

The
ARCHITECTURAL
RECORD

VOLUME 60

AUGUST, 1926

NUMBER 2

The PHILADELPHIA MUSEUM of ART
FAIRMOUNT PARK, PHILADELPHIA

A REVIVAL OF POLYCHROME
ARCHITECTURE and SCULPTURE



*C.L. Borie, Jr. Horace Trumbauer and C.C. Zantzinger, Associate Architects
John Gregory and Paul Jennewein, Sculptors - Leon V. Solon, Polychromist*

By Leon V. Solon

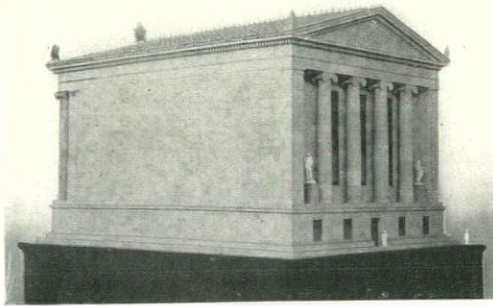
THE CITY OF PHILADELPHIA has undertaken the first serious attempt to break the Renaissance tradition of monochrome architecture, by the polychrome treatment of the Fairmount Park Museum. When we refer to this building as the first of its kind we do so in full cognizance of many others in which color has been furtively used; but as polychromy is more a science than a skittish impulse, we feel unable to take such experiments seriously, through their complete lack of evidence that the function of color in architectonic effect was comprehended. In the spirit of bavardage we record a few intimate facts concerning the origin and progress of this polychrome building.

The idea of reviving the practice of polychromy in the new museum building

germinated in the fertile imagination of Charles L. Borie, of the firm of Borie, Zantzinger and Medary, of Philadelphia. At first his project failed absolutely in exciting response or enthusiasm; in fact those to whom it was imparted regarded it as indicative of a frivolous attitude towards a type of structure invariably identified with an academic formula in design. It must be admitted in extenuation of this frigid reception, that polychromy was an indeterminate quantity in effect, under justifiable suspicion of a capacity for spectacular vulgarity. Even today, only a small minority of the profession realize that polychromatic decoration was inseparably connected with Greek architectural design, from the earliest period of structural evolution to the time

of full maturity—not as an occasional and minor embellishment, but as a dominant factor in all exterior effect.

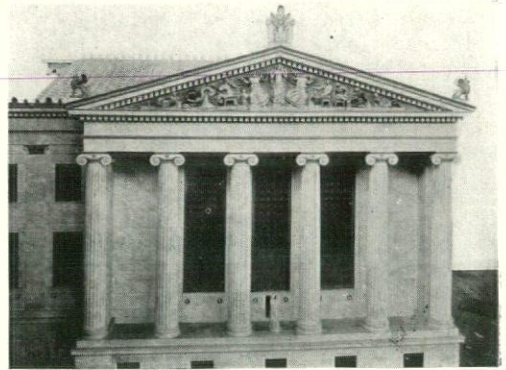
As Borie's enthusiasm and imagination are fortified with a tenacious temperament, he went quietly to work attempting to locate reliable information concerning the technique and practice of polychromy. Those who, like the writer, have undertaken this discouraging quest, know the complete barrenness of architectural literature on this subject. His investigation included an exhaustive examination of the files of architectural magazines, with the result that only one very sketchy article by the writer was found.* This dealt with fundamental principles based upon Greek



Plaster model in undecorated condition

practice as evidenced in excavations and archaeological restorations. Borie wrote to Magonigle for information concerning the author, who placed us in communication in 1921. A meeting was arranged which, but for Borie's equable disposition, might have been the only one; as in describing his general concept of a polychrome façade, some of the most spectacular features were taken exception to as lacking precedent. He was frank in stating his condition of isolation and the meager prospect of carrying the project through, owing to the number of sceptics who would have to be converted and convinced. I gathered that the fate of polychromy was in the hands of the Chairman

* "The Principles of Polychrome in Sculpture, based on Greek Practice," in THE ARCHITECTURAL RECORD, June, 1918.

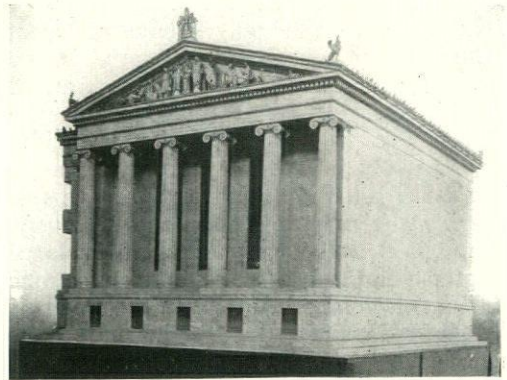


First subject designed by John Gregory with polychrome setting and treatment

of the Park Commission's Committee on the Museum, Mr. Eli K. Price. At that time I had not met the latter, but recall feeling greatly reassured on learning that he was an accomplished classical scholar, for with his background of Greek literature, it seemed logical to assume that the revival of so important a practice would recommend itself.

With habitual thoroughness, the Chairman studied a number of archaeological works dealing with those Greek buildings upon which sufficient color had survived to permit a reconstitution of the original effect. About that time a series of articles appeared in this magazine** dealing with the application of Greek

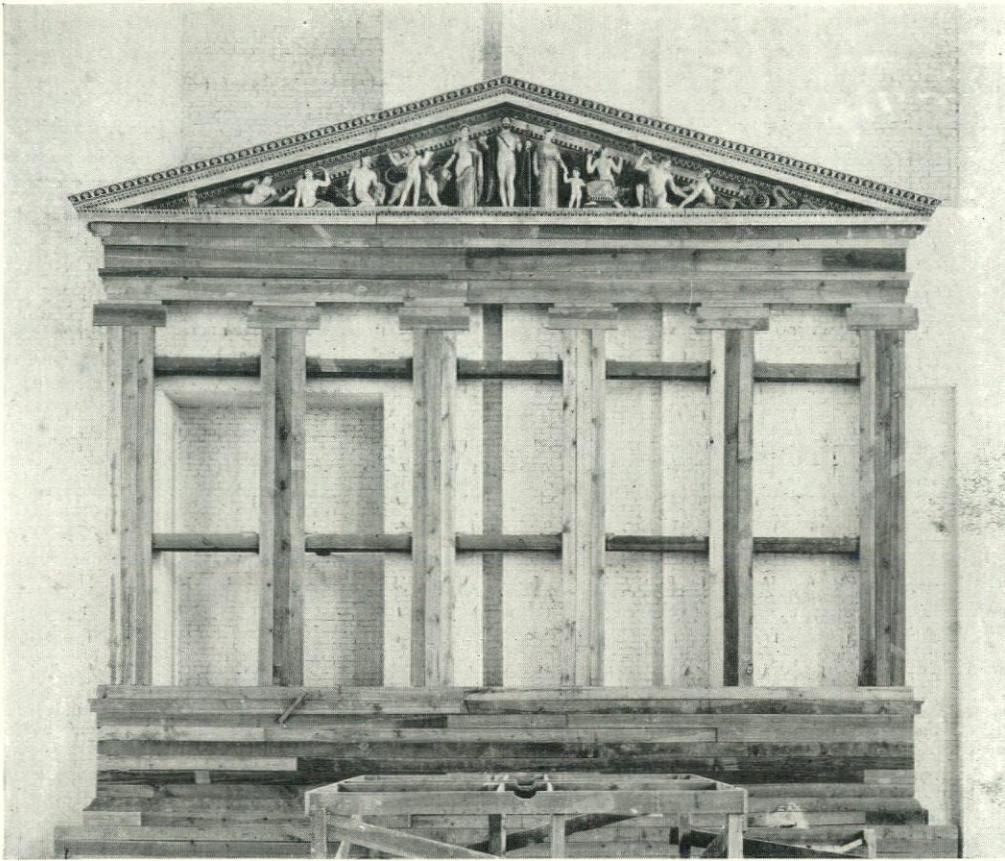
** "Principles of Architectural Polychromy" in THE ARCHITECTURAL RECORD January-June 1922.



Second design by John Gregory. At this stage the details in the pediment were discarded as they interfered with the effect of the pediment groups

practice to modern design. When Mr. Price grasped the extent of polychromatic practice in Greece, and the feasibility of producing an equivalent effect to the prototype in the museum building, he became an enthusiastic supporter of the Borie project, giving it his full endorsement. The knowledge which he thus

order an eighth scale model of one of the smaller pavilions, upon which all color decoration could be developed. The services of the writer were retained as polychromist to collaborate with the architects and sculptors: Horace Trumbauer was already an associate with Borie and Zantzinger.



One-third scale model pediment designed by Paul Jennewein placed at proportional height on wood silhouette

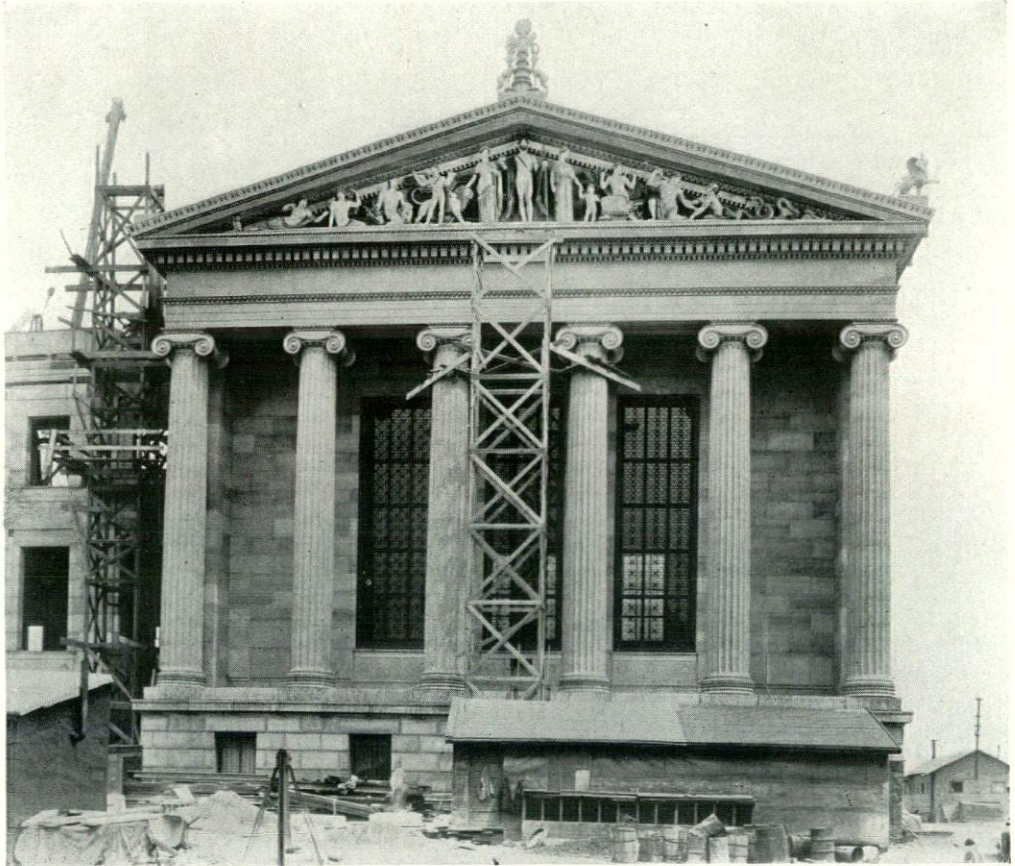
acquired of color precedent and technique, combined with a keen critical faculty, rendered him an invaluable collaborator throughout all subsequent developments.

In view of the importance of the building, and the responsibility involved in reviving a lost art on so large a scale, he and Borie decided that every conceivable precaution should be taken to assure satisfactory results. The first step was to

Polychromy was not the only revival which Borie contemplated. He communicated with the late Professor Goodyear in order that those refinements which the latter had recorded in connection with the Parthenon and other famous Greek structures might be applied to the new building. Blue prints were sent to the Professor who made calculations upon the Greek basis, indicating curves in retaining

walls and other modifications of normal practice. The scale model was made in conformity with Professor Goodyear's refinements. When Borie and the writer visited the modeller to inspect the unassembled parts of the model, both experienced a pronounced sinking sensation due to curvatures on walls which seemed serious-

sculptural detail was modelled, and those moldings which were intended for low relief were left in profile only. A small section of the entablature and a column cap were supplied to the writer for the development of ornamental detail and color arrangement. When an apparently satisfactory result was realized, the de-



Composite photograph; building in present condition with photo of Jennewein's one-third scale model inserted

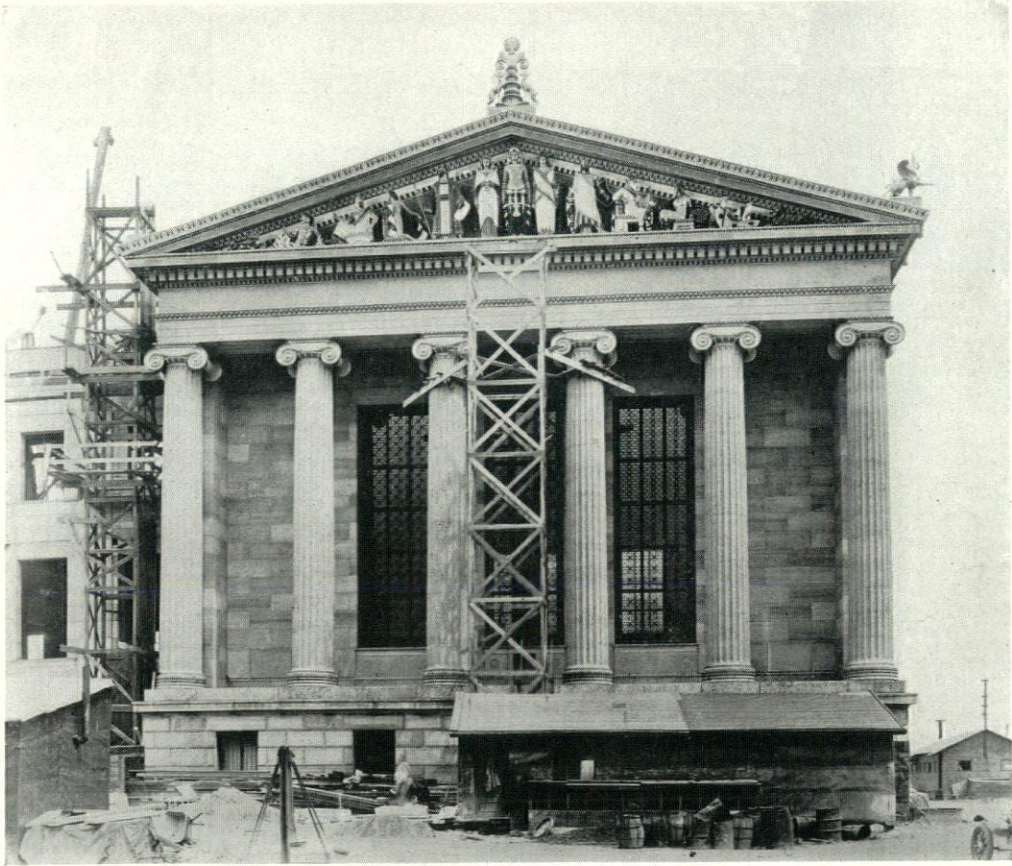
ly distortious. The model was sent to Philadelphia for assembly in one of the old park buildings; when put together, these curves were only appreciable when sought, and a beauty and vitality imparted to the model which possessed a rare structural quality.

The next stage was to commence the polychrome decoration in accordance with Greek practice. All strongly carved

tail was drawn in pen-outline, reproduced, and printed upon thin paper so that it might be stuck upon the moldings and colored; the modelled detail being colored upon the plaster. The great value of the scale model at once became apparent, and many alterations and improvements were made, both in the choice of decorations, and in the general arrangement of color upon detail.

By that time it was definitely decided that the pediment groups would be decorated with color after the Greek manner. Sculptors had to be found whose work was of such formal character that it would lend itself to color decoration. In addition to professional capacity, the question of willingness to collaborate had

chromatic decoration might be rhythmically distributed, making the triangular area a uniform quantity in the effect of the façade. After weighing the selection of sculptors very thoroughly, Borie made the fortunate selection of John Gregory and Paul Jennewein, both of the American Academy in Rome. The uncertainty



Composite photograph with photo of Gregory's one-third scale model inserted

to be considered, as sculptural treatment and composition must necessarily be subject to the requirements of color effect which are somewhat uncompromising; the willingness of the sculptor to subject many established prejudices to the attainment of an unknown objective was a vital qualification. A distinctive species of sculptural technique would have to be evolved, and the composition of figures and accessories so contrived that the poly-

as to what might happen to their work when colored undoubtedly caused both serious misgivings, and there is little doubt that a decision to exempt sculpture from color at that time would have been very welcome. Being thoroughly good sportsmen they entered into the spirit of adventure, making every modification in composition and treatment that might assist color composition. As the work progressed they became enthusiastic poly-

chromists, developing new and rare qualities in composition and treatment which will add considerably to their reputations.

A similar experimental process was adopted with the pediment groups that had proven so valuable with the polychrome ornamentation. Small groups, made to the scale of the model, were roughly decorated with color

the museum building would presumably be examined: This is one more instance of the requirement for upward revision of scale in stylistic examples that are to serve in this country. The scale of ornamentation on draperies, etc., was revised and considerably increased, with much more satisfying results.

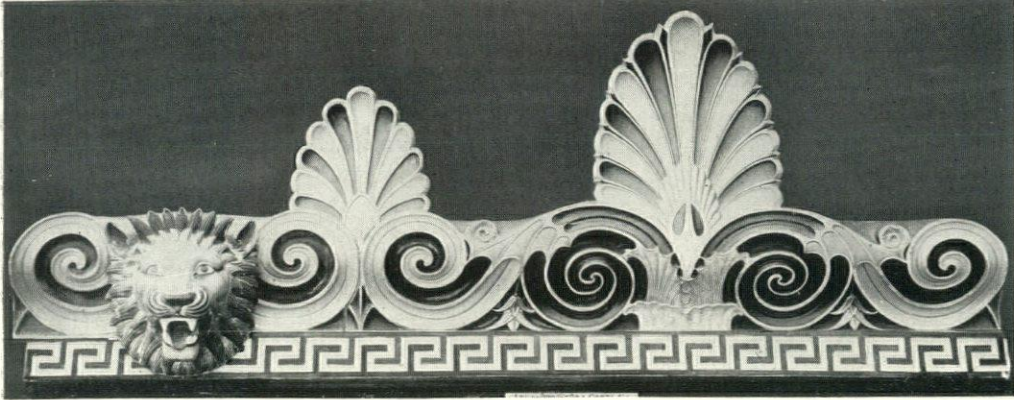
The sculptors finding that the polychrome setting of the pediment moldings



Section of Paul Jennewein's one-third scale model (sculptor on right)

and placed in the colored pediment. The first groups were abandoned as the sculptors evolved a more suitable subject; this was again worked out in the model scale, colored, and accepted for development in a third of full size. In the first groups, the ornamental scale of decorations on the figures of the Aegina pediment was used for the polychrome decoration of the groups; but, curiously enough, it was found much too small for effectiveness from the viewpoint at which

had a strong influence upon composition and the ultimate result, had wooden pediments made at a third full size in which to model their third scale groups: these were fully polychromed with stencil patterns before the models were started. When each group had finally reached a state of development which appeared to leave no detail in doubt, they were cast in plaster and shellaced ready for coloring. Then commenced the most fascinating and bewildering problem which the writer has



Detail in Paul Jennewein's pediment

ever undertaken. The groups became as sensitive as a musical instrument, and color was in actuality a dynamic force which could link together or completely separate features in composition. Brilliant colors were used, such alone being adaptable to conditions of visibility at long range. These had to be so inter-related from one figure to another, and so spaced throughout the whole group that, in certain instances, it was necessary to revise sculptural detail to facilitate color distribution. It may be readily comprehended, that the position of polychromist might have been unenviable had not Gregory and Jennewein entered into the association with so admirable a spirit of collaboration. The satisfaction which they both expressed at the final result was the most gratifying experience in an undertaking which has been uniformly delightful.

Paul Jennewein is responsible for the modelling of all the architectural detail,

which is without equal in any building yet erected in this country; it was an arduous task in which he displayed an unbelievable amount of patience and good-will. All models were made to terra-cotta scale, cast in plaster and treated with color and gold; then taken out of doors and hoisted about fifty feet. In most cases ornamental scale which ap-

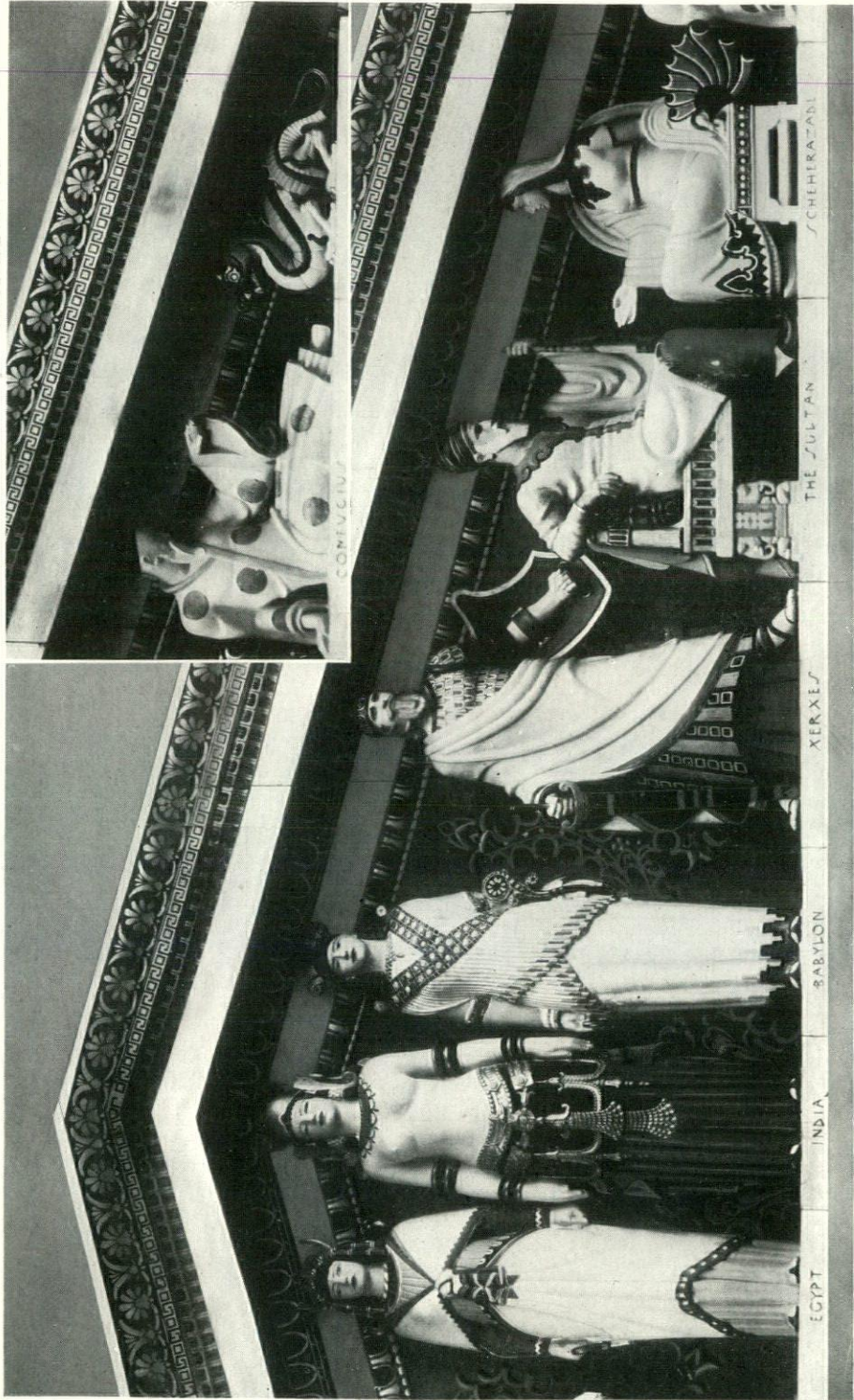


Sphinx designed by Paul Jennewein

peared quite satisfactory in the studio underwent radical change when hoisted to that height, as colors of a certain character maintained their actual area in effect, while others of another character appeared to shrink in area; this necessitated remodelling, recoloring, and a number of new calculations.

The ornamentations were to be produced in polychrome terra-cotta, and as the tendency of that craft is in the direction of

ultra-conservatism, colors were predetermined; the matching of established hues was a pre-requisite for the consideration of bidders. The Atlantic



The Architectural Record

Section of John Gregory's Pediment
 PHILADELPHIA MUSEUM OF ART, FAIRMOUNT PARK, PHILADELPHIA

August, 1926

Terra-Cotta Company qualified, and after considerable experimentation produced very excellent material, with colors and gilding of unequalled quality. They entered into the contract with enthusiasm, realizing the importance of the project, and the opportunity for advancing the status of their industry in the estimation of the architectural profession. Special kilns were built, and revisions made in normal procedure which have hitherto been systematically avoided in that industry. They are to reproduce the pediment figures, and as the central figures in the smaller pediments measure over eleven feet in height, they will have an opportunity for further achievement. The roof tiles are also of terra-cotta, measuring approximately three feet square; these are of a greyish blue glaze on the face, with a dark blue edge, so that as the building is approached, the coloring of the roof deepens with the foreshortening of the tiles; this principle is found in Greek roofs, but other colors are used.

In a polychrome building the color of the structural material is naturally a vital consideration, and an exhaustive inspection of all available materials was made by the architects. This resulted in the adoption of "Kato" stone, which is of a



Akroterion designed by Paul Jennewein

golden orange hue, clouded with silver grey; this forms an ideal combination with the brilliant colors of decorative features.

Many will probably be surprised to find the relatively small amount of color that is permissible in a polychrome exterior of the classic type. The Greek principle was absolutely adhered to; this consists in restricting color to decorative features and developing color elaboration in inverse relation to structural significance. In detail many deviations were made from Greek practice which affected color composition upon individual members and the mutual relation of members: the main aim was to produce a distinctive color quality upon each member or feature, to prevent unrelated items associating in effect through similarity of coloring.

The conditions under which this building is being produced are exceptional, and could not be followed in commercial structures in which a data for completion must be rigidly adhered to. In the dominant importance attached to experimental



One of Paul Jennewein's figures on left of group

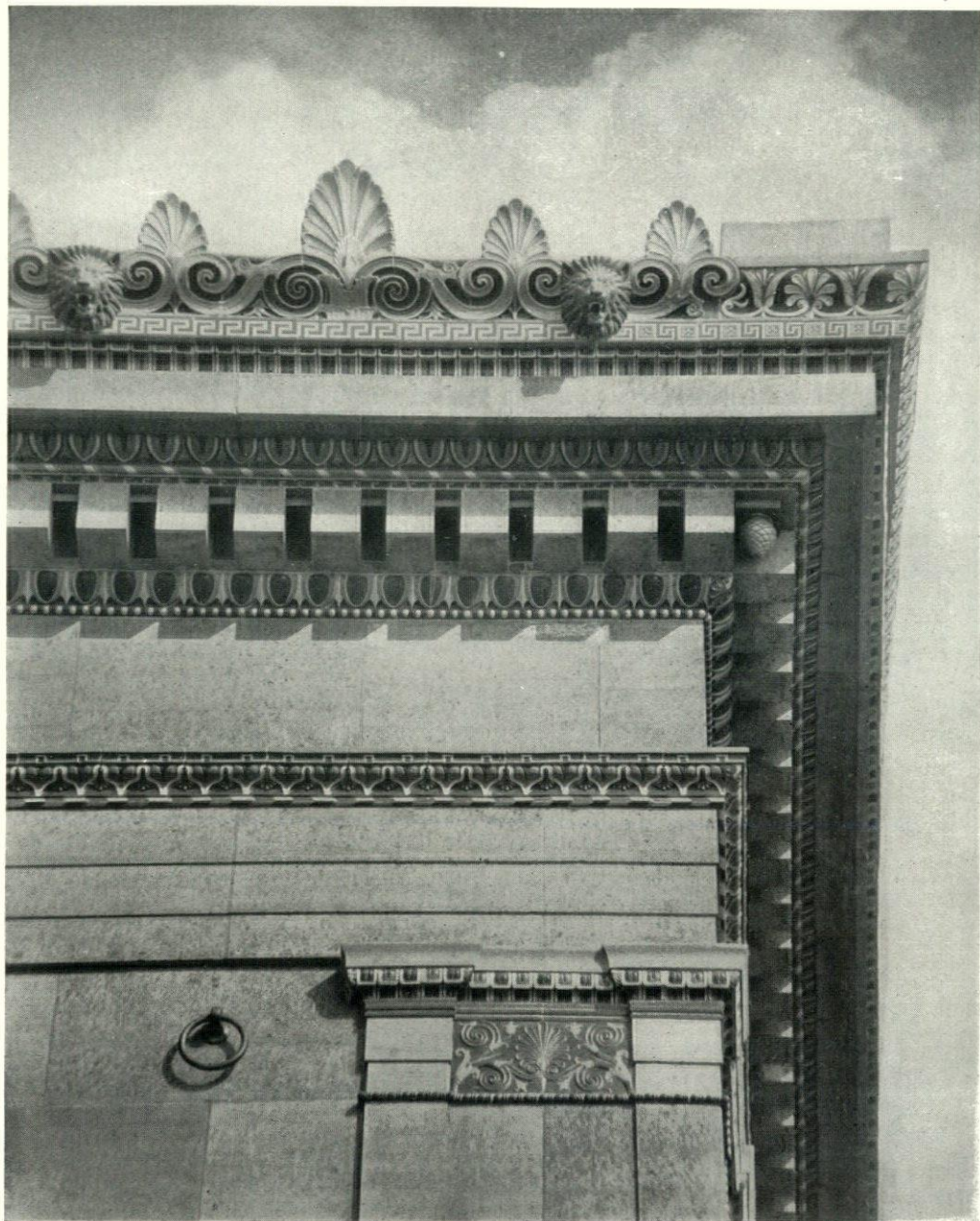


The Architectural Record

Photo, Sigurd Fischer

August, 1926

Angle of pediment. Akroterion sphinx of gilt bronze.
THE PHILADELPHIA MUSEUM OF ART, FAIRMOUNT PARK, PHILADELPHIA
C. L. Borie, Jr., Horace Trumbauer and C. C. Zantlinger, Associate Architects

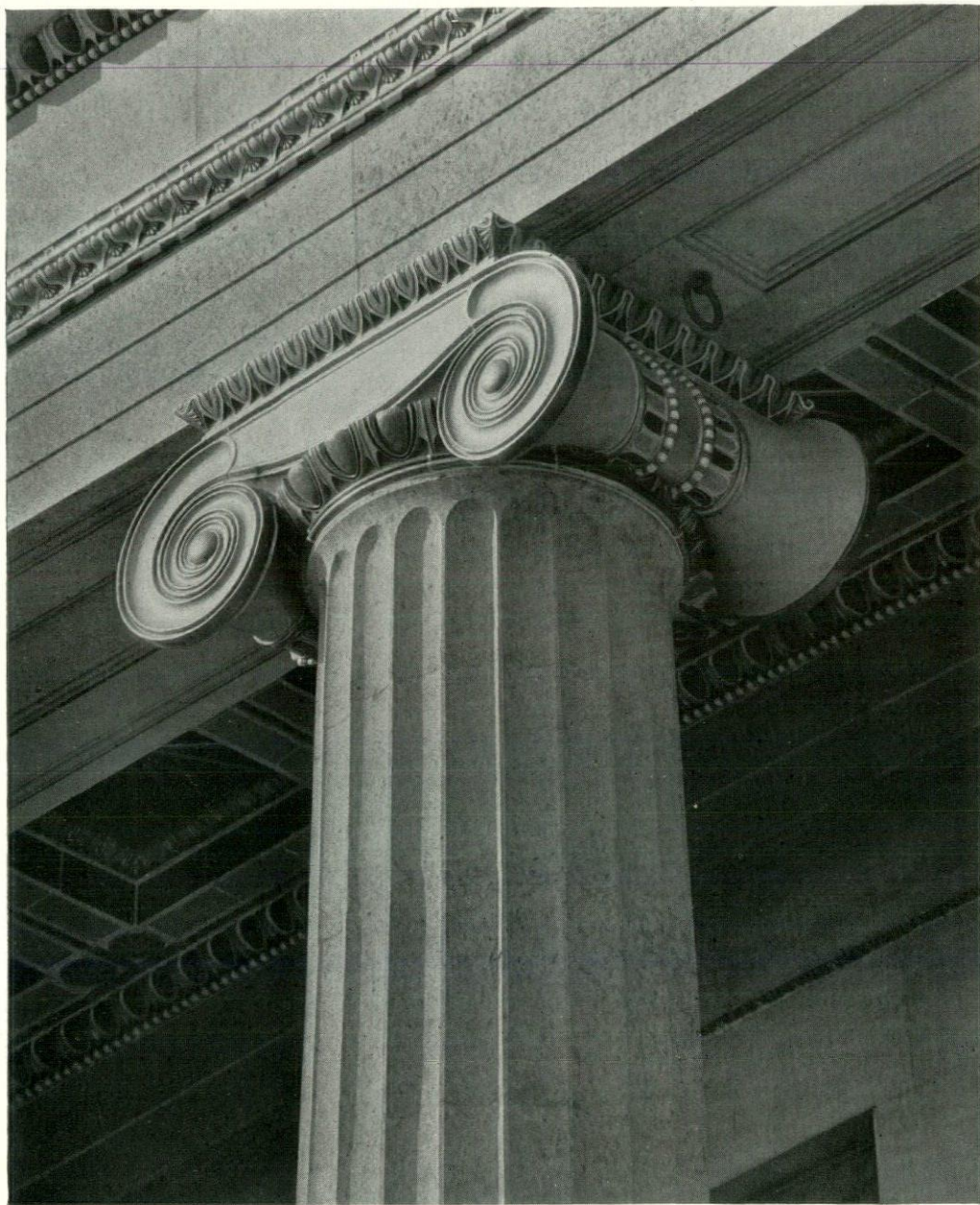


The Architectural Record

Photo, Sigurd Fischer

August, 1926

Angle of pavilion seen from side
THE PHILADELPHIA MUSEUM OF ART, FAIRMOUNT PARK, PHILADELPHIA
C. L. Borie, Jr., Horace Trumbauer and C. C. Zantzinger, Associate Architects



The Architectural Record

Photo, Sigurd Fischer

August, 1926

Capital Detail

THE PHILADELPHIA MUSEUM OF ART, FAIRMOUNT PARK, PHILADELPHIA

C. L. Borie, Jr., Horace Trumbauer and C. C. Zantlinger, Associate Architects

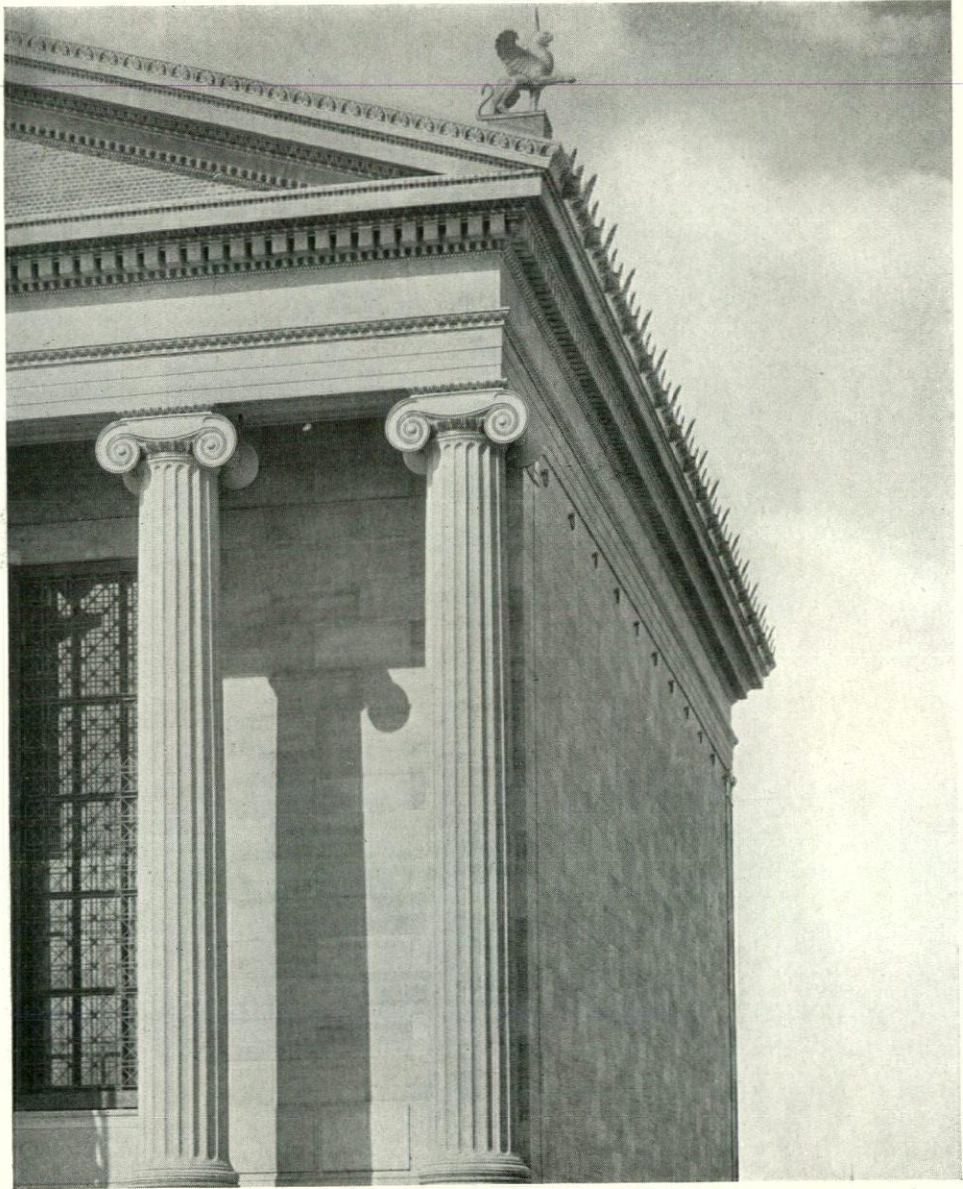


The Architectural Record

Photo, Sigurd Fischer

August, 1926

Ceiling of Portico
THE PHILADELPHIA MUSEUM OF ART, FAIRMOUNT PARK, PHILADELPHIA
C. L. Borie, Jr., Horace Trumbauer and C. C. Zantlinger, Associate Architects



Photo, Sigurd Fischer

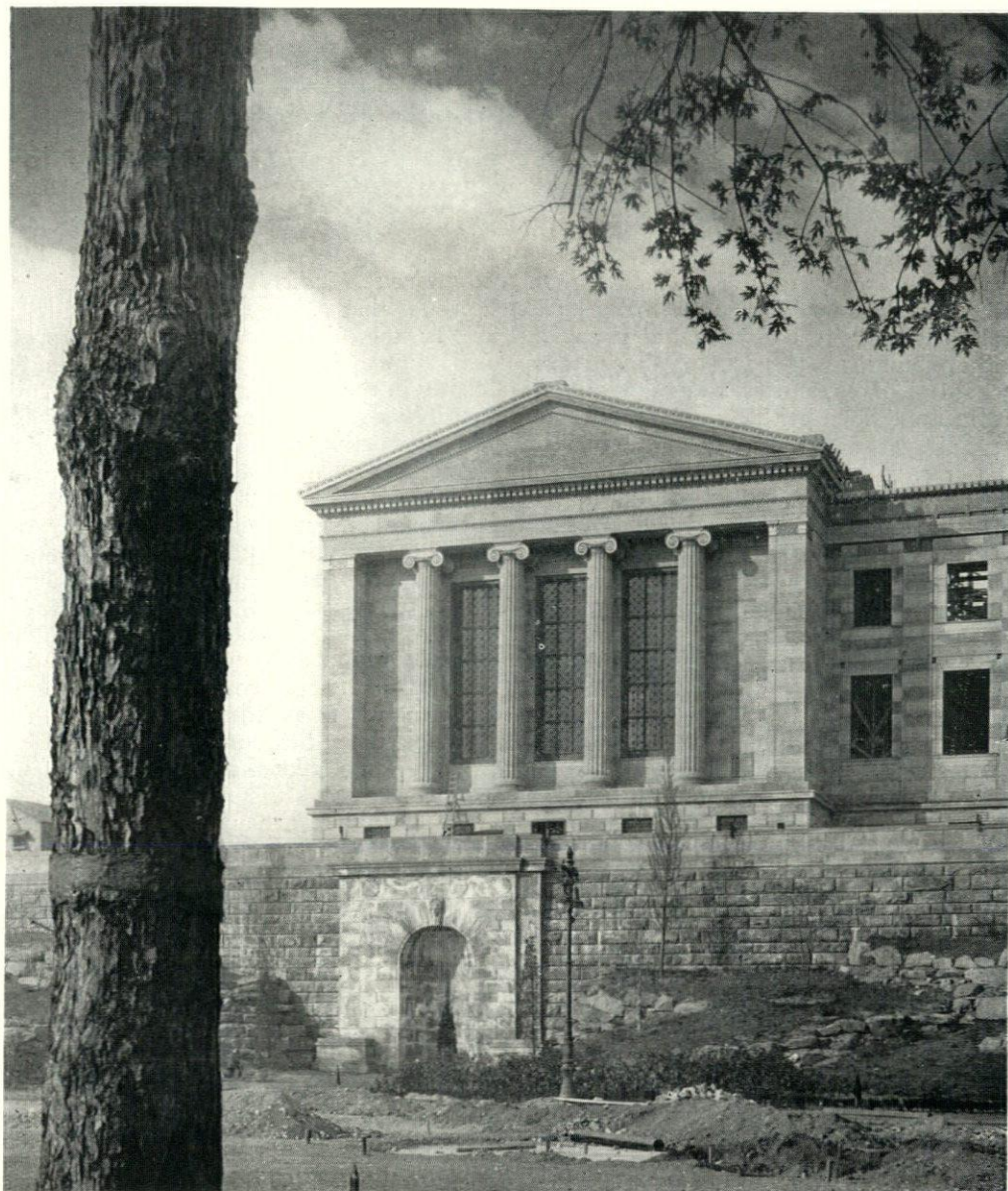
Front elevation of one of end pavilions

THE PHILADELPHIA MUSEUM OF ART, FAIRMOUNT PARK, PHILADELPHIA

C. L. Borie, Jr., Horace Trumbauer and C. C. Zantlinger, Associate Architects

stages it recalls the practice of by-gone ages, in which all embellishment was done on the spot, or on features actually in place. Though this method is not feasible

in our day, we believe that the process followed in this case is the nearest equivalent to ancient methods. In questions affecting ornamental visibility, which are so



Photo, Sigurd Fischer

Rear View of Pavilion from Parkway

THE PHILADELPHIA MUSEUM OF ART, FAIRMOUNT PARK, PHILADELPHIA

C. L. Borie, Jr., Horace Trumbauer and C. C. Zantlinger, Associate Architects

frequently disregarded, the hoisting of full-sized models to their actual place is invaluable. Color is a terrific force when introduced into an architectural combina-

tion, and is capable of producing an effect upon the observer equalled only by the fascination which firearms possess for small boys.

The MEDICAL SCHOOL HOSPITAL

By Edward F. Stevens

SO STRONGLY IS the medical school allied to the hospital that in many medical centres it is considered desirable to either build as a part of the medical school a hospital of considerable size, or form an alliance with an existing hospital organization in such a way as to connect directly with the hospital building; in some cases the officiating hospital may be at some distance from the medical school.

The clinical material available at all times through the close proximity of the medical school with the hospital and the professional aid to be secured from the medical school makes this combination very desirable.

The problem of the ideal connection of the two institutions and subdivisions of each it is well to discuss at some length and to show various solutions.

Prior to the beginning of this century only in rare instances did a medical school function in direct connection with any hospital in this country. Nowadays, in a majority of cases the medical school is a department of some university, where its buildings may or may not be in close proximity to the major academic and scientific departments.

It is the writer's feeling that notwithstanding the fact that the patient in the medical school hospital may reasonably be clinical material, the same careful planning should exist for his care as in an independent hospital, that is, privacy, an ideal exposure, and arrangement of rooms should not be sacrificed in the combination; for the going from classroom to bedside, provided there is physical connection between school and hospital, is a matter of minor importance in comparison with the privacy and comfort of the patient.

An editorial from the *Journal of the*

*American Medical Association** is so apropos that it is quoted here in full:

"In the discussion of hospital problems, much interest has been shown recently in the educational function of such institutions. The hospital is a center for the instruction of nurses, of interns and sometimes of medical students. Another function frequently mentioned is that of investigation and research, whereby the hospital adds its quota to the advancement of our knowledge of medicine. In many places, also, the educational function of hospitals has been broadened to include the provision of special clinics, medical-pathologic conferences and other medical meetings for the staff and for physicians in the surrounding territory. Where competent teachers are available and clinics have been well developed, certain hospitals are now affiliated with graduate medical schools, so that physicians preparing themselves either for general practice or for specialization can obtain portions of their graduate preparations in these hospitals. Finally in their communities, through their patients, their staff, their nurses and social service workers. By these developments of their educational functions, hospitals are now wielding a great influence for good. The lack of hospitals has undoubtedly been a prominent factor in the abandonment of smaller rural communities by physicians, since well-to-do country people have been forced to go to larger towns and cities for hospital care. An increase in the number of modern hospitals, therefore, even though small, will help to bring a wider distribution of physicians. Through the further development of their educational functions, hospitals will en-

*Journal of the American Medical Association, March 28th, 1925.

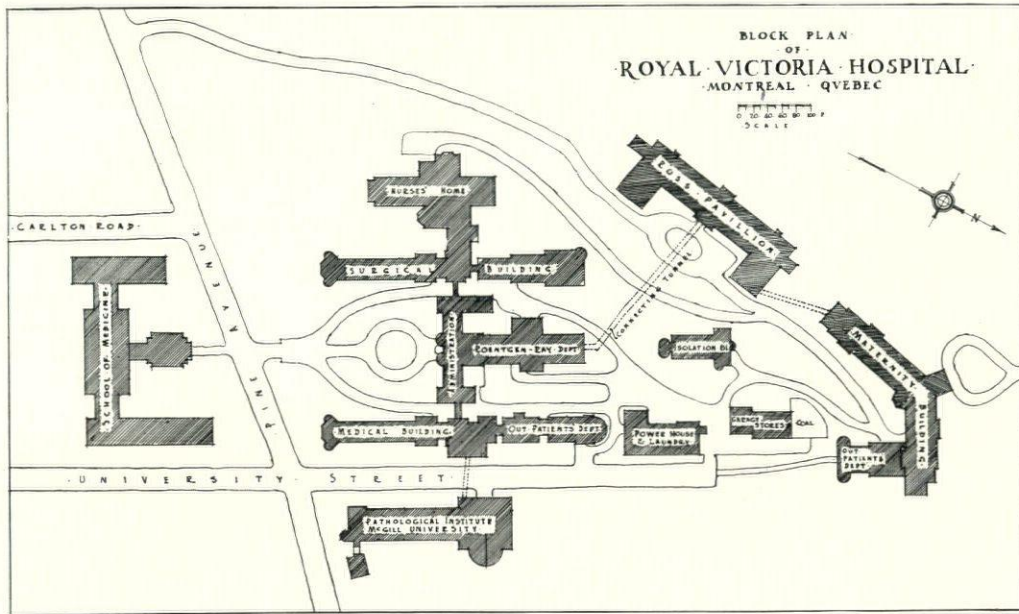
able these physicians to keep in constant touch with the modern developments and improved methods used in the diagnosis, treatment and prevention of disease. Thus the hospitals will help also to bring the benefits of these improved methods within the reach of a larger proportion of the public."

Another eminent English authority in speaking of a certain large hospital said, "It lacked a soul because it was not connected with a medical school."

autopsy section is in close proximity with the work rooms; the teaching laboratory designed so as to get the best light and air.

The Vanderbilt University. The description of the plans (see pages 116 and 117), here quoted is from the Journal of the American Medical Association.*

"A problem of educational policy has been the question of bringing the laboratories and the hospitals of the school into the closest possible contact. In order to accomplish this, it was decided to con-



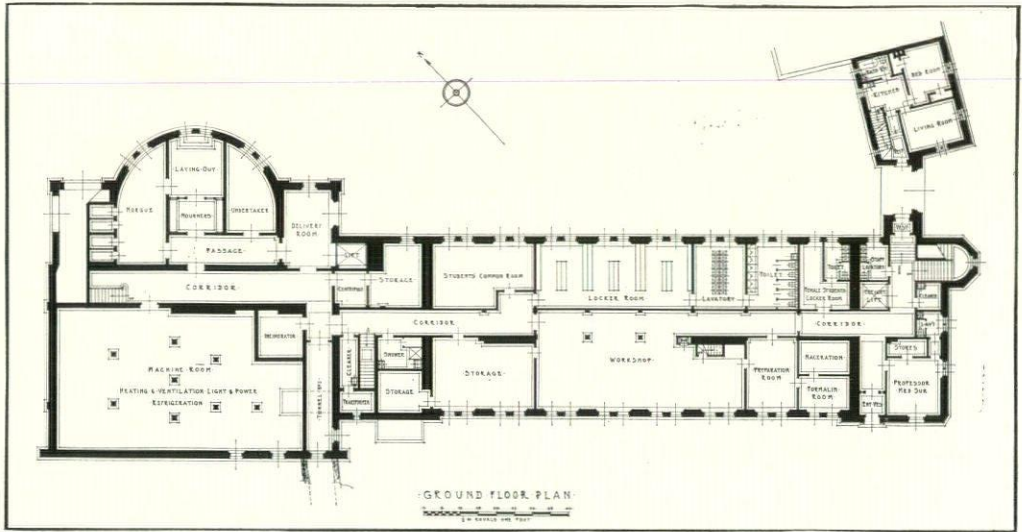
The McGill University Medical School. In the case of the medical school of the McGill University (pages 114 and 115), which is allied with the Royal Victoria Hospital for the clinical teaching (See block plan above), the pathological building is placed across the street from the hospital building with a physical connection through an underground passage, affording ample passage for students and for carrying cadavers and specimens, as well as for pipes and conduits.

This close proximity allows the laboratory work of the hospital to be carried on with greater facilities than would be the case if a local laboratory were used.

The plan is self-explanatory. The

nect the laboratories and hospital so that in reality they constitute one building. The laboratories form three sides of a court facing north and opening toward the main campus of the university, while the hospital forms a similar group opening toward the south. These two groups are joined by the laboratories of the clinical departments, arranged in such a way that the type of work conducted in each one will be carried on in close proximity to the laboratory most closely allied to it. Thus, the laboratory of clinical bacteriology adjoins the main laboratory of bacteriology, that of surgery adjoins

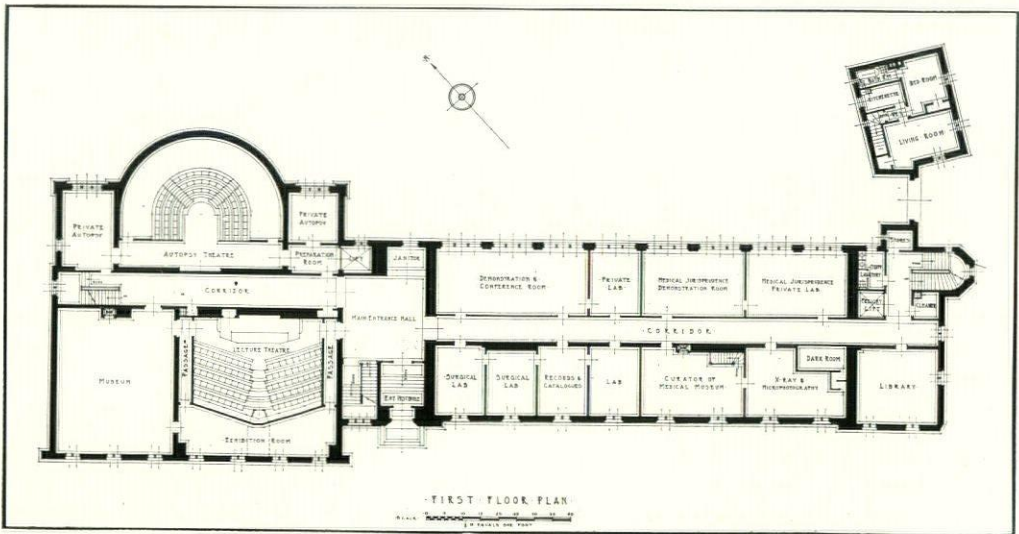
*The Relation of Medical Education to the Medical Plant. By G. Canby Robinson, M.D. Vol. 81, pp. 321-323.



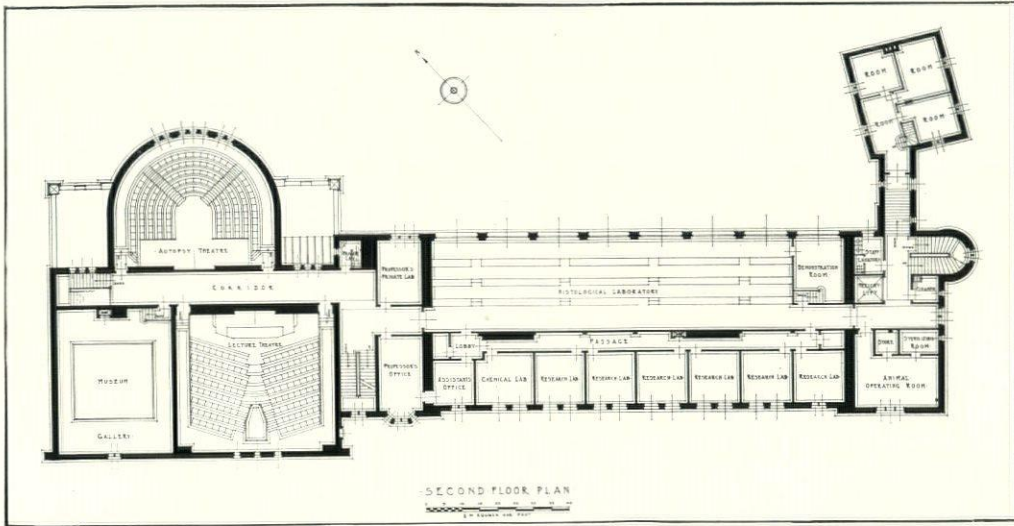
PATHOLOGICAL BUILDING, MCGILL UNIVERSITY, MONTREAL, CANADA
 Nobbs & Hyde, Architects; Ramsay Traquair and William Carless, Associate Architects
 Stevens & Lee, Consulting Architects

anatomy, and that of clinical chemistry and physiology adjoins those of biologic chemistry, pharmacology and physiology. By such assignment of space it is hoped that the barrier between the laboratory and the clinical departments will be eliminated, and that the influences of the fundamental sciences will be felt con-

stantly by the clinical staff and by the students throughout their entire course, so that the knowledge and training gained in the laboratories will be carried forward into the practice of medicine. "Another educational feature expressed in the building plan of the Vanderbilt University school is the position of the



PATHOLOGICAL BUILDING, MCGILL UNIVERSITY, MONTREAL, CANADA
 Nobbs & Hyde, Architects; Ramsay Traquair and William Carless, Associate Architects
 Stevens & Lee, Consulting Architects

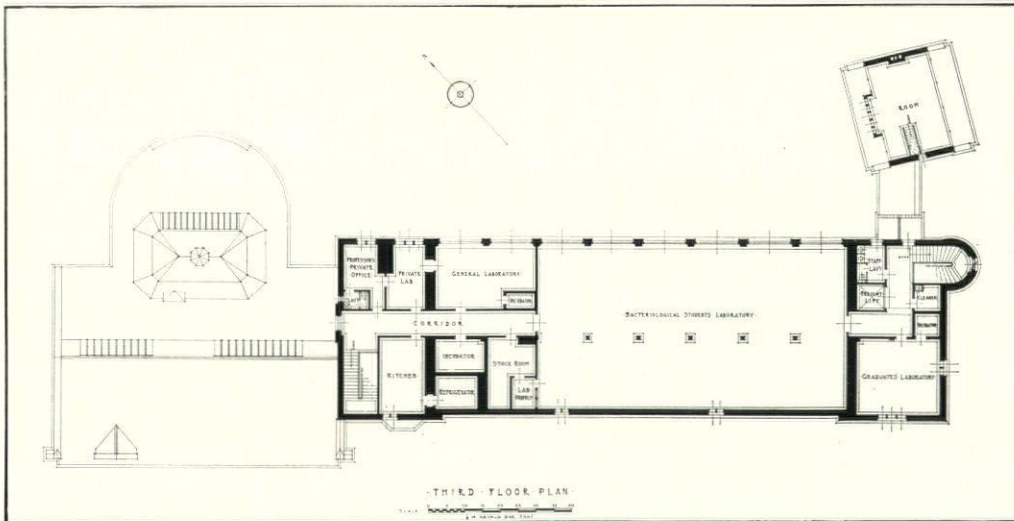


PATHOLOGICAL BUILDING, MCGILL UNIVERSITY, MONTREAL, CANADA
 Nobbs & Hyde, Architects; Ramsay Traquair and William Carless, Associate Architects;
 Stevens & Lee, Consulting Architects.

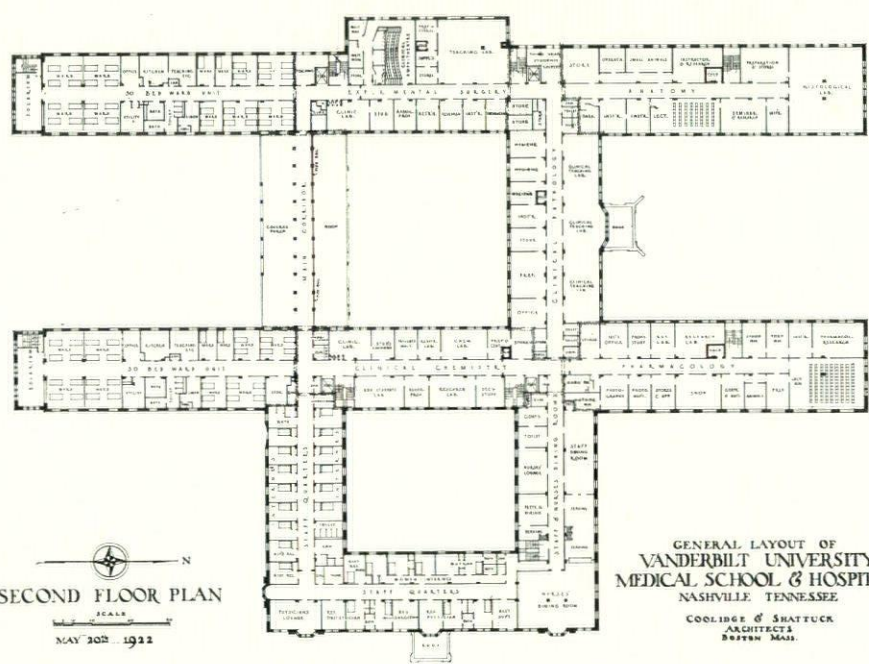
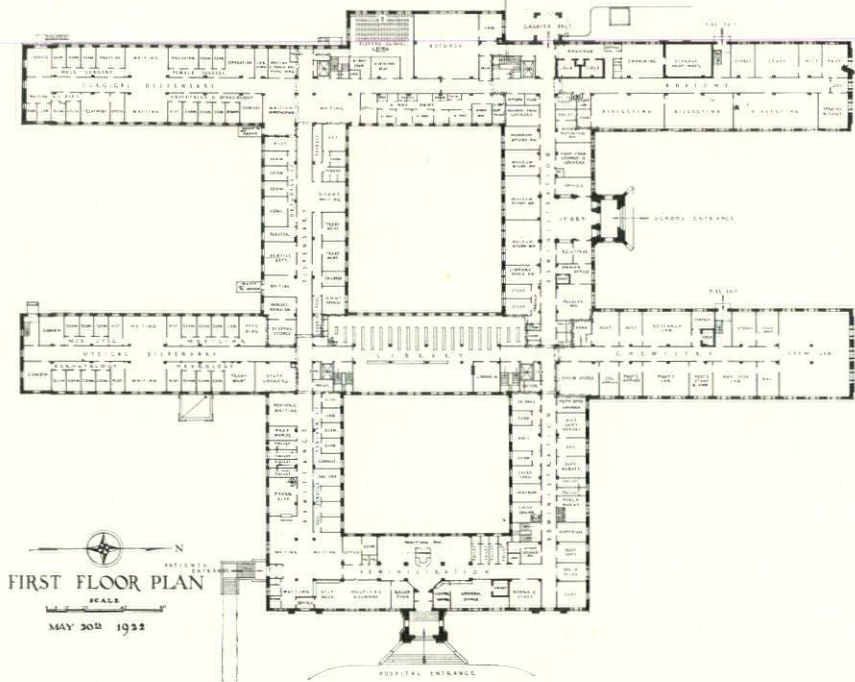
library and museum. The library occupies a central position on the first floor, almost analogous to the hub of a wheel, and no provision for departmental libraries has been made. Stack room on the main floor for approximately thirty-six thousand volumes is provided, with additional room for about fourteen thou-

sand volumes immediately below. The reading room adjoining the stack room will accommodate about seventy readers, and two small studies for intensive literary work are provided. The museum is placed opposite the main entrance of the laboratories.

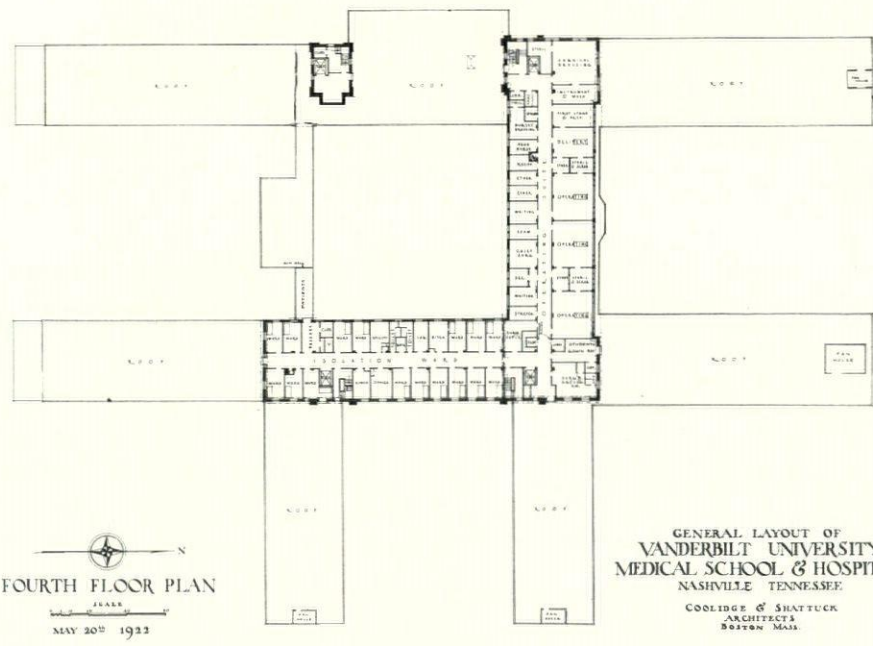
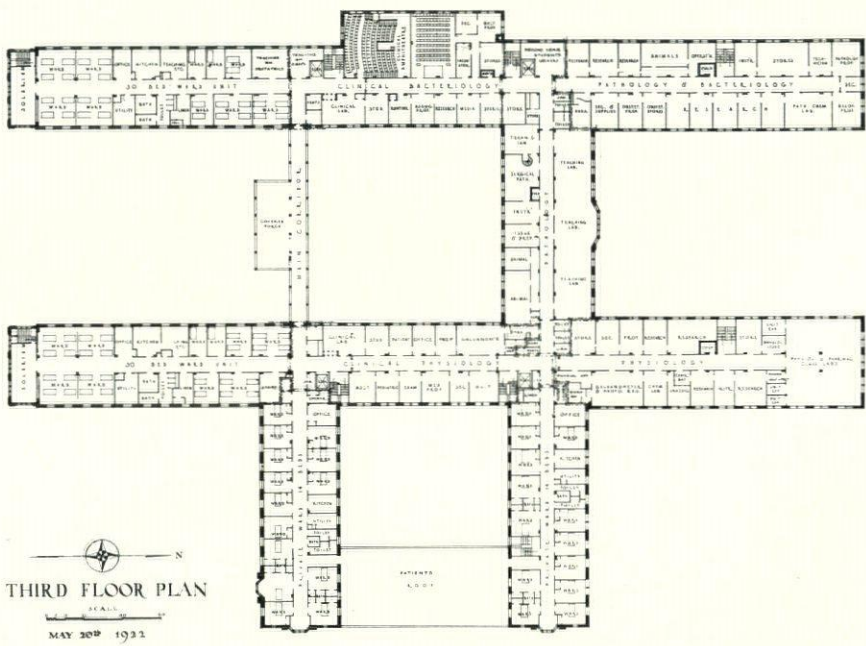
"The admitting office of the hospital



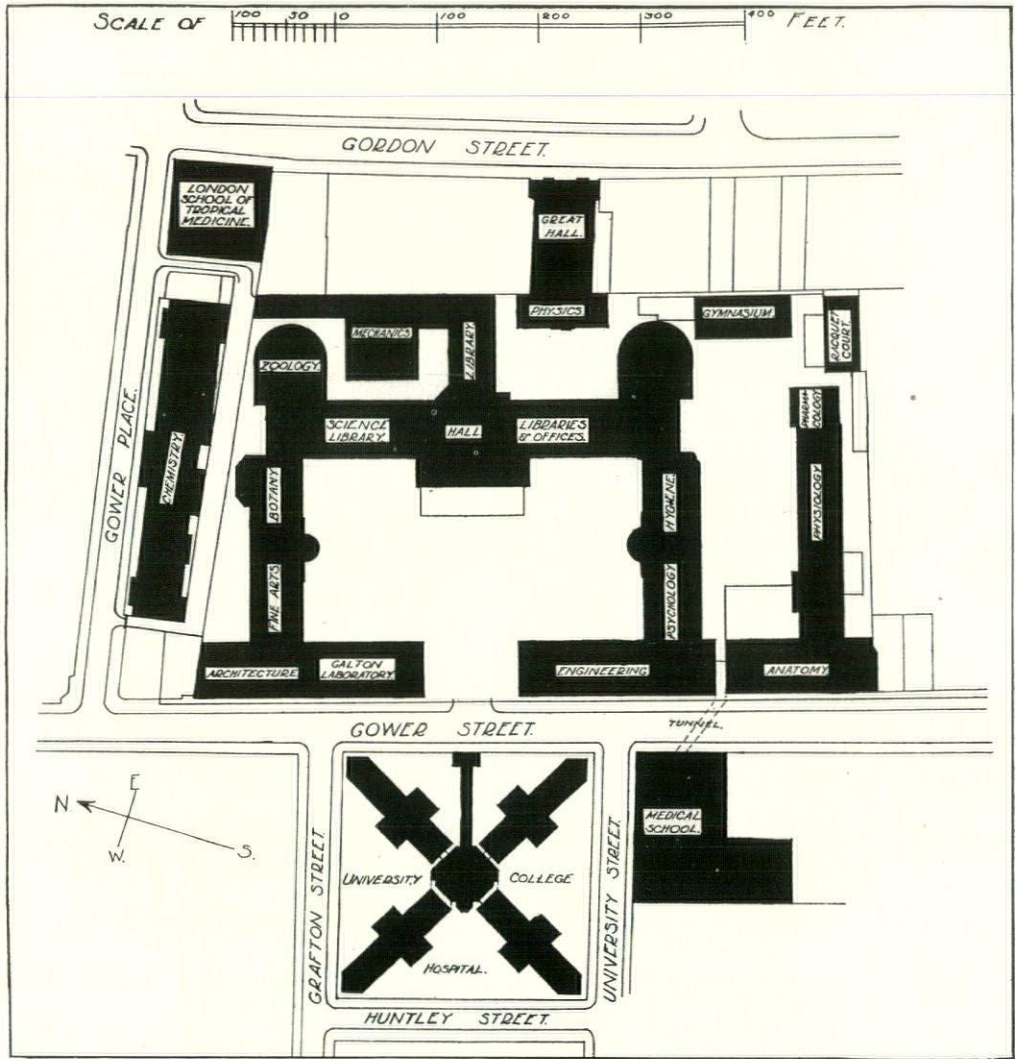
PATHOLOGICAL BUILDING, MCGILL UNIVERSITY, MONTREAL, CANADA
 Nobbs & Hyde, Architects; Ramsay Traquair and William Carless, Associate Architects;
 Stevens & Lee, Consulting Architects.



GENERAL LAYOUT OF
VANDERBILT UNIVERSITY
MEDICAL SCHOOL & HOSPITAL
NASHVILLE, TENNESSEE
COOLIDGE & SHATTUCK
ARCHITECTS
BOSTON, MASS.



GENERAL LAYOUT OF
 VANDERBILT UNIVERSITY
 MEDICAL SCHOOL & HOSPITAL
 NASHVILLE TENNESSEE
 COOLIDGE & SHATTUCK
 ARCHITECTS
 BOSTON MASS.



BLOCK PLAN OF UNIVERSITY COLLEGE, LONDON

F. M. Simpson, F.R.I.B.A., Architect

adjoins the main entrance hall of the dispensary, in which are rooms for the social service department, the staff of which will be readily accessible to patients being admitted to the hospital or to patients attending the outpatient department. A prominent place is given to the social service department, not only because of the great humanitarian value of a properly conducted hospital social service, but also with the belief that it is a valuable asset in medical education.

"The hospital wards represent a departure from the large wards in general use in this country. A ward unit is composed of thirty beds, but these are so distributed that not more than four patients are in a single space. The main part of the ward, which leads to a closed porch, contains sixteen beds, but this is in turn subdivided by two partitions and a wide corridor.

"No large operating amphitheatre has been provided, but the operating rooms

have been made large enough so that groups of students can attend operations, thus expressing another policy of medical education now generally regarded as sound.

"The hospital will contain approximately one hundred and seventy beds, twenty-seven of which are arranged for patients paying professional fees. Sixteen beds are devoted to contagious cases. This is a small number of beds for educational purposes, but it constitutes a hospital as large as can be well maintained with the funds available for this purpose."

In the case of the *University College Hospital in London* (page 118) the medical school is across the street from the hospital and it has underground connection with the main University group.

Research and Educational Hospitals of the State of Illinois. The State Department of Public Welfare and the Illinois State University agreed "to construct and maintain a group of research and educational hospitals in the medical center of Chicago where the best medical, surgical and laboratory skill can be readily obtained; to provide medical treatment for the indigent sick of the State; to give young men and women proper medical education and training that will enable them to become active soldiers in the welfare for the prevention as well as the cure of disease; to help practicing physicians of the State to keep in touch with the latest and best methods of preventing and curing human ailments; to tell the people of the State how to keep themselves physically fit."*

This group will provide for education and research work, for diagnosis and treatment for a large body of patients, as well as for the training of nurses and social workers.

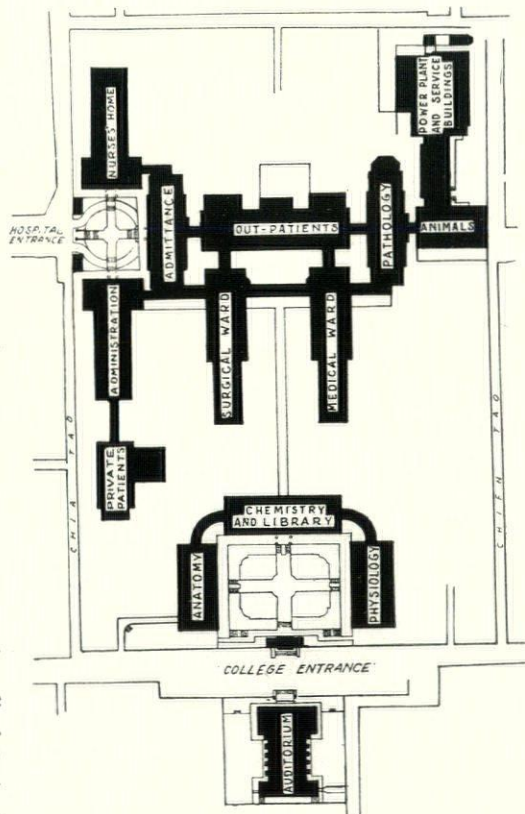
Such state and city institutions as this should be provided in every state. The plot plan on page 120 shows the portion of the work now completed and the contemplated portion, and the perspective (page 121) shows the finished institution.

In the layout of the *Peking University Medical College*, the medical school build-

ing is slightly removed from the hospital group, but with a corridor connection to the center of the hospital group, and it will be noted that the pathology building functions directly with the main hospital.

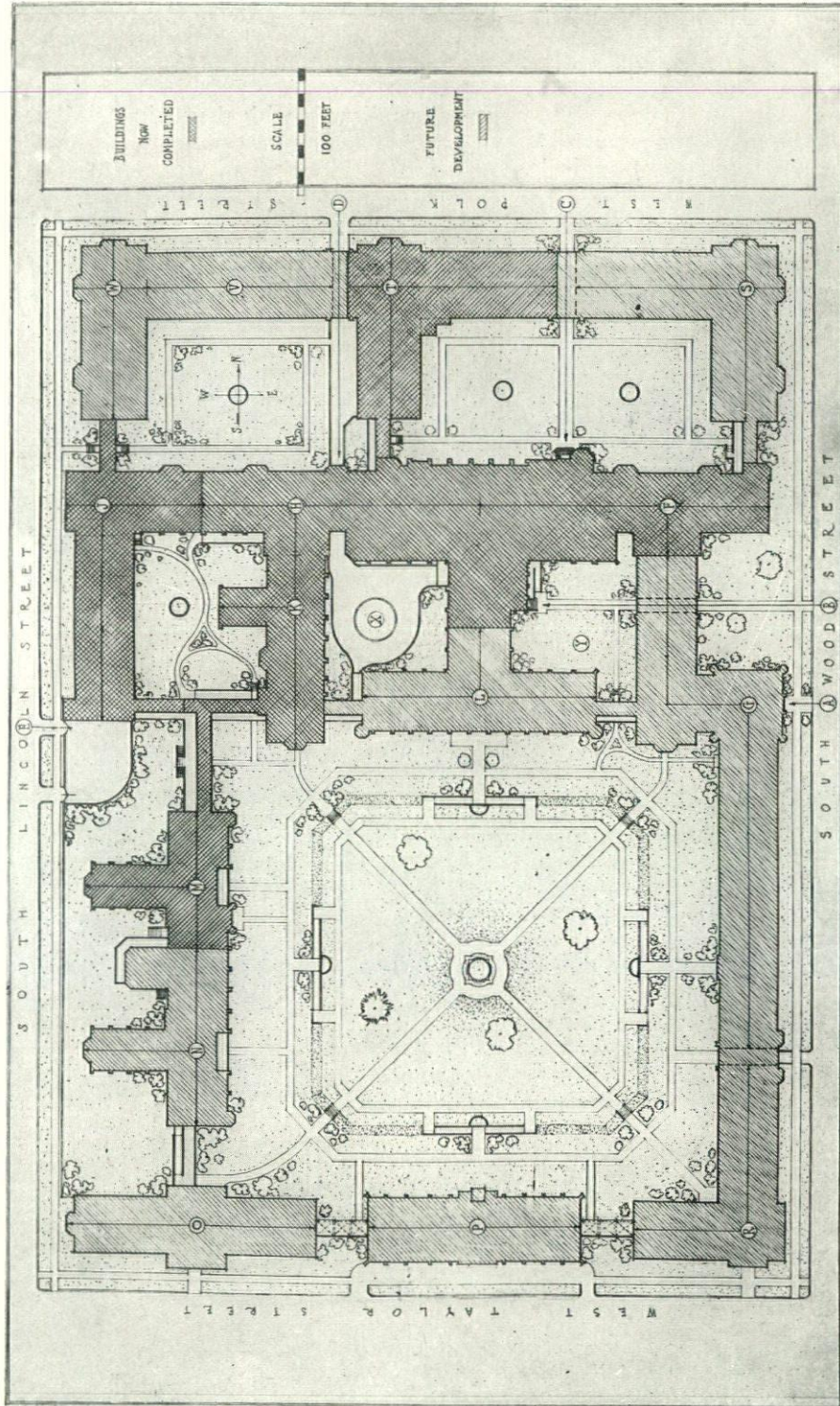
The problem of the combination school and hospital is solved in a very comprehensive way in the *University of Colorado School of Medicine and Hospital* (pages 122 and 123). Designed with flexibility both as to the hospital and medical school unit, there is provision in every case for possible changes in the technique and administration. The group comprises general hospital, out-patient department and medical school, as well as residence and school for nurses.

The medical school was originally planned to accommodate two hundred students, with units so placed that the departments might be changed in size as the method of teaching might demand.



PEKING UNION MEDICAL COLLEGE

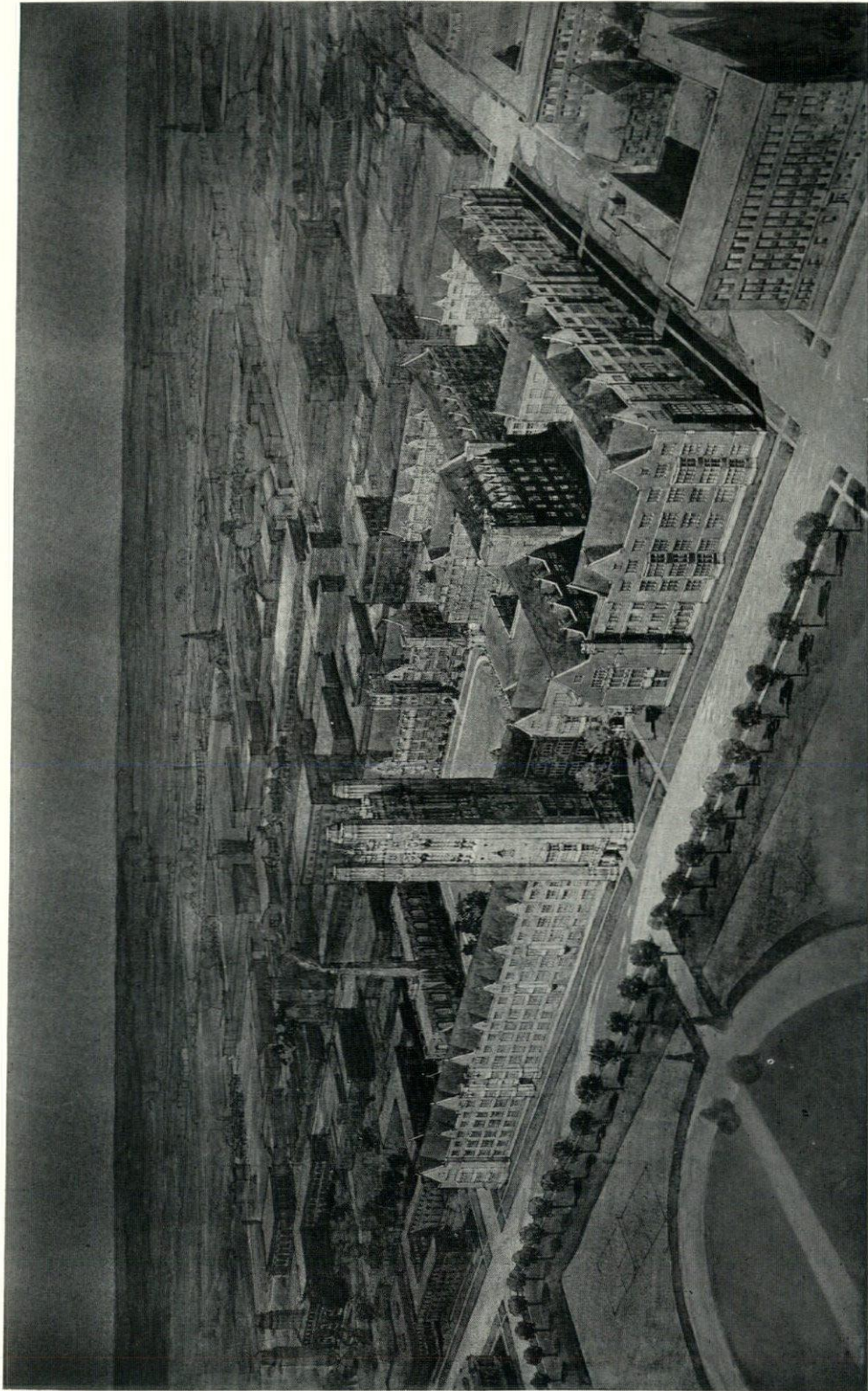
*THE ARCHITECTURAL RECORD, October, 1925. Pages 301, 302 and 303.



August, 1926

The Architectural Record
 PLOT PLAN OF THE RESEARCH AND EDUCATIONAL HOSPITALS OF THE STATE OF ILLINOIS, CHICAGO
 Richard E. Schmidt, Garden & Martin, Architects

- (A) Administration Entrance, (B) Out-Patients' Entrance, (C) Students' and Nurses' Entrance, (D) Ambulance Entrance, (E) Kitchen Entrance, (F) Clinical Institute, (G) Extension of Clinical Institute, (H) Eye and Ear Infirmary, (J) Extension of Eye and Ear Infirmary, (K) Psychiatric Institute, (L) Administration Building, (M) Orthopedic Institute, (N) Extension of Orthopedic Institute, (O) Infectious Diseases, (P) Power Plant, (R) Venereal Diseases, (S) Research Institute, (T) Library Class Rooms and Research Laboratories, (V) Class Rooms and Laboratories, (W) Dental Institute, (X) Ambulance Court, (Y) Dispensary Court.

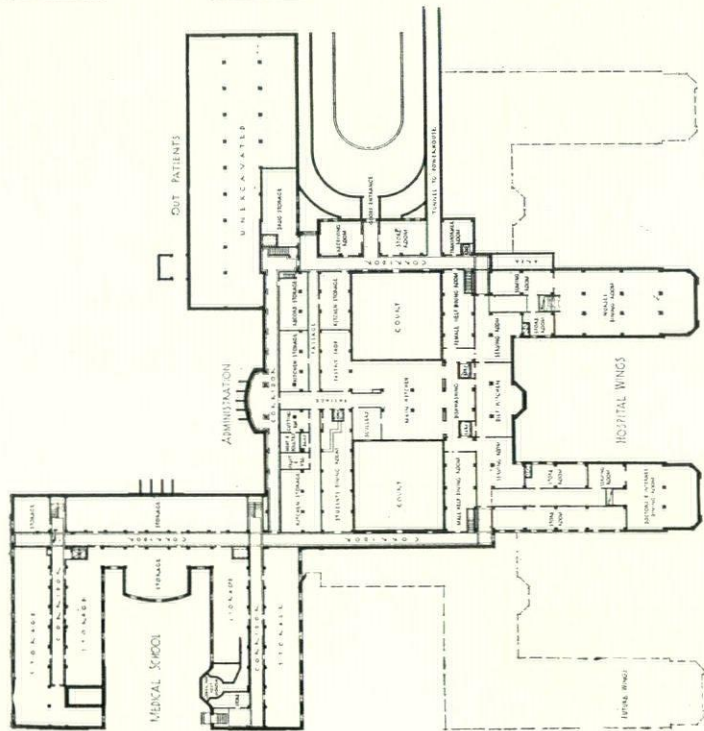


The Architectural Record

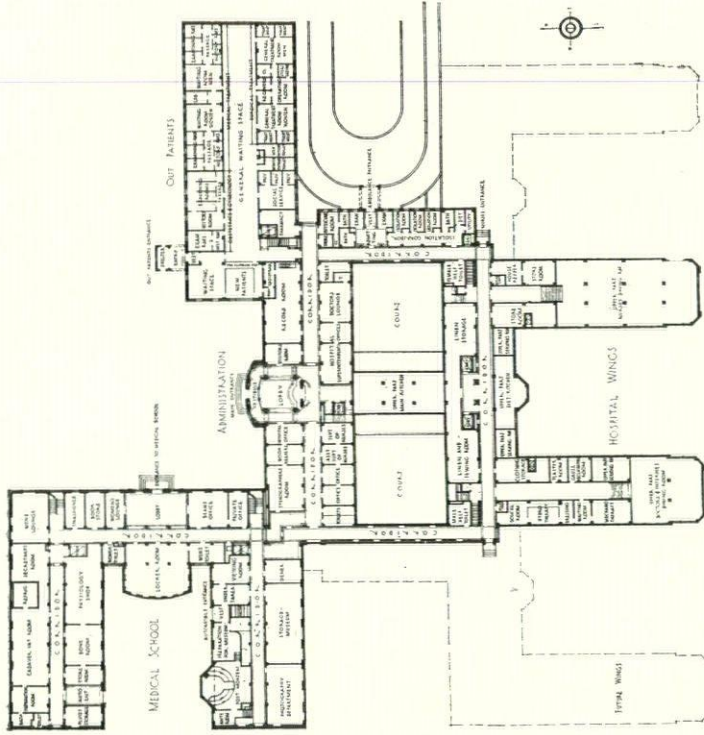
PERSPECTIVE VIEW OF THE RESEARCH AND EDUCATIONAL HOSPITALS OF THE STATE OF ILLINOIS, CHICAGO

Richard E. Schmidt, Garden & Martin, Architects

August, 1926



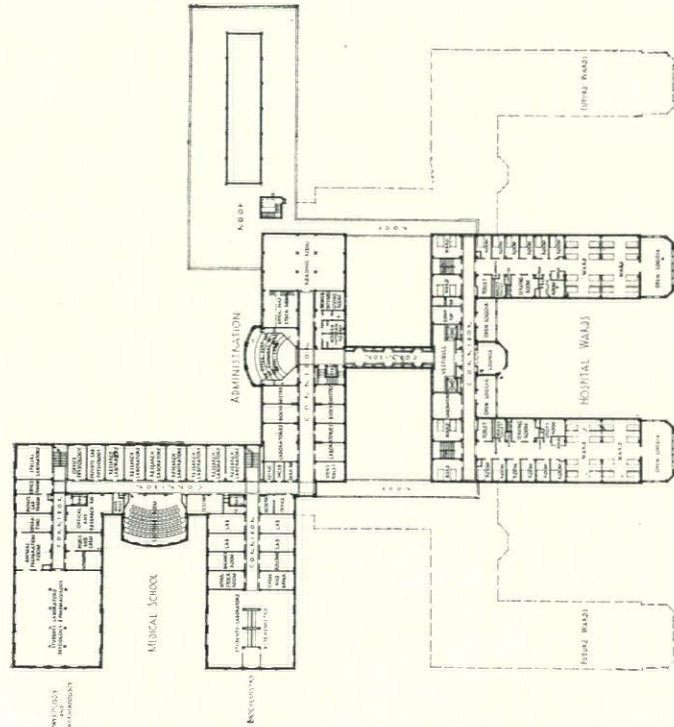
Basement Floor Plan



Ground Floor Plan

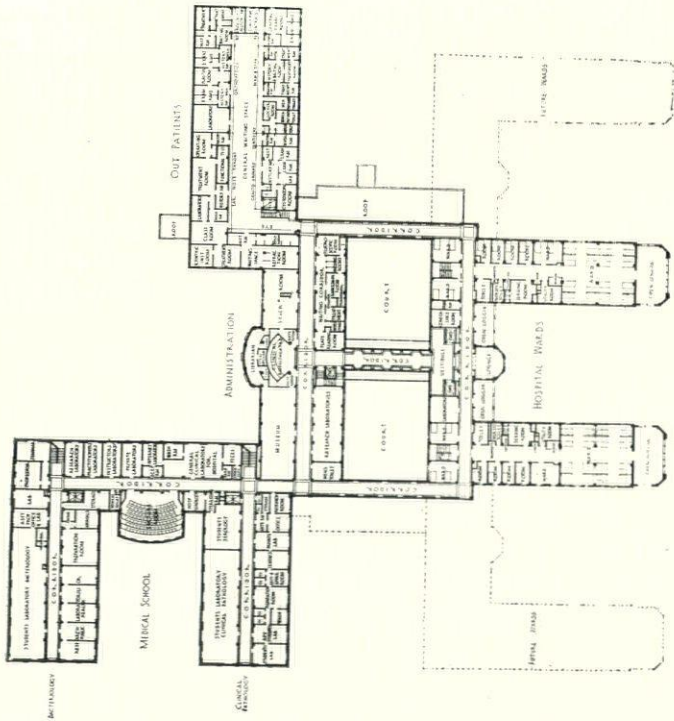
August, 1926

The Architectural Record
 THE UNIVERSITY OF COLORADO SCHOOL OF MEDICINE AND HOSPITAL AT DENVER, COLORADO



Second Floor Plan

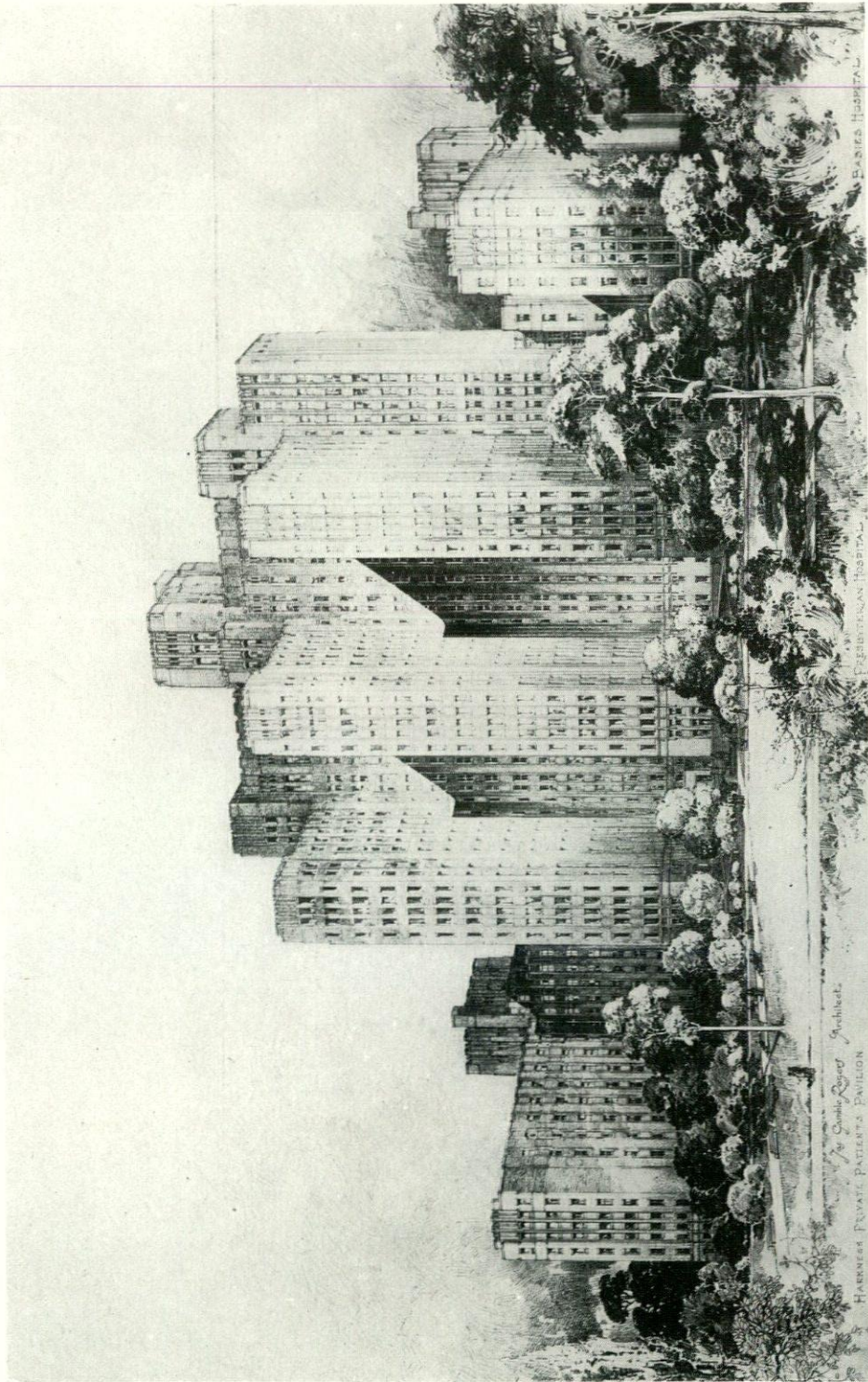
August, 1926



First Floor Plan

The Architectural Record

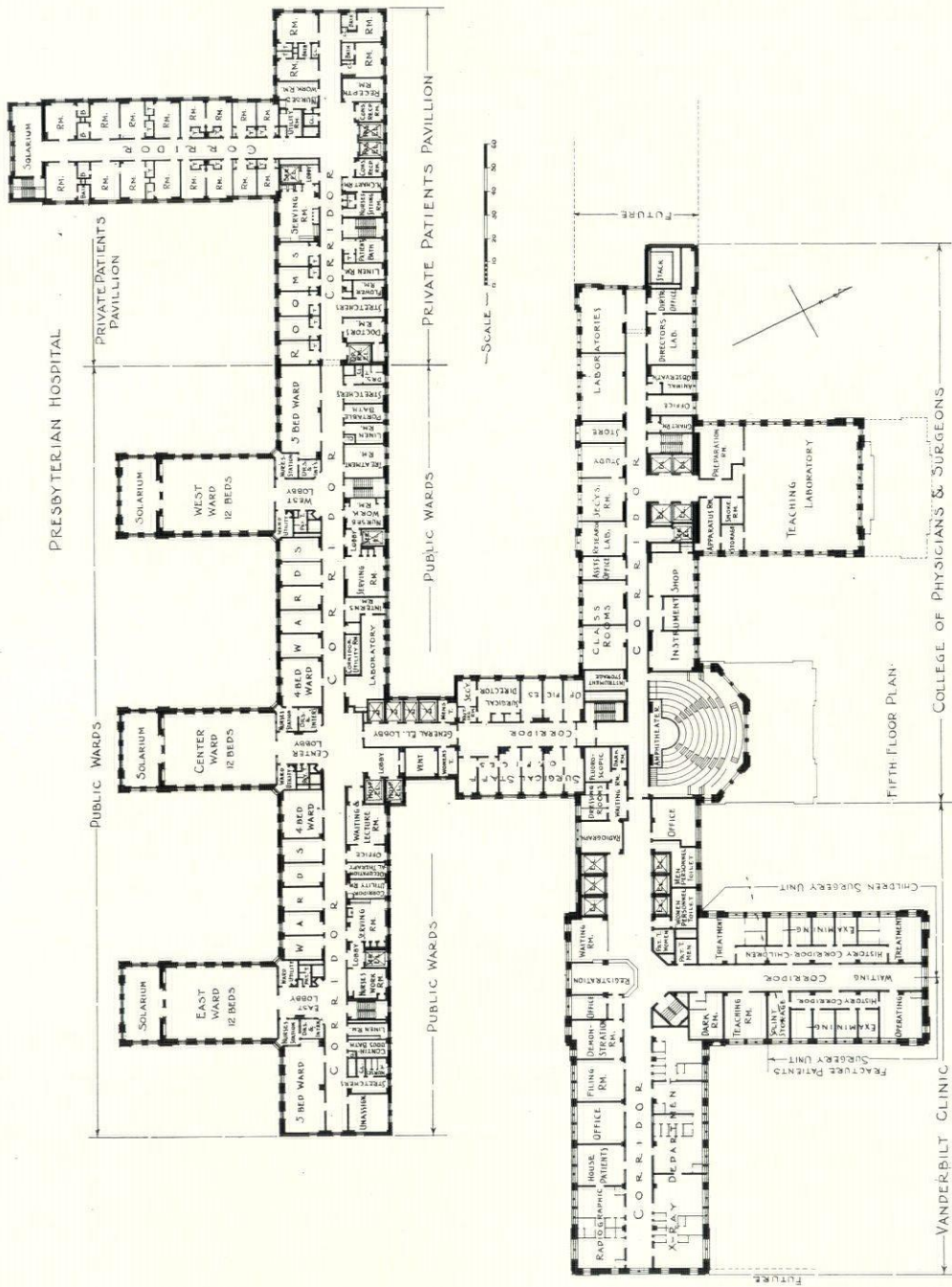
THE UNIVERSITY OF COLORADO SCHOOL OF MEDICINE AND HOSPITAL AT DENVER, COLORADO



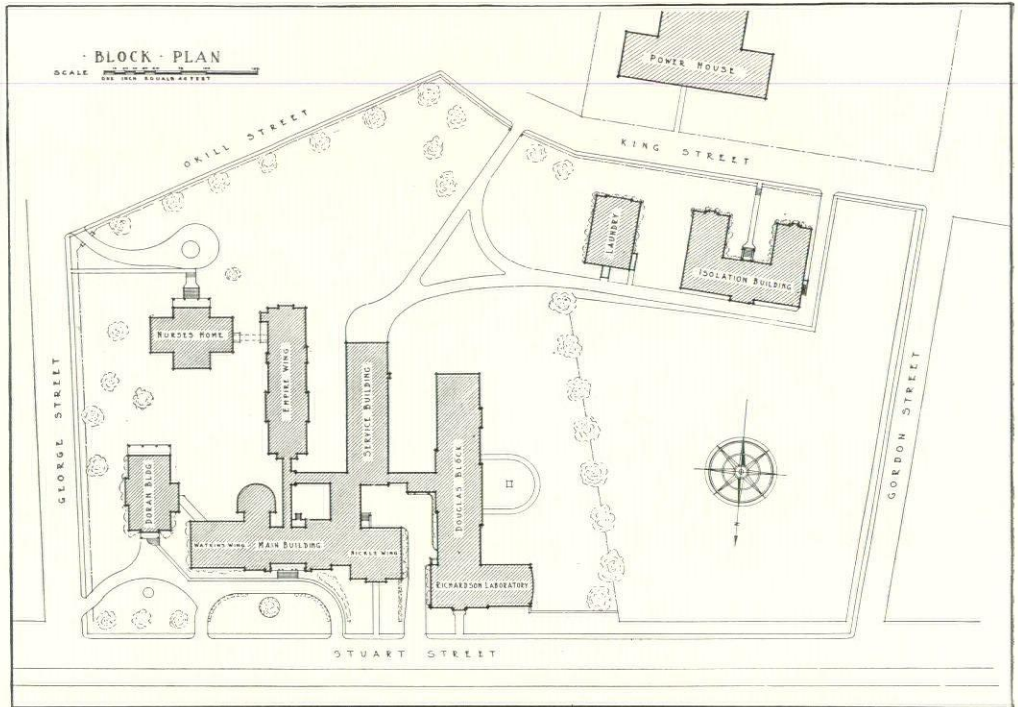
August, 1926

PRESBYTERIAN HOSPITAL
Columbia-Presbyterian Medical Center, New York City
Jas. Gambie Rogers, Architect

The Architectural Record



The Architectural Record
 COLUMBIA-PRESBYTERIAN MEDICAL CENTER, NEW YORK CITY
 Jas. Gamble Rogers, Architect
 August, 1926

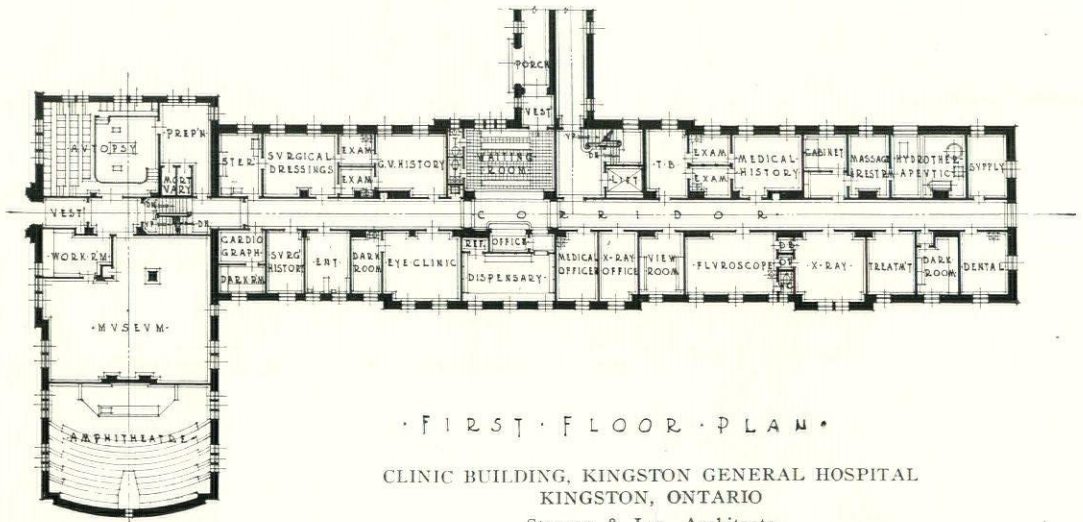


KINGSTON GENERAL HOSPITAL, KINGSTON, ONTARIO

Stevens & Lee, Architects

The hospital is designed for free patients and is well cut off from the administration building, although physically connected with it on each floor by cor-

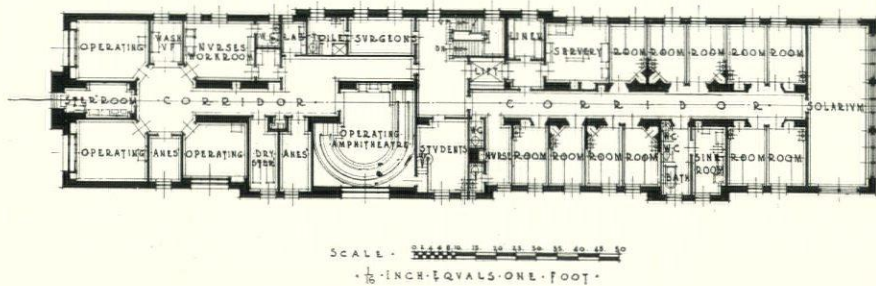
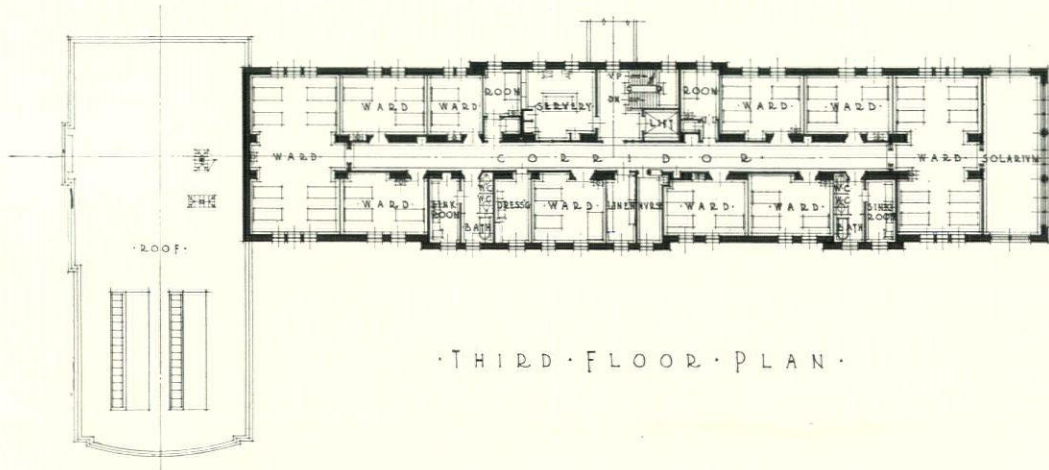
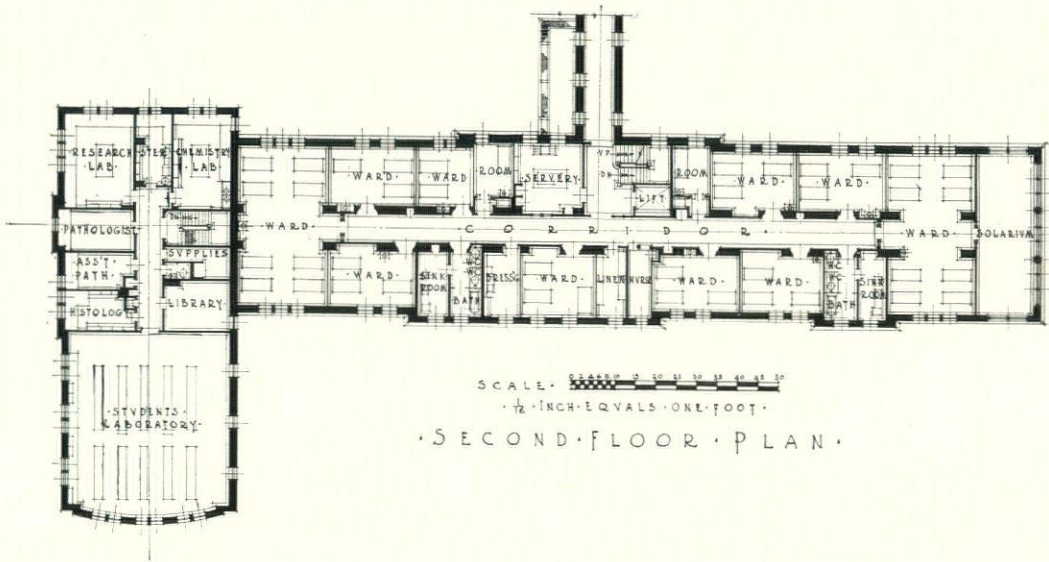
ridors and thus with the school. It will be noted that the Rigs type of ward is pretty largely used for the larger units. These afford flexibility and provide for



FIRST FLOOR PLAN

CLINIC BUILDING, KINGSTON GENERAL HOSPITAL
KINGSTON, ONTARIO

Stevens & Lee, Architects



CLINIC BUILDING, KINGSTON GENERAL HOSPITAL, KINGSTON, ONTARIO

Stevens & Lee, Architects

easy transition from large to small wards.

The location of the hospital units was carefully studied by the architect to insure the maximum amount of sunlight and air.

The original plans called for two pavilions of three stories each affording a capacity of one hundred fifty beds, which can be increased to three hundred beds by the addition of three stories on each building; or with complete pavilions as indicated on the plan, accommodations can be secured for six hundred beds.

The operating department is on the fourth floor of the administration building within easy access of both the hospital and the medical school.

From a careful study of the plans one will note the intimate relation of one department to the other; they are so planned that each department may function independently or in co-relation to the other.

One of the greatest developments of the medical school and hospital combinations in this country is the combination of the *College of Physicians and Surgeons of the Columbia University*, the *Presbyterian Hospital*, and the *Vanderbilt Clinic* (pages 124 and 125) which buildings are being erected at the time of writing. These departments are being housed in multi-story buildings at Broadway and 165th Street,—one of the most magnificent sites in New York overlooking the Hudson River, with every prospect of being the most complete medical unit under one large comprehensive scheme in this country, and perhaps in the world.

Unlike many of the others described in this chapter, the institutions of the group, while functioning as complete units, will not lose their individual identities; hence the Presbyterian Hospital, which is widely known for its wonderful and progressive work, will function as a hospital both for public and private patients; and with the physical connection on the eleven stories of the hospital building to the units of the medical school and the Vanderbilt clinic all will combine to provide clinical material for the medical school.

In a glance at the typical plan on page

125, it will be noted that while there is a physical connection between the medical school, the clinic unit and the hospital, in order to go from one department to another one must pass through the administrative unit of the hospital floor, thus guarding very largely the privacy of the hospital. The private patients' pavilion is placed at a distance from the center and so affords still greater privacy.

The lecture rooms or clinical amphitheatres are placed midway between the medical school, the Vanderbilt clinic and the hospital, thus affording easy access to each unit.

The new *clinic building* of the *Kingston General Hospital* (pages 126 and 127), which is closely connected with that institution (see block plan on page 126), fulfills a triple need: as out-patient department for the institution, ward building for public patients, and laboratory and lecture room for the medical department of Queen's University.

The laboratory section is two stories in height and contains a students' general laboratory, as well as research laboratory, a large lecture hall or amphitheatre, and autopsy department.

The out-patient department which occupies the entire first floor of the patients' building functions in the usual way, with its various departments, including X-ray and physio-therapy. The second and third stories are occupied by ward patients, with the necessary offices and utilities. On the fourth floor is the operating department for the entire hospital, with three major operating rooms and a large amphitheatre for the use of the university students. On this floor also are the private rooms in a section removed from the operating department.

This building functions,

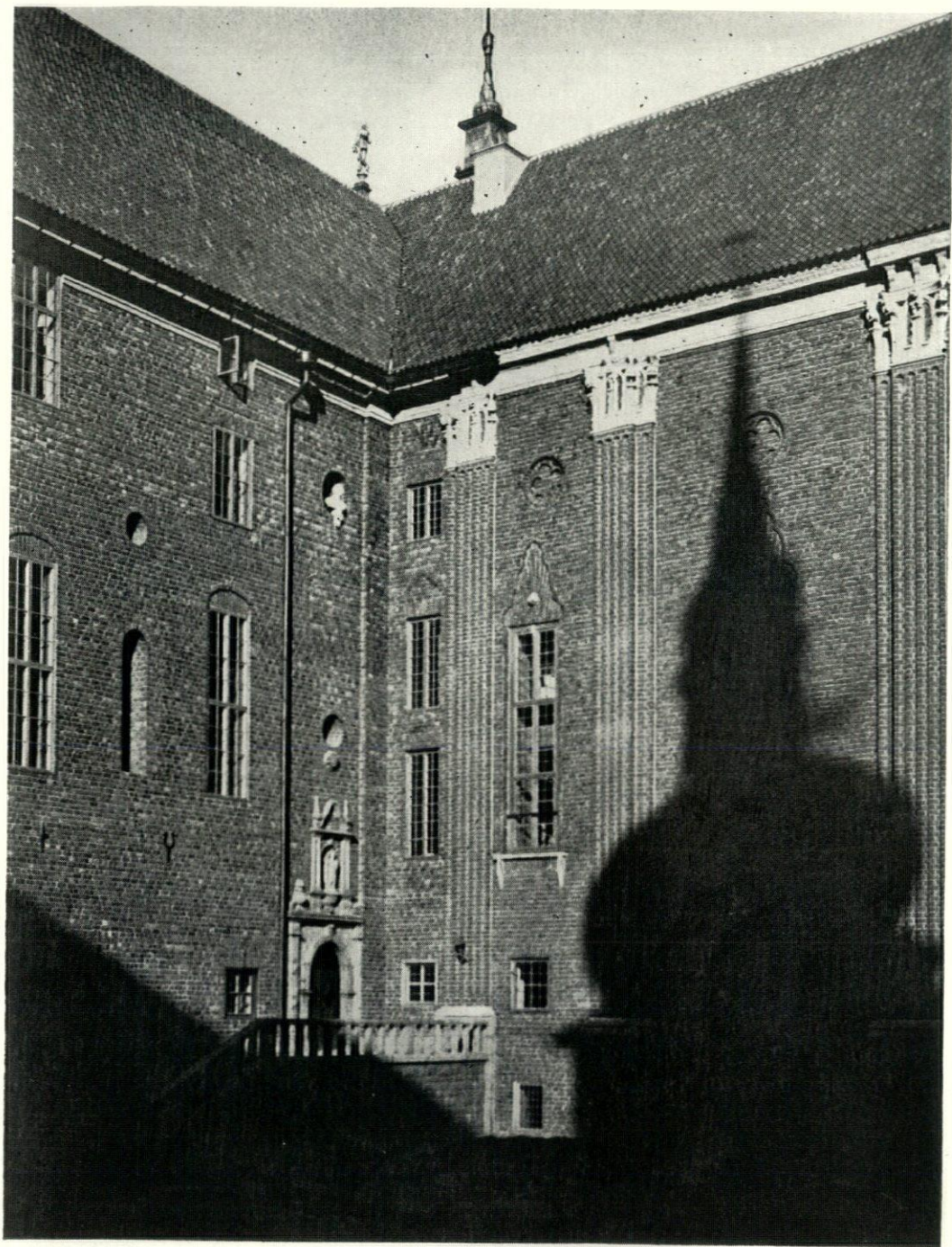
- 1st. For University pathological work and lecture rooms.
- 2nd. For out-patient, X-ray and Physio-therapy departments.
- 3rd. For ward patients.
- 4th. For operating department.
- 5th. For private patients.

A PORTFOLIO OF
CURRENT ARCHITECTURE
IN DENMARK & SWEDEN

*Photographs Taken or
Selected by Sigurd Fischer*

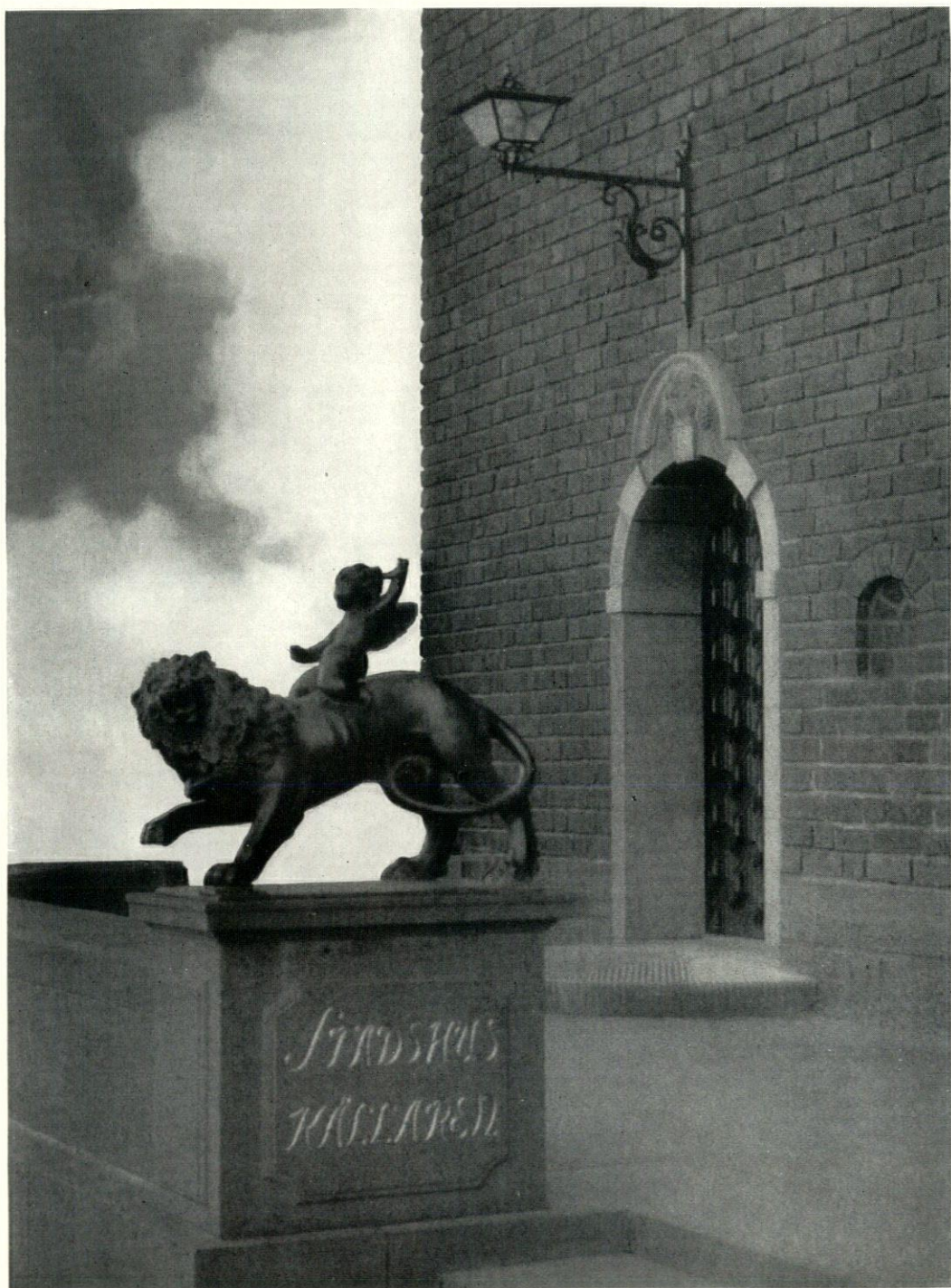


THE NEW CITY HALL, STOCKHOLM, SWEDEN
Ragnar Östberg, Architect

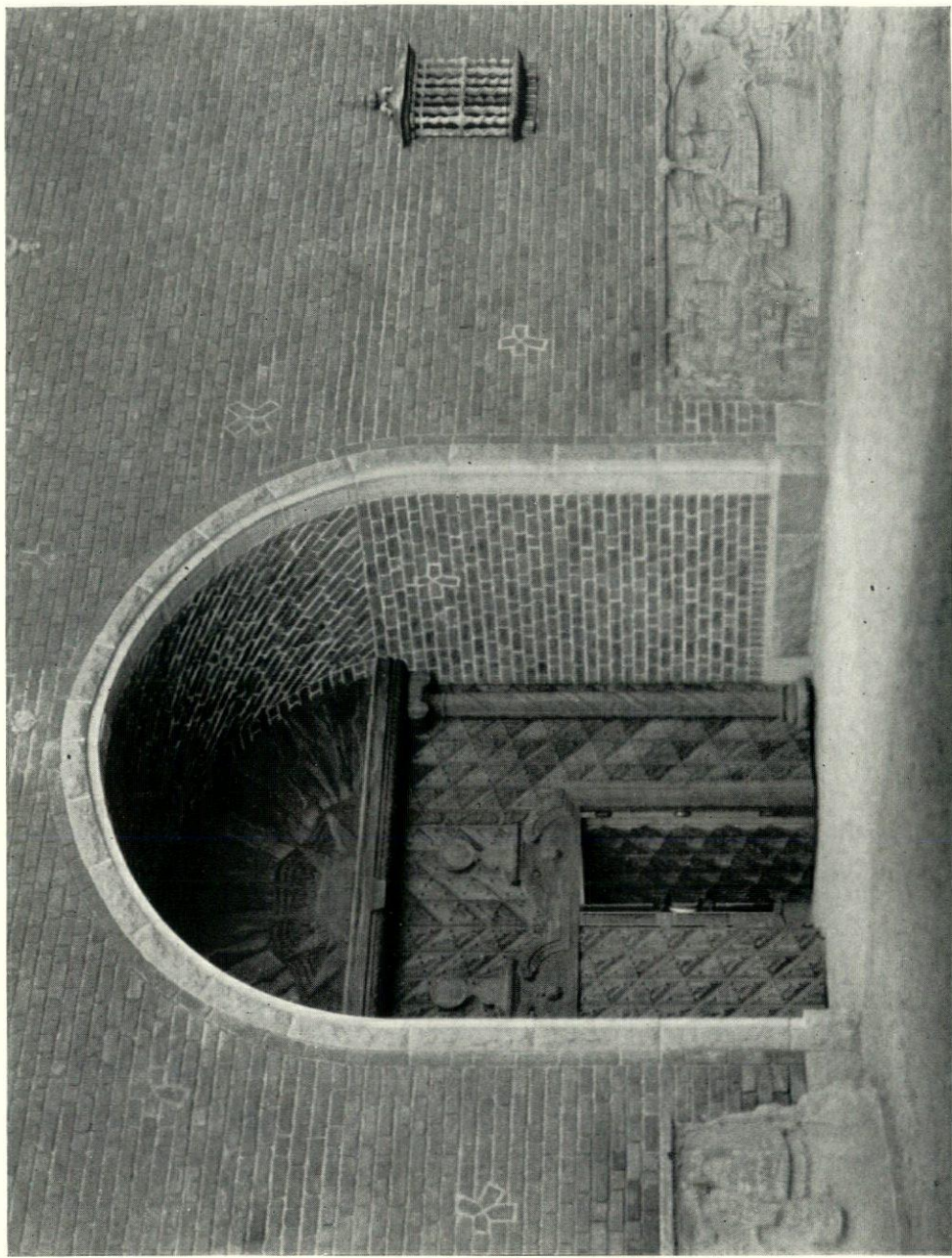


Detail of Corner in Open Court

THE NEW CITY HALL, STOCKHOLM, SWEDEN
Ragnar Östberg, Architect



Detail at Entrance to City Hall Restaurant
THE NEW CITY HALL, STOCKHOLM, SWEDEN
Ragnar Östberg, Architect



Main Entrance Door
THE NEW CITY HALL, STOCKHOLM, SWEDEN
Ragnar Östberg, Architect



Colonnade in "Blue" Court
THE NEW CITY HALL, STOCKHOLM, SWEDEN
Ragnar Östberg, Architect



© Sigurd Fischer

Colonnade in Open Square Court
NEW POLICE HEADQUARTERS IN COPENHAGEN, DENMARK
H. Kampmann, Architect



© Sigurd Fischer

Open Square Court

NEW POLICE HEADQUARTERS IN COPENHAGEN, DENMARK

H. Kampmann, Architect



© Sigurd Fischer

Colonnade in Open Circular Court
NEW POLICE HEADQUARTERS IN COPENHAGEN, DENMARK
H. Kampmann, Architect



© Sigurd Fischer

Main Entrance Colonnade

NEW POLICE HEADQUARTERS IN COPENHAGEN, DENMARK

H. Kampmann, Architect



© Sigurd Fischer

Stair in Corridor

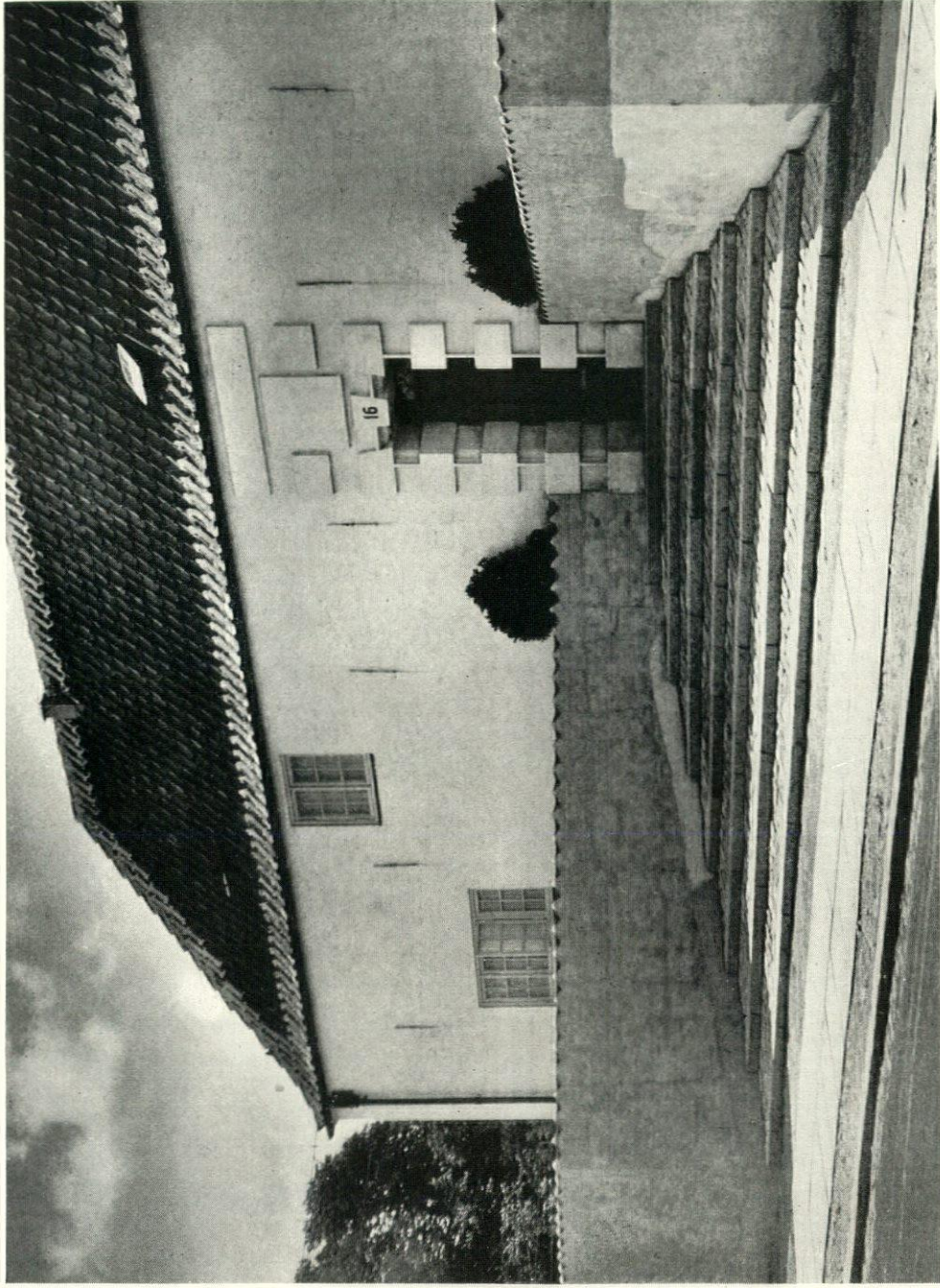
NEW POLICE HEADQUARTERS IN COPENHAGEN, DENMARK

H. Kampmann, Architect



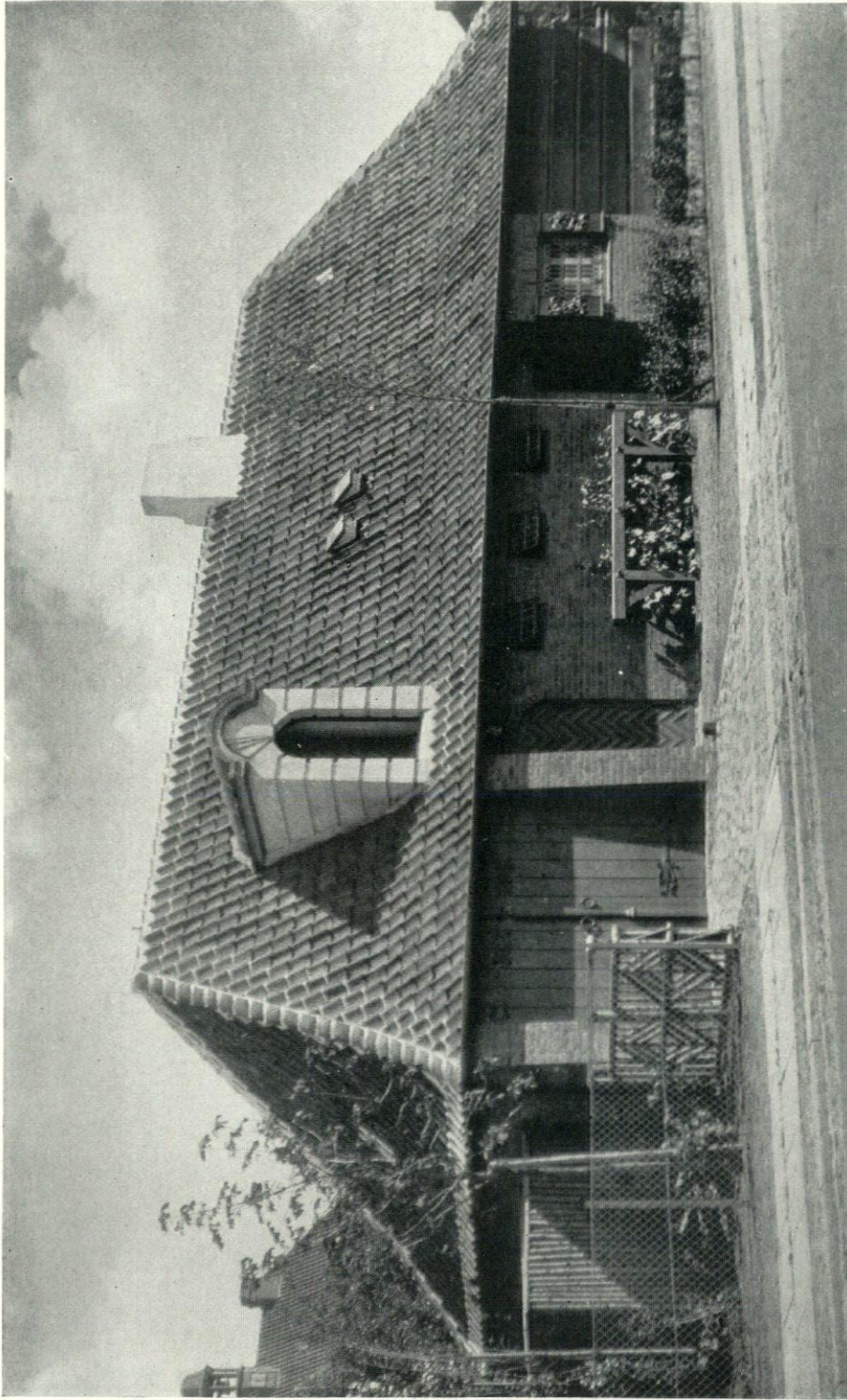
THE ENGELBREKTS CHURCH, STOCKHOLM, SWEDEN

L. I. Wahlman, Architect

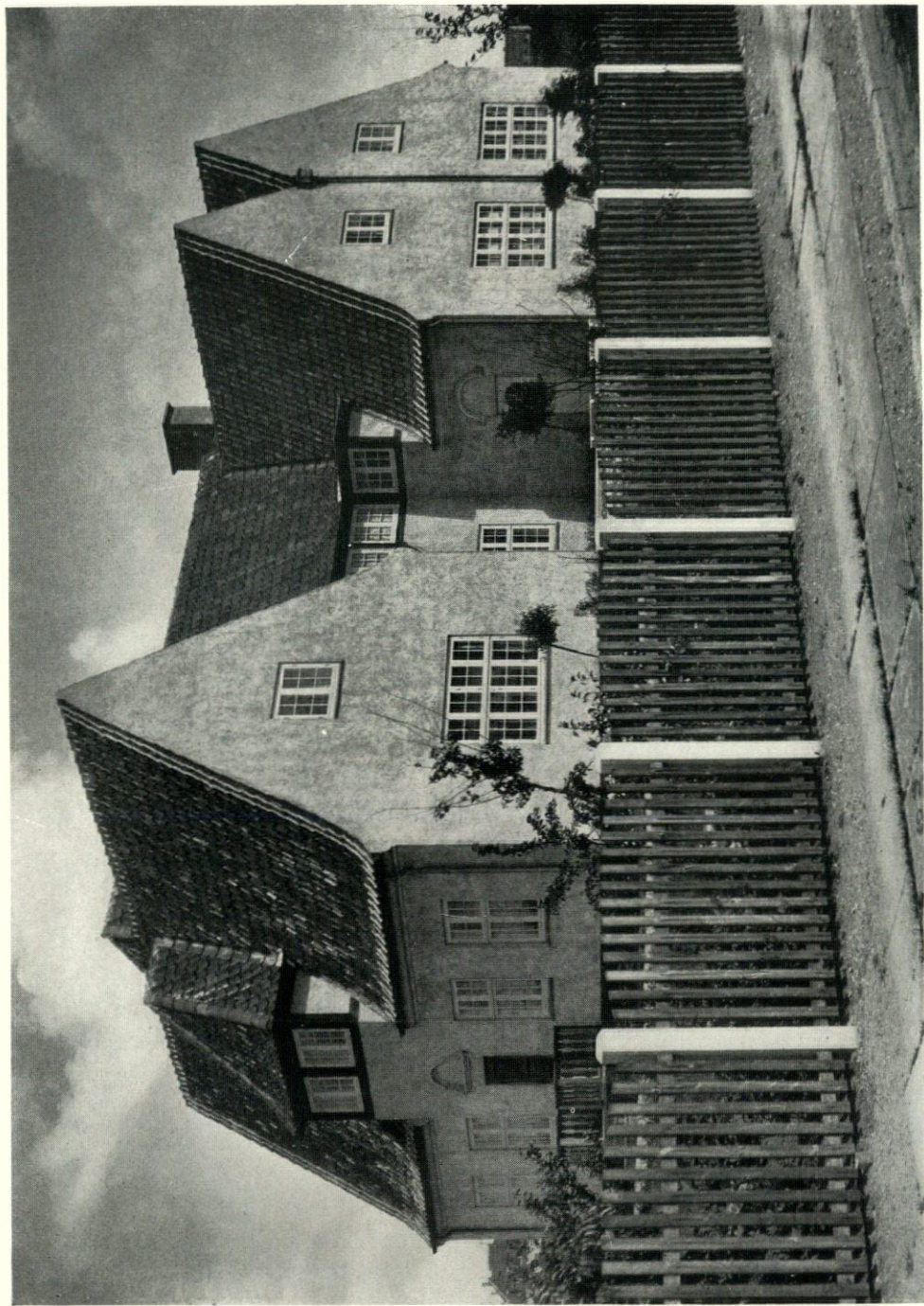


A RESIDENCE IN COPENHAGEN, DENMARK

Poul Baumann, Architect



STABLE AND GARAGE FOR PRIVATE RESIDENCE, COPENHAGEN, DENMARK
Helweg-Møller, Architect



A RESIDENCE IN COPENHAGEN, DENMARK
Mogens Clemmensen, Architect



A RESIDENCE IN COPENHAGEN, DENMARK
Albert Oppenheim, Architect



A RESIDENCE IN COPENHAGEN, DENMARK
Rosenkjer & Hjejle, Architects

EUROPEAN STORE FRONTS and WINDOW DRESSING

By Clinton H. Blake, Jr.

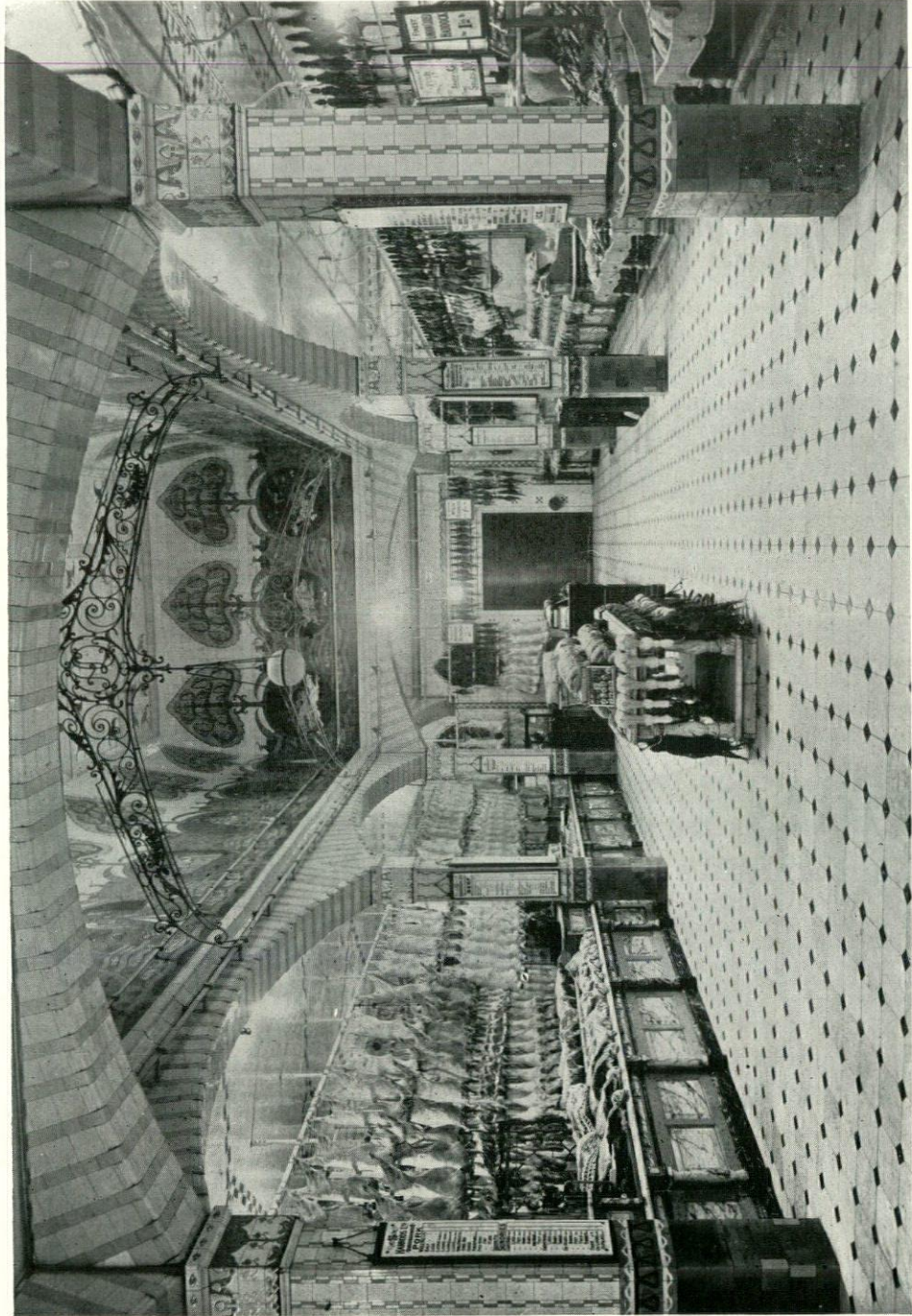
WHEN I WAS ASKED BY THE ARCHITECTURAL RECORD to make a survey last summer of store-fronts and window-dressing abroad, I had no idea whether the result of such an investigation would be favorable or unfavorable to the American architects and merchants. My impression was that it would be favorable to our architects and that the laurels for artistic window-dressing and displays would probably belong to the shop-keepers abroad. My feeling with respect to the shop-fronts themselves has on the whole been somewhat confirmed. There are so many elements involved, however, that it is difficult, with fairness, to make any sweeping general conclusions. Each country has its special merits and demerits. The greatest advantage can be derived, I think, by a consideration of the points of excellence in each country and of the points of deficiency as well.

The art of window-dressing has developed at an amazing rate in recent years. Development of the modern store-front to meet the demands of today—both materially and artistically—has been equally rapid. The shops of each country have their own peculiar characteristics and appeal. Those of England differ materially from those of France and Italy. Those of France are unlike those of Italy and of England. Those of the United States differ in general character and effect from those of any other country. One can not say that the store-fronts and window-dressing of any one of these countries excel in all particulars. The best that we can do is to strike a general balance.

It is not to be wondered at that the English shops are more nearly similar to those we know in this country than are the shops of France or of Italy. The

community of race and customs between America and England is necessarily expressed somewhat in their business structures and policies. The habits and preferences of any people are in general reflected in the appearance and conduct of the trade establishments which cater to them. In fact, a very interesting paper might be written indicating how directly the shops of various countries reflect the characteristics of the various peoples who patronize them. Despite the fact, however, that the English and Americans are so closely allied in many fundamentals, the shops of England differ radically in many respects, both in appearance, in design and in conduct from the shops in this country. In America emphasis will be laid on certain types of stores and on the development of improvements in store construction along certain lines which appeal to the American merchant as advisable and worth while. In another country, the emphasis will be along entirely different lines.

Probably the most interesting development in store-front design and store construction and window-dressing in England has been in a field which is quite unique and which has not yet been developed to any extent by our American designers and merchants. Within the last few years, there has been a widespread demand in England for better sanitary conditions and construction in the shops dealing in meats and foodstuffs. This has resulted in a truly remarkable change in these establishments. They have been modernized and entirely reconstructed along new and essentially up-to-date lines. The new construction has not been confined by any means to work in sanitation, but has extended to the develop-



The Architectural Record

MEAT HALL AT MESSRS. HARRODS, LTD., BROMPTON ROAD, LONDON, S.W.

August, 1926



The Architectural Record

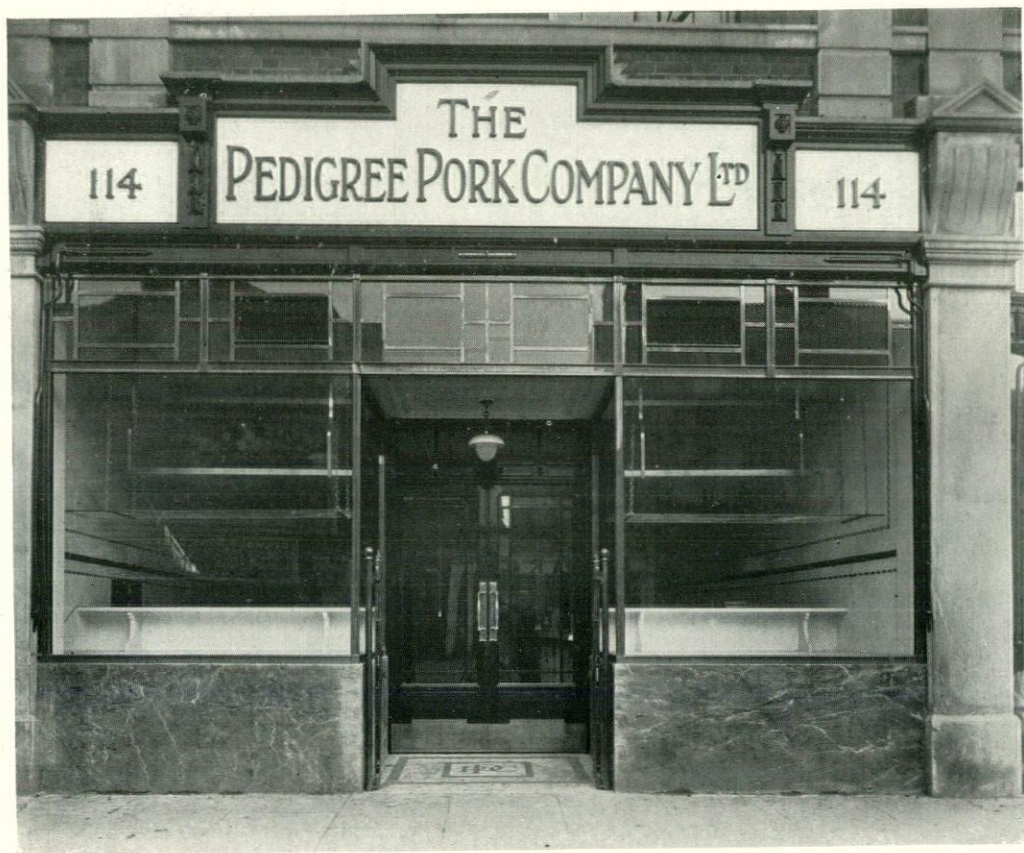
SHOP FRONT OF MESSRS. A. DAVY & SONS, LTD., SHEFFIELD, ENGLAND

August, 1926

ment of new fronts and to additional care and study in the matters of window displays and window-dressing. Some of the most interesting work abroad, both along this line and in the treatment of store-fronts and window-dressing in general, has been carried out by the well-known organization of Frederick Sage & Co., Limited, of London. Much of this has been designed, as well as executed by this

taste and by a realization of the practical requirements of the various trades and localities involved.

The ordinary butcher, delicatessen store proprietor and provision dealer in America has been content hitherto if his premises have appeared reasonably clean and adapted to the needs of his business. In the better shops, attention has unquestionably been directed and given to sani-



A SHOP FRONT IN KING STREET, HAMMERSMITH, LONDON, W. C.

Bronze metal is used for the sash bars, transome rail and astragal bars. The fascia is constructed in white vitrolite with bronze letters and numerals. The lobby floor, stall risers, window bottoms and shelving are of marble

firm, to the courtesy of which I am indebted for most of the photographs which illustrate these articles. Working both independently and in connection with various architects, Messrs. Sage & Company have been responsible for work which is characterized at once by good

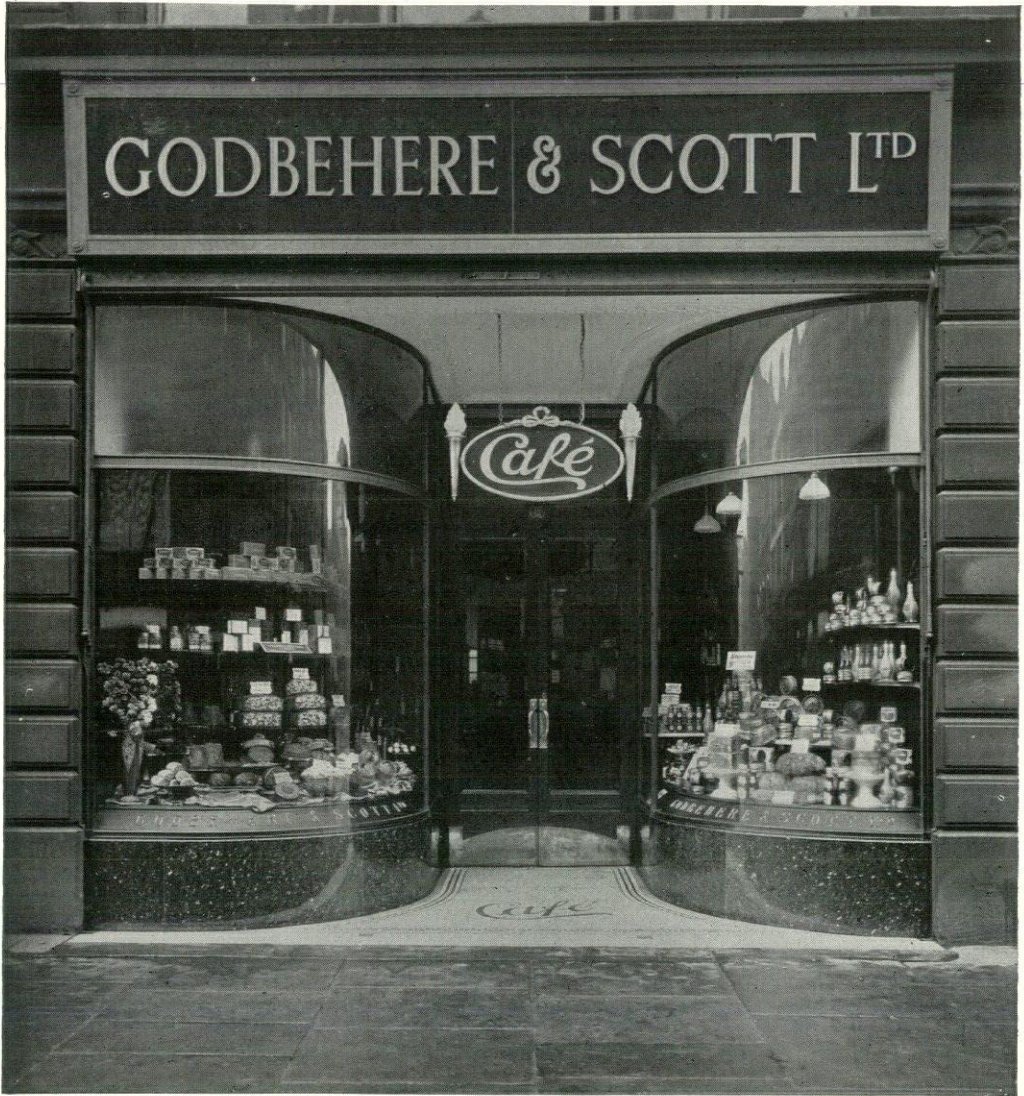
tary improvements and appliances. The dealer in food commodities has not, however, given attention to these details to any such extent as that which has been of recent years and is being increasingly given to them by the corresponding dealer in England. Here the store-front and



A SHOP FRONT IN KINGS BARTON STREET, GLOUCESTER, ENGLAND



A PICTURESQUE SHOP FRONT IN COLCHESTER, ENGLAND, WITH PERMANENT AWNING



A SMALL CONFECTIONERY SHOP FRONT IN MANCHESTER

Bronze metal and emerald pearl stall risers are used, and the fascia is carried out in black vitrolite framed in bronze metal with oxidized silver letters

window displays have been treated quite frequently as of secondary and of little importance. Any housewife or observant person will recognize the truth of the statement that the store-front of the ordinary butcher shop, for example, in America, is anything but handsome or attractive. In England, these shops are now being constructed on a scale which, in view of the character of the goods dealt

in, may be considered nothing less than luxurious. The English architect and builder are, as a matter of fact, according to these shops at the present time in their work the same degree of importance which they accord to the ordinary shop which deals in fashionable merchandise and accessories. In redesigning and rebuilding them, they are freely employing marble and bronze work with-

in and without and many of the refinements of construction and of design which one expects to find ordinarily only in Regent or Bond Street shops.

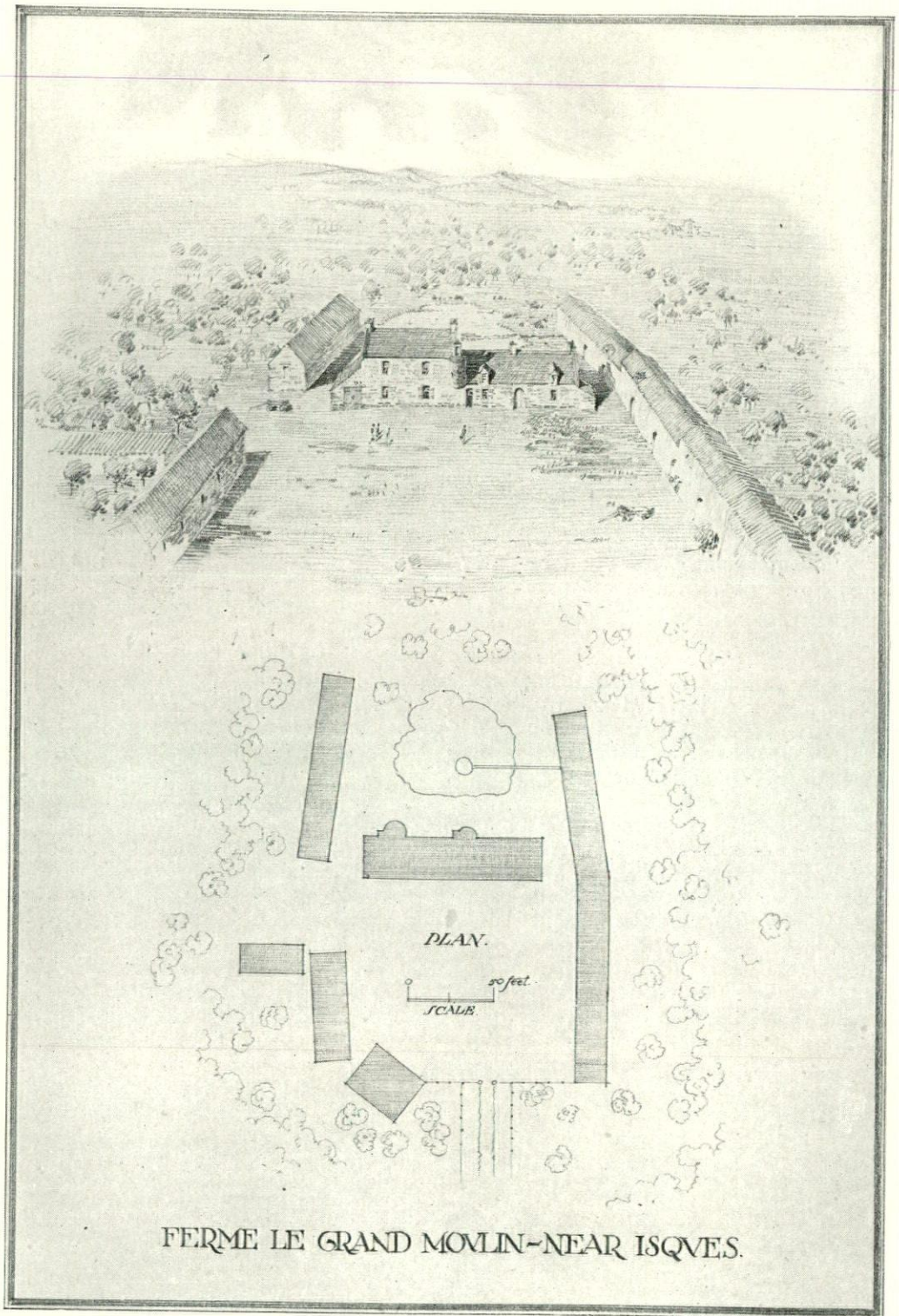
Imagine what the feelings would be of the ordinary New York butcher, were he to find himself housed in an establishment with marble trimmings without and within, marble shelves, floor and stall-risers, ecclesiastical or other period exterior treatment, a permanent awning of careful workmanship and design and similar architectural and sanitary embellishments! Yet this is exactly the type of butcher shop which is now being developed and erected throughout England. Marble and granite are employed freely within and without; carefully designed and executed bronze and metal work is the rule in these new establishments. Oxidized silver lettering and such details are characteristic of the work of construction.

The development of these English shops is not confined by any means to matters of appearance or the more apparent details of design. The improvement of sanitary conditions, which, as I have noted, gave rise to the developments in this special field, has been constantly kept in mind and received special attention at the hands of the designer and builder, whether it be in the matter of refrigeration, ventilation or other details of sanitation. The storefronts, as a rule, are of the "enclosed type," embracing the full frontage. Special attention is given to the display shelves and window display space. The most up-to-date methods of refrigeration are applied and special attention is given likewise to the matter of ventilation. As to the latter, one of the systems now employed is to provide ventilation through a fanlight or other appropriate opening to a fan duct at a distance well beyond the window. In this way, the ventilation is secured and at the same time the settling of any dust on the window displays and

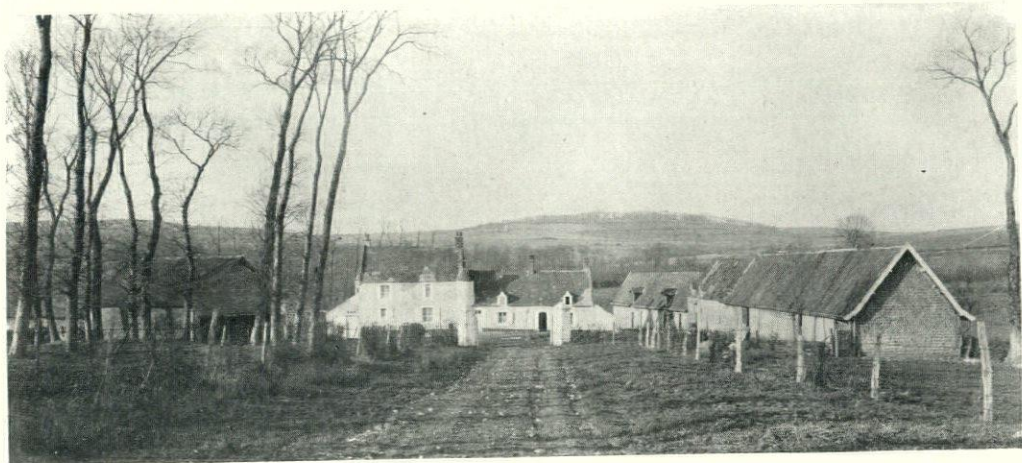
shelves is obviated. Special attention is given, also, to the matter of light, in order that as much daylight may be available as possible, both in the interest of the general appearance of the premises and in that of sanitation.

The exterior of these shops has received the same painstaking attention. Any one of a number of those recently designed and executed might be given over to the sale of the finest grade of merchandise, without there being the slightest incongruity in the result. So far as the character and richness of the interior and exterior design and finish are concerned, the shops could display high grade silks or other quality goods quite as effectively as they now display the choicer cuts of meats or delicatessen specialties. The architects and merchants of America may well give attention to this interesting development in European construction and look to their laurels in this field. It is curious that America, which, probably more than any other country, has given attention to sanitary requirements of all kinds, should be forced to acknowledge that its accomplishments with respect to the development of the shops in which food stuffs are sold is inferior to the results secured in the same field abroad.

A glance at the accompanying photograph of the interior of the butcher department of Harrods, Limited, in London, will give some idea of the attention which the English merchants and architects are giving to this work. Here is a field to which attention on the part of the American designer may be profitably directed. There is no reason that the American merchant who deals in meats and food supplies should not be quick to sense the advantages which flow from the proper design and equipment of his establishment along modern lines. That he will do so promptly, if the matter is brought to his attention, there can be little reason to doubt.



FERME LE GRAND MOULIN-NEAR ISQVES.



The
**FARMSTEADS and SMALL
 MANORS OF FRANCE**



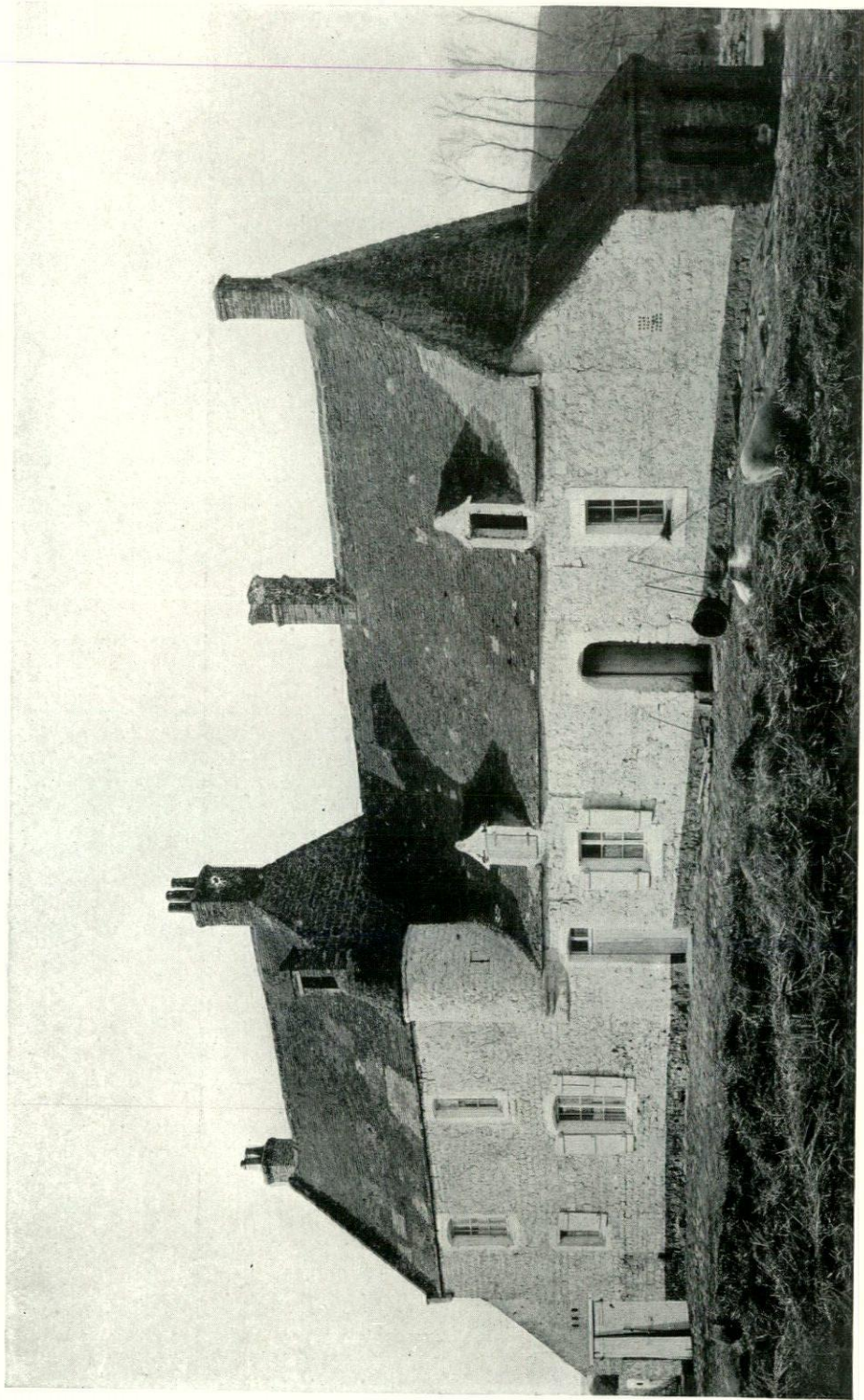
By
Harold Donaldson Eberlein, Roger Wearne Ramsdell
 — and *Leigh Hill French* —

IX. FERME LE GRAND MOULIN, NEAR ISQUES. FRANCE

SCARCELY MORE THAN a stone's throw from La Cugnie is Le Grand Moulin, an ancient farmstead many of whose buildings are now ruinous or have even disappeared down to the very foundations. It was evidently once a far larger and more important establishment than it now is. Instead of the master's house forming one side of the great fortified barnyard, as it does in so many instances of a similar sort, it seems to have stood about in the centre of the open space. From the front, to the southward, the road stretched uphill; to the back, at the north, was the farmyard pool or pond, now partially filled up and neglected. To the west of the pond was a group of substantial buildings, now so nearly destroyed, however, that it is impossible to ascertain their character with any degree of certainty. So far as can now be determined, a marsh and the stream to the north formed a natural barrier and ap-

parently there never existed any building on that side to complete the enclosure.

By way of contrast to La Cugnie, which was published in the June, 1926, issue of *THE ARCHITECTURAL RECORD*, it would be difficult to discover anything in the same general class more different than Le Grand Moulin, and yet both are informed with the same strong simplicity and the same directness in the expression of a common purpose. While the dwelling at La Cugnie more or less rambles, at Le Grand Moulin it is virtually a single oblong rectangle on plan, with a high part and a low part as variations of composition. Save for the difference in height between the two sections, the only significant departure from strict rectangular regularity is to be found in the projections formed by the *clocheton* or corbelled bell-turret of the south front and the circular tower at the northeast angle.

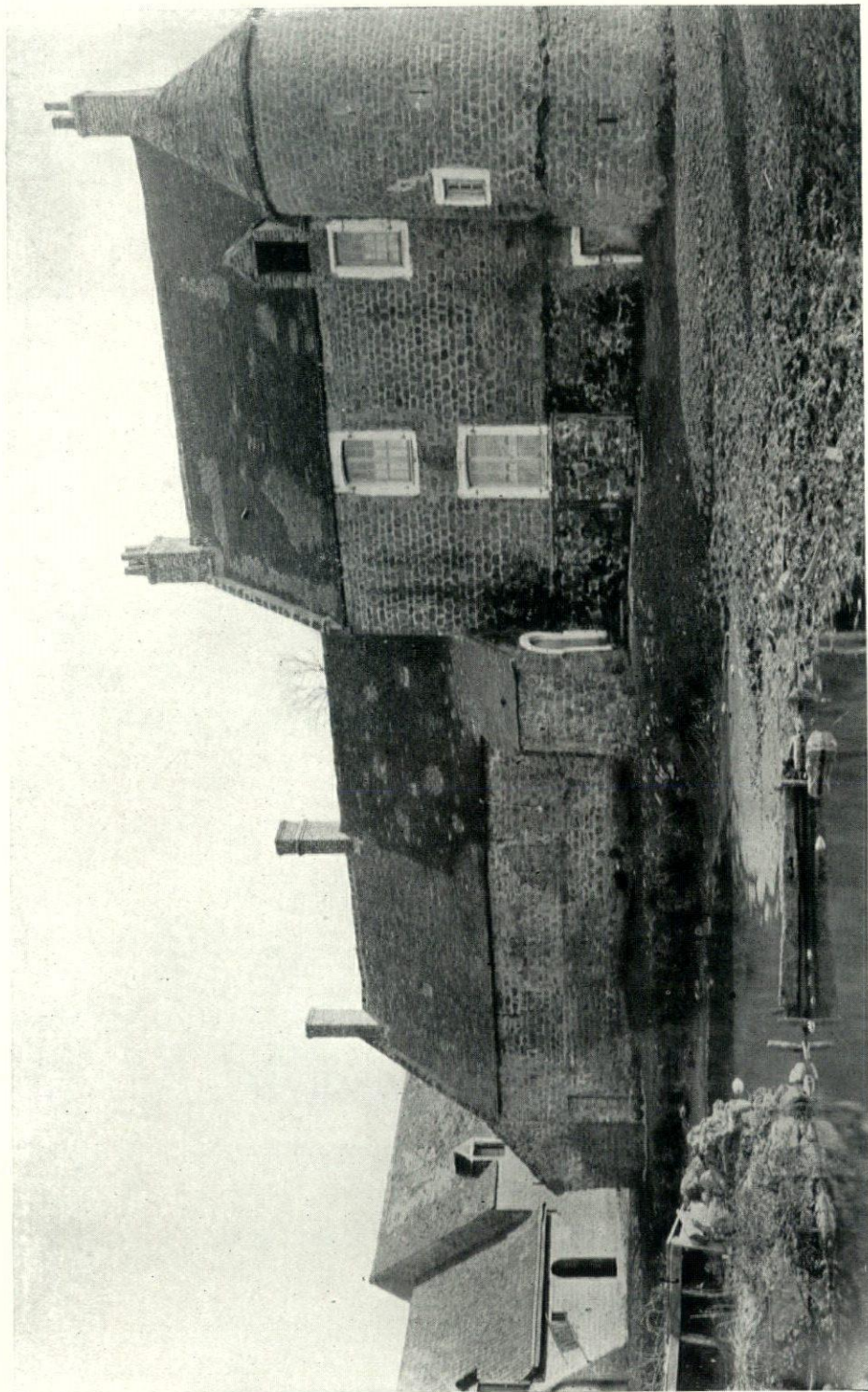


The Architectural Record

South Front

FERME LE GRAND MOULIN, NEAR ISQUES, FRANCE

August, 1926

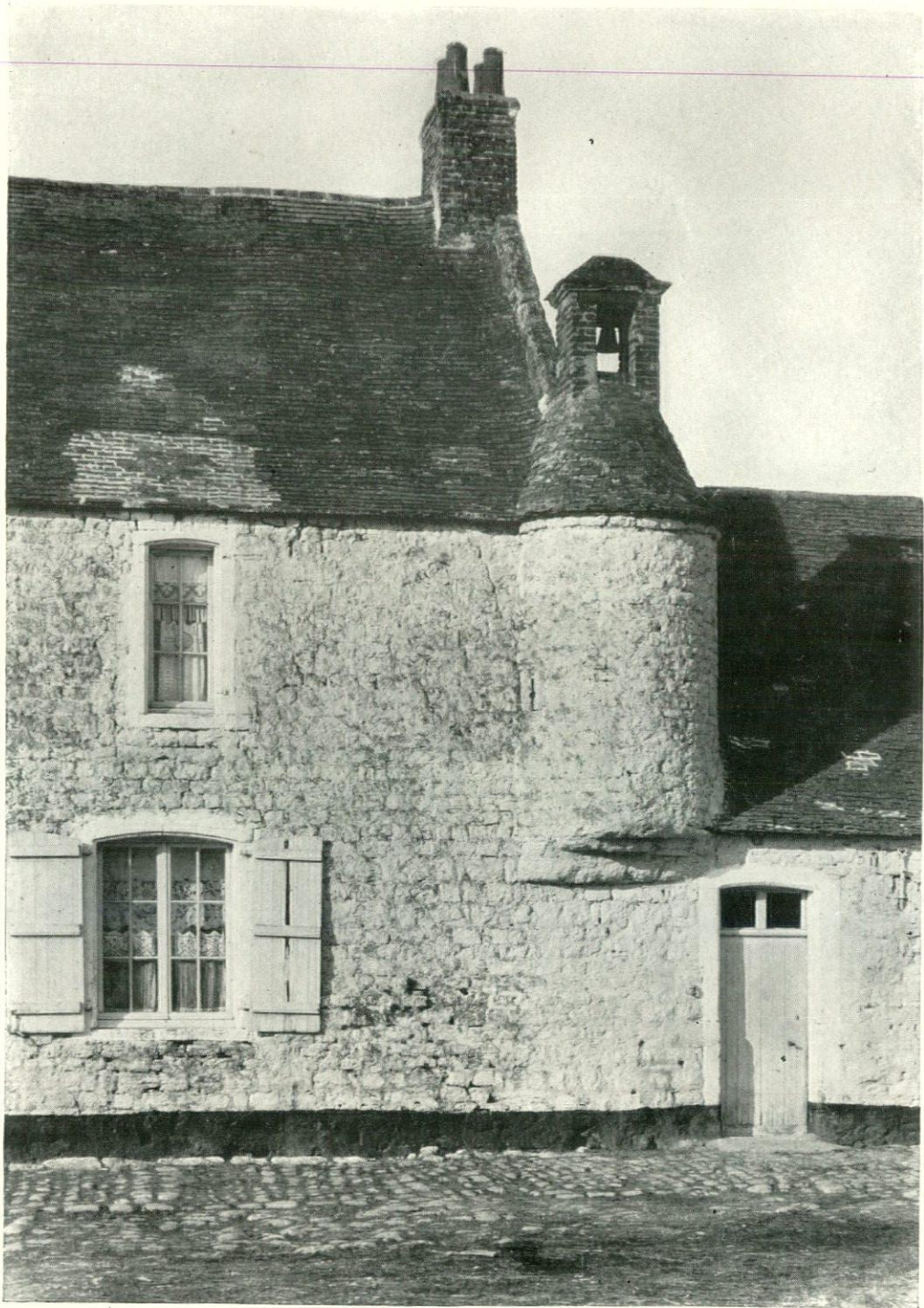


August, 1926

North Front

FERME LE GRAND MOULIN, NEAR ISQUES, FRANCE

The Architectural Record



The Architectural Record

Detail, South Front

August, 1926

FERME LE GRAND MOULIN, NEAR ISQUES, FRANCE

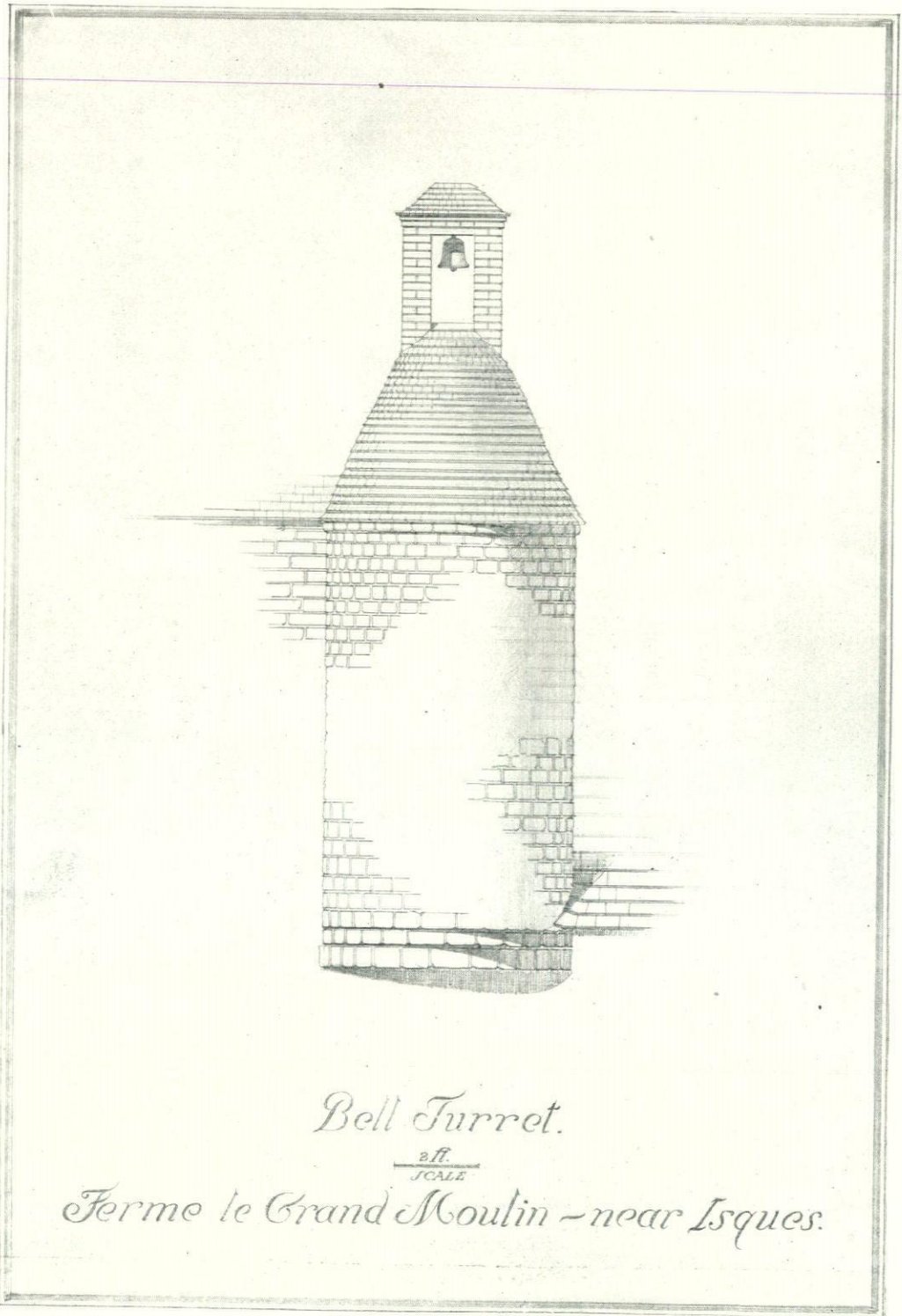
[172]



The Architectural Record

August, 1926

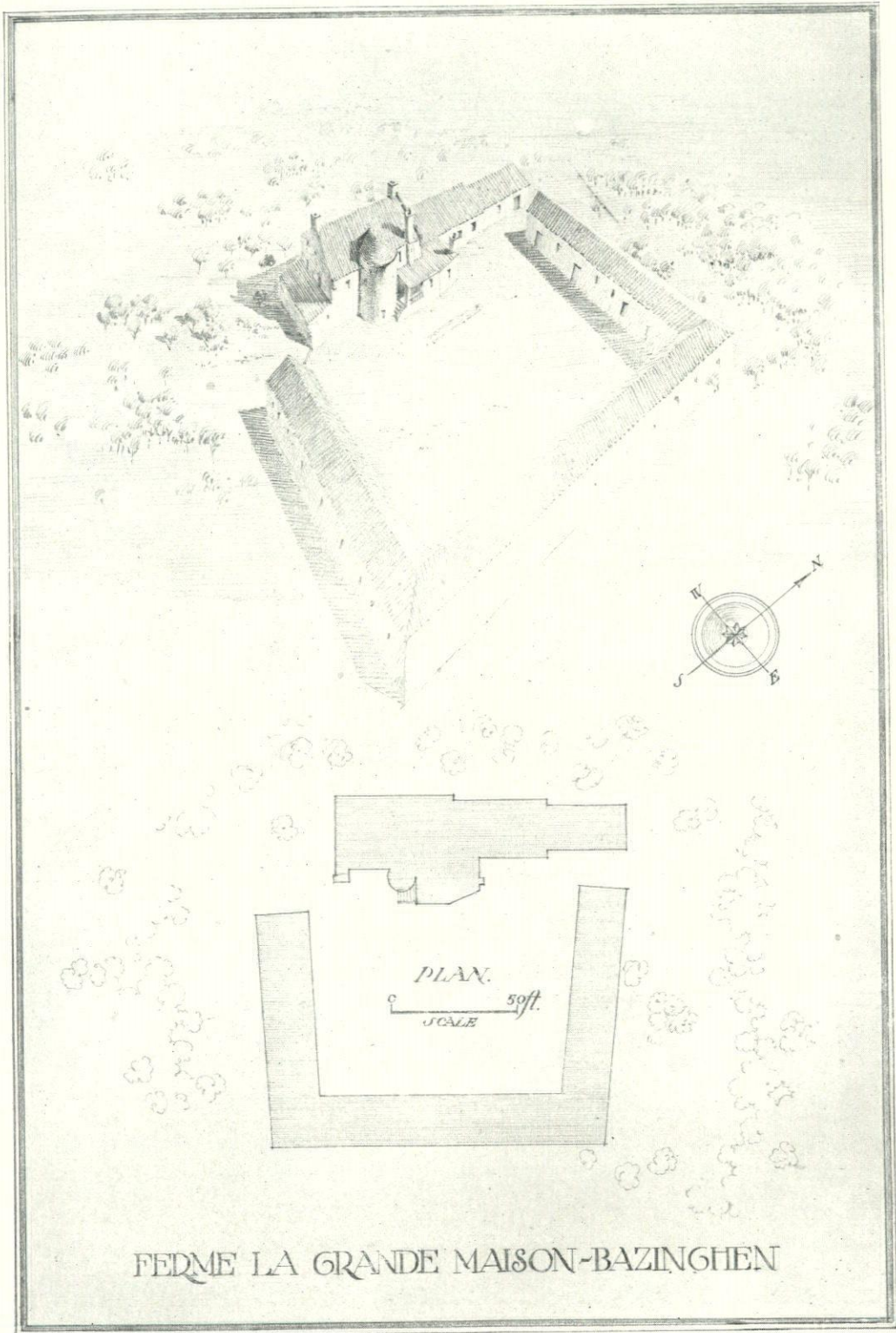
Bell Turret
FERME LE GRAND MOULIN, NEAR ISQUES, FRANCE
[173]



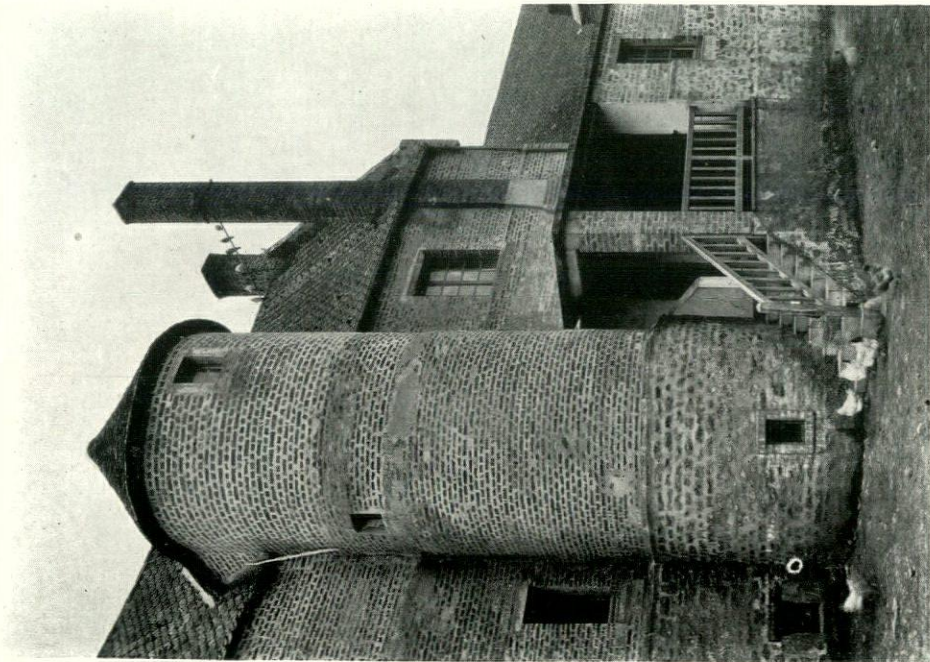
Bell Turret.

2 ft.
SCALE

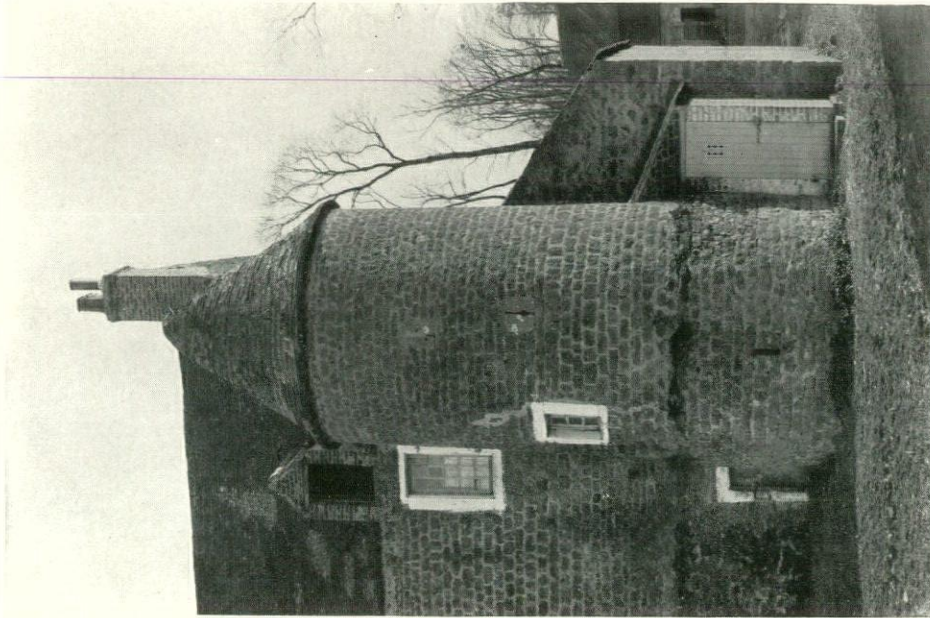
Ferme le Grand Moulin - near Isques.



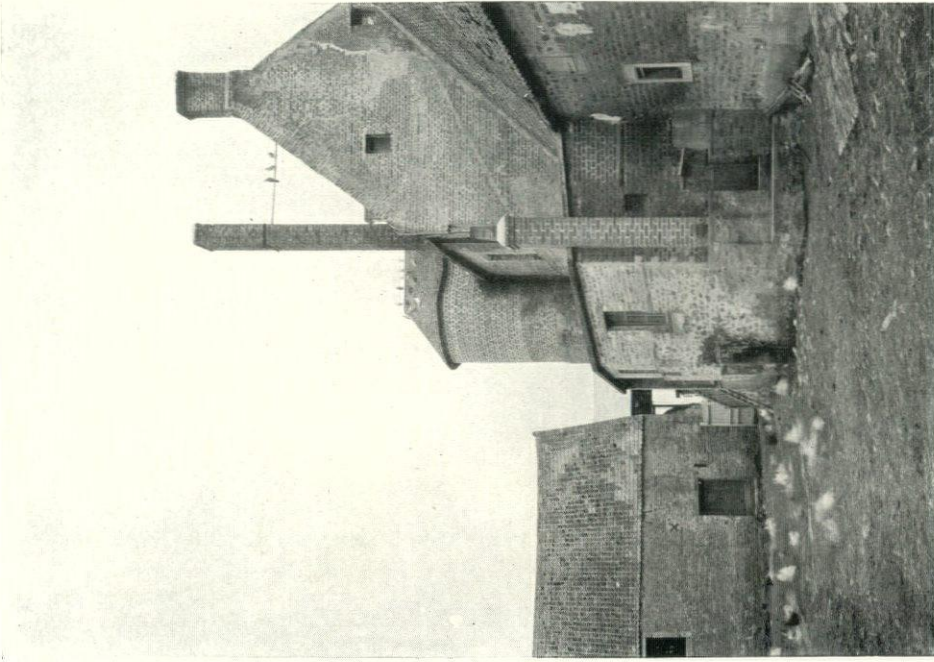
FEDME LA GRANDE MAISON-BAZINGHEN



The Architectural Record
Tower and East Front
FERME LA GRANDE MAISON, BAZINGHEN

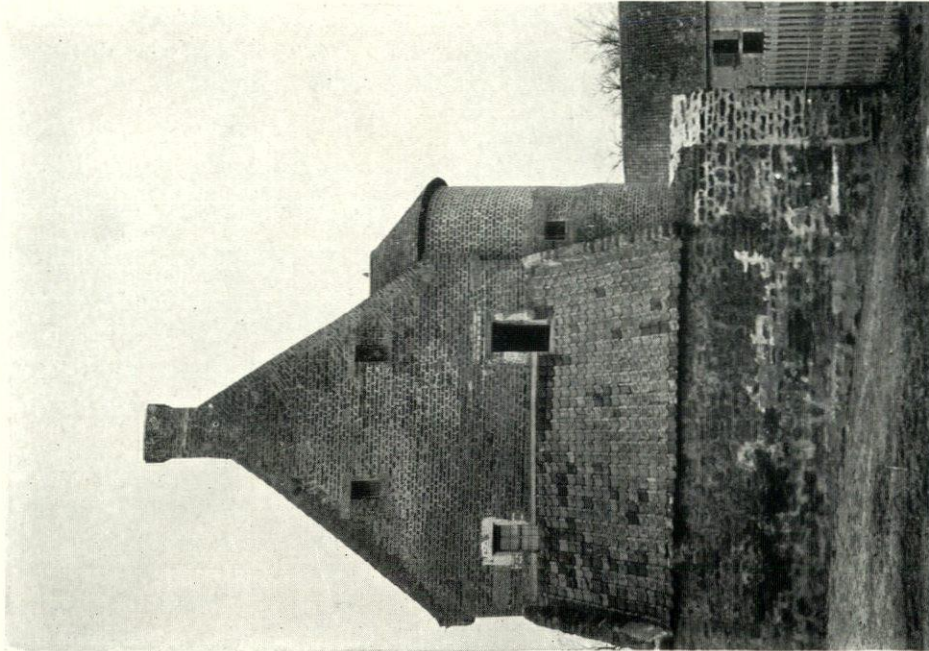


August, 1926
Northwest Tower
FERME LE GRAND MOULIN, NEAR ISQUEŒS

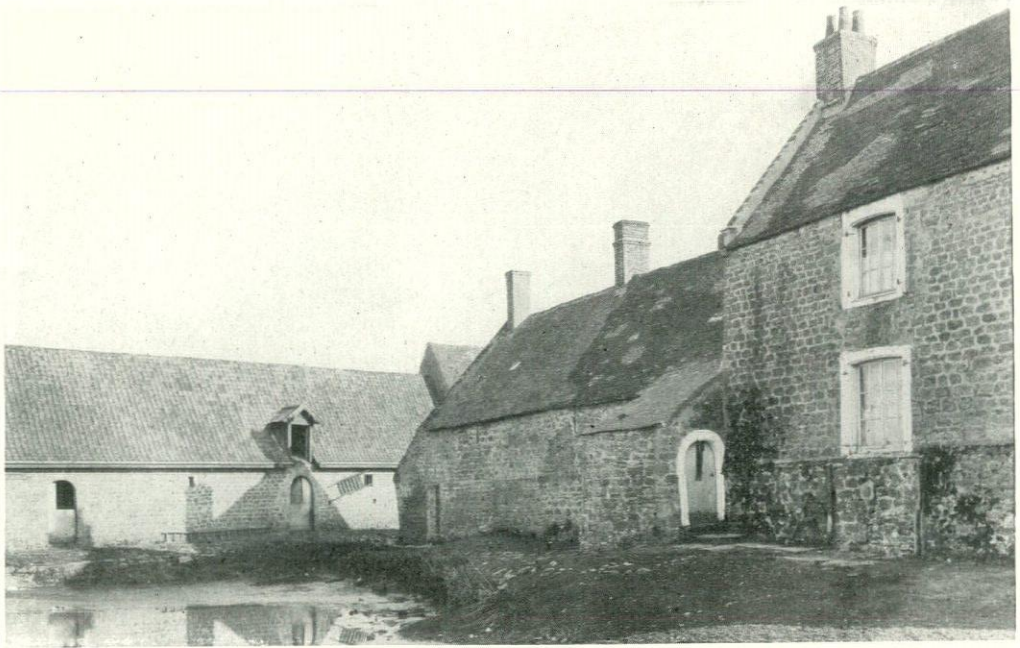


August, 1926

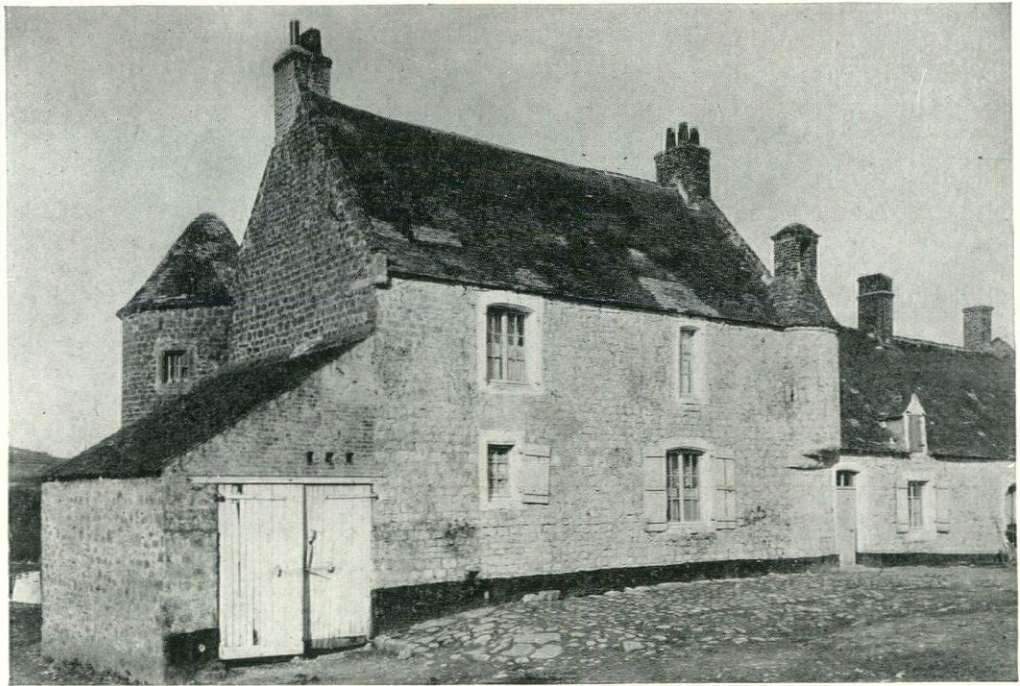
North Front and Courtyard
FERME LA GRANDE MAISON, BAZINGHEN

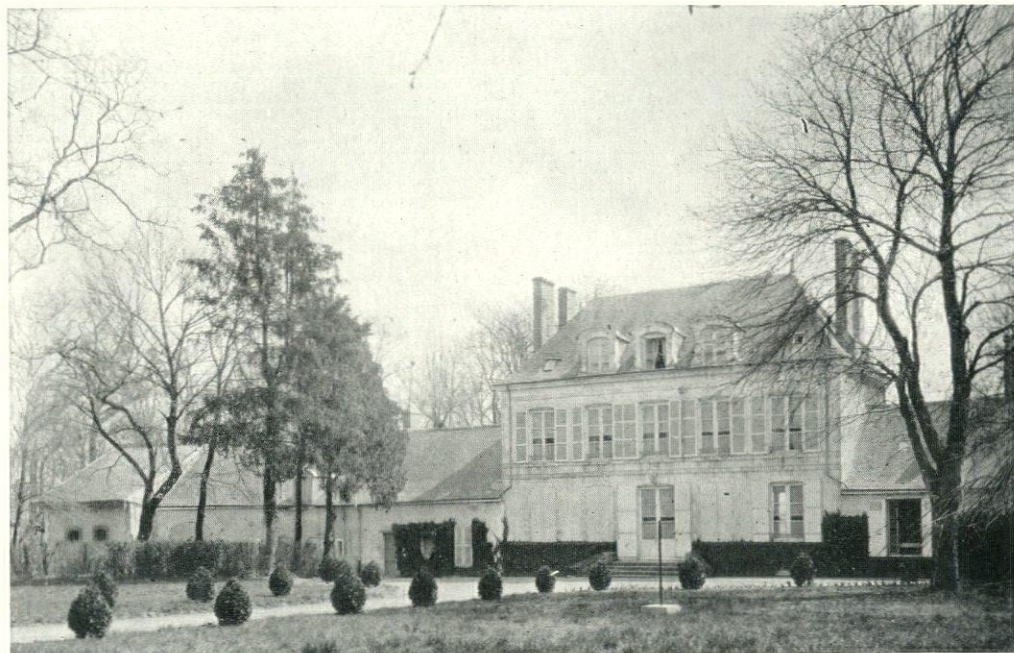


The Architectural Record
South End of House
FERME LA GRANDE MAISON, BAZINGHEN

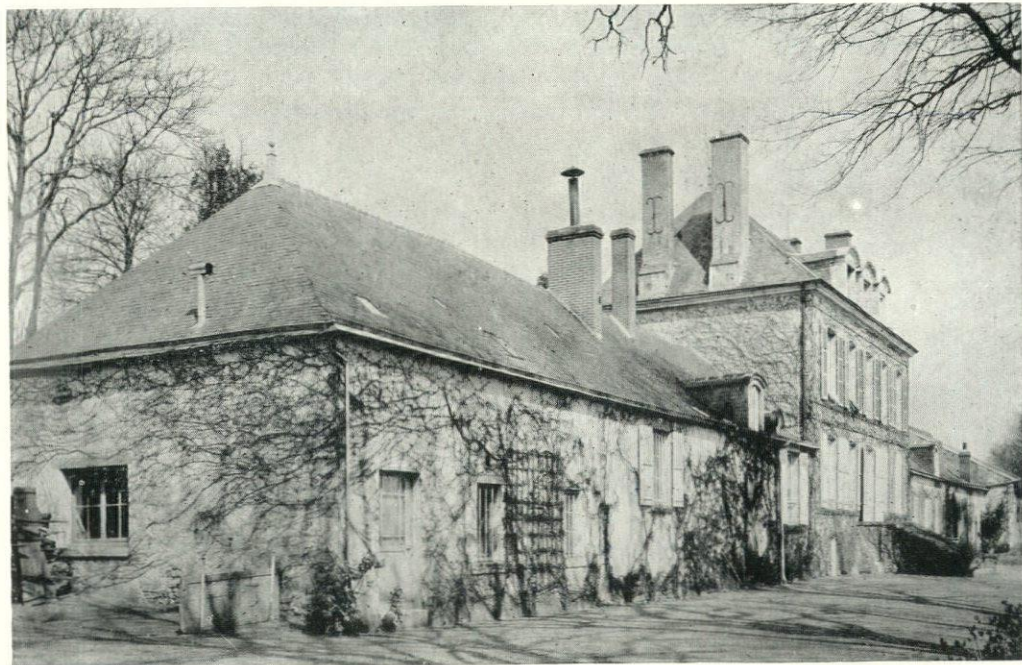


North Front, Pool and Barns





General North View

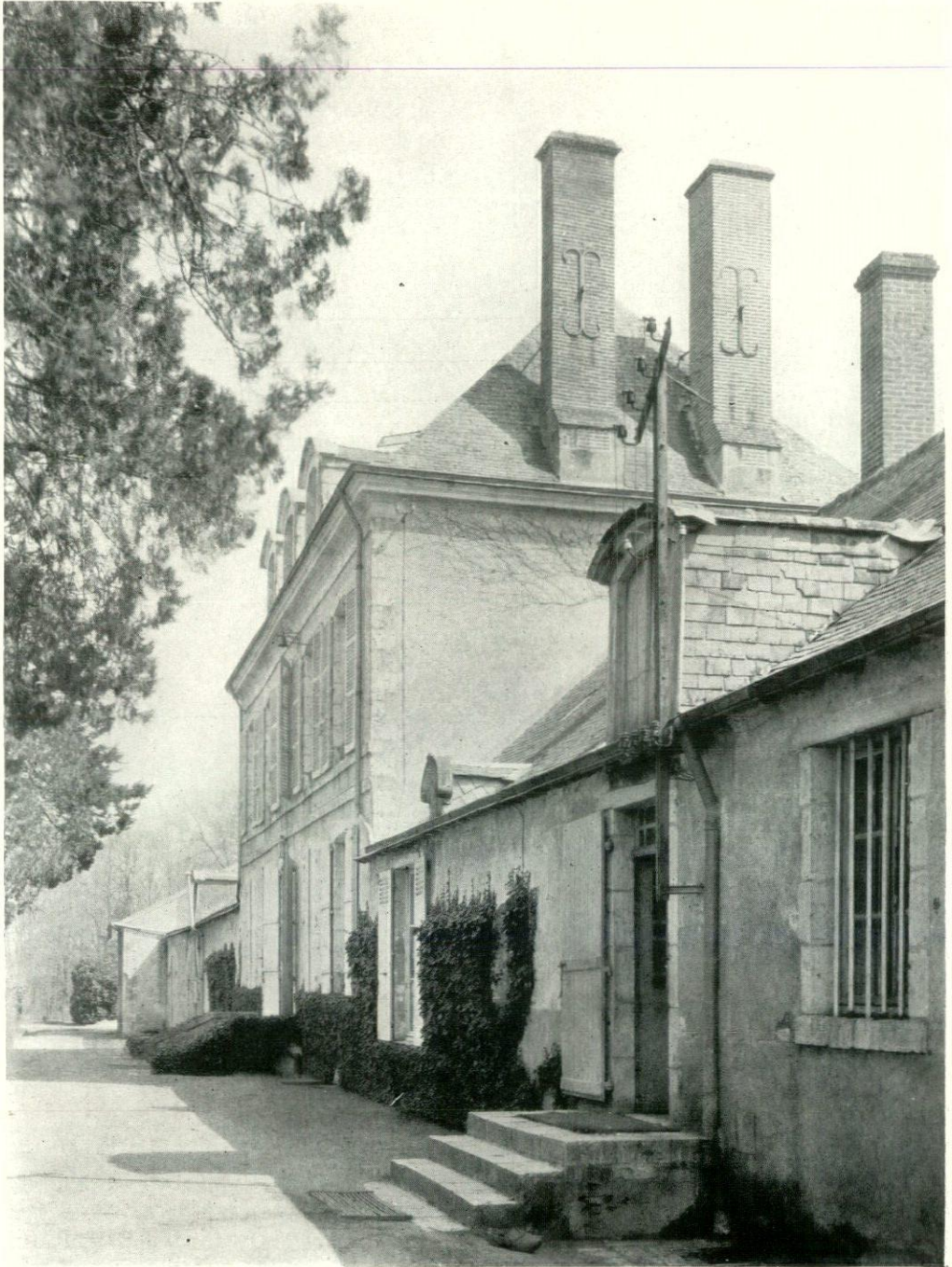


The Architectural Record

Kitchen Wing, South Front

August, 1926

A COUNTRY HOUSE AT SABLON, NEAR ORLÉANS, FRANCE



The Architectural Record

August, 1926

North Front
A COUNTRY HOUSE AT SABLON, NEAR ORLÉANS, FRANCE
[180]

The dwelling and all the other buildings throughout the group are constructed of the native cream-colored limestone which weathers to a soft, silvery grey, while the masonry is partly of rubble but chiefly of smallish, roughly squared blocks laid with wide mortar joints. The texture of all the walling, whether white-washed or with the stone left in its natural state, is especially agreeable and there is no portion of it that will not well repay close scrutiny. The only brick used appears in the wall of the later lean-to addition at the west end, in the face of a dormer on the north side, in the chimneys, and in the bellcote of the *clocheton*. Fortunately, nearly all of the original roofing, consisting of small, thin, reddish tiles, is still in place and contributes greatly to the general charm.

Despite the austere simplicity of the house, and the apparent absence of any features of avowedly decorative intent, there are certain details that gradually force themselves upon you and compel appreciation by their union of reticence and virility. A striking instance of this is found in the bell-turret of the south front whose Doric restraint and vigorous

contour impart to it a particularly convincing quality. Again, if we examine the coping of the gables and the stonework of the windows we shall discover a certain refinement not apparent upon a first cursory glance, nor, upon more leisurely inspection, shall we overlook the homely charm of the south front dormers whose interest is altogether derived from the lines incidental to their structural formation.

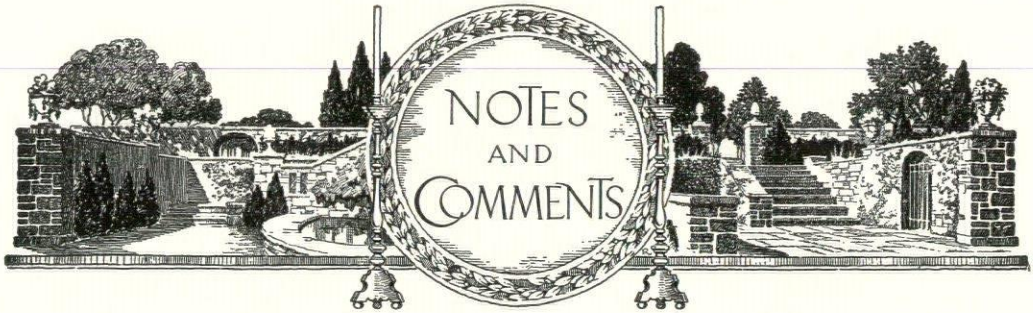
Along with the illustrations of Le Grand Moulin appear several illustrations and a perspective plot plan of La Grande Maison at Bazingenh.

This last named farmstead still retains some traces of excellence in spite of the sweeping repairs and "improvements" carried out by a too exigent owner. Every year takes its irreparable toll of old farms and manors sacrificed to misdirected energy for modernization. Directly

they fall into the hands of the renovator their character and charm are hopelessly doomed. If we would know these structures in anything approaching their pristine condition, it is imperative to pursue the study at once. As it is, few are left in their original state, and those, for the most part, in sorry dilapidation.



Garden Pavilion
CHATEAU DE PONT-DE-BRIQUES



Zoning and Wage-Earners' Housing

When New York City was zoned, the tenement centers of Manhattan and Brooklyn where the wage-earners live were almost entirely assigned to business or to "unrestricted" use. The evil results of permitting business to be forced into these areas, already overcrowded with buildings and people, are now so evident that, in the zoning of other cities, an effort is being made to avoid these conditions.

Zoning wage-earners' residence districts is a big problem and is complicated technically. The term "wage-earners" means a clear majority of a city's population—in New York 70 per cent of the people have family incomes of \$2,500 or less. This population is spread all over the city, but it tends to concentrate most densely near the business and industrial centers of Manhattan and Brooklyn. This is the area of the "old-law" tenements, where the worst slums are, and where every effort should be made to better the living conditions. Scattered throughout these crowded tenement districts are countless small retail shops on first floors and in basements. These are the shops which are the main problem of zoning in residence districts. They cannot be ousted and it is urged that they are essential in giving shopping facilities to the residents of the districts. It was this reasoning which led to the designation of the "old-law" tenement districts of New York generally as business and unrestricted zones.

Even in the less thickly populated parts of the city, as in The Bronx and Queens, where the more prosperous of the wage-earners live, as well as the middle class, there appear to be an unusual number of business and "unrestricted" streets in the heart of the residence zones.

The evil effects of this discrimination are becoming more and more apparent. In the first place, zoning looks undemocratic to the

worker, who is the voter. "We do not like to be treated as Park Avenue's back yard," declare the people of the tenement belt which parallels Park Avenue on the upper East Side. They resent the invasion of their district by big public garages which house the motors of prosperous citizens. Other business and commercial structures are being built in the tenement blocks—warehouses, loft buildings, small manufacturing plants. This business growth increases the vehicular traffic in the residence streets, and the lives of more and more children are sacrificed. In February, 1921, a count disclosed that on East 39th Street, on the block between 1st and 2nd Avenues, there were 1,790 people, of whom 714 were children under 16 years of age, including 118 babies. But under the zoning regulation a public garage could be located in the center of this block.

Lack of zoning protection increases the overcrowding of people as business is brought into tenement districts. The presence of additional workers creates social complications and it increases uncleanness and disorder. It also decreases the already insufficient daylight and circulation of air in the housing blocks. Equally unfortunate is the stimulus given to real estate speculation. Tenement properties change hands at higher prices, not simply on their value as housing, but rather because they are valuable as potential locations for business. The landlords lack incentive to replace the housing properties with new, economic and livable apartments of the new standard. Since housing technique has developed the city block as the true unit of housing design, rehabilitation of the slums is hampered by the existence of large business structures in the blocks. As a result, the housing properties are not kept in repair and they deteriorate rapidly. Large blighted districts are thus created in the city.

Such are the results of the failure of zon-

ing in New York City to protect the wage-earners' homes from business encroachments. A chaotic condition it is—undemocratic, creating discomfort and discord. How did it arise? Was it foreseen when the zoning regulation was framed? If it was foreseen, why was it not prevented? These were the questions which I asked recently when, in the course of studying housing, I realized this defect in zoning.

Yes, the zoners had realized the situation, I was told. They desired to protect the poor as well as the rich, but the retail store condition described above proved too big an obstacle, and so they failed to class Manhattan and Brooklyn's crowded tenement districts as residence districts. They did not, however, take this step without protests. Mr. Clarence S. Stein, the architect, suggested a solution. This was to give the neighborhoods in question a special use classification, calling them "semi-residence" districts, and defining "semi-residence" to require residence use entirely above the first floor of the buildings in the district, and to allow business use on the first floor and in the basements and cellars. The designation would also preclude public garages, stables or motor vehicle repair shops. Mr. John P. Fox, a lawyer, supported Mr. Stein's contention and he prepared in detail a map of Manhattan showing how the tenement areas could be zoned for "semi-residence" use. The objection to adopting the "semi-residence" idea seems to have been that it made the use of zoning too complicated in that particular instance. Zoning was comparatively new at that time and there was grave doubt as to how far it was constitutional. Although New York did not adopt the "semi-residence" principle then, it may yet do so, since Mayor Walker pledged himself before election to interest himself in the proper zoning of the residence districts.

The "semi-residence" use zone seems sound, and it is gratifying to learn that the idea is being successfully carried out in the zoning of other cities. Mr. Fox has incorporated it in some of the zoning regulations of Massachusetts towns and cities which he has draughted, notably Fall River, Dedham, Winchester and Arlington. In the case of Fall River, had not the "semi-residence" zone been adopted in the residence districts occupied by the wage-earners, more than half of the total area of that big industrial city would have been zoned as business, a situation which would have made the zoning manifestly defective. In the zoning of Boston, Mr. Fox points out that the object

sought by the "semi-residence" idea has been attained in another way, namely, by creating zones permitting retail shops as the sole business use. As to which of the two methods is the better, that depends on circumstances, although in the case of zoning small centers or outlying districts of a large city, the "semi-residence" scheme may prove desirable, because experience shows that in these cases there are many small businesses located in the residence districts. For instance, a small contractor or artisan may have a shop or lumber yard in the rear of a large and very deep lot. Such use it may not be wise to disturb.

At any rate, it seems clear that the difficulty of zoning the residence districts of the wage-earners, which is caused by the presence of retail stores, can be overcome, and recent zoning practice is solving it with encouraging success. The housing planner, noting that success with satisfaction, begins to wonder whether it cannot be carried further. He recognizes the necessity of retail stores in housing districts, but would like to see them placed under an even stricter control, both from the viewpoint of architecture and economics.

Architecturally, it is not good planning to permit small shops on the ground floor throughout housing neighborhoods. Some of the reasons why the practice is objectionable have been stated above, but there are two others which are also serious. One is that the garden space which can be had when housing is scientifically planned, is sacrificed when most of the ground floor space in the housing block is given over to small retail shops. Also, it is better to separate the entrances to the shops and to the housing, one from the other. As an illustration, a good architectural plan suggests a long narrow block, having the shops located on the ground floor and confined to the streets on the narrow ends, thus leaving the housing to be entered from the long streets. This arrangement would carefully separate stores from homes, yet make the stores accessible from the homes.

Furthermore, from an economic point of view, some such separation of homes and business seems desirable because there are usually more shops in housing districts than there are customers to patronize them; consequently, any reduction or restriction in their number may prove to be a big economic saving. Recently I have given some attention to the economic aspect of the retail store in residence neighborhoods, and already my observations have convinced me that this fac-

tor deserves more attention than it has hitherto received. The retail store is particularly important economically in housing since it is the chief means of offsetting, by its rentals, the high land values in the crowded housing centers.

Because of the actual conditions found in most housing areas, however, the importance of high income derived from stores and from amusement centers has been underrated by some experts. They point to the low rentals which are obtained in practice from stores in housing neighborhoods as proof of their contention. The fact is that low rentals are often the result of the ruinous competition which is caused by too many stores. An excessive amount of space is devoted to stores, with a big burden of overhead, management, frequent failures, and much poor service to customers, and often a low quality of goods. This economic waste is paid for by the wage-earners in high prices.

The conditions of the retail stores in and around the wage-earners' housing of the Metropolitan Life Insurance Company in New York City strikingly illustrate these principles. In the neighborhood of the Bliss Street operation, the company provided no stores of its own, leaving this function to speculators who crowded the surrounding streets with one-story shops—"tax payers"—many more than the possible business could sustain. As a result, there are many vacancies in the store properties, poor service, many failures of shop keepers, and all of this in spite of low rentals of \$80 or thereabouts a month. In contrast to this picture is the Astoria group of the company's housing. Here there are eight stores, having a total frontage of 168 feet, which are located on the avenue of a long, narrow block. These stores are of the best type, are extremely prosperous and they give the most satisfactory service—and nevertheless pay a very much higher rental.

One unfortunate result of zoning business streets in residence areas may be seen in Brooklyn, where several important avenues have been blighted by a surplus of stores. In particular, Coney Island Avenue has suffered seriously. Zoning experts, noting this and similar disasters, are now taking steps to avoid them, and they have hit upon the principle of restricting store sites in main avenues serving residence districts to intersections and corners, instead of permitting them to be located throughout the entire street frontage of the business avenue.

In residence neighborhoods of a less crowded character, the neighborhood shop

finds it even harder to exist. In Washington, D. C., for example, where row housing and individual housing types prevail, the shop rentals are as low as \$50 and \$60. That is, the return from store space is hardly greater than the return from housing space. The store in the thickly crowded old tenement areas is too often located in a basement, and the shopkeeper and his family dwell in the rear part, a most undesirable situation.

One would like to see a thorough research made into the conditions of the retail shops in housing areas. This is needed in order to determine their bearing on housing architecture and on zoning. But from what I have seen already, I am convinced that the status of the shops and amusement buildings in housing districts generally requires rehabilitation just as much as do the housing properties themselves. A chronic state of oversupply of neighborhood stores must place a heavy burden of economic waste upon the wage-earners and must handicap unnecessarily housing planning. When it is stated that there is an average of one store for every twenty-six families in the United States, the overproduction of the small retail store is clearly indicated. For this reason, one would like to see their number scientifically restricted.

JOHN TAYLOR BOYD, JR.

International Service

Last fall I noticed an item in a New York paper describing graphically a proposed Roman skyscraper to surpass American skyscrapers in height and importance. The mere thought of such an aggressive and modern addition to the skyline of Rome shocked my idea of the proprieties. While appreciating the fact that the overpowering tower was proposed not to belittle Rome, but to prove the capacity of modern Romans, I felt it would mar views in which the world has a moral, if not vested, right.

Rome, sacred because of the accomplishments of its people, should be zealously guarded against anything that would belittle or mar its memories. Its influence in architecture, engineering, literature, art and athletics dominated the ancient and Renaissance world. This influence persists as a guiding principle to the present day. I could not think of a steel tower clothed in stone or concrete, dominating Rome from far and near, overshadowing and marring the beauty of Saint Peter's dome, as anything less than a disaster—a disaster which I saw no way of preventing.

In a recent interview with Cass Gilbert, I was much pleased to find that the newspaper notices while attracting his attention impressed

him with the danger of a serious artistic error. This strong impression induced him to write personally to Mussolini explaining the cause of his fears. He felt strongly that a high tower of the skyscraper type would mar the beauty and reduce the scale of all the great buildings in Rome. In the interests of future generations these historic monuments and artistic treasures should never be belittled or overshadowed. He called attention to the charm, beauty and dignity of Saint Peter's dome as it rises above the city, when seen from the Campagna, and surrounding country. No structure as high or higher should be allowed to alter the scale or mar these charming views. He expressed his opinion that while a towering building eleven hundred feet high

While the plea of Belisarius was to guard against wanton destruction, Gilbert's plea was to guard against the dangers of additions which, although intended to enhance the effect, would mar or destroy beautiful historic views. He made a constructive suggestion that Mussolini's architect be asked to design a development that would be in harmony with the traditions of Rome, mentioning the completion of the approaches to Saint Peter's to give an open vista from the Ponte St. Angelo to the façade of the Cathedral.

Nothing was heard from the letter for some time. Recently a distinguished Italian who was visiting this country informed a friend of the Fine Arts that Mussolini in directing the



"THE DARK DAYS OF '63"
A Mural Painting by Harvey Dunn, Created for the Lord & Taylor Centennial

might be a glorious thing in itself it would be inevitably detrimental to the aesthetic effect of the city. No one should attempt because of mechanical knowledge and facilities to compete with Michael Angelo. Gilbert quoted a remarkable letter written in A.D. 545 by Belisarius to the Barbarian Chief Tortila when it was thought Rome might fall. I quote some extracts from this letter.

"Of all cities under the sun, Rome is confessed to be the greatest and most glorious. . . . The united efforts of some of the noblest of men . . . a lavish expenditure of wealth, the most costly materials, the most skillful craftsmen of the world have united to make Rome. . . . Any act of wanton outrage against this city will be resented as an injustice by the men of all ages, by those who have gone before because it effaces the memorials of their greatness, by those who shall come after, since the most wonderful spot in the world will be no longer visible."

development of the city improvements gave the officials a letter from a New York architect with instructions to follow its suggestions.

If the suggestions of Gilbert have prevented the skyscraper in Rome and will open a view from the bridge of Saint Angelo to Saint Peter's, or restore the fora of Augustus, he will have performed an international service to art—a service worthy of his new dignity as President of the National Academy of Design.

GLENN BROWN.

A Note of Explanation

It is sometimes difficult to clothe the events of thirty years past with the strictest accuracy, and occasionally, even with the greatest care and most painstaking research, a solecism will crop up, as one might say. In all fairness an explanation is due in reference to a certain incident recorded in Part VI of *Boston Dry Points* published in our June issue. We are very glad to reproduce the following: Ed.

June 11, 1926.

Mr. Hubert G. Ripley,
Sir:

After a hasty reading of the episode concerning your humble servant in the current RECORD and making due acknowledgment of the mythical qualities ascribed to me therein, one cannot but feel that the latter part of that incident is no innocent recital of facts, but a cunningly arranged sequence of events with a low down Town Topical Touch devised with fiendish ingenuity to make of a hitherto spotless reputation a hissing and a by word.

As to the poem, if without offence to God or man I may be allowed to refer to it as such. I was approached by a "certain party" (as Benny Brooks would say) who for reasons of State must remain nameless and who has since become a writer whose fountain pen I am unworthy to fill. This party gave such a glowing, dazzling, vivid description of something between a new born angel and a Mohammedan's hopes of the hereafter, that I was prevailed upon to attempt to put it in verse, and now look at the dern thing. I never saw the strawberry blonde, either before or after she reached what I am convinced was her proper setting, but from quotations such as "Why your han's *jus like* a gemman friend of mine from Georgia," I gathered such was not the case with others.

As to that touching inference to a lost love—constancy—broken heart, et al. I merely suggest that "before I was married I was miserable."

Also if Tennyson had lived to outlive "And in my veins was that strange stir, which clothes with bloom the almond trees," he might have changed those famous lines of his

"I feel it when I sorrow most,
'Tis better to have loved and lost
Than never to have lost at all."

Yours, E. F. M.

L'ENVOI

The poet Mirtyz Mohammed-Ali to his friend Abou-Hassem in Algeziras.

"O Hassem, greeting! Peace be thine,
With thee and thine be all things well!
Give refuge to these words of mine.

The strange mischance that late befell
Thy servant must have reached thine ear;

Rumor has flung it far and wide,
With dark additions, as I hear
When They-Say speaks what ill betides!
So lend no credence, O my friend,

To scandals, fattening as they fly.
Love signs and seals the roll I send:
Read thou with lenient eye."

Corrections

We regret that an error was made in the caption appearing under the cut on Page 89 of our July issue, which should have read as follows: Model of Pediment to be carved in sandstone for Philadelphia Museum of Art, designed and modelled by Paul Jennewein. C. L. Borie, Jr., Horace Trumbauer and C. C. Zantzinger, Associated Architects.

Also, on page 565 of our June issue, in the last line of the second column, the word "alternation" should read "attenuation," ". . . that it tends to excessive attenuation of supports . . ."

A New Limestone Company

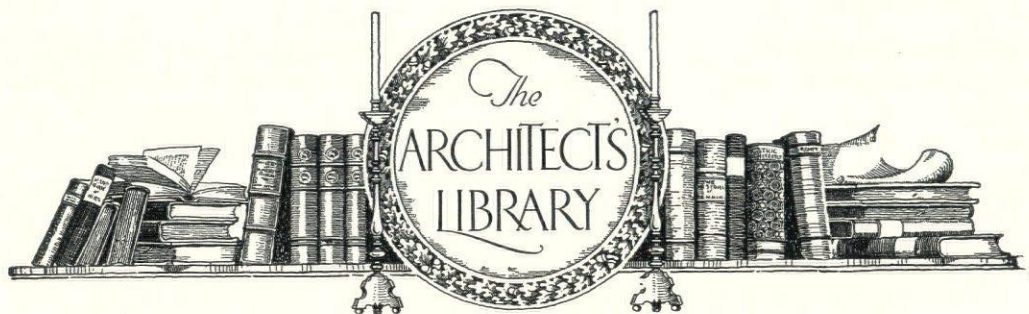
Announcement is made of the organization of the Indiana Limestone Company, capitalized at \$40,000,000 under the presidency of A. E. Dickinson and with Lawrence H. Whiting as chairman of the Board of Directors. The new company is composed of twenty-four limestone companies embracing the largest operating companies in the Bedford and Bloomington, Indiana, district, recently bought by Mr. Whiting, who is president of the Michigan Boulevard Bridge Bank of Chicago and of the firm of Whiting & Company.

The officials of the new company announce that the consolidation of the twenty-four limestone companies does not embrace any substantial portion of the cutting and fabricating plants of the country, but only such of the cutting mills in the Indiana Limestone district as are owned by or are more or less closely affiliated with quarry operating companies. A number of large cut stone firms in the Indiana district are not included.

The present Indiana Limestone Quarrymen's Association will become the promotion department of the new company with headquarters at Bedford, Indiana and executive offices in the Tribune Tower, Chicago.

It is stated that the consolidation will result in economies in production, and in the development of markets for by-products of building stone quarries. It will be possible to control to a greater degree the classification or grading of limestone and to put into effect certain standardizations.

A number of new sales and service offices will be established in important cities of the country from coast to coast.



The Old Mission Churches and Historic Houses of California*

The Californian mission churches are not old, The Texan and New Mexican are older. The Californian missions were established very rapidly one after the other by Franciscan friars in the fifty years following 1769. Of the twenty-one from San Diego, (1769) to San Francisco de Salano, (1823), eighteen were founded before the end of the century, and nine by Father Junípero. Both the first churches were small and soon disappeared. The San Diego church, whose ruins still remain, was built about 1812. The Santa Barbara buildings, all still in good condition and use, date from 1815 to 1820. The sense of antiquity which one has regarding them, is of the antiquity of a vanished era, the antiquity of a contrast. The missions stand apart from modern California in a solitude and distinction as striking as a Roman arch or medieval cathedral in a modern French city. The friars who built them were medieval in feeling, and the atmosphere of the missions is far older than their date. Modern America has swept over them. The missions and the hotel beside it are only a hundred years apart in dates, but four or five hundred years in their cultural sources.

The flourishing period of the mission system was the first fifteen years of the century. Mexico became independent in 1821, and the California missions were all secularized in 1834. The immediate results were disastrous for the Indians. However paternal the rule of the friars, it was more competent and more humane than that of the Mexican authorities. In a few years the missions were ruined and most of the Indians had fled. In 1845 the lands were sold to settlers. After the American occupation, however, a small portion of the lands was

restored. Secularization sooner or later was no doubt necessary, but the friars were better civilizers than any of the authorities succeeding them for a long time.

The ordinary building material was adobe, or sun dried brick, stuccoed and whitewashed, with wooden rafters and tiled roofs. Then some of the more prosperous and ambitious began to employ stone and burned brick, especially for arches and trimmings. An adobe wall had to be very thick because of its low bearing power. The walls of San Luis Rey are laid in diagonal pattern with concrete joints of mortar and rubble. In general the later the date the more stone was used. Had the mission era lasted longer, there would have been finer and more enduring architecture. The churches at Santa Barbara, San Buenaventura, San Carlos Borromeo, San Gabriel, are all stone.

"The structural system used may be said to be of three kinds, namely: the post and lintel, the arch and pier, and the truss. Thus the padres used all the constructive systems that in their time had been developed." The roof trusses, however, were hardly "real trusses," either because the padres did not know the principle of the truss, or for lack of metal. The long narrow naves were conditioned by the length of timbers to cover the span, and sometimes they were supported in the middle by a post. In the absence of iron the rough timbers (as at San Fernando 1797 and San Francisco de Assis 1776) were bound with rawhide thongs. At San Carlos Borromeo the original roof timber and tile were supported by three stone arches spanning the nave; but stone arches, not very well built, were seldom able to withstand earthquakes.

As a rule the architects were the padres themselves, though some craftsmen were found among the soldiers and artisans sent into the province. They wrought in the fashion of their native Spain, with enthusiasm, with rivalry of each other, with poor

* *The Old Mission Churches and Historic Houses of California. Their History, Architecture, Art and Lore.* By Rexford Newcomb, M. A., M. Arch., A. I. A. J. B. Lippincott Company, Philadelphia and London, 1925. Price \$15.00.



The Architectural Record

MISSION SANTA BARBARA

August, 1926

Illustration from *The Old Mission Churches and Historic Houses of California*



MISSION SAN GABRIEL ARCANGEL

From *The Old Mission Churches and Historic Houses of California*

materials and poorer labor; and yet the result was simple, sane and craftsman-like. It follows the old Spanish traditions, but it has the naive qualities of primitive architecture, frank, bold masses and rhythmic forms.

The Spanish colonial style of Mexico was one of the most elaborate of styles. It was more frankly organic and expressive of structure than was usual in Spain, and extraordinarily florid in detail. Mexico is also a land of domes. Nearly every village has its domed churches, nearly always "one shelled," usually covered with various colored tiles, and crowned with a Renaissance lantern. Mexican architecture followed the changes taking place in the mother country, but lagged behind it in point of time. The immense wealth of the mines made the church wealthy, which explains the great amount of elaborate work on Mexican churches.

Some of the churches in Texas show the reflection of this attempted magnificence. But the California missions were poor and far away. Their churches were built in the good proportion generally characteristic of Mexican work, but the degraded decoration is entirely absent. The padres and the

Indians were humble people and built simply.

The distinguishing features of California mission style are somewhat as follows: massive walls often with buttresses; arcaded corridors, arches carried on piers, curved pedimented gables, terraced bell towers with lanterns, pierced campinarios (bell walls and towers), patios with fountain or garden, broad undecorated wall faces, wide projecting eaves, low-pitched red tile roofs. Some of these features, such as the first, and the last four, were present in practically all the missions.

So far as I know this architecture has never, before Mr. Newcomb, been studied so thoroughly, nor given so fully, nor the social life of that brief Spanish era presented from the evidence of its architectural remains. Naturally the chief remains are the missions, and in particular the churches. The bulk of his book is devoted to the study of mission architecture. It begins with a very good historical sketch, and presently turns to a detailed study of each separate mission, its story and its architecture, starting from San Diego and following the old trail up the coast to the cluster around San Francisco Bay.

But there was also a domestic architecture



MISSION SAN BUENAVENTURA

From *The Old Mission Churches and Historic Houses of California*

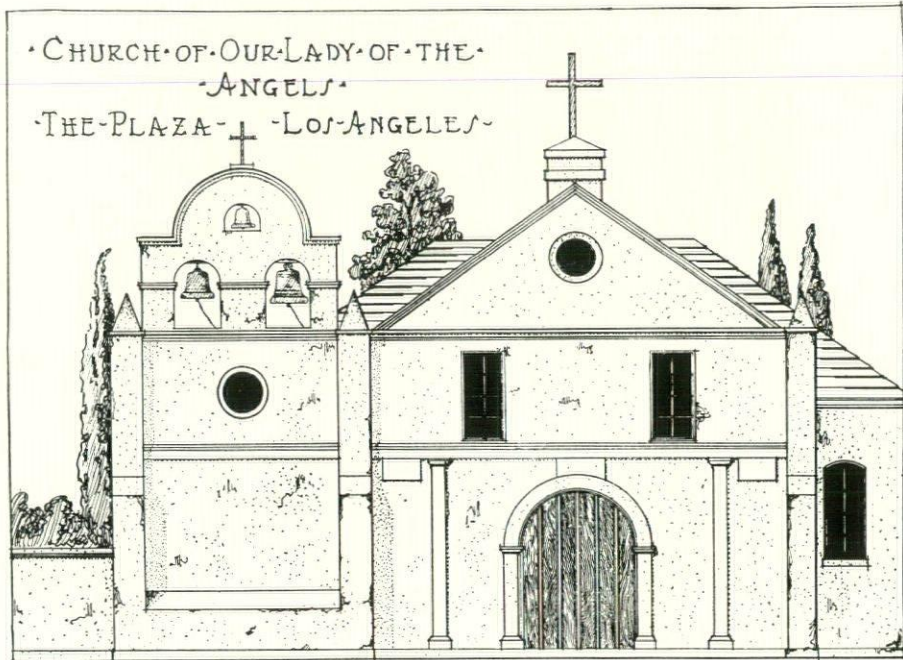


Illustration from *The Old Mission Churches and Historic Houses of California*

of pueblos, ranches and haciendas, that is, respectively, towns, stock farms and plantations. They were for the most part low buildings, of whitewash adobe and red tile, and very plain outside. Architectural detail and planning were confined to the inner courts. The Spanish period was the era of the missions; the Mexican era of the pueblos, such as Santa Barbara and Monterey. The houses of importance in Monterey were of two general classes, the square hip roof type with "lean-to" of one story, and the long gabled houses with gables parallel to the street.

The volume is profusely illustrated, with many scale drawings and studies of detail, as well as interesting examples of modern California architecture designed after the Spanish-colonial style.

The earlier architectural impulses of the Americans in California were to copy the east. San Francisco and Los Angeles imitated New York. Mansard roofs, and Queen Anne cottages flourished by the Pacific. But the later movement is back to the Spanish; and inasmuch as the climate is essentially Mediterranean, one cannot but feel that this is a thing of sounder foundations. The old California architecture was straightforward and sincere. It had honest craftsmanship and a

style. The Spanish colonial is an architecture appropriate to the climate and the Hispanic background of California. In fact any part of the United States (such as the Gulf states and the whole South west) where the climate conditions favor the use of patios and arcades, invites the study and adoption of Spanish colonial forms.

Drawing. Its History and Uses. By: W. A. S. Benson. With a Memoir by the Hon. W. N. Bruce, C. B. New York: Oxford University Press. 1925. 1st ed. xxxiii. 109 pp. Ill. 5¼ x 8 in. Cloth. \$2.25.

When W. A. S. Benson died in July, 1924, the world of art lost a man of marked talent, and of far-reaching influence. His posthumous book is full of inspiration and incisive comment, and will be found valuable by every architect and reader.

Sketching in Lead Pencil for Architects and Others. By: Jasper Salwey, A. R. I. B. A. New York: Charles Scribner's Sons. 1926. 1st ed. i. 174 pp. Ill. 5½ x 8½ in. Bound in Boards. \$3.00.

Concerned, as the author says, with "sketching" as differentiated from the making of drawings, and therefore to be considered as a pendant to his previous book, "The Art of Drawing in Lead Pencil." Contains instructions in a carefully considered method which is deemed most suited to direct work in the open air, with a special view to developing the best technique.

New Building Estimators' Handbook, by William Arthur. New York: Scientific Book Corporation, 1926, 14th ed. xviii, 1018 pp. Ill. 4¾ x 7 in. Flexible fabrikoid. \$6.00.

The author has made a genuine contribution to the building trade by supplying a compact and authoritative guide, presented in a way that makes it usable and invaluable to every architect, contractor, builder and engineer. Mr. Arthur's experience has covered a great number of years in building estimating, a large share of which has been for the leading railroads of this country, and in compiling this book, he has drawn upon not only his own experience, but in addition, that of the leading industrial concerns in America allied with the building trade. In a concise and understandable way, he has taken this data and presented it in the form of a ready reference guide.

Bodiam Castle, Sussex. A Historical and Descriptive Survey by The Marquis Curzon of Kedleston, K.G., Boston, Mass. Houghton Mifflin Co., 1926. 1st ed. xiv. 164 pp. Ill. 8½ x 11 in. Cloth. \$10.00.

A few months before his death, arrangements had been made with the late Lord Curzon to prepare a series of volumes dealing with the various country houses and castles which he had occupied during his life. Of the series, this volume alone was completed before his death, and will remain his one outstanding literary production, written *con amore*, elaborately illustrated, and giving the full history and description of one of the most beautiful, interesting, and typical old castles in England.

RECENT PUBLICATIONS

issued by manufacturers of construction materials and equipment.

[These may be secured by architects on request direct from the firms that issue them, free of charge unless otherwise noted.]

Cast Iron Pipe Inspection. Standard specifications for cast iron pipe and special castings. Standard dimensions, thickness and weights of cast iron pipe, also specifications of de Lavaus centrifugally cast, cast iron pipe. General information concerning cast iron pipe. Robert W. Hunt Co., Engineers, 2200, Insurance Exchange Bldg., Chicago, Ill. 3¾ x 7 in. 28 pp. Ill.

Glass, Plate. "The making and use of plate glass." Early American activities, the modern manufacture and new uses. Pittsburgh Plate Glass Co., Dept. A.R. 2, Frick Bldg., Pittsburgh, Pa. 4¼ x 7 in. 20 pp. Ill.

Partitions. A. I. A. No. 19 E. 61. Acme Vertical Partitions, Type "J." Folder giving full description with sectional diagrams. Acme Partition Co., 3535 Peralta Street, Oakland, Cal. 8½ x 10½ in. Ill.

Refrigerators. Catalog No. 56. Refrigerators and cooling rooms for hotels, restaurants, hospitals, institutions, colleges and clubs. Description of construction of various models in stock and built to order. Data for mechanical refrigeration. McCray Refrigerator Sales Corp., 662 Lake St., Kendallville, Ind. 7¾ x 10½ in. 52 pp. Ill.

Brick Pavements. "The Construction of Vitrified Brick Pavements." General information in relation to the building of pavements and roads with recommended specifications. National Paving Brick Mfg. Assoc., Engineers Bldg., Cleveland, Ohio. 6 x 9 in. 92 pp. Ill.

Bronze. "Ornamental Bronze" Entrances and Store Fronts. Series A. A. I. A. File 15a1. Examples of modern American design and craftsmanship. XXXII plates selected by a jury of architects. Copper and Brass Research Association, 25 Broadway, New York City, N. Y. 8¾ x 10¾ in. 84 pp. Plate illustrations.

Venetian Blinds. "Daylight Control Plus Ventilation." Typical installations and advantages. Details of construction. Testimonials. Western Venetian Blind Co., 27th and Long Beach Ave., Los Angeles, Cal. 8 x 11 in. 66 pp. Ill.

"Fold-Away" Rooms. A. I. A. File No. 19e7. Illustrated folder of "Fold-Away" rooms that hide in the wall, dining rooms and breakfast rooms. Specifications and installation directions, diagrams and instructions. Fain Mfg. Co., 313 National Bank of Commerce Bldg., Norfolk, Va. 8½ x 11 in.

Metropolitan Museum of Art. A Brief Guide to the Cloisters, by Mr. Joseph Breck. General and particular information concerning interior and exterior of the building. Information concerning admission, assistance in studying the collection and permits for copying and photographing. The Metropolitan Museum of Art, 5th Ave. and 82nd St., New York City, N. Y. 5½ x 8¾ in. 58 pp. Ill. 50c.

Projected Sash. Catalogue No. 12. A. I. A. File No. 16e1. Architectural and industrial types with standard sash units and specifications. Wall, screen and shade details. David Lupton's Sons Co., 2209 E. Allegheny Ave., Philadelphia, Pa. 8½ x 11 in. 24 pp. Ill.

Hotel Equipment, etc. General Catalog No. E-28 of equipment, furnishings and supplies for hotels, restaurants, clubs and institutions, including china, glass and silverware, linens, cooking equipment, disappearing beds, show cases, etc. Albert Pick & Co. (Albert Pick, Barth & Co., Inc.) 208-224 West Randolph Street, Chicago, Ill. 8¼ x 11¼ in. 368 pp. Ill.

"Sylphon" Heating Specialties. Catalog No. 200. Articles relating to heating and temperature regulation, including Bellows, Interlocking Valves, Damper Regulators, Radiator Shields and Covers. Engineering Data and Charts. The Fulton Co., Knoxville, Tenn. 3¾ x 6¾ in. 192 pp. Ill.

Switch Panelboards. Bulletin No. 37. The new NRSS Flush Service Switch Panelboard with the safety panelboard door open. Ex-

planatory diagram. Special features and their advantages. Specifications for cottage or small bungalow. Diagrams of connections. Uses for fan hanger outlets. Frank Adam Electric Co., 3649 Bell Ave., St. Louis, Mo. $7\frac{3}{4} \times 10\frac{1}{2}$ in. 8 pp. Ill.

Bath Room Accessories. Handbook N. Silver soldered accessories for the bathroom and lavatory. Mirrors to specifications for institutional and commercial building installations. One-piece recess steel medicine cabinets. J. P. Eustis Mfg. Co., 12-16 Ames Street, Cambridge, Mass. $7\frac{3}{4} \times 10\frac{3}{8}$ in. 84 pp. Ill.

Blue Printing Machines. Pease Junior Blue Printing Machine and Junior Sheet Washer, for the moderate user of blue prints. Folder giving description and method of use. The C. F. Pease Co., 877 North Franklin Street, Chicago, Ill. 6×9 in. Ill.

Concrete Products. Materials used in the manufacture of concrete products. Concrete blocks and specifications for waterproofed concrete blocks. Uses and sizes of hollow concrete tile and cement brick. Cement floor tile and architectural trim stone. Concrete roofing tile. Ornamental concrete products. Figures as to mixes, methods, etc. Sandusky Cement Co., 1002 Engineers Bldg., Cleveland, Ohio. $8\frac{1}{2} \times 11$ in. 36 pp. Ill.

Zinc. "Once in a Lifetime." Advantages of zinc for roofs, leaders, gutters, valleys and flashings. Superiority of zinc and typical installations. Testimonials. New Jersey Zinc Co., 160 Front Street, New York City, N. Y. $5\frac{5}{8} \times 8$ in. 32 pp. Ill.

Painting, Varnishing, Enameling. A. I. A. File No. 25c. Complete specification manual for painting, varnishing and enameling interior and exterior wood, plaster and metal work. The proper selection of woods and the correct finish. Pratt & Lambert, Inc., 73-97 Tonawanda Street, Buffalo, N. Y. $7\frac{1}{2} \times 10\frac{5}{8}$ in. 38 pp.

Pine Woods. "Introducing Cal. Pine." Description of the grades of white and sugar pine with information as to the uses, sizes and forms of the material. Sidings, lath and moulding patterns. California White & Sugar Pine Manufacturers Association, 600 Call Bldg., San Francisco, Cal. $7\frac{3}{4} \times 10\frac{3}{4}$ in. 48 pp. Ill.

Bathrooms. "New Ideas for Bathrooms." Suggesting floor plans, color schemes, treatments for walls and floors, new modes in fixtures and appointments. Blue prints and detailed information and particulars. Crane Co., 836 South Michigan Ave., Chicago, Ill. $8\frac{1}{2} \times 11$ in. 48 pp. Ill.

Cement. "What Twelve Men Said About Carney." Opinions of Architects and contractors. Typical installations. The Carney

Co., Mankato, Minn. $8\frac{1}{2} \times 11$ in. 20 pp. Ill.

Concrete Floors. Series of three folders. No. 1 Detailed information on planning and construction of floors and flooring surfaces. Description and specifications of metallic hardener, mastermix, colormix, saniseal, etc., including concrete floor enamel, accelerators and freezeproofers, $9 \times 11\frac{3}{4}$ in. 19 loose leaf sheets. No. 2 Waterproofings, damp-proofings and allied products. Descriptions and specifications. $9 \times 11\frac{3}{4}$ in. 17 loose-leaf sheets. No. 3 Nine specimen blocks of hardened concrete. Master Builders Co., Cleveland, Ohio. $9 \times 11\frac{3}{4}$ in.

Concrete. "The Concrete of the Architect and Sculptor," by John J. Earley with an introduction by Lorado Taft. The ability of concrete as a medium for sculpture, with typical illustrations. Portland Cement Association, 33 West Grand Ave., Chicago, Ill. $8\frac{1}{2} \times 11$ in. 12 pp. Ill.

Pinewood. "The Greater Strength of Southern Yellow Pine." A monograph in which is discussed the stresses to which structural timbers may be subjected, and including recommendations for the correct use of southern yellow pine. Southern Pine Association, New Orleans, La. $8\frac{1}{2} \times 11$ in. 12 pp. Ill.

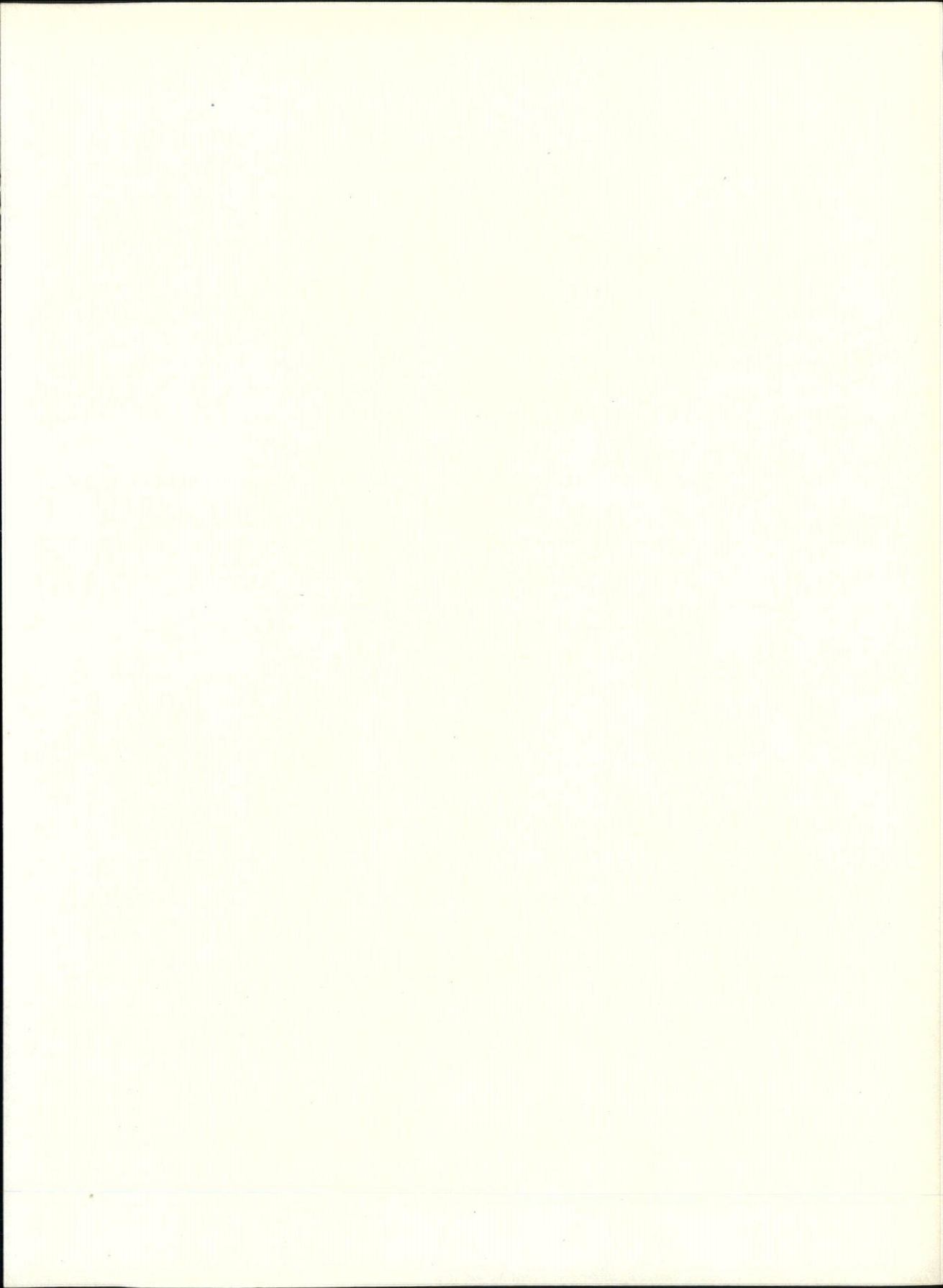
Fences, Gates and Railings. Specification Manual No. 60, containing complete specifications, scale drawings, details and dimensions, architects' specification clauses and other data. Anchor Post Iron Works, 9 East 38th St., New York City. $8\frac{1}{2} \times 11$ in. 94 pp. Ill.

Fireproofing. The Fireproofing Handbook. 9th edition. Containing descriptive and illustrative material on the most complete line of steel building products for fire-safe, modern construction. Comprehensive treatment of the uses of General Fireproofing Steel Building Products, Dept. B-J., Youngstown, Ohio. $8\frac{1}{2} \times 11$ in. 32 pp. Ill.

Hardware. 1926 Catalogue of locks and hardware. A complete series of builders' hardware with full particulars, including size, weight, price and packing. Description of each article with use and method of operation. Details to which standard hardware can be applied. Sargent & Co., New Haven, Conn. $9\frac{1}{8} \times 12\frac{1}{4}$ in. 504 pages. Ill.

Valves. Instruction and data book for Bridgeport-Keating Flush Valves. Bulletin No. 24. Descriptions of the various models and installation instructions. Bridgeport Brass Co., Bridgeport, Conn. $3\frac{7}{8} \times 9$ in. 16 pp. Ill.

Drains. Ready reference Folder No. 2. Floor and roof drains, details and particulars. Swimming pool equipment. The Josam Manufacturing Co., 4900 Euclid Bldg., Cleveland, Ohio. $6\frac{3}{4} \times 9\frac{3}{4}$ in. 12 pp. Ill.





DESIGN FOR A POLYTECHNIC SCHOOL.
J. BECKENING VINCKERS.