for the best design by a student of architecture was awarded to R. F. Weber of Atelier Adams Nelson, Chicago. Second prize went to Glenn E. Crippen, Iowa State College, and third to Lester W. Casey of the same school.

The jury decided to withhold first prize in the engineering group, awarding second prize to Jeremiah C. Iandolo, University of Pennsylvania, and third to Covert Robertson, University of Michigan.

CITY PLANNING CONFERENCE

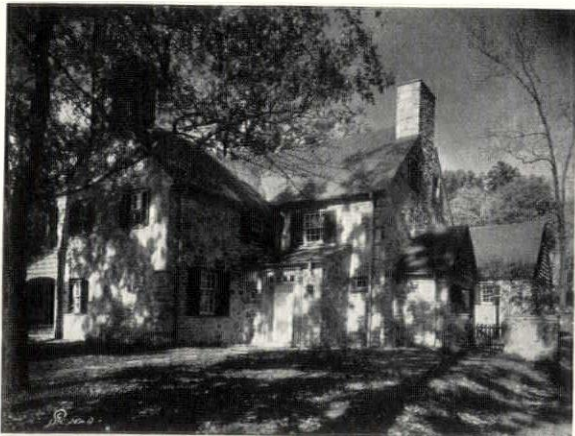
THE twenty-third annual meeting of the National Conference on City Planning is to be held in Rochester, New York, from June 22 to June 24. The sessions are open to all.

Among the topics to be discussed are, "Is City Planning Effectively Controlling City Growth in the United States?" "Civic Centers in Smaller Cities," "County Planning," "Zoning Administration." The list of speakers and leaders of group discussions includes many prominent men in the field of city planning, Harland Bartholomew, Charles H. Cheney, Arthur C. Comey, Robert Whitten, and others.

PRIX DE ROME WINNER

HENRY DUSTIN MIRICK, Washington, was announced winner of the 1931 Prix de Rome, for his sketch and plan of a United States army officers' club in the tropics. Mr. Mirick studied at the University of Pennsylvania School of Architecture, and is a graduate of Princeton University.

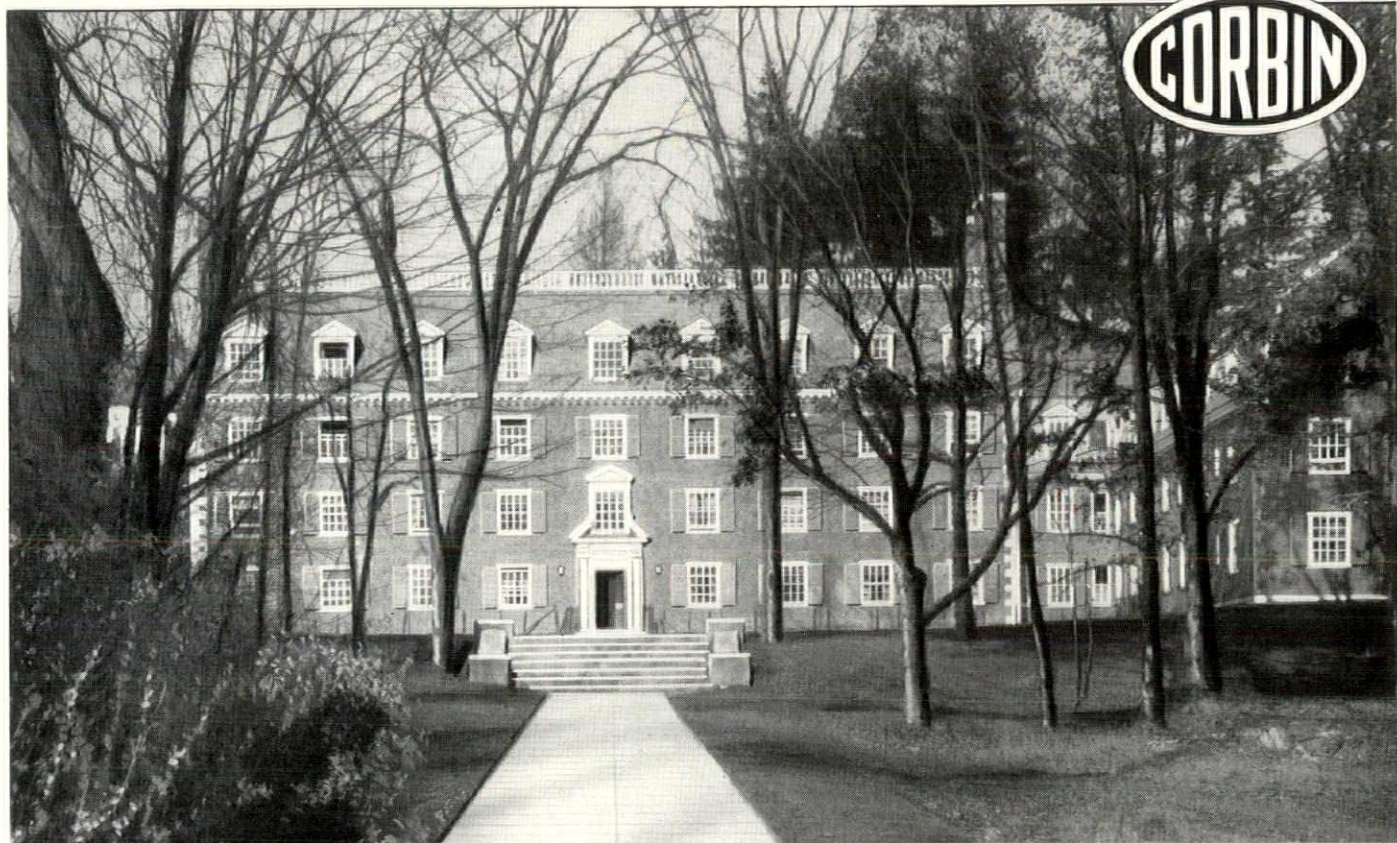
In landscape architecture, Neil Hammill Park of Parkin, Arkansas, was the winner. He is a graduate of Little Rock College, and studied landscaping at Cornell University.



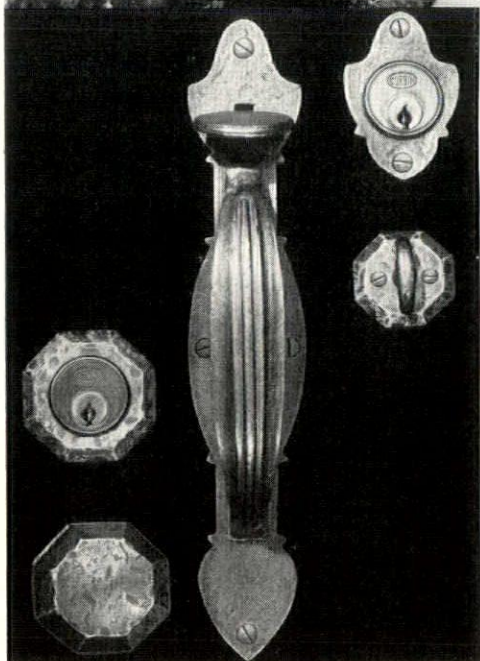
On pp. 296 and 297 of the March issue of *The Architectural Forum*, credit for the photographs of the T. Worth Jamison, Jr., house, shown above, should have been given to Harry B. Leopold, of Baltimore, Md.

At Dartmouth, the enduring beauty of Corbin Colonial Hardware

GOOD BUILDINGS DESERVE GOOD HARDWARE



*Pomeroy Hall, Dartmouth College
Jens Fredrick Larson, Architect*



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THE ARCHITECTURAL FORUM

VOL. LIV, No. 6

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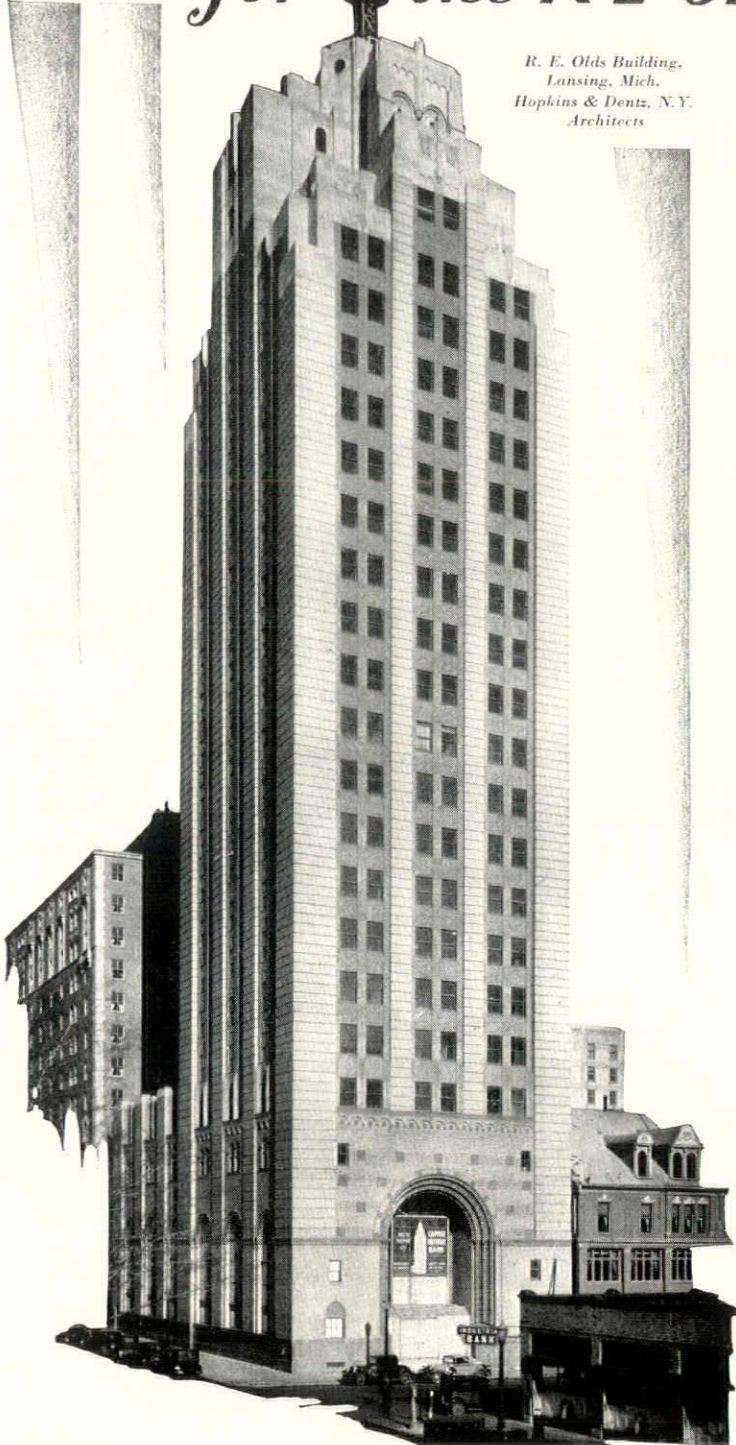
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*R. E. Olds Building,
Lansing, Mich.
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Architects*

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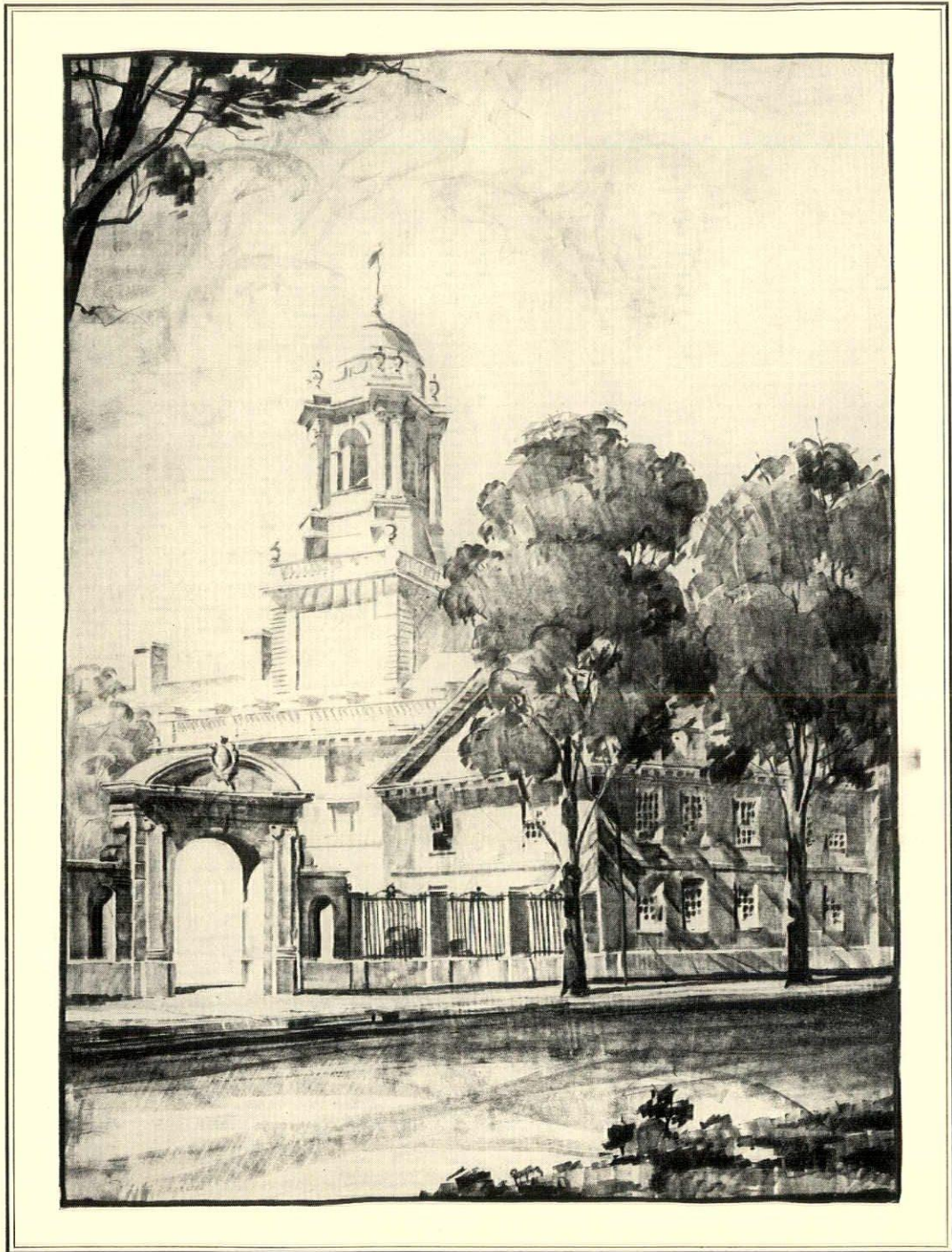
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ELLIOT HOUSE AT
HARVARD UNIVERSITY

FROM A LITHOGRAPH DRAWING
BY CONSTANTIN A. PERTZOFF

THE ARCHITECTURAL FORUM

VOLUME LIV

NUMBER SIX

JUNE 1931

EDUCATION'S NEW DEMANDS

BY

KENNETH KINGSLEY STOWELL

WE are in a period of transition and development, rather than of standardization, as far as college buildings are concerned. A generation ago the architect's problem was much more simple and definite. The requirements and provisions of the buildings were fairly well standardized and not a great deal of thought was given to future development except that space allowances were made for additional units. It is well recognized now that the greatest need in buildings for colleges and universities is flexibility, so that the buildings may be changed to serve the purposes of changing educational methods with the least possible demolition and rebuilding. In the earlier days the curriculum was limited and courses and instruction were quite uniform in method. This allowed of standardized classrooms, for the rule was prescribed courses, class recitations, periodic examinations, final grades,—and the course was passed and forgotten. As the colleges expanded, this formula was still the rule and we had what seemed to be mass production of college graduates. Then the prescribed courses gave way to greater freedom in the choice of the studies to be pursued, and we had a period of eclecticism in which it must be acknowledged the student selected courses which he felt were easiest to pass, rather than those of the greatest cultural value. The methods being adopted now endeavor to allow the student to pursue thoroughly the subjects in which he has the greatest interest and, at the same time, prevent his becoming narrow by requiring that he study a certain number of subjects in other fields. There has been a growing feeling that the passing of courses was no guarantee of cultural attainment nor an indication

of the student's grasp of a subject, or of his ability to correlate the knowledge he had gained. For that reason, a system of "comprehensive examinations" has been developed with considerable success. Under this system the object of the student's study is the mastery of his subject rather than the gaining of credits for courses passed. The mass methods have, to a large extent, given way to more individual instruction. The lecture courses, of course, still have their place of great usefulness, but there is a decided tendency toward seminar work and independent work under tutors and faculty guidance.

One of the latest innovations in American Colleges is that of "reading periods" designed to aid the student in acquiring knowledge for himself rather than having it predigested and handed to him through lectures without mental effort or stimulus on his part. The reading periods are of several weeks' duration and are "designed to show the undergraduate the meaning of self-education as the real basis of the mental training he gets in college. . . . He must perceive that the mere absorption from his instructors counts for little; that to learn,—and for that matter to graduate,—is an active, not a passive verb. No doubt this is not the idea with which men usually enter college, and to some it is not alluring, but it can be infused and probably to most of them made attractive. For that reason it is well that, after they have become accustomed to college teaching, they should be set to work by themselves for a time without help."*

* A. Lawrence Lowell, President's Report, 1929-30, Harvard University.



Weber

The commons in the "house system" has become a comfortable center for student leisure. Dunster House, Harvard University. Coolidge, Shepley, Bullfinch & Abbott, Architects

usually through contact with tutors or instructors, and the relationship is much more informal and intimate than is possible in the usual lecture and recitation courses. Changes such as this naturally bring changes in the academic buildings as the old classroom and the usual faculty office are not suited for this type of instruction which seems to demand the breaking up of the student body into comparatively small groups, or "Houses," much as the English universities are made up of small colleges with their residential closes. Both Harvard and Yale, through the generosity of Edward S. Harkness, have been able to develop residential groups where students and tutors are housed together.

There are "house systems" of different kinds being developed in universities where the object is to group together graduate students who are pursuing the same courses, as the breadth and intensity of the work is enhanced by the discussions and contacts among men engaged in similar pursuits. Among undergraduates it is considered much wiser to so select the students for any one group that there will be men from various parts of the country with varying tastes and interests and with differing financial ability, the object being rather to broaden the men through such contacts than to concentrate and intensify the predilections of the student.

In most colleges today the problems of housing the students are an integral part of the educational problems. Educators have come to realize that education involves the entire life and activity of the student while in college, rather than being limited to courses of instruction. It was enough, until recently, to provide buildings where the student might take courses, other buildings in

which he might hire a room for sleeping or study, but with the growing appreciation of the effect of environment, living conditions and facilities for social activity, the purposes, designs and plans have changed. The present tendency is to do away with the large commons or large eating hall and to provide the dining facilities in closer relation to the living quarters. Although there have been several large dining halls built recently, most forward-looking institutions are abandoning the mass dining idea as well as mass instruction. The present tendency in the design of dormitories with their dining facilities may of course be superseded, after trial, by some other system. For this reason, flexibility of use is as essential in dormitory planning as in the planning of administrative or academic buildings, for it is impossible to foresee what changes in use may be demanded of the buildings.

The growth of interest in the natural and applied sciences has resulted in increasing the number of laboratories, both for teaching and research. The development in the equipment for these laboratories makes a special study necessary on the part of the architect. Each institution has its own programs and preferences, and close cooperation is necessary between the faculty and the architect in planning not only for the present requirements of the school, but for the probable expansion and change.

The number of subjects now taught in a university is astounding in comparison with that of twenty-five years ago. New courses seem to be added constantly so that almost any topic, from baby care to balloon navigation, is covered by courses in some university. This is more factual than facetious as the women's colleges have

inaugurated many courses, psychological and sociological as well as physical, for the study of infants; and several buildings have recently been erected, by the Guggenheim Foundation, for further research and study in aeronautics. The latter buildings have very definite special requirements to meet the needs of present paths of research, and it is well understood that the further development of the science of aviation may, in a few years, demand quite different facilities.

Change is not limited to scientific study, it is also taking place in cultural study. Courses in the Arts have brought about the construction of excellent college museums for the study of not only the fine arts but the minor arts as well, and there has been a growth in the demands for studios and shops where the arts may be studied in relation to their particular technique as well as by observation. The museum now is built and used rather for constructive and creative work and study than for the mere preservation of "museum pieces" to be gazed upon with awe.

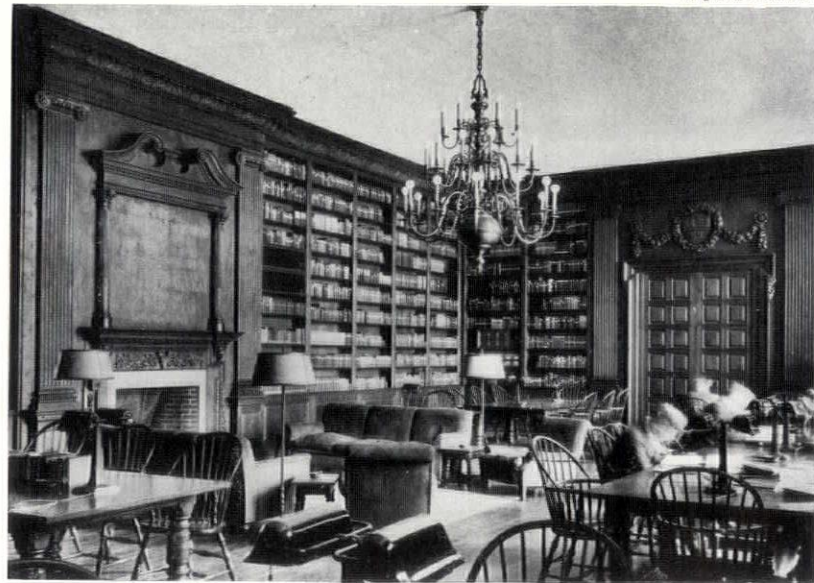
The athletic activities of the college, which in the previous century were more or less spontaneous, had reached their highest point of concentration and commercialization in the early post-war days. The educational authorities have taken cognizance of the fact that vicarious exercise on the part of the students watching highly trained teams was hardly as beneficial as active play on the part of the individuals. Though "gym classes" and team training still continue, facilities are now provided for exercise and recreational play in connection with the living quarters, rather than wholly at the gymnasium. The planners of the college must now take cognizance of the fact that certain areas in the vicinity of the dormitory

groups should be set aside for spontaneous games or for organized intra-mural athletic contests. There is good reason for including in the dormitory groups facilities for handball, squash, bowling and similar games through which the student may keep fit. The object of such planning is to foster the participation of as many students as possible in healthful exercise, rather than to foster the creation of a small body of athletes and super-athletes who are members of teams with rather exclusive rights to the athletic facilities. The "house" systems and dormitory systems provide natural competitive groups and the benefits of the increased athletic facilities are enjoyed by larger numbers of students than ever before. The gymnasium planning problem is no longer one of providing space for the training of a certain number of teams, but rather one of providing for the maximum use by the greatest number of students. This has necessitated a careful study of actual use in existing gymnasia and collaboration with physical directors in establishing the probable and possible athletic programs in order that the gymnasium, field houses, swimming pool, etc., shall have the most efficient use.

Educational thought at present seems to be more and more directed toward consideration of the individual as an individual, rather than en masse. Uniformity of product is no longer the object sought. The mediocrity of mass production of graduates gives way to developing individuals to realize as fully as possible their potentialities, mental, physical, social and spiritual. The environment atmosphere and facilities provided are considered as important as the subjects in the curriculum. The architecture must be in accord with and contribute to these educational aims.

Sigurd Fischer

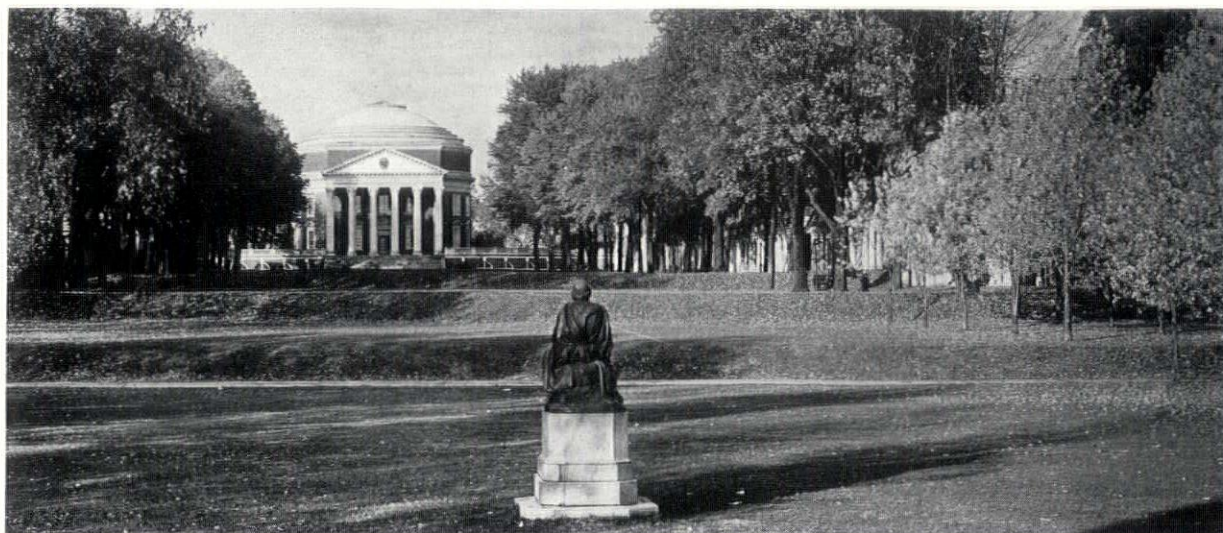
The "house" library makes reading and study natural and pleasurable. Dunster House, Harvard University. Coolidge, Shepley, Bullfinch & Abbott, Architects





Weber

The West Court of Lowell House, at Harvard University; Coolidge, Shepley, Bullfinch & Abbott, Architects. These new Houses are typical of an architecture designed to ". . . create human environment, stimulate imagination, and . . . avoid crudity and monotony." In them modern methods and materials have been used to perpetuate, in mass and detail, the established traditions of the University



Holsinger

EXPRESSION—AND THE COLLEGIATE STYLE

BY

C. HOWARD WALKER

THERE is a confused comprehension of the relation of the fine art of architecture to its expression in the necessary physical factors of material, which are the only means it can employ.

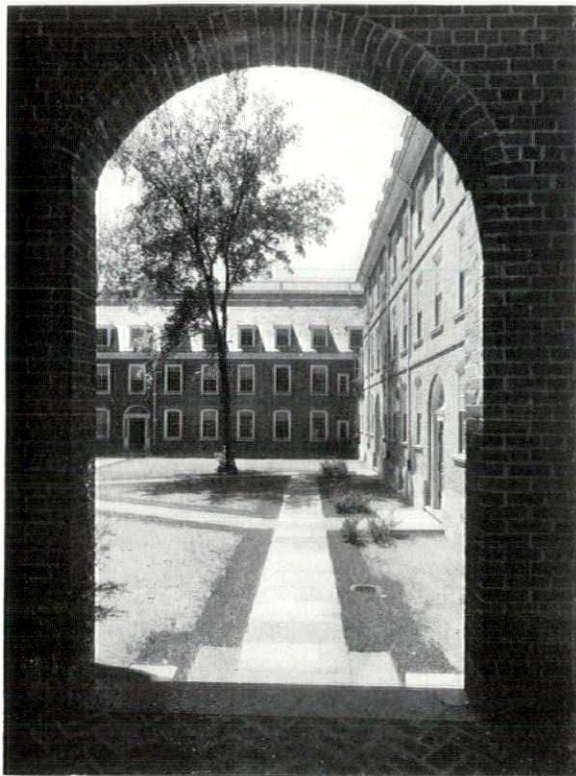
The fact that materials and their assemblings are means and not ends, that their combinations are processes and do not produce nor imply ultimate achievement is too often ignored, even if appreciated. Architecture, which is the entirely artificial and intellectual of the Visual Arts, while it is based upon the satisfaction of physical demands in terms of materials, does not reach a state of more than rude adolescence until it transcends those materials. It has "a material body and a celestial body" and while its material body may be dealt with as an exact science, capable of proof like a sum in arithmetic by reversing the process, its inspiring spirit, which enables it as an art, is incapable of being held in bondage, excepting by the law of gravitation.

As in all times, changes in conditions have created changes in expression, and the new broom in every case has raised a great deal of dust, and created a period of low visibility in which even established facts are made dim and are belittled. Such a period the past century has been. The Machine, which is merely a supplementary hand of more than human capacity for speed and for multiplying and enlarging units, has assisted the material factors of architecture, and has presumed

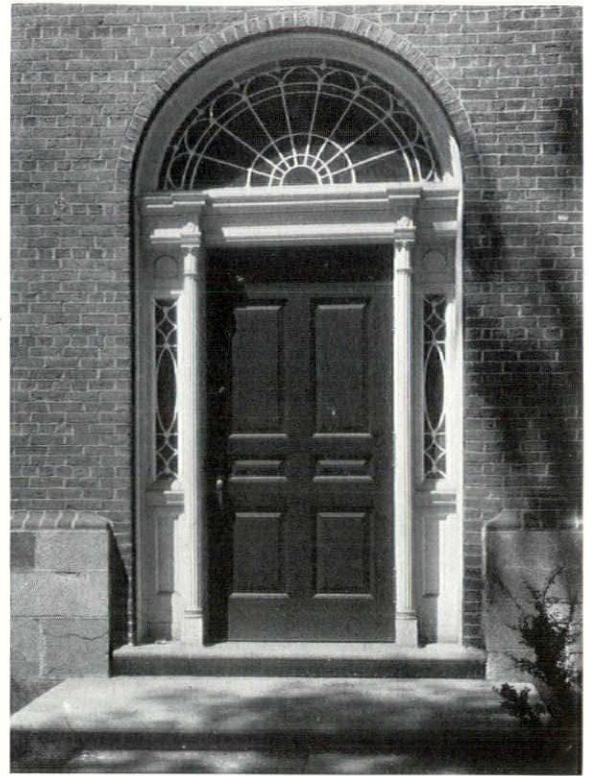
to bind the spiritual side; and with childish arrogance it announces that we are living in a Machine Age, implying that other expressions of man being intangible, must be inferior. As the factors in many operations increase in number, an arrangement of these factors assists speed; and standardization, which is merely the auditing of accounts of large undertakings for the purpose of economy in eliminating waste and delay, appears. It implies mass production and the trademark, and has nothing to do with beauty of design; its one affiliation with that is exercised in a preferred selection for imitation of work which has already been deemed beautiful.

Hence, styles and their uses. It may be reasonably inferred that buildings already in existence in any and all periods, having had similar requirements with those that occur in present problems, will have created and used so-called styles which have in them architectural expression of value at all times for work of the same kind. Their use today is not merely traditional, but results from certain solutions which accord with present conditions.

Such are the cathedral plans, for similar functions in the church today. Have there been in the past, able and adequate solutions for collegiate groups? It is evident that present groups have requirements which existed in the conventual buildings of the Middle Ages, and the palestras, arenas and odeons of religious centres in Greece



Weber Photos



Hegeman Dormitory, at Brown University; Day & Klauder, Architects

where multitudes congregated, such as at Epidaurus. The precedents are to be found and the immediate problems solved in Classic, Mohammedan and Medieval periods, each producing a distinctive style, in any one of which may be found work of beauty, applicable to similar problems of today. Why, therefore, bind these Protean forms by formulatic standardization? Upon the most superficial observation it is obvious that all have common factors, and hence, common divisors. They are few. The first is flexibility of plan and its expression, the second, the universal desire to create results of beauty worthy of all work according to its kind.

Religious buildings of all types were to the glory of God, other monuments to the memory of the work of the living and the dead, whether of triumph or of recognition of merit, and beside these, buildings for moulding successive generations of man. In all cases reverence was shown; and no painstaking study or care was too arduous, no material too precious, no expression of ideals too great to be devoted to the expression by architecture of high ideals. It has been reserved for the mechanical proletariats of today to ignore all attributes excepting those of announcing structure, which is a kindergarten effort of infantile desire.

Philosophies and theories in regard to the

quality of beauty are beside the point. All men trained or untrained in observation of visual expression are impressed by two factors—Mass and Detail. A simple geometric solid is never challenged by the laity, who, however, esteem it in relation to its size. A pyramid is the same whether that of Kephren or an ink bottle on a desk; an obelisk may be that of Washington or a small thermometer. The great domes of the world are only inverted bowls, but whether large or small, the geometric solid is universally accepted and uncensored. Great size therefore is constantly sought in large projects. It compels attention and overwhelms carping criticism, and does not foster analytical gymnastics.

The second element that is dear to the untrained man is detail, especially if it indicates skill in mind or hand. The mere amount of work on it, its diversity of statement, its many means and manners of expression seem, and are, marvelous to him; and the more intricate it is the higher he esteems it. All the little pleasant amenities of life are details, interesting, amusing, and destroying drab existence. A prison cell can be made a jewel casket by detail. It is the means of intimate conversation upon so many subjects; the details of painting, literature, and music are always conversational, and welcome for this reason as well as for others.

But between the Mass and Detail is a great realm in design which the layman does not understand because it is a land of adventure, often into previously unknown regions which lie between the mass and the detail. It is a land of experiment, of empirical attempt, of diplomacy, and essentially of wisdom. Men fail or triumph in this land, which is so merciless and so fascinating, —an ogre and a siren; at times it is wise in exploring it to be lashed to the mast of the good ship Tradition which has made the voyage before.

Standardization, if I may be permitted to change the metaphor, cuts its way through this fascinating, intriguing jungle of opportunity in a narrow swath, safe behind a steam roller. Standardization, the mechanism of a paid accountant, sees little of the flowers of the jungle, hears few of its birds, or knows little of its byways.

Art is a Beloved Vagabond, who can be a beggar or a king, but is not regally clothed in tailor-made garments.

Collegiate requirements have become much more complicated and exacting than in the days of Olympia and the Pentathlon, or when the 30,000 monasteries of Europe were sanctuary and were the precursors of universities. The orders of architecture developed upon one story masses, with an occasional second story, and when additional stories were added, the effect was not so dignified. Classicism has struggled for centuries

to equal the simple nobility of a Greek temple and has been obliged to be satisfied by porticos and colonnades and domes. But when, as in the University of Virginia, the effect is that of one story masses, classicism leaves little to be desired.

With the serried ranks, one above another, of identical windows, monotony increased, and the classic superposed pattern was called in to combat it, and to give light and shade to the wall.

Alberti's triumphal arch motive became a salient and much abused feature, but there is no doubt that the more varied the masses, and the purposes of rooms, the less flexible is classicism; but it has great serenity and dignity, and is a worthy exponent of grand and of even grandiose ideas.

Pavilion treatment at ends of colonnades often higher than the façades was suggested from medieval castles; and the style of François I, a blend of Gothic and Renaissance, is indicative of the freedom of action that appears with transitional styles when demands force departure from autocratic academic precedent.

This fact is suggestive and it has been found that work done in these periods of transition has both the virtues of tradition and of flexibility of adaptation to very varied desires. The Francis I style, that of the Tudors, and of Queen Anne in England, all lend themselves to informality and to minor masses, such as oriels, lanterns, grouped windows and traceries, openings proportionate to

Weber



The Academic Building, Phillips Exeter Academy; Cram & Ferguson, Architects. Another example of a traditional expression adapted to satisfy modern needs

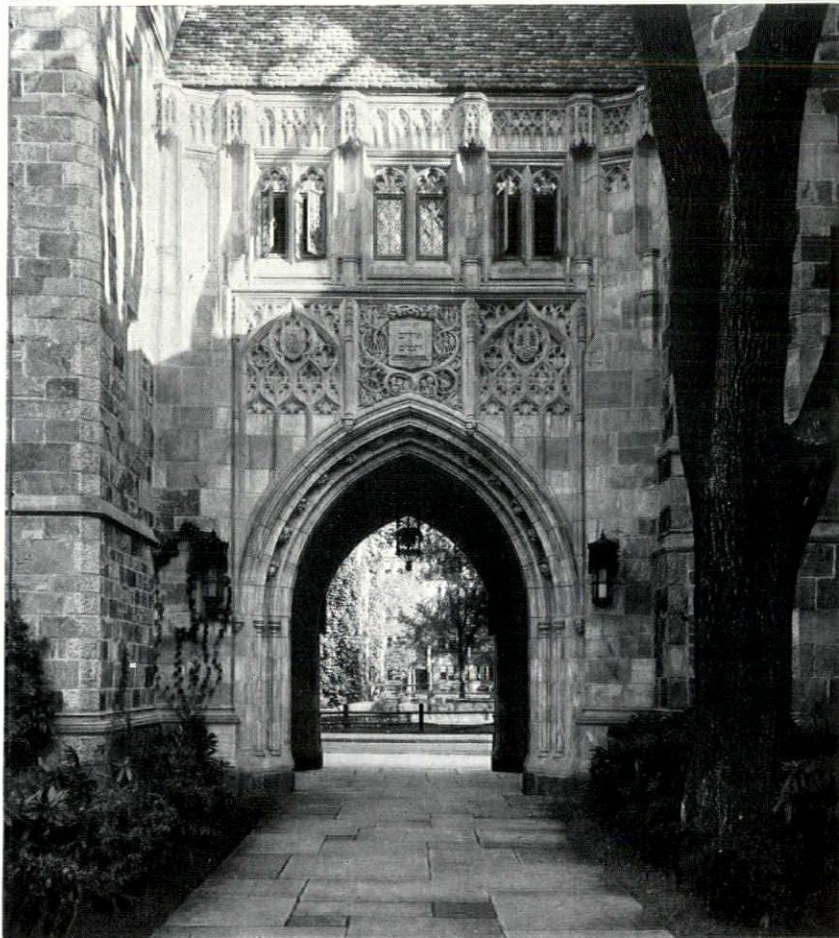
the rooms they light, and great latitude in mass, detail and in materials. All this creates an intimate charm woven into and through the entire group,—small quadrangles with cloisters threaded on paths of circulation and debouching into great spaces, buildings of small units joining great masses or grouped around them,—in fact a multiplicity of parts which can be accommodated at ease, which need never literally repeat themselves, and which are constantly revealing unexpected vistas, each of individual character. There are many types of mind amongst all students; the college buildings which are loved the best as Alma Mater are those which have all the desirable environment of an intellectual life. Classicism when at its apogee may be divine. The tragedies of Euripides voiced the implacable edict of Zeus, but as time went on the Gods themselves became more human, until even Pan and the sylvan denizens were loved. The trees and vines, the gardens and plaisances gather about the transitional styles as the beasts and birds did about Pan.

They are essentially the epitome of the appealing charm of detail suggested by various require-

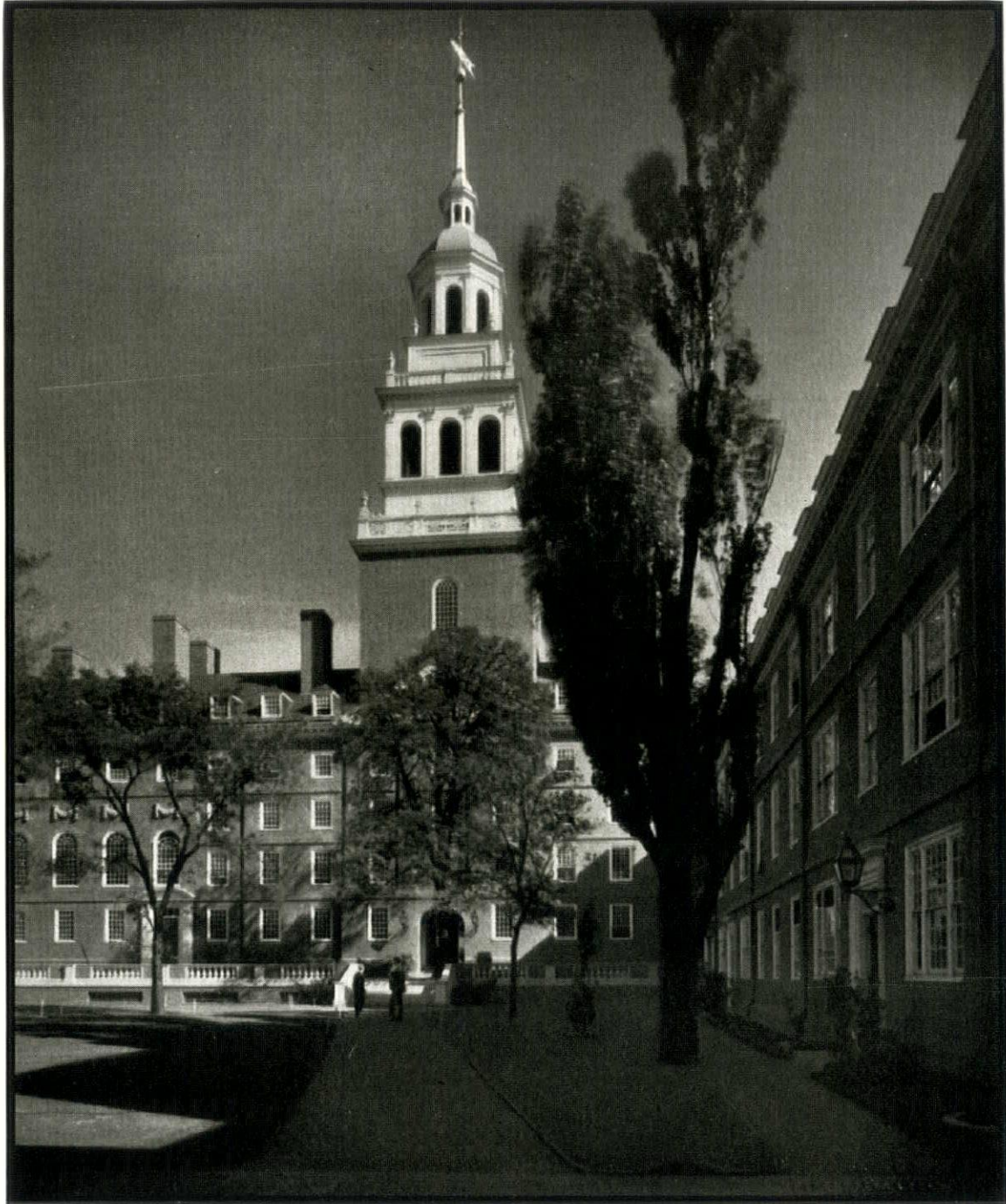
ments both recognized by and assimilated to a common purpose. The period of youth, with its enthusiasms and dreams, is best served by imaginative opportunity rather than by coerced conventionalism. Imagination can and does penetrate academic classicism, but it is the life of eclecticism.

This is not an argument, however, for the deliberate abolition of beauty by the crass formalities of crude structure. The recognition, even the reverence of design as influenced by the spirit moulding the physical necessary to its will, and expressing itself in kind, is the ultimate end to be obtained. Educational institutions should in their architecture create human environment, stimulate imagination, and while scholarly, should avoid crudity and monotony. The best solutions will probably be found in suggestion from the flexible transitional styles, tempered by traditions of locality, necessities of economies, and inspirational ideas. All this depends upon basic intention which it is futile to attempt to standardize. A common intention to obtain beauty with freedom of action is a sane and wise method of procedure.

Gillies



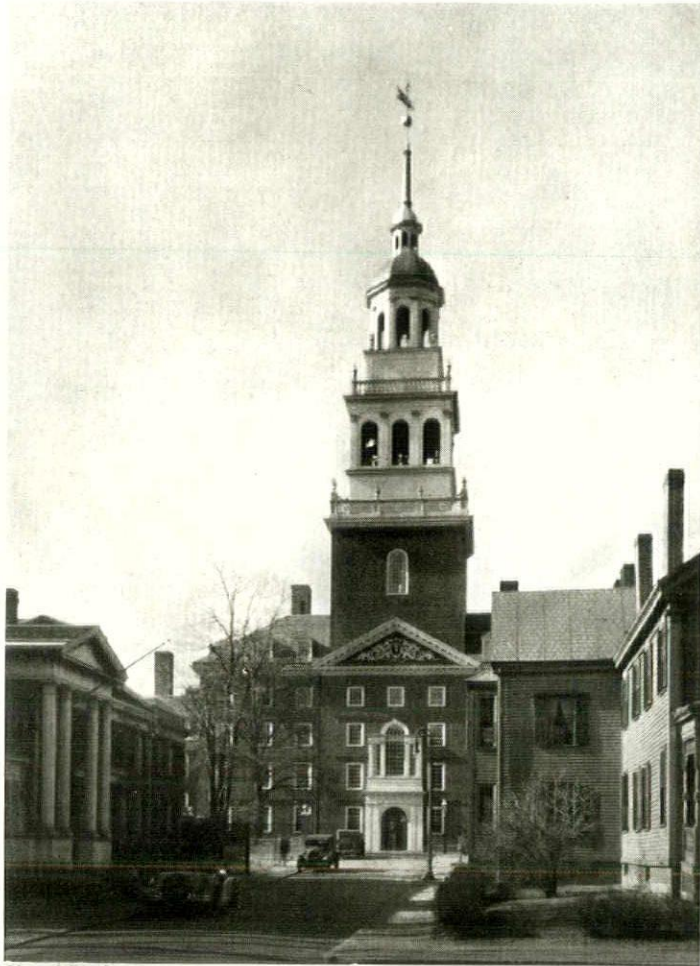
“ . . . great latitude in mass, detail and in materials.” A view from within the Harkness Memorial Quadrangle, at Yale; James Gamble Rogers, Architect



Weber

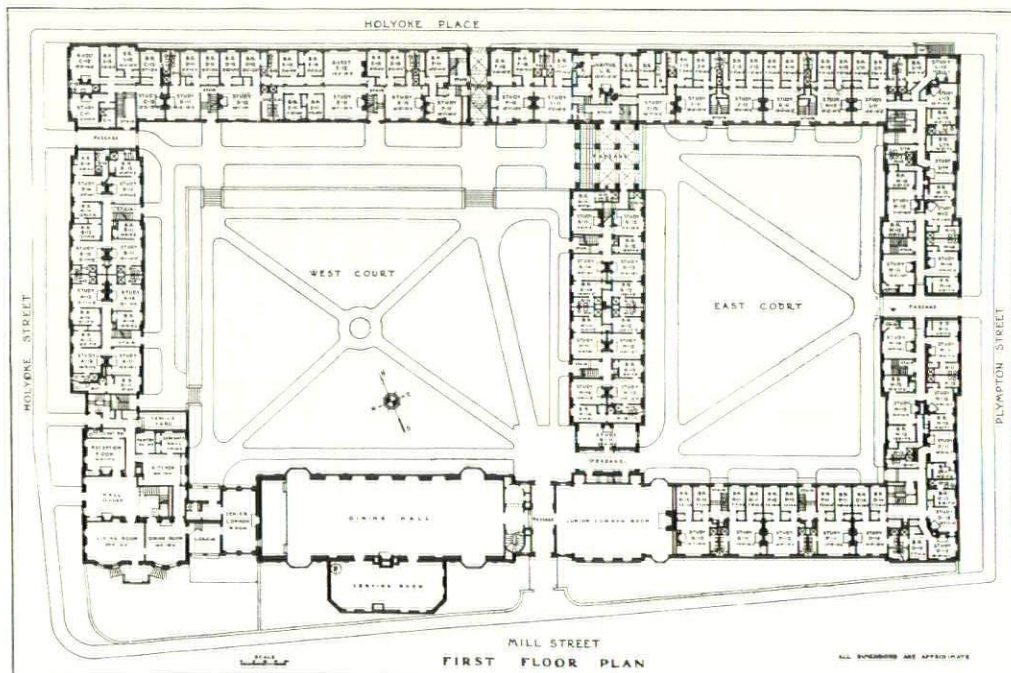
HARVARD UNIVERSITY

LOWELL HOUSE
CAMBRIDGE, MASS.
COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT,
ARCHITECTS



Sigurd Fischer

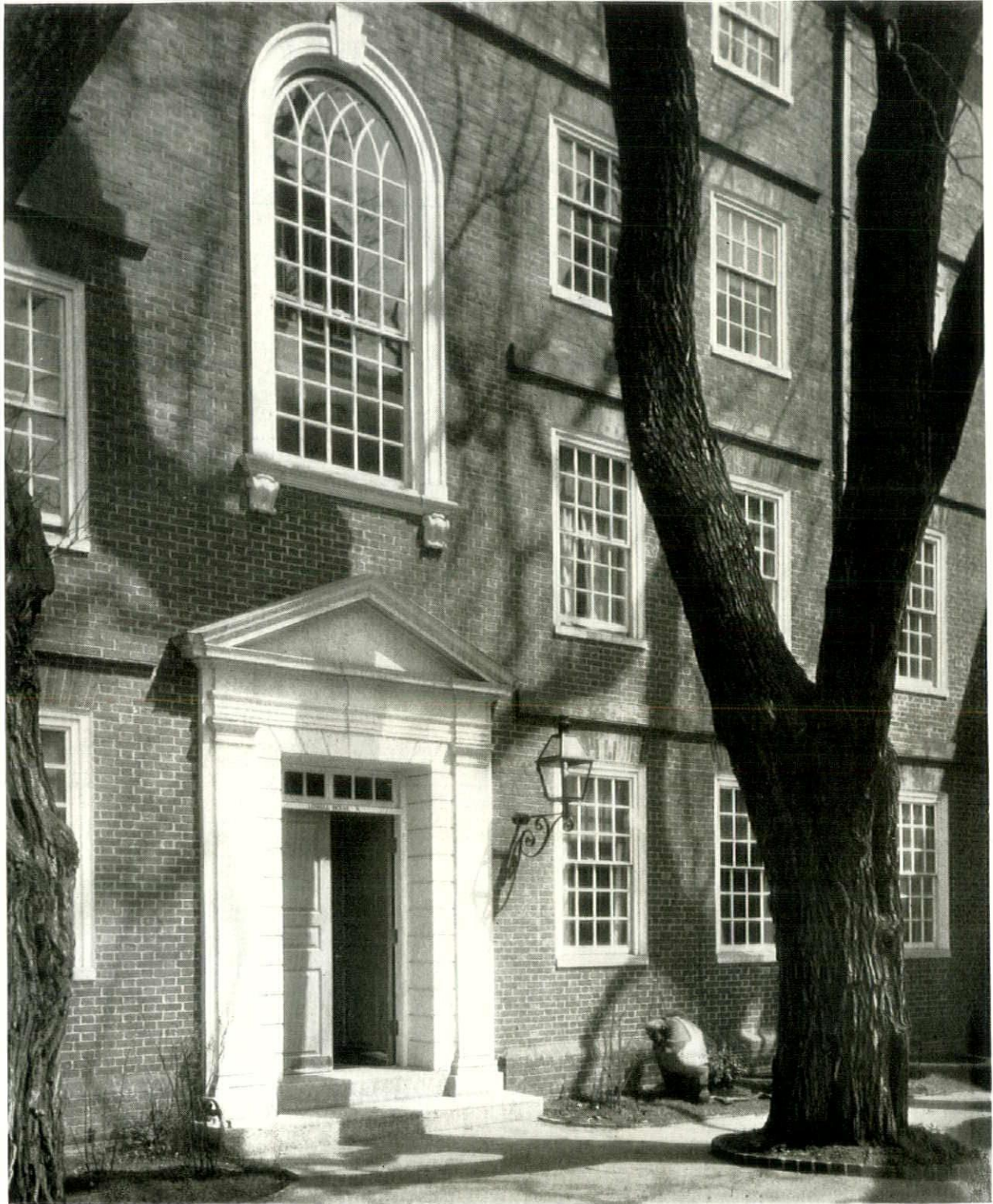
The main entrance and tower of Lowell House. Exterior materials consist of brick in varying tones of red with joints of almost white mortar, pine trim painted white, limestone, copper cornices and a slate roof. The exterior sides of the doors were painted a gray-green. Wide white window frames and sash four panes wide by six panes high match those of the old Colonial buildings in the College Yard





Weber

LOWELL HOUSE
CAMBRIDGE, MASS.
COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT
ARCHITECTS



Sigurd Fischer

LOWELL HOUSE
CAMBRIDGE, MASS.
COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT
ARCHITECTS



Sigurd Fischer

LOWELL HOUSE
CAMBRIDGE, MASS.
COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT
ARCHITECTS



Sigurd Fischer

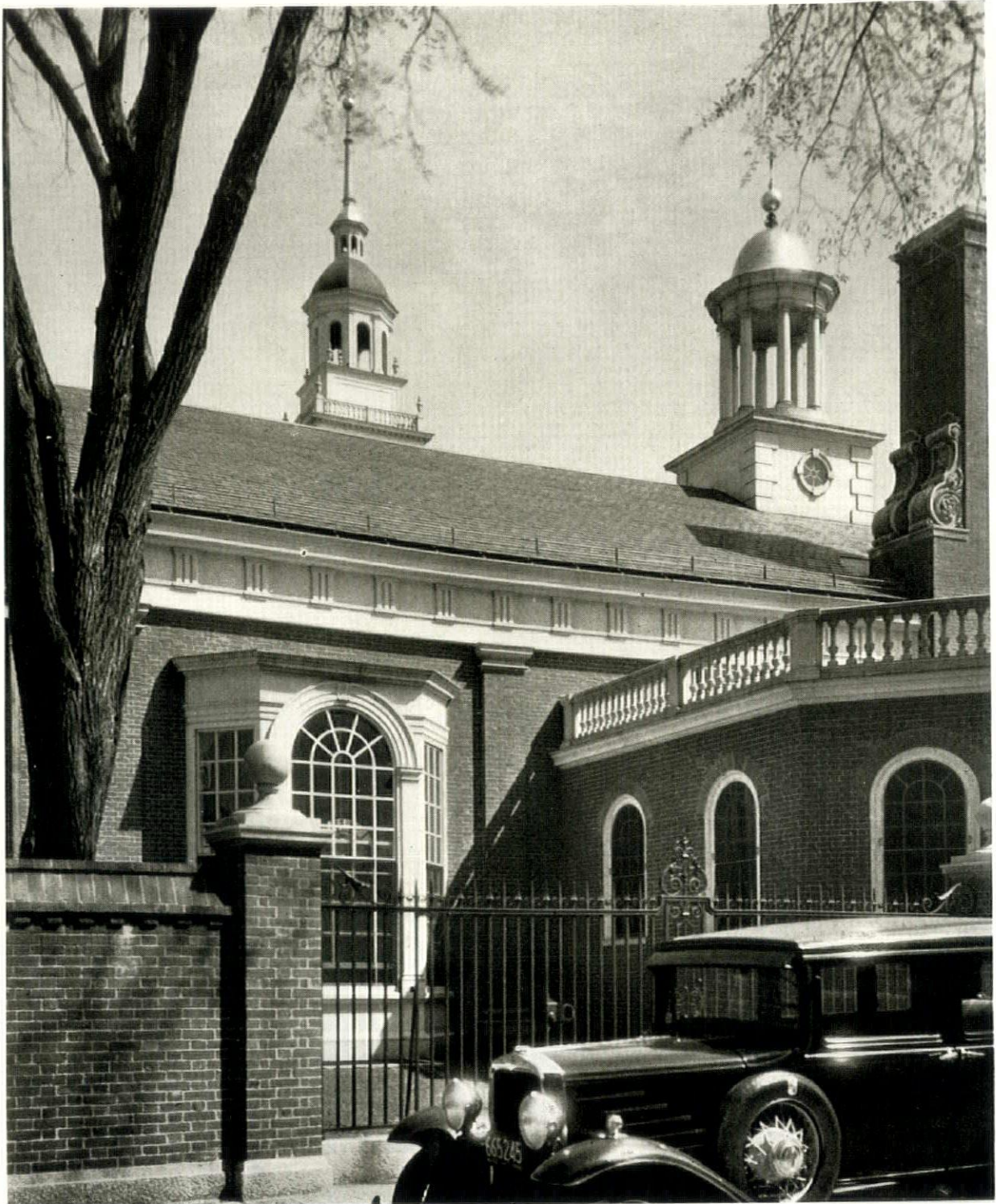
The Dining Hall of Lowell House. The floor is of marbled rubber tile in black and white. Walls are of plaster tinted a soft green tone and the ceiling is of acoustic plaster. The trim is pine painted white. The illustration on the opposite page is of the exterior of the Dining Hall and the serving room wing

LOWELL HOUSE

CAMBRIDGE, MASS.

COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT

ARCHITECTS



Sigurd Fischer

LOWELL HOUSE
CAMBRIDGE, MASS.
COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT
ARCHITECTS



Sigurd Fischer Photos



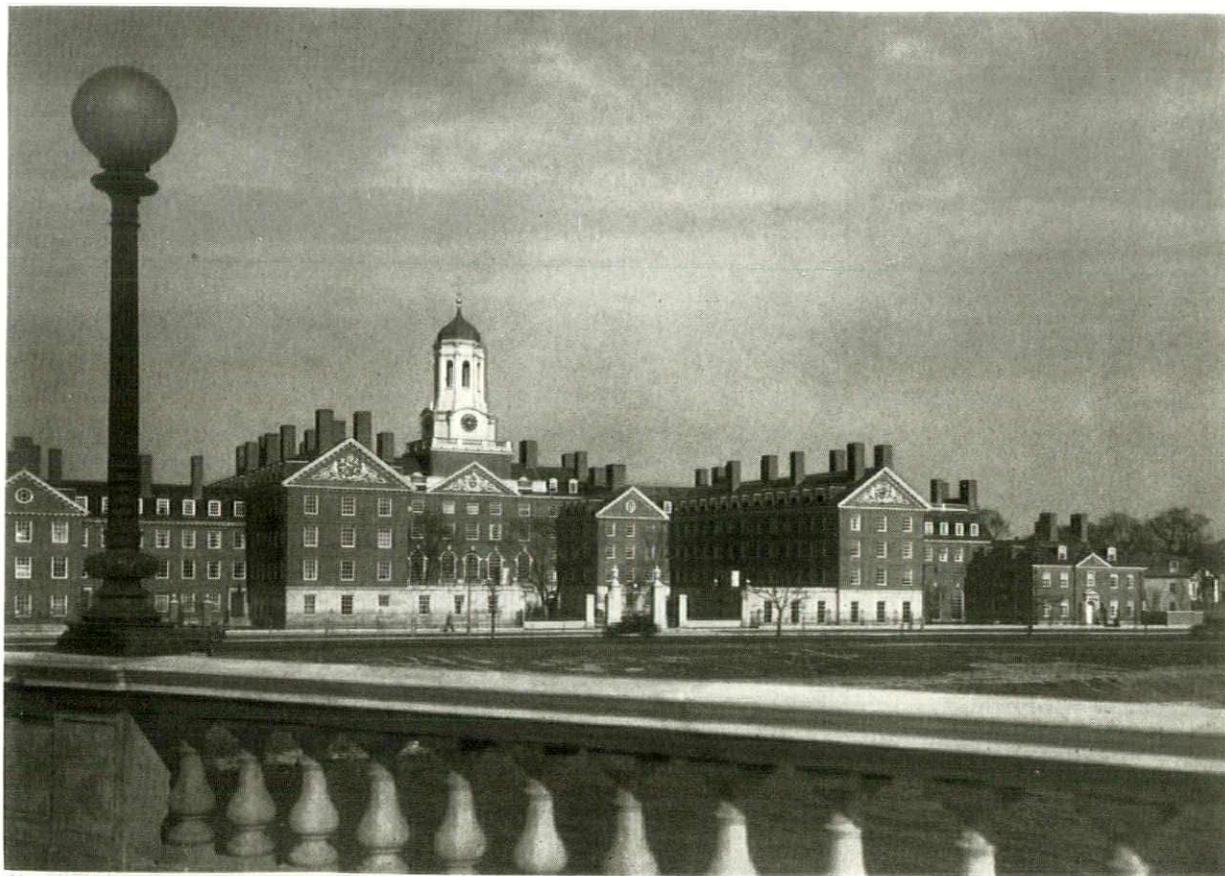
The Lowell House Library has walls of knotty oak, finished a light weathered color. One of the Common Rooms is illustrated below. The paneling and trim is pine, painted white. Some of the walls are covered with scenic wall paper and the floor is of wide oak boards



Sigurd Fischer

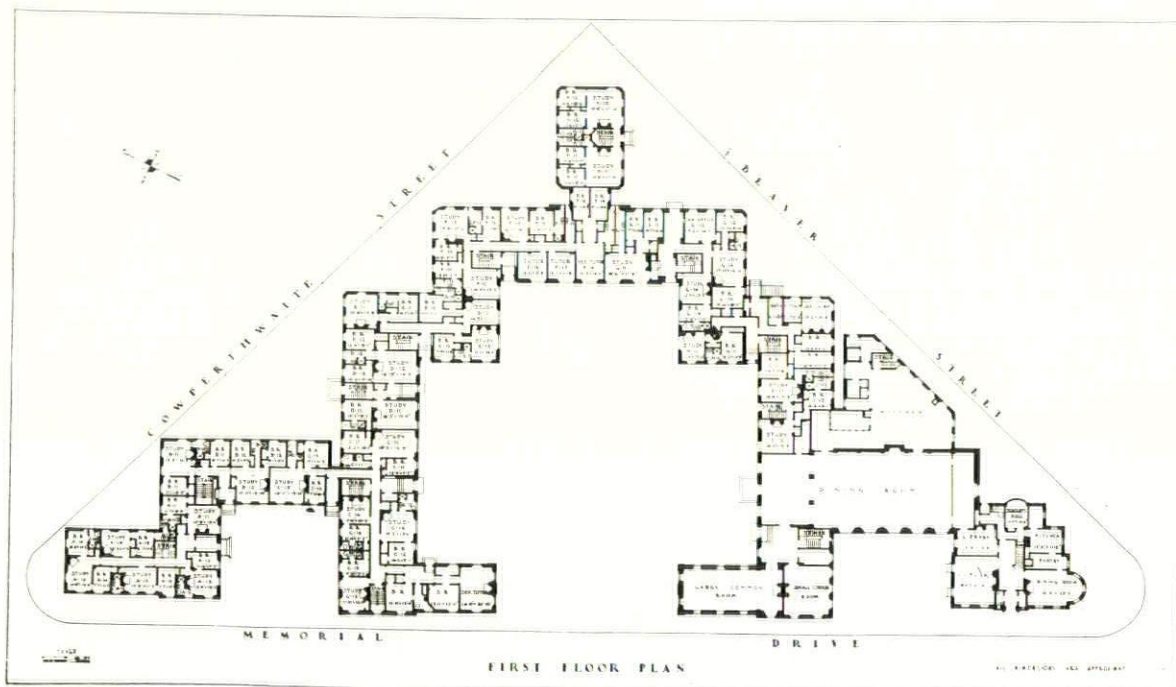
The Dunster House Memorial Gateway and a portion of the Charles River facade. The walls of the building are of dark red brick with raked joints of pinkish gray mortar. The wood trim is pine, painted white; the remainder is of limestone. The roof is Welsh slate taken from a building over one hundred years old. The effect is similar to that of Massachusetts Hall in the College Yard or of the buildings at the University of Virginia

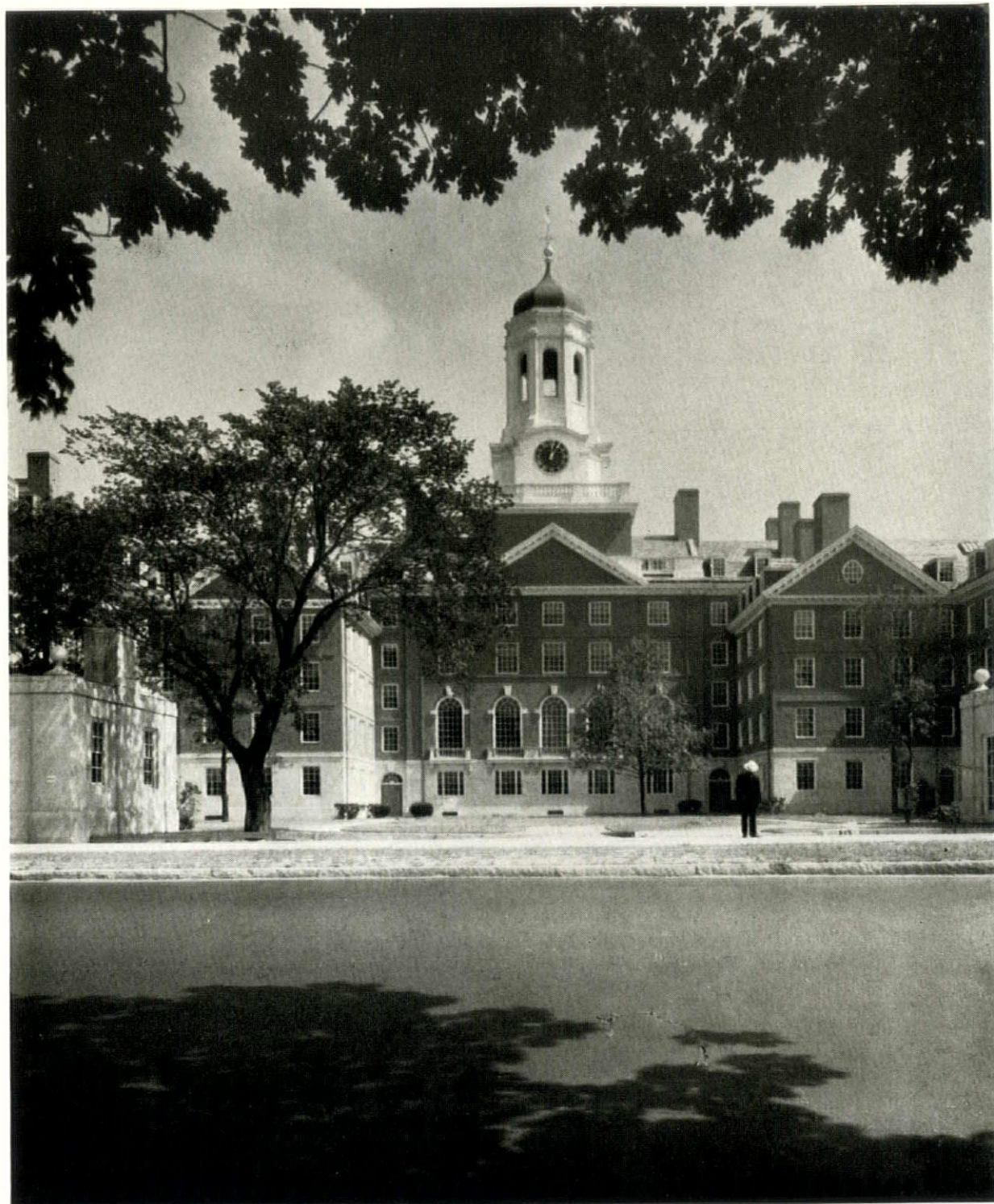
DUNSTER HOUSE
CAMBRIDGE, MASS.
COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT
ARCHITECTS



Sigurd Fischer

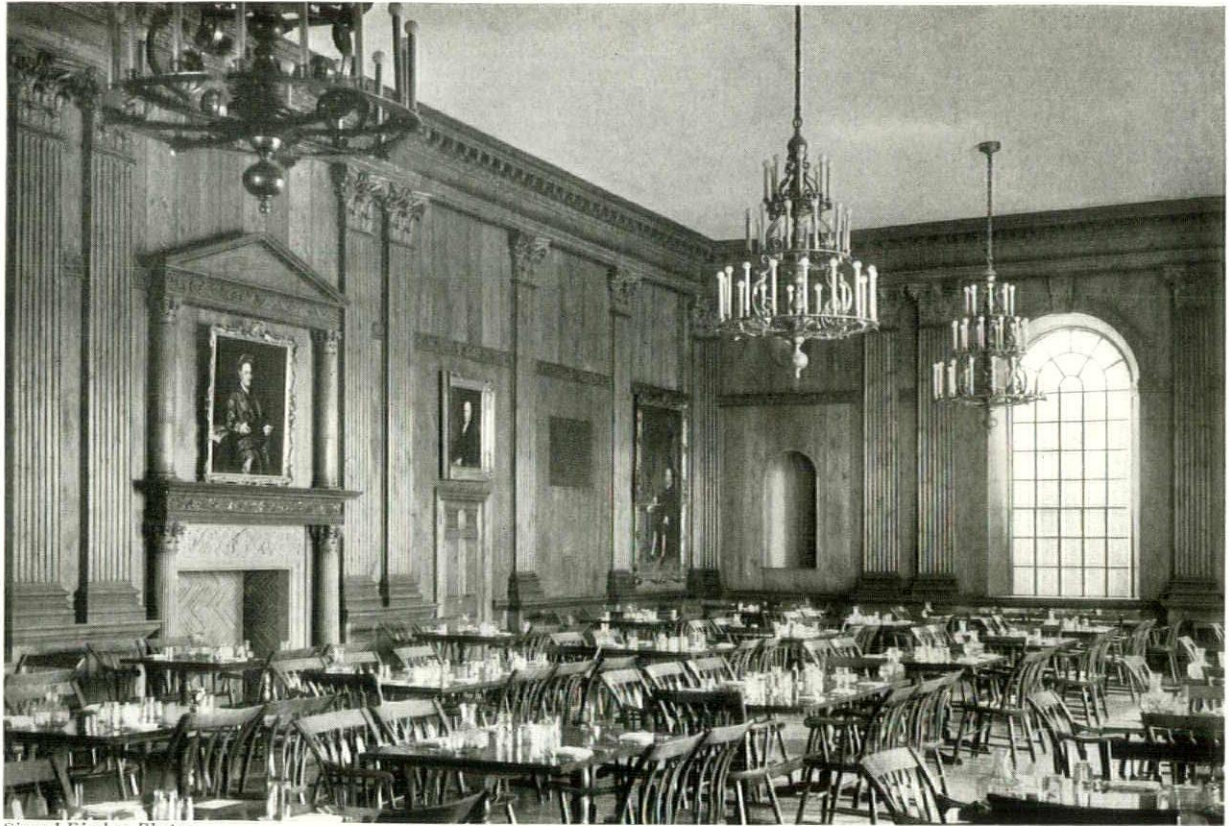
A general view of Dunster House from the Charles River



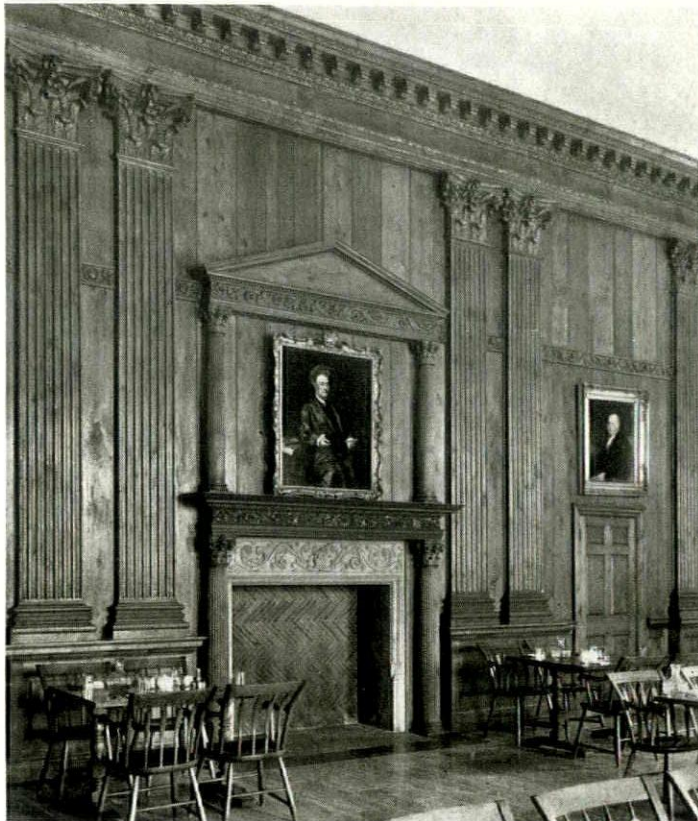


Weber

DUNSTER HOUSE
CAMBRIDGE, MASS.
COOLIDGE, SHEPLEY, BULLFINCH & ABBOTT
ARCHITECTS



Sigurd Fischer Photos

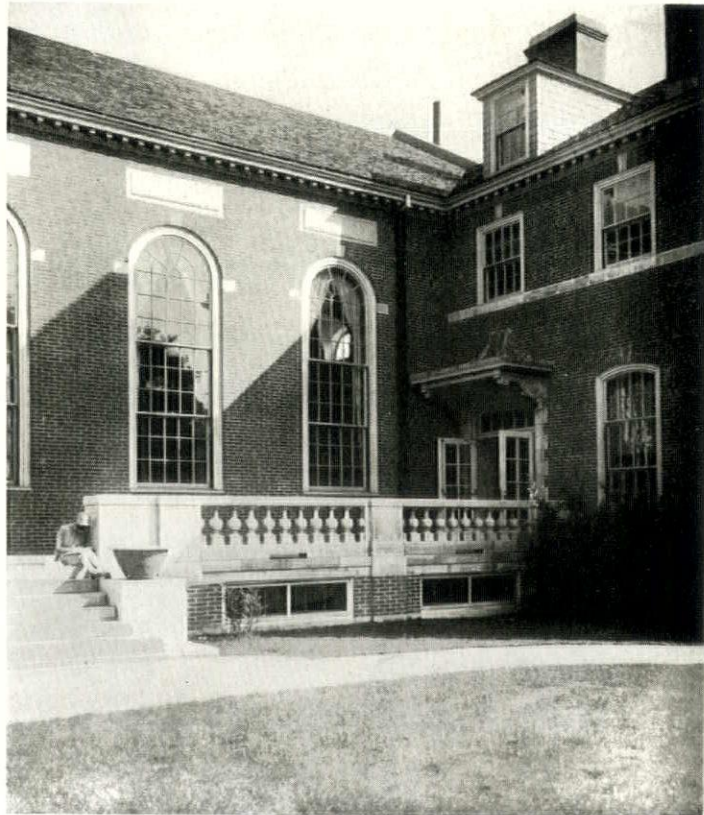


The Dining Hall in Dunster House. The walls are of pine, most of it being over a hundred years old. The finish was obtained by waxing and polishing the original, unpainted surface. The floor is of rubber tile in a flagstone pattern with light colored joints of the same material

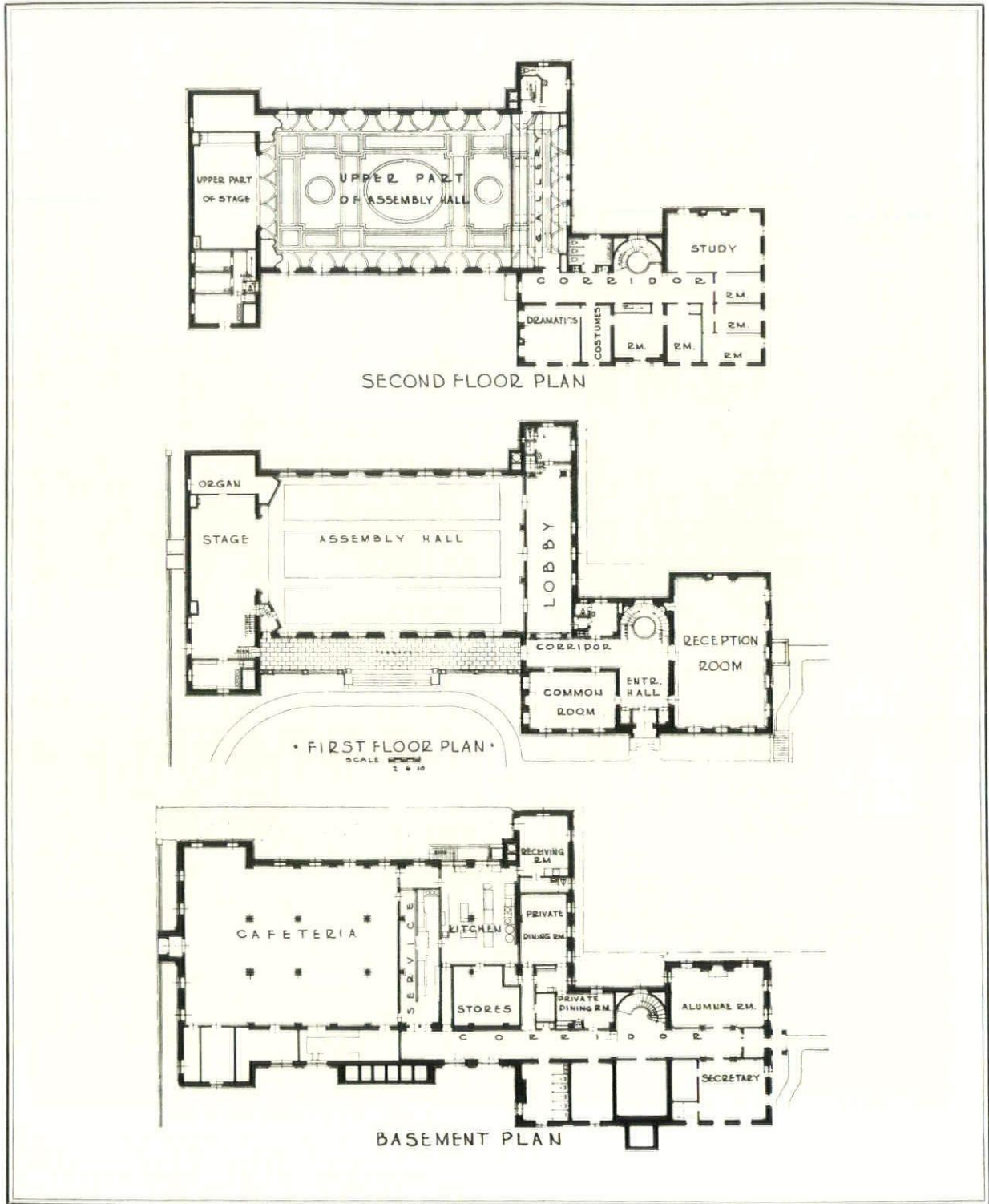


BROWN UNIVERSITY

The exterior is of water struck brick with limestone trim. The roof is of slate; window frames and sash are of wood painted white. The building, of fireproof construction throughout, contains 549,418 cubic feet, and cost \$345,624, or approximately 58 cents per cubic foot



RECREATION BUILDING
PROVIDENCE, R. I.
ANDREW JONES, BISCOE & WHITMORE
ARCHITECTS



RECREATION BUILDING
 PROVIDENCE, R. I.
 ANDREW JONES, BISCOE & WHITMORE
 ARCHITECTS



Wenzell

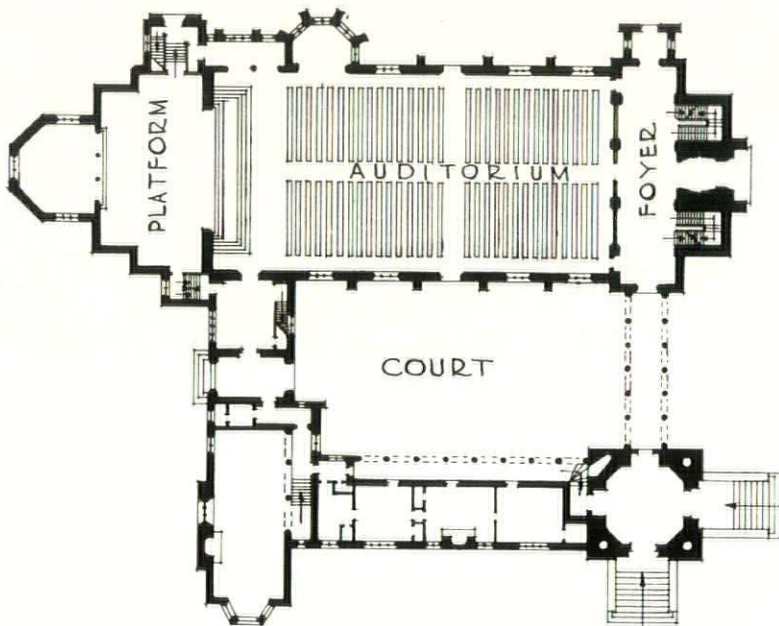
SWARTHMORE COLLEGE

THE CLOTHIER MEMORIAL
SWARTHMORE, PA.
KARCHER & SMITH, ARCHITECTS

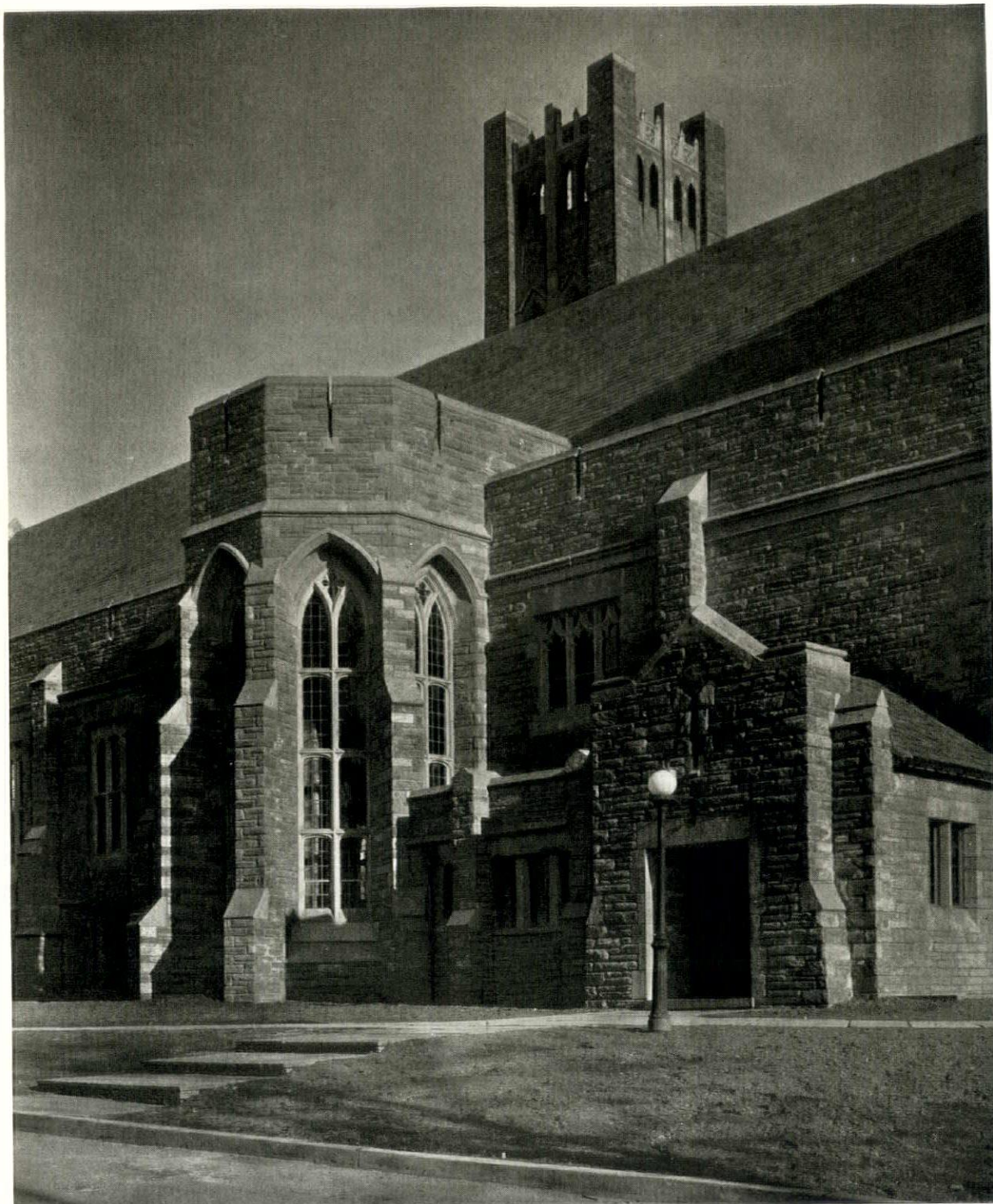


Wenzell

THE CLOTHIER MEMORIAL
 SWARTHMORE, PA.
 KARCHER & SMITH, ARCHITECTS



The exterior walls are built of local stone in varying shades of buff and gray. The entrance, trim, and window tracery are of cut limestone; the roof is slate. The simplicity of the design characterizes the traditions of the Society of Friends, the founders of the college



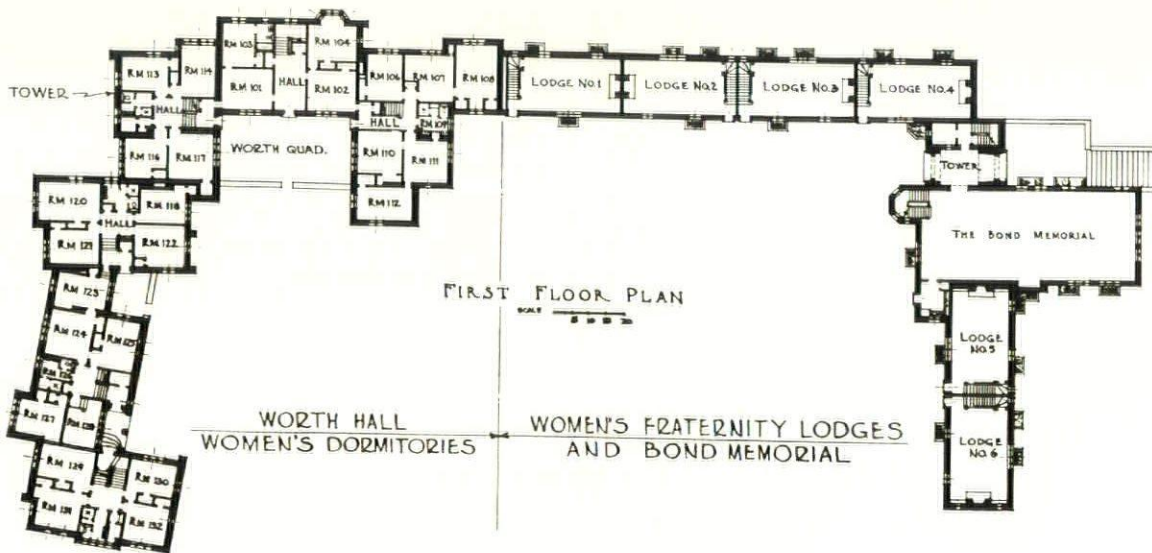
Wenzell

THE CLOTHIER MEMORIAL
SWARTHMORE, PA.
KARCHER & SMITH, ARCHITECTS



Wenzell

Bond Memorial Tower and the Women's Fraternity Group. The walls are of solid masonry, faced with variegated gray local stone. Floors throughout are of oak on wood joists. The roof is of slate. The group contains 171,000 cubic feet, and was built for 70 cents per cubic foot





Wenzell

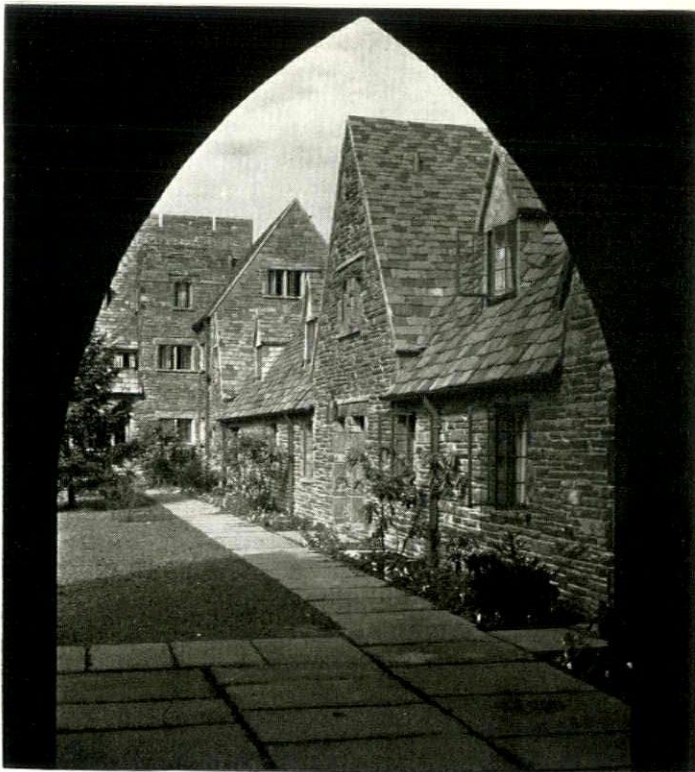
A detail of the women's dormitories in Worth Quadrangle. The building is similar in construction and materials to the Women's Fraternity Group, and contains 250,000 cubic feet. Its total cost was \$175,000

WORTH QUADRANGLE
SWARTHMORE, PA.
KARCHER & SMITH, ARCHITECTS



Wenzell Photos

The Bond Memorial Tower in Worth Quadrangle. At the left is a view of the Women's Fraternity Group, looking from Bond Memorial Tower

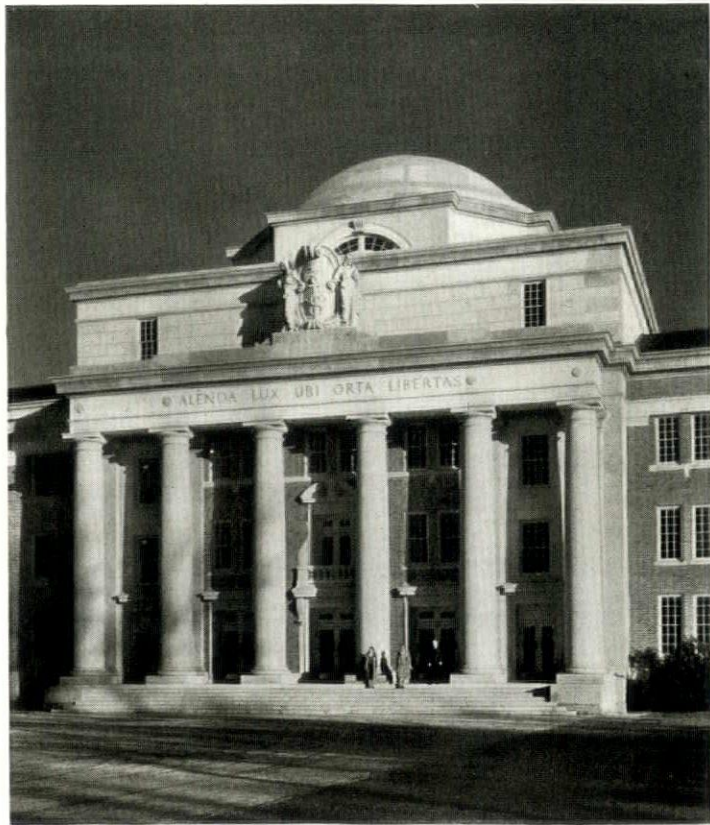


WORTH QUADRANGLE
SWARTHMORE, PA.
KARCHER & SMITH, ARCHITECTS



White Photos

DAVIDSON COLLEGE



ADMINISTRATION BUILDING
DAVIDSON, NORTH CAROLINA
HENRY C. HIBBS, ARCHITECT



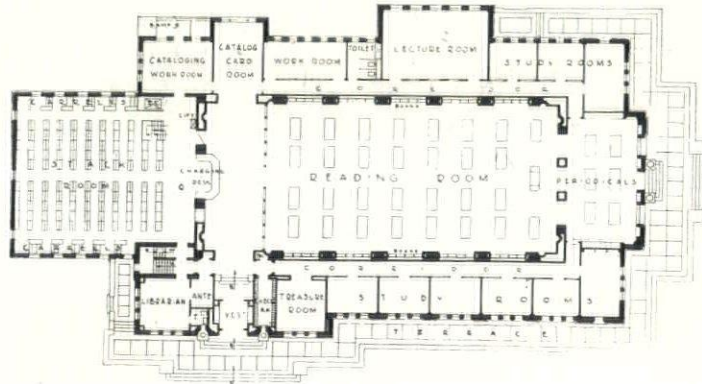
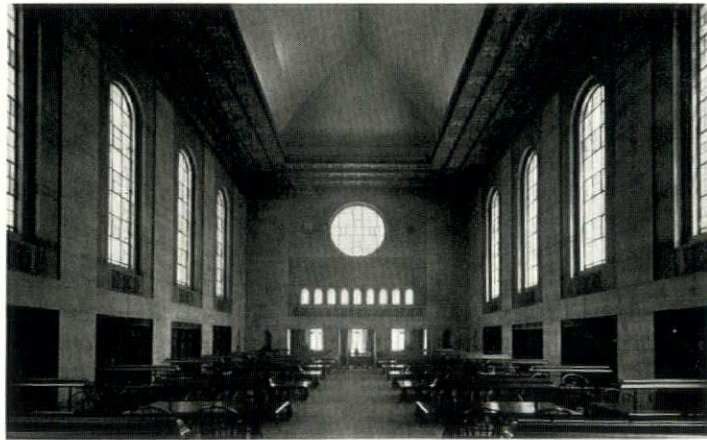
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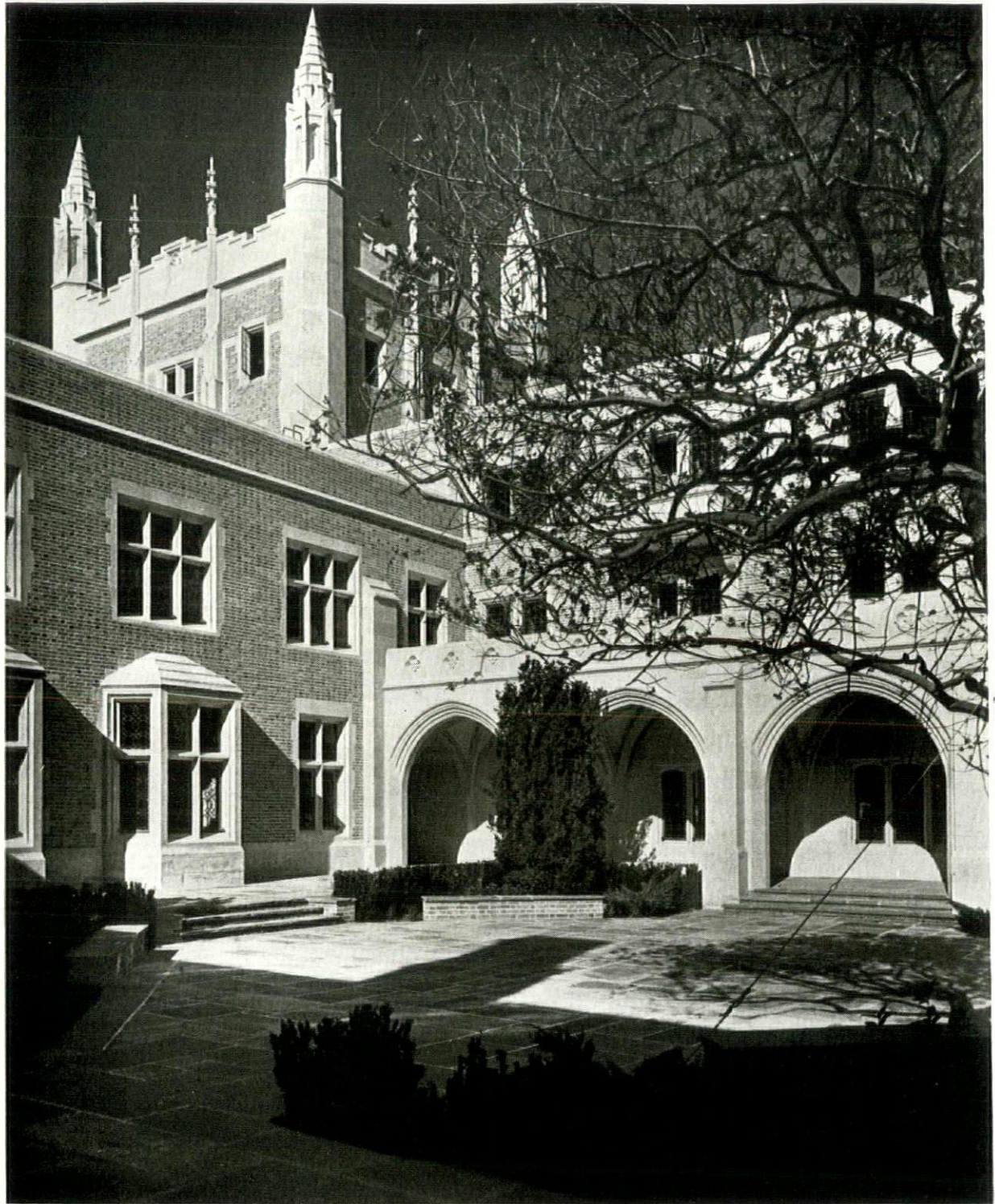


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LOYOLA UNIVERSITY

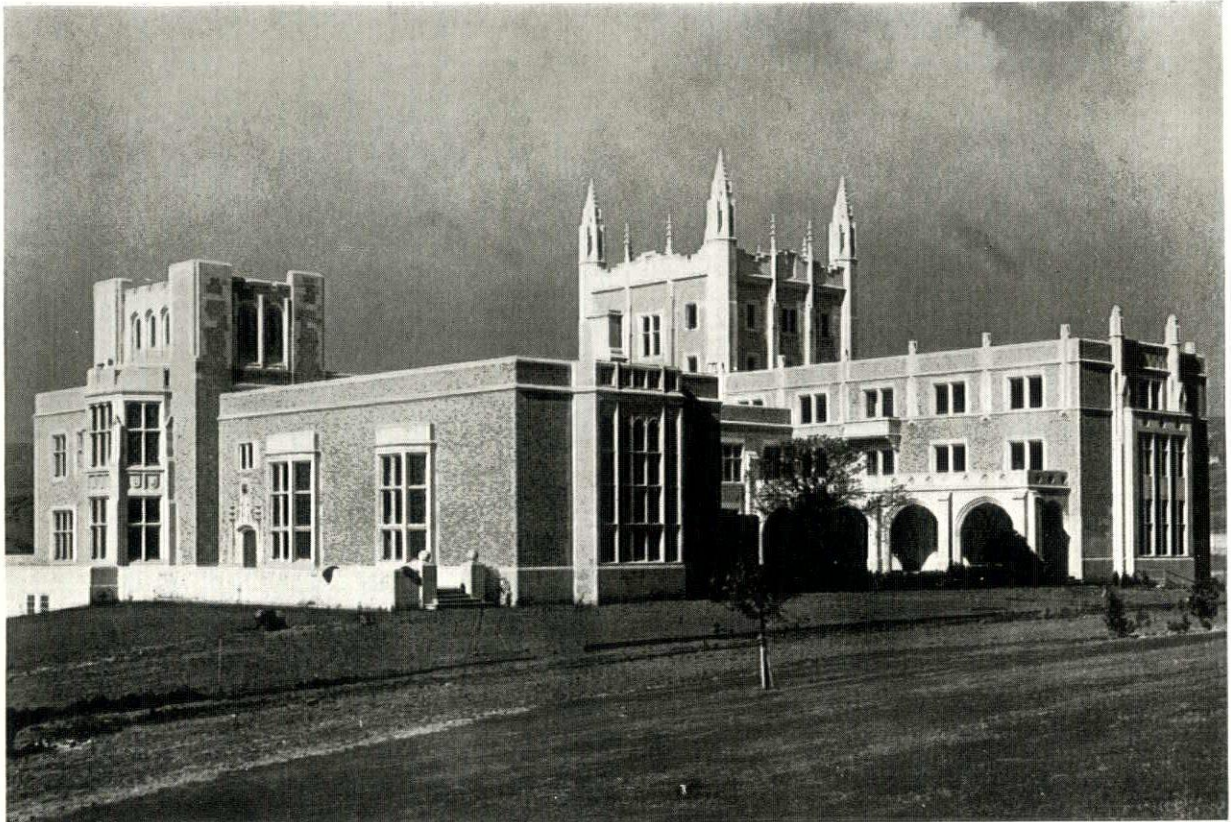


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A. N. REBORI, ARCHITECT



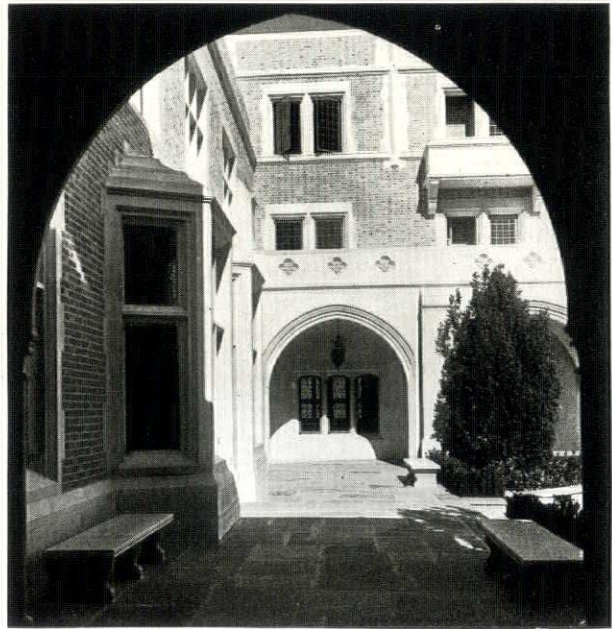
Clarke

COURTYARD, KERCKHOFF HALL
LOS ANGELES, CALIFORNIA
ALLISON & ALLISON, ARCHITECTS
GEORGE W. KELHAM, SUPERVISING ARCHITECT



Clarke Photos

THE UNIVERSITY OF CALIFORNIA
AT LOS ANGELES

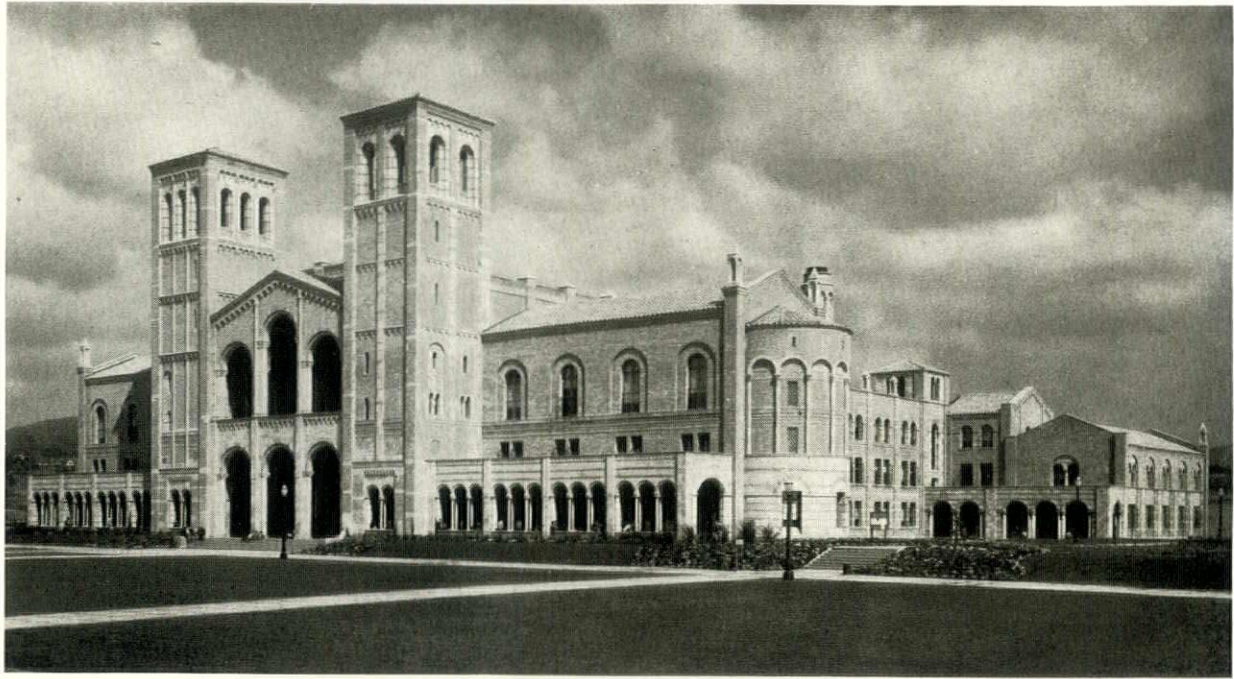


KERCKHOFF HALL
LOS ANGELES, CALIFORNIA
ALLISON & ALLISON, ARCHITECTS
GEORGE W. KELHAM, SUPERVISING ARCHITECT



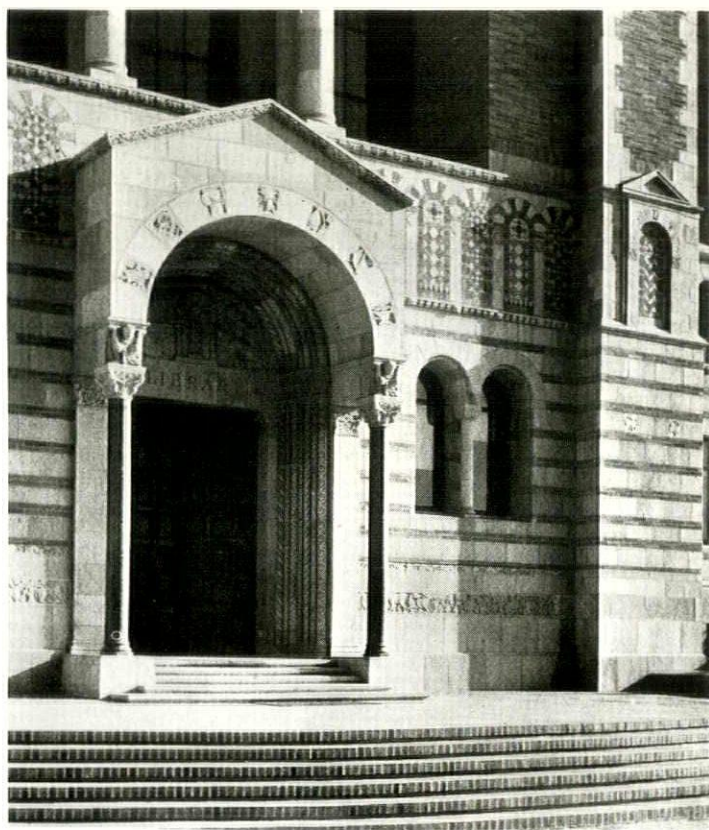
Clarke

ENTRANCE, KERCKHOFF HALL
LOS ANGELES, CALIFORNIA
ALLISON & ALLISON, ARCHITECTS
GEORGE W. KELHAM, SUPERVISING ARCHITECT



Royce Hall is of fireproof construction with foundations and floors of concrete, walls of brick and terra cotta and a roof of terra cotta tile. The windows are steel casements

ROYCE HALL
LOS ANGELES, CALIFORNIA
ALLISON & ALLISON, ARCHITECTS
GEORGE W. KELHAM, SUPERVISING ARCHITECT



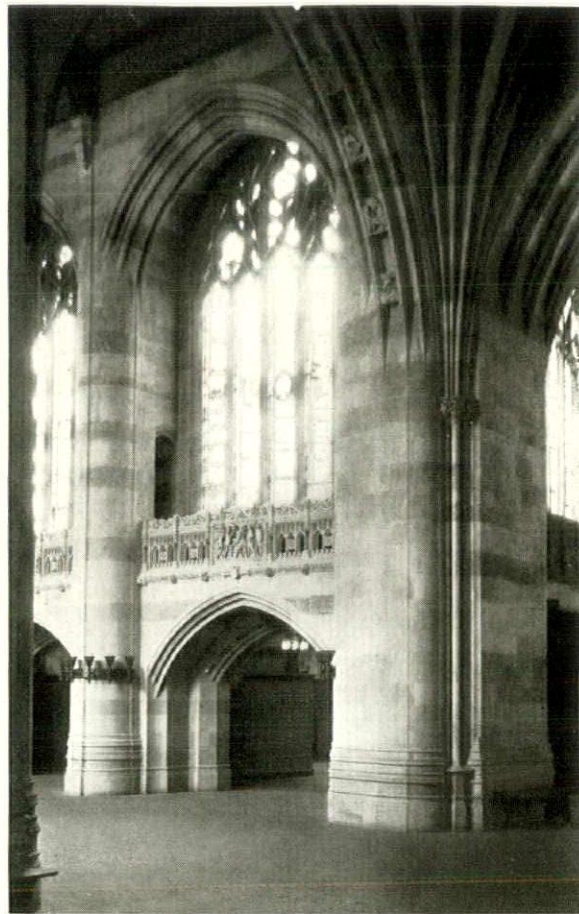
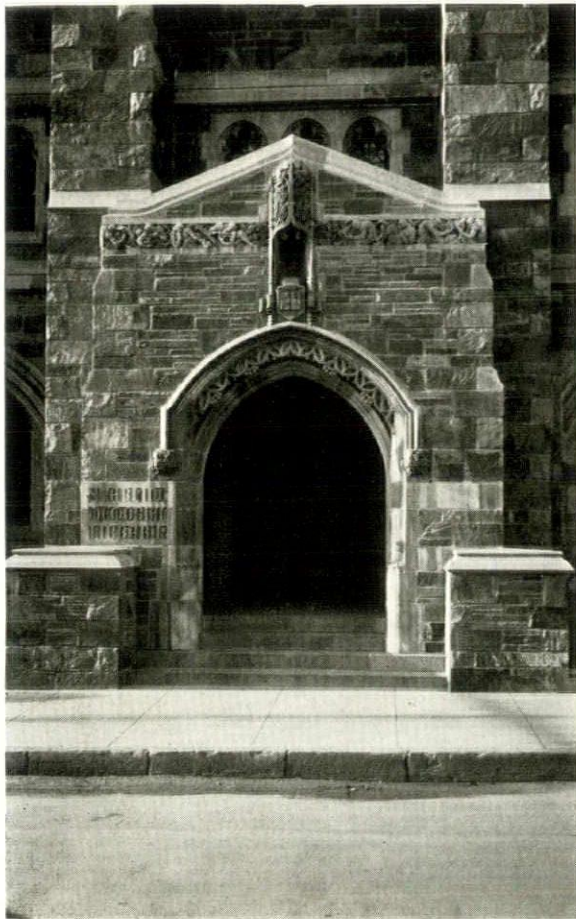
The construction of the Library is similar to that of Royce Hall. The building contains 2,362,000 cubic feet, and cost 26 cents per cubic foot

LIBRARY BUILDING
LOS ANGELES, CALIFORNIA
GEORGE W. KELHAM, ARCHITECT



YALE UNIVERSITY

STERLING MEMORIAL LIBRARY
NEW HAVEN, CONN.
JAMES GAMBLE ROGERS, ARCHITECT

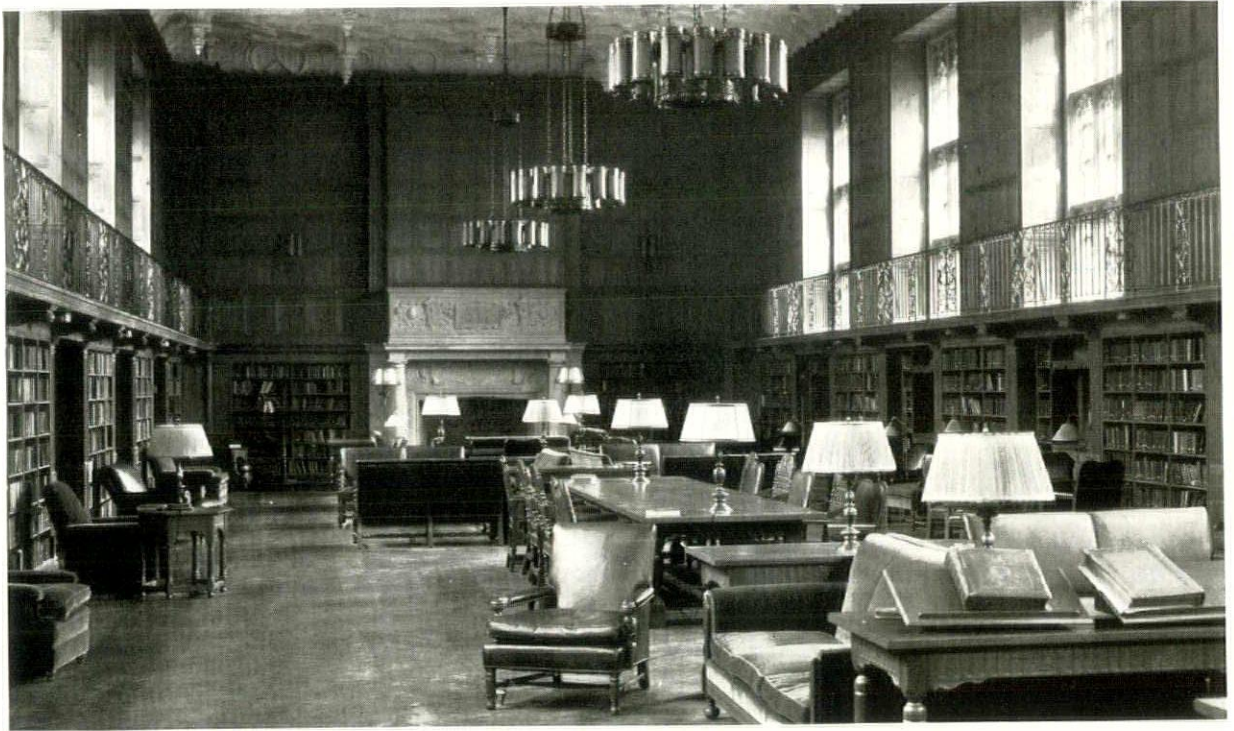


The Sterling Memorial Library was designed to house over three million volumes and to accommodate some two thousand readers at one time. Its cost was approximately \$5,000,000. The University librarian considers the building "as efficient as an up-to-date factory and as beautiful as a cathedral." Much discussion of the merits of the architecture has arisen among the students, one point of view being expressed in the undergraduate magazine, *The Harkness Hoot*, by William Harlan Hale (who subscribes to the philosophy of Wright or Le Corbusier). Mr. Hale has further expressed his ideas in "Old Castles for New Colleges," published on pages 729 through 732. The architect has stated, "We chose an almost modern Gothic . . . because we desired to make this building harmonize with the group of buildings that in the future we hope to see extend from Chapel Street." The question of style is ably discussed by C. Howard Walker, architect, in "Expression, —and The Collegiate Style," pages 653 through 656 of this issue

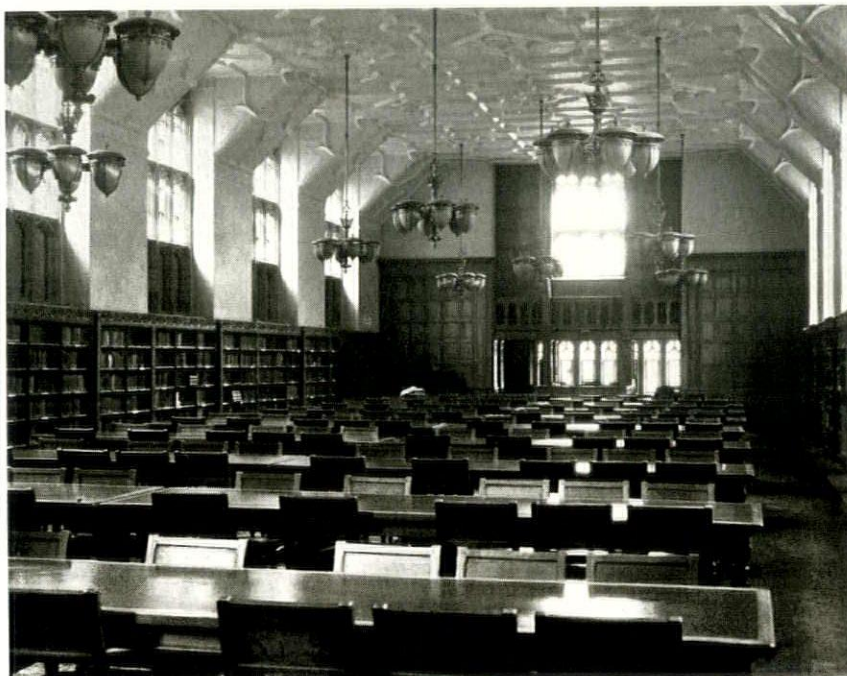
STERLING MEMORIAL LIBRARY
NEW HAVEN, CONN.
JAMES GAMBLE ROGERS, ARCHITECT



STERLING MEMORIAL LIBRARY
NEW HAVEN, CONN.
JAMES GAMBLE ROGERS, ARCHITECT



STERLING MEMORIAL LIBRARY
 NEW HAVEN, CONN.
 JAMES GAMBLE ROGERS, ARCHITECT



The room illustrated above is the Linonian and Brother's Library; the one at the left is the Reserve Book Room



THE EDITOR'S FORUM



COLLEGIATE ARCHITECTURE

UNLIKE many modern office buildings that are now being erected to last for a certain number of years with quite definite assurance that they will be obsolete, torn down and others designed to take their places, college buildings are usually erected with an eye to permanence. This very permanence must be considered by the architect, for while the physical college is fixed, new needs and new educational methods seem destined to follow each other rapidly.

There are three possibilities in planning and designing college buildings: the first is to erect a permanent monument which will serve the needs of the present; the second is to erect a durable building so constructed as to be flexible in use and easily added to; the third is to erect a modern building of materials having some salvage value with the idea that it may be replaced after a period of fifteen or twenty years. This might be done in frank acknowledgment that there is a possibility that both methods of teaching and materials and methods of construction will have changed so much in that period as to make this the wise course. Building committees in colleges and universities are more apt to adopt the second policy. They are often bound by terms of bequests to use the funds to put up buildings which will not only serve their academic purposes, but will also be memorials to the donors. Temporary memorials are not looked upon with favor.

The growing idea of architectural unity through the adoption of a style of architecture serves as a brake on those who would pursue the third course. The older colleges have passed through periods of styles, each new building being added in the then current architectural fashion,—gems of old Colonial or American Georgian, Richardson Romanesque, Victorian Gothic, and then perhaps a return to adaptations of the styles of the original buildings. Such heterogeneous collections have not been found pleasing even though they have given an historical record, and the tendency at present is to establish definitely a style in the interests of coherence and unity. It does leave an opportunity for the newer colleges to erect thoroughly modern buildings, but few have availed themselves of this opportunity, evidently feeling that the "modern" of to-day is transitional and that the safer course is to follow the venerable style precedent of older institutions.

TO BRING IT BACK

THE building industry is exhorted to get under way with its work so that prosperity may be brought back. We are told that if building would pick up, the suppliers of materials would resume production on a large scale, putting people back to work, giving them purchasing power, new demands for staples and luxuries, more people to supply these and so on, and so on, and the cycle turns upward. The government is doing its best to keep the building industry alive doing federal work while waiting for private projects to be undertaken. States and municipalities likewise. Yet what types of buildings shall the industry concentrate upon to thus bring back prosperity? Certainly the industry itself should know! What means has it of inaugurating projects for its own and the common good? The industry itself is not organized, it does not study the supply of and demand for buildings. It does not, as an industry, plan its work. It depends rather largely on the guess or judgment of the entrepreneur builder (sometimes called "the promoter" or "speculative builder") and takes it for granted that governmental, institutional, educational and religious buildings will develop about as formerly. The promotional or speculative building activity is controlled by individual initiative in search of quick profit rather than by sound investigation to ascertain a real need and to provide an economic building. If an office building is successful in a certain section of the city, others will be undertaken nearby in the hope of the same success, until an excess of office space produces abnormal vacancy percentages and lower rentals. Thus a "natural" process of working out of the old law of supply and demand is brought about, with equally "natural" periods of boom and depression in the building industry. The "law of diminishing returns" is relentlessly at work.

This is, of course, not the whole story or the complete picture, but it does indicate that it is imperative for the industry to organize for its own stabilization and protection, to have its own fact-finding and statistical body to study building needs throughout the country and to formulate a production program based on analysis which would be of permanent benefit to all. Capital would not be lacking to back building projects which were in line with such a program. Capital is now shy about construction loans, for it has suffered the

after-effects of the speculative building boom. It has loaned on uneconomic structures; it is foreclosing on properties it does not want because it looked only at the "cost and income set-up" for the properties and not at basic conditions. Today great building projects are being considered in the same short-sighted way, and the result will be the same. Until the leaders in architecture, engineering, real estate, building, investment, contracting and manufacturing realize that planned construction can be brought about by coöperation and coördination, we may expect cycles and even catastrophes. This is but one reason for our advocating the organization and integration of the building industry.

A PLAN OR A PLOT

ALMOST every city has suffered through the unforeseen developments in transportation and traffic and through the mistakes of unplanned growth. Recognizing these conditions, most cities have studied their plans in relation to future needs, and commissions and boards of city and regional planning have done excellent work. Unfortunately, in the consideration of individual building operations, but little thought is given to this broader aspect of the project in relation to the city as a whole. Each plot is thought of as an entity in itself,—as so much land costing so much,—therefore, build so much bulk to bring in so much return on the investment. This attitude is natural, but not enlightened, and tends to produce conditions which defeat its own ends. Traffic congestion and abnormal "percentages of vacancy" have followed as results of this attitude on the part of promoters,—and it may continue to do so. This is especially true in large cities.

Smaller cities are prone to follow the larger ones in their building efforts, even though their physical conditions and opportunities for expansion are entirely different. Forward steps in city planning on the part of the larger cities would be a boon to all other cities.

Much interest centers in New York at this time for there are now under consideration two plans for a building development involving two hundred and fifty million dollars or more,—one plan is for the development of three city blocks,—Radio City; the other takes in those blocks, involves five times that area and is a step toward a better city plan.

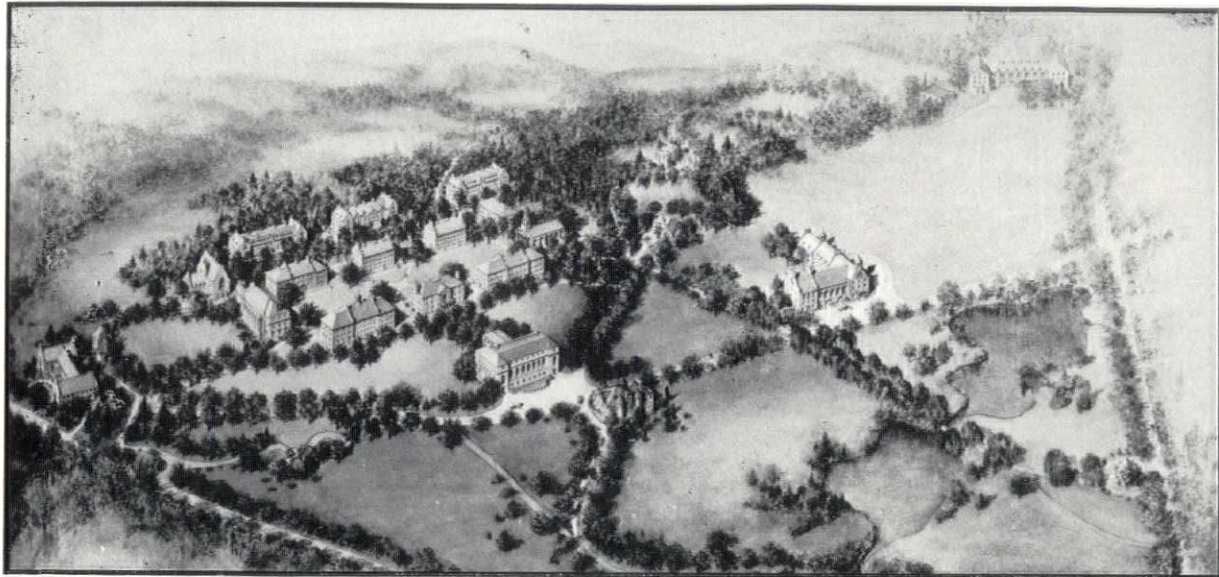
This latest development in the Radio City discussion is the proposal sponsored by the Fine Arts Federation of New York. It ignores entirely the Radio City project as proposed by the architects for the Metropolitan Corporation, and attacks the problem with a broader view of city planning. In the new scheme, developed by Benjamin Wistar Morris, instead of treating merely the three blocks as high-priced land on which a maximum rental must be obtained, the entire area, from 42nd Street to Central Park, is considered.

Briefly, the proposal is to cut a new avenue between Fifth and Sixth Avenues from 42nd Street to the Park, thus creating on each side of the avenue increased land valuation which, it is estimated, would cover the cost of the excess condemnation proceedings necessary on the part of the city to acquire the property. The creation of this new avenue, perhaps on two levels, would greatly facilitate traffic, although the new buildings on the proposed avenue would undoubtedly attract additional traffic. Further study would, of course, be necessary to take care of congestion that would arise on 42nd Street, and undoubtedly Bryant Park, behind the Library, would be a factor in this solution. An open square is planned in front of the Cathedral which would provide a vista for a monumental building facing the square.

The plan "has everything to recommend it" in the eyes of the Regional Planning Committee, according to its president, George McAneny, as it fits in with the regional plan as developed and now nearly ready to be turned over to the new city Department of City Planning. Instead of increased building bulk in a small center of three blocks, there would be increased openness, light and air, and traffic facilities, with the enhancement of property values not only around the square, but also throughout the whole length of the new avenue. Whether or not this plan is put into effect, it shows breadth of vision without being visionary, for it is well within the realm of possibility. Its practicability and feasibility should be searchingly and scientifically analyzed. It is time that New York considered the economics and aesthetics of city planning rather than mere growth in bulk.

Kenneth K. Stovall

EDITOR



Colgate University, Hamilton, N. Y., has a plan typical of early American universities, with little interference between activities and vehicular traffic. The scheme suggests limited enrollment

THE PLANNING OF COLLEGES AND UNIVERSITIES

BY
FREDERICK L. ACKERMAN

IT is impossible, within the limits of this article, to discuss in any considerable detail the planning of colleges and universities: the field is too broad and too inclusive. The principles of planning applicable to institutions located in small communities or within a rural setting, with relatively ample site available, hardly apply in a highly congested metropolitan center. Climatic conditions, actual size, differential educational aims, likewise condition arrangement.

To venture a prophecy covering the future trend of educational policy would be to enter the field of controversy. The record of the past is plain: but the present is confused and the future obscure. One embarks, therefore, with no little hesitation upon a discussion of the principles of planning that should guide the organization of an adequate physical environment.

Aside from a few exceptional cases and points of detail, the plans of American universities conform to a general pattern: oftentimes growth has confused, but rarely completely obliterated it. We see through even the most complicated arrangement the trace of a campus surrounded by academic structures with residential elements intermingled or adjacent, recreational features close at hand. These patterns reflect the life

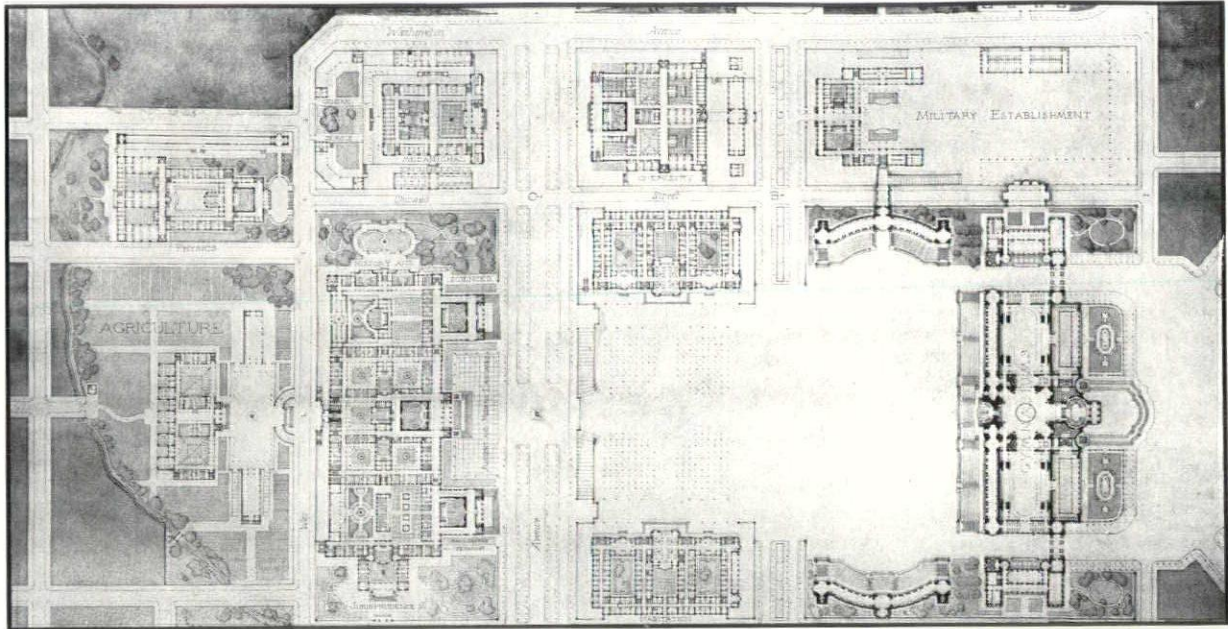
habits of educational institutions and constitute a history of change and growth.

CHANGE

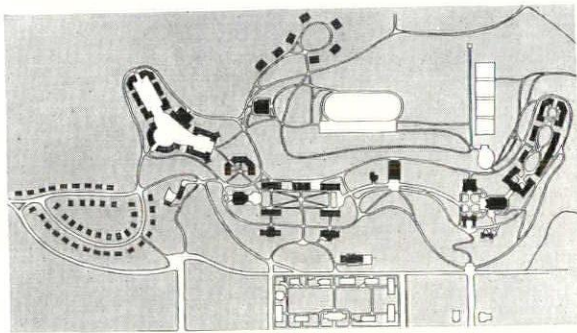
Current discussions bearing upon educational policies would seem to indicate that radical changes other than such as have occurred in the past may take place. Such changes would radically modify the pattern of universities yet to be launched. So, in any general discussion of the physical arrangement of educational centers, it should be kept clearly in mind that we are dealing with functions that have been stabilized and are at the moment in a state of flux. This fact suggests, therefore, that the central problem of planning educational centers may be briefly and clearly stated. How may we so envelop evolutionary educational processes as not to retard or thwart development?

PERMANENCY AND FLEXIBILITY

In urban centers, business deals with the changing processes of life by destruction and replacement of buildings. This method of dealing with changing events and values is accepted without question: and the rate at which destruction and replacement takes place constitutes a scale



The prize design for the University of California, by E. Bernard of Paris in the Phoebe A. Hearst competition of 1899, was never executed, but reflects the then current viewpoint as to composition and design



General plan for Dennison University, Arnold W. Brunner, Architect. A residential character is obtained by the non-interference of pedestrian and vehicular traffic, and elimination of roads in courts

by which we measure "progress." The financial structure of the educational institution, however, not only precludes, but is likely to continue to preclude, the adoption of such a plan of action. Conditions surrounding procurement of funds for plant and endowment give rise to the need for high standards of structural durability, from which it follows that structures should be designed and located with a view to flexibility of operation. Durability and permanence call for an architectural expression more deeply rooted in reason than the extremes of fashion which pass in a day.

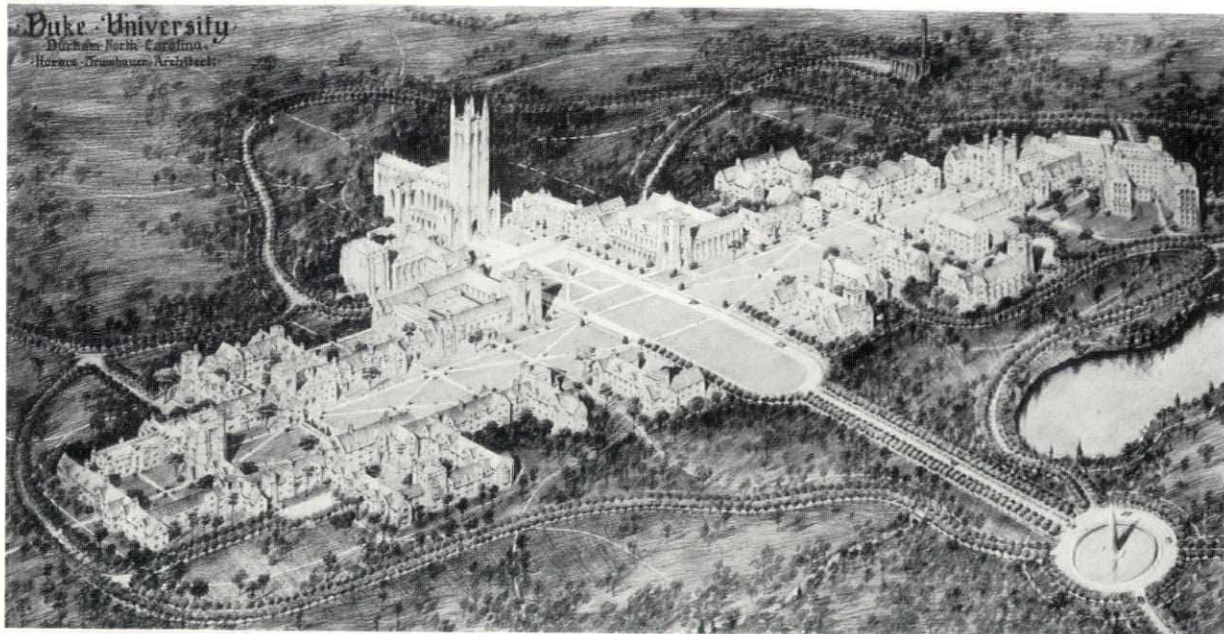
Many will take issue with this summary handling of a controversial question and insist that through the erection of relatively temporary structures alone will progress be assured. The

position here assumed is that there is no occasion, in the case of such institutions, to regard the physical setting and architectural envelope as a temporary thing. Plans which provide freedom of action are plans for the future. The problem, therefore, involves making a broad assumption as to what aims will retain their validity through the years to come.

While it is probable that experimental projects will be launched which, in respect to educational policy will differ radically from existing institutions, it is probable that experimentation will be confined at first to small units. We will no doubt continue to think in terms of the current functional divisions and categories and group them in structures designated as administrative, academic (containing class and lecture rooms, and laboratories), libraries, unions, residential halls, dormitories, etc.

THE ENROLLMENT FACTOR

For the educational unit with definitely limited enrollment, numbered in the hundreds, the characteristic arrangement of an open space surrounded by academic structures with residential units intermingled or adjacent, and recreational features conveniently located, offers what appears to be an entirely satisfactory solution. Under such conditions, the academic structures—that is, buildings containing class rooms, lecture rooms, laboratories, and the like—may be so placed that the time required to traverse the campus will not exceed a few minutes. This arrangement insures a sense of unity and intimacy.



A nearly maximum expansion of the simple, centrally located campus with limited enrollment. It is free of vehicular traffic ways except in the central open space where the plan is cut by roads

Small, limited enrollment makes it possible, by allowing a reasonable amount of space for the expansion of elements, to adjust from time to time the unequal growth of departments. The utility of structures over a considerable period of time, in a well arranged educational unit of this size, would depend, of course, upon durability, but to a far greater degree upon whether the structures had been designed in the first instance as simple volumes, readily adaptable to changing needs or as highly complex structures designed to accommodate snugly a minutely detailed program of operation.

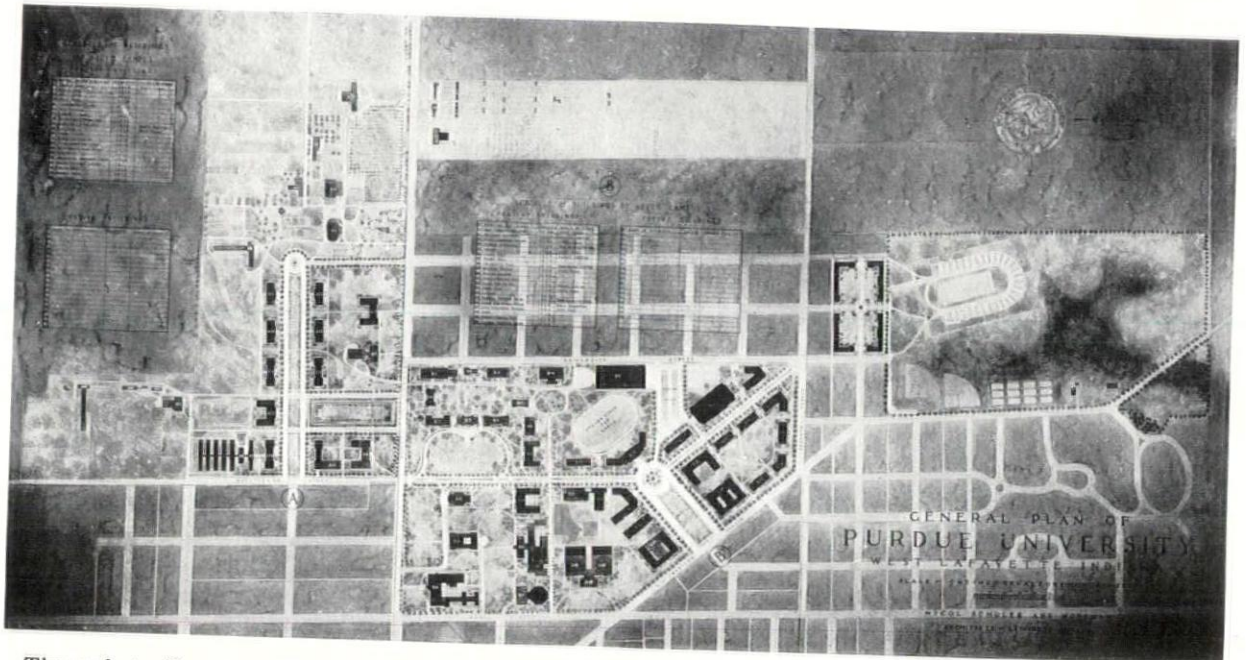
Institutions of the next higher category in respect to enrollment accommodating, say 2,000 to 5,000 students, present problems many of which do not appear to have been satisfactorily disposed of in plans that conform too rigidly to the general pattern derived from earlier campus schemes. Such institutions ordinarily have many departments or colleges—educational institutions in themselves. They may be co-educational; they may again be subdivided by graduate schools or colleges which bisect the two other sub-divisions.

THE TIME ELEMENT

Within the lower brackets it is possible to group, as to capacity, the structures to house the purely academic functions about a centrally located open space. But so long as hourly periods constitute the dominant time schedule upon which the university operates, difficulties will be found in so grouping the academic structures in the larger institutions as to place them definitely

within a time-distance diameter of seven or eight minutes. This difficulty, taken in conjunction with the changing demands for increase in physical equipment at certain points, leads one to the conclusion that for the larger institutions of fixed or limited enrollment and for those of unlimited capacity, a radically different type of plan or pattern will be evolved. This will be dealt with later.

A definite problem often arises out of conditions that develop beyond the physical boundaries of the university proper. Within large urban centers, the housing of students and faculty is often disposed of by allowing them to shift for themselves. In some measure this is true in communities of smaller size. But when an institution is located in open country or adjacent to a small community, the housing of students and faculty becomes a part of the problem. Space limits the discussion of this phase of the question to considerations bearing upon the general plan. Experience points to the importance, for social and economic reasons, of setting aside areas sufficient to house adequately both students and faculty. The present outlook indicates the advisability, in co-educational institutions, of providing three segregated areas. This is not to say that the separation of students and faculty must needs be defined by rigid physical boundaries. Segregation should be definitive as between men and women, and areas should be reserved for the faculty; but certain faculty accommodations might advantageously be provided within the boundaries reserved



Through traffic ways occupy important positions in this plan. Often this is an unavoidable condition, for municipal authorities are often reluctant to close streets, although it may be highly advantageous

for student use. As graduate schools increase in size, housing facilities are needed for a group that occupies a position between faculty and undergraduates.

The distance that should intervene between housing facilities and academic structures cannot be set down as a definite quantity. A walk of fifteen or twenty minutes is not harmful to anyone. However, physical intimacy between housing facilities and recreational features would seem to express a rational aim. Such structures as unions, gymnasias, particularly facilities for casual play, should be convenient to residential groups. This does not apply to stadia and facilities used primarily for intercollegiate contests, which features may well be placed at a distance and in close relation to ample areas for parking.

In establishing the general plan, the actual size of individual residential units need not concern us. For flexibility with respect to future use would be insured if the arrangement of traffic ways provided sites of sufficient area to accommodate the larger units. It is a relatively simple matter to sub-divide a large site; it is oftentimes difficult or impossible to increase the area of sites if the same are bounded by well established traffic ways.

TRAFFIC AND RESIDENTIAL AREAS

Residential areas for both faculty and students might well be designed in accordance with the general principles of planning as applied at Radburn, New Jersey. A system of roads and pedestrian ways should be arranged independently of each other. The pedestrian ways should occupy

positions of importance and serve as the principal means of intercommunication within the residential areas and the important connecting links to the academic group. The roads would be designed for service and vehicular access and located in a secondary relation with reference to walks.

While the same general principles of planning would hold for areas occupied by faculty and by students, application of the principles would differ in response to differential uses. For the most part, the faculty would require facilities characteristic of zones of residential occupancy. Single and multi-family habitations with garages and with open spaces for play constitute the principal elements of the program. Although multi-family houses and dormitory accommodations would no doubt be demanded within the areas occupied by the faculty, the usual requirements associated with single family occupancy would serve to determine the spacing of roads, walks and plots in this part of the plan. While it is true that "dormitory" (as distinct from "residential") units do not necessarily require vehicular access, and while such units would be more pleasantly situated in areas undisturbed by roads, it would be unwise to so locate such structures that vehicular access could not be provided in the future, should the occupancy of such structures change.

Except in rare instances, it would hardly be possible, if deemed desirable, to provide within residential groups in intimate relation to each unit, adequate facilities for casual play and recreation. Facilities to meet the rapidly expanding

demand for physical recreation—intramural contests, organized recreation and casual play—should, however, be located adjacent.

SIZES OF RESIDENTIAL UNITS

Since this statement deals with the problems of planning, it should not concern itself with the much discussed question as to what should constitute the capacity of residential units or with the social or educational problems involved in their occupancy. It may be pointed out, however, that in residential units housing less than one hundred, the living rooms, dining rooms, etc., which are nicely adjusted in size to meet the requirements of use produce, by reason of their actual dimensions, a definite atmosphere of intimacy. The difference in effect between the common rooms that are properly adjusted to an occupancy of 75 and to an occupancy of 300 or more is suggested by "residential" and "public."

The preference so generally voiced in favor of residential units of moderate capacity cannot, of course, be explained in a few words. Many factors are involved, but one of the most important, particularly in relation to dining rooms and services, is management. Given the same point of view, there is, for example, no valid reason why the character of management, service and food in a unit of a thousand should differ appreciably from that in a unit of one hundred. But in reality, such units differ in atmosphere, as everyone who has observed conditions very well knows. It is assumed that large units must be under the guidance of most efficient management; managers are chosen for their business efficiency rather than for their knowledge of adequate standards of living, which is in no small measure a matter of aesthetics or taste. As it works out, increasing efficiency in the conduct of such units is seemingly had at the expense of qualities which would stimulate interest in the art of living.

The provision of dining facilities is certain to involve no end of discussion. It would be presumptuous at this time to attempt a statement representing a consensus. The most that may be said with any degree of safety is that the current drift of opinion is away from the great commons so popular in the nineties. Certain broad statements may be made, however, that so closely approximate facts that one may venture. Decision as to capacity of kitchen and service units need not concern itself with the economics of the problem when the question involves capacities of more than one hundred. Smaller units are more expensive to operate; but there is little evidence to indicate that very large units are appreciably more economical than those of moderate capacity. If we eliminate from the general planning problem the great centralized commons and distribute

dining facilities within the residential areas, all that need concern us in the general plan is vehicular and pedestrian access to all sites. If our sites are adequate for the larger residential units, they will be adequate for dining facilities.

THE LIBRARY

A volume could readily be written concerning the many problems of placement and location of the several elements that make up the academic group. We are dealing with the general problems of planning and need make reference, therefore, to only one. The library should occupy a central location, so placed with respect to traffic ways and adjacent structures as to allow ample space for future expansion. It would be located in an ideal way in respect to use and functions were it placed between academic structures and residential groups and not far distant from the structures given over to general social use. These broad statements hold, regardless of the policy adopted in a given case with respect to the decentralization of library facilities. For it may be assumed that there will always be a demand for a central library with facilities for expansion.

TRAFFIC,—MOTORS AND MEN

Ordinarily, in dealing with a community planning problem, for such this is, roads and traffic are discussed at the outset. In this case it seemed advisable to consider first the nature of the functions involved in the problem.

Many will insist that architectural design should aim at the fullest utilization of modern inventions and hence that the modern university community should be planned for the use of the automobile. In small institutions the use of the auto by students and faculty does not introduce planning problems of a serious nature. But with an enrollment numbered by thousands its unrestricted use not only introduces difficulties but raises a major question as to the character of the environment. To provide adequate roads and parking facilities for several thousand autos would necessitate such a separation of structures as would be counter to the interests of pedestrian use. Concentration in tall structures served by elevators would probably counteract the effect of horizontal separation. But the introduction of the elevator is counter to the interests of operating economy; and can only be justified in the case of highly restricted sites and excessive land values.

The bundle of functions and activities which makes up the university establishes its character as a restricted residential community in which the movements of students and faculty would normally weave a pattern of pedestrian ways. While vehicular access is necessary to the majority of structures, and while such structures as audi-



The University of Iowa. A scattered arrangement with conflicting traffic ways. Growth would probably involve the use of the central open spaces or an even wider scattering of related structures

toriums and stadia must be provided with ample traffic ways and parking spaces, it remains true that vehicular traffic is of secondary importance and a disturbing feature. The differential importance of vehicular and pedestrian traffic should be acknowledged throughout the general plan.

To summarize this important point in the planning of universities: only secondary roads should be allowed within the frontiers. These should pass through secondary spaces with a view to providing service to buildings. Pedestrian ways or walks should occupy the important locations and provide the simplest and most direct means of inter-communication. These broad statements must be qualified. Auditoriums and stadia used by the public should be approached by ample traffic ways and provided with parking facilities in relation to their capacity; and all of the features requiring a considerable volume of vehicular traffic should be located near the frontiers.

LARGE INSTITUTIONS

Institutions with an enrollment of 10,000, more or less, the same as those organized with a view to indefinite expansion, present problems of planning that cannot be solved along lines already suggested. The distances involved in such institutions would suggest the abandonment of the pattern with large, centrally located, open space. It would seem that academic units, in order to avoid too great distances between them, must be centrally located in a single structure or in a closely united series of elements. Considerations in respect to ample light, circulation of air and noise interference would determine the minimum size of courts and open spaces which could be used in a closely integrated grouping.

In recognition of this the central campus would completely disappear and the general pattern would be made up of open spaces or a series of campuses arranged in a radial pattern. Intensity of uses and occupancy should diminish toward the boundaries. This general principle would control with equal force, regardless of whether the

scheme was based upon fixed enrollment or one in which the future looked to indefinite expansion.

This note cannot be concerned with the relative merits of limited enrollment as against a policy looking toward indefinite expansion of enrollment and facilities. But it may very properly point out that a program of indefinite expansion imposes what may very properly be referred to as an impossible problem in design. If expansion were merely a matter of adding autonomous or self-contained units, little more would be required in the first instance than the setting aside of a very considerable area for future use. Physical expansion would involve the enlargement of practically every element. A plan that would provide for expansion without limit would impose handicaps upon operation at all stages of development.

These brief notes have purposely avoided a discussion of educational aims and policies; and matters of detail have been ignored. The purpose was, as stated at the outset, to focus attention upon the nature of the problem; dealing with functions and uses that are constantly changing.

THE FINAL OBJECTIVE

The university community is a living organism: unfolding events give rise to new functions; growth may take place without an increase in magnitude. In the degree that the architectural environment provides freedom for action, in that degree would it be truly functional. It would also be functional if its qualities were such as to make it a congenial setting for the development of the larger cultural aims of education. It might be functional in respect to an endless number of purely mechanical operations and yet stand to deny the central cultural purpose which gave rise to institutions of this class. A plan might fulfill every conceivable utilitarian need and the buildings might function perfectly in respect to the mechanical operations involved; but it would not follow that the architectural problem had been solved if the whole failed to illuminate by its intrinsic beauty the purpose of education.

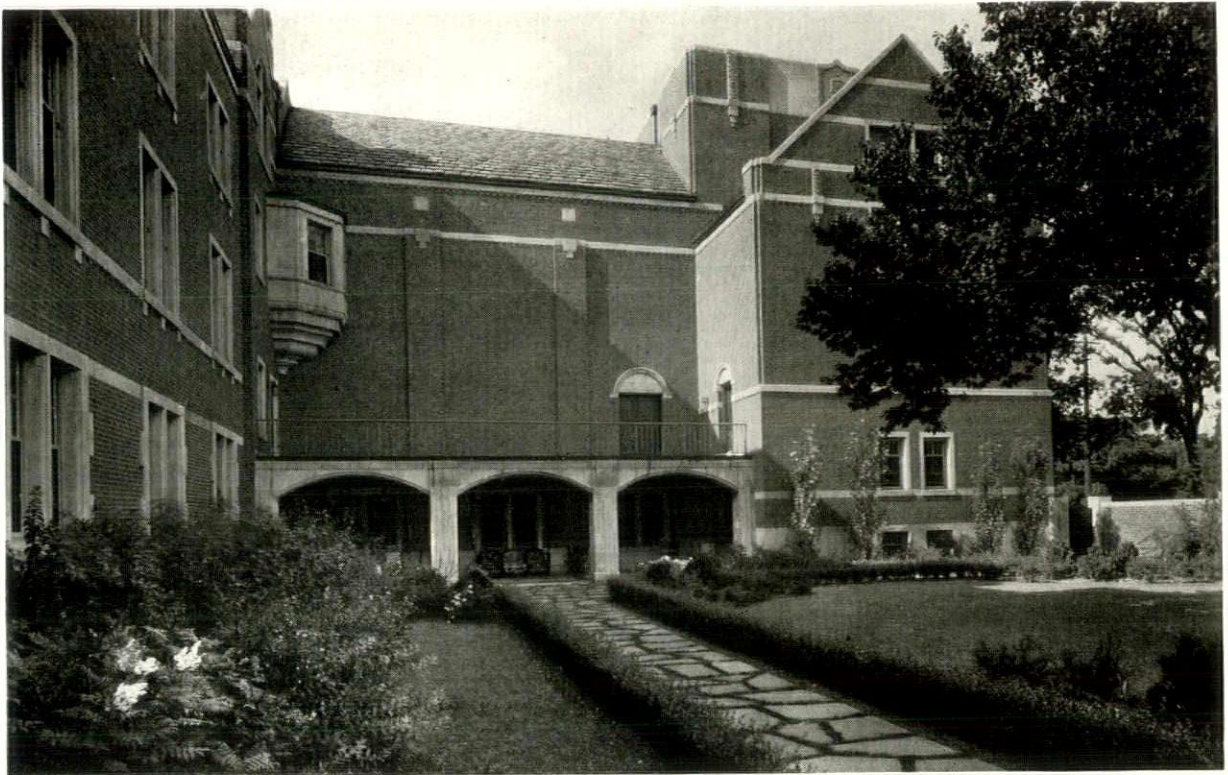


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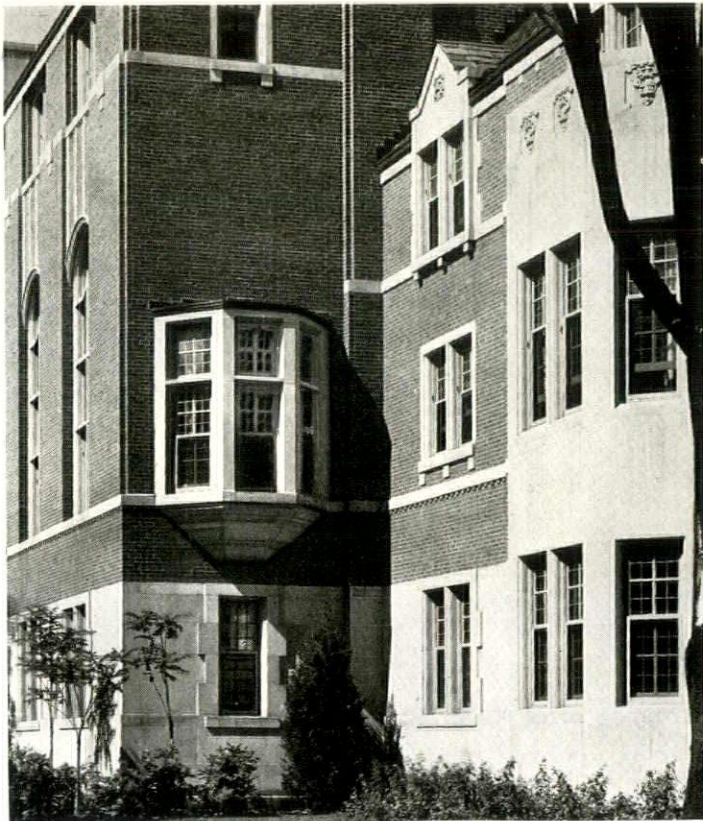
UNIVERSITY OF MICHIGAN

The Women's League Building is typical of a structure planned to fulfill all the social needs of a large collegiate group. It contains a large ball room, a theater, lounge and reading rooms, ample dining facilities, club rooms, and hotel accommodations for guests. The various details of college union requirements are set forth in an article by Irving K. Pond on pages 771 to 778 of this issue

WOMEN'S LEAGUE BUILDING
ANN ARBOR, MICHIGAN
POND & POND, MARTIN & LLOYD, ARCHITECTS



Korwin Photos



The picture above shows the theater wing and the garden at the rear of the building. The garden is screened from the street by a high brick wall; it was planned in conjunction with the building, and is an important recreational facility. At the left is a detail of an oriel window and one of the wings that flank the main entrance shown on preceding page

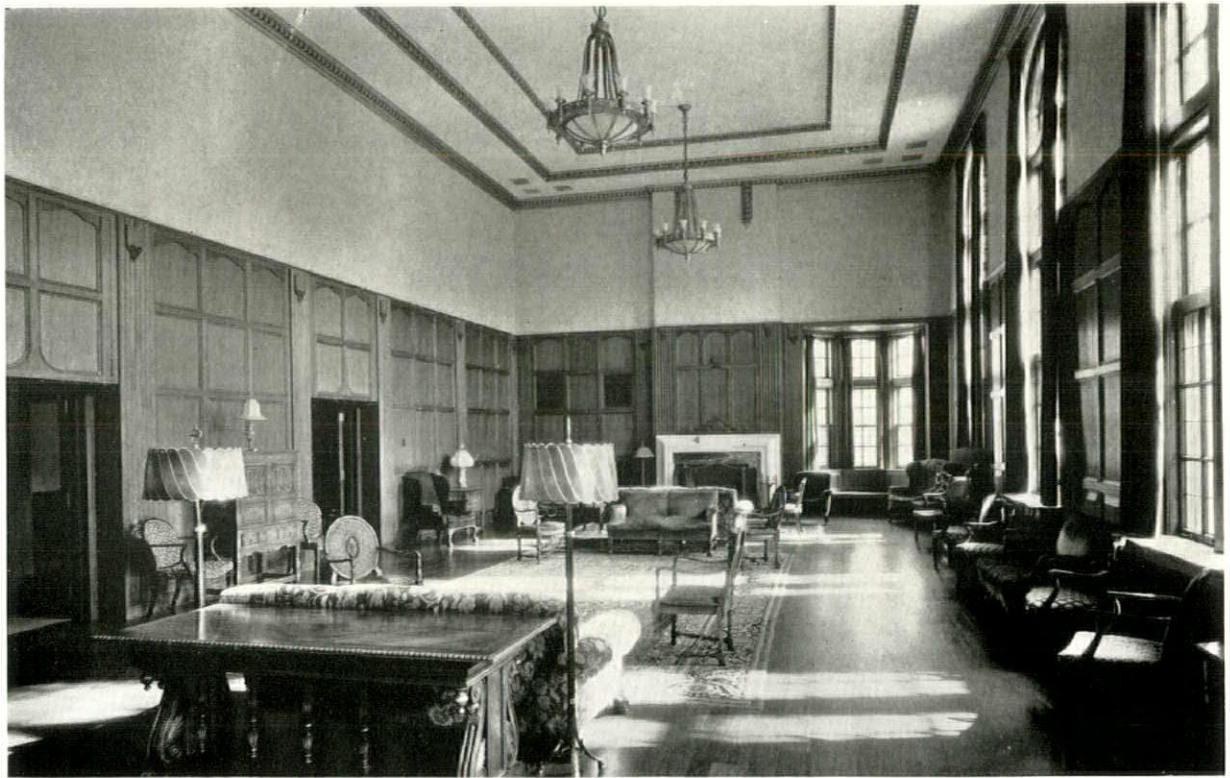


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WOMEN'S LEAGUE BUILDING
ANN ARBOR, MICHIGAN
POND & POND, MARTIN & LLOYD, ARCHITECTS



Korwin Photos
THE THEATER



THE LOUNGE

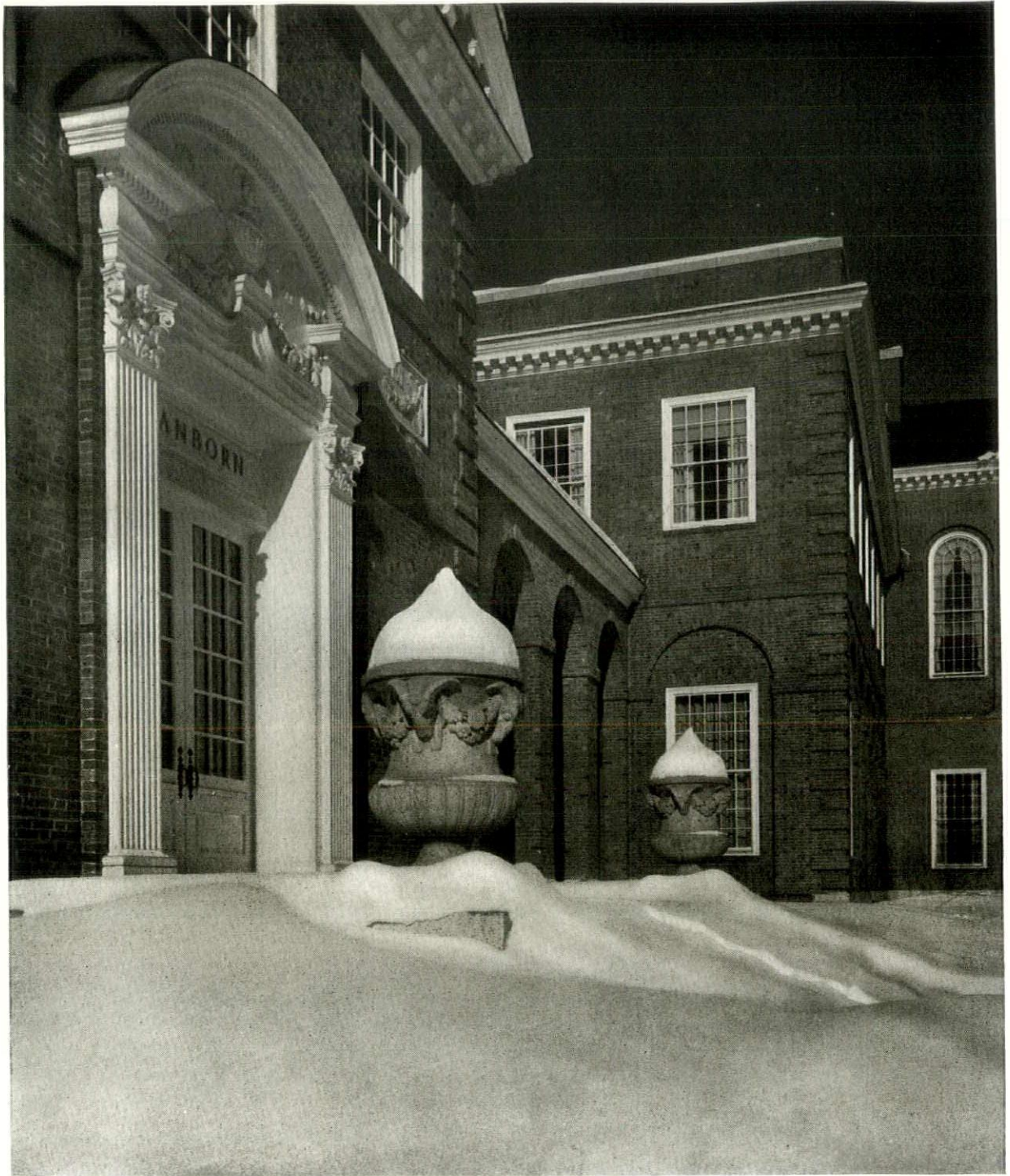
WOMEN'S LEAGUE BUILDING
ANN ARBOR, MICHIGAN
POND & POND, MARTIN & LLOYD, ARCHITECTS



Weber

DARTMOUTH COLLEGE

BAKER MEMORIAL LIBRARY
HANOVER, NEW HAMPSHIRE
JENS FREDRICK LARSON, ARCHITECT



Weber

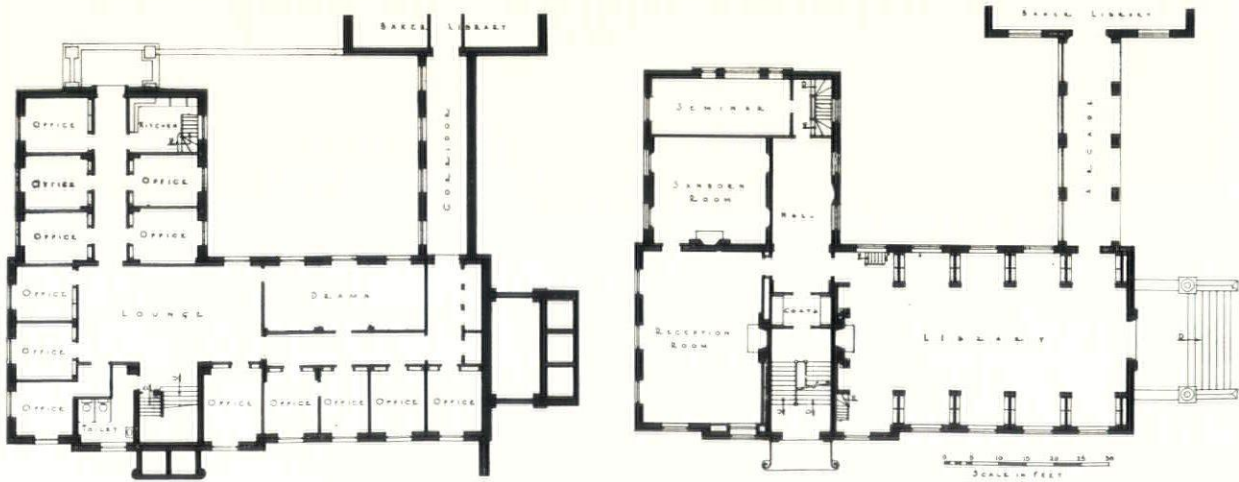
SANBORN HALL
HANOVER, NEW HAMPSHIRE
JENS FREDRICK LARSON, ARCHITECT

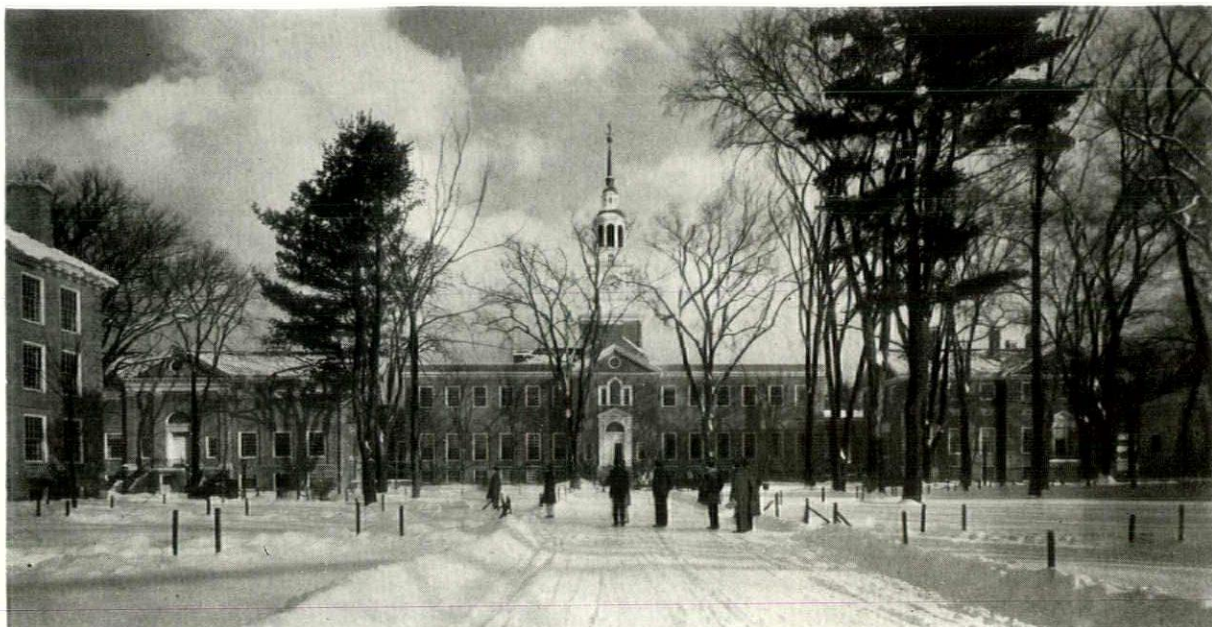


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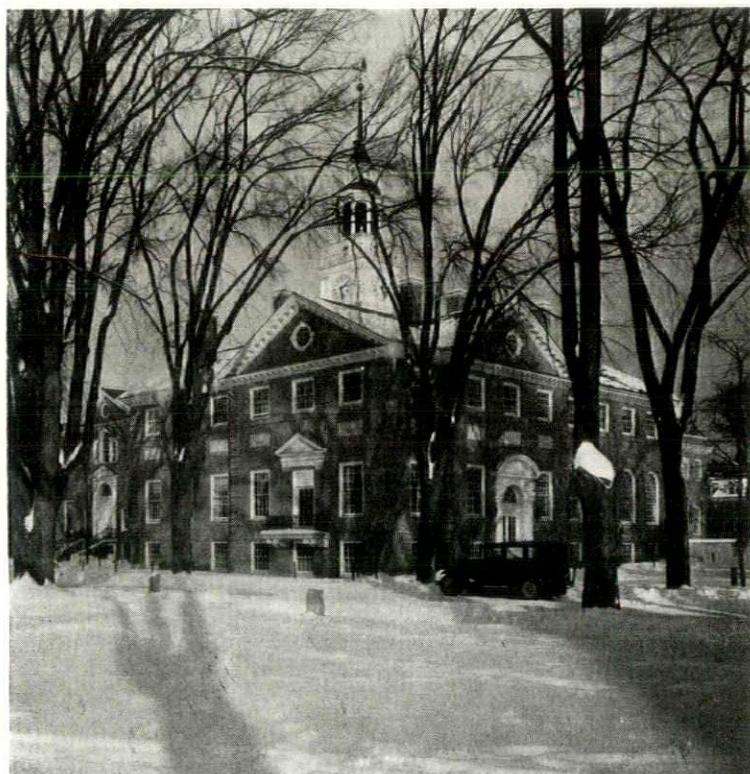
SANBORN HALL
 HANOVER, NEW HAMPSHIRE
 JENS FREDRICK LARSON, ARCHITECT

Sanborn Hall, an English Department house, is unusual among American college buildings in that it includes faculty study rooms, seminars and club rooms which permit a more informal mode of study than is ordinarily the case. The basement and first floor plans indicate its close proximity to Baker Memorial Library



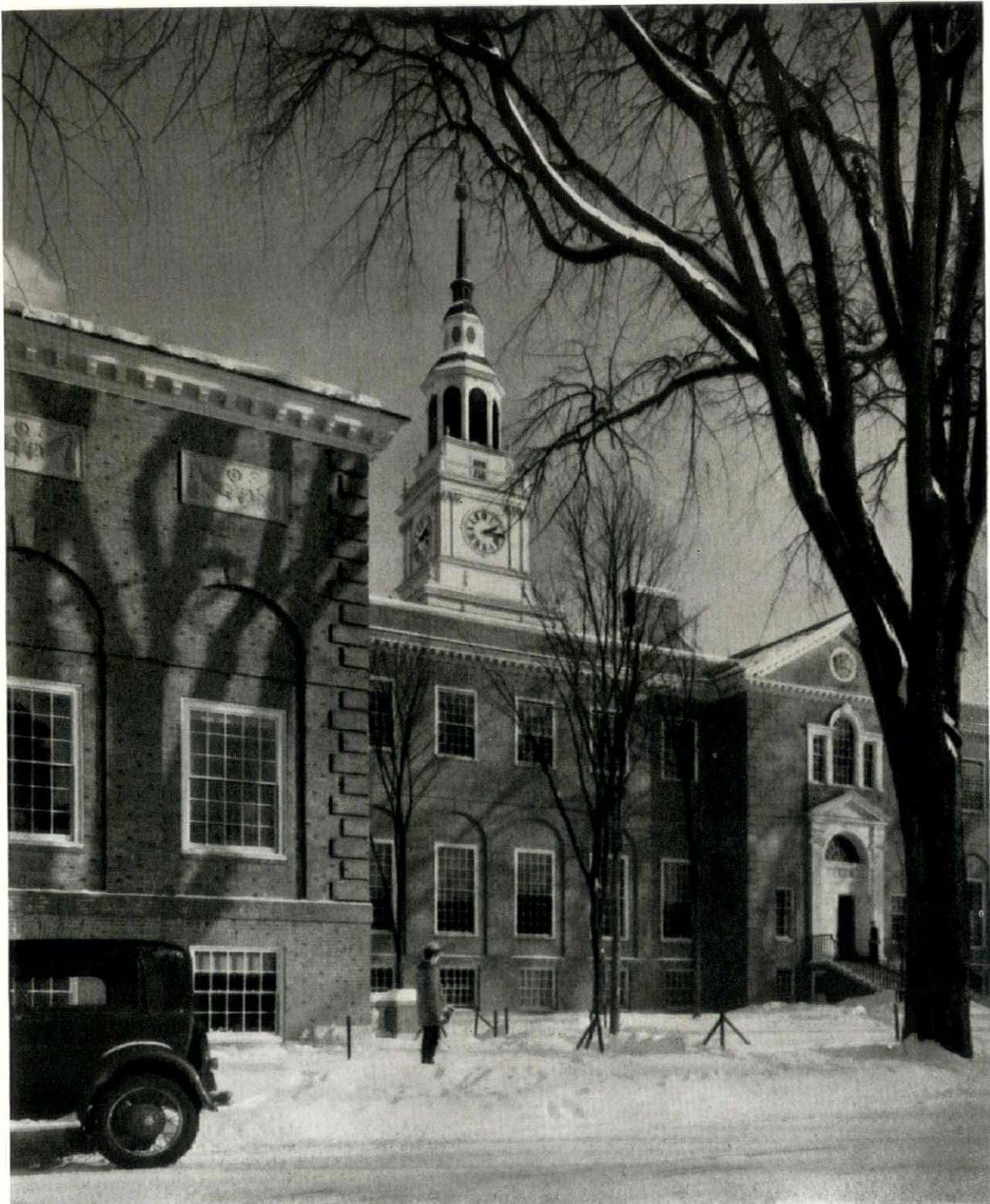


Weber Photos



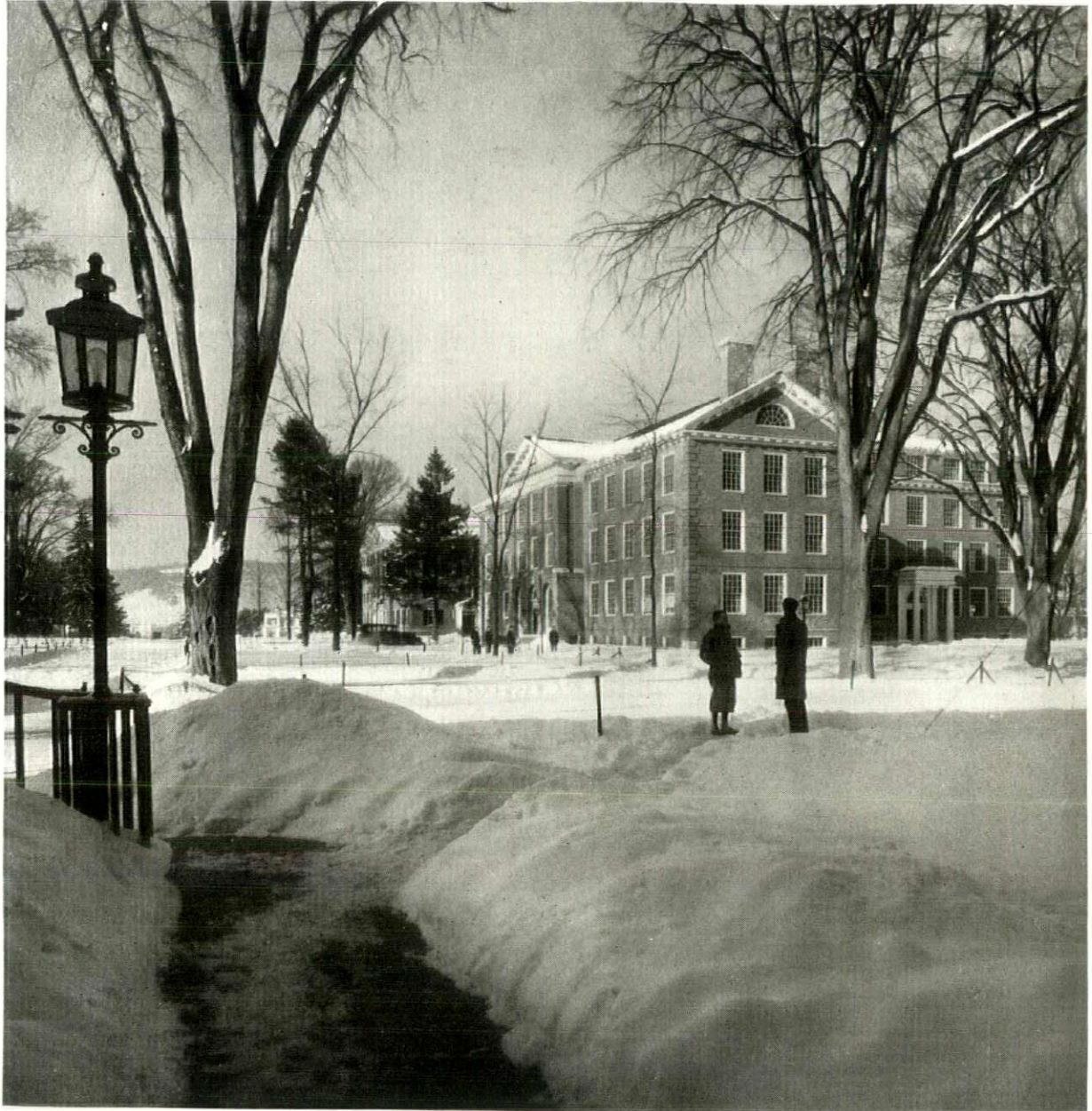
The library has, at the present time, a stack capacity of 500,000 volumes, but its plan will permit the addition of another large stack room between the two wings of the building which will increase the capacity to 2,000,000 or more volumes. Additional illustrations and a complete description of the building will be found in the *Architectural Forum* of April, 1929, pages 537 to 564. The lower photograph is another view of Sanborn Hall

THE BAKER MEMORIAL LIBRARY
HANOVER, NEW HAMPSHIRE
JENS FREDRICK LARSON, ARCHITECT



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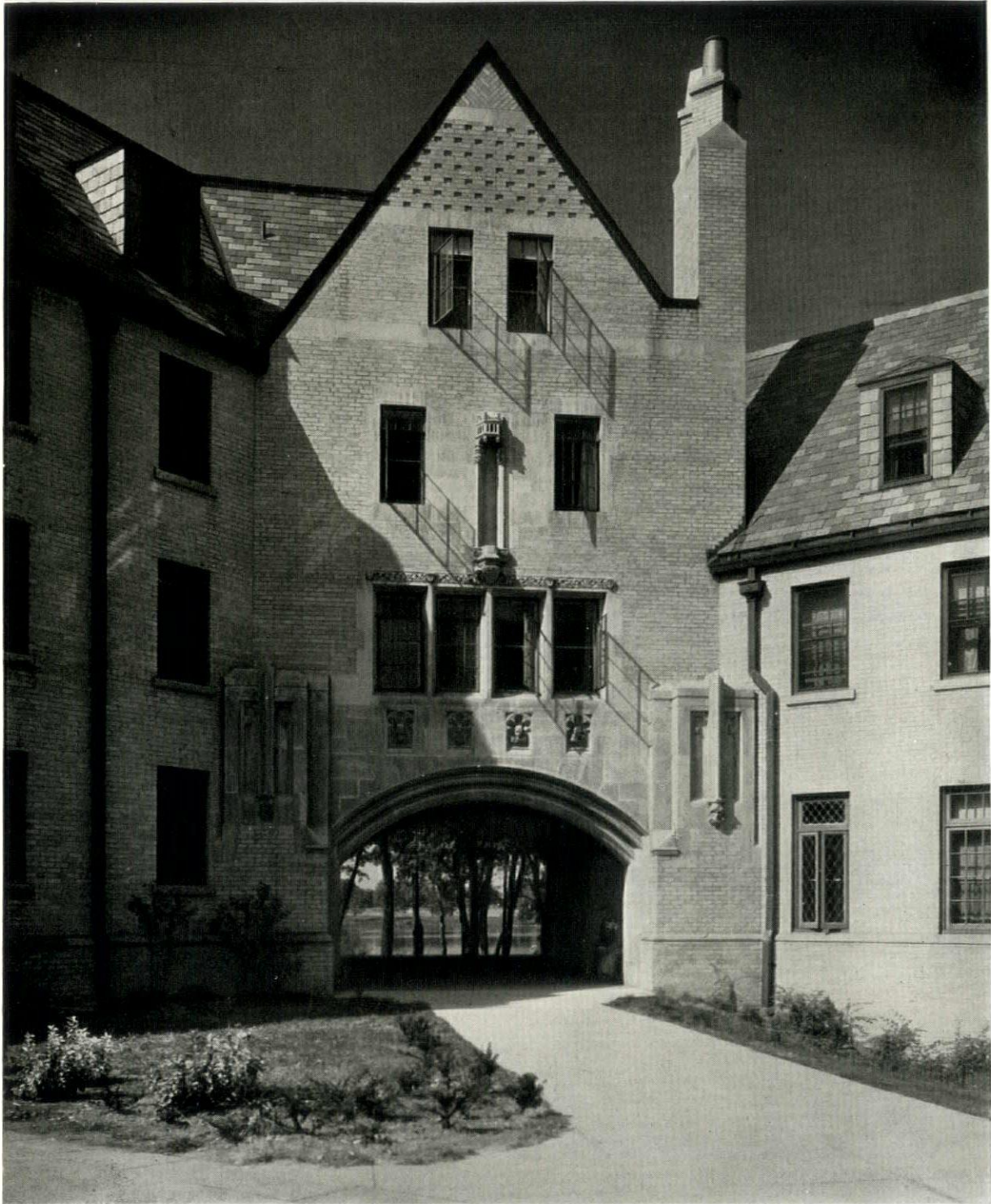
THE BAKER MEMORIAL LIBRARY
HANOVER, NEW HAMPSHIRE
JENS FREDRICK LARSON, ARCHITECT



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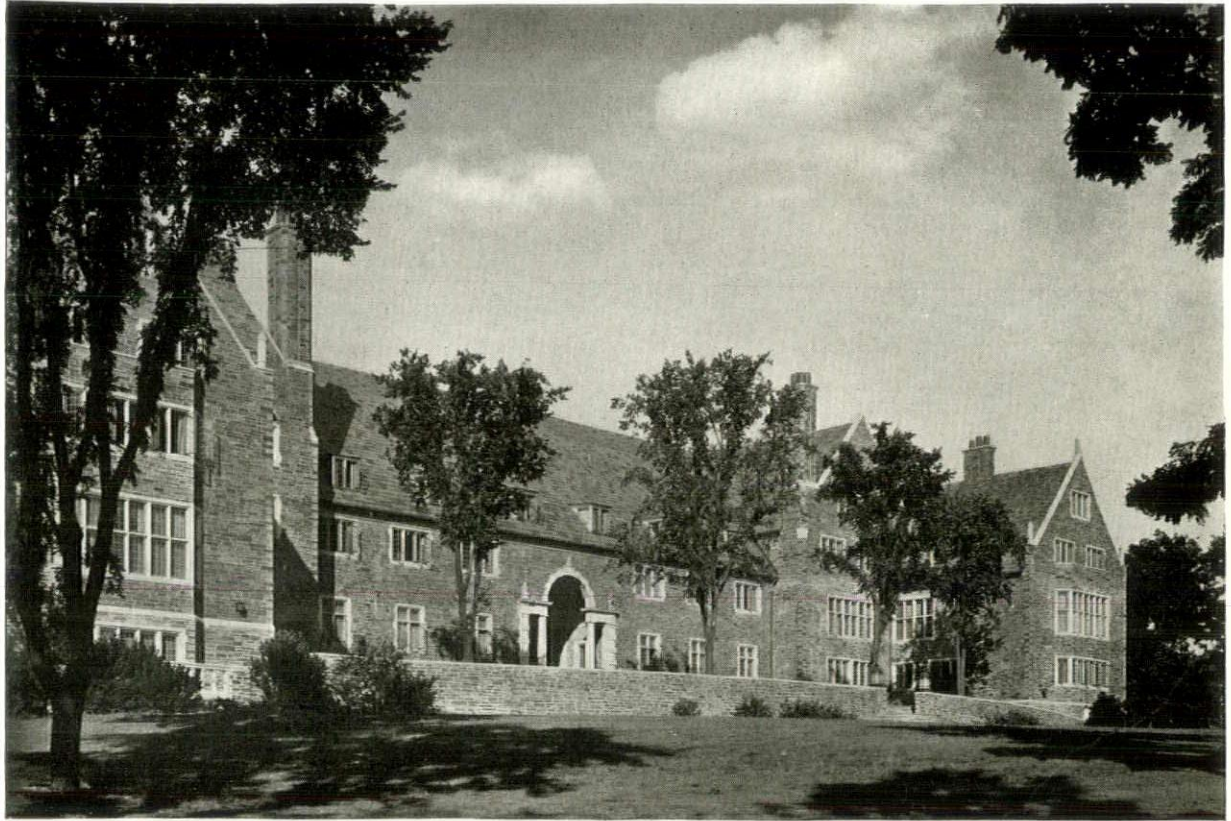
The original buildings of Dartmouth College were simple Colonial structures of painted brick. The new buildings, though planned to fulfill the more complex requirements of modern usage, have been designed in the same tradition with materials similar to those used in the old structures

NATURAL SCIENCE BUILDING
HANOVER, NEW HAMPSHIRE
JENS FREDRICK LARSON, ARCHITECT

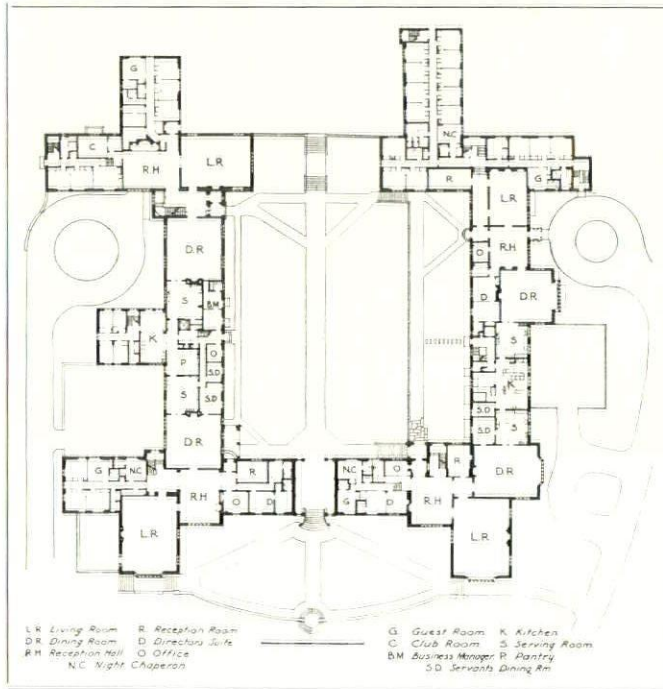


Weber

LYONS HALL
NOTRE DAME, INDIANA
KERVICK & FAGAN, ARCHITECTS



CORNELL UNIVERSITY



The exterior walls of this group are constructed of grayish-blue Ithaca stone which, when weathered, takes on various tones of red and yellow. The trim is limestone. The roof is slate of graded color, thickness and length, nailed to gypsum slabs which are supported on steel tees. The colors selected were weathering green, sea-green, and shades of purple and gray. The windows are leaded

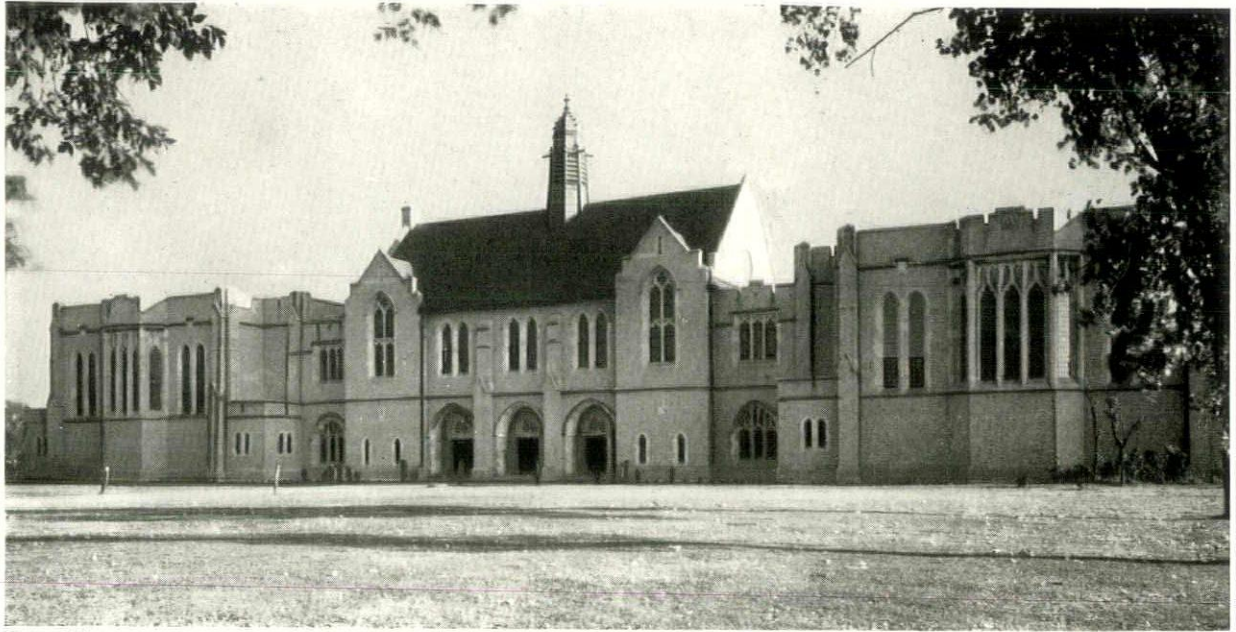
THE BALCH HALLS FOR WOMEN
ITHACA, NEW YORK
FREDERICK L. ACKERMAN, ARCHITECT



Weber

NOTRE DAME UNIVERSITY

HOWARD HALL
NOTRE DAME, INDIANA
KERVICK & FAGAN, ARCHITECTS



Weber Photos

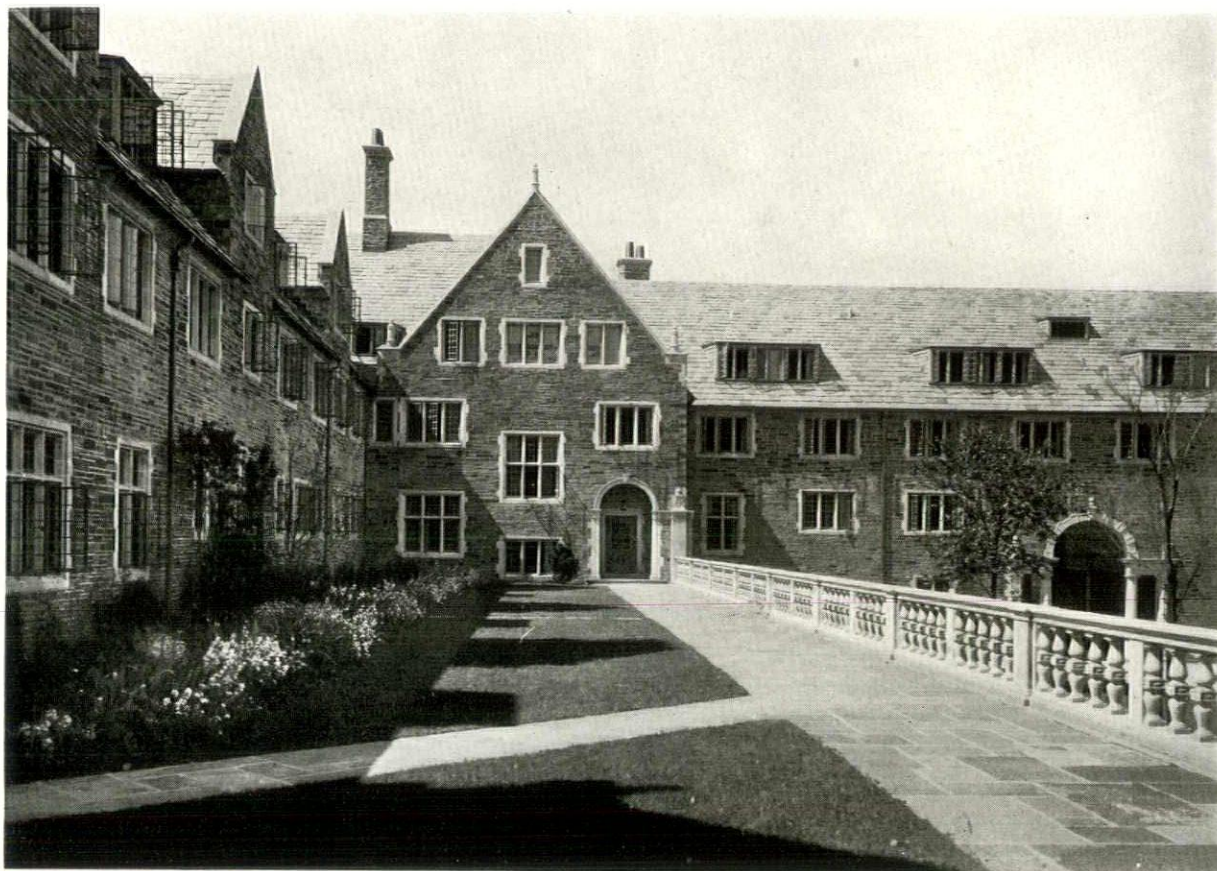
DINING HALL, NOTRE DAME, IND.
CRAM & FERGUSON, ARCHITECTS
KERVICK & FAGAN, ASSOCIATE ARCHITECTS



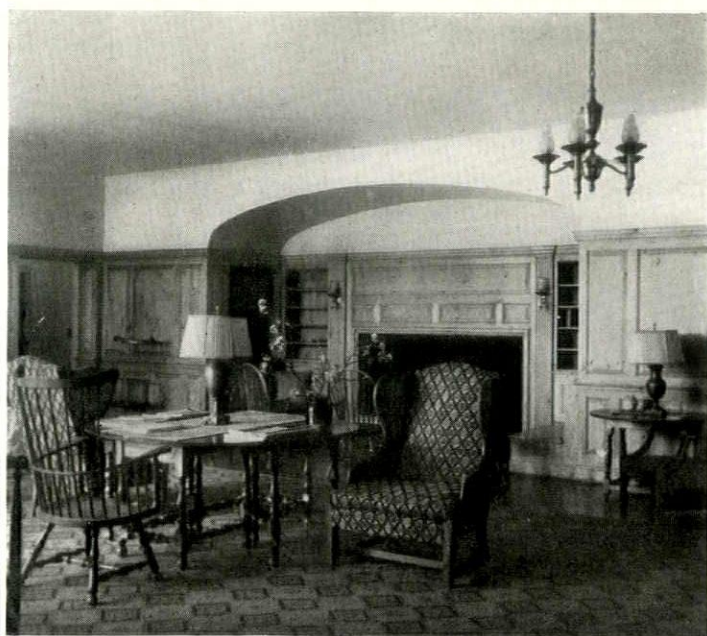
LYONS HALL
NOTRE DAME, INDIANA
KERVICK & FAGAN, ARCHITECTS



THE BALCH HALLS FOR WOMEN
ITHACA, NEW YORK
FREDERICK L. ACKERMAN, ARCHITECT

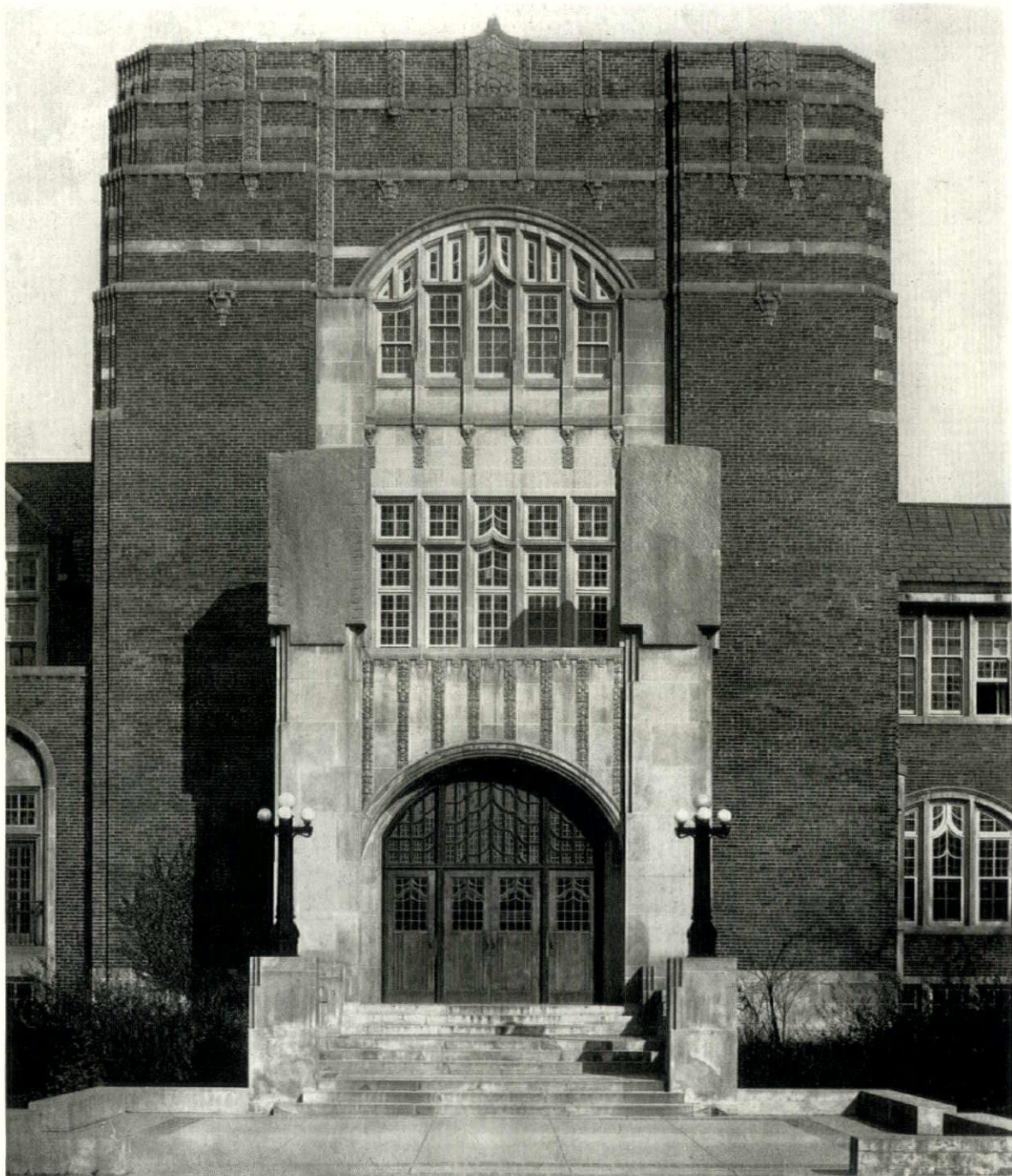


THE BALCH HALLS FOR WOMEN
 ITHACA, NEW YORK
 FREDERICK L. ACKERMAN, ARCHITECT



The upper terrace. It overlooks the interior court treated as a garden

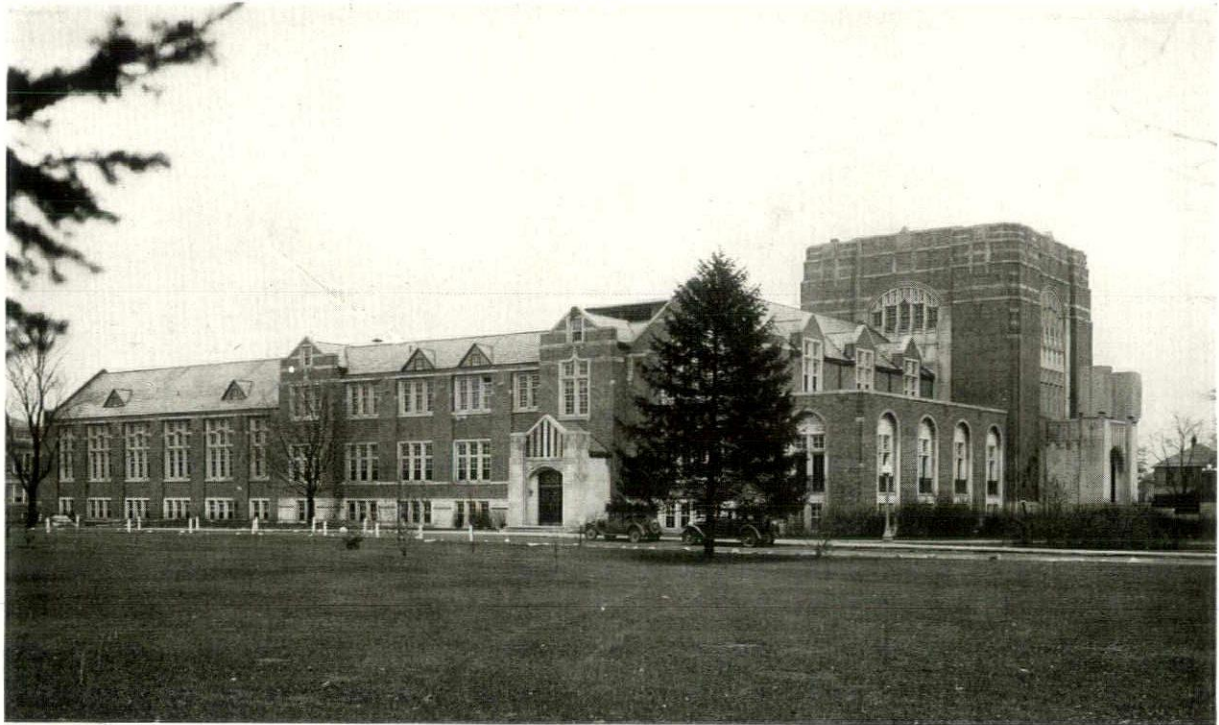
A reception room. The floor is covered with cork tile in rectangles about 18 x 32 in. The paneling is of pine, finished with rottenstone and wax, to produce an effect of age. The upper portion of the wall and the ceiling is smooth painted plaster



Allen

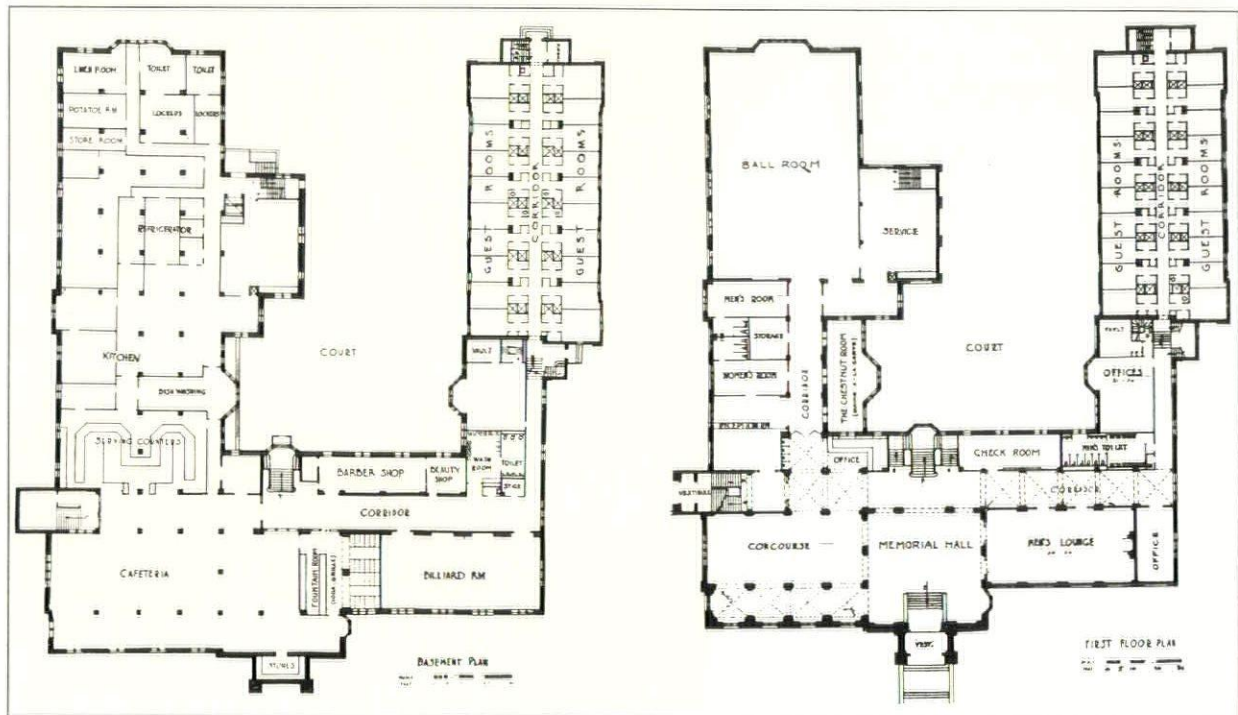
PURDUE UNIVERSITY

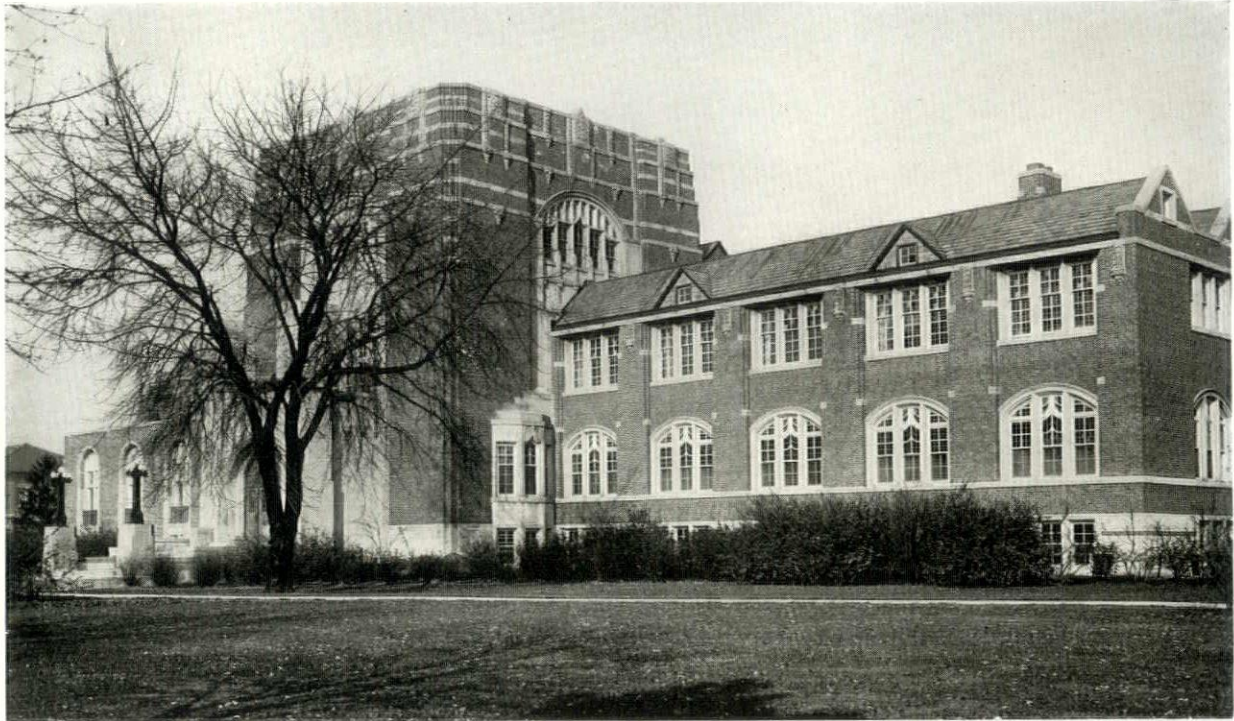
MEMORIAL UNION BUILDING
EAST LAFAYETTE, INDIANA
POND & POND, MARTIN & LLOYD, ARCHITECTS



Allen

View from the southwest. The building was completed in 1930, has a gross volume of 1,729,000 cubic feet and cost \$726,580 or approximately 42 cents per cubic foot. The blocks on the entrance piers will eventually be carved with figures symbolic of college life





Allen Photos

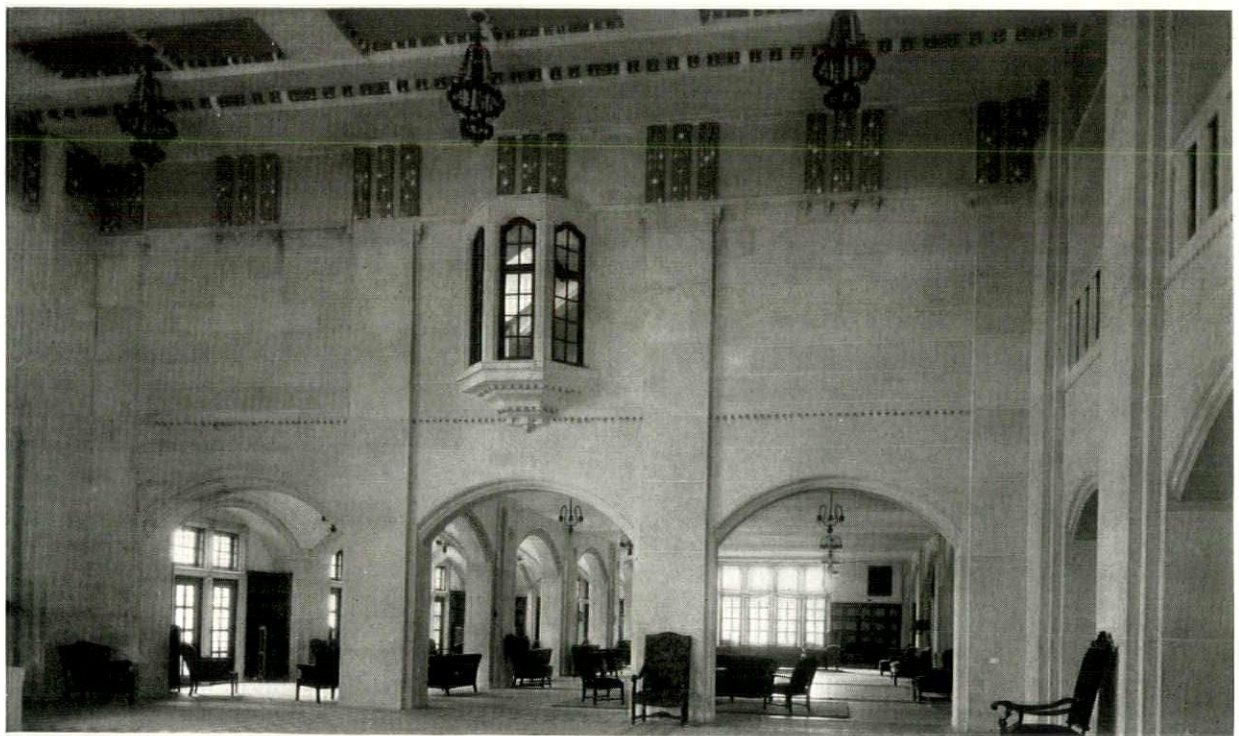
A view from the southeast and a detail of the corner bay window. The exterior materials are sawed Indiana limestone, brick in red and purple tones and slate in graduated shades of purple and green. The windows are of the double hung type with 10 in. by 12 in. leaded panes



MEMORIAL UNION BUILDING
EAST LAFAYETTE, INDIANA
POND & POND, MARTIN & LLOYD,
ARCHITECTS

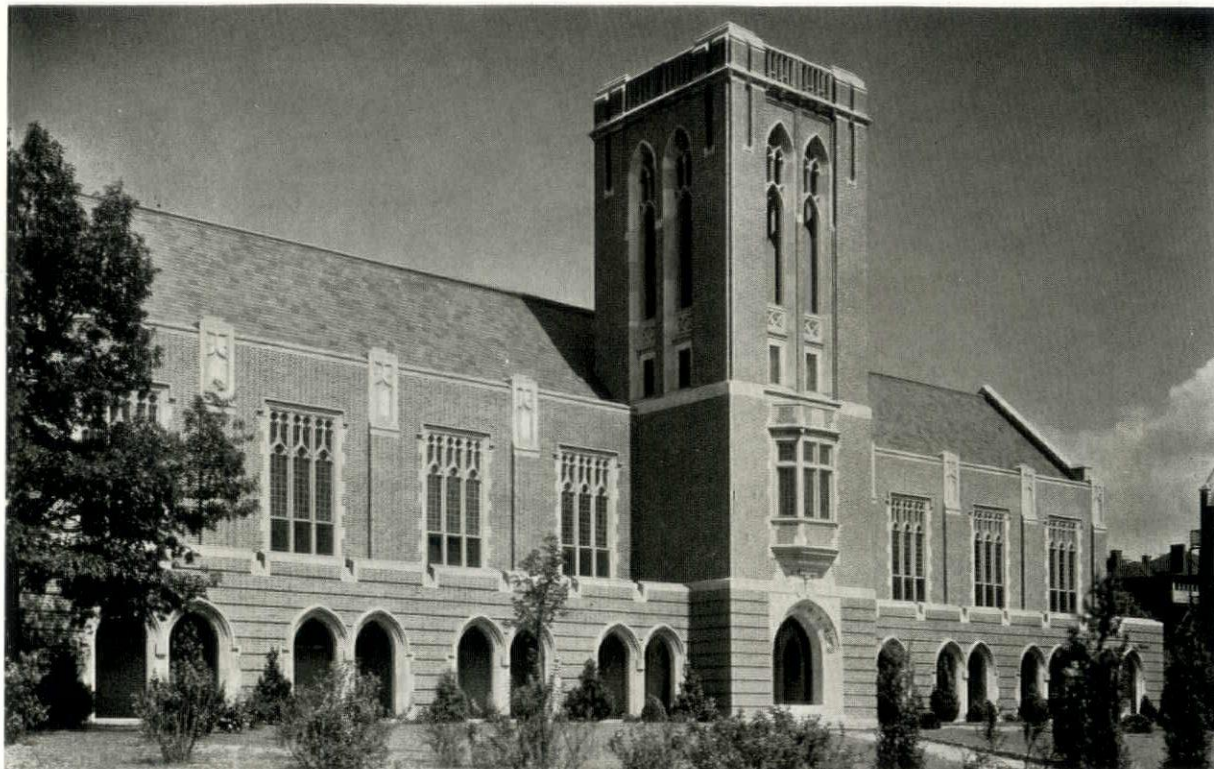


THE AUDITORIUM



THE LOUNGE

MEMORIAL UNION BUILDING
EAST LAFAYETTE, INDIANA
POND & POND, MARTIN & LLOYD, ARCHITECTS



Tebbs & Knell Photos

GEORGIA SCHOOL OF TECHNOLOGY

This dining hall will connect through arcades with two dormitories, Harris Hall (shown on the following page) and one to be constructed in the future. The "rood screen" serves as the vestibule dividing the hall into two well proportioned rooms. The space above the screen is used as a special dining room. The ceiling is sound-absorbing and heat-insulating

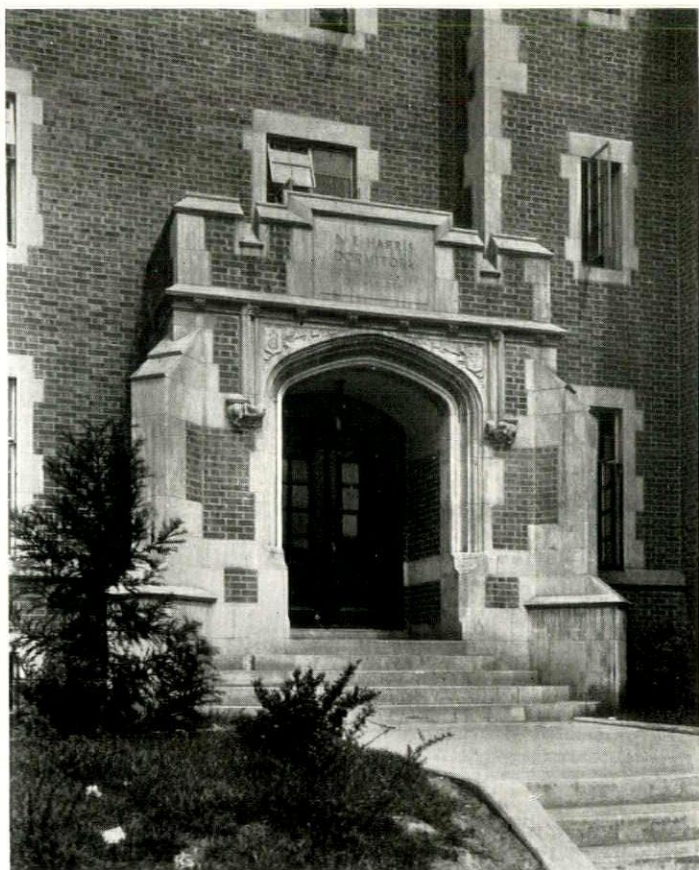


DINING HALL
ATLANTA, GEORGIA
HAROLD BUSH-BROWN, ARCHITECT



Tebbs & Knell Photos

JULIUS BROWN DORMITORY
ATLANTA, GEORGIA
SKINNER, BUSH-BROWN AND
STOWELL, ARCHITECTS



Two dormitories designed to house students efficiently and economically. Rooms average approximately 150 square feet, each accommodating two students. This area includes two closets approximately three feet square. Furniture consists of double-decker pipe-frame beds, two desk tables and chairs. Large stock casement windows give adequate light and ventilation

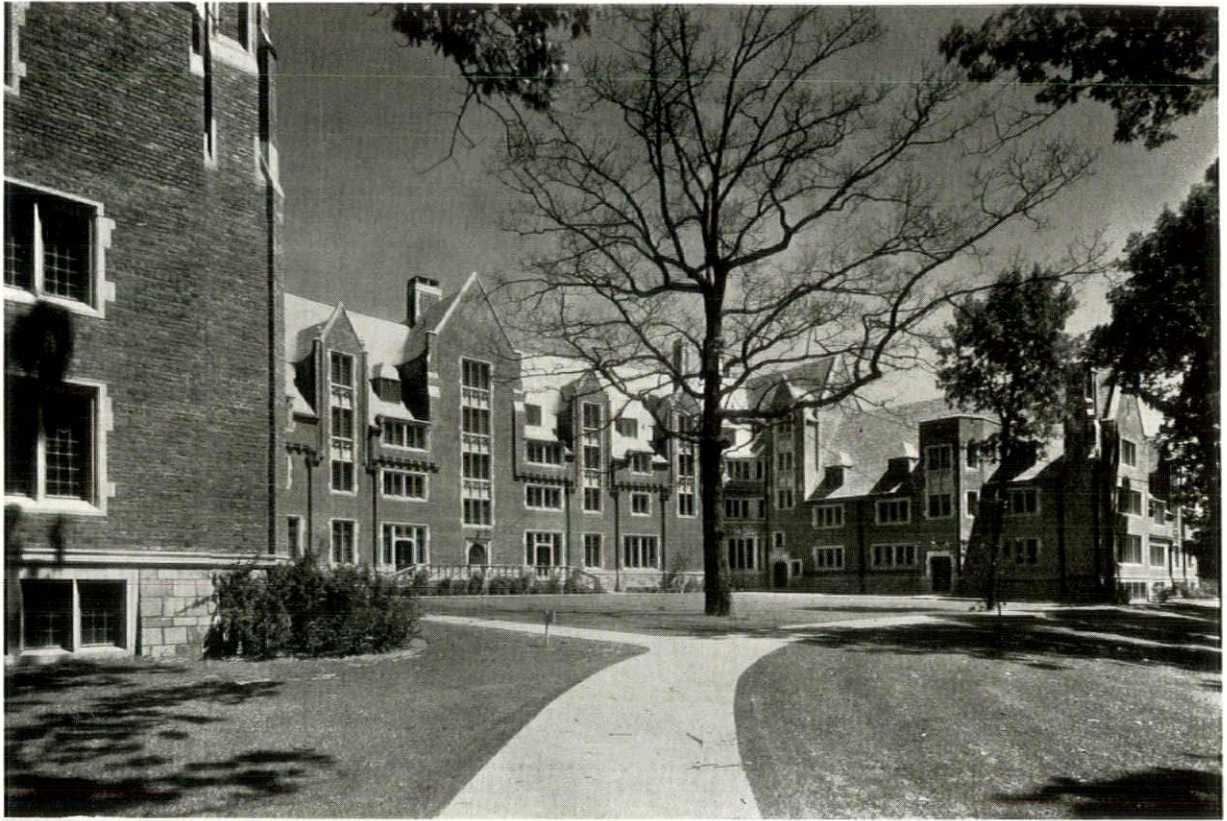
N. E. HARRIS DORMITORY
ATLANTA, GEORGIA
BUSH-BROWN AND STOWELL
ARCHITECTS



Weber

WELLESLEY COLLEGE

STONE-DAVIS HALL
WELLESLEY, MASS.
CHARLES Z. KLAUDER, ARCHITECT



Weber Photos

Stone-Davis Hall, though in appearance a single building, in reality is composed of two separate dormitories of the study-bedroom type. Each dormitory unit has its own reception room, living room, matron's suite, and dining room, all located on the first floor of the central portion of the building. The dormitory wings form the court shown above. The service areas are also centrally located and one large kitchen serves both of the dining rooms



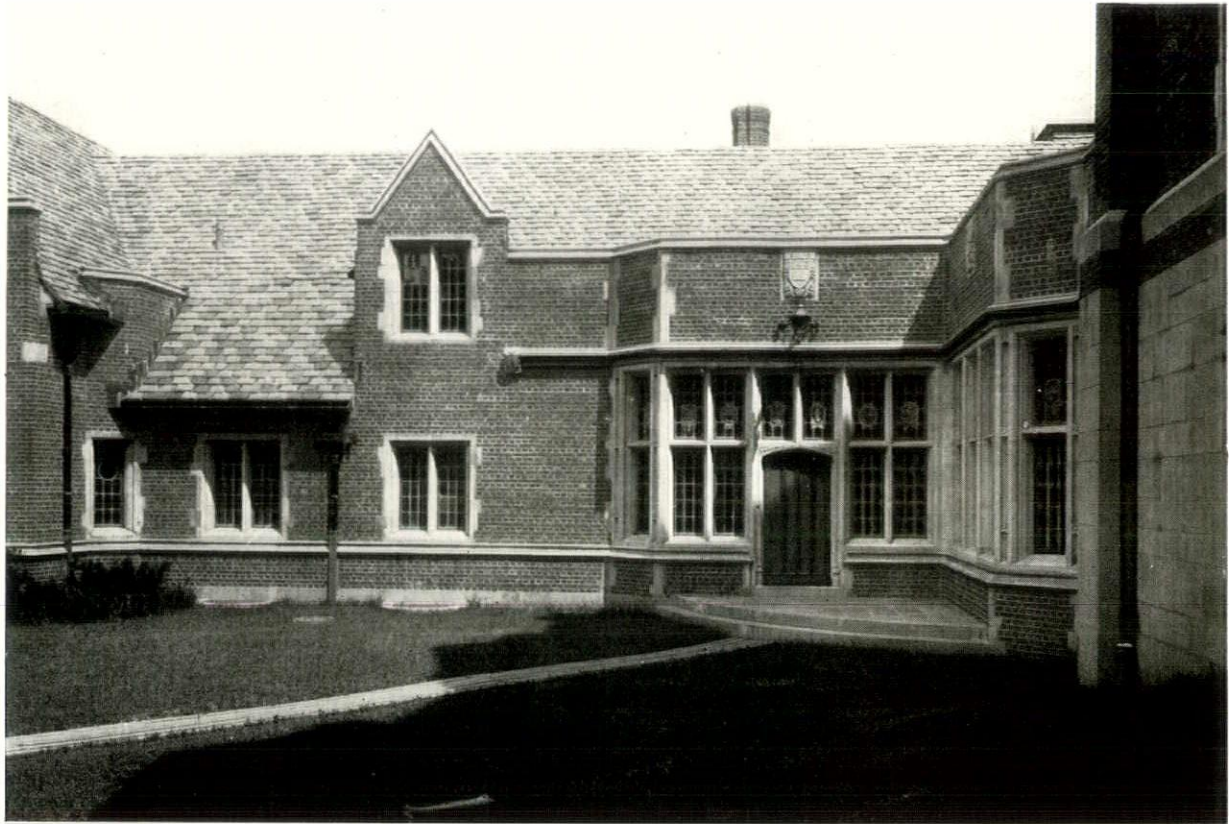
STONE-DAVIS HALL
WELLESLEY, MASS.
CHARLES Z. KLAUDER, ARCHITECT



Severance Hall is built on the side of a hill, most of the study-bedrooms being on the upper level. The reception room, matron's suite, and the dining and living rooms are centrally located between the dormitory wings on the lower level



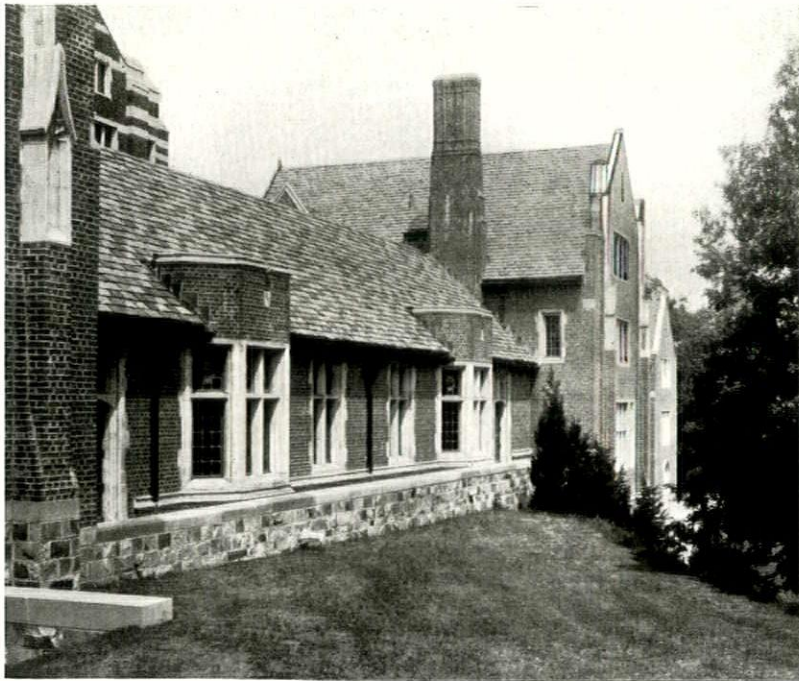
SEVERANCE HALL
WELLESLEY, MASS.
CHARLES Z. KLAUDER, ARCHITECT



SEVERANCE HALL

WELLESLEY, MASS.

CHARLES Z. KLAUDER, ARCHITECT



The picture above shows one of the entrances to the dining room; the one below shows the east windows of the living room, with the reception room and dormitory wing beyond



SNOW

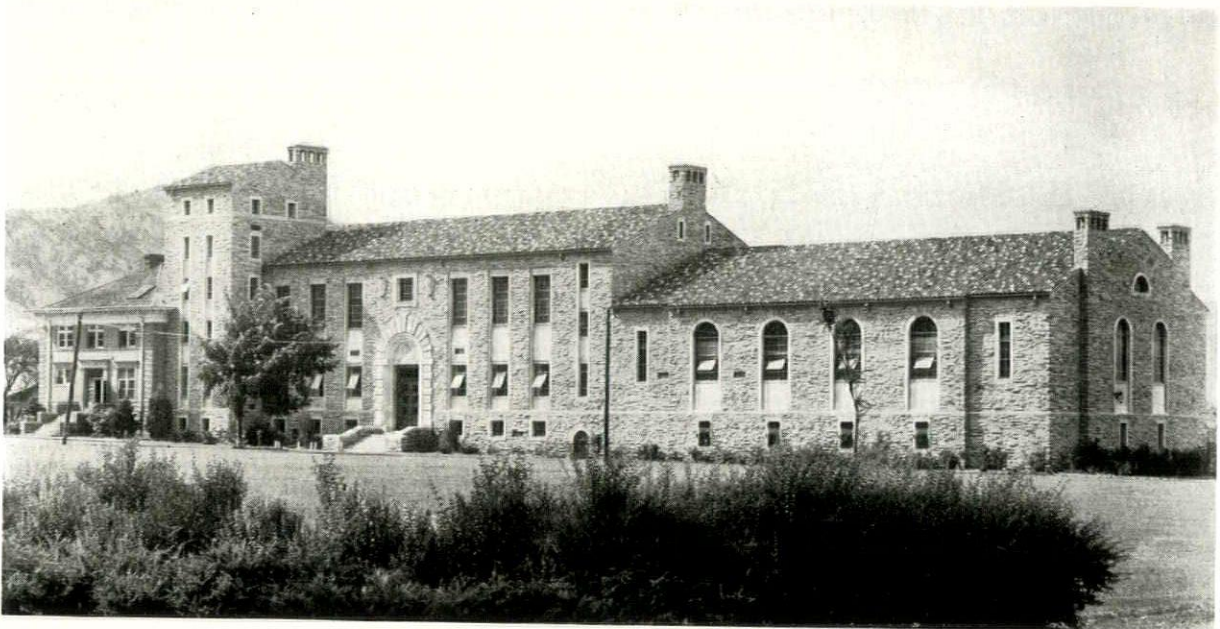
THE LIBERAL ARTS BUILDING
DAY & KLAUDER, ARCHITECTS

The University of Colorado is one of the few institutions in the country that has been able to plan from the beginning the entire development of its educational plant and has consistently carried on its building program toward a definite goal. The buildings illustrated here are units of a complete scheme, conceived in 1918 and illustrated fully in *The Architectural Forum* of September, 1919. Most of the exterior materials are common to the locality. The stone for the walls is a sort of shale that slits naturally into long, thin pieces and ranges in color from a pale yellow-brown to a deep brown-red, that in contrast is almost purple. The trim is of cut limestone, and the roof is of variegated, dull red tile, similar in color to the roofs of the old country buildings of northern Italy

THE UNIVERSITY OF COLORADO
AT BOULDER, COLORADO



MEN'S GYMNASIUM



WOMEN'S GYMNASIUM

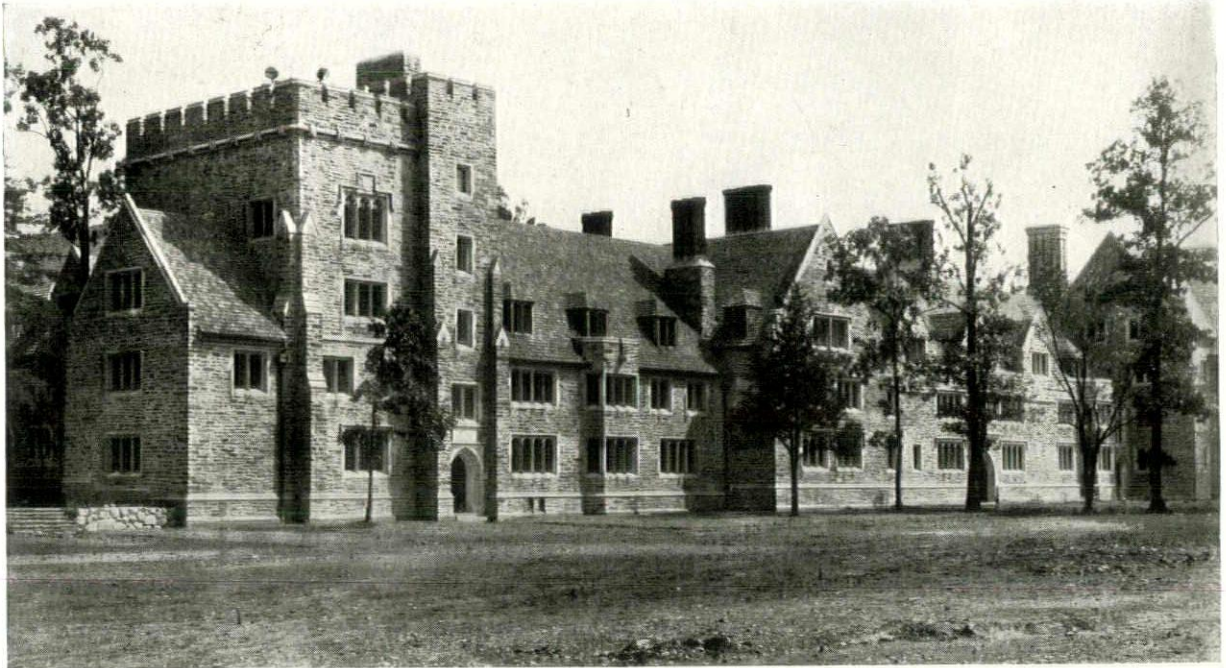
GYMNASIUM BUILDINGS
BOULDER, COLORADO
DAY & KLAUDER, ARCHITECTS



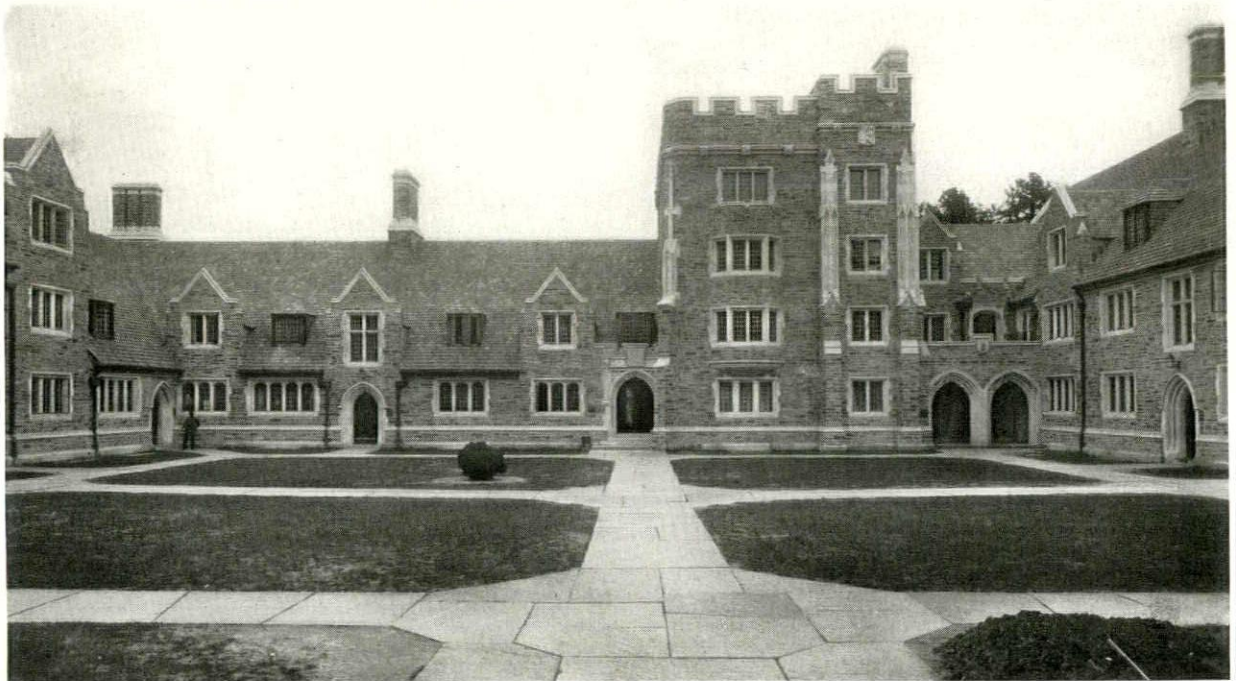
The first floor of the building contains the lounge room, divided by the partition shown in the illustration into separate areas for men and women. The dining and club rooms with all service facilities are in the basement; a large ball room is on the second floor



MEMORIAL STUDENT UNION
BOULDER, COLORADO
DAY & KLAUDER, ARCHITECTS



Richardson Photos



CRAVEN DORMITORY
DURHAM, NORTH CAROLINA
HORACE TRUMBAUER, ARCHITECT



Richardson

A portion of Kilgo dormitory with the tower of Crowell dormitory in the background. The photographs on the opposite page are of the Craven dormitory group, the lower one being of the interior courtyard

DUKE UNIVERSITY

KILGO AND CROWELL DORMITORIES

DURHAM, NORTH CAROLINA

HORACE TRUMBAUER, ARCHITECT



The development of Duke University has been planned fully from the beginning and building has been consistently carried on toward a definite goal. Though actually a coeducational institution, the difference in architectural style between the men's buildings and those of the women serves as a sharp line of distinction between the two types of students

WOMEN'S AUDITORIUM, EAST CAMPUS
DURHAM, NORTH CAROLINA
HORACE TRUMBAUER, ARCHITECT

OLD CASTLES FOR NEW COLLEGES

BY WILLIAM HARLAN HALE

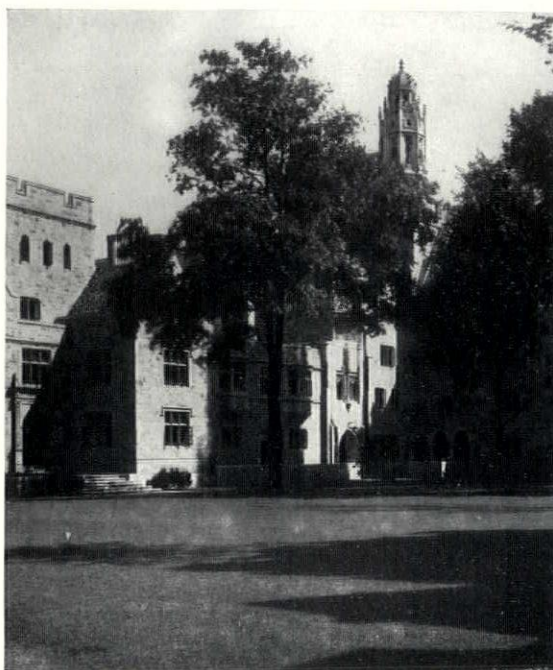
The author of this article is a student in Yale University, the editor of *The Harkness Hoot* (a new undergraduate literary magazine), and the author of "Yale's Cathedral Orgy," published in a recent issue of *The Nation*.

AMERICA'S Coming of Age implies not only a bigger navy, a closer railroad net, and a larger population total per square mile, but also a new consciousness of cultural aims. Men who made hundreds of millions out of America's physical growth now donate tens of millions to establish America's mental maturity. It has become a sign of enlightenment to provide funds for the erecting of a college library, a dormitory, or a monumental tower which exalts the estate of learning and advertises the assets of the favored institution.

Wealthy donors have turned American colleges from provincial schools into cosmopolitan organizations; their contribution to America's educational life has been immeasurable. One must keep this fact in mind when one presumes to doubt the excellence of many endowments, or the good judgment of many philanthropists.

Intentions have been of the best; while taste, however, has frequently been of the worst. The overwealthy retired magnate, conceiving a sudden passion for culture, is less likely to turn over a million dollars to be used simply and efficiently than to devote that million to the erection of a magnificent edifice, luxuriously furnished and gorgeously decorated, as a memorial to his generosity. His tendency is to get as much personal glory as possible out of his million dollars.

Thus our colleges are likely to become museums of gilt and glory rather than workplaces of simplicity and directness. Thus we do not get a library built with plain materials and designed for a maximum of light and air and freedom. We get a ponderous palace instead, heavily Gothic, or deady Classical, equipped with fortunes of useless ornament and inefficient detail. We get libraries with cathedral windows so ornate that they can never be opened; with cornices and columns so deep that light cannot enter;



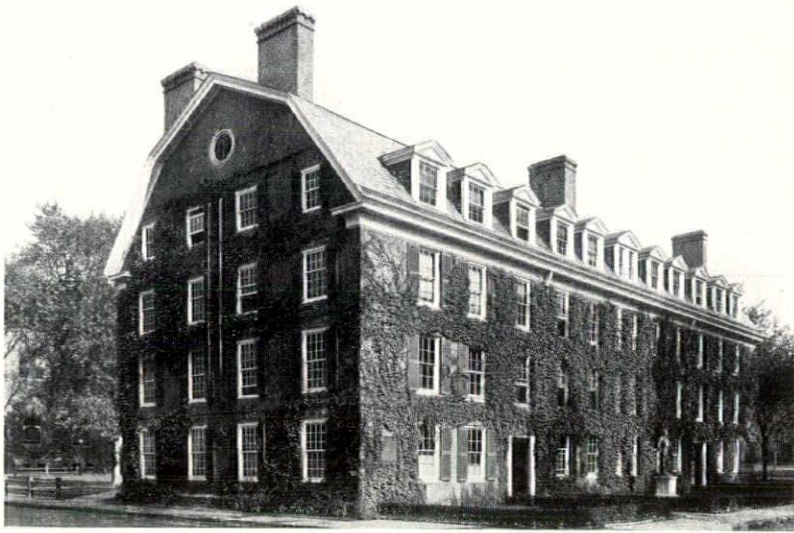
Gillies

"... A twentieth-century Gothic building can revive only the form of the old style, never the substance. The unreality ... of dead methods cannot be escaped."

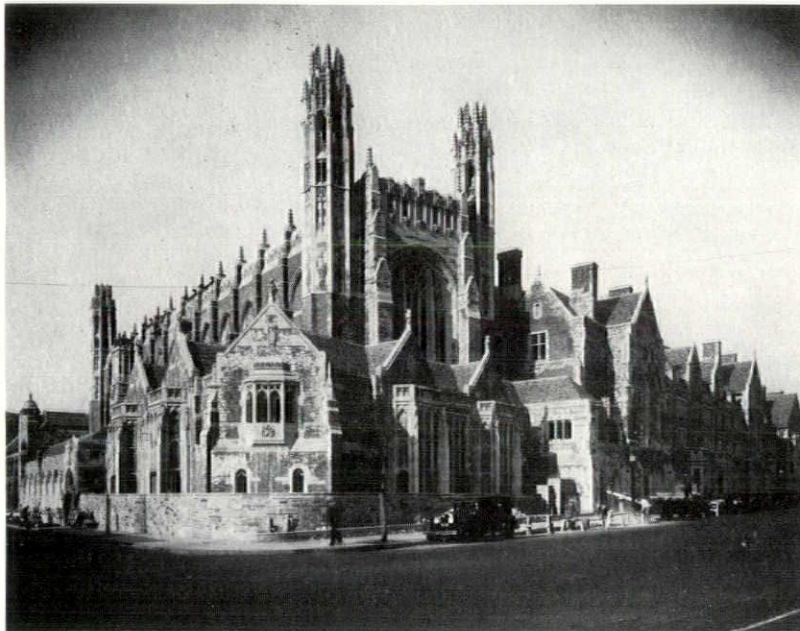
with interiors so theatrical and luxurious that they divert the mind from all serious concentration.

In the house plans of Yale and Harvard lay great opportunities for the construction of the best fitted types of residential structures. Almost limitless funds were at hand, and the plans were so extensive that a unity of many buildings was envisaged. Some observers dreamed of modern designs—of bold clear shapes as suggested by the Dessau Bauhaus, the Weissenhof settlement, or the other European communal developments. Rash visionaries fondly hoped that here the trappings of antiquity might be dropped, and a bold path be struck toward the formulation of a new style. They thought that academic leadership might mean artistic or cultural leadership.

Hundreds of institutional buildings hide their proper life and function under a garment stolen from the past. Intended to exhibit the wealth of donor and university, such buildings cry out in poverty. Built to appear matchless in their glory and timeless in their splendor, they actually display the tawdriness of the age and the timidity



Connecticut Hall at Yale University. The building, one of the oldest on the college campus, is a masterpiece of Colonial simplicity and thoroughly honest construction



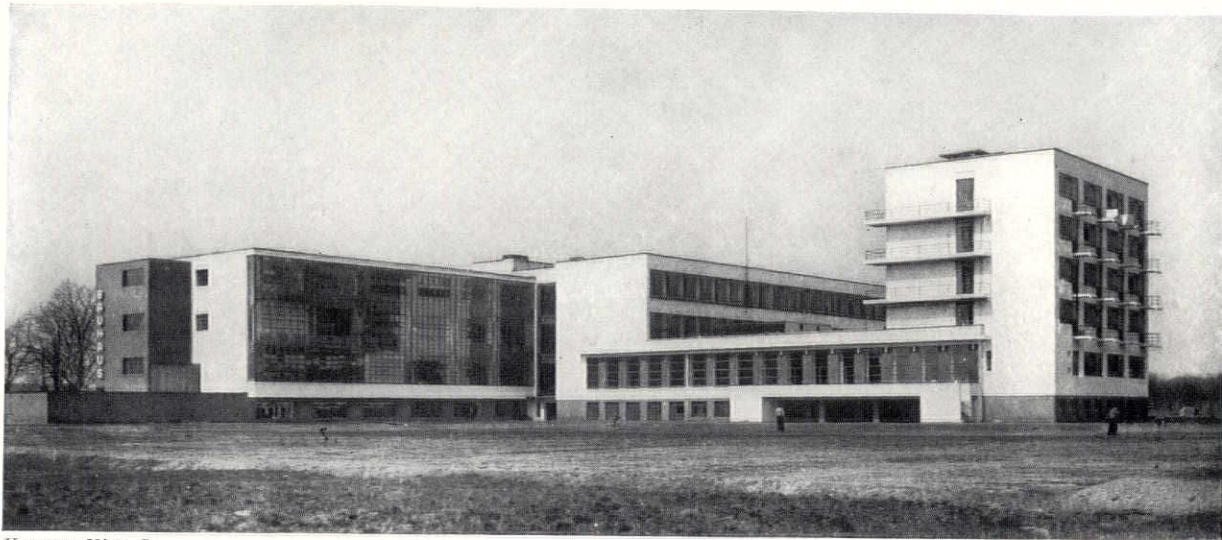
The Sterling Law Buildings at Yale University, a modern group, that in contrast with the picture above, or with that on the opposite page, shows the elaborate mediaeval forms applied to buildings of modern construction

of its educational leaders. Although millions have been sunk into them, they have few treasures to give the young. They are copies, imitations, veritable thefts. They are not habitations of young life, and they can father no new spirit.

What, then, should the college building be? Our first requirement is a simple one: it must be honest. It cannot be built of faked materials, in a fraudulent manner (such as hiding steel girders under enormous buttresses), on a basis of untruth. During some of the most impressionable years of his life, a young man must live among college buildings. And if that en-

vironment is one of falsity, he soon will breathe that same spirit. The infection may be unconscious, but it will be real.

College buildings must not be wasteful. The rampant or egotistic desires of a benefactor have no right to determine the century-long character of a college structure. Better no buildings at all than a collection of gilded monstrosities. Better no developments at all than show-off and exhibitionism. It is difficult and often apparently impossible for a university to reject an offer of some million dollars' building endowment; but a rigid censor-



Keystone View Co.

The Bauhaus School in Dessau, Germany, though unapt perhaps for an American college, embodies excellent ideas of light, air, cleanliness, and clarity of construction

ship must be exerted, so the university will betray its own first principles. Perhaps, indeed, government or expert commissions should be established to investigate every endowment offer, and over a period of some years test its sanity.

College buildings must not, by reviving dead styles of architecture, exalt the past. A twentieth-century Gothic building can revive only the form of the old style, never the substance. The unreality of using antiqued effects and dead methods cannot be escaped. In the course of his life in such a building the student may win some familiarity with Gothic ornaments or Classical orders or Colonial woodwork; but how false is such acquaintanceship compared with a true one in Chartres, Athens, or the houses of Salem!

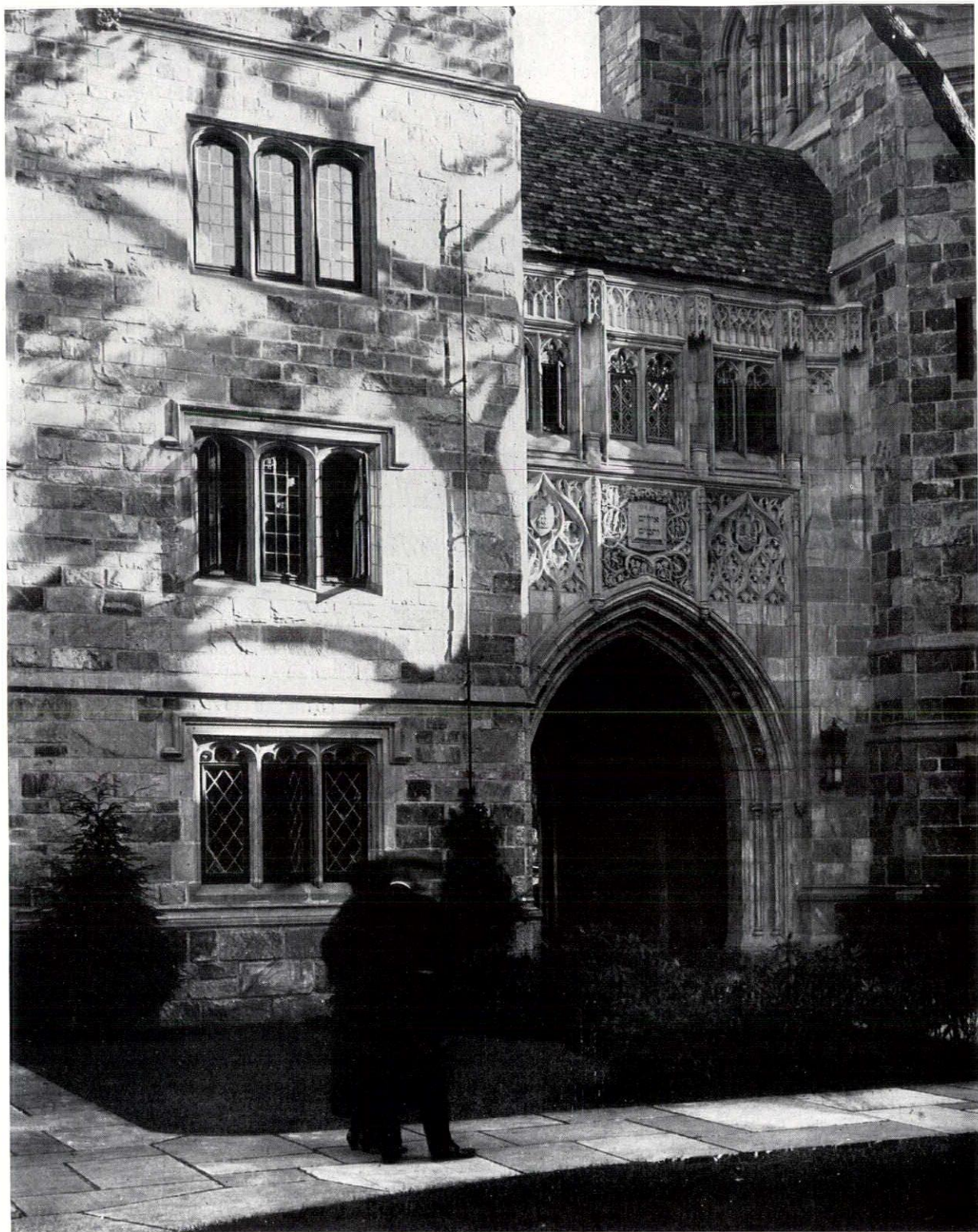
Life is possible only in a living style. Recreations of the past are doomed at the start. They remain just as dead as the copies of Rembrandts by those resigned old lady painters who haunt our museum halls. If the college building hopes to infect its inhabitants with a sense of the living force of the university, and of its meaning to the current world, such a building must be born of a living spirit. Yale has one great building: Connecticut Hall, built in 1750, a masterpiece of Colonial symmetry and harmony of every detail. Today, another Connecticut Hall might be built: light and airy, simple in material and economical in construction, designed with a view to health and openness. It could have all the spontaneous beauty of the 1750 building; we need not be ashamed of modern architecture, nor make apologies for the use of new design. A great tradition of emancipated building is in the making. Universities in joining that tradition would

not be playing with the experimental; they would rather be completing the transformation of the experimental into the classic.

The college building must have originality and independence from the "artistic" cult. While necessarily built by men who feel the full current of a living style, it must avoid the pitfalls of self-conscious tendency and momentary mannerism. To detect the difference between a genuine artist and a maker of pseudo-modern confections is not as easy as it might seem; it requires the utmost in taste and constant alertness.

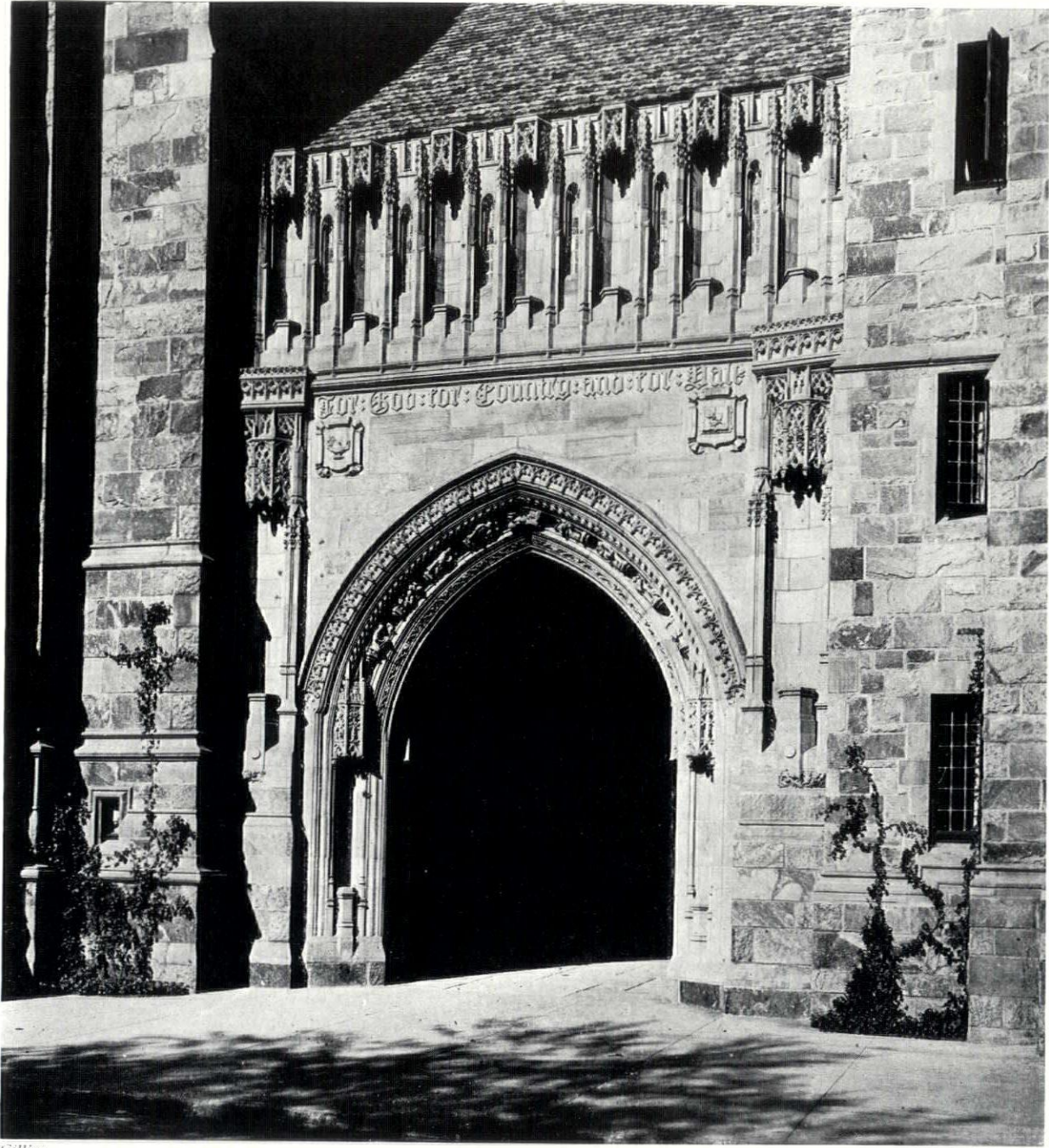
This would imply that a certain conservatism is bound to linger in college buildings. Such a tendency seems inevitable. Academic removal and scholarly seriousness will express themselves in a desire to avoid the insurgent or spectacular or unprecedented. This un-radical position is fully justified; it is not justified, however, when it prescribes Gothic as the college style, and the thirteenth century as the source of all inspiration.

The student needs the influence and environment of ideas of integrity, economy, liberalism, and good judgment. If his buildings are deceitful, extravagant, antiquarian, and tasteless, the influences upon him will be altered in accordance. Nobody would ask for skyscrapers as dormitories, factories as recitation buildings, or grain elevators as recreation halls; but one must demand the universal employment of modern conceptions of simplicity, light, air, and therefore freedom. A race of men who are sound and fearless can be reared only with difficulty in a world of buildings that are false and cowardly.



Gillies

"... The student needs the influence and environment of ideas of integrity, economy, liberalism, and good judgment. If his buildings are deceitful, extravagant, antiquarian, and tasteless, the influences upon him will be altered in accordance"



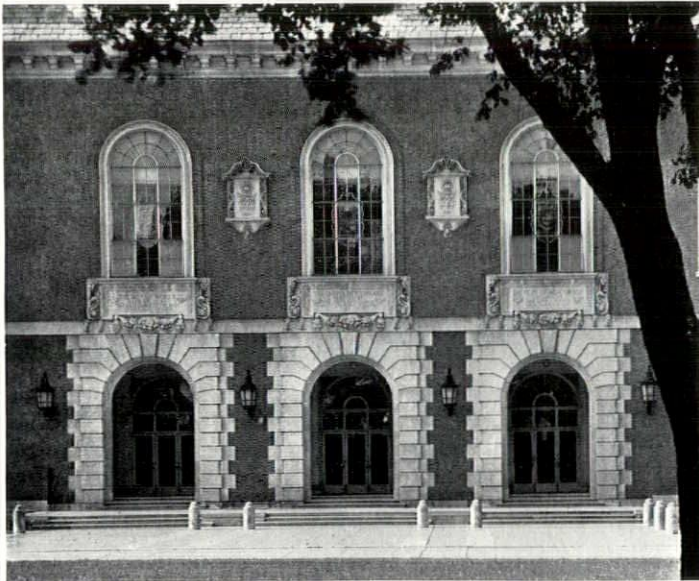
Gillies

AN ENTRANCE TO THE HARKNESS MEMORIAL
AT YALE UNIVERSITY
JAMES GAMBLE ROGERS, ARCHITECT

SOME ENTRANCES TO COLLEGE BUILDINGS

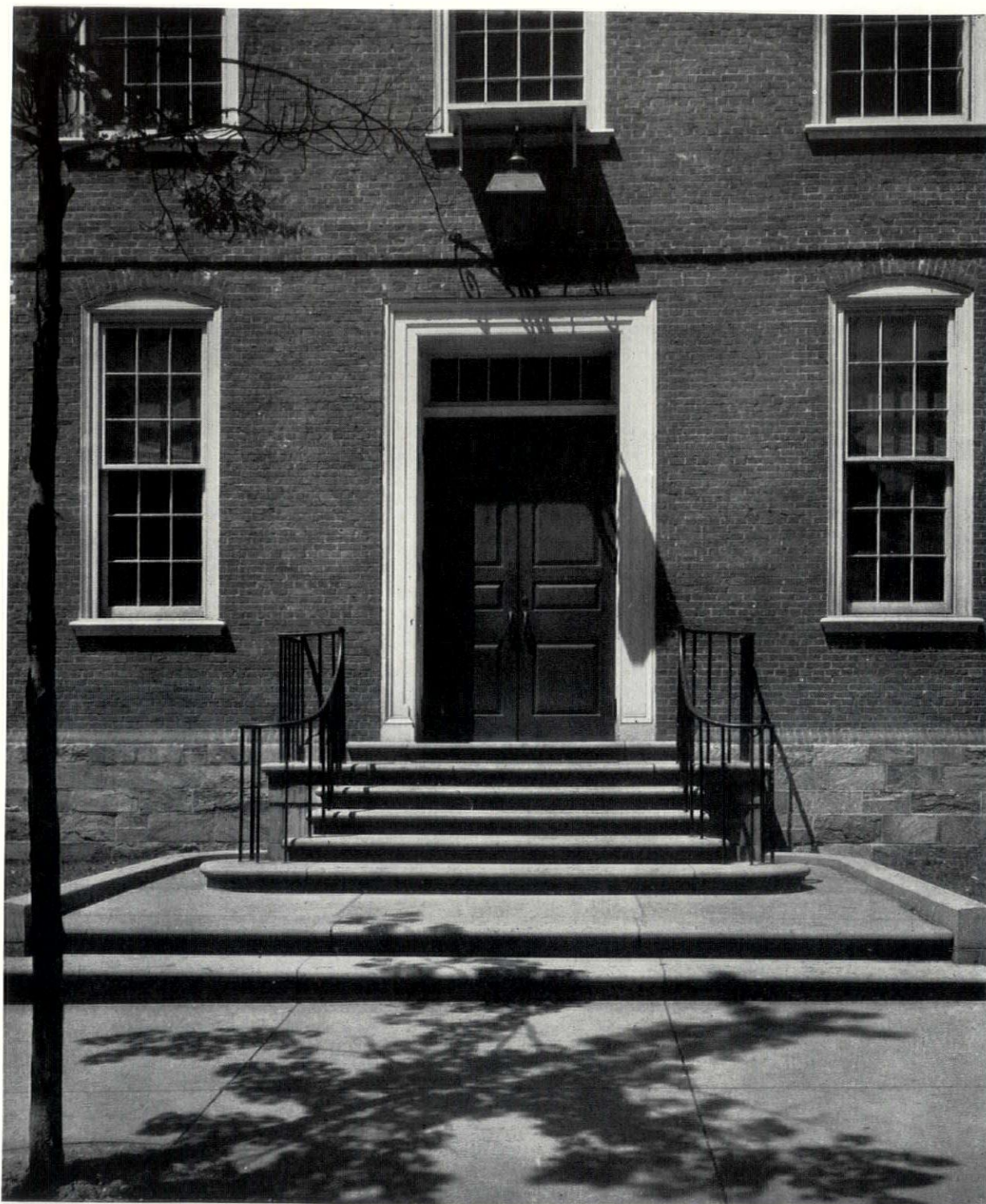


Chicago Arch. Photo



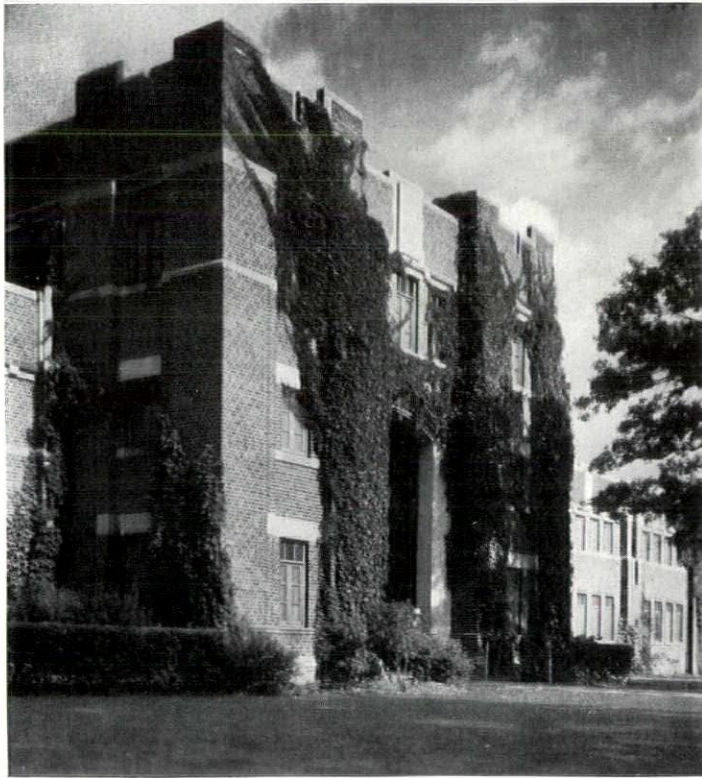
The picture at the top of the page is of the main entrance to the Armory, located at the Champaign branch of the University of Illinois. The one at the left is the entrance to the Chemistry Building, in Urbana

THE UNIVERSITY OF ILLINOIS
 URBANA, ILLINOIS
 CHARLES A. PLATT AND JAMES M. WHITE
 ASSOCIATED ARCHITECTS



Weber

BROWN UNIVERSITY
PROVIDENCE, R. I.
DAY & KLAUDER, ARCHITECTS



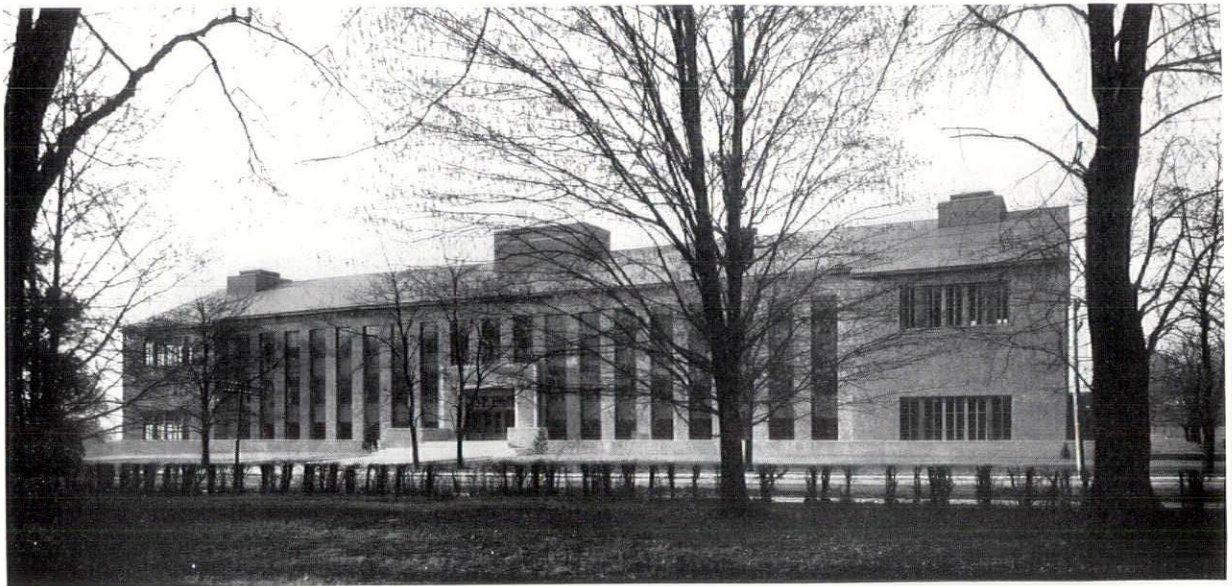
A general view of The Quadrangle, one of the men's dormitories, and a detail of one of the entrances

THE UNIVERSITY OF IOWA
IOWA CITY, IOWA
PROUDFOOT, RAWSON, SOUERS & THOMAS, ARCHITECTS



The entrance to this building is entirely of concrete. Plaster moulds of the ornament were set in the wood forms and the regular concrete mix was used throughout

UNIVERSITY OF ILLINOIS
URBANA, ILLINOIS
JAMES M. WHITE, ARCHITECT



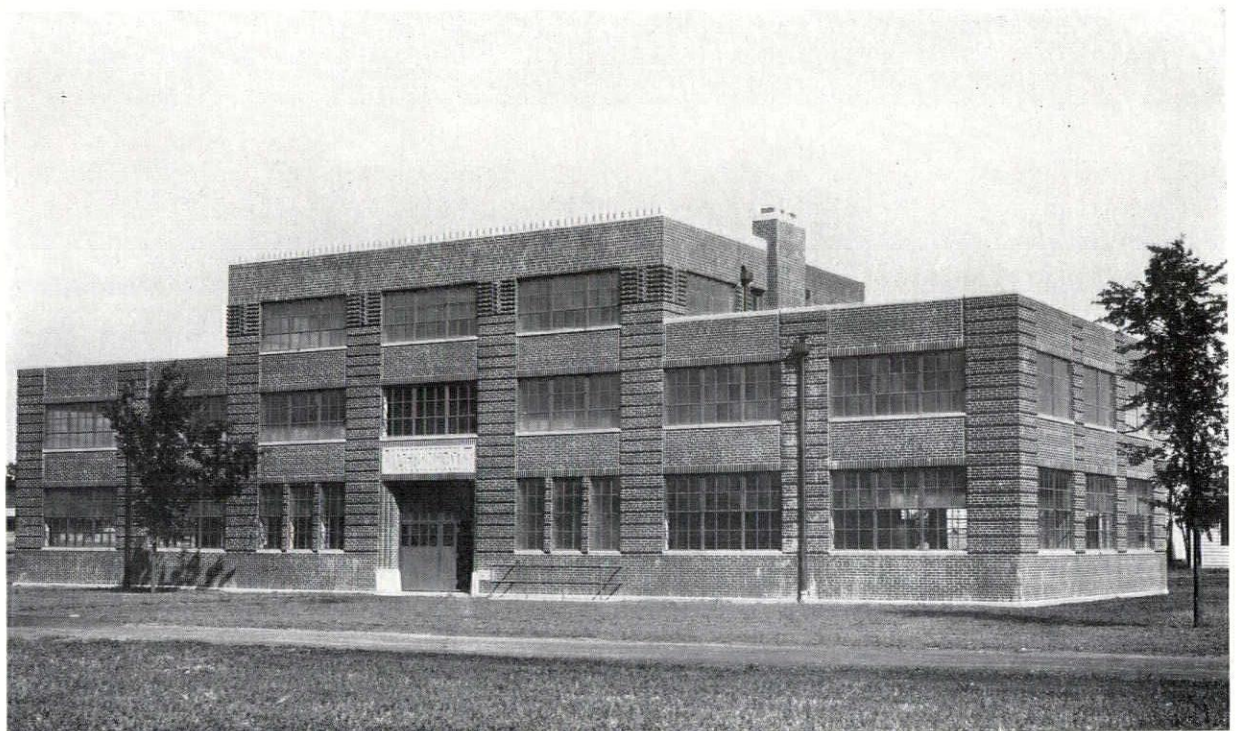
ANTIOCH COLLEGE

ANTIOCH, OHIO

EASTMAN & BUDKE AND HERBERT BAUMER

ASSOCIATED ARCHITECTS

The Science
Building



UNIVERSITY OF ILLINOIS

URBANA, ILLINOIS

JAMES M. WHITE, ARCHITECT

The Agronomy
Seed House

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STADIUMS

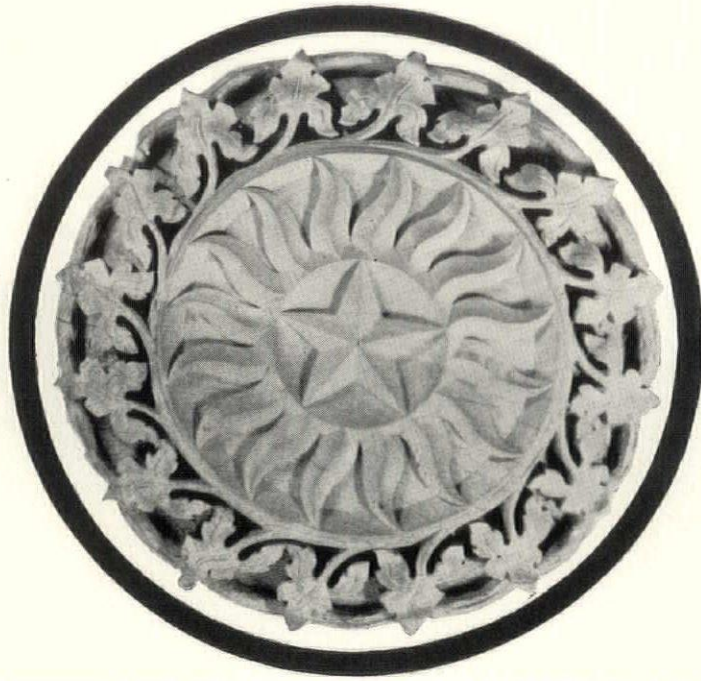
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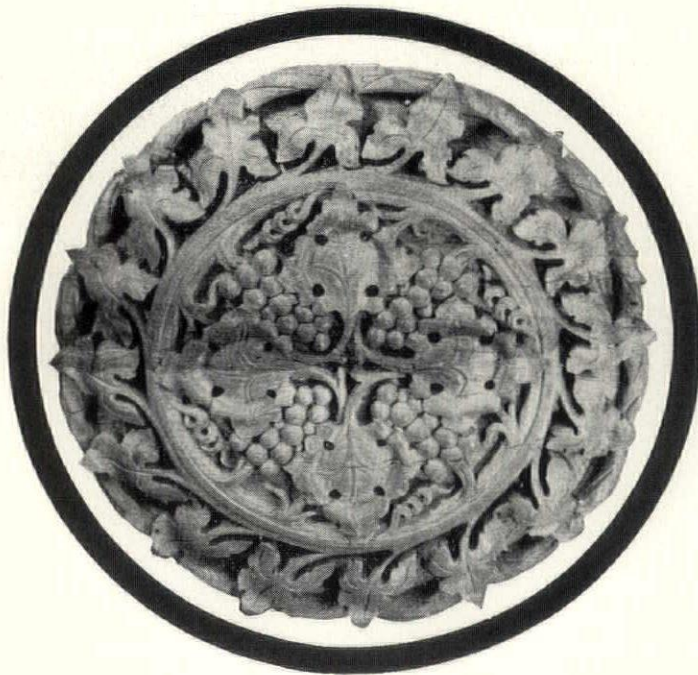
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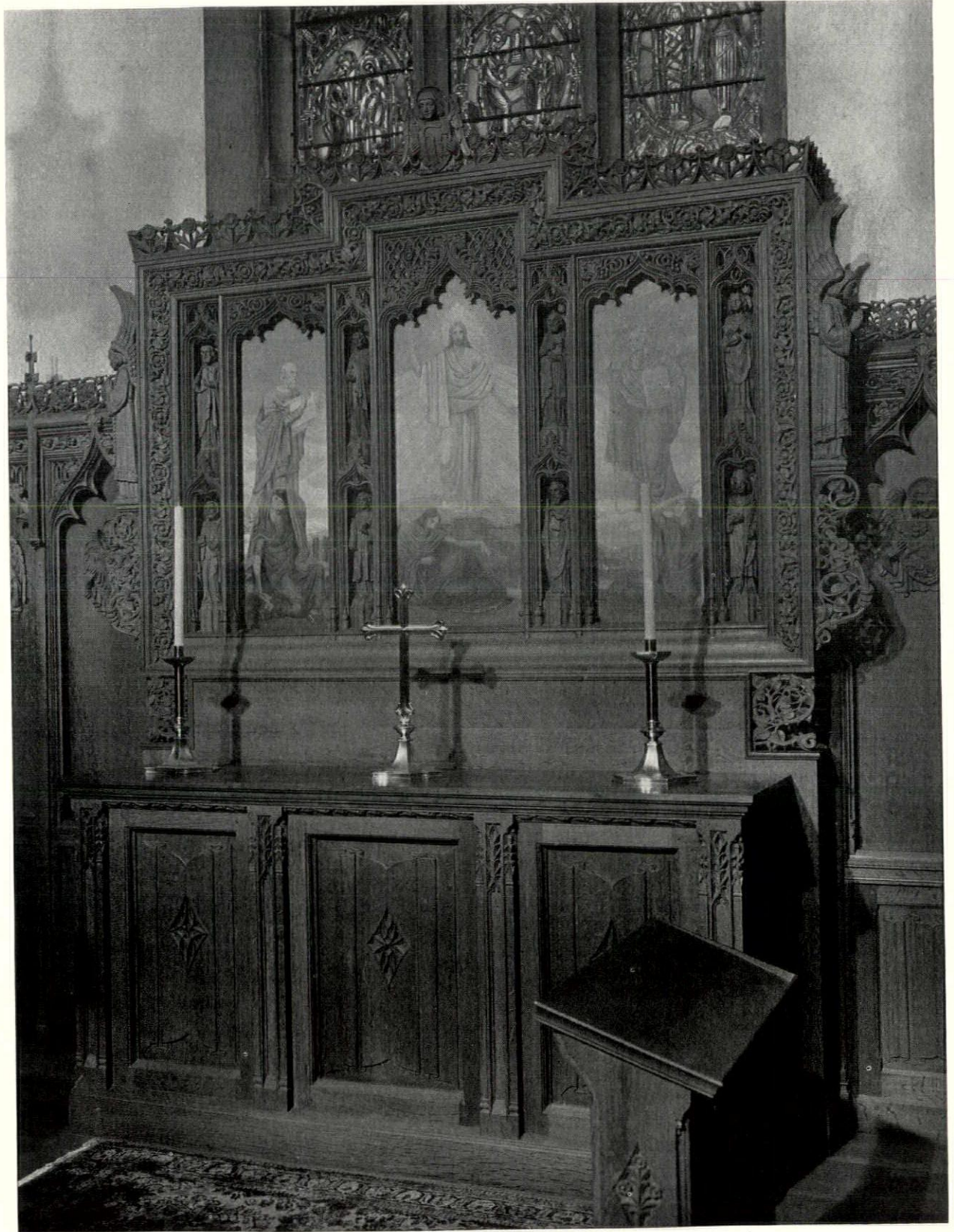
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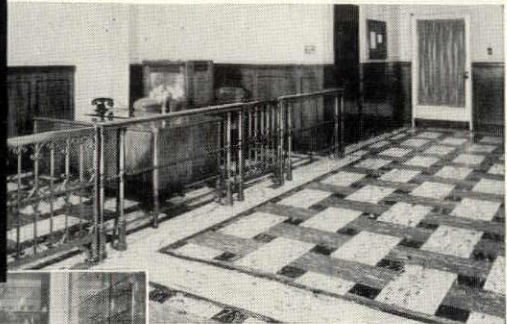
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- S. T. Johnson Co., Oakland, Calif.
Johnson Oil Burners. Booklet, 9 pp., 8½ x 11 ins. Illustrated
- Bulletin No. 4A. Brochure, 8 pp., 8½ x 11 ins. Illustrated. Data on different kinds of oil-burning apparatus.
- Bulletin No. 31. Brochure, 8 pp., 8½ x 11 ins. Illustrated. Deals with Johnson Rotary Burner with Full Automatic Control.
- Kewanee Boiler Corporation, Kewanee, Ill.
Kewanee on the Job. Catalog, 8½ x 11 ins., 80 pp. Illustrated. Showing installations of Kewanee boilers, water heaters, radiators, etc.
- Catalog No. 78, 6 x 9 ins. Illustrated. Describes Kewanee Fire-box Boilers with specifications and setting plans.

REQUEST FOR CATALOGS

To get any of the catalogs described in this section, put down the title of the catalog desired, the name of the manufacturer and send coupon to THE ARCHITECTURAL FORUM, 521 Fifth Avenue, New York.

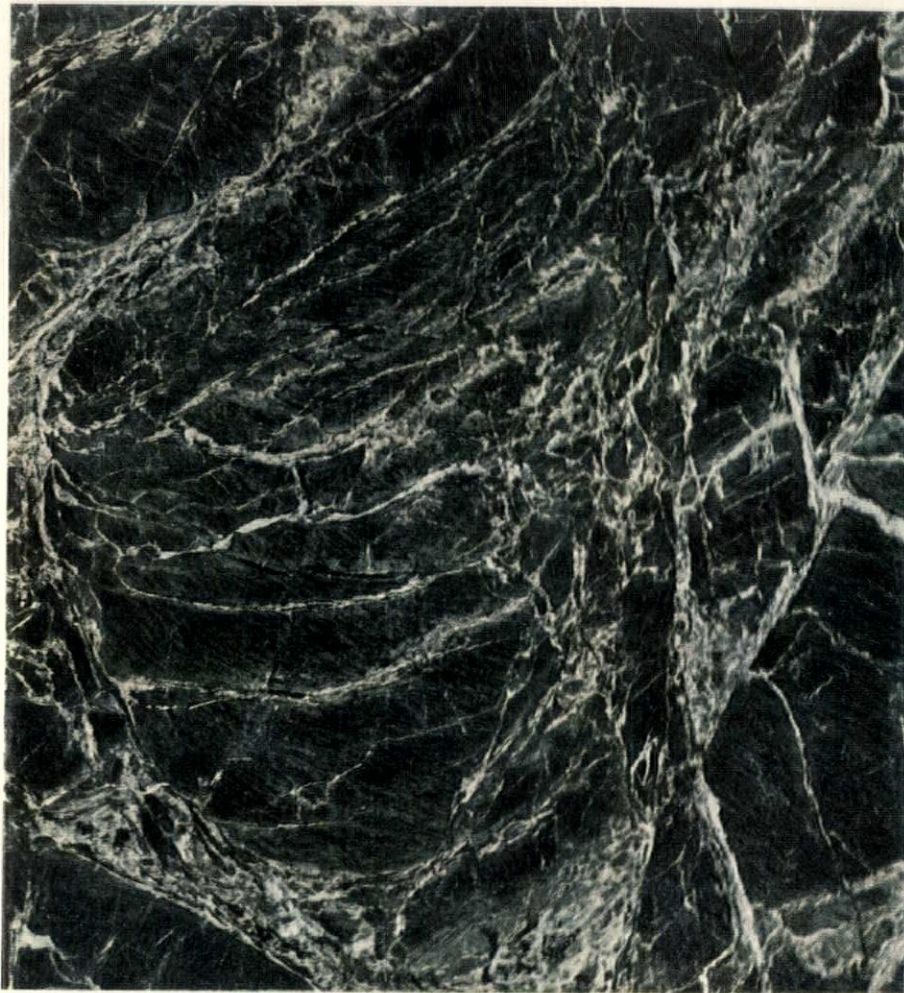
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SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 34

HEATING EQUIPMENT—Continued

- Catalog No. 79, 6 x 9 ins. Illustrated. Describes Kewanee power boilers and smokeless tubular boilers with specifications.
- McQuay Radiator Corporation**, 35 East Wacker Drive, Chicago, Ill.
McQuay Visible Type Cabinet Heater. Booklet, 4 pp., 8½ x 11 ins. Illustrated. Cabinets and radiators adaptable to decorative schemes.
- McQuay Concealed Radiators.** Brochure, 4 pp., 8½ x 11 ins. Illustrated.
- McQuay Unit Heater.** Booklet, 8 pp., 8½ x 11 ins. Illustrated. Gives specifications and radiator capacities.
- Minneapolis-Honeywell Regulator Co.**, Minneapolis, Minn.
 The Modustat, a self-contained automatic room temperature control valve for individual radiators. Leaflet, 4 pp., 8½ x 11 ins. Illustrated.
- Modine Mfg. Co.**, Racine, Wis.
Modine Copper Radiation. Booklet, 28 pp., 8½ x 11 ins. Illustrated. Deals with industrial, commercial and domestic heating.
- A Few Short Years.** Folder, 4 pp., 8½ x 11 ins. Illustrated. Heating for garages.
- Dairy Plant Heating.** Folder, 4 pp., 8½ x 11 ins. Illustrated.
- Industrial Heating.** Folder, 4 pp., 8½ x 11 ins. Illustrated.
- Modine Unit Heater.** Folder, 6 pp., 8½ x 11 ins. Illustrated.
- Nash Engineering Company**, South Norwalk, Conn.
Bulletin 85. Booklet, 12 pp., 10¼ x 7½ ins. Illustrated in color. Describes construction and operation of the Jennings Return Line Vacuum Heating Pump.
- Bulletin 87.** Brochure, 8 pp., 10¼ x 7½ ins. Illustrated in color. Deals with Sizes T and U Jennings Vacuum Heating Pump for 2500 and 5000 square feet equivalent direct radiation.
- Bulletin 63.** Booklet, 4 pp., 10¼ x 7½ ins. Illustrated. Describes in detail the Unit Type Motor Driven Jennings Condensation Pump.
- National Radiator Corporation**, Johnstown, Pa.
The Crimson Flame. Folder, 6 pp., 4¼ x 7 ins. Illustrated.
- Contento Brings Contentment to Your Home.** Folder, 12 pp., 3½ x 6 ins. Illustrated.
- National Jacketed Boiler.** Folder, 4 pp., 8½ x 11 ins. Illustrated.
- National Super-Smokeless Boiler.** Folder, 4 pp., 8½ x 11 ins. Illustrated.
- Aero, the National Radiator Sizes and Ratings.** Booklet, 16 pp., 5 x 7½ ins. Illustrated.
- Sarco Company, Inc.**, 183 Madison Ave., New York City, N. Y.
Steam Heating Specialties. Booklet, 6 pp., 6 x 9 ins. Illustrated. Data on Sarco Packless Supply Valves and Radiator Traps for vacuum and vapor heating systems.
- Equipment Steam Traps and Temperature Regulations.** Booklet, 6 pp., 6 x 9 ins. Illustrated. Deals with Sarco Steam Traps for hospital, laundry and kitchen fixtures and the Sarco Self-contained Temperature Regulation for hot water service tanks.
- Spencer Heater Company**, Williamsport, Pa.
Spencer Magazine Feed Heaters. Catalogue No. 31, 26 pp., 5¼ x 9 ins. Illustrated.
- The Fire That Burns Up-hill.** Booklet, 16 pp., 6 x 9¼ ins. Illustrated.
- One Church Service That No One Sees.** Booklet, 15 pp., 8½ x 11 ins. Illustrated.
- The Fire That Makes Five Profits Is the Fire That Burns Up-hill.** Booklet, 11 pp., 8½ x 11 ins. Illustrated.
- B. F. Sturtevant Company**, Hyde Park, Boston, Mass.
Tempervane Heating Units. Catalog 363. Booklet, 44 pp., 8½ x 11 ins. Illustrated. Data on "Heating Every Corner with Maximum Economy."
- U. S. Blower & Heater Corporation**, Minneapolis, Minn.
Blowers, Heaters and Washers. Booklet, 64 pp., 8½ x 11 ins. Illustrated.
- U. S. Radiator Corporation**, Detroit, Mich.
Capitol Cast-Iron Concealed Radiators. Catalogue, 32 pp., 8½ x 11 ins. Illustrated.

HOISTS, TELESCOPIC

- Gillis & Geoghegan, Inc.** 535 West Broadway, New York.
G & G Telescopic Hoist. Booklet, 24 pp., 8½ x 11 ins. Illustrated complete data on hoists.
- Ash Removal.** Folder, 8½ x 11 ins. Illustrated. Hoists for removing ashes from basements.

HOSPITAL EQUIPMENT

- Bryant Electric Co.**, Bridgeport, Conn.
Hospital Signal Devices. Bulletin HS-622-RP. Complete information on hospital signal devices. Pull Control Type. 8½ x 10 ins. 46 pp.
- Hospital Signal Devices.** Bulletin HS-1023. Magnetic Control Type. 8½ x 10 ins. 26 pp.
- The Frink Co., Inc.**, 369 Lexington Ave., New York City.
 Catalog 426. 7 x 10 ins., 16 pp. A booklet illustrated with photographs and drawings, showing the types of lights for use in hospitals, as operating table reflectors, linolite and multilite concentrators, ward reflectors, bed lights and microscopic reflectors, giving sizes and dimensions, explaining their particular fitness for special uses.
- The International Nickel Company**, 67 Wall St., New York, N. Y.
Hospital Applications of Monel Metal. Booklet, 8½ x 11¼ ins., 16 pp. Illustrated. Gives types of equipment in which Monel Metal is used, reasons for its adoption, with sources of such equipment.

INCINERATORS

- Josam Mfg. Co.**, Michigan City, Ind.
Josam-Graver Incinerators. Folder, 4 pp., 8½ x 11 ins. Illustrated.

INSULATION

- Armstrong Cork & Insulation Co.**, Lancaster, Pa.
The Insulation of Roofs with Armstrong's Corkboard. Booklet. Illustrated. 7½ x 10¼ ins., 32 pp. Discusses means of insulating roofs of manufacturing or commercial structures.
- Insulation of Roofs to Prevent Condensation.** Illustrated booklet, 7½ x 10¼ ins., 36 pp. Gives full data on valuable line of roof insulation.
- Filing Folder for Pipe Covering Data.** Made in accordance with A. I. A. rules.
- The Cork-lined House Makes a Comfortable Home.** 5 x 7 ins. 32 pp. Illustrated.
- Armstrong's Corkboard. Insulation for Walls and Roofs of Buildings.** Booklet, 66 pp., 9½ x 11¼ ins. Illustrates and describes use of insulation for structural purposes.

JOISTS

- Kalman Steel Company**, Chicago, Ill.
Steel Joists. Brochure, 20 pp., 8½ x 11 ins. Joists and accessories. Firesafe Floor and Roof Construction. Booklet, 8 pp., 8½ x 11 ins. Joists, lath and accessories.

KITCHEN EQUIPMENT

- The International Nickel Company**, 67 Wall St., New York, N. Y.
Hotels, Restaurants and Cafeteria Applications of Monel Metal. Booklet, 8½ x 11 ins., 32 pp. Illustrated. Gives types of equipment in which Monel Metal is used, with service data and sources of equipment.

LABORATORY EQUIPMENT

- Alberene Stone Co.**, 153 West 23rd Street, New York City.
 Booklet, 8¼ x 11¼ ins., 26 pp. Stone for laboratory equipment, shower partitions, stair treads, etc.
- Duriron Company**, Dayton, Ohio.
Duriron Acid, Alkali and Rust-proof Drain Pipe and Fittings. Booklet, 8½ x 11 ins., 20 pp. Full details regarding a valuable form of piping.
- Maurice A. Knight Company**, Kelly Ave., Akron, Ohio.
Acid Proof Laboratory Equipment. 48 pp. Catalogue, 8½ x 11 ins. Illustrated.

LATH, METAL AND REINFORCING

- Kalman Steel Company**, Chicago, Ill.
Firesafe Building Products. Booklet, 20 pp., 8½ x 11 ins. Lath, fireplace accessories, beads, etc.
- Milcor Steel Co.**, Milwaukee.
The Milcor Manual. Booklet, 96 pp., 8½ x 11 ins. Illustrated. Data on metal lath and similar materials.
- Milcor Metal Ceiling Catalog.** Booklet, 288 pp., 8½ x 11 ins. Illustrated. Data on metal ceiling and wall construction.

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To get any of the catalogs described in this section, put down the title of the catalog desired, the name of the manufacturer and send coupon to THE ARCHITECTURAL FORUM, 521 Fifth Avenue, New York.

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CLASS ROOMS	EXCELLENT	GOOD	GOOD
CORRIDORS	EXCELLENT	EXCELLENT	NOT RECOMMENDED
LABORATORIES	EXCELLENT	GOOD	GOOD
OFFICES	EXCELLENT	EXCELLENT	EXCELLENT
LIBRARY	GOOD	GOOD	EXCELLENT
DORMITORY ROOMS	EXCELLENT	EXCELLENT	EXCELLENT
LOUNGES	EXCELLENT	EXCELLENT	EXCELLENT
DINING HALLS	EXCELLENT	EXCELLENT	NOT RECOMMENDED
CAFETERIA	EXCELLENT	EXCELLENT	EXCELLENT
CHAPEL	GOOD	GOOD	EXCELLENT
HOSPITAL	EXCELLENT	EXCELLENT	EXCELLENT
GYMNASIUM	ARMSTRONG'S CORK CARPET FOR RUNNING TRACKS AND TENNIS COURTS		
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No other single type of building gives architects so many complex problems as a group of university buildings. But the floor problems need not be troublesome. In Armstrong's Floors lie the answers to the question, "What goes underfoot?"

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SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 36

LATH, METAL AND REINFORCING—Continued

- National Steel Fabric Co., Pittsburgh, Pa.
 Better Walls for Better Homes. Brochure, 16 pp., 7¼ x 11¼ ins. Illustrated. Metal lath, particularly for residences.
 Steeltex for Floors. Booklet, 24 pp., 8½ x 11 ins. Illustrated.
 Combined reinforcing and form for concrete or gypsum floors and roofs.
 Steeltex Data Sheet No. 1. Folder, 8 pp., 8½ x 11 ins. Illustrated. Steeltex for floors on steel joists with round top chords.
 Steeltex Data Sheet No. 2. Folder, 8 pp., 8½ x 11 ins. Illustrated. Steeltex for floors on steel joists with flat top flanges.
 Steeltex Data Sheet No. 3. Folder, 8 pp., 8½ x 11 ins. Illustrated. Steeltex for folders on wood joists.
 Truscon Steel Company, Youngstown, Ohio.
 Truscon ¾-inch Hy-Rib for Roofs, Floors and Walls. Booklet, 8½ x 11 ins., illustrating Truscon ¾-inch Hy-Rib as used in industrial buildings. Plates of typical construction. Progressive steps of construction. Specification and load tables.

LAUNDRY MACHINERY

- The American Laundry Machinery Company, Norwood Station, Cincinnati, Ohio.
 The Laundry in the Hotel, Hospital, School, Club, Office Building . . . even in the large Residence. Brochure, 25 pp., 8½ x 11 ins. Arranged in convenient file folder. Illustrated. Contains blue prints of prominent laundry installations.
 Troy Laundry Machinery Co., Inc., 9 Park Place, New York City.
 Laundry Machinery for Large Institutions. Loose-leaf booklet, 50 pp., 8½ x 11 ins. Illustrated.
 Laundry Machinery for Small Institutions. Loose-leaf brochure, 50 pp., 8½ x 11 ins. Illustrated.
 Accessory Equipment for Institutional Laundries. Leather bound book, 50 pp., 8½ x 11 ins. Illustrated.
 Dry Cleaning Equipment for Institutional Purposes. Brochure, 50 pp., 8½ x 11 ins. Illustrated.

LIGHTING EQUIPMENT

- The Frink Co., Inc., 369 Lexington Ave., New York, N. Y.
 Catalog 415, 8½ x 11 ins., 46 pp. Photographs and scaled cross-sections. Specialized bank lighting, screen and partition reflectors, double and single desk reflectors and Polaralite Signs.
 Kliegl Bros. Universal Electric Stage Lighting Co., Inc., 321 West 50th Street, New York, N. Y.
 Catalogue No. 30, 24 pp., 8½ x 11 ins. Illustrated.
 Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
 Industrial Lighting Equipment. Booklet, 32 pp., 8½ x 11 ins. Illustrated.
 Commercial Lighting. Brochure, 24 pp., 8½ x 11 ins. Illustrated.
 Airport and Floodlighting Equipment. Booklet, 20 pp., 8½ x 11 ins. Illustrated.
 Ways of Illuminating Football Fields. Folder, 8½ x 11 ins. Illustrated.
 A New Contribution to the Joy of Swimming. Folder, 8 pp., 8½ x 11 ins. Illustrated.

LOCKERS

- Durabilt Steel Locker Co., Aurora, Ill.
 Steel Storage Equipment for the Modern School Shop. Catalogue, 14 pp., 8½ x 11 ins. Illustrated.

MAIL CHUTES

- Cutler Mail Chute Company, Rochester, N. Y.
 Cutler Mail Chute Model F. Booklet, 4 x 9¼ ins., 8 pp. Illustrated.

MANTELS

- Henry Klein & Co., Inc. 40-46 West 23rd Street, New York.
 Driwood Mantels. Booklet. 12 pp. 8½ x 11 ins. Illustrated. Fine line of eighteenth century English and American mantels.

MARBLE

- The Georgia Marble Company, Tate, Ga.; New York Office, 1328 Broadway.
 Why Georgia Marble Is Better. Booklet, 3¾ x 6 ins. Gives analysis, physical qualities, comparison of absorption with granite, opinions of authorities, etc.

MARBLE—Continued

- Convincing Proof. 3¾ x 6 ins., 8 pp. Classified list of buildings and memorials in which Georgia Marble has been used, with names of Architects and Sculptors.
 Hurt Building, Atlanta; Senior High School and Junior College, Muskegon, Mich. Folders, 4 pp., 8½ x 11 ins. Details.

METALS

- The International Nickel Company, 67 Wall St., New York, N. Y.
 Monel Metal Primer. 8 folders, 4 pp., 8½ x 11 ins. Illustrated. Valuable data on use of monel in kitchens, laundries, etc.

MILL WORK—See also Wood

- Klein & Co., Inc., Henry, 11 East 37th St., New York, N. Y.
 Two Driwood Interiors. Folder, 4 pp., 6¼ x 9 ins. Illustrated. Use of moulding for paneling walls.
 A New Style in Interior Decoration. Folder, 4 pp., 6¼ x 9 ins. Illustrated. Deals with interior woodwork.
 Driwood Period Mouldings in Ornamented Wood. Booklet, 28 pp., 8½ x 11 ins. Illustrated.
 How Driwood Period Mouldings in Ornamented Wood Set a New Style in Decoration. Folder.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES

- Minwax Company, Inc., 11 West 42nd St., New York.
 Color Card and Specifications for Minwax Brick and Cement Coating. Folder, 4 pp., 8½ x 11 ins. Illustrated.
 National Lead Company, 111 Broadway, New York, N. Y.
 Handy Book on Painting. Book, 5½ x 3¾ ins., 100 pp. Gives directions and formulæ for painting various surfaces of wood, plaster, metals, etc., both interior and exterior.
 Red Lead in Paste Form. Booklet, 6¼ x 3½ ins., 16 pp. Illustrated. Directions and formulæ for painting metals.
 Came Lead. Booklet, 6 x 8¼ ins., 12 pp. Illustrated. Describes various styles of lead comes.

PARTITIONS

- Circle A. Products Corporation, New Castle, Ind.
 Circle A. Partitions Sectional and Movable. Brochure. Illustrated. 8½ x 11¼ ins., 32 pp. Full data regarding an important line of partitions, along with Erection Instructions for partitions of three different types.
 Irving Hamlin, Evanston, Ill.
 Hamlinized Folding Partitions Made from Hamlin's Evanston Soundproof Doors, Sectional and Movable. Folder, 4 pp., 8½ x 11 ins. Illustrated.
 Hauserman Company, E. F., Cleveland, Ohio.
 Movable Steel Partitions for sub-dividing office and industrial space. Folders on complete line, 8½ x 11, giving full data on the different types of steel partitions with details, elevations and specifications. Also 40-page Architects' Portfolio AIA—28A3, containing 20 full page plates of practical office layouts.
 Hollow Steel Standard Partitions. Various folders, 8½ x 11 ins. Illustrated. Give full data on different types of steel partitions, together with details, elevations and specifications.
 Henry Klein & Co., 25 Grand Street, Elmhurst, L. I., N. Y.
 Telesco Partition. Catalog, 8¼ x 11 ins., 14 pp. Illustrated. Shows typical offices laid out with Telesco partitions, cuts of finished partition units in various woods. Gives specifications and cuts of buildings using Telesco.
 Detailed Instructions for Erecting Telesco Partitions. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Complete instructions, with cuts and drawings, showing how easily Telesco Partition can be erected.
 Improved Office Partition Co., 25 Grand St., Elmhurst, L. I., N. Y. (See Henry Klein & Co.)
 The Mills Company, Cleveland, Ohio.
 Mills Metal Partitions. Booklet, 8½ x 11 ins. Illustrated. Installation data and details.
 Richards-Wilcox Mfg. Co., Aurora, Ill.
 Partitions. Booklet, 7 x 10 ins., 32 pp. Illustrated. Describes complete line of track and hangers for all styles of sliding parallel, accordion and flush-door partitions.

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Crocker Highland High School, Oakland, Calif.—Architects: Blaine & Olsen

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6³/₄" to 15" squares, 1³/₁₆" thickness, all grades. Rectangle sizes 6" x 12", 6³/₄" x 13¹/₂"; in oak, walnut, maple, beech, light and dark Philippine hardwood, yellow pine, either beveled or square edge.

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*CELLized Wood Floor Blocks are laid only by Licensed Flooring Contractors, who have been carefully selected by *CELLized Oak Flooring, Inc., and who have the ability to install Blocks strictly in accordance with Standard Specifications. Names of those licensed will be sent on request.



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***CELLized Oak Flooring Inc.**
MEMPHIS — TENNESSEE

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 38

PARTITIONS—Continued

Telesco Office Partition, 25 Grand St., Elmhurst, L. I., N. Y.
(See Henry Klein & Co.)
J. G. Wilson Corporation, 11 East 38th St., New York City, N. Y.
Sectionfold and Rolling Partitions, also Light Retarding Rolling Shutters. Thirty-two-page catalog with illustrations, specification details, etc.

PIPE

The American Brass Company, Waterbury, Conn.
Bulletin B-1, Brass Pipe for Water Distribution. A.I.A. File No. 29B4. 8½ x 11 ins., 32 pp. Illustrated. Discusses the economic advantages of permanent plumbing and the suitability of Anaconda 67 Brass Pipe for normally corrosive waters, and Anaconda 85 Red-Brass Pipe for highly corrosive waters. Contains schedule of weights and sizes of seamless brass and copper pipe, recommended specifications and installation suggestions.

American Rolling Mill Company, Middletown, Ohio.
How ARMCO Dredging Products Cut Costs. Booklet, 16 pp., 6 x 9 ins. Data on dredging pipe.

Bethlehem Steel Company, Bethlehem, Pa.
Bethlehem Wrought Steel Pipe, Catalog P. Booklet, 20 pp., 4¼ x 7¼ ins. Illustrated.

Clow & Sons, James B., 534 S. Franklin St., Chicago, Ill.
Catalog A. 4 x 16½ ins., 700 pp. Illustrated. Shows a full line of steam, gas and water works supplies.

Duriron Company, Dayton, Ohio.
Duriron Acid, Alkali, Rust-proof Drain Pipe and Fittings. Booklet, 20 pp., 8½ x 11 ins. Illustrated. Important data on a valuable line of pipe.

Maurice A. Knight, Akron, Ohio.
Knightware in the Princeton Chemical Laboratory. Booklet, 16 pp., 6¼ x 8½ ins. Illustrated.

National Tube Co., Frick Building, Pittsburgh, Pa.
"National" Bulletin No. 2. Corrosion of Hot Water Pipe, 8½ x 11 ins., 24 pp. Illustrated. In this bulletin is summed up the most important research dealing with hot water systems. The text matter consists of seven investigations by authorities on this subject.

"National" Bulletin No. 3. The Protection of Pipe Against Internal Corrosion, 8½ x 11 ins., 20 pp. Illustrated. Discusses various causes of corrosion, and details are given of the deactivating and deaerating systems for eliminating or retarding corrosion in hot water supply lines.

"National" Bulletin No. 25. "National" Pipe in Large Buildings. 8½ x 11 ins., 88 pp. This bulletin contains 254 illustrations of prominent buildings of all types, containing "National" Pipe, and considerable engineering data of value to architects, engineers, etc.

Modern Welded Pipe. Book of 88 pp., 8½ x 11 ins., profusely illustrated with halftone and line engravings of the important operations in the manufacture of pipe.

Walworth Company, Statler Office Building, Boston, Mass.
C. N. I. Pipe Manual. Booklet, 18 pp., 4½ x 7½ ins. Illustrated.
Approved Valves and Fittings for Fire Lines in New York. Folder, 6 pp., 8½ x 11 ins. Illustrated.

PLUMBING EQUIPMENT

Clow & Sons, James B., 534 S. Franklin St., Chicago, Ill.
Catalog M. 9¼ x 12 ins., 184 pp. Illustrated. Shows complete line of plumbing fixtures for Schools, Railroads and Industrial Plants.

Duriron Company, Dayton, Ohio.
Duriron Acid, Alkali and Rust-Proof Drain Pipe and Fittings. Booklet, 8½ x 11 ins., 20 pp. Full details regarding a valuable form of piping.

Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill.
Watrous Patent Flush Valves, Duojet Water Closets, Liquid Soap Fixtures, etc. 8½ x 11 ins., 136 pp., loose-leaf catalog, showing roughing-in measurements, etc.

PLUMBING EQUIPMENT—Continued

Scovill Manufacturing Company, Waterville, Conn.
Scovill Flush Valve Catalogue, 45 pp., 8½ x 11 ins. Illustrated.
Speakman Company, Wilmington, Del.
A. I. A. File Catalogue No. 29-H-3. 16 pp., 8½ x 11 ins. Illustrated. Data on shower equipment and installation.
Catalog K. Booklet, 150 pp., 8½ x 10¾ ins. Illustrated. Data on showers and equipment details.

PNEUMATIC TUBE SYSTEMS

G & G Atlas Systems, Inc., 544 West Broadway, New York.
12 pp., 8½ x 11. Illustrated booklet of tube systems for retail stores and other buildings.
4 pp., 8½ x 11. Data Sheet showing schematic diagrams for hotel, bank, factory and wholesale buildings, table of sizes, space requirements and preliminary layout steps. A.I.A. 35h21.

PUMPS

C. A. Dunham Co., 450 East Ohio Street, Chicago, Ill.
Dunham Vacuum Pump. Booklet, 16 pp., 8½ x 11 ins. Illustrated.

Nash Engineering Company, South Norwalk, Conn.
Bulletin 52. Brochure. 6 pp., 10¼ x 7½ ins. Illustrated in color. Devoted to Jennings Standard Centrifugal Pumps for house service, boosting city water pressure to supply top stories, for circulating warm water, etc.
Bulletin. 97. Booklet. 16 pp., 10¼ x 7½ ins. Illustrated in color. Describes the design, construction and operation of the Jennings Suction Sump Pump.
Bulletin 11. Brochure. 8 pp., 10¼ x 7½ ins. Illustrated in color. Deals with Nash Hytor Vacuum Pumps for air and gases.

REFRIGERATION

The Fulton Syphon Company, Knoxville, Tenn.
Temperature Control of Refrigeration Systems. Booklet, 8 pp., 8½ x 11 ins. Illustrated. Deals with cold storage, chilling of water, etc.

REINFORCED CONCRETE—See also Construction, Concrete

Kalman Steel Company, Chicago, Ill.
Building for Permanence. Booklet, 8 pp., 8½ x 11 ins. Reinforced concrete products.

Truscon Steel Company, Youngstown, Ohio.
Shearing Stresses in Reinforced Concrete Beams. Booklet, 8½ x 11 ins., 12 pp.

ROOFING

Johns-Manville Corporation, New York.
The New Book of Roofs. Brochure, 24 pp., 8½ x 11 ins. Illustrated. Roofing from the Architect's point of view.

Ludowici-Celadon Company, 104 So. Michigan Ave., Chicago, Ill.
"Ancient" Tapered Mission Tiles. Leaflet, 8½ x 11 ins., 4 pp. Illustrated. For architects who desire something out of the ordinary this leaflet has been prepared. Describes briefly the "Ancient" Tapered Mission Tiles, hand-made with full corners and designed to be applied with irregular exposures.

Milcor Steel Co., Milwaukee.
Milcor Architectural Sheet Metal Guide. Booklet. 72 pp., 8½ x 11 ins. Illustrated. Metal tile roofing, skylights, ventilators, etc.
Milcor Sheet Metal Handbook. Brochure. 128 pp., 8½ x 11 ins. Illustrated. Deals with rain-carrying equipment, etc.

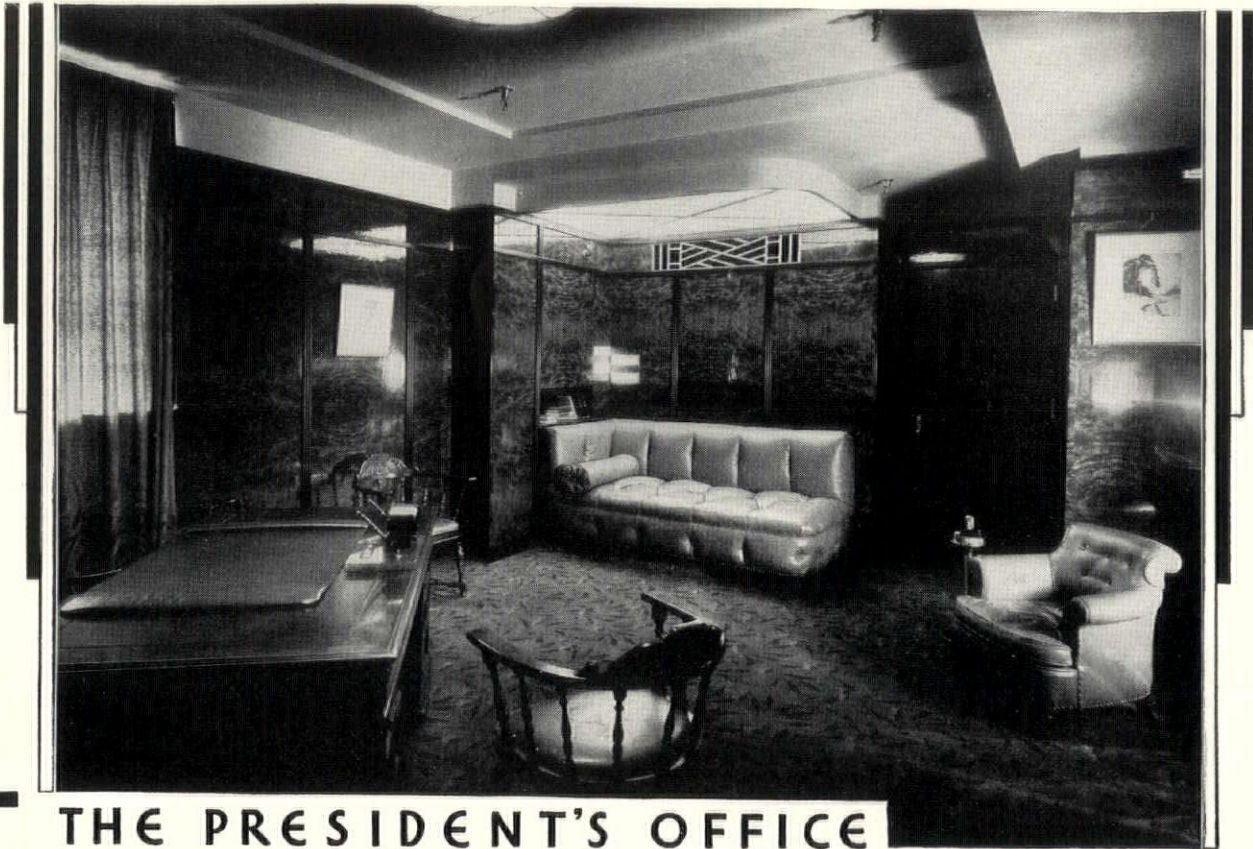
SEWAGE DISPOSAL

Nash Engineering Company, South Norwalk, Conn.
Bulletin 67. Booklet. 16 pp. 10¼ x 7½ ins. Illustrated in color. Describes Type A Jennings Sewage Ejector for handling Unscreened sewage and raising it from basements below sewer level.
Bulletin 103. Brochure. 16 pp. 10¼ x 7½ ins. Illustrated in color. Deals with small size Type B Jennings Sewage Ejector.

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SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 40

SCREENS

American Brass Co., The, Waterbury, Conn.

Facts for Architects About Screening. Illustrated folder, 9½ x 11¾ ins., giving actual samples of metal screen cloth and data on fly screens and screen doors.

Athey Company, 6015 West 65th St., Chicago, Ill.

The Athey Perennial Window Shade. An accordion pleated window shade, made from translucent Herringbone woven Coutil cloth, which raises from the bottom and lowers from the top. It eliminates awnings, affords ventilation, can be dry-cleaned and will wear indefinitely.

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Bethlehem Steel Company, Bethlehem, Pa.

Steel Joists and Stanchions. Booklet, 72 pp., 4 x 6¼ ins. Data for steel for dwellings, apartment houses, etc.

Bethlehem Structural Shapes Bound Volume, 368 pp., 4¼ x 6¾ ins. Illustrated.

The Kawneer Company, Niles, Mich.

Folder with A.I.A. File No. featuring new Shower Door, furnished in Solid Bronze, Chromium Plated or Solid Nickel-silver.

Lincoln Electric Company, Cleveland, Ohio.

Studies in Structural Arc Welding. Series of plates, 8½ x 11 ins. Illustrated. Deals with design of arc-welded buildings, details and specifications.

Steel Frame House Company, Pittsburgh, Pa. (Subsidiary of McClintic-Marshall Corp.)

Steel Framing for Dwellings. Booklet, 16 pp., 8½ x 11 ins. Illustrated.

Steel Framing for Gasoline Service Stations. Brochure, 8 pp., 8½ x 11 ins. Illustrated.

Steel Frame Standard Gasoline Service Stations. Booklet, 8 pp., 8½ x 11 ins. Illustrated. Three standard designs of stations.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

The Arc Welding of Structural Steel. Brochure, 32 pp., 8½ x 11 ins. Illustrated. Deals with an important structural process.

STONE, BUILDING

Indiana Limestone Company, Bedford, Ind.

ILCO Specification Manual. Standard Specifications for the cutting and setting of Indiana Limestone. 8½ x 11 ins., 24 pp.

Volume 1. Series B. 6 x 9 ins., 36 pp. Illustrated. Giving general information regarding Indiana Limestone, its physical characteristics, etc.

Volume 4. Series B. New Edition, 8½ x 11 ins., 80 pp. Illustrated. Indiana Limestone as used in Banks.

Volume 12. Series B. Distinctive Homes of Indiana Limestone. 8½ x 11 ins., 48 pp. Illustrated.

ILCO RIPLSTONE. 8½ x 11 ins., 56 pp. Illustrated.

STORE FRONTS

The Kawneer Company, Niles, Mich.

Booklet, 8½ x 11 ins., featuring recent store front installations and suggested designs.

Catalogue Portfolio "N," 8½ x 11 ins., A. I. A. File No. containing 4-page folders featuring Store Fronts, Doors, Windows, Architectural Bronze and Iron and Architectural Metal Mouldings.

TELEPHONE SERVICE ARRANGEMENTS

All Bell Telephone Companies. Apply nearest Business Office, or American Telephone and Telegraph Company, 195 Broadway, New York.

Planning for Home Telephone Conveniences. Booklet, 52 pp., 8½ x 11 ins. Illustrated.

Planning for Telephones in Building. Brochure, 74 pp., 8½ x 11 ins. Illustrated.

TIMBREL TILE VAULTS

R. Guastavino Co., 40 Court Street, Boston.

Masonry acoustical materials (AKOUSTOLITH Tile and AKOUSTOLITH Plaster) and Timbrel Arch Construction. Brochure, 14 pages, 8½ x 11 inches. Illustrated.

TILE, STRUCTURAL CLAY

National Fireproofing Corporation, Fulton Building, Pittsburgh, Pa.

Natco. The Complete Line of Structural Clay Tile. Booklet, 48 pp., 8½ x 11 ins. Illustrated. A General Catalog.

Natco Vitritile Bulletin No. 164. 40 pp., 8½ x 11 ins. Illustrated. Shows color charts, sizes and shapes, actual installations, etc.

Natco Header Backer Tile Bulletin. 8½ x 11 ins. 4 pp. Illustrated.

Natco Unibacker Tile Bulletin. 8½ x 11 ins. 4 pp. Illustrated.

Natcoflor Bulletin. 8½ x 11 ins., 6 pp. Illustrated.

Natco Double Shell Load Bearing Tile Bulletin, 8½ x 11 ins., 6 pp. Illustrated.

TILES

Flint Faience & Tile Co., Flint, Mich.

Vitocraft Tiles, Unglazed. Folder, 4 pp., 8½ x 11 ins. Illustrated. Details of patterns in full color. Ask for Form A-322.

Faience Tiles for Bathrooms. Folder, 4 pp., 8½ x 11 ins. Illustrated. Ask for Form A-303.

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Flintcraft Tiles. Folder, 4 pp., 8½ x 11 ins. Illustrated. Machine-made floor or wall tile. Ask for Form A-363.

Hanley Company, Bradford, Pa.

Hanley Quarry Tile. Folder. 4 pp., 5 x 8 ins. Illustrated.

TRUSSES

McKeown Bros. Company, 523 South Keeler Avenue, Chicago.

Truth in Architecture. Folder, 4 pp., 8½ x 11 ins. Illustrated. Deals with use of trusses of wood.

Factory Built Bowstring Trusses. Folder, 4 pp., 8½ x 11 ins. Illustrated.

Timber Trusses. Folder, 4 pp., 8½ x 11 ins. Illustrated.

VALVES

C. A. Dunham Co., 450 East Ohio St., Chicago, Ill.

The Dunham Packless Radiator Valve. Brochure, 12 pp., 8 x 11 ins. Illustrated. Data on an important type of valve.

Jenkins Brothers, 80 White Street, New York.

Office Buildings Yesterday and Today. Folder, 8½ x 11 ins. Illustrated. Valves for use in office buildings.

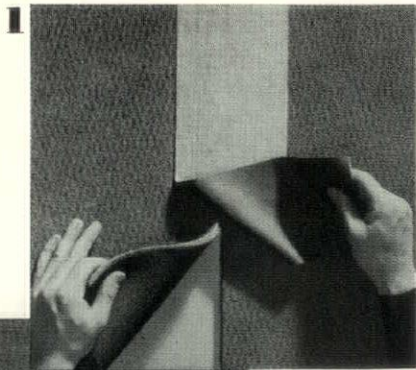
Walworth Company, Statler Office Building, Boston, Mass.

Walworth Valves, Fittings and Tools, Catalog 88. Bound Volume giving data on a wide variety of details.

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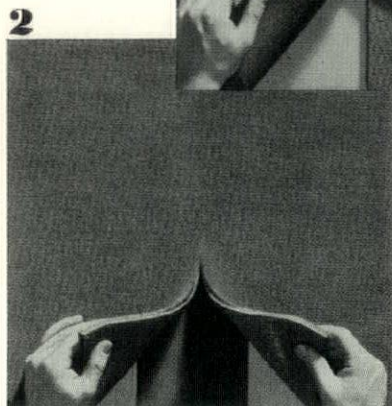
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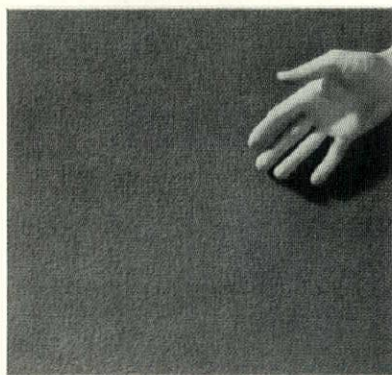


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1 Here are two small pieces of Collins & Aikman Carpet, cut to the same size. They are being joined by applying a tough, durable piece of strapping to the back. This photograph shows the strapping half applied. Note texture of the resilient back.

2 Here we have turned the carpet over to show the face, with the strapping still only half applied on the back. Note how the thick pile meshes in the upper half and covers the place where the joining is completed. Lower edges have been curled back to show strapping beneath.

3 This shows the face of the carpet with the joining completed. What has happened to the seam? Try and find it. In ordinary carpet the stitched seams are slightly raised; they are usually the first places to show wear. *Here*, wear only tends to consolidate the meshing of the pile, and hide the joint more effectively and permanently.

4 This is the showroom of the Salta Knitting Mills, 1410 Broadway, New York, designed by Eugene Schoen, Architect. Floor is covered with Collins & Aikman Carpet in two colors. The increasing popularity of all-over carpet means that the Collins & Aikman idea arrives at the right time—with seemingly seamless effect at low cost.

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SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 42

VENETIAN BLINDS

Columbia Mills, 225 Fifth Avenue, New York.
A Manual for Architects. Booklet, 6 pp., 8½ x 11 ins. Illustrated.

VENTILATION

American Blower Co., Detroit, Mich.
American H. S. Fans. Brochure, 28 pp., 8½ x 11 ins. Data on an important line of blowers.
Duriron Company, Dayton, Ohio.
Acid-proof Exhaust Fans. Folder, 8 x 10½ ins., 8 pp. Data regarding fans for ventilation of laboratory fume hoods.
Specification Form for Acid-proof Exhaust Fans. Folder, 8 x 10½ ins.
Herman Nelson Corporation, Moline, Ill.
Univent Ventilation; The Modern Safeguard of Youth in the Schoolroom. Booklet, 63 pp., 8½ x 11 ins. Illustrated.
Herman Nelson System of Ventilation. Brochure. 103 pp., 8½ x 11 ins. Illustrated.

WATERPROOFING

Minwax Company, Inc., 11 West 42nd St., New York.
Waterproofing Stadia. Folder, 4 pp., 8½ x 11 ins. Illustrated.
Transparent Waterproofings for All Masonry Walls and Surfaces. Folder, 4 pp., 8½ x 11 ins. Illustrated.
Data Sheet on Membrane Waterproofing. Folder, 4 pp., 8½ x 11 ins. Illustrated.

WEATHER STRIPS

Athey Company, 6035 West 65th St., Chicago, Ill.
The Only Weatherstrip with a Cloth to Metal Contact. Booklet, 16 pp., 8½ x 11 ins. Illustrated. Data on an important type of weather stripping.

WINDOW GLASS

Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pa.
Pennvernon Window Glass With the New Flatter Surface. Booklet, 16 pp., 8½ x 11 ins. Illustrated.

WINDOWS

William Bayley Co., 147 North Street, Springfield, Ohio.
Bayley Pivoted Windows. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Sections, hardware, and other details, and illustrations of installations.
Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.
Fenestra Blue Book. Brochure, 75 pp., 8½ x 11 ins. Illustrated. Data on steel windows.
The Kawneer Company, Niles, Mich.
4-page folder, 8½ x 11 ins., A. I. A. File No. featuring our new Extruded In-swinging Windows. This folder is included in Catalogue Portfolio "N" which contains 4-page folders featuring Store Fronts, Doors, Windows, Architectural Bronze and Iron and Architectural Metal Mouldings.

WINDOWS, CASEMENT

Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.
Fenestra Casements. Booklet, 14 pp., 8½ x 11 ins. Illustrated. Discusses casements, particularly for residences.

WINDOWS, CASEMENT—Continued

Fenestra Screen Casements. Brochure, 16 pp., 8½ x 11 ins. Illustrated.
Decorating With Casements. Booklet, 18 pp., with inserts in color 6 x 8½ ins. Deals with use of decorations, particularly draperies, with casement windows.
Richards-Wilcox Mfg. Co., Aurora, Ill.
Casement Window Hardware. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Shows typical installations, detail drawings, construction details, blue-prints if desired. Describes AIR-way Multifold Window Hardware.
Architectural Details. Booklet, 8½ x 11 ins., 16 pp. Tables of specifications and typical details of different types of construction.
List of Parts for Assembly. Booklet, 8½ x 11 ins., 16 pp. Full lists of parts for different units.

WINDOW SCREENS

William Bayley Co., 147 North Street, Springfield, Ohio.
Bayley Pivoted Windows Screened. Booklet, 8 pp., 8½ x 11 ins. Data on screening and window ventilation.

WINDOWS, STEEL AND BRONZE

William Bayley Co., 147 North Street, Springfield, Ohio.
Bayley Steel Window Inserts. Brochure, 8 pp., 8½ x 11 ins. Illustrated. Suggestions on correct use of inserts.
Truscon Steel Company, Youngstown, Ohio.
Drafting Room Standards. Book, 8½ x 11 ins., 120 pages of mechanical drawings showing drafting room standards, specifications and construction details of Truscon Steel Windows, Steel Lintels, Steel Doors and Mechanical Operators.
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Minwax Company, 11 West 42nd St., New York.
Color card and specification for Minwax Flat Finish. Folder, 4 pp., 8½ x 11 ins. Illustrated. Deals with a penetrative, preservative stain finish giving stain and soft wax effect.

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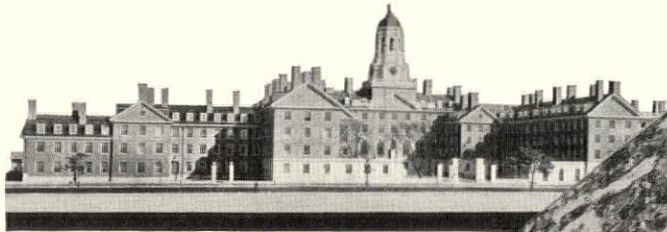
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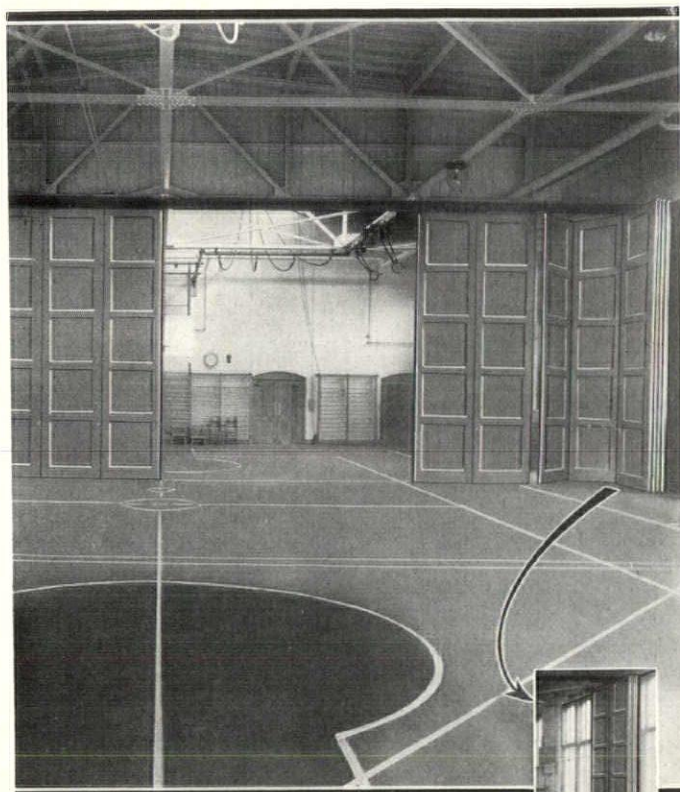
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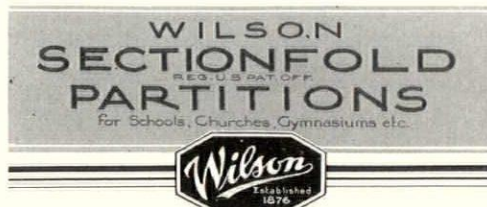


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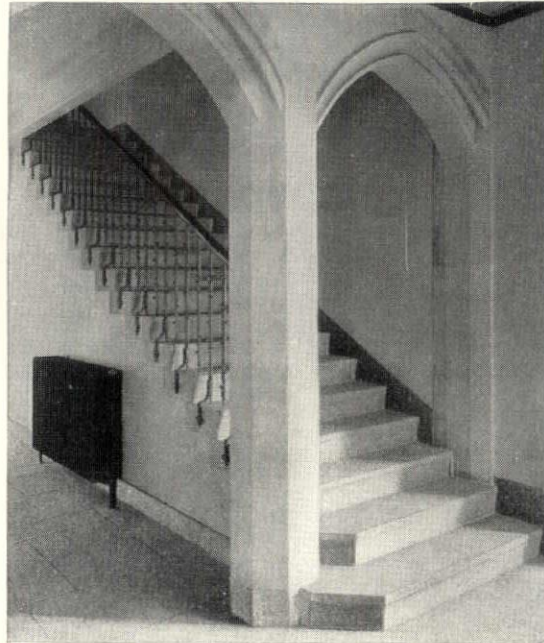
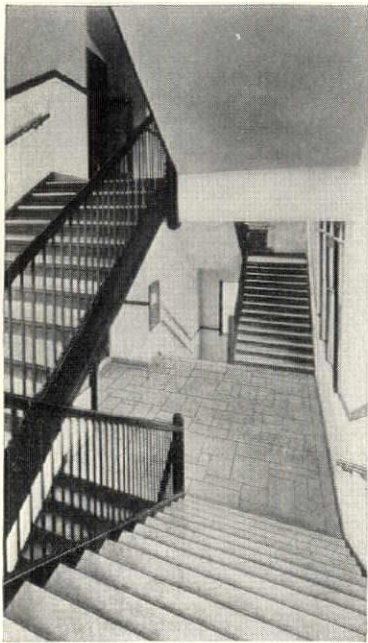
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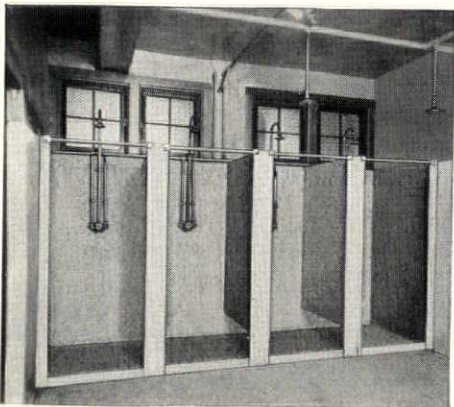
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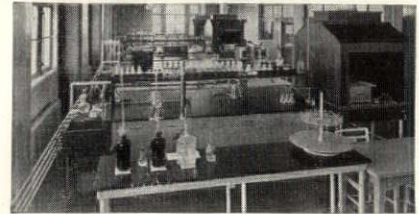
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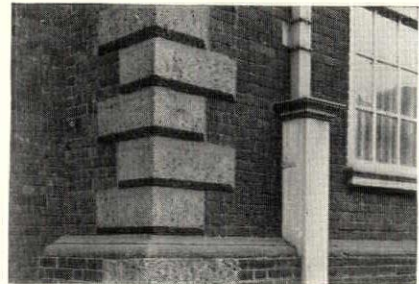
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ALBERENE Table Tops, Shelving, Sinks and Fume Hoods, Aluminum Research Laboratories, New Kensington, Pa.

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INDEPENDENCE HALL



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City Hall, Buffalo, N. Y., Dietel and Wade and Sullivan W. Jones, Architects, ALBERENE Spandrels used

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REVIEWS OF MANUFACTURERS' PUBLICATIONS

UNITED STATES RADIATOR CORPORATION, Detroit, Mich. "Capitol Cast-Iron Concealed Radiators."

This 32-page catalogue thoroughly explains the development of concealed radiation and the use of the cast-iron radiator with the one-pipe, two-pipe, vapor or vacuum steam system and also with the open tank, closed system or forced circulation system of heating with hot water. Illustrations, charts, data and detail sheets showing the different shapes and sizes of the radiators and suggesting methods of enclosing them are all included and make the catalogue of real value. The company will gladly furnish copies of the catalogue upon request.

MAURICE A. KNIGHT, Akron, Ohio. Knight-ware Acid Proof Laboratory Equipment.

This 48-page catalogue describes the various products which are manufactured by this company and lists their uses under the following headings: laboratory sinks, waste and drainage, ventilating pipes and fittings, sumps and dilution basins, and miscellaneous. The catalogue is profusely illustrated with photographs and details of installations applicable to educational, hospital and commercial laboratories.

KLIEGEL BROS., UNIVERSAL ELECTRIC STAGE LIGHTING CO., New York, N. Y.

"Kliegel Theatrical, Decorative, Spectacular Lighting," is the title given to the first published section of a new catalogue which contains valuable information on permanently installed lighting equipment. Portable lighting apparatus, stage and scenic effects, accessories and appliances used in conjunction with apparatus, electrical fittings, parts and supplies and general data are now in the course of preparation and will be forwarded to users of the new catalogue when published. The completed publication will be a valuable, timely and informative reference on every phase of stage lighting.

MINNEAPOLIS HONEYWELL REGULATOR COMPANY, Minneapolis, Minn.

A four-page leaflet describes the Modustat, a self-contained automatic room temperature control valve for individual radiators. The use of this appliance fosters economy of steam consumption and permits the maintenance of a steady room temperature at any point desired between 80 and 40 degrees. A paragraph on the design of the mechanism and others descriptive of its construction and application add to an already interesting description of the product.

WESTINGHOUSE ELECTRIC AND MANUFACTURING CO., East Pittsburgh, Pa.

"Ways of Illuminating Football Fields," is the title of an eight-page folder which describes the latest approved methods of floodlighting for this purpose. It is comprehensively illustrated with photographs and drawings. Because artificial lighting has begun to play an important part in the fields of scholastic, collegiate and professional sport, the publication should be greeted with widespread interest.

FEDERAL-AMERICAN CEMENT TILE CO., Chicago, Ill.

Featherweight Concrete Insulating Roof Slabs. A comparatively new development in concrete construction, are fireproof, lightweight; of value as insulation, and supply a nailing surface when desired. They are permanent and require no maintenance. This 48-page catalogue contains detail drawings, specifications and essential data regarding weights, dimensions, etc. In addition, there are included data on nailing concrete roof slabs, cork insulated slabs, wall and floor slabs. The text explains the composition and methods of manufacture of the various products and includes many interesting photographs.

DURABILIT STEEL LOCKER CO., Aurora, Ill. Steel Storage Equipment for the Modern School Shop.

The Durabil Steel Locker Company has developed a steel storage cabinet shell with interchangeable shelves, partitions, drawers, boxes, trays, sacks, bins, etc., which will allow the user to arrange the interior of the cabinet to suit his individual needs. The efficiency and advantages of this equipment are outlined in their booklet which may be obtained on request.

F. B. STURTEVANT COMPANY, Boston, Mass.

A new bulletin, No. 385, describes the new line of Sturtevant Propeller Fans. They are made of welded pressed steel and the motors are of the ball bearing type. The fan wheel is a new design which has proved more effective than those used in the past. The bulletin contains photographic illustrations, specifications and prices, dimensions and other data for different types of installations. Another catalogue, No. 377, describes and illustrates in detail their new flexible Unit Ventilator, and its function in helping to solve present day ventilating problems. With this new piece of apparatus it is possible when desired to admit 50 per cent out-of-door air and recirculate 50 per cent of the indoor air. This arrangement obviates any necessity of opening the windows of the school room, and also completely dissipates any objectionable odors that may tend to accumulate in the modern school room or any building where people congregate in large numbers.

SCOVILL MANUFACTURING COMPANY, Waterville, Conn.

A new 45-page catalogue on Scovill Flush Valves facilitates quick reference and selection of equipment by architects and others. The left-hand pages of the catalogue show complete installations, which display the usual type of flush valve and give the roughing in dimension for each. The text describes the equipment in full. The right-hand pages list complete price tables for the installations shown on the opposite pages. The catalogue also contains an accessory section descriptive of miscellaneous articles illustrated with cross sectional views, to aid in ordering parts.

THERMAX CORPORATION, Chicago, Ill.

Thermax is a modern, light weight, structurally strong building material used for fireproofing, heat and cold insulation, and sound deadening. It is, in effect, a building board or slab constructed of a rock and wood combination, and is suitable for use in practically every type of building. These and other particulars are enlarged upon in a leaflet illustrated with photographs and details, which is available upon request.

AMERICAN SHEET & TIN PLATE CO., Frick Building, Pittsburgh. "Stainless and Heat Resisting Steels."

The Subsidiary Manufacturing Companies of the United States Steel Corporation, of which American Sheet and Tin Plate Co. is a member, are now producing five different types of straight chromium steels and chromium-nickel low carbon steels. The physical properties of and recommended practice for each are given in this booklet, which tells its story in a simple, straightforward manner. What can be done as well as what cannot be done with the various metals is recounted.

The five different alloys with which the booklet deals are the familiar 18-8, and the 25-12 chromium-nickel steels, and the straight 17, 12, and 27 chromium steels. Naturally, no one of these metals, or no one alloy of any kind is equally well adapted to all purposes. But there is a metal for every use. How the chrome-steels and chrome-nickel-steels can be used most effectively is a subject about which architects are eager to learn all they can. This booklet will help.

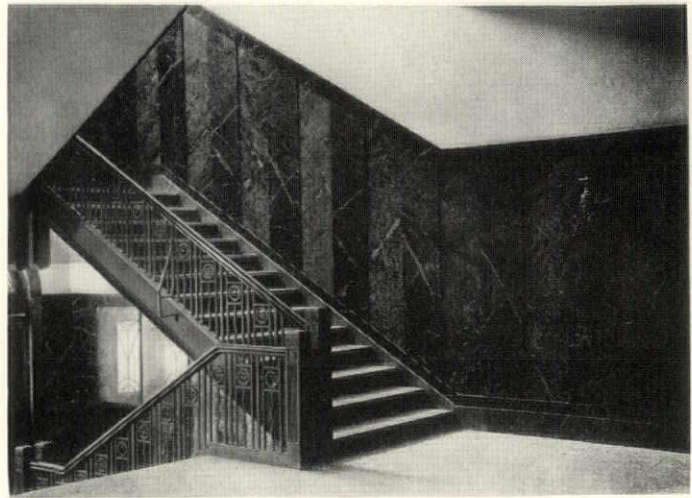
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REVIEWS OF MANUFACTURERS' PUBLICATIONS

E. L. BRUCE COMPANY, Memphis, Tenn. Plank Floors.

"Historic floors for the new environment" suggests the working principles of the E. L. Bruce Company. Their catalogue, A. I. A. file number 19-E-9, is an exposition on the translation of renaissance and early American floor designs into patterns suitable for present day needs. The catalogue is profusely illustrated, giving an idea of the beauty of these floors and their capacity for harmonizing with many different types of rooms. Mention is also made of CELLIZED floor planks which are chemically processed to prevent expansion and shrinkage. Architects interested in this type of flooring will find the catalogue invaluable.

PITTSBURGH REFLECTOR COMPANY, 304 Ross St., Pittsburgh, Pa. Permalector Luminaires.

These fixtures, for indirect illumination, are described in a clear, concise manner in this folder. Information as to size, proper spacing and cost is contained therein, also a few paragraphs on the development in America of a desire for higher and higher intensity of illumination and what that development portends. Its probable influence on design in the near future should prove interesting to architects.

AMERICAN SEATING COMPANY, Chicago, Ill. School Furniture.

The American Seating Company's catalogue number 262 on school furniture briefly outlines the conclusions resulting from the activities of their research department. It describes various types of desks and chairs which in the opinion of experienced educators and other school authorities are best suited to present day needs. Steel desks are featured in this catalogue whose contents will prove valuable indeed to architects confronted with seating problems. Fifteen other pamphlets have been prepared which cover additional problems in seating. All of them are available upon request.

THE AMERICAN BRASS COMPANY, Waterbury, Conn. Brass Pipe.

A. I. A. file catalogue number 29-B-4 has been issued to provide the architectural profession with concise, up-to-date information on Anaconda Pipe for water distribution and service lines. The data contained therein supersedes that of "Brass Pipe for Water Service" previously published. It contains a discussion of the advantages of permanent plumbing, an outline of a ten year corrosion test on various brass pipe alloys, recommended specifications and installation suggestions. The catalogue is truly educational.

PORTLAND CEMENT ASSOCIATION, Chicago, Ill. Cement.

Several years ago the Portland Cement Association published a book, *The Design and Control of Concrete Mixtures*. Since that time 420,000 copies have been distributed, but due to many requests for a pocket size edition which could be passed on to the job foreman, the association has brought out its *Quality Concrete Manual*. This little volume emphasizes the factors that produce watertight and weather-proof as well as strong concrete. Factors controlling concrete quality are simple, but must be understood before they can be used. The small job as well as the large one may benefit from the use of this information as no special equipment is needed in its use.

AMERICAN SEATING CO., Chicago, Ill.

A. I. A. catalogue 35-A-42 is an extremely interesting group of photographs of carved wood church appointments designed by architects throughout the country and executed by the American Seating Company. Ecclesiastical designers and architects will find in it many striking examples of contemporary wood carving. The folder contains fifty-three loose plates, each one a possible inspiration.

INDIANA LIMESTONE CO., Bedford, Ind. Indiana Limestone.

"Ilico News," a publication issued monthly and distributed to twenty thousand architects, engineers, contractors and business men, is a pictorial story of limestone in which only worth-while buildings are illustrated. It is an attempt to create a current encyclopedia of limestone buildings for the architect. The copies reviewed for this column seem to state that the "attempt" is already an established fact. Done in the manner of the Sunday rotogravure section of the newspapers, "Ilico News" presents a series of striking photographic studies of definite worth.

THE BROWN INSTRUMENT COMPANY, Philadelphia, Pa. CO₂ Meters.

This appliance, attached to any furnace, enables the user to reduce needless waste of fuel to a minimum. When the air supply is properly regulated the amount of carbon dioxide contained in the stack gases will be at the maximum. In other words, all of the fuel will be utilized rather than "going up in smoke." The visible record of CO₂ present in the fuel gases made by this instrument permits such regulation and a resulting decrease in maintenance cost. The catalogue describes fully the CO₂ meter and its operation.

THE B. F. STURTEVANT CO., INC., Hyde Park, Boston, Mass. Air Conditioning Appliances.

This recently issued bulletin describes the "Filticooler," a new machine for washing, filtering, cooling, humidifying and dehumidifying air. The Filticooler was designed to occupy considerably less space than the ordinary unit and at the same time handle an equal amount of air at the same water pressure and with equal air velocities. The booklet contains sketches showing the construction of this machine and tables listing the resistance to air flow, physical data and performance of a standard unit. Any architect interested in reducing waste space will find this booklet worthy of his attention.

THE KELSO COMPANY, Houston, Texas. Plumbing Fixtures.

The Kelso Company's circular describes an entirely new closet bowl that will neither overflow nor become stopped up and which can be so regulated that it becomes absolutely silent. It is a flush valve type and unlike others, water from a small pipe at low pressure is sufficient to operate it. A method of quick calculation of correct water pipe sizes in a simplified form is also presented in this catalogue in conjunction with a discussion of "back syphonage" and how to prevent it. The circular has been approved as having been informative by leading architects and engineers and is available to others who are interested.

LEAD INDUSTRIES ASSOCIATION, 420 Lexington Ave., New York. Lead.

The Lead Industries Association, in its booklet of January, 1931, describes in an interesting manner some of the many ways that lead is used in building construction. Lead pipe, gutters, flashing, paint, roofing, waterproofing, insulation against x-rays in hospitals, hard lead ornament, etc., are all dealt with in their story of one of the most widely used metals.

KOHLER COMPANY, Kohler, Wis. Plumbing Fixtures.

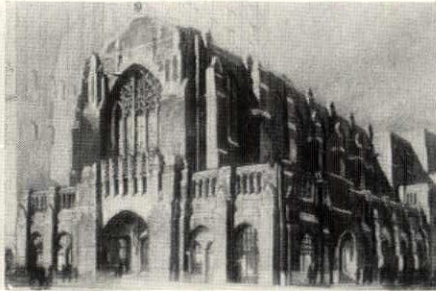
A new kitchen sink has been developed by the Kohler Company embodying many innovations of interest to the architect. It is illustrated and described in the new and revised Kohler catalogue sheets effective January first of this year. In addition are many other new designs for various fixtures which will no doubt prove popular.

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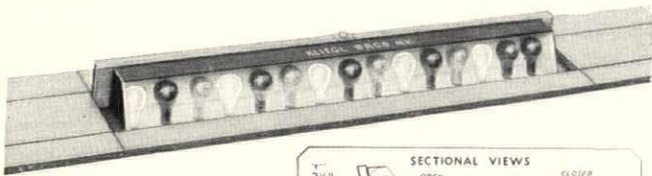
Architects
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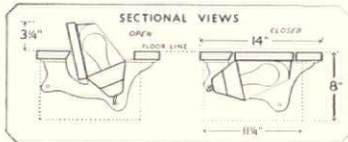
In this Methodist Episcopal Church at Hanson Place, in Brooklyn, New York, co-operation of the local electric company with the architects resulted in an electrical installation that assures the church against electrical obsolescence.

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