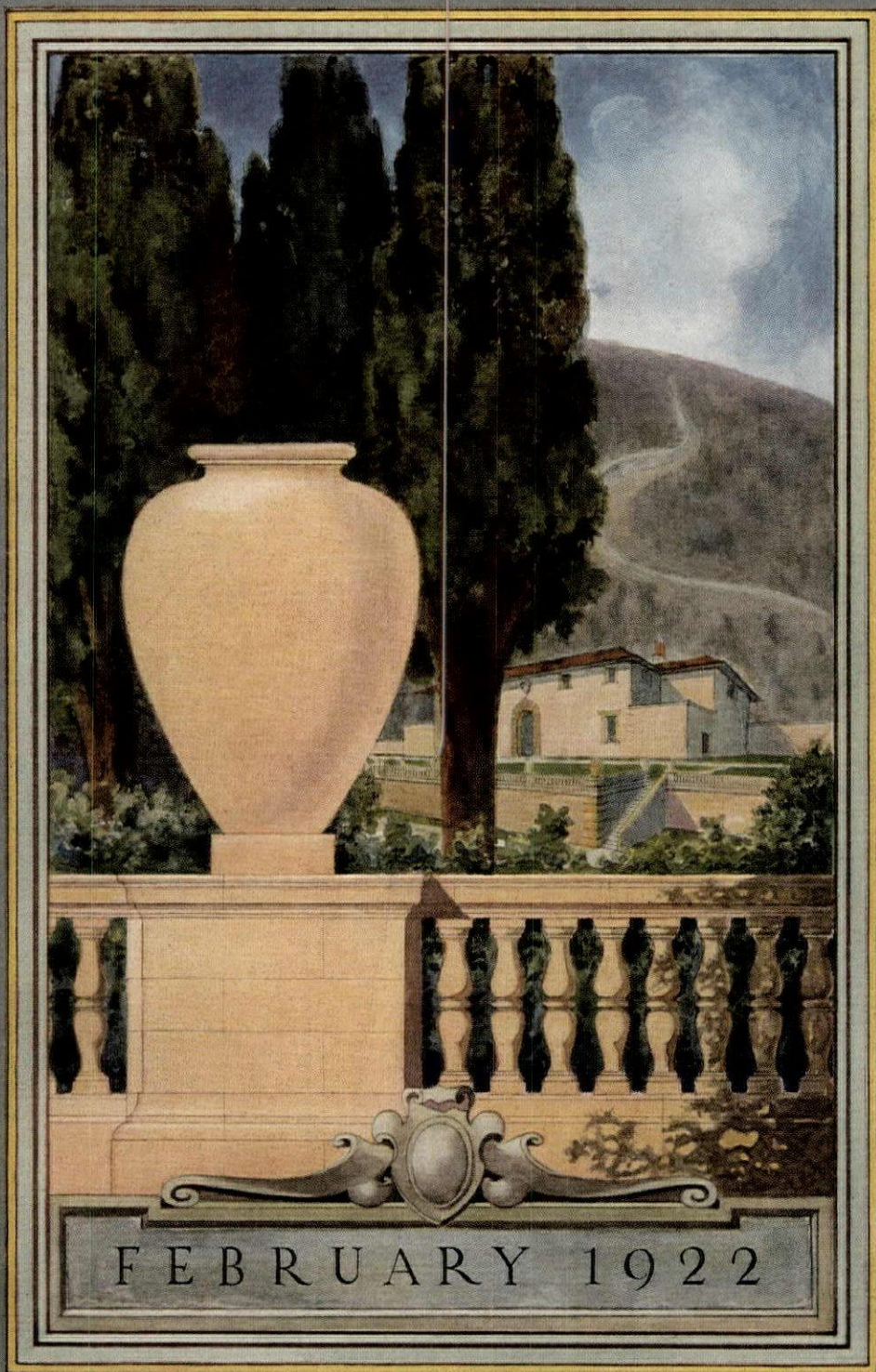


ARCHITECTURAL RECORD



FEBRUARY 1922

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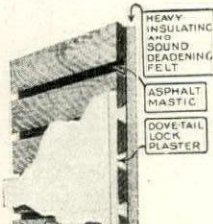
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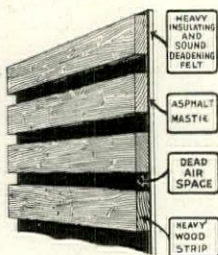
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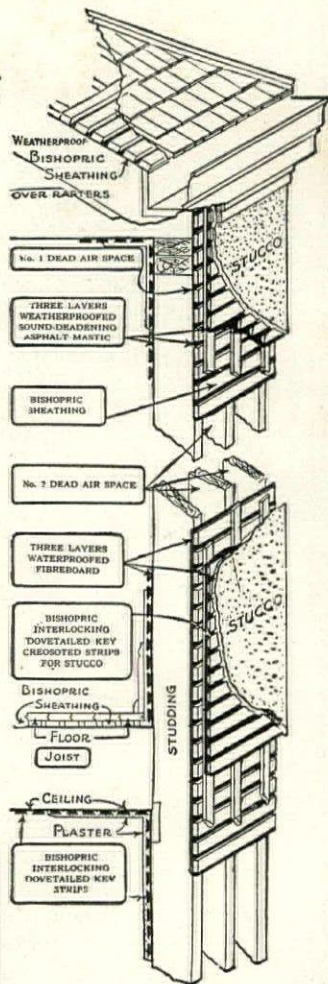


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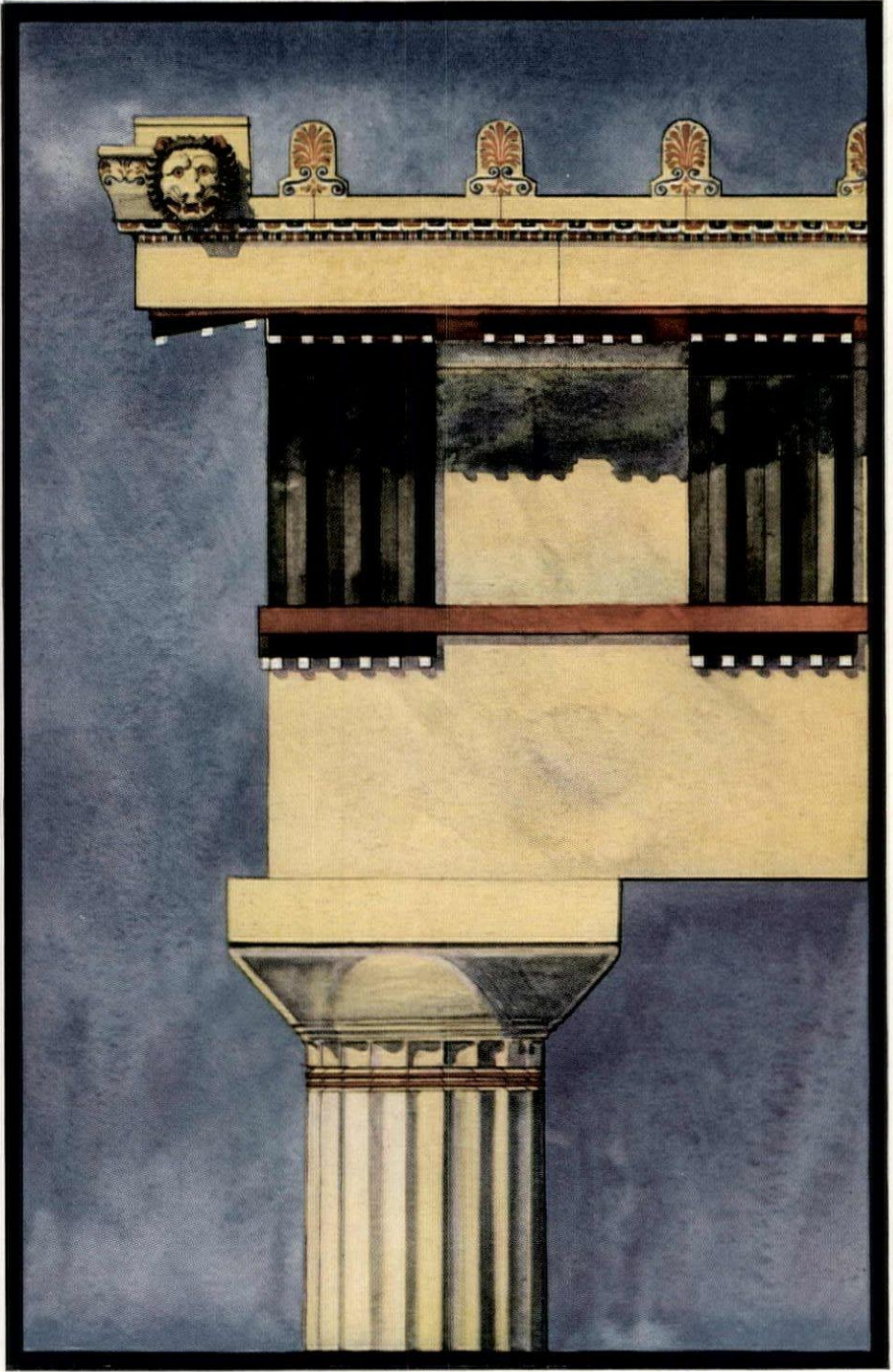
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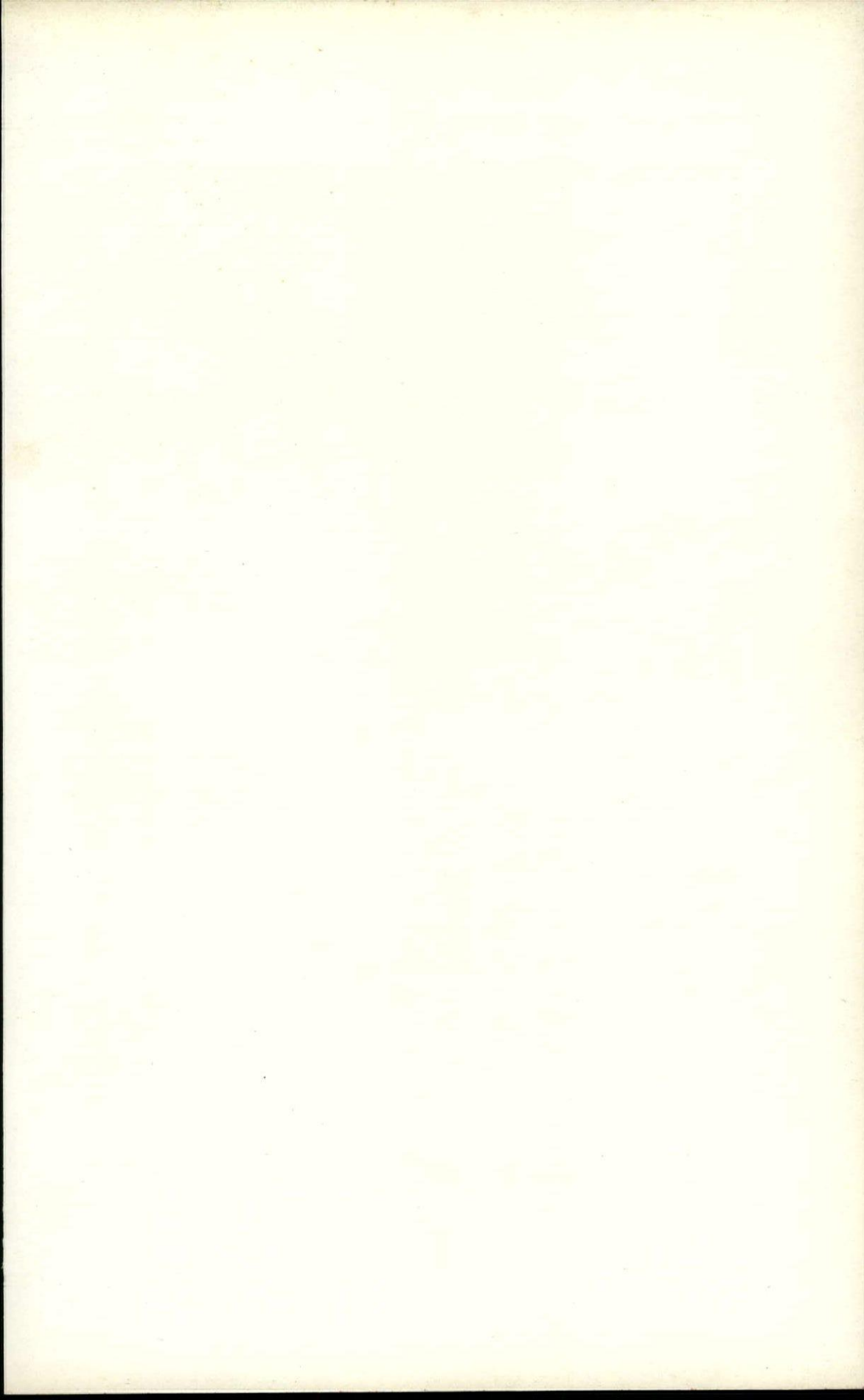
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PLATE II



Temple at Aegina, known as the "New Temple." After Furtwangler's reconstruction.



V Century

ANTEFIX



CAERE

Polychrome Terra Cotta Antefix from Caere, V Century. Hair, Beard, Brows and Eyelids, Black; Eyes, Tongue and Wrinkles, Red; Eyeballs and Teeth, White; Torus, Diagonal Bands, Red, Black and Cream; Flutings Cream, Outlined Alternately with Red and Black.

ARCHITECTURAL POLYCHROMY

BY LEON V SOLON

PART II

*Defining the Species of Artistic Impulse which should
Actualize the Creation of Color Effect in Architecture*

COLOR, as a vehicle for effect, has quite another significance or capacity in the mind of the painter than it has, for instance, in the estimation of the textile designer. With the painter, it is essentially a medium for imaginative stimulation; in the purely decorative arts its capacity is directed towards the creation of sense appeal; each of these artistic activities utilizes color for the realization of different ideals. As the dominant ideals of arts are never identical or interchangeable, methods of procedure evolved in the expression of those ideals are inseparably identified with the art in which they originated. This involves an important consideration which must be kept in mind when we review color methods which might serve for our guidance and assist us to determine that precise character of color effect which is appropriate to architecture. The contribution to effect which a decorative practice has the capacity to make to any particular art, cannot be

paralleled in another art, merely by adopting mental or technical methods of procedure which achieve successful issue in their original association.

When an architect wishes to introduce color effect in his design for a building, without acquaintance with the laws which govern its architectural use, his natural inclination will lead him to simulate the painter's sensibility towards color, in order that he may establish scenic value. Considered from that point of view, his design becomes a "subject," upon which color interest must be developed as a separate artistic activity from his initial impulses, which were purely architectonic. Owing to the great dissimilarity which exists between the major aesthetic aspirations identified with pictorial and architectural effect, the realization will soon be forced upon him that progress in the direction of the painter's ideals entails the jeopardy of vital architectonic values.

This untenable position will compel the abandonment of the painter's stand-

point when formulating plans for architectural polychromy. The attitude of the decorative artist towards color as a medium for effect would in all probability be studied next by the architect. Here again disappointment awaits him, as he will have another opportunity of appreciating the impossibility of achieving equivalent results in two arts by using identical means; in addition, the decorative artist's vast resources of processes, textures and materials have no counterpart in architectural usage; manipulation of tone value and quality, which performs so important a part in the creation of decorative effect, is debarred from use for reasons which we will give later.

We must not forget that color, independently of its artistic association, possesses an inherent capacity to excite an elementary form of aesthetic consciousness merely by the visual gratification which it excites; in the strictest sense of the term it is a *decorative element*. Color effect in architecture can obviously rank only as a secondary and subordinate decorative interest; in the pictorial and decorative arts it constitutes a dominant factor. If, when planning color for architectural embellishment, we were actuated by an artistic impulse which, when operative in another art, causes color effect to become a major value, we should be employing an activity which differs essentially from our requirement; because the result we strive to obtain must necessarily be of the minor order. As the effect created with color in architecture must be of a contributory architectonic character, its decorative expression must have as direct a relation to the predominant aesthetic aspirations in architecture, as those which are identified with its use in the fabrication of impressions through painting or decoration. Its decorative significance must be purely architectonic; that is to say, the legitimate use of color is restricted to the investment of certain structural features with an additional form of scenic interest; architectural interest preponderating over color interest.

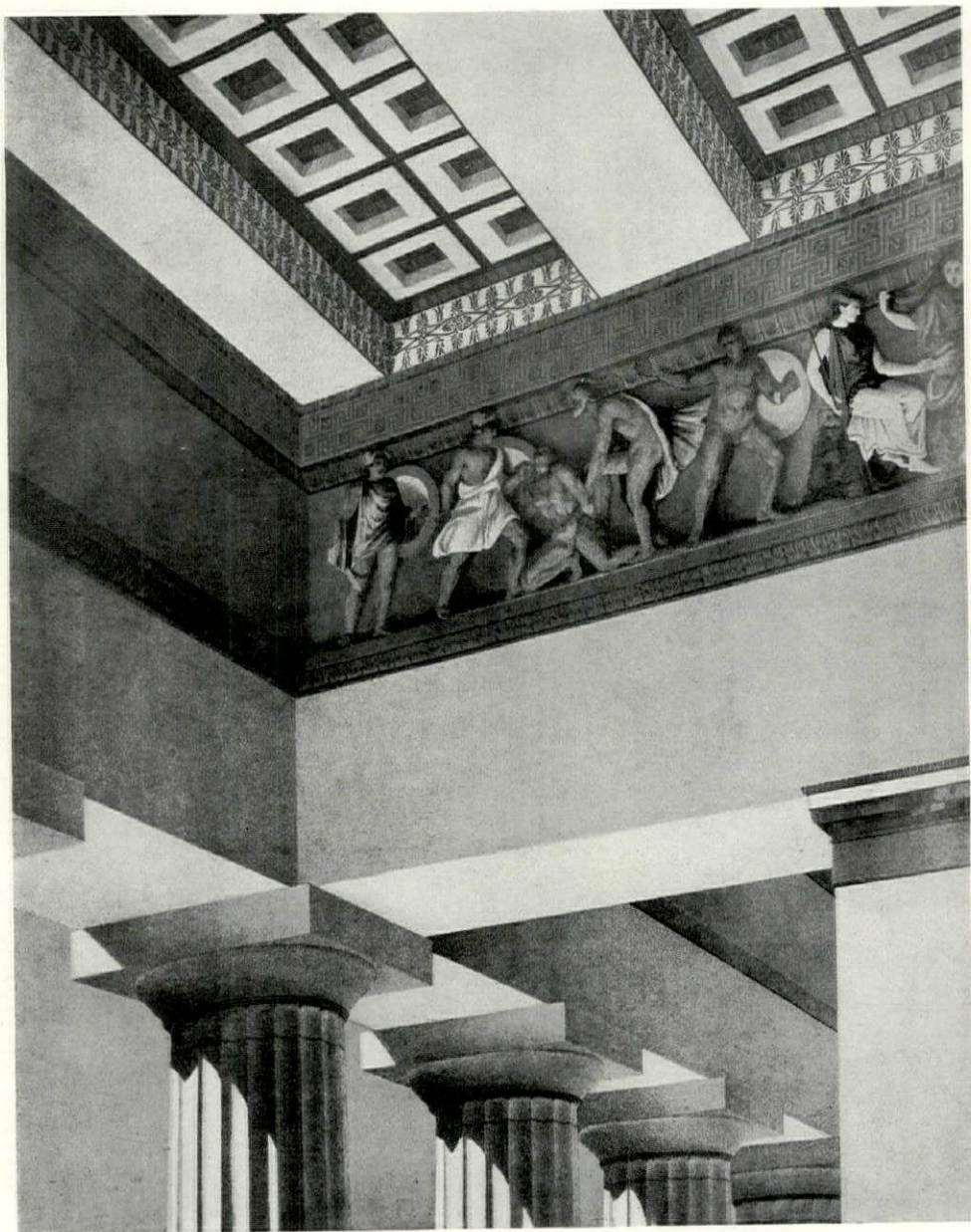
THE RELATION OF COLOR EFFECT TO MAJOR ARCHITECTONIC PROPERTIES.

In considering the employment of an indeterminate decorative quantity, such as polychromy, in architectural effect, where it will figure as an auxiliary to a closely inter-related group of artistic activities, its serviceableness is commensurate to its possible contribution to that content which is known as the "art" or "characteristic" beauty. This supreme quality results from the co-ordination of all integral aesthetic impulses, qualities and properties, which, during the creation of a work of art, have come into contributory being. This highest order of beauty is comprehensive and receptive in character—in a sense antithetical to the contributory nature of its ingredient elements. The characteristic beauty of architecture is that aesthetic content which exists in sublime examples, in which all other qualities are merged and linked together by their common factor of artistic contribution. It is so indefinite and comprehensive through the infinite variety of its component elements that the term "quality" is too specific for its description. This entity of architectonic beauty, evolved by a perfect adjustment of varied creative impulses, is itself void of impulse; it is as a *sense* that it affects our aesthetic perception. Such a sense affects us in the contemplation of the purest examples; it absorbs and dominates all individual excellences, enduring in contemplation as the ultimate objective of each aim; it might be designated as the *sense of beauty in statical force*.* If this may be accepted as the characteristic beauty of Greek architecture, or the super-quality which absorbs all others, we must endeavor to discover whether color use was considered from the contributory angle as being capable of adding to that content when conceived relatively,

*During the periods of greatest virility in Greek architecture, the existence of statical forces in physics was a subject of philosophical speculation. In the third century B. C. it was reduced to scientific form by Archimedes. It is not suggested that the great builders of Greece accepted a philosophic principle as a goal towards which inspiration was to be directed, but merely makes record that this preeminent quality which reveals itself in their structures had a contemporary scientific equivalent.



2. TEMPLE ON THE AKROPOLIS. RESTORATION BY WIEGAND.

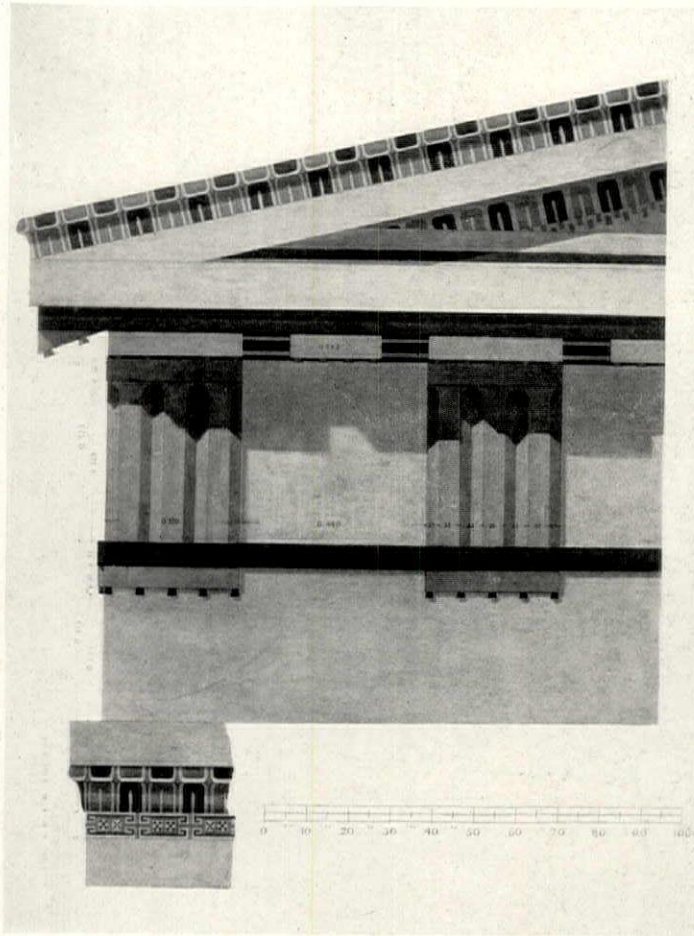


3. PORTICO OF THE THESEION.
RESTORATION BY FENGER. TREATMENT
OF COLOR ON FRIEZE INACCURATE.

or of detracting from it when developed independently.

The achievement of beauty in architecture depends in a great measure upon the degree of skill with which elements of effect are co-ordinated through design.

color, its presence alone accentuates the scenic importance of any member or item upon which it figures, thus altering the ratio of effect value which was allotted to that item in the original architectural conception. It is obvious, therefore, that

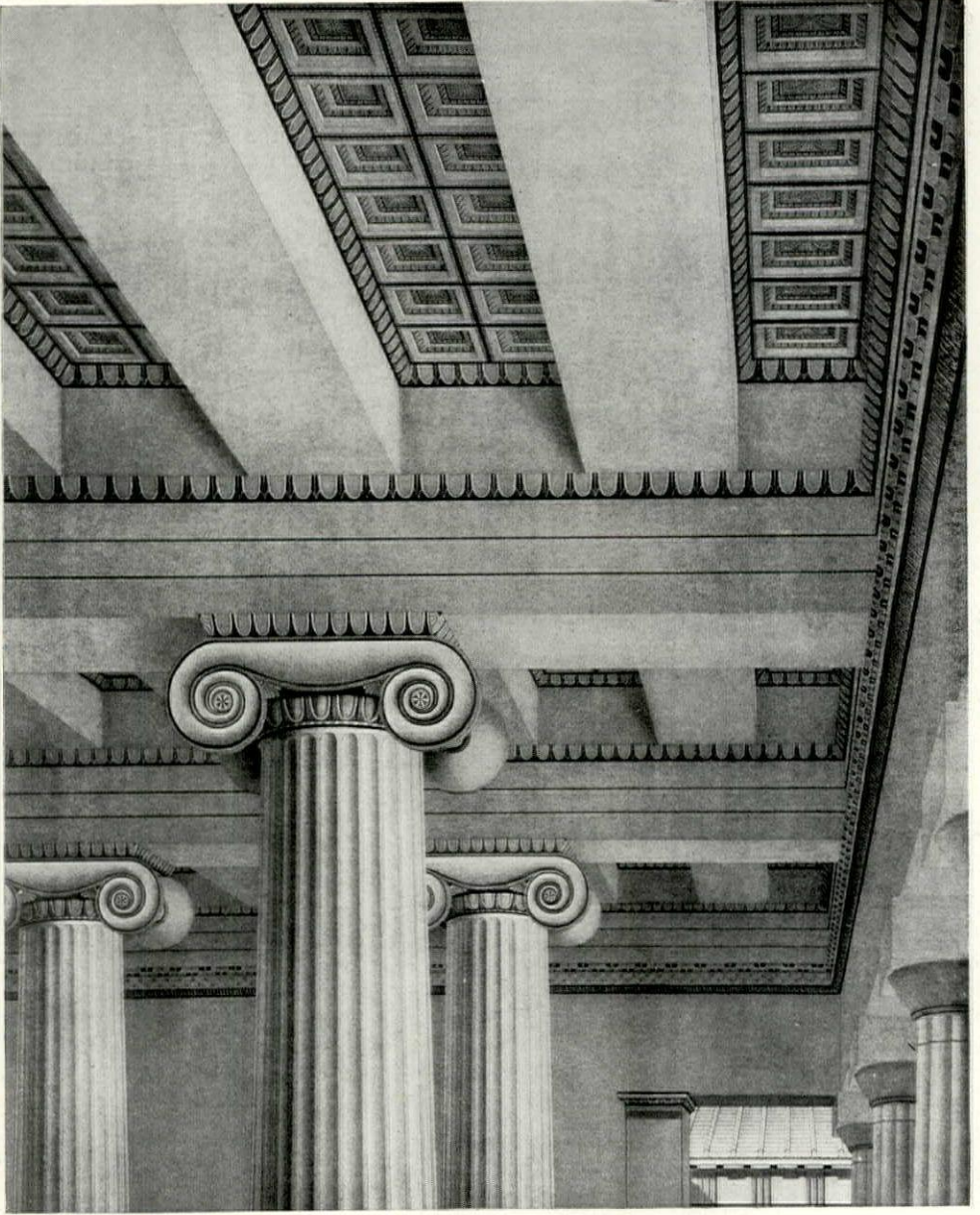


4. SMALL TEMPLE, OR TREASURY, ON THE AKROPOLIS.
RESTORATION BY WIEGAND.

Color is the most potent vehicle for emphasis in any form of scenic effect. Emphasis which is misplaced disorganizes the proportions and mutual relationship of previously adjusted aesthetic factors in a work of art, be it in a painting, in music, dancing, prose or poetry. If we introduce into an architectural scheme a decorative element which possesses an active capacity for emphasis, such as

the location and decorative development of color must be in a direct relation, and in complete subordination, to that adjustment of architectonic values which is the basis of excellence in architecture.

To test this theory it is necessary to ascertain whether there is any evidence in the highly organized architectural system of the Greeks, proving that they considered the addition of color capable of



5. POLYCHROME TREATMENT OF
THE INTERIOR OF THE PROPYLEUM.
RESTORATION BY FENGER.

influencing architectonic values established in design. Polychromy was universally used in architectural effect by the Greeks. Insofar as the general location of color is concerned, they established a uniformity approaching standardization which characterizes their surviving examples. We must observe whether they avoided the application of color emphasis to items performing certain structural functions; also, whether essential and characteristic structural properties of specific architectural items were not enhanced when color effect was restricted to items of a reverse character. In other words, if the presence of color detracts from the apparent strength of essentially supporting members, their function might be emphasized should the apparent weight of the items they support seem less through color treatment.

THE RELATIONS ESTABLISHED
BY THE GREEKS BETWEEN
COLOR EFFECT AND STRUCTURAL
VALUES IN ARCHITECTURAL
COMPOSITION.

The architectural members of an exterior design may be separated into two main groups according to their structural significance: those which perform the function of weight-carrying, and those which are supported or are purely decorative in character. This method of analysis was adopted in the examination of those Greek structures of which the original polychromy has been reconstructed from data by archaeologists of unequivocal repute. The examples chiefly used were Curtius' and Adler's reconstructions of the temple of Zeus, the Treasury of Gela and the Heraion, at Olympia; those of Wiegand for the temples of the Akropolis and those of Fürtwangler at Aegina. Many other works were consulted; but as many of those previous to the Olympia excavations about 1887 have their gaps in data bravely filled with fanciful designing (which subsequent investigation and comparison have proven inaccurate) they were useless as data for the reconstruction of polychrome methods. Their utility was restricted to actual facts recorded relative to treatment

of detail, which was of corroborative value. This criticism applies to the works of Hittorf and the restoration of the temple of Empedocles made under the auspices of the *École des Beaux Arts*. The key to the Greek polychrome system was discovered at Olympia, where the wealth of data recovered and the rigid adherence of the archaeologists to facts, enabled their successors to proceed upon secure ground.

Following the classification outlined above, the weight-sustaining group will include such items as column shafts and bases, the retaining walls, and the architrave; while the second group will comprise the cornice, all moldings and string-courses, the pediments and their sculptures, caps and abaci, anthemions, gargoyles, decorative roof tiles, and other such items. A valuable observation will at once be recorded; no color figures on any of the architectural items in the weight-sustaining group, whereas all those of the second group bear color in varying degrees.

As the degree of elaboration corresponded, on similar items of the different buildings examined, there was obviously some reason for this uniformity. In order to ascertain whether the degree of color development was regulated by architectonic considerations, all colored items were next grouped in order, according to the extent to which color featured upon them, beginning with the polychrome designs of five, four or three colors and ending with color bands and lines. The result brought forth a striking proof of the extent to which the Greeks subordinated color effect to structural properties in architectural effect. The items of this last group, which were arranged according to color treatment, were found to be in the order of their relative structural significance. The greatest degree of elaboration characterized the treatment of those features which were essentially decorative, such as the anthemions, gargoyles and mouldings, a simpler treatment was employed for applied architectural members such as the triglyphs and string-courses, a single color invariably decorating the former;

on the echinus of the Doric cap, and at the top of the shaft, color lines alone were used. The degree of color elaboration decreased from five color combinations to single lines, as the structural significance of the items decorated increased.

By obvious deductions drawn from these observations, the following rule was formulated to guide color location in architectural polychromie: *The presence of color upon any sustaining item of an exterior elevation tends to depreciate its appearance of structural strength. By confining its location to those items which are supported, are applied to surfaces, or are essentially decorative in character, color contributes to vital structural attributes by apparently reducing the impression of weight in those features. Color design must be adjusted in such fashion that its elaboration increases as the structural significance of the items decorated decreases.*

This rule should be applicable to the polychrome treatment of buildings designed after any of the structurally organized types of stylistic treatment. Any detriment to architectonic values ensuing from the introduction of color is inconceivable if its location and decorative development be regulated in accord-

ance with what we believe was the Greek principle. It disposes arbitrarily of the initial and most perplexing problem—that of color location. As the architect plans the development of color effect upon a building, debatable points arise as to the advisability of polychromy upon certain features; also, as to the relative degree of color embellishment which he may permit himself on those features selected for adornment; such considerations are all met by the polychrome rule. The undertaking then resolves itself into a question of the individual's capacity to create effect with design. Examples of systematized polychromy in modern work are practically non-existent. The archaeological works bearing upon the subject are few in number, difficult to procure, and available only in certain of the greater libraries. They are written in various languages, and few readers have the good fortune to be masters of them all. Examples which typify principles are not of themselves illuminating, and are of little service for guidance in dissimilar problems if the principles they demonstrate are unformulated. The recognition of basic principles which guide the direction of effort, is the best insurance against squandering energy to ultimate error.



6. POLYCHROME TERRA COTTA.

Hair, Eyes and Brows, Black; Lips and Ear-rings, Red; Necklace and Design of Diadem, Purple; Petals of Palmette, Honey-comb, Chevrons and Moulded Leaves, Alternately Black and Purple. Figurative Terra Cottas, E. D. Van Buren.

Le Corti, near San Casciano.

~ Val di Pesa, Italy ~

By Harold Donaldson Eberlein



ALTHOUGH Le Corti has been perched upon its lofty hilltop, for six centuries, or perhaps somewhat longer, its present form dates from the early part of the sixteenth century (about 1520), when the villa was greatly enlarged and its aspect recast to accord with the accepted architectural ideas of the period. The bold mass is singularly imposing and, with its distinctive twin towers, the upper stories of which contain the seigneurial dovecotes, the building seems to dominate the whole countryside.

In plan the villa is a hollow square built about a large stone-paved *cortile* with an arcaded and vaulted loggia extending around all four sides of the ground floor. There were originally loggias on the east, west, and north sides of the first floor as well, but these were walled in at a later date to form long galleries, one of which, the eastern, is the family portrait gallery, while the western is the chapel gallery. The principal staircase ascends from the western loggia of the ground floor and gives access to the chapel gallery directly beside the door of the ante-chapel.

In the chapel itself, which contains an altar-piece and frescoes by Bernardino Poccetti, the walls are hung with alternate breadths of blue and yellow brocade upon which, in reverse color, are *appliqués* the foliated patterns while the flowers thereon are fully embroidered. All of this is *cinquecento* work and it is probable that the stitchery was done by the ladies of the family as a task of devotion.

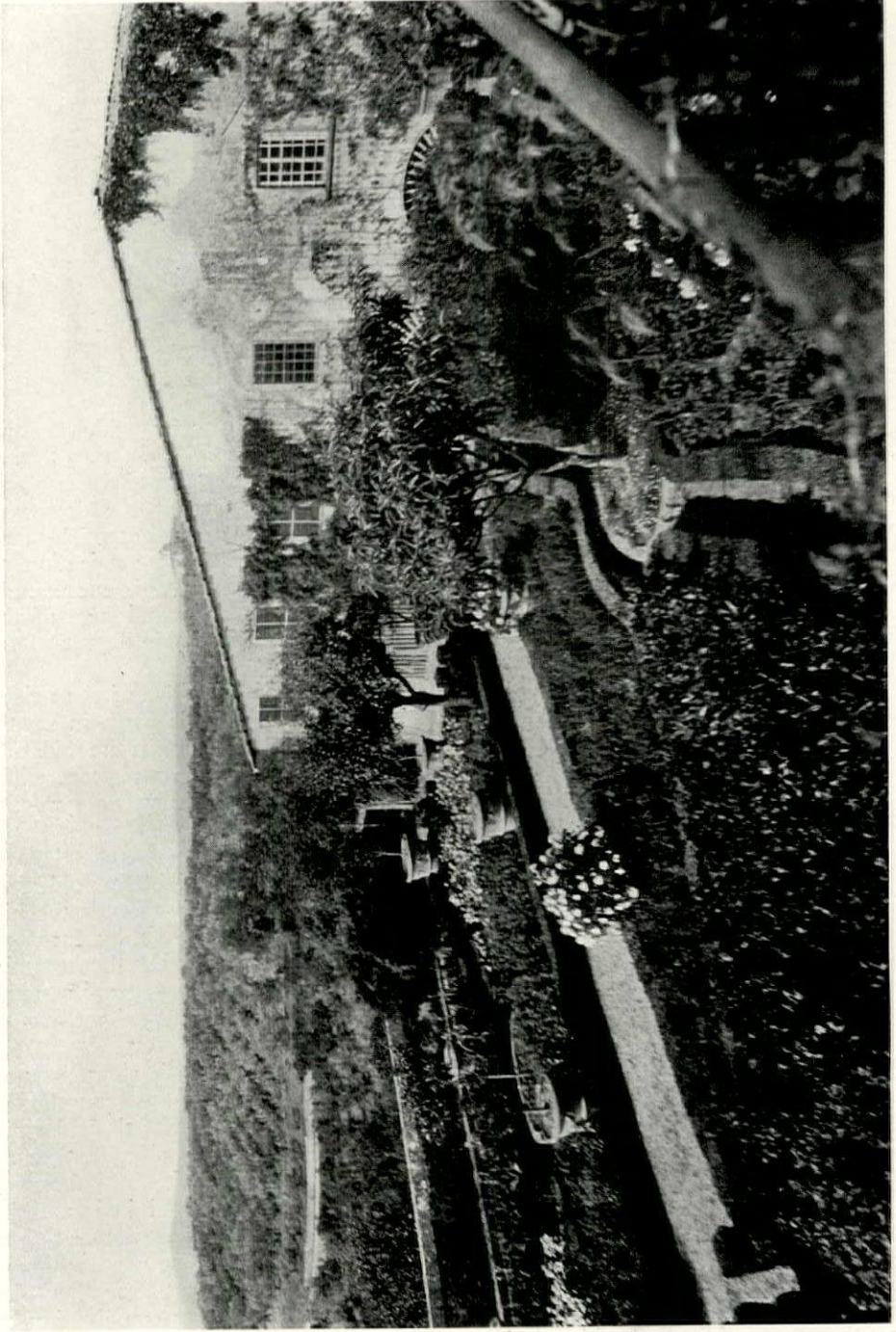
The stuccoed walls of the exterior are

of warm brownish grey which shows tawny salmon in the light of the westering sun. The shutters are painted the customary green. The trims of the doorways and windows are of a brownish-toned *pietra serena*. While the rustication of the east and west doorways is exceedingly bold and vigorous, the mouldings of the stonework exhibit a notable degree of refinement.

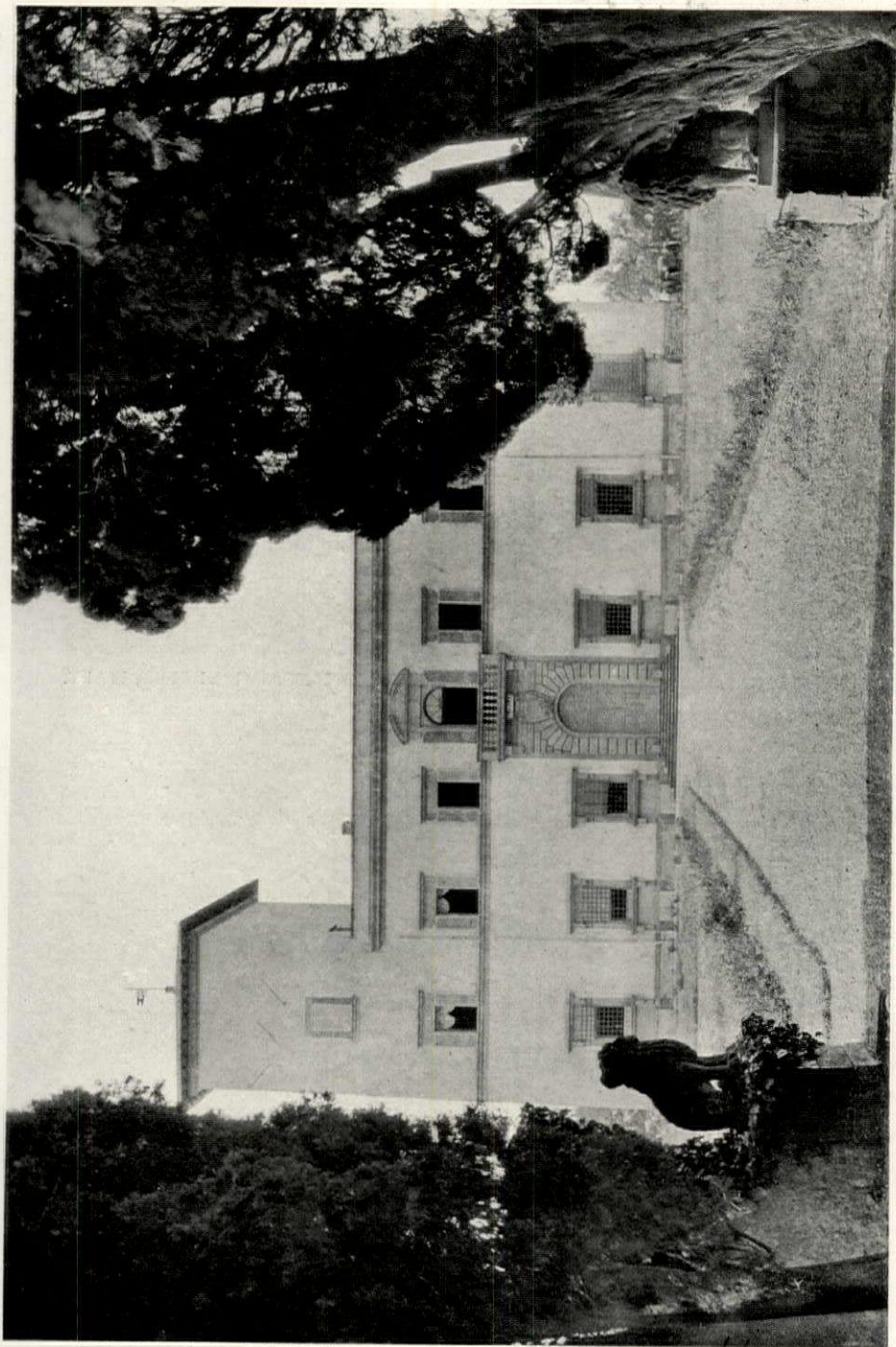
Unlike most of the villas of the neighborhood, Le Corti stands forth in severe and independent isolation, in the midst of an unadorned and treeless plateau, without any mollifying agency of gardens, *boscheria*, or *viale* of cypresses as items of immediate environment. Nevertheless, its aspect is not harsh. The fine old *viale* of huge cypresses, which ascends the hill from the gate and whimsically turns at right angles after achieving the summit, so as to fetch a straight approach to the east front, stops abruptly about eighty yards from the house.

On the north and south sides, beyond the low bounding walls, the ground falls rapidly away through orchards and vineyards, while on the west side, just below the verge of the hill, is the formal flower garden with its box-edged beds and its rows of lemon trees in huge earthen pots.

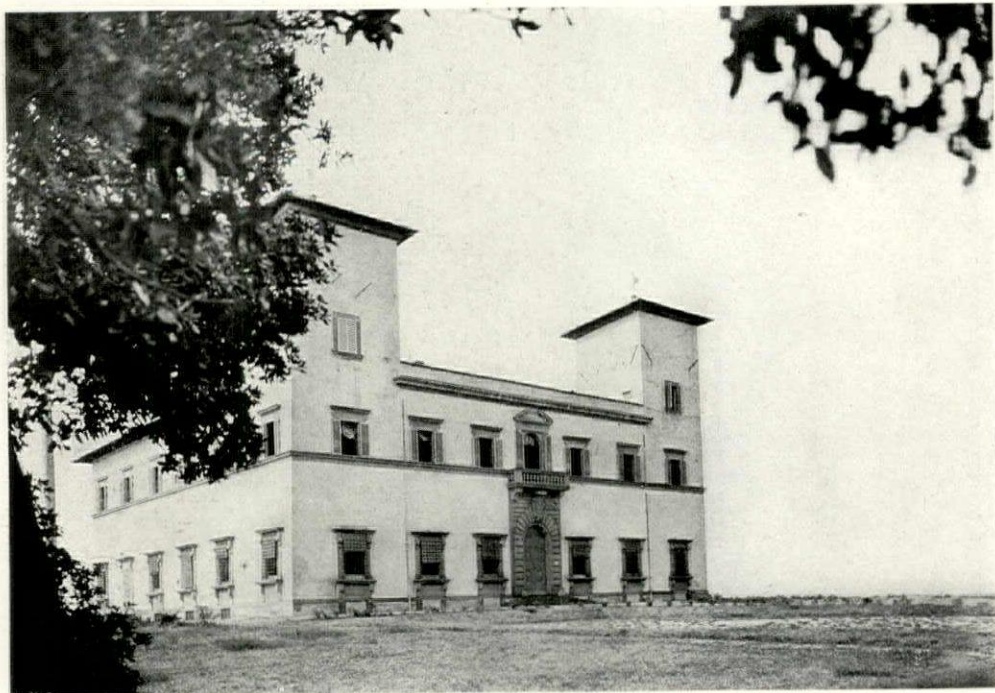
Considered as an entire composition—house and environment together—Le Corti presents a striking combination of virile austerity and restraint along with finished refinement and delicacy, a combination which must be dwelt upon for some time before one becomes conscious of its full force.



THE FLOWER GARDEN—LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.



EAST FRONT, FROM END OF THE VIALE-LE CORTI,
NEAR SAN CASCIANO, VAL DI PESA, ITALY.



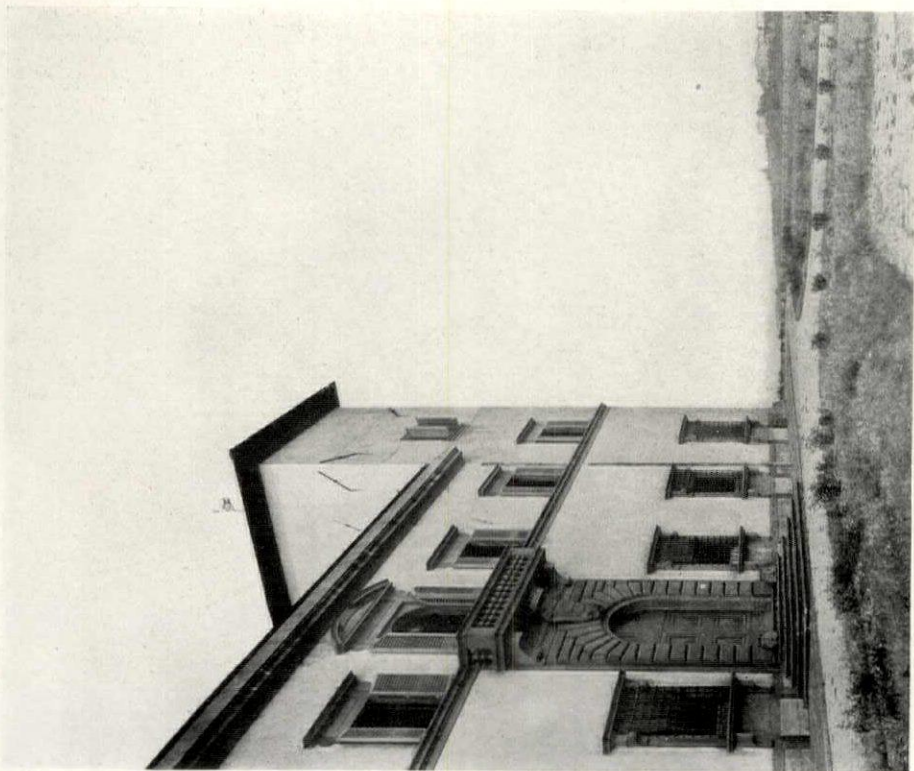
EAST AND SOUTH FRONTS—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



SOUTH AND WEST FRONTS—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



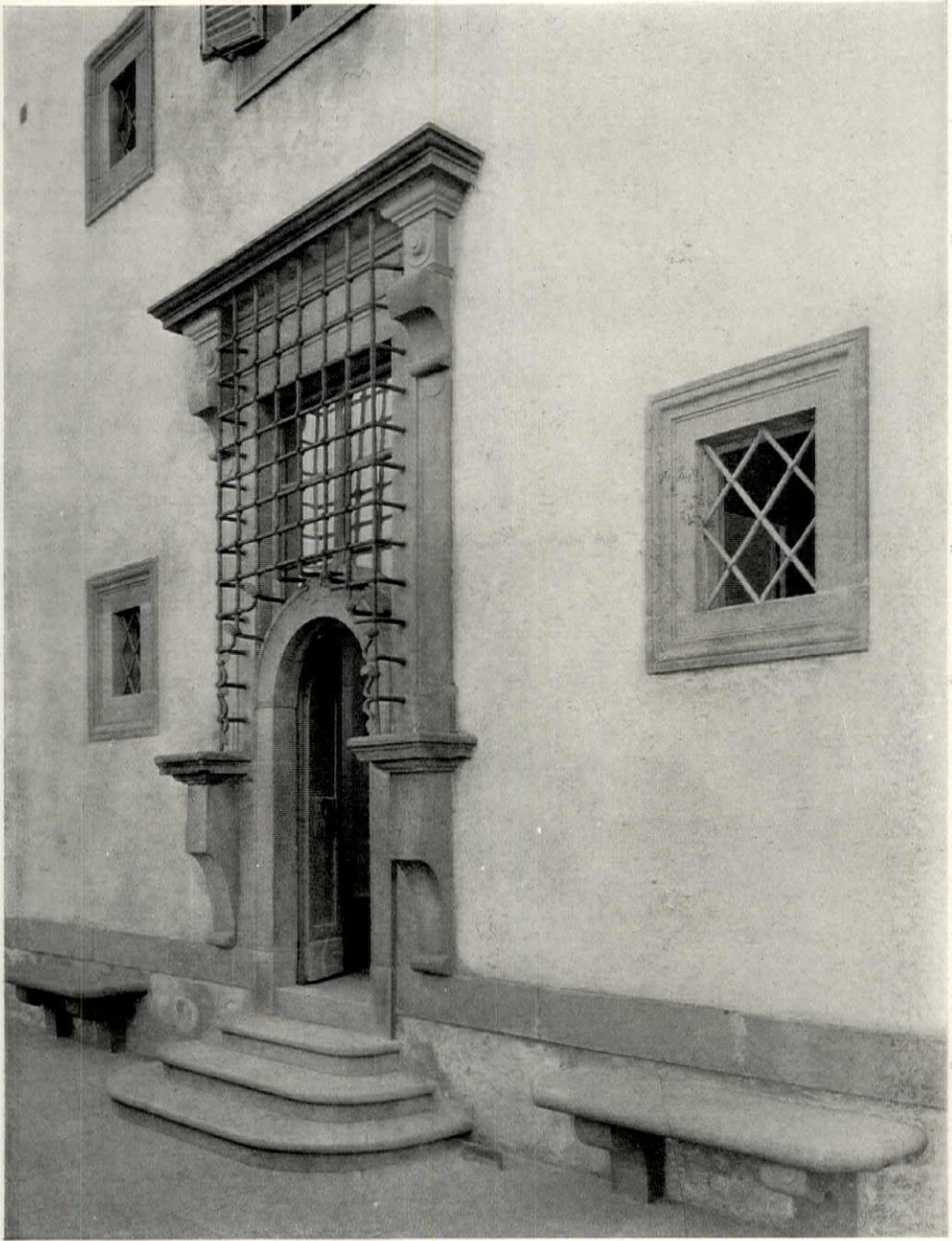
NORTH FRONT — LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.



ENTRANCE AND NORTHEAST TOWER—LE CORTI,
NEAR SAN CASCIANO, VAL DI PESA, ITALY.



THE GATE—LE CORTI, NEAR SAN
CASCIANO, VAL DI PESA, ITALY.



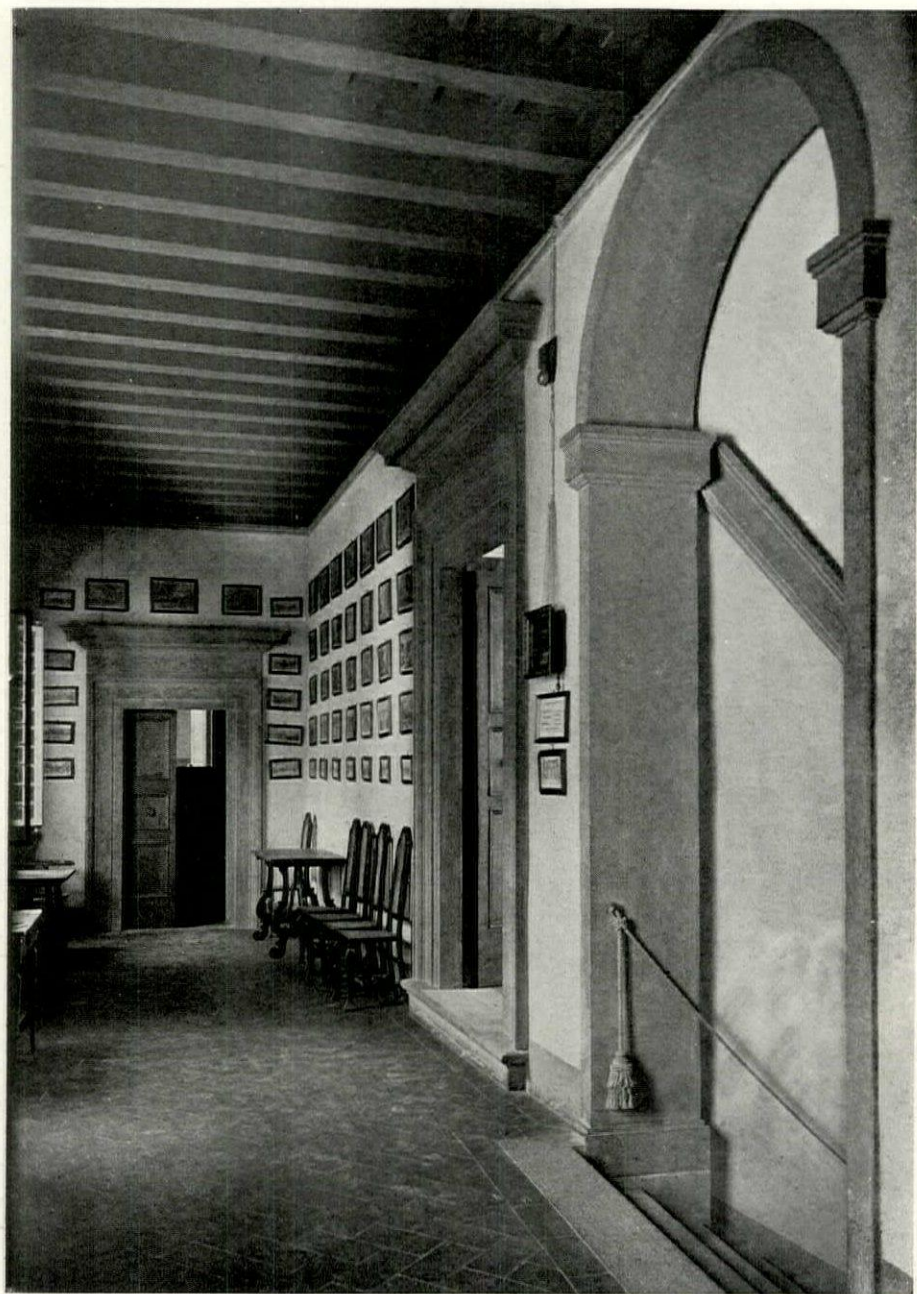
NORTH DOOR—LE CORTI, NEAR SAN
CASCIANO, VAL DI PESA, ITALY.



THE CORTILE—LE CORTI, NEAR SAN
CASCIANO, VAL DI PESA, ITALY.



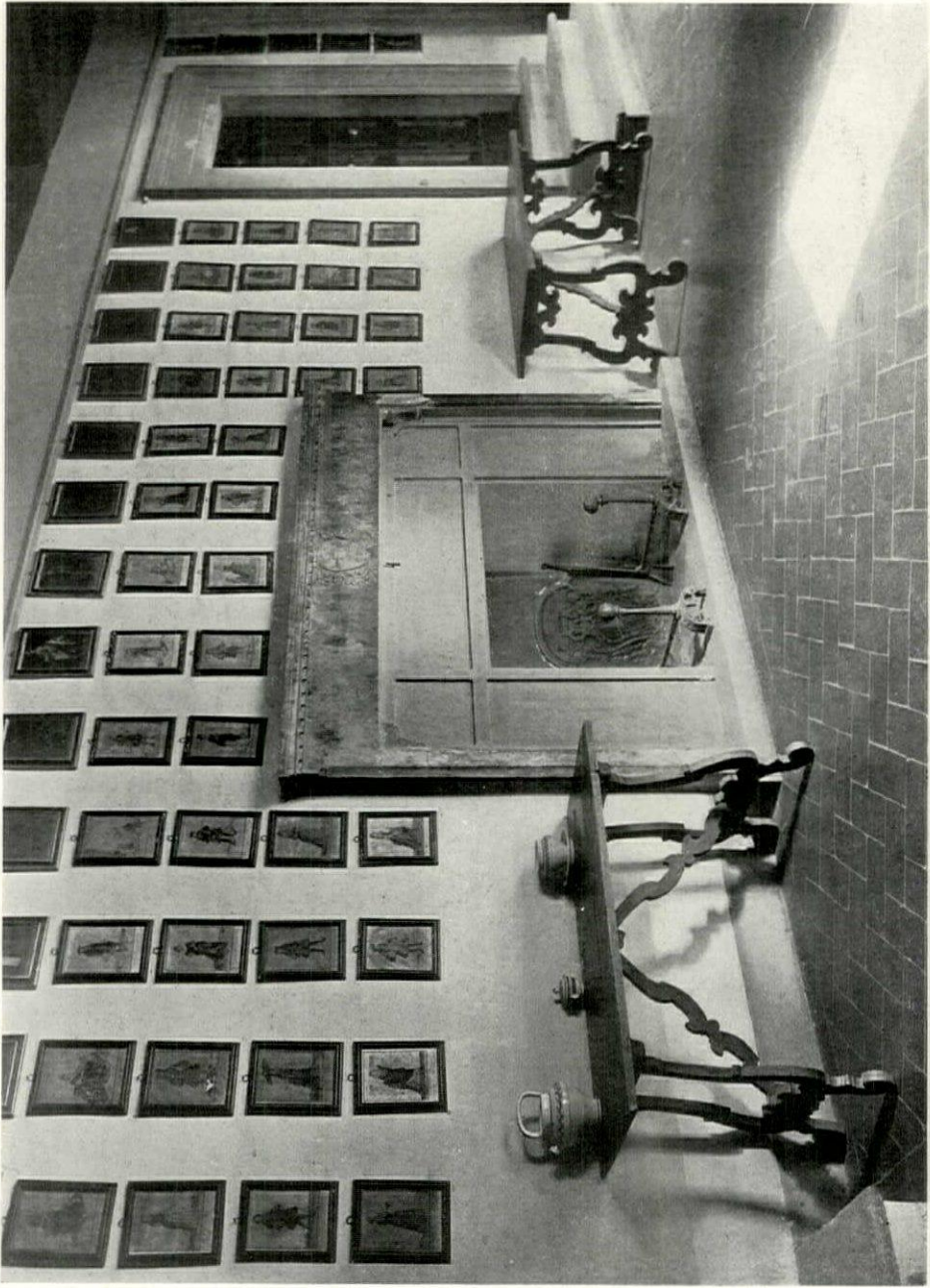
STAIRCASE, FROM THE CORTILE—LE CORTI,
NEAR SAN CASCIANO, VAL DI PESA, ITALY.



CHapel GALLERY—LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.



CHAPEL DOOR — LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.



WEST GALLERY — LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.

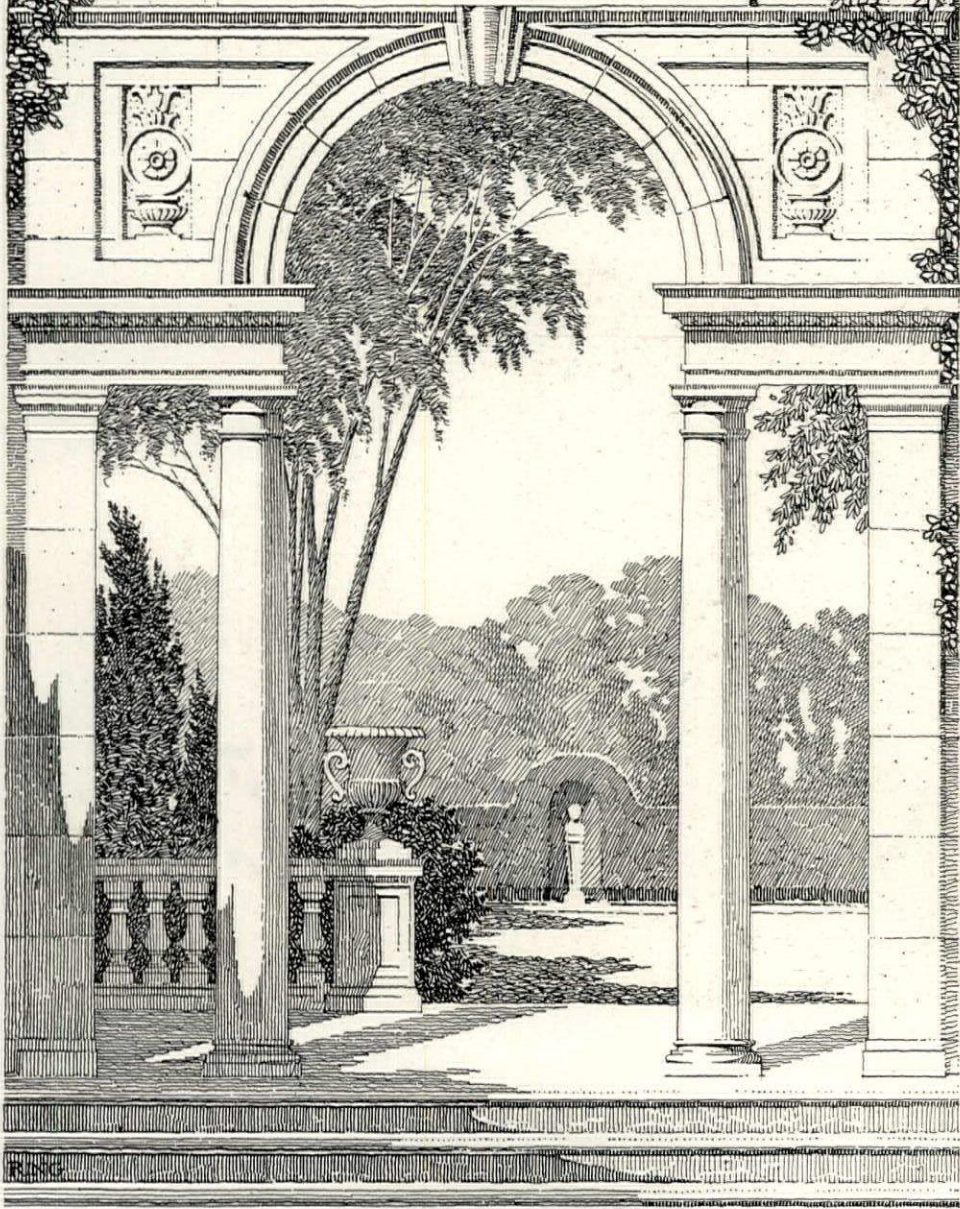


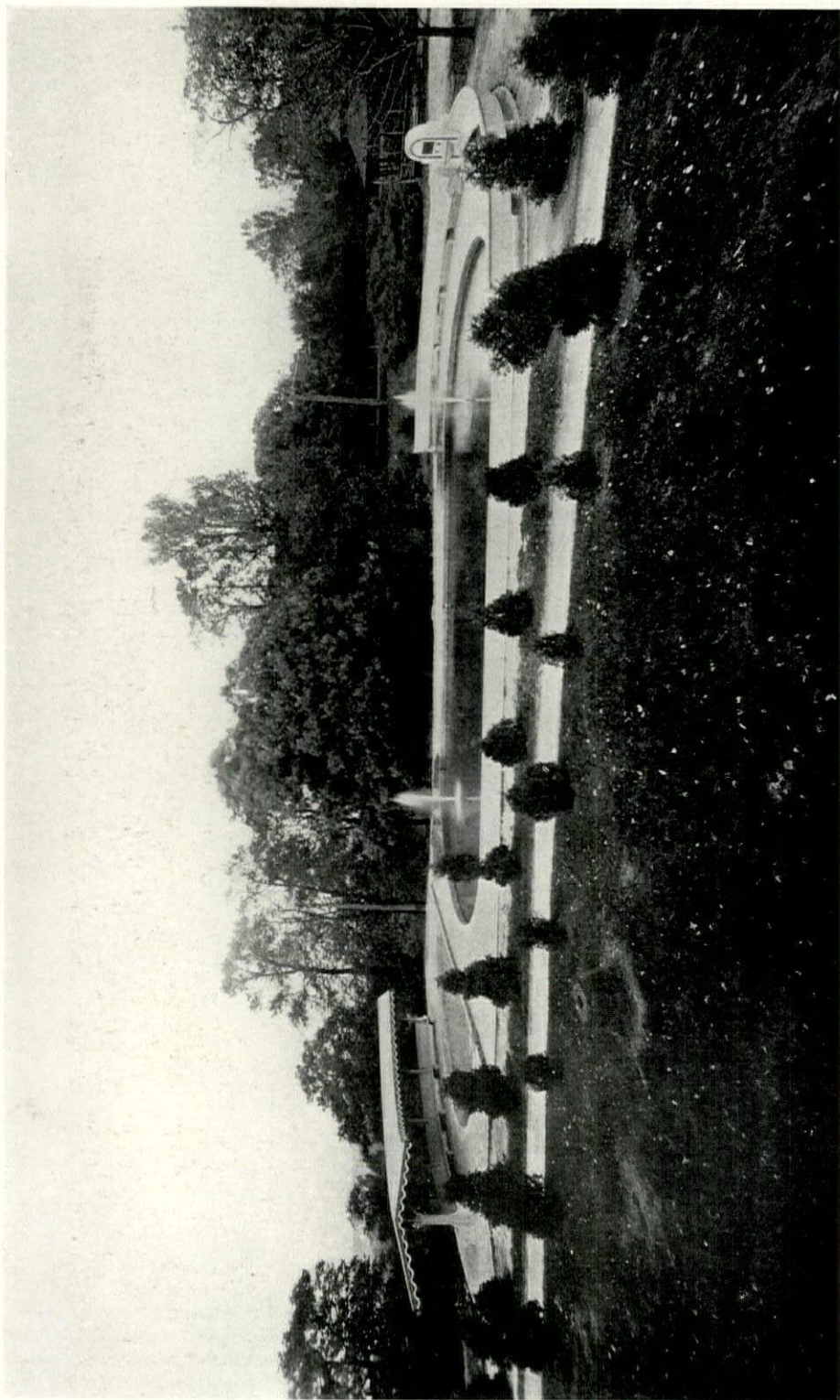
PORTRAIT GALLERY—LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.



CHAPEL WALL—LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.

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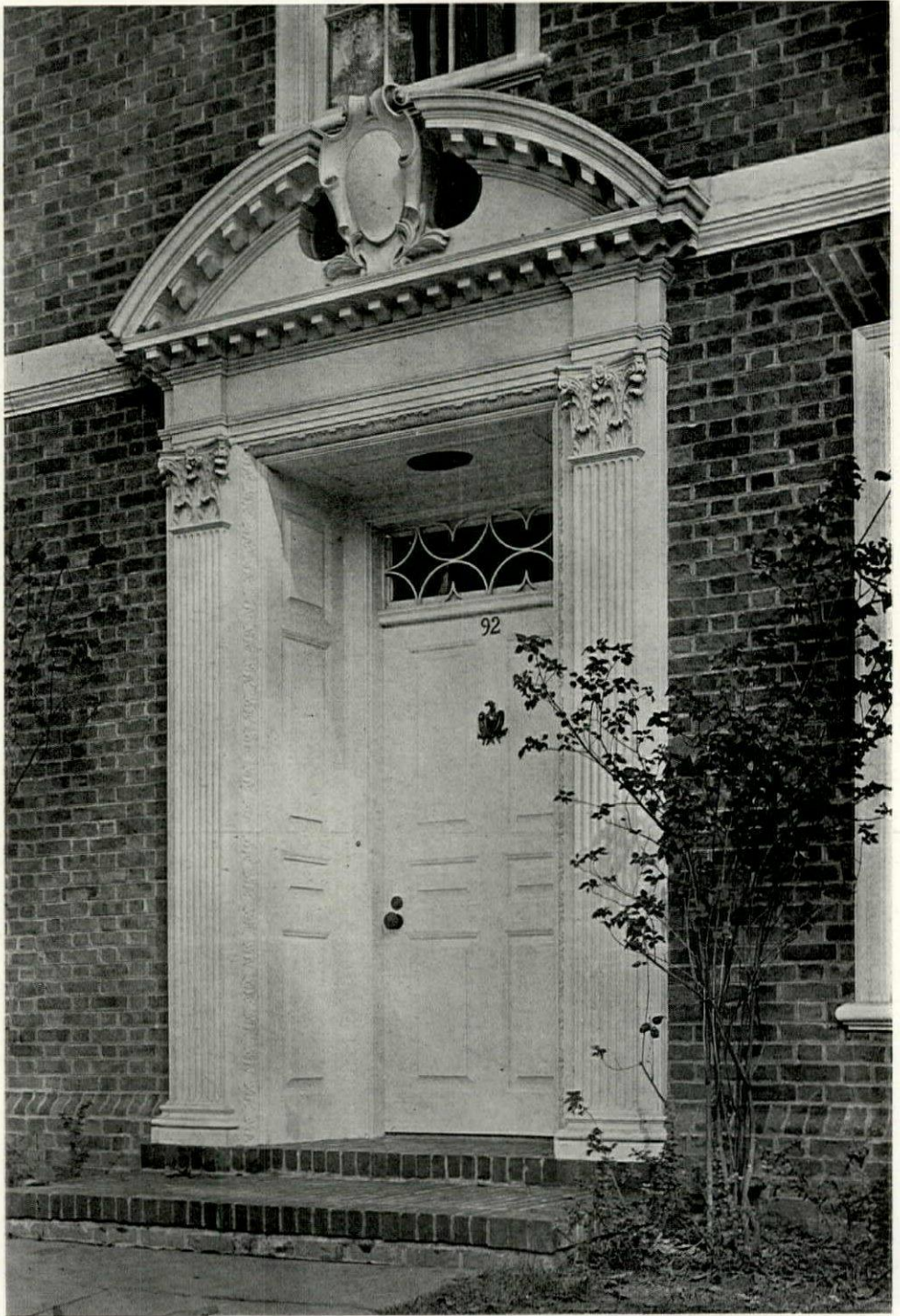




MEMORIAL WADING POOL, ROCK ISLAND, ILL.
LANGFORD & MOREAU, LANDSCAPE ARCHITECTS.



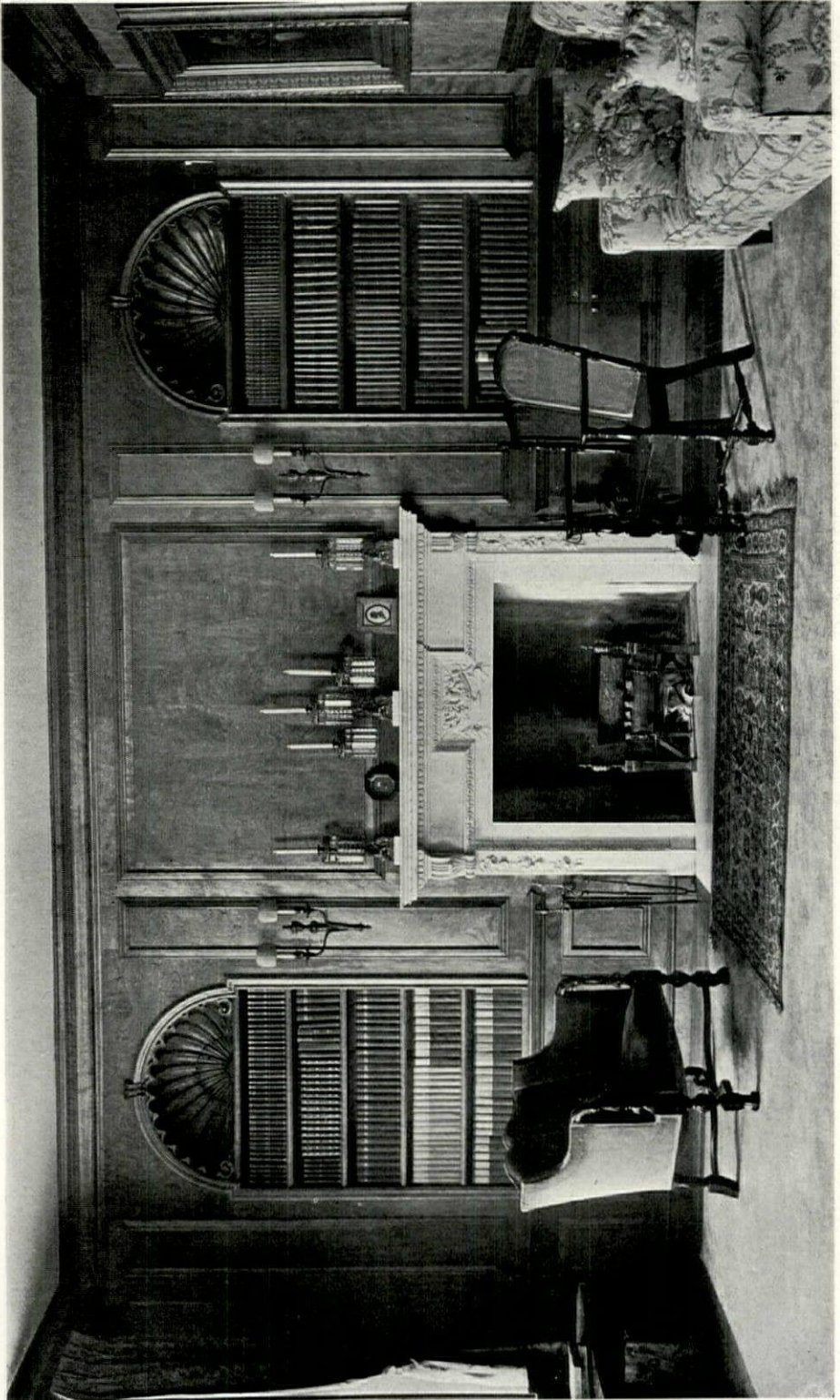
THE DRIGGS HOUSE, WATERBURY, CONN.
MURPHY & DANA, ARCHITECTS.



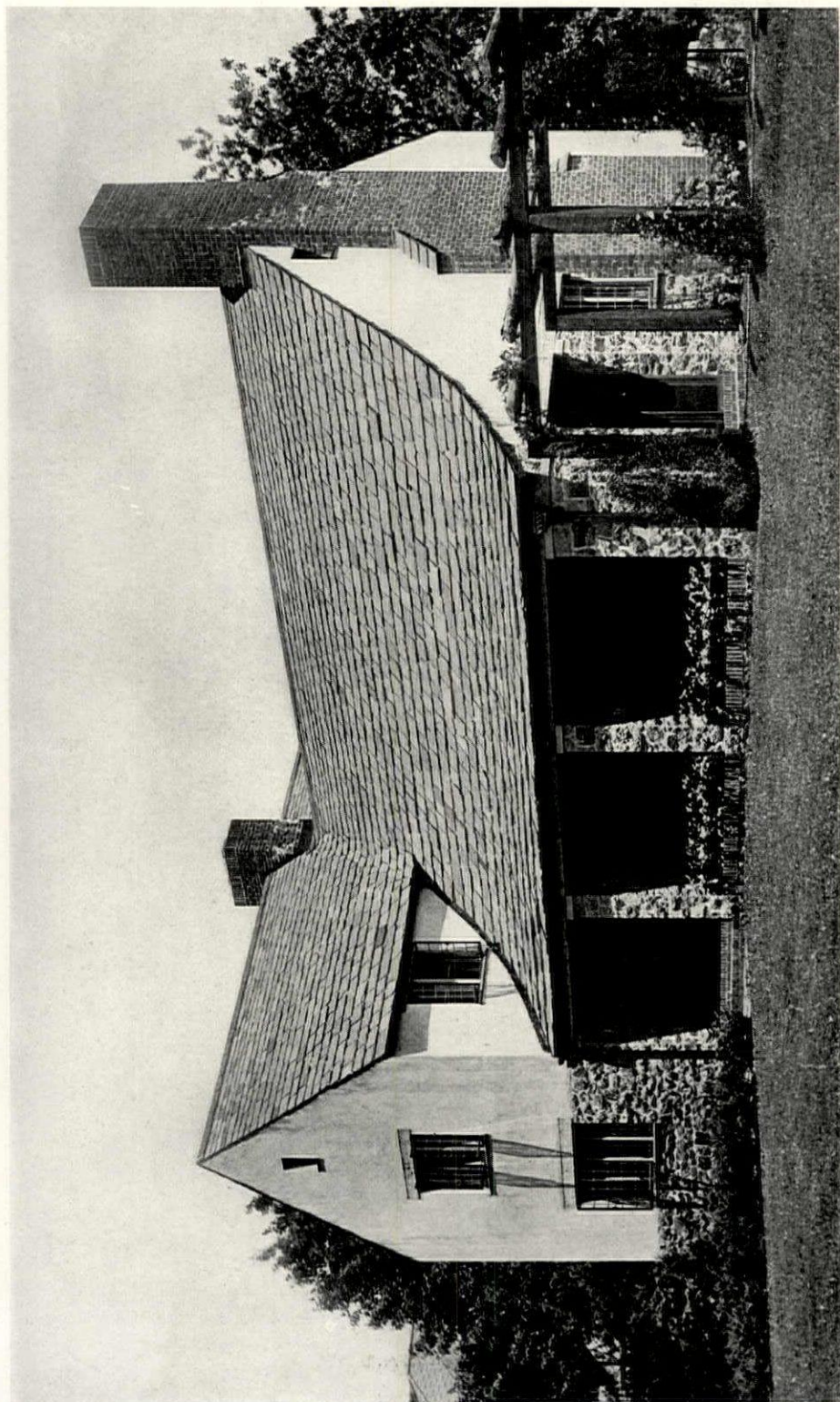
ENTRANCE DETAIL—THE DRIGGS HOUSE, WATERBURY, CONN.
MURPHY & DANA, ARCHITECTS.



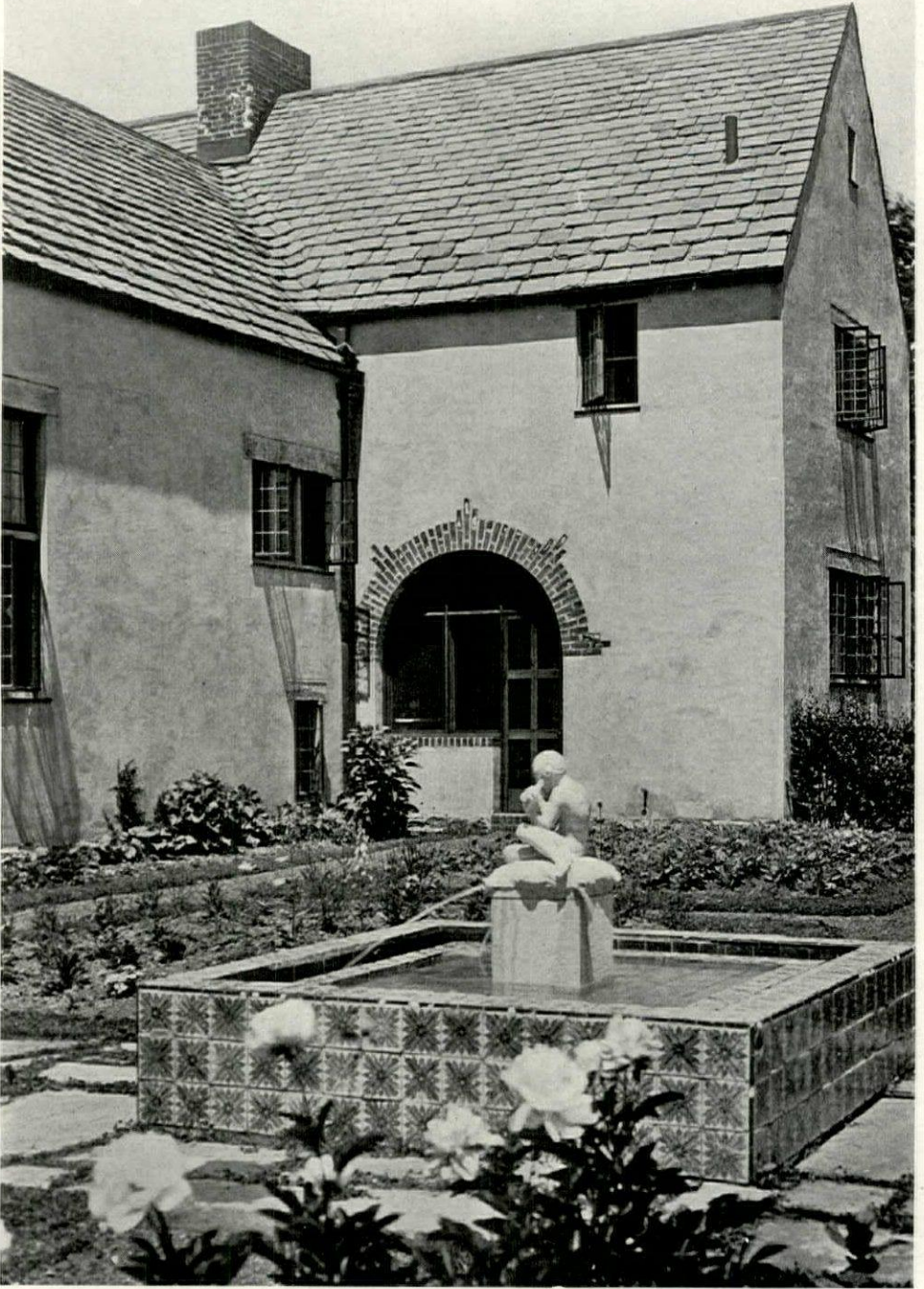
THE DRIGGS HOUSE, WATERBURY, CONN.
MURPHY & DANA, ARCHITECTS.



LIBRARY—THE DRIGGS HOUSE, WATERBURY, CONN.
MURPHY & DANA, ARCHITECTS.



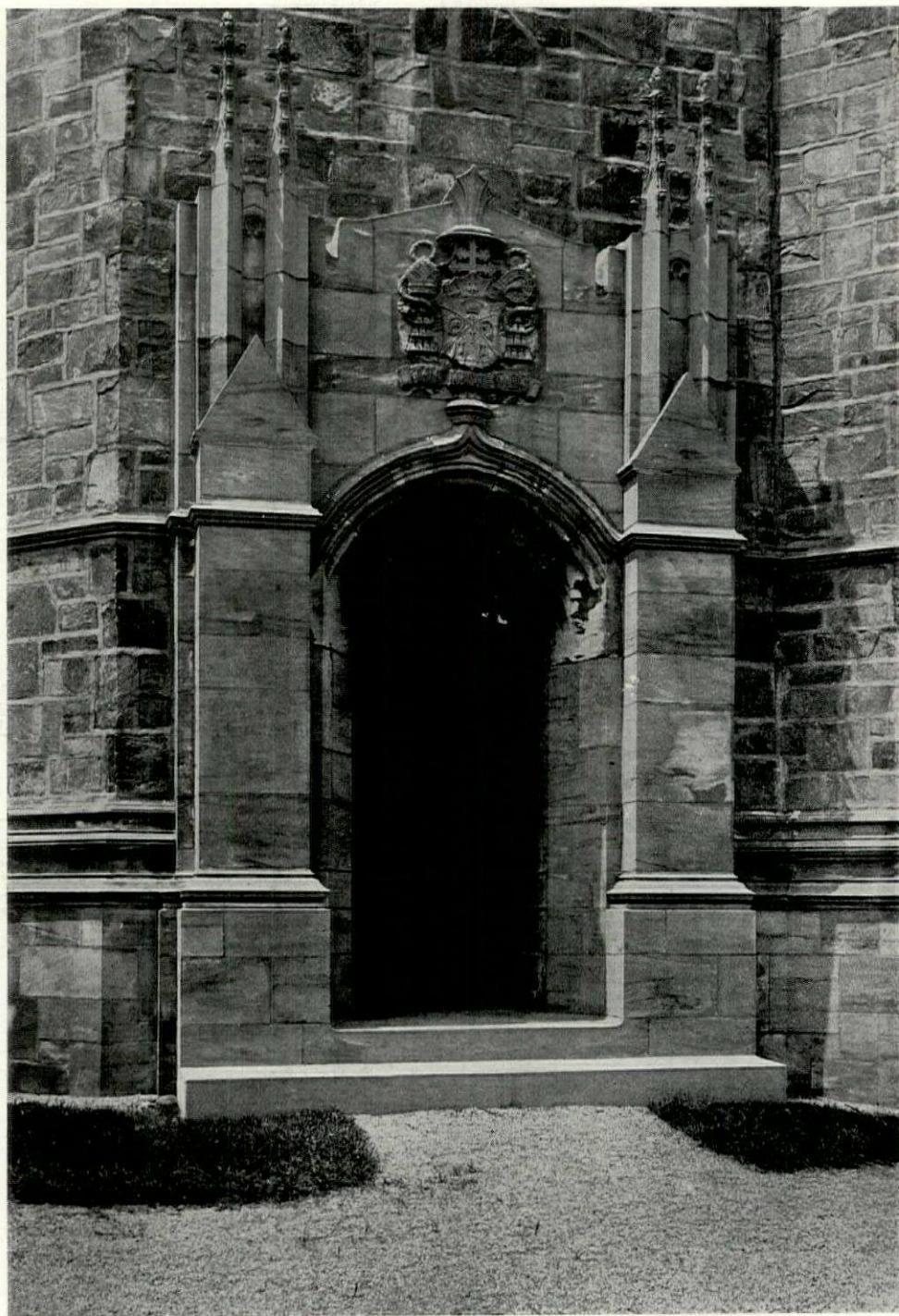
RESIDENCE OF FRANCIS L. S. MAYERS, ESQ., SHIPPAN
POINT, CONN. FRANCIS L. S. MAYERS, ARCHITECT.



RESIDENCE OF FRANCIS L. S. MAYERS, ESQ., SHIPPAN
POINT, CONN. FRANCIS L. S. MAYERS, ARCHITECT.



WATER TOWER—CEMETERY OF THE GATE
OF HEAVEN. C. W. LEAVITT, ARCHITECT.



ENTRANCE DETAIL—CEMETERY OF THE GATE
OF HEAVEN. C. W. LEAVITT, ARCHITECT.



YALE POWER HOUSE, NEW HAVEN, CONN.
DAY & KLAUDER,
ARCHITECTS.



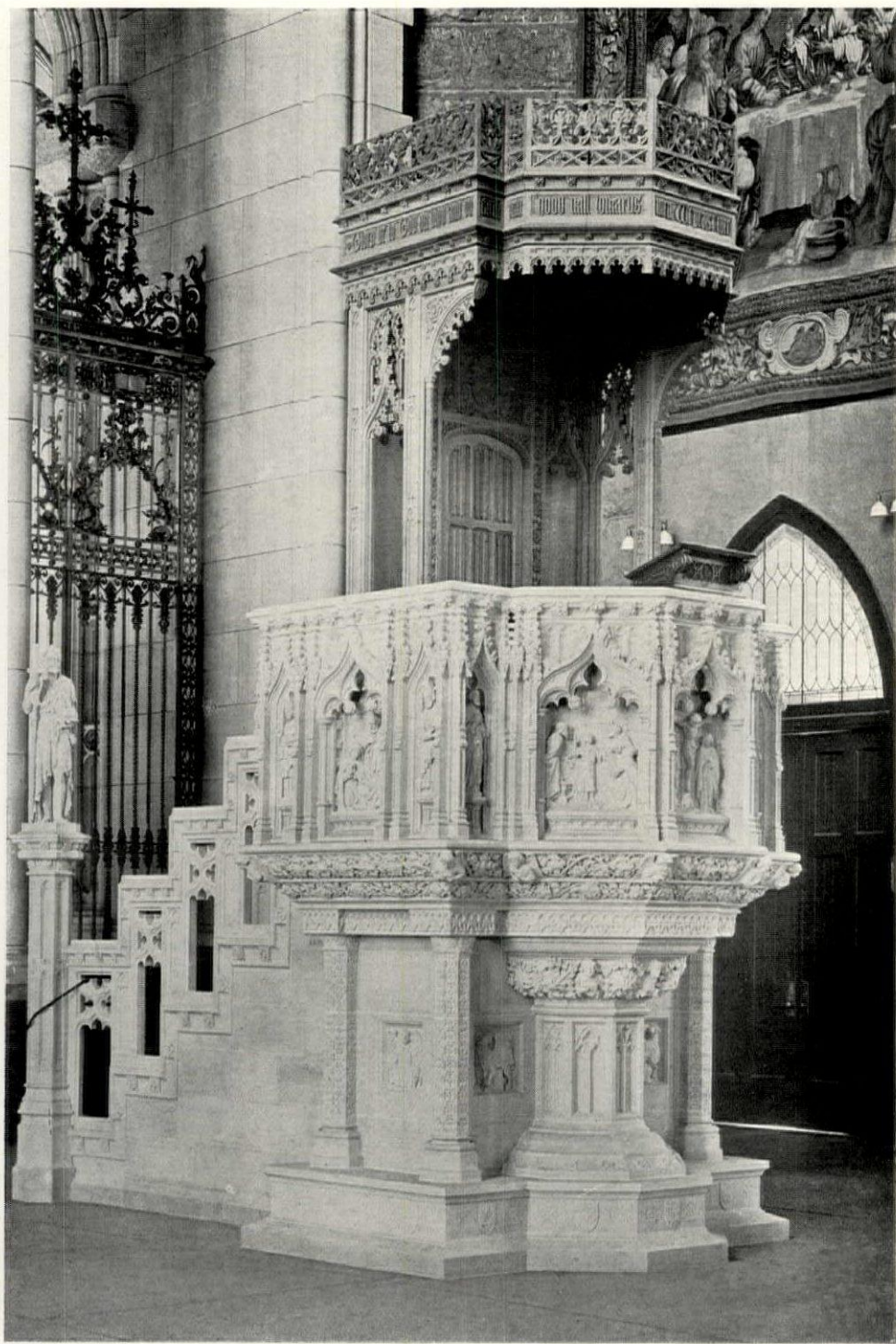
YALE POWER HOUSE, NEW HAVEN, CONN.
DAY & KLAUDER. ARCHITECTS.



NEW HAVEN HOSPITAL, NEW HAVEN, CONN.
DAY & KLAUDER,
ARCHITECTS.



NEW HAVEN HOSPITAL, NEW HAVEN, CONN.
DAY & KLAUDER,
ARCHITECTS.



PULPIT—CATHEDRAL OF ST. JOHN THE DIVINE,
NEW YORK CITY. HENRY VAUGH, ARCHITECT.



BABIES' HOSPITAL, PHILADELPHIA, PA.
CHARLES A. ZIEGLER, ARCHITECT.

The RESIDENCE of MRS H ERILLARD CAMMANN
7 SUTTON PLACE — NEW YORK CITY

William F. Dominick — Architect

THE house of Mrs. H. L. Cammann at No. 7 Sutton Place is in a New York City block that has been acquired by several purchasers for reclamation on a more or less co-operative plan. There will be a common garden and the houses are "restricted" to private dwellings. The block lies in a tenement neighborhood, but has a fine site overlooking the East River and is convenient to the main business, shopping and theatre districts; and its reclamation for personal use by families of social position is in line with a movement which has recently gained unmistakable headway in New York City.

Each owner in this project was at liberty to employ his own architect, and the remodeling of Mrs. Cammann's house is the work of William F. Dominick.

What were formerly the rear windows look out upon the common garden, a block in length, below which is a picturesque stretch of the East River. Under the majestic Queensborough Bridge nearby pass the craft of the city, of Long Island Sound, and of New England, tracing their course in the swift current which is ever changing with glint and shadow.

In order to enjoy this picture, the more important rooms are placed at the back of the house and on the first or entrance floor the dining room opens out through glazed doors upon a balcony, whence a few curved steps lead down to the garden.

Mr. Dominick has substituted for the old straight run of stairs of the former

flat house, an elliptical stairway, with an iron railing which rises to the second floor. Here a large living room or library looks out over the garden and the river through a broad bay window of casement sash.

In this room, one wall gives the effect of being entirely lined with books. The book-case is recessed in the wall, above two built-in cabinets, the doors of which are designed to frame some old carved Gothic panels. These panels give the key to the decoration of the room.

The stone mantel opposite is of a simple Gothic design, and two Italian Gothic lanterns, which have had electric lights ingeniously introduced, are pendant from the ceiling. The owner's bedroom is situated over this, so that here as well, the outlook is upon the garden and the river.

The walls and ceilings of the first and second stories, and of some of the bedrooms, are plastered in a rough sand effect, showing the marks of the plasterer's float, and tinted in the plaster itself with varying tones of warm yellow buff. This creates a contrasting and effective background for the tapestry, pictures and furniture, enlivening their colors and enriching the texture of the hangings and forms a colorful setting for the wrought iron stair rail and the decorative Italian lighting fixtures.

One must admire the breadth and restraint of the treatment and the skill of the architect who has achieved a house with so full a measure of comfort and atmosphere.



RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE,
NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



ENTRANCE DOOR—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



VIEW FROM FOYER INTO DINING ROOM—RESIDENCE
OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW
YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



PICTURE WINDOW—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



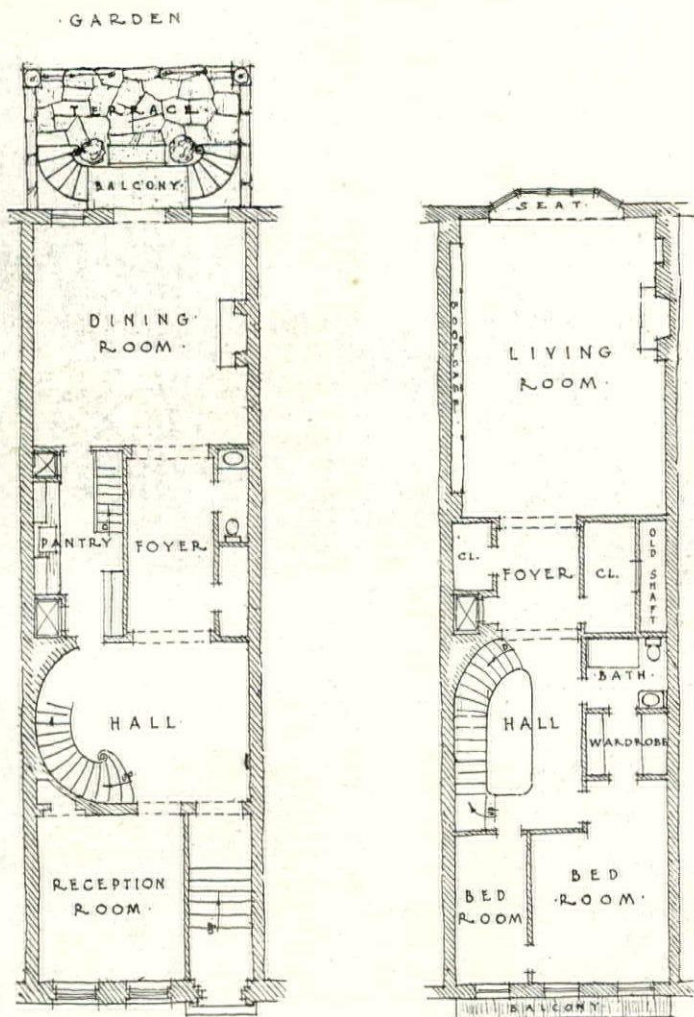
STAIR HALL—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



LIVING ROOM—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY.
William F. Dominick, Architect.



LIVING ROOM—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY.
William F. Dominick, Architect.



FIRST FLOOR PLAN

SECOND FLOOR PLAN

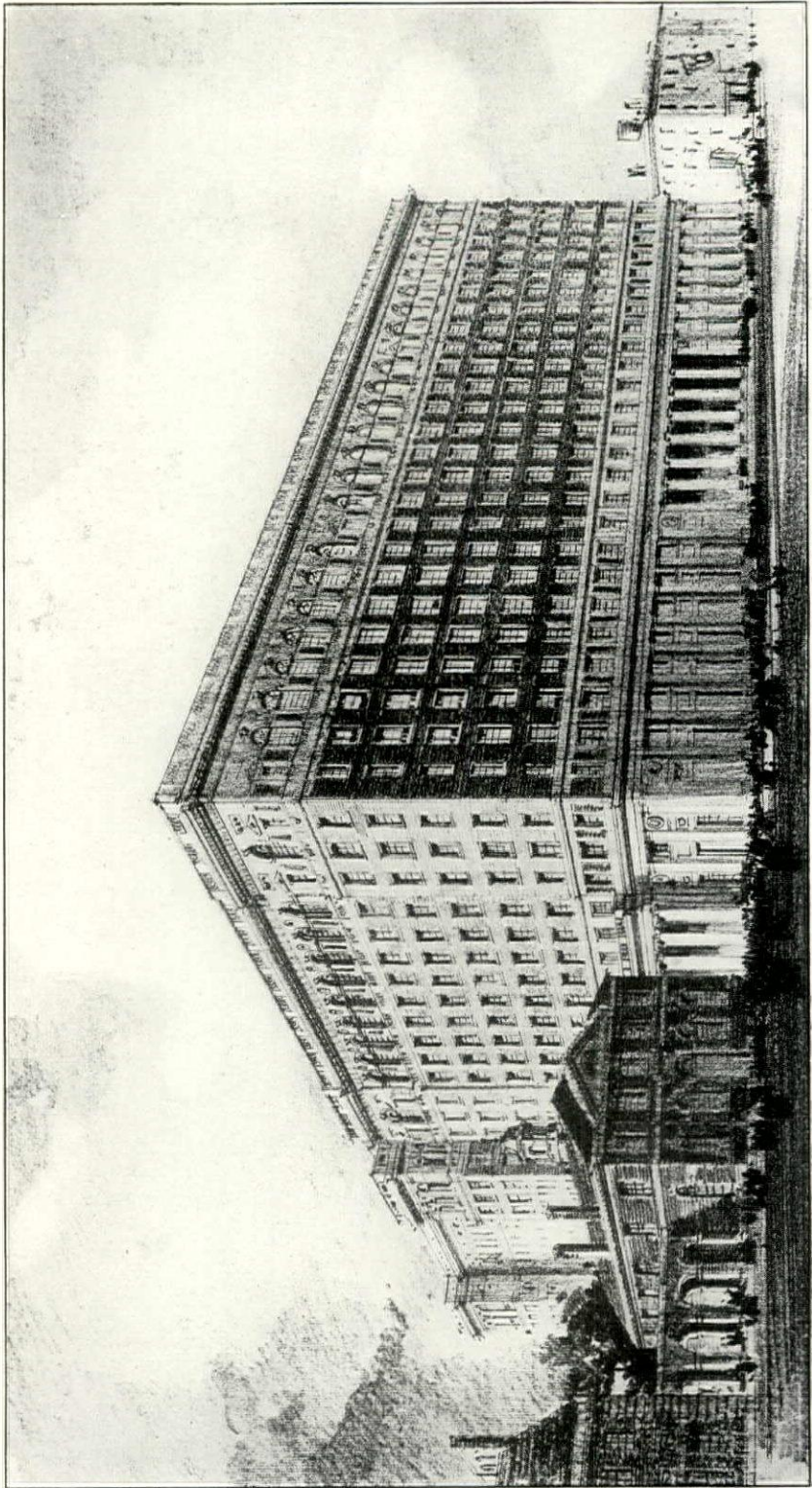


HOUSE AT 7 SUTTON PLACE
 NEW YORK CITY
 WILLIAM F. DOMINICK
 ARCHITECT
 NEW YORK CITY

FLOOR PLANS—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



FIREPLACE—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



GENERAL VIEW—THE PHILADELPHIA LEDGER BUILDING,
PHILADELPHIA, PA. ARNOLD W. BRUNNER, ARCHITECT.



• *The* •
PHILADELPHIA LEDGER BUILDING
ARNOLD W. BRUNNER, ARCHITECT

•
By
Mattack Price

PHILADELPHIA, which is one of the most interesting of our architectural backgrounds, is about to acquire a distinguished addition to its list of important buildings. Before war conditions arose to deter so many construction projects, Cyrus K. Curtis, publisher, had complete drawings made for a great companion building to his present one, which houses "The Ladies' Home Journal," "The Saturday Evening Post" and "The Country Gentleman," on Independence Square.

This new building, by Arnold W. Brunner, with Frank C. Roberts as designing engineer, is to house the "Philadelphia Public Ledger" and "The Evening Ledger," and is to establish certain standards never before attained by a newspaper building.

In addition to numerous special considerations in its planning and treatment there are several large intentions in its design which are of distinct architectural interest.

The Ledger Building, as the general

perspective drawing shows, will stand in even closer relationship to the historic Independence Hall group than the Curtis Building, which Edgar V. Seeler designed in a frank and unaffected version of the Georgian Colonial style. Red brick, with white marble trim, is especially characteristic of Philadelphia, and this particular phase of our native architecture has for some incomprehensible reason, been very little utilized in large buildings.

The new Ledger Building, as Mr. Brunner immediately thought of it, must obviously be designed in this Georgian Colonial manner, and must not only dwell in harmony with the old Independence group, but also be a "good neighbor" to the present Curtis Building beside it. One of the most distressing features of urban architecture is the abrupt change in styles from one to the next, and the apparent indifference of each to the heights of its neighbors' string courses and cornices. The problem of designing to conform to adjacent or neighboring buildings is, to be sure, not always easy, but something more like an *entente cordiale* than usually exists might far more often be effected.

In the case of The Ledger Building it was particularly desirable to design for balance and harmony, for old Independence Square would be an unfortunate place in which to indulge in architectural discord or architectural egotism. With this thought in mind, and with the most studious care, Mr. Brunner adjusted the main horizontal lines of The Ledger Building in relation to the horizontals of the Curtis Building, having also regard to the disposition of color in brick work and trim. It was an exacting problem in balancing similarities and differences without impairing vigor and

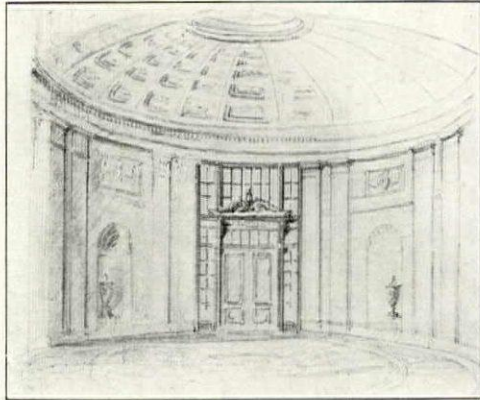
freshness in design—but the result is obviously successful, and shows a large building which will meet its three most important external requirements. It will do no violence to the old architectural atmosphere of the Independence group,

it will be a worthy and courteous neighbor to the Curtis Building and it will be a dignified and distinguished building on its own account.

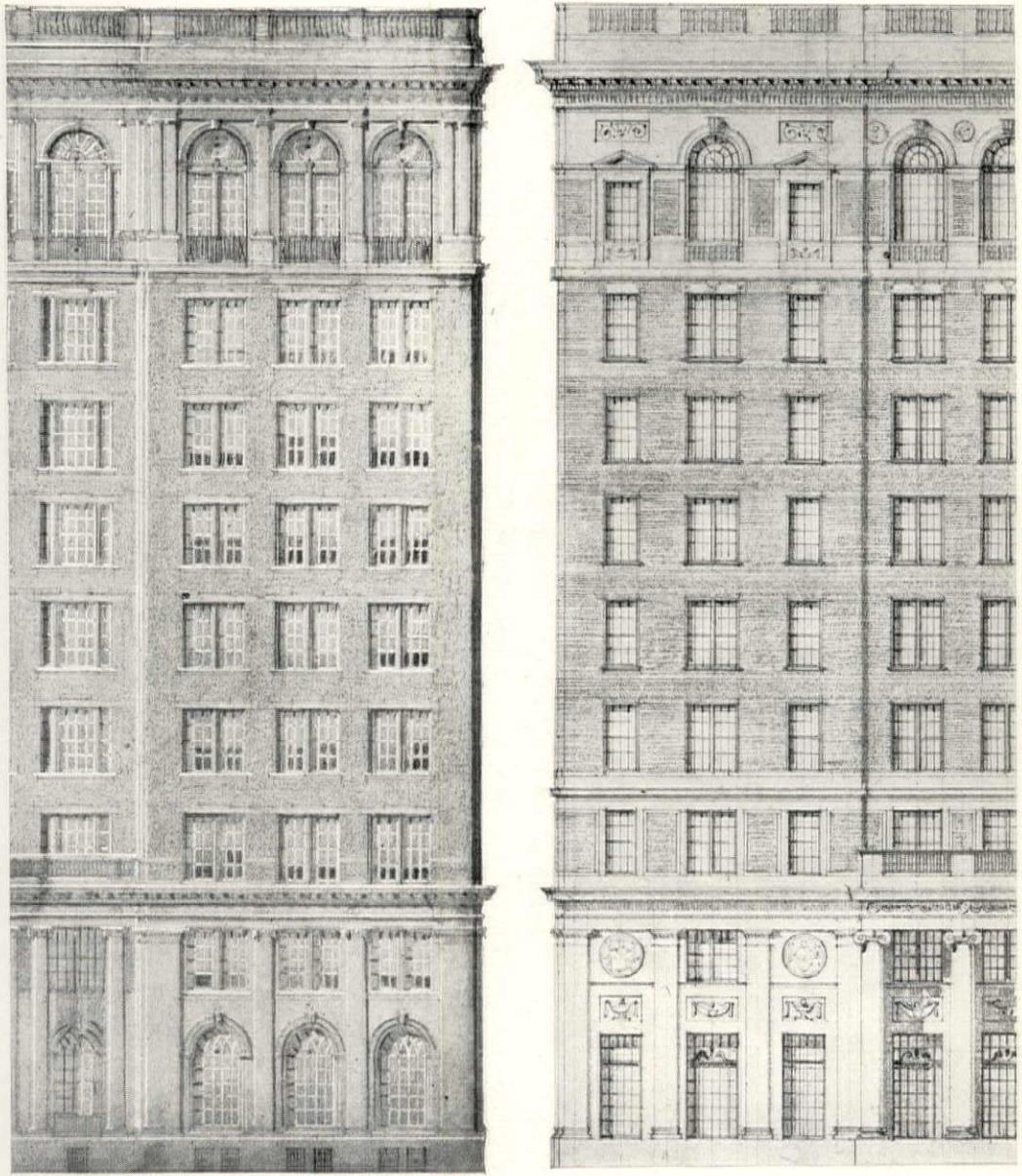
Much good would result if all architects were to give more studious thought to similar "externals" of their varied problems. There is a far too prevalent tendency to design

large and important buildings with no apparent thought of the immediate setting, which has the doubly unfortunate effect of detracting from the appearance of the new building, as well as destroying the appearance of its neighbors. Until there is a more active consciousness of this consideration of "neighboring design," buildings which appear in groups will continue to quarrel with each other and mutually detract from the harmonious architectural composition which they should properly form. An architect who is planning any group of buildings invariably works for harmony and consistency, and there is certainly no architectural reason why he should design otherwise merely because neighboring buildings are already in existence.

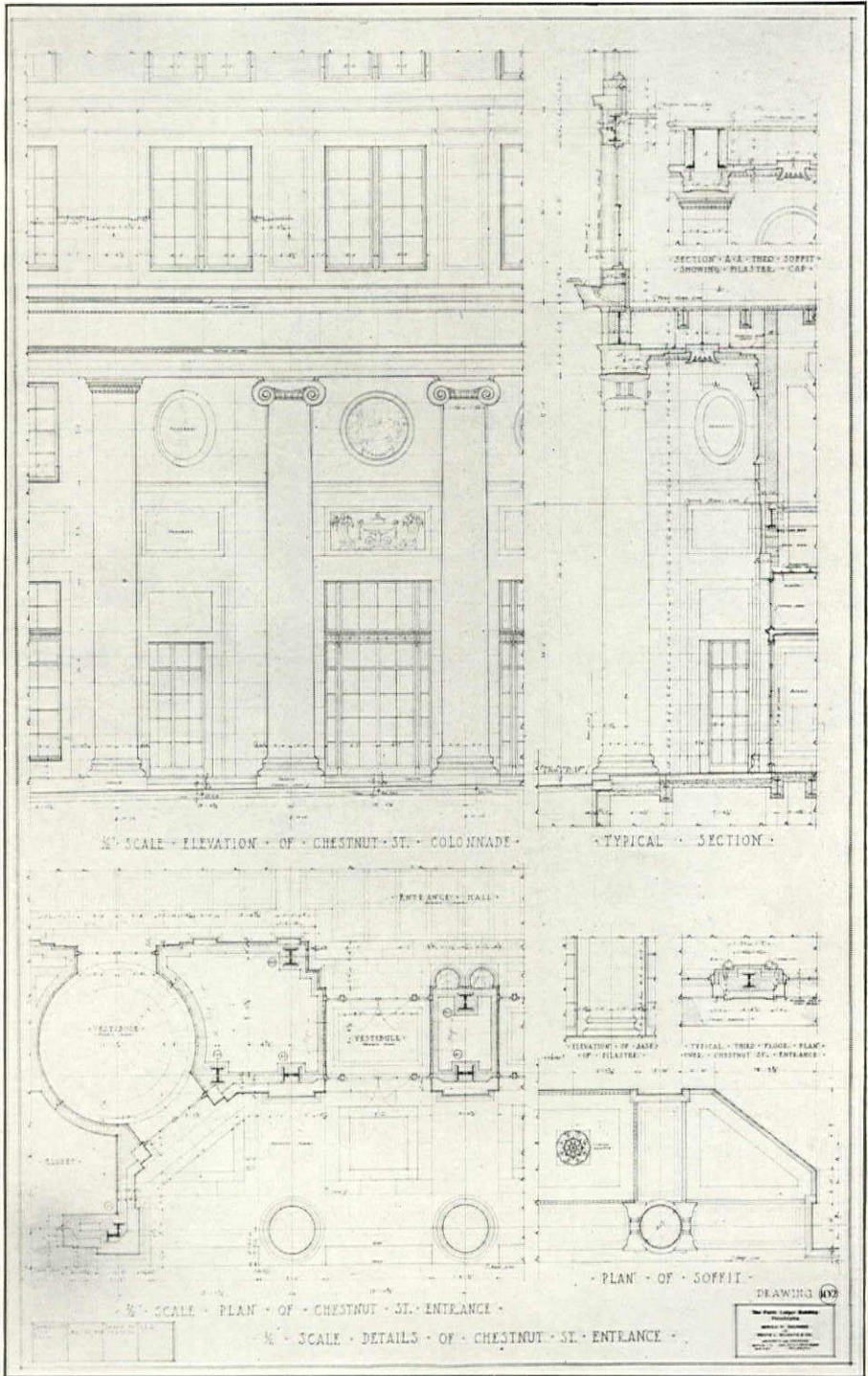
The Ledger Building illustrates at once two very agreeable attributes of the Georgian Colonial style in which it is designed—dignity and refinement of scale. There is exactly enough opportunity for ornamental detail, and exactly enough restraint to set off the ornament to its best advantage. And in color, the contrast between the red brick and the white marble gives a quality of vivacity, even to a large and unbroken façade, which



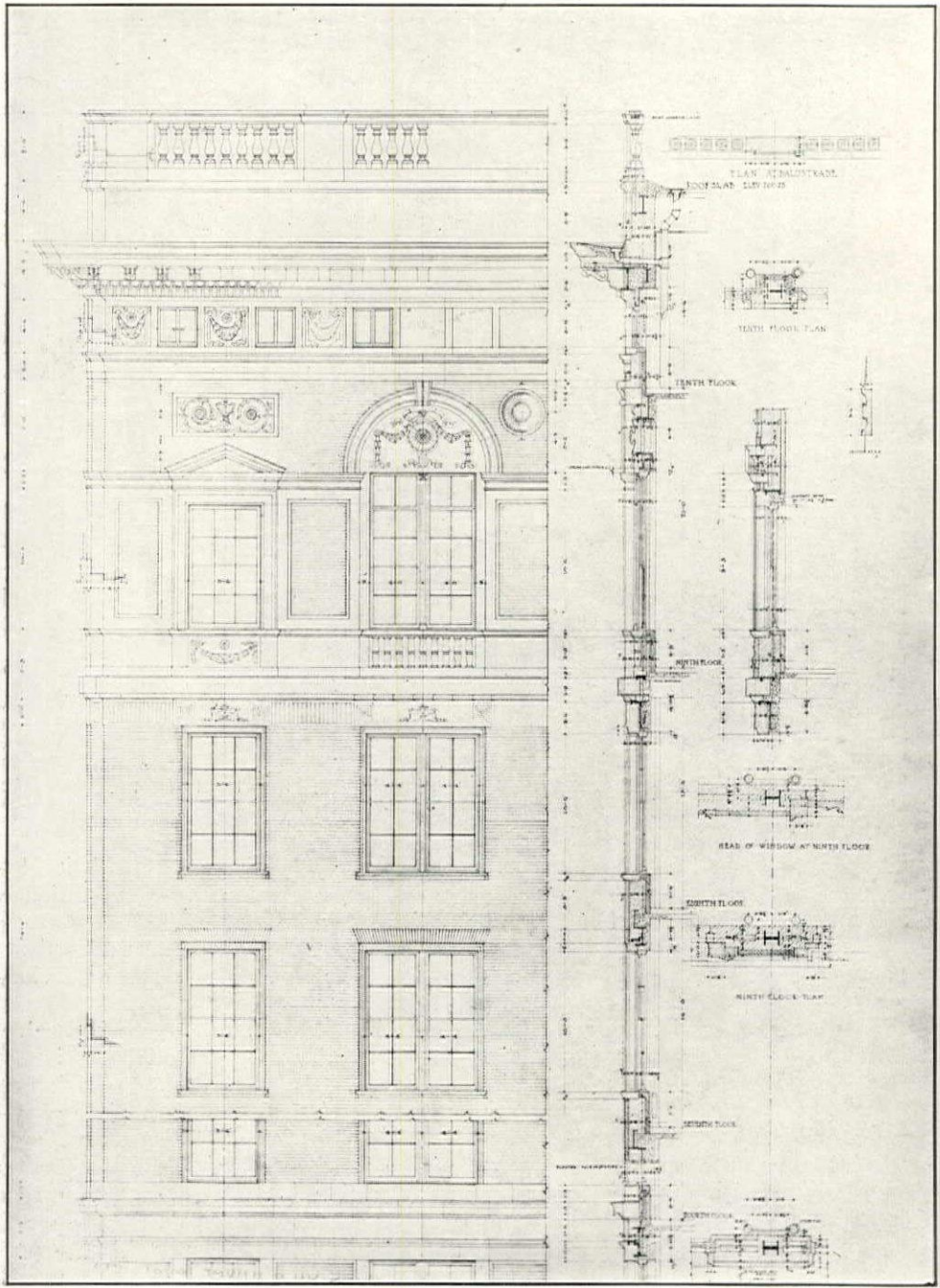
STUDY FOR SIXTH STREET VESTIBULE.



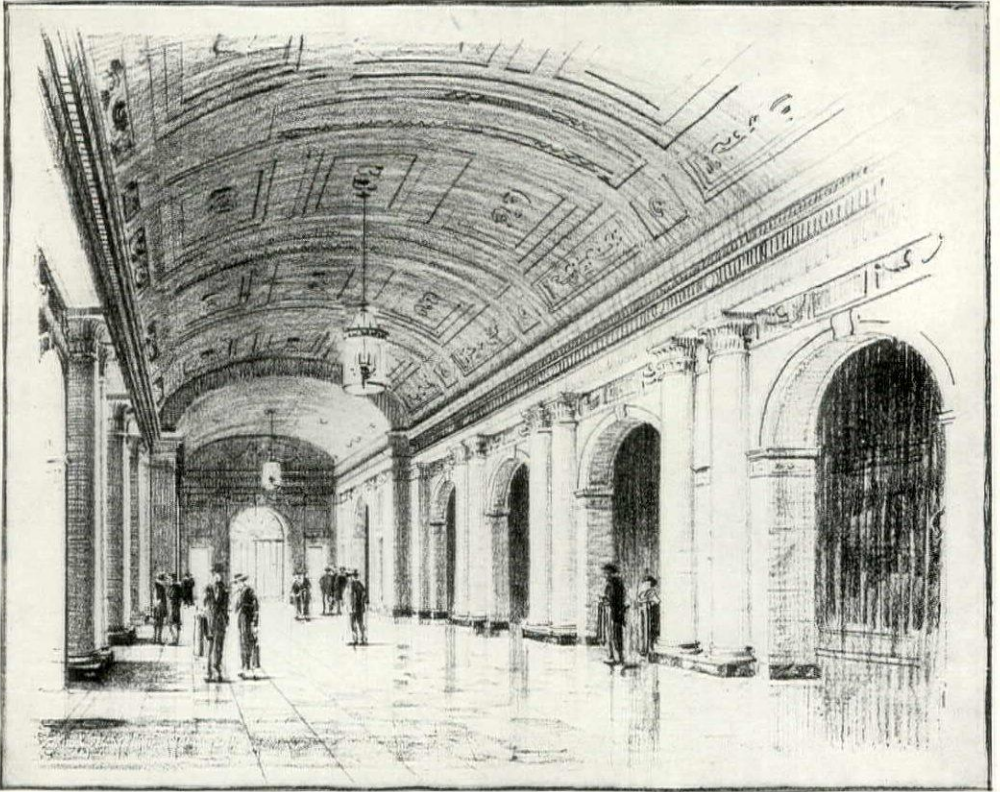
COMPARISON OF STRING COURSES—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



EXTERIOR DETAIL—THE PHILADELPHIA LEDGER BUILDING,
 PHILADELPHIA, PA. ARNOLD W. BRUNNER, ARCHITECT.



EXTERIOR DETAIL—THE PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA. ARNOLD W. BRUNNER, ARCHITECT.



CORRIDOR—THE PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.

could not be so effectively accomplished by any other means.

The interior planning and treatment convey a largeness of vision on the part of both owner and architect. The main entrance, on Chestnut Street, is a great colonnaded loggia, giving access to an architecturally impressive corridor which runs a full third of the length of the building on this side. This corridor has been the subject of considerable study, expressing in its final version the desired effect of dignity without any semblance of pompousness. It succeeds in being distinctly Georgian without being austere, as also it is distinctly rich in effect without being ornate.

At the left end of this great corridor access is had to an extensive and very architecturally treated office space, where visitors will see a large proportion of the clerical staff of the two papers, and

where every public contact with its different departments can be expeditiously effected. In such an extensive panorama of activity there is a distinct advertising value, to be reckoned in terms of obvious prestige to the newspaper.

A like measure of advertising value, architecturally expressed, is seen in the design for the press rooms, which balances the clerical department in a corresponding location at the right extremity of the main corridor. Here the presses in operation will be constantly on view from a gallery which is on the same level as the main floor, the actual press-room floor being on a lower level. The presses are also to be seen from the street, through large windows along one of the galleries. It can safely be said that no press-room has ever received such highly architectural treatment, its detail including, among other things, bas-relief



OFFICE SPACE—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.

models of the old printers' marks, which have always been a treasured tradition of the craft.

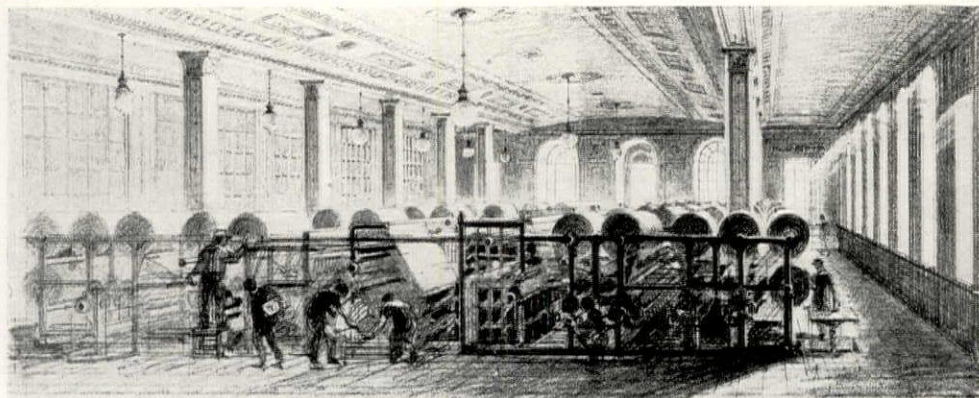
A practical adjunct of the press-room is the mailing and shipping room, behind it, where loading platforms and delivery courts expedite the sending forth of the printed word at morning and evening.

Provision is made in the plan for a quiet and stately dining-room, and for a conference room and offices commensurate in dignity with Philadelphia's greatest newspaper. And in view of

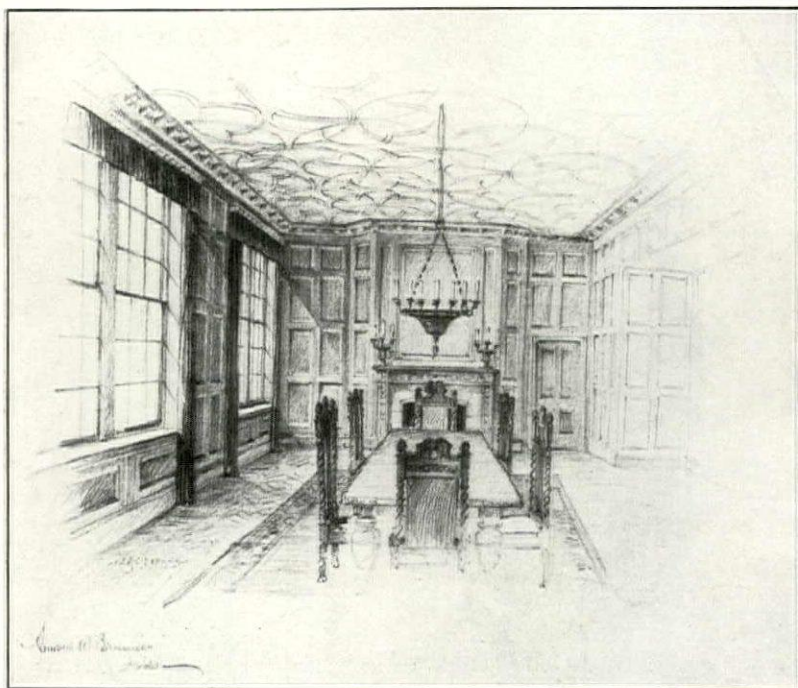
such contingencies as great pressure of editorial work, inclement weather, and transportation strikes, several complete living-suites are included for the comfort and convenience of the editors.

On the ninth floor thought has been taken for the newsboys, who will have a swimming pool, gymnasium, class-rooms and a library, as well as a large club room and a dining-room and grill.

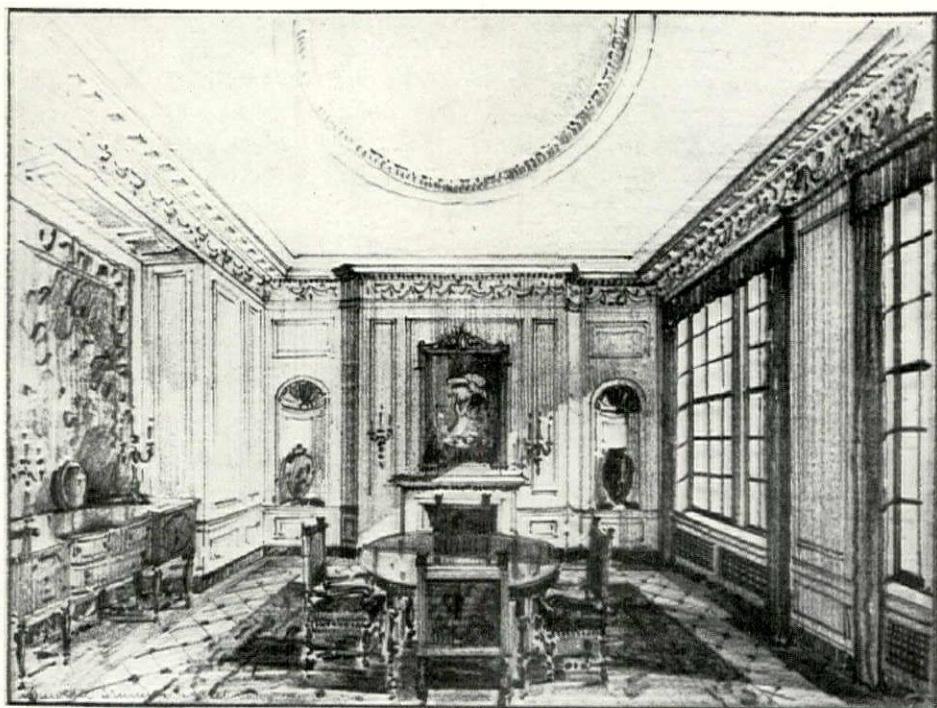
The new Ledger Building, in every respect, will represent a piece of highly



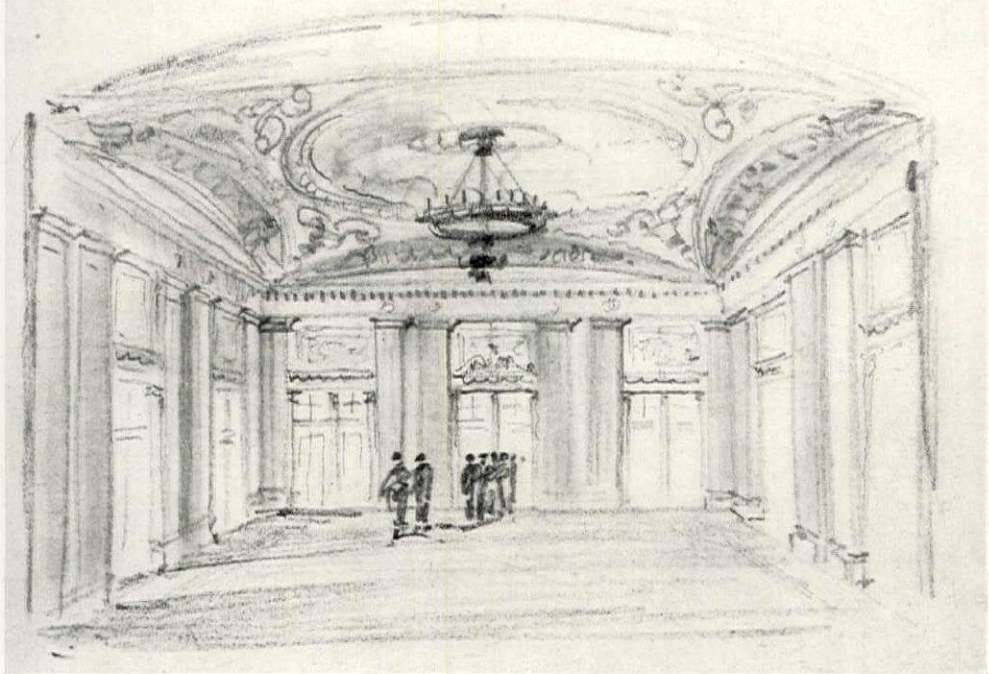
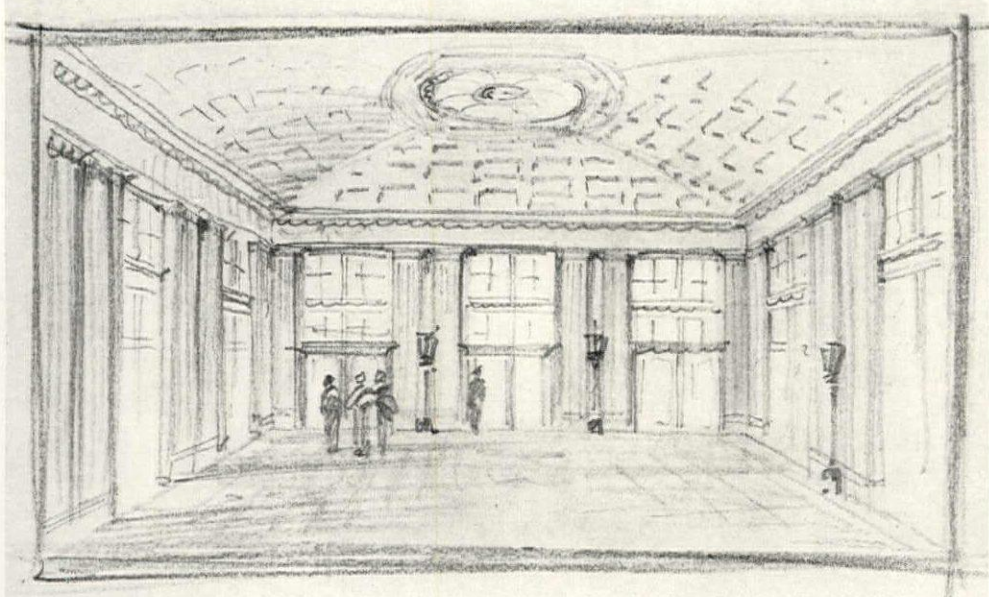
PRESS ROOM—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



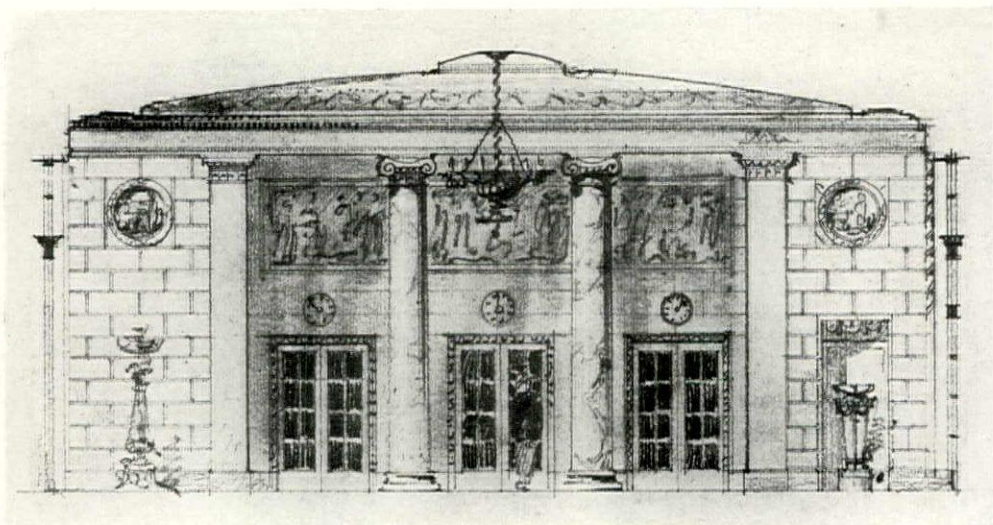
DIRECTORS' ROOM—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



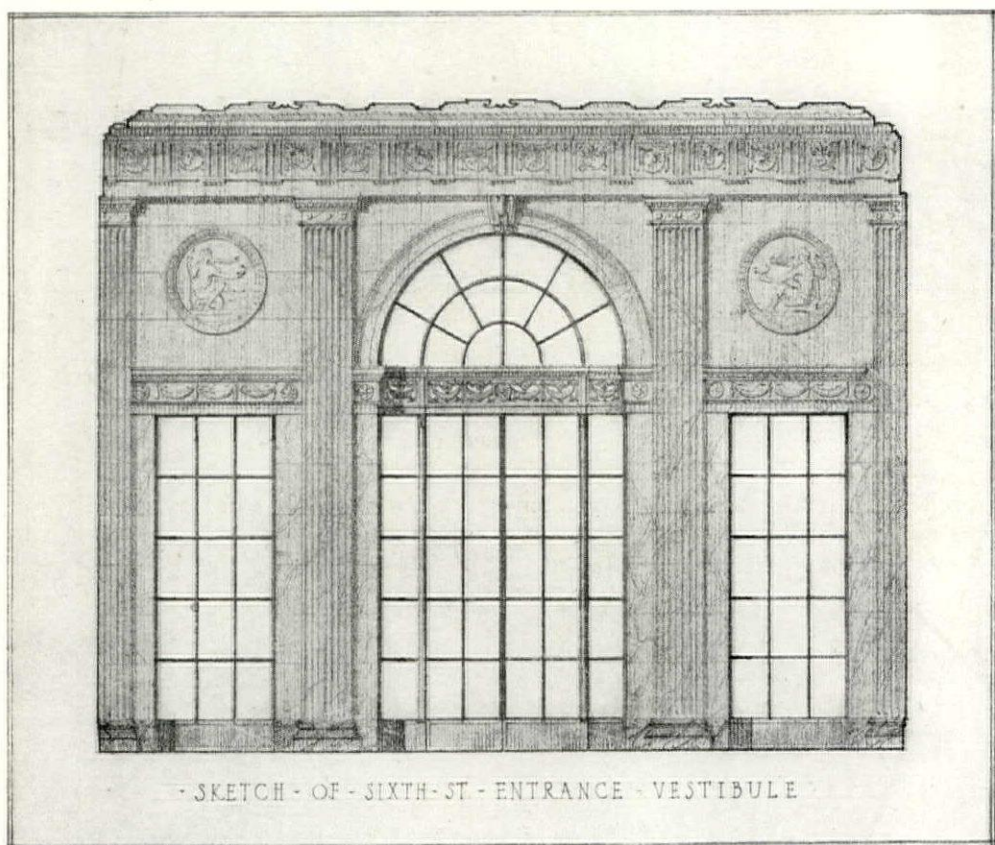
DIRECTORS' DINING ROOM—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



STUDIES FOR VESTIBULE ON SIXTH STREET—PHILADELPHIA LEDGER BUILDING,
PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



STUDY FOR VESTIBULE ON SIXTH STREET—PHILADELPHIA LEDGER BUILDING,
PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



SKETCH OF SIXTH ST. ENTRANCE VESTIBULE

PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



SKETCH STUDY FOR THE MAIN CORRIDOR—PHILADELPHIA LEDGER BUILDING,
PHILADELPHIA, PA.
Arnold W. Brunner, Architect.

specialized architectural design, combining in its entirety the expression not only of a wide variety of practical considera-

tions, but also of architectural good taste in an environment which imposes many inevitable architectural responsibilities.



FIG. 89. GENERAL VIEW OF COURTYARD.

"THE MANOR HOUSE," CHICAGO, ILL.
J. E. O. PRIDMORE, ARCHITECT.

TENDENCIES IN APARTMENT HOUSE DESIGN

PART VIII, *Open Courtyard Types* ~



By FRANK CHOVTEAU BROWN

THE "Open Courtyard" type of apartment group, in some one of its many possible variants, is of peculiar interest to those concerned with the future development of apartment house structures in this country. Its proven flexibility of arrangement, its varied adaptability to differently proportioned lots of land, its economic advantages for the improvement of larger sized land tracts, urban or suburban, are all amply demonstrated by the examples that have been chosen—from a most extensive variety of available material—for illustration in these articles.

It remains to show one or two examples of the sort of plan best adapted to the nearly square lot, as well as to illustrate one or two more plans of especially individual schemes—and then to demonstrate what happens when this same idea is applied to the development of pieces of real estate of irregular shape and outline. The group first shown might be termed "Complex" plans—because of their more involved outlines—involved because of the fact that the main courtyard is supplemented by other or "secondary" courts, with the building broken in, or out, or around, these courts in order to obtain the most light, air or outlook for the occupants. And this group can perhaps best be taken up in direct contrast to the simplest examples of the "open court" apartment plans that we have yet been able to show.

First among these would probably be the Chicago building, containing two large apartments to the floor. (Figs. 89, 90, 91 and 92.)

This very successful development is shown in plan in Fig 90. It has been

built on a plot of land where the portion covered by the structure measures about one hundred and thirty feet front by a hundred feet deep, the wings being about forty-five feet wide and the court opening, at the point directly between the principal entrances, a little over thirty feet in width. The entire area of the building is given over to two apartments to the floor, each apartment consisting of eleven rooms, beside baths, "*Orangerie*," etc.

Of course, with an expensive development of this type, it is to be expected that the rooms are all of ample, not to say spacious, dimensions, which indeed is the case. An unusual and interesting room will also be found making its appearance upon this plan. It is termed the "family room," and is situated at the most remote and innermost point of the plan, in a location farthest removed from the suite of principal living rooms that open out from each other at the front of the building. With its direct cross draught and retired yet unmolested street outlook, it should at all times prove to be a comfortable and pleasant center for the family life of the occupants.

It should be noted, however, that this remote yet commanding position could only be obtained at the sacrifice of a common service stair case for the apartments, which have consequently rear and front stairs, separated and used only by the apartments of each wing in the tier either above or below. This plan may also be considered as fairly typical of the "de luxe" type of apartment, as we most generally find it developed to meet the conditions and demands of a western American city or an important suburban community.

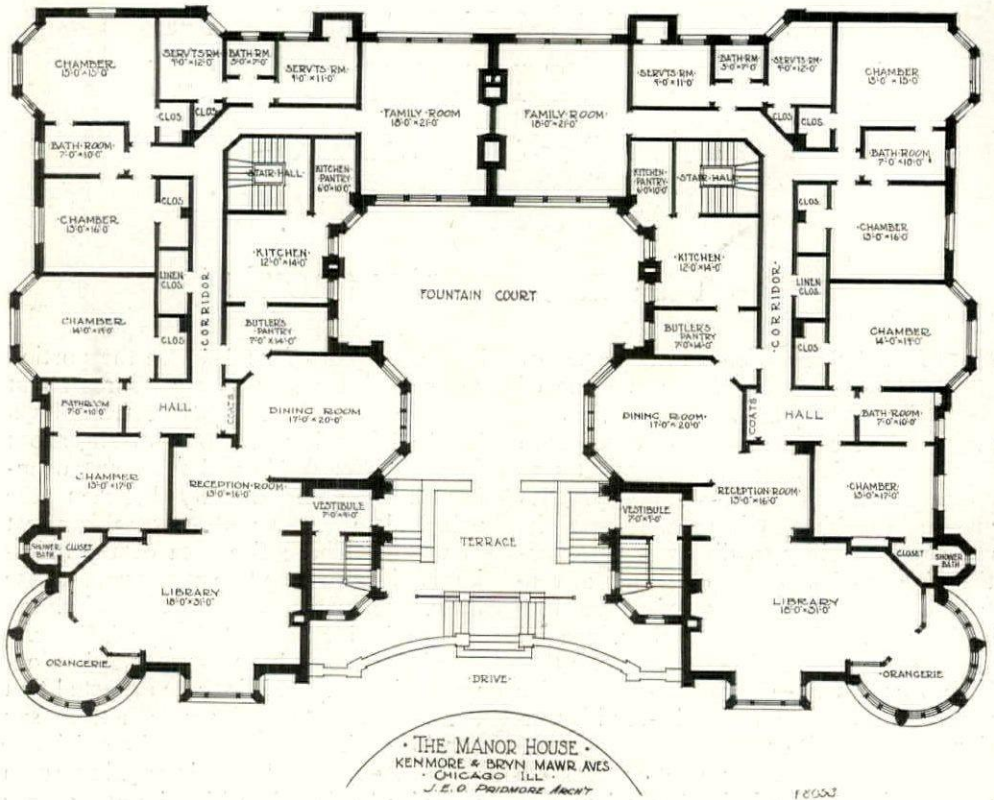


FIG. 90. PRINCIPAL FLOOR PLAN—"THE MANOR HOUSE," CHICAGO, ILL.
 J. E. O. Pridmore, Architect.

Still simpler in its courtyard outline is the plan of the apartment house on lower Chestnut street in Boston, illustrated in Fig. 93. In its general contour and proportions, this plan is about the best average type of the "open court" idea that has been found. It has the smaller courts—better called "light wells"—required for the special lighting or airing of certain of the service portions of the suites on the several floors—and one or two of these spaces have been utilized, also in part, either for the service staircases, or for the balconies connecting with rear staircases, opening to the several apartments.

Although simple in its main outline, this structure can otherwise hardly come within that classification. When we come more closely to examine the details of its arrangement, it will be found, indeed, highly individual in several particulars. It should

first be explained, however, that the designer had presented to him an unusually complicated problem. The lot to be developed had first been laid out to contain a group of ten separate city houses, built facing upon a small courtyard, and the construction of this group had progressed to a point where the piles had all been driven and the foundations were all in, the walls having been carried to a point between the first and the second floors. The work was there arrested by our entrance into the war, and it so remained for some time, until, at a considerably later date, the property was sold and construction resumed, with the important difference that the plot was now to be devoted to apartment uses instead of individual houses.

The architect had accordingly to arrange his plan in such a way as to make use of all the important walls, chimneys, etc.,



FIG. 91. INTERIOR OF COURTYARD.

"THE MANOR HOUSE," CHICAGO, ILL.
J. E. O. PRIDMORE, ARCHITECT.

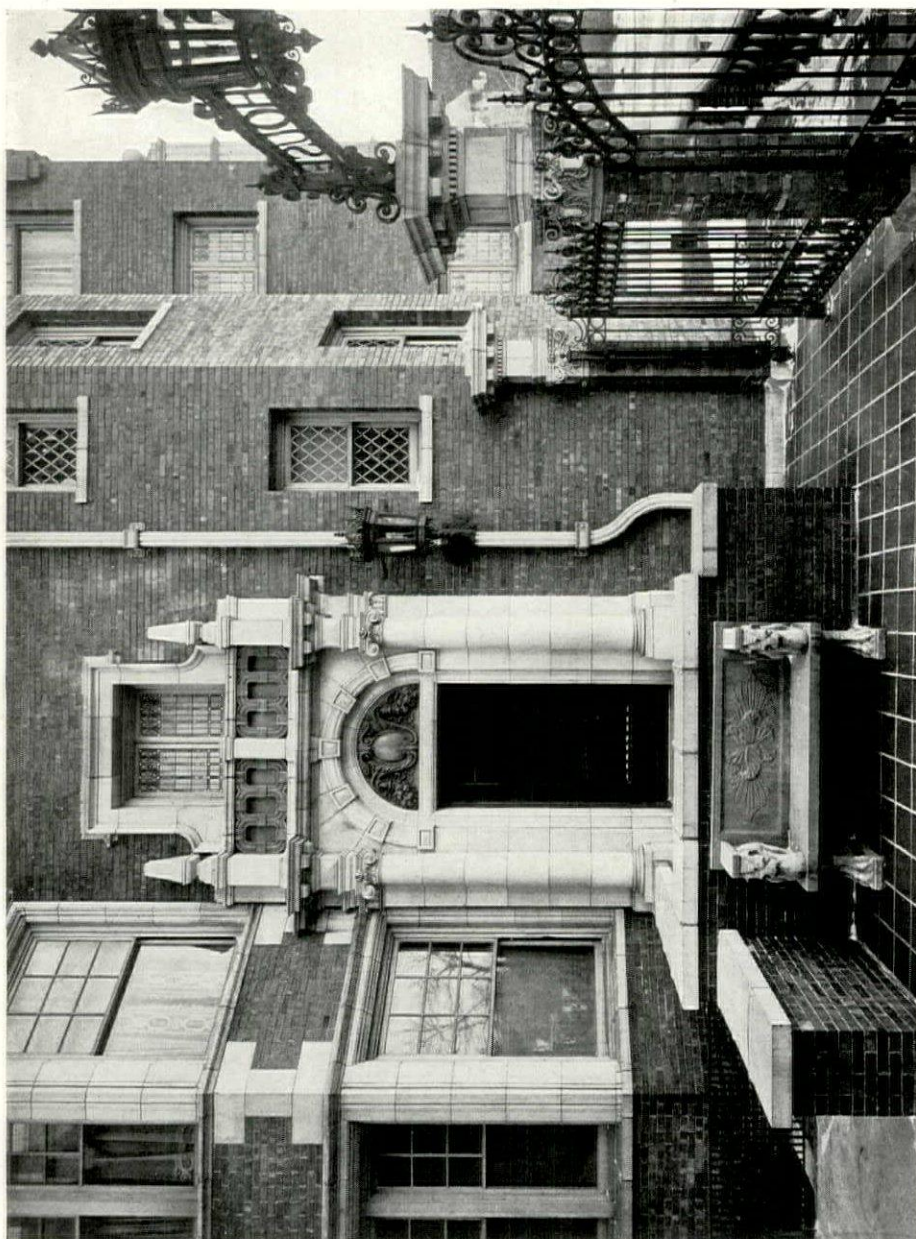


FIG. 92. DETAIL OF ONE OF PRINCIPAL ENTRANCES.
"THE MANOR HOUSE," CHICAGO, ILL.,
J. E. O. PRIDMORE, ARCHITECT.

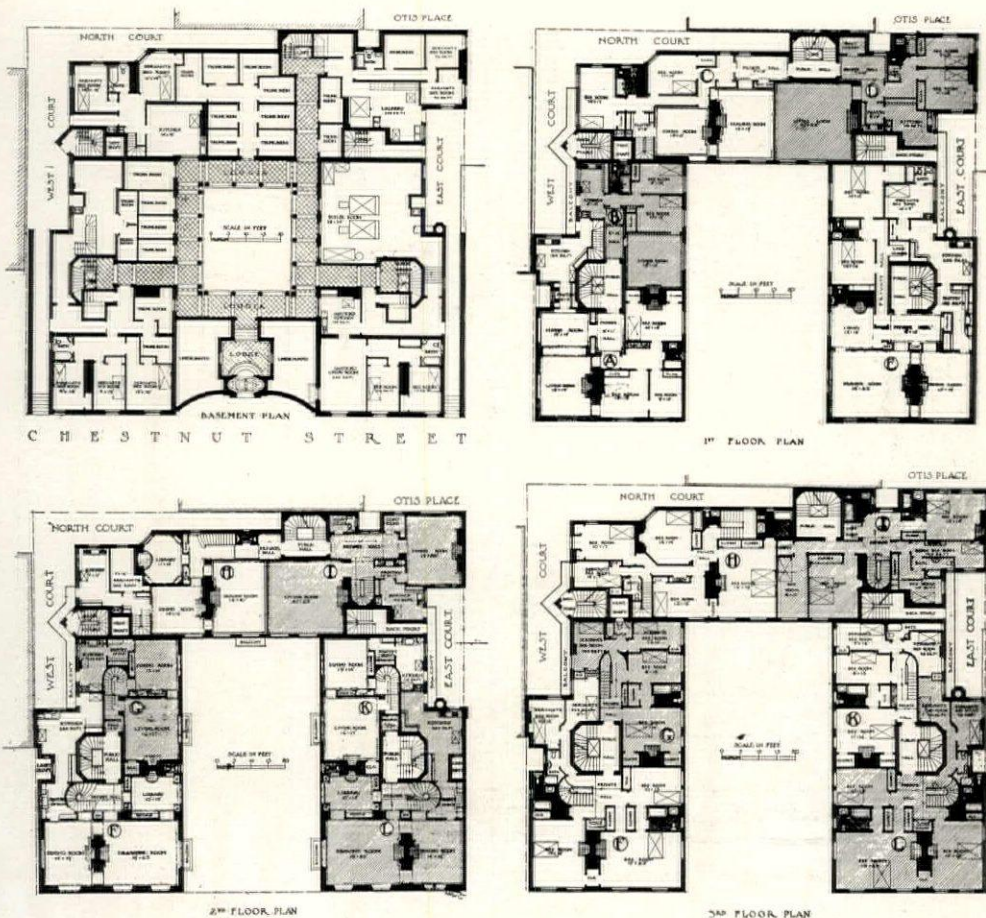


FIG. 93. FLOOR PLANS—APARTMENT HOUSE AT 101 CHESTNUT STREET, BOSTON, MASS.
Richard Arnold Fisher, Architect

in their original location. This in itself would have been something of a problem, but he had further to accommodate his plan to the very different and changed requirements of the building laws, as they applied to apartment—or, as it is technically termed, “tenement house”—purposes. This preliminary explanation is made in justice to the designer, as he might otherwise perhaps justly be criticized for what may appear needlessly involved or complicated elements in the floor plan arrangement.

Once thus fully understanding the architect’s problem, however, it should be all the more interesting to examine the floor plans in order to see how fully or well he has found his answer. It should be at once apparent that the typical floor

plan contains six apartments to the floor—two in the portion across the rear of the court, and two in each of the side wings. Certain exceptions to this statement are at once to be made. The right hand wing on the first floor is given over to one apartment—and the apartment lettered “C” upon this same floor is also found to be a “Duplex,” with the other portion of the apartment, housing the service, extending into the basement. The rest of the first floor will be found to contain two small apartments of four rooms each, “B” and “D”; an apartment of six rooms, “A”; besides the large apartment already spoken of, at “E”, of seven rooms; and the “Duplex” apartment, at “C,” also with seven rooms.

This floor plan will further indicate

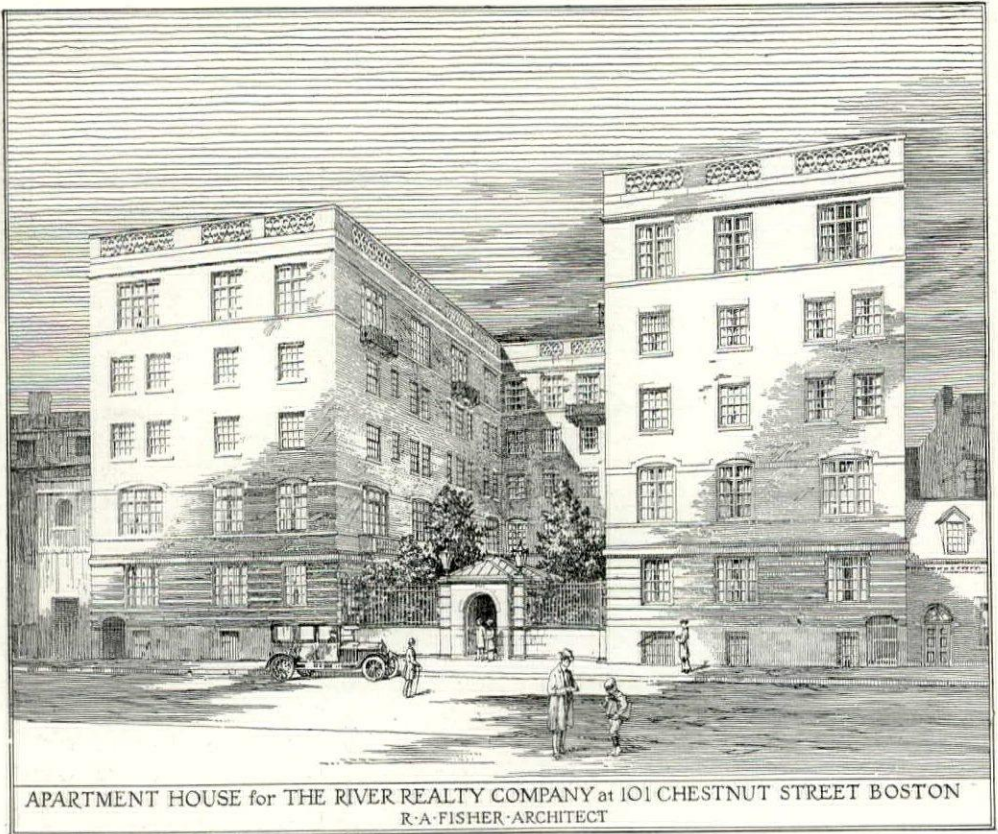


FIG. 94. PERSPECTIVE OF APARTMENT HOUSE AT 101 CHESTNUT STREET, BOSTON, MASS.
Richard Arnold Fisher, Architect

how the two back staircases are each made to serve three apartments to the floor, by means of connecting balconies which are also used to conform with the building requirements for "fire escapes." Three principal staircases are provided, each serving two apartments to the floor, at central locations, built around elevator wells. The practical elimination of long corridors is also to be noted—practically the only exception to this statement occurring in the apartment lettered "C," upon the first floor. Elsewhere, of course, the adoption of the "Duplex" type has gone far to make the avoidance of this wasteful private corridor possible.

Above the first floor we find that the "Duplex" type has been adopted and consistently maintained throughout the rest of the building's height. The apartments

on the second floor are continued upon the floor above, where their sleeping rooms are located—and a similar statement might be applied to the two stories above—with the single (and important) exception that we there find the living floor placed at the *top* of the building, and the sleeping portions of these same apartments upon the floor underneath, or the fourth floor. This rather unusual arrangement is in this case amply justified by the far better views over the adjoining Charles River Basin thus obtained for the occupants, and full advantage of this arrangement has been taken by the architect in making the fenestration of the façade more varied and interesting, as appears in Fig. 94. The second and third floor plans are duplicates of the fifth and fourth floors, respectively.

The peculiar distinction of this build-

ing's courtyard treatment lies, however, in the fact that the entrance to the structure is not made directly from the street, nor even to the first floor,—but that, to enter the building, one goes down a flight of steps into a small reception "Lodge," from which there is telephone connection with all the suites. Continuing, one descends a further flight of steps, and enters a low "Loggia" or "Cloister" which extends around the four sides of the court upon what is actually the Basement level, and from this Loggia the different staircases or elevators are reached. The Basement story also contains a small Janitor's suite, on the right, with some servants' rooms on the left; three others being contained on another portion of this plan, together with a general Laundry for the use of the tenants of the smaller apartments. Easily accessible store or trunk rooms for each apartment are also placed upon this level. The service entrances extend from the street to the courts on the East and West sides, from which point the service staircases, and the dumb waiters reaching the different stories, are all easily accessible. The "unexcavated" space on each side of the entrance "Lodge" remains filled to above the street level, and carries, behind its retaining wall, a growth of shrubbery which helps to make the courtyard itself seem remote, quiet and secluded from the street without.

The space covered by this courtyard and cloister is forty feet wide by forty-three feet deep on the basement level, and on the upper stories the depth of the court is 68 feet. The total width of the property is one hundred and twenty-five feet and its depth is one hundred and seven feet. Attention should be called to the large and spacious proportions of the principal living and sleeping rooms, and it should also be noted that these rooms are always well located on the plan, even though the other complications of the problem have sometimes made exceedingly irregular outlines necessary for some of the kitchens, pantries, baths or servants' rooms, in order to obtain for them the benefit of the direct outdoor light or ventilation required by convenience and by law.

Another unusual courtyard plan is shown in Fig. 95. The buildings on each side of this courtyard contain two apartments each to the floor, with a common mainstair and elevator, and separate rear staircases. These apartments all consist of nine rooms, including a spacious porch, across which one actually has to pass to enter each apartment. The porch is, however, so arranged that it can be completely enclosed and utilized as a room in winter time. The section at the rear end of the court contains two of what are called "duplex" apartments, but they are substantially the same as two single city houses, since they extend the full height of the building at this point, their first floor being on the same level as the second story of the side sections.

With the exception of the small amount of wall used in common by the side and rear groups of apartments, the different elements grouped to form the courtyard plan are, in this case, especially easy to distinguish. The two side sections are clearly to be seen as wide and shallow units, each with its own separate "courtyard," and they are especially successful in securing for the apartments the maximum amount of exposure and opportunities for cross draft. These opportunities, it should also be noted, are not in any way sacrificed by the grouping of these units around the larger courtyard that results in the plot plan here shown. The narrow connecting "neck" that relates the apartments to their front staircases is an unusual feature. The arrangement of this space so that it can be used (when the tenants so desire), as an open room or porch, makes each of the apartments practically as open on all sides as is the case with the ordinary suburban house, which has nearly always adjacent neighbors to partially interfere with exposure to sun, air or view.

The main courtyard here takes the form of a Maltese cross, because of the minor courts indented from three sides, and the opening left for the entrance from the street upon the front. In addition, there exist two "secondary"

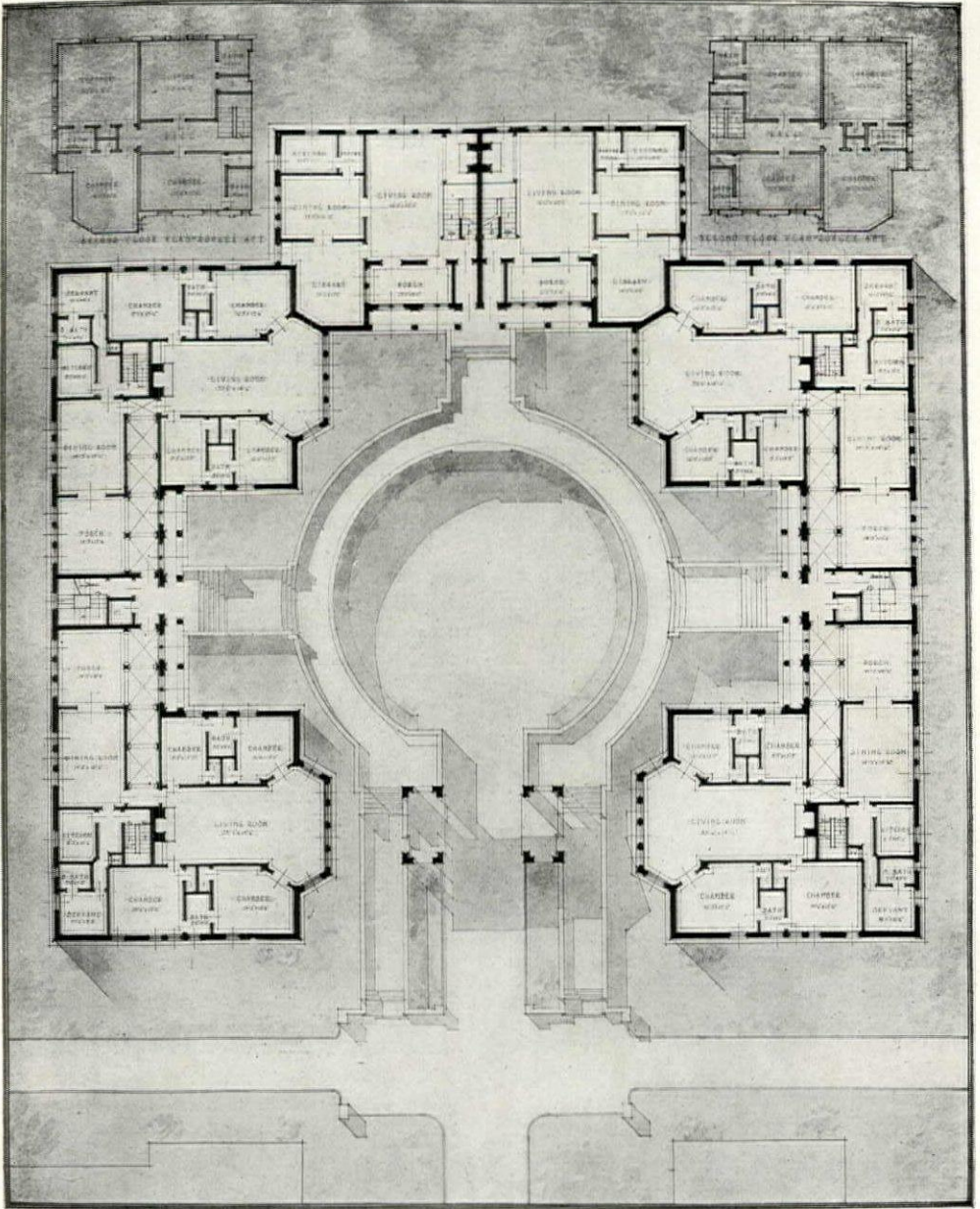


FIG. 95. PRINCIPAL FLOOR PLAN —
 "CAMPAGNA" APARTMENTS, BALTIMORE,
 MD. CLYDE N. FRIZ, ARCHITECT.

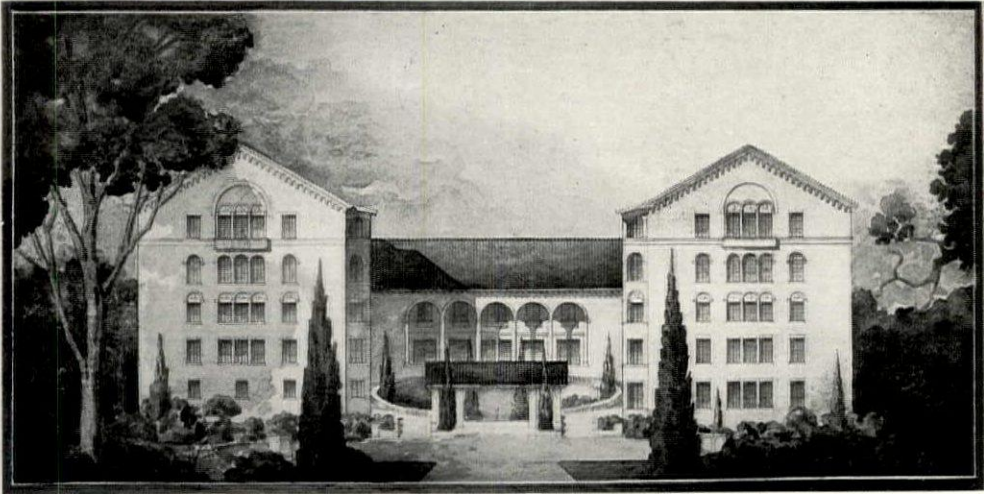


FIG. 96. ELEVATION OF "CAMPAGNIA" APARTMENTS, BALTIMORE, MD.
Clyde N. Friz, Architect

courts on the rear outer angles of the plot (in Fig. 95 these courts are occupied with the upper floor plan of the "duplex" center rear apartments, and they, therefore, perhaps appear more clearly in the key plan marked "Compound Court" at the upper right-hand corner of Fig. 98).

This building, the "Campagna," is also further related to two other apartment buildings with which it is grouped, the "Lombardy" (to be illustrated next month) and the "Tuscany," which was shown in December, as Figs. 64, 66 and 67. The relationship between the "Campagna" (Fig. 95) and the "Tuscany," (Fig. 67) may be clearly seen by comparing these two plans. The outline and arrangement of the latter is similar to the units that comprise the two sides of the main courtyard in the former. It should also be noted how the designer of these apartments always provides his tenants with an important and necessary adjustment for the accommodations of their automobiles. In the building illustrated this month the garage is a separate structure of harmonious design, connected with the main building by a covered passage, as is shown in Fig. 97. In the case of the "Tuscany," published in the December issue, a garage is provided the tenants in the space in front

of the building, the main entrance to which is over the roof of the garage. The latter is so well concealed, however, that few would suspect its location. In the illustration on page 492 (Fig. 66), what appears to be merely a decoratively treated retaining wall, is actually one side of the garage, which can be seen upon this side of the building only.

The secondary court, although it has several times already appeared in the plans reproduced in this series, has not yet been specifically discussed. Several plans showing the use of a secondary court are grouped together in Fig. 98. Of these, the one at the upper left-hand corner is a simpler expression of the plan shown in detail this month in Fig. 90. It is also very similar to the plan shown last month as Fig. 85, or, for that matter, to the plan of Fig. 93. The latter has, however, two embryonic secondary courts at the same locations as they appear in the plan at the upper *right* hand corner of the same group (Fig. 98), although the latter is in reality a simpler showing of the outline arrangement of the plan in Fig. 95. The outline shown at the center of the lower row is a further and more extended development of this same idea—and is, as a matter of fact, practically the outline arrangement of Richmond Court, in Brookline, which

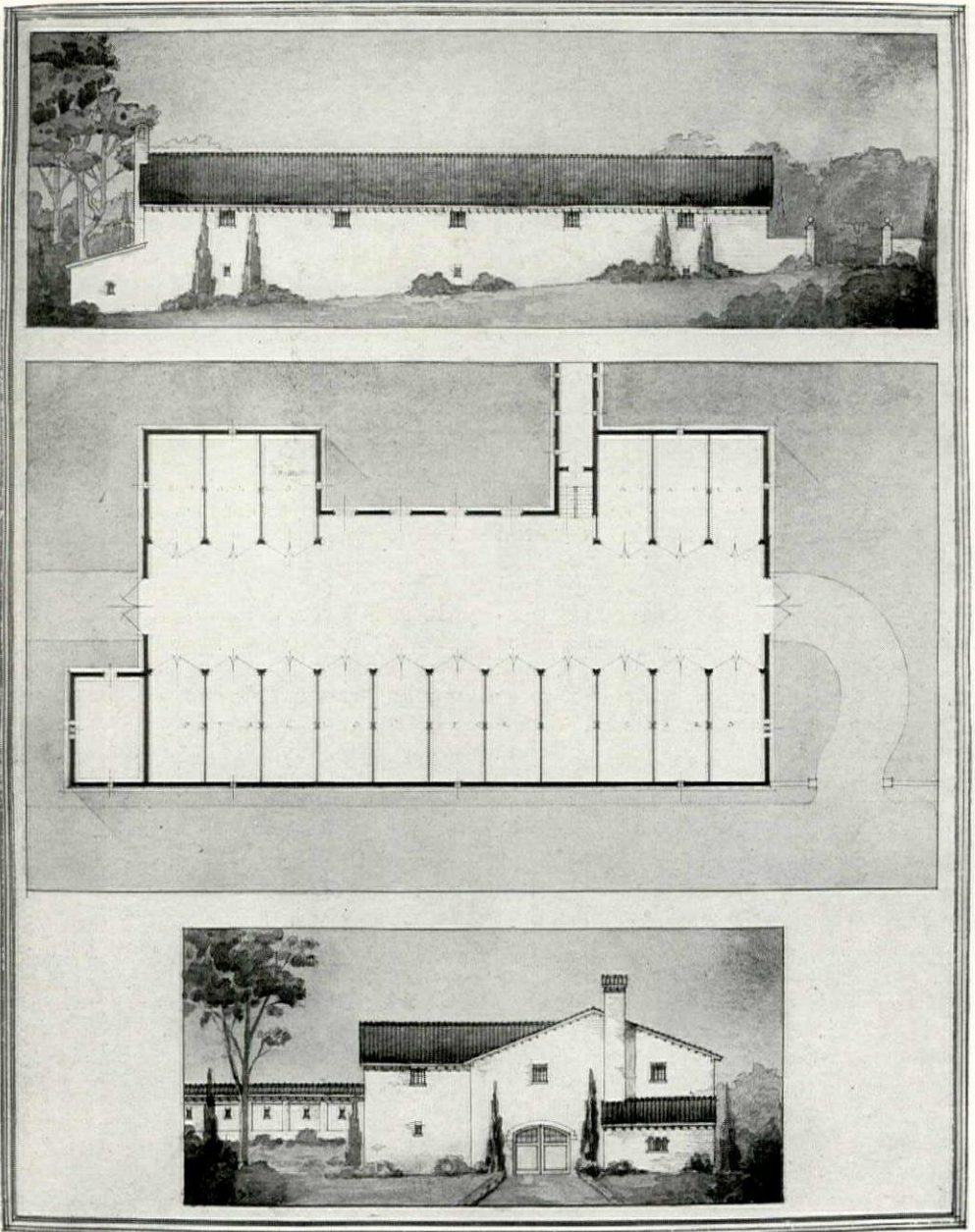


FIG. 97. DRAWINGS FOR "CAMPAGNIA" GARAGE, CONNECTED WITH APARTMENT BUILDING BY COVERED WAY. CLYDE N. FRIZ, ARCHITECT.

VARIANTS OF "OPEN-COURT" TYPES
 OF GROUPED APARTMENT PLANS
 COMPLEX SCHEMES
 including UNBALANCED Arrangements
 employing SECONDARY Courts

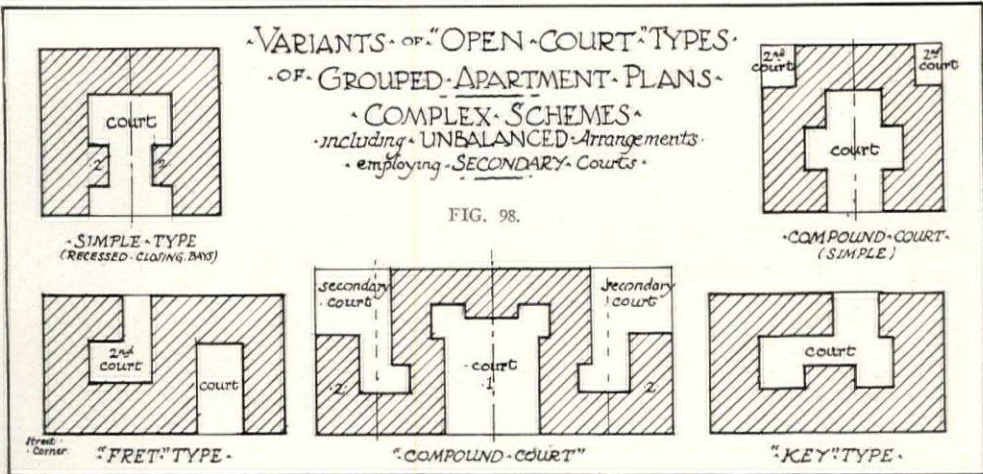


FIG. 98.

was somewhat fully discussed in these articles in the issue for December last.

In that plan, however, the two extreme wings, marked with the figure "2" in this key plan, were separate buildings, similar in architectural style and treatment, with separate entrances from the principal street. This shows, in connection with the other two plans illustrated, something of the possible uses that may be made of "secondary" courts, in such groupings of apartment units as we have been discussing in this series.

In all of these plan outlines, the "secondary court" is considered as meaning a separate and subsidiary space, opening from the rear of the lot, always materially smaller than the main courtyard, which opens from the street. Fig. 95 also shows the use of what might be considered "secondary" or minor courts opening out from or into the main courtyard itself in this plan at the sides of the main court.

Two other types of outline-plans are also given in Fig. 98, in the lower right and left corners. The latter shows a use of two courts, one opening from the front and the other from the rear of the lot—the building taking the form of a "Greek fret" in outline around these two courtyards. This is a type of plan which apparently has not as yet been consciously developed—or at least, to no more of an extent than seems to have been done in the plan (Fig. 99) where it may be studied rather more in detail.

In the plan at the right-hand lower corner, the courtyard is entirely at the

rear of the building, the resemblance of which—in outline—to the "key" type, is also clearly evident. This, too, is a plan of which no example expressing its latent possibilities has been found, but it is here included in the group to indicate that it possesses distinct potentialities, especially if the courtyard is placed at the front of the building, as in the other structures of the type that we are now considering. A later article will, as a matter of fact, show a plan of somewhat this type of outline, in some buildings undertaken to provide apartments available for occupancy by a far cheaper class of tenantry. But as it there appears only in its simplest outline essentials, attention has here been drawn to what are believed to be its opportunities for a better paying class of building, particularly when a piece of land of sufficient area to give this idea its full and adequate freedom of expression, is under consideration.

In detail, it appears in this article in the plan shown as Fig. 100, although the courtyard here opens from the inside, and not from the front of the lot. Its arrangement would therefore be materially altered, as now all the service rooms are made to appear on the courtyard faces of the structure, except where immediately opposite the open point at the rear.

In Figs. 99 and 100 we may examine more particularly two examples of still more convoluted plan outlines, arranged around more than one principal court, although in one case this court opens only from the rear of the build-

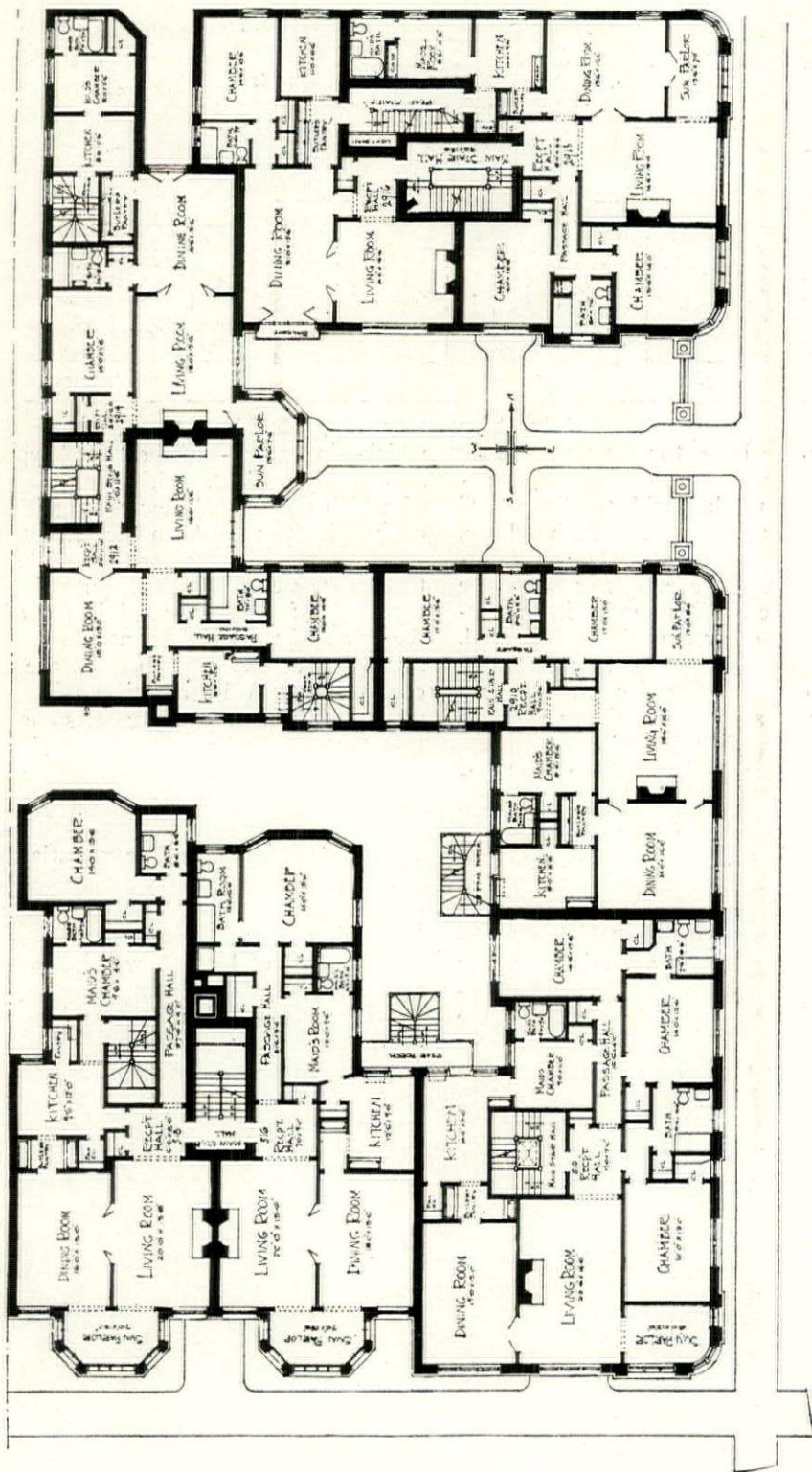


FIG. 99. TYPICAL FLOOR PLAN. THE CHESTERFIELD APARTMENTS, SURF STREET AND PINE GROVE AVENUE, CHICAGO, ILL.

ing. Nevertheless, we have here a suggestion for a type of plan with exceptional possibilities for further development in a crowded city section, where the land values are very high. It is indeed, the precise idea that has been utilized to provide light, air and outlook in the dwelling floors of the Hotel Pennsylvania, in New York City, although it is there given a very special and perfected expression. It is, nevertheless, along exactly these lines that the courtyard plan has been working out its development, when given sufficient and properly proportioned area for the purpose.

The plan in Fig. 99 conforms precisely to the "Fret" in outline. It is composed of a number of separate and distinct units. The court opening from the street, at the right of the plan is surrounded by five apartments. Two of these are contained in the compact structure at the right of the court, with common front and rear staircases, located well on the inside of the plan. Across the rear and left side of this courtyard, the building is narrowed so that all the rooms may obtain the maximum cross draft. The two outside corner apartments, secured on the street corners and the corner of street and court, respectively, are practically separate buildings with one apartment to the floor. The remaining portion, on the side street, is a regular double width apartment plan, similar in its general arrangement to some of those we have considered earlier in this series. With the exception of the corner apartments, it should also be indicated that these apartments are mostly of the four rooms and bath type (having only one family bedroom) already noted in another Chicago example last month. (Fig. 78.)

In Fig. 100 is shown a plan of complex courtyard disposition, where four large apartments are arranged in a manner that is, as a matter of fact, more like some of the New York examples—in so far as the servants sleeping and working rooms have been generally so disposed as to occur on very narrow rear courts or wells, after the older fashion. Where

the rear court opens out, however, to the south, the principal bedrooms are again to be found, and the entire building has also a very shallow "set-back" or court upon the principal street front. Its main interest here, however, is in relation to its use of the "key" outline plan, in another and quite different fashion from the previous example, and it is therefore included in this place for what suggestive value and interest it may possess. These suites are very large, in comparison with most of the apartments that have been illustrated recently, two being of nine rooms, one of eight and one of ten rooms—outside of entrance halls (here called "reception rooms"), baths and sun parlors. The long, narrow and dark corridor again reappears in these apartments.

There remain some words to be said about "Duplex" apartments, and as the plans shown in this installment as Fig. 93 have still something to give us in that connection, this seems as good an opportunity as any other to complete our consideration of that particular subdivision of this general subject. The matter has already been discussed to some extent in an earlier article. The "Duplex" idea is not to be considered as a particularly new one in apartment design. It is, as a matter of fact, the solution used in some of the very earliest of apartment buildings, both in New York (as at 121 Madison Avenue) and at 330 Dartmouth Street, Boston, as well as in other cities, both here and abroad. Interest in the type has been recently revived from certain experiments in the better class of "de Luxe" New York apartment buildings along Park Avenue, where the very awkward long corridor was found to extend to over-great length, as the number of rooms per apartment grew and multiplied. In certain other instances, at least, it appears evident that the device was adopted because of a limited area of lot and the desire to place upon it larger apartments than would otherwise have been possible.

Of such would seem to be the plan that results in Fig. 101, for instance, where an apartment of twelve rooms is

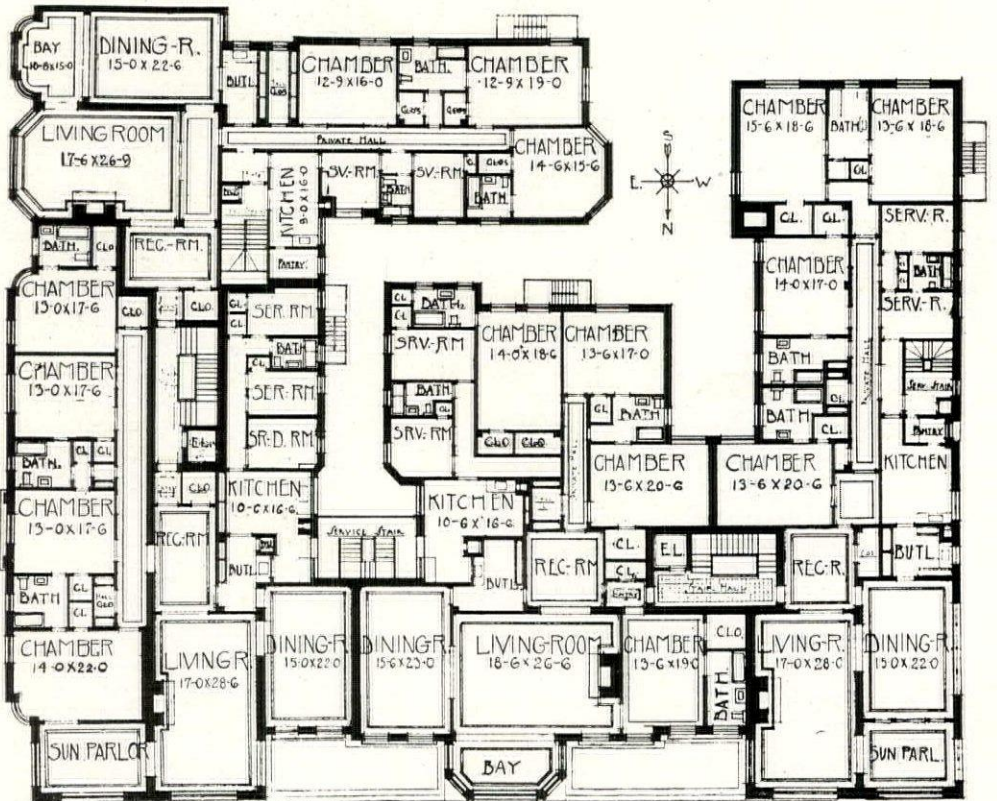
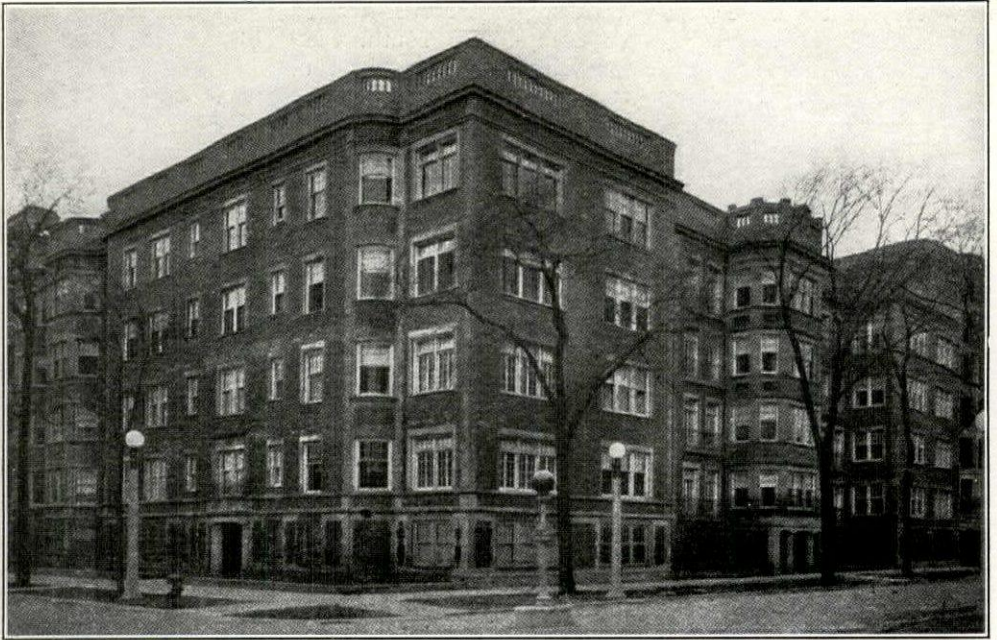


FIG. 100. EXTERIOR AND FLOOR PLAN OF APARTMENTS AT 305 FULLERTON PARKWAY AND 2350 LINCOLN PARK WEST, CHICAGO, ILL. ANDREW SANDEGREN, ARCHITECT.

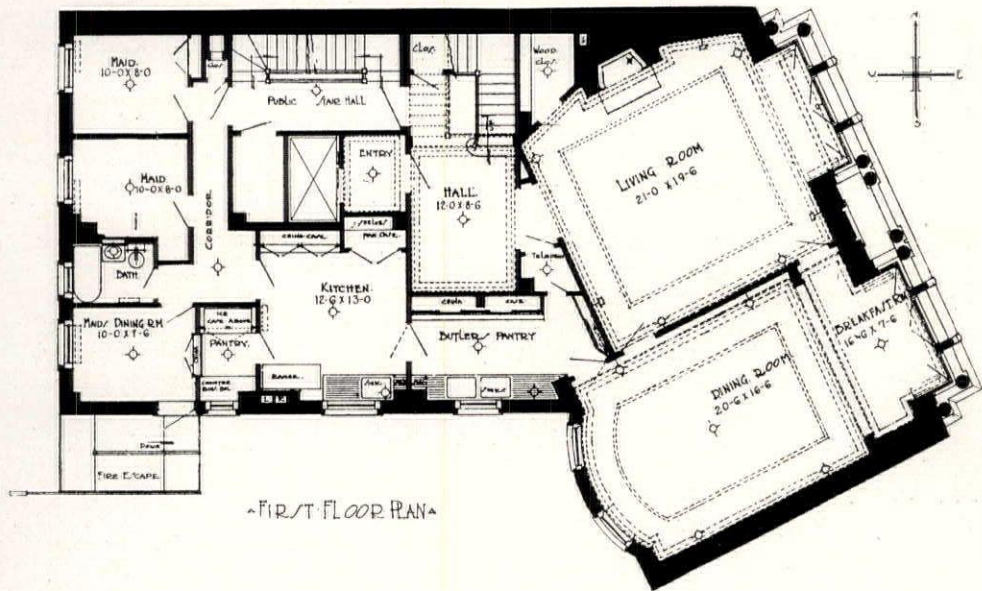
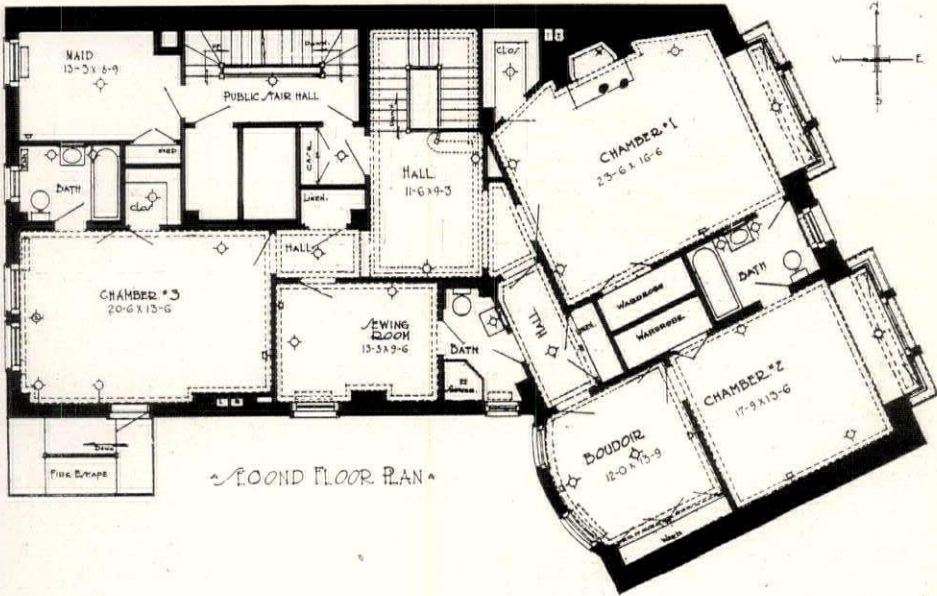


FIG. 101. PLAN OF 942 LAKE SHORE DRIVE, CHICAGO, ILL. WILLIAM ERNEST WALKER, ARCHITECT.

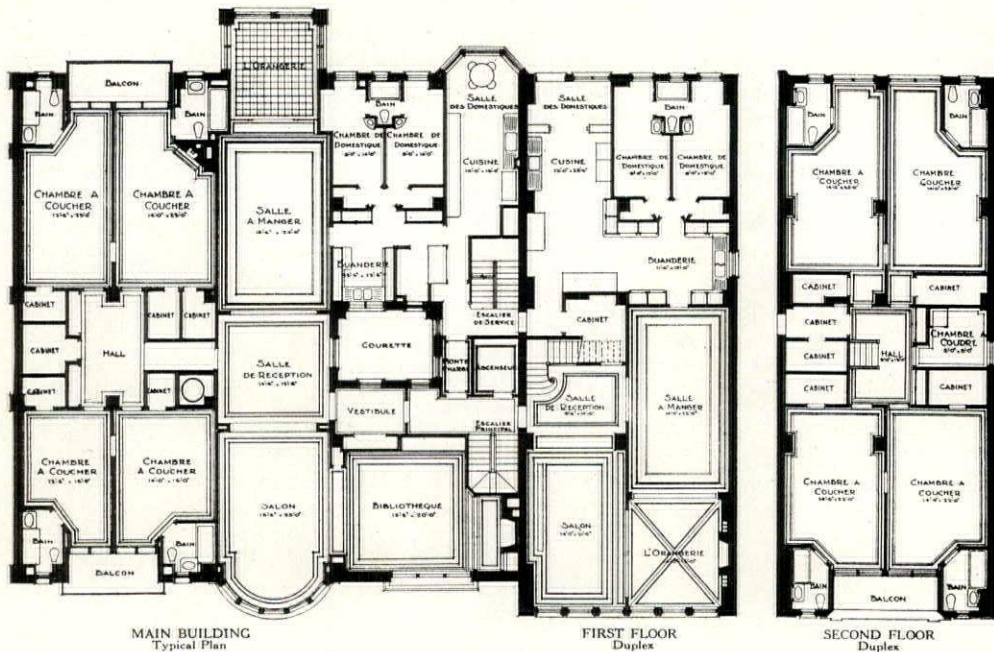


FIG. 102. PLAN OF 199 LAKE SHORE DRIVE, CHICAGO, ILL.
Marshall & Fox, Architects

distributed over two floors of a comparatively small lot. In this case the elevator—stopping only on the living floors—is evidently depended upon as the principal means of approach to the main entrance to the apartments, although a door (placed well out of sight, under the stairs to the sleeping floor) opens from one end of the public staircase hall, while another at the other end connects with the service hall to the maids' rooms and kitchen. In this plan another maid's room, located on the bedroom floor but opening only from this hall, is apparently designed to be available for use either with that or the apartment on the floor next above. A little irregularity in the angle of the street with the party lines of the lot adds interest to this plan, but it is obviously only a slight variation of the arrangement that would equally well apply to a lot of more conventional shape and rectangular outline.

Another Chicago plan, Fig. 102, is also illuminating, in its open contrast of the merits or advantages of the two types of apartments. A little more than the left-

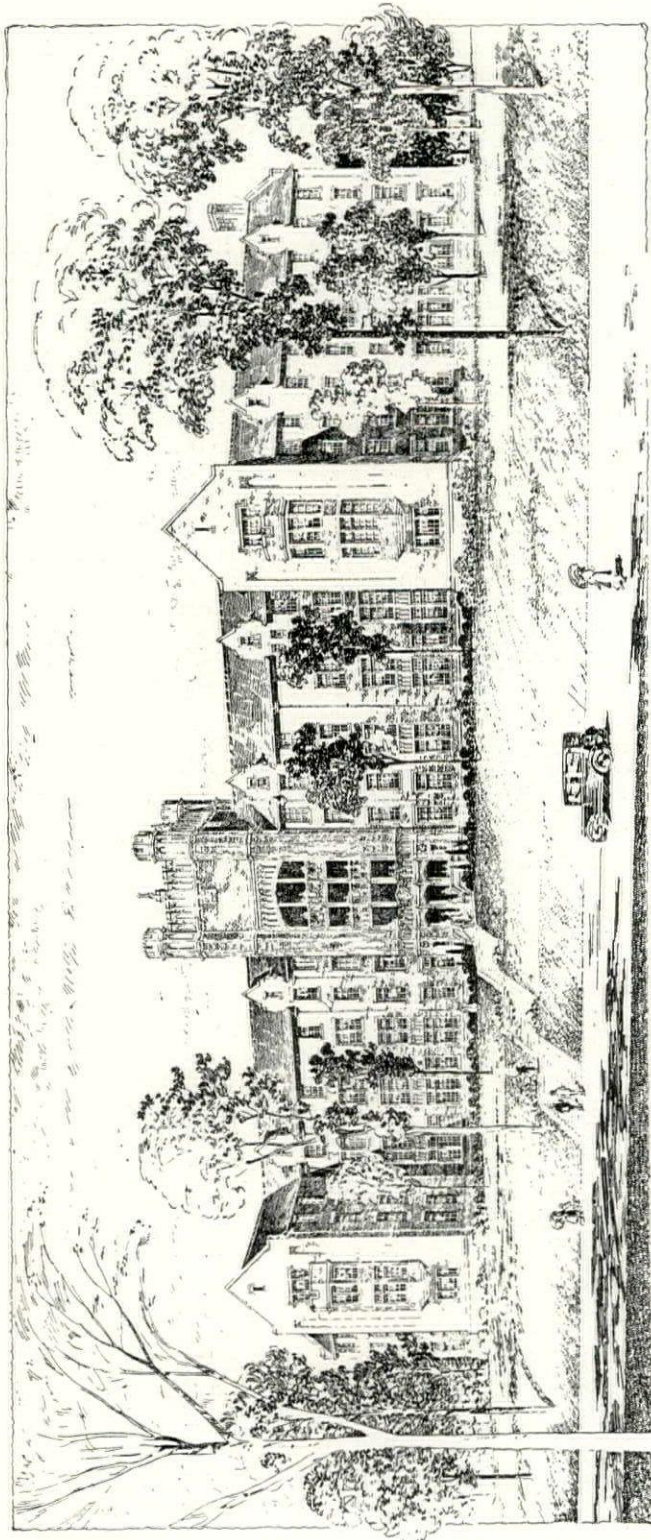
hand two-thirds of the lot area is given to an apartment all on one floor, containing ten rooms, besides a "*Salle de Reception*" and an "*Orangerie*" (this appears to be the nomenclature customarily adopted for the "de luxe" apartment—in Chicago) of which the four principal bedrooms are self-contained within a parallelogram isolated from the other principal rooms of the apartment by a definitely established construction wall—an arrangement the advantages of which have already been commended and commented upon in previous articles, although this example is perhaps a better and clearer visualization of the idea than it has been possible previously to show.

The right, and smaller, portion of the plan shows the living rooms of another apartment reached from the same public hall and elevator as the one just mentioned—and still further at the right appears the arrangement of a second floor plan containing the sleeping rooms of this second apartment, arranged precisely as in the other sleeping cubicle of the all-on-one floor apartment. The con-

trast is vivid and interestingly suggestive.

This much would seem to sufficiently indicate the main possibilities and uses of the "duplex" apartment (outside, perhaps, of the "studio type" that remains for later consideration) and we can return for a few minutes to consider one or two of the particular refinements that have been developed in this type by Mr. Fisher as he has chosen to adapt it to the purposes of his problem, as shown in Fig. 93. Turning to the second floor plan we find that, with one exception (apartment "H") the servants sleeping rooms are either placed over the kitchen portion, upon the upper or sleeping floor of the apartment, or it is evidently the intention that the servants be taken care of in the basement, in some of the several rooms there provided for that purpose. The servants' rooms do *not* open from the kitchen or the service hall on the main floor, as in the other plans considered, but they may reach the kitchens of all the suites through the staircases inside, or in some cases it would be possible to do so by means of the connecting balcony and main service stairs. By this arrangement all important frontages, on both floors, are reserved for the more important rooms. Only one suite possesses its own flight of rear stairs.

This same "Duplex" plan also suggests that the apartment—of this, or any other, sort—may be far more irregular in its individual arrangement or outline, and yet conform to a generally simple and conventional external plan-shape. With the "Duplex" plan, particularly, it is a fact that the plan is capable of containing far more irregularity in the "overlay" or "underlay" of the floor areas than any example of an actual structure has been found to illustrate. At least one such unrealized plan is known, however, the basis of its arrangement being predicated upon the alternation of the floors on which are located the principal rooms of the apartments—in itself a simple enough idea that has as yet not been often utilized—in order to obtain greater freedom in the disposition or arrangement of the various apartment plans. It can, of course, be best made available only when the building is of concrete or tile floor construction—as any structure given to the housing of so many families should unquestionably be—because such construction makes it easy to effect minor variations in the lighter partitions, even when rigidly conforming to all the structural bearing partition lines—as Mr. Fisher has shown to be so feasible in the plans here illustrated.



PERSPECTIVE—THE PROVIDENCE MATERNITY HOSPITAL,
PROVIDENCE, R. I. STEVENS & LEE, ARCHITECTS.

The PROVIDENCE MATERNITY HOSPITAL

Stevens & Lee. Architects

IN every great hospital in Europe, the maternity department occupies a large and prominent portion of the institution, while there are comparatively few large hospitals which are devoted exclusively to maternity work. In the United States, however, nearly every large city has its lying-in or maternity hospital.

As child-bearing is a natural function and a part of the home life, the environment of the patient while in the hospital should be comparable with that of the better home life.

The entrance to the hospital should be indicative of hospitality and should present a homelike welcome to the would-be guest. The rooms and wards should be cheerful, and color and decoration play an important part in the convalescence of any patient.

The pre-natal clinic, with its laboratory and X-ray adjuncts, is necessary. The surgical or delivery section should have all the care in planning and construction that is given to the hospital operating section, and there should be an isolation department for the occasional cases of puerperal septicaemia or other infection.

While sunlight and air are desirable, with opportunity for having the mother in the open air for any length of time desired, the call for airing balconies is not so great as in the general hospital, owing to the frequent nursing periods; but the service of food, the care of utensils, provision for linen, etc., would be much the same as in other hospitals.

For the bathing of the infant, it is desirable to have special facilities, such as

a warmed "shock" or bathing slab where running water at the desired temperature can be supplied, as well as the resuscitation bath.

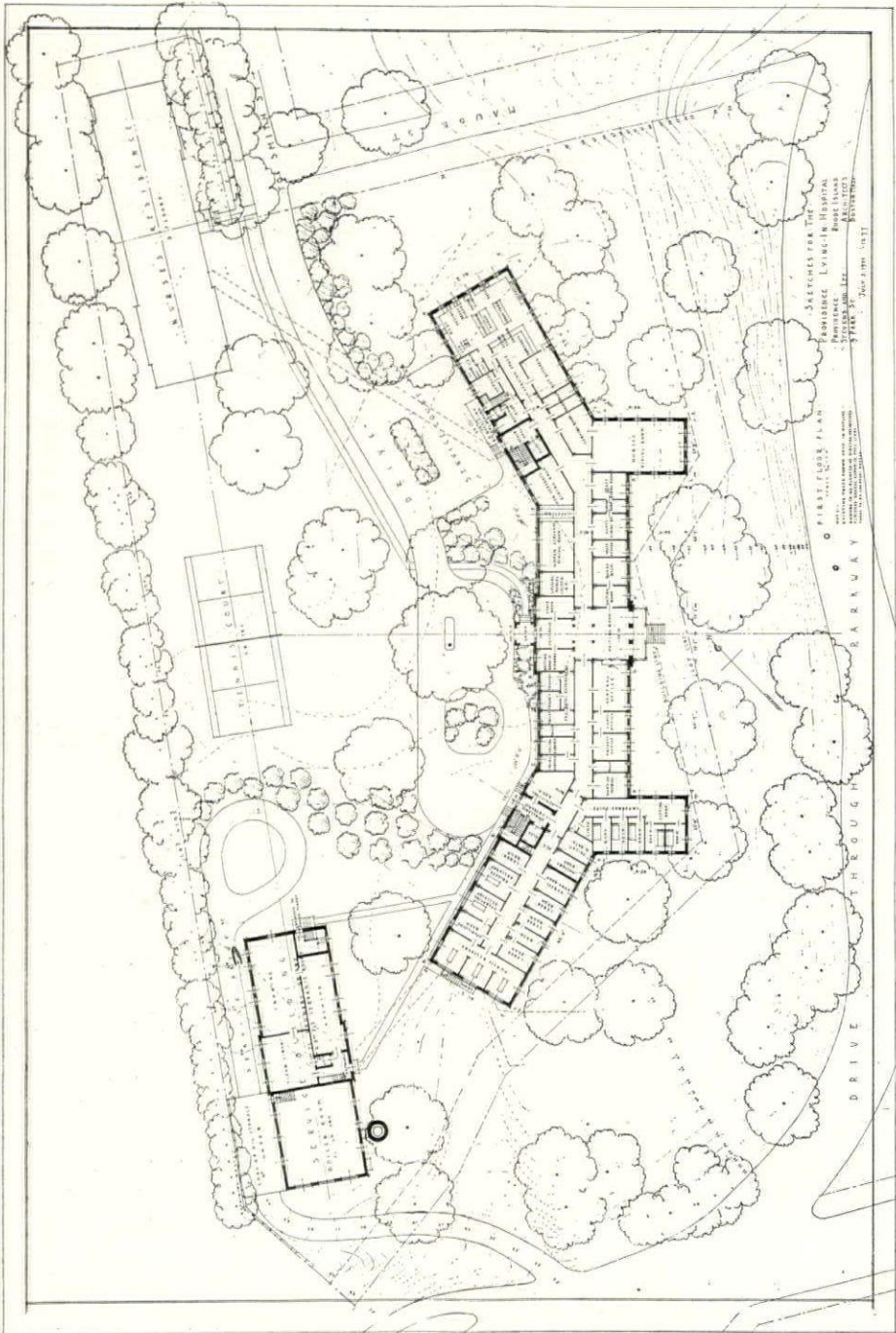
For the exterior, a form of architecture should be selected which would not suggest the "sick house," but something more uplifting and educational; for this should be a home where the expectant mother may enter as she would her own home, with a feeling of safety and comfort.

Such has been the effort of the architects in planning the *Providence Maternity Hospital*, which will care for the poor, the greater intermediate class, and the well-to-do.

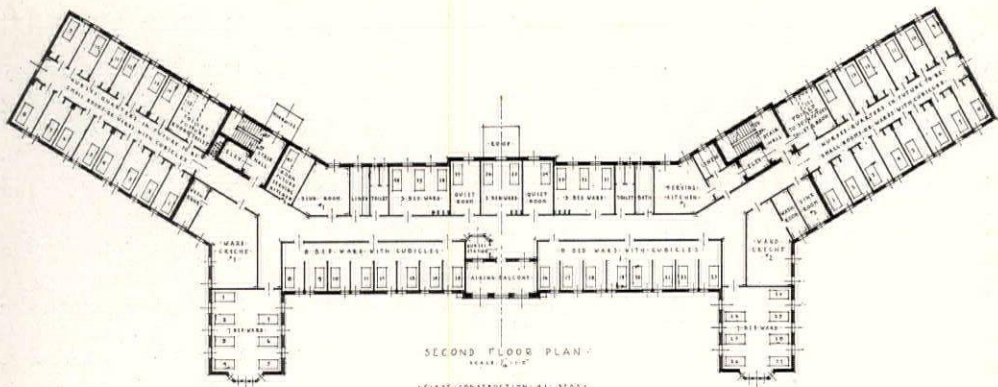
The location on a broad plateau overlooking the park suggested the type of architecture, and the plan was developed on this site. The natural contour of the land was made to add to the effectiveness of the design.

As the endeavor in designing every institution should be to divert the necessary mechanical part of the hospital from the portion occupied by patients, in this hospital the entire first floor will be devoted to the medical and surgical departments, the out-patient or pre-natal clinic, the kitchens, dining-rooms, and the administrative offices.

A glance at the first floor plan (Fig. 1) will show how this floor will function with the rest of the hospital. The main entrance leads to the offices and to the pre-natal clinic; the ambulance entrance to the admitting department and to the delivery and labor section; and the service entrance to the kitchens and dining-rooms.

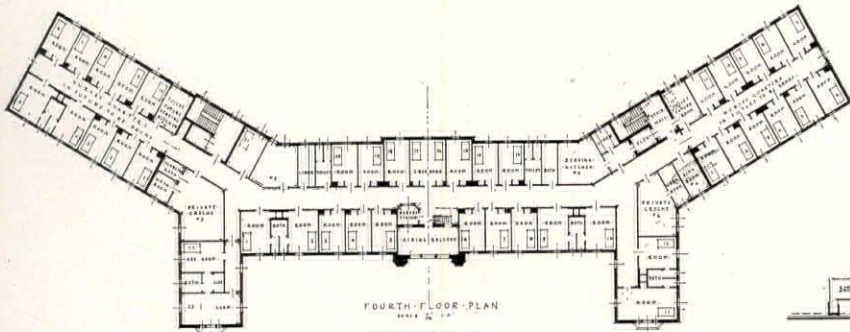


BLOCK PLAN—THE PROVIDENCE MATERNITY HOSPITAL,
 PROVIDENCE, R. I. STEVENS & LEE, ARCHITECTS.



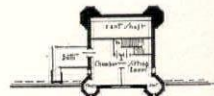
SECOND FLOOR PLAN

FIRST CONSTRUCTION AS BUILT
 COMPLETED BUILDING TO BE
 ON THE RIGHT IS INDICATED BY DASHES



FOURTH FLOOR PLAN

FIRST CONSTRUCTION AS BUILT
 COMPLETED BUILDING TO BE
 ON THE RIGHT IS INDICATED BY DASHES



Left Side Tower

SECOND AND FOURTH FLOOR PLANS—
 THE PROVIDENCE MATERNITY HOSPITAL,
 PROVIDENCE, R. I. STEVENS & LEE, ARCHITECTS.

From the ambulance entrance the patient is taken to the various stories by the elevator or staircase located in that section.

The second, third, and fourth floors are devoted to patients. There are wards for the public patients, but they are small and homelike. For the intermediate or semi-private patients, so-called, better provision is made. In many cases these wards are divided by permanent screens or partitions which extend from the outer wall to a point a little beyond the bed, affording visual if not aural privacy.

For private patients who can pay the price, there are private rooms and private suites. These rooms are fitted with home comforts, and have running water, a

clothes closet, ample sunlight and air, quiet and seclusion.

On all patients' floors, large and sunny rooms are provided for the nurses (when not "on duty"), with wash room adjoining; serving kitchens, to which food is brought from the kitchen; bath-rooms and toilet rooms; linen rooms, and rooms for sorting and storing the various cut flowers and plants at night.

The exterior is designed to meet the dignity of the use to which the building is placed. While the Gothic feeling is given to the design, the fenestration is developed practically, to give light and air where needed.

ARE GREAT CITIES A MENACE?

— *The Garden City as a Way Out* —



BY LAWRENCE VEILLER

WHAT are we to say of the dangers that inhere in such vast agglomerations of populations as New York and London, where 6,000,000 people are included in a single community? It has often been said that if it were not for modern sanitary science, the modern city would be impossible. How true this is we realize when epidemics of infantile paralysis and influenza sweep the country—when, but for the efficiency of sanitary science, the population in our large cities would be decimated.

Modern industrial conditions have brought a new menace in the large city. Its citizens at times face famine as truly as did a beleaguered citadel in ancient days when a besieging army sat outside its gates. When New York awoke one morning thirty-four years ago to find itself snowed in under the great blizzard of 1888, it was not long before it became a serious question whether its store of essential food supplies would last until the city could be dug out and transportation could be resumed. As it was, not a drop of milk could reach the city for three days. What that meant to the life and health of the city's thousands of infants is readily apprehended.

And more recently a new menace of the great city has made itself manifest, holding for its citizens the threat of starvation. This time, not through any natural catastrophe but through industrial disturbance.

It was demonstrated about two years ago in the teamsters' strike and later in the strike of longshoremen, that a small group of men, controlling vast numbers of workers, held the city in the hollow of their

hand, and by their ability to manipulate the transportation of the city's food supplies could, through the threat of starvation, bring New York to its knees.

Today, London is confronted by the same situation. At any time when the Triple Alliance so decides she will face starvation; for, when the transport workers unite with the railroad men and refuse to handle the city's food supplies, the city must either starve or come to terms.

That intelligent observers of our institutions have been alive to the dangers inherent in the unrestricted growth of cities was made manifest in this country over nine years ago when Viscount Bryce, at that time British Ambassador to the United States, in a memorable address delivered before the National Housing Association, discussed "The Menace of Great Cities." Among other things he said (see "Housing Problems in America," Vol. II.):

"Evil is the inordinate growth of our modern cities. It is a phenomenon which is very striking, not only here but in all parts of the world. It is even more striking in Australia than in the United States. Sydney, the capital of New South Wales, has nearly half the population of that state. The city of Melbourne has half the population of Victoria. The city of Buenos Aires, standing in an enormous country, has, I think, one-fifth of the population of the whole of Argentina. The city of Montevideo has one-third of the population of Uruguay.

These things all witness to a tend-



THE SHOPPING CENTER, LETCHWORTH.

ency of modern civilization to crowd people in vast centers. It is evidently increasing, and will increase unless we can find some way to stop it.

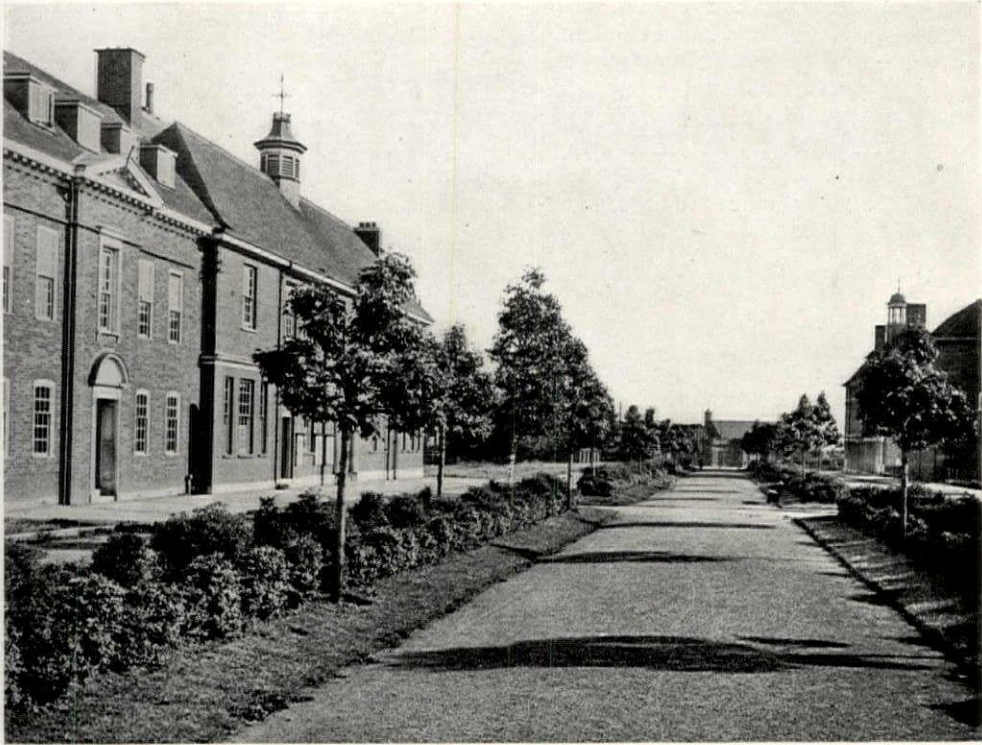
I wish to give you some reasons why a great city is a great evil.

First: From the point of view of health. In the city, and most of the great cities are crowded, there must be less oxygen and more microbes. I believe it is a fact that no city has maintained itself and its standard of physical excellence without an indraught from the country. If you were to leave the city alone—stop the indraught of the people who have grown up and formed their constitutions in the air of the country—the population would decline physically and, perhaps, begin to die out.

Second: It is a great evil in the city that people are cut off from nature and communion with nature, so that they who would like to enjoy the sights and scenes and blessings of nature can do so only on rare occasions and by taking a journey.

Third: It is an evil in that it separates the greater part of the community into classes and disturbs the sentiment of neighborliness between the richer and the poorer, which existed formerly in smaller communities and which ought to exist.

Fourth: Life in the great city tends to stimulate and increase beyond measure that which is the menace of the American city—intensification of nervous strain and nervous excitability. Cities are the homes—especially in the United States—of every kind of noise, and nothing in the long run puts a greater strain on the nervous system than incessant noise. People live in crowds, under the ceaseless stimulus of always seeing one another in crowds, always moving to and fro in street cars and railroads and automobiles, backwards and forwards and at an increasing rate of speed. They are always under that exciting influence which the mere sense of living in a crowd of people



ONE OF THE MAIN STREETS, LETCHWORTH.

and of trying to pack so many things in the 24 hours, including the reading of numerous newspapers, produces. It tells injuriously upon the nervous system. All these things tend to increase the nervous excitability and the consequent neurasthenia from which we are told most of us are suffering. Some people think this is going to be the real danger in the future of the human race, and that unless the right means are found for the protection of our nervous system, its undue stimulation and consequent exhaustion may become a source of weakness for mankind.

Fifth: If these conditions are not favorable for the population generally, they are particularly unfavorable for the bairns—I mean the boys and girls. The boy living in the country has any amount of opportunity for the development of his vitality, full space to give vent to his natural exuberance of energy. He

climbs trees, jumps over fences, throws stones at the birds—fortunately he does not usually hit them; he rambles about with his boy companions and gathers blackberries and sees all kinds of things upon which his natural activity expends itself. He has all sorts of winter sports in snow and on ice. So he gets insight into nature through his curiosity and can have in the country some little sense of adventure. But if he is cooped up in the city he takes to rambling the street at night with other boys, and if he is not well guided in his home he is very apt to fall into bad company and get into all sorts of trouble. I think the Boy Scout movement has done a great deal to meet and cure that danger, but still it is a danger for many boys. There has grown up in the large cities a class for whom names have been invented, like “hoodlums” in California, and “larrikins” in Australia,

which denote an undesirable kind of boy citizen. It is a tendency much in evidence in huge cities among the younger part of the community, who have a superabundance of energy which cannot work itself off in the old natural way.

Sixth: Great cities are liable to become great dangers in a political sense, because the more men are crowded in great masses the more easily they become excited, the more they are swept away by words, and the more they form what might be called a revolutionary temper. All revolutionary movements or acts of violence are more apt to spring up in a dense city population, a population which is liable to be swept by excess of emotions, than among people living in the country.

Lastly: In the great city there is a deplorable amount of economic waste. In the city the manufactories, offices, warehouses and shops, all the large places in which people are employed, whether in distributing commodities or purchasing, are in the central parts of the city. The people want to live in the outer parts of the city, and as the city grows the people are driven more and more into the outskirts. If you will consider the amount of time that is taken from work to be given to mere transportation from the residence of

the workingman to his working place in the city, you will see how great the loss is.

I used to make computations of that in London. In London a large part of our working people live on the eastern side of London, the northern side and the southwest, and come in ten, twelve or fourteen miles every day to work. The man walks ten minutes to the railway station from the place where he lives, and then walks another ten minutes from the station to his work in the city, and he spends

from three-quarters of an hour to fifty minutes, sometimes perhaps as much as 60 minutes, on the railroad. In other words he wastes from 50 to 70 minutes in the morning, and as much in the evening, which might be given to work, or if not to work, then to mental recreation or improvement.

Think what that means in a year. Think what is the waste that is involved in a great city like London or New York in people spending an hour or more in the morning and another hour or more in the evening in going to and fro to their work, when if they were near their work they

might either be working or enjoying themselves or having wholesome rest. It is an economic waste which is really an insult to our civilization; it ought to appeal to us on the mere business side, the need for



THE AGRICULTURAL BELT AROUND THE TOWN.



THE HOMES OF THE WORKERS.

saving the productive capacity of our people from such waste.

Instead of letting a few cities grow to more than a million in population, it would be far better to have more and smaller cities not exceeding 150,000 population, or perhaps even 100,000. These would furnish all the things that are needed for comfort and social enjoyment."

Twenty-three years ago an unknown Court Reporter in London, Ebenezer Howard, dreamed a dream of an ideal community from which the evils of the great city would be absent and yet which would contain the advantages of modern city life; which would combine with those advantages the quiet and sweet charm, the healthfulness, the tranquillity and ennobling influence of country life.

Recognizing fully the tendencies we have referred to, towards concentration of the population in cities and the depletion of the countryside—today six-sev-

enths of the people of England live in cities—he set forth these influences as a series of magnets drawing the people towards the city, embodying his ideas in a book which he published in 1898 under the title of "Tomorrow; A Peaceful Path to Real Reform," later known as "Garden Cities of Tomorrow."

The idea contained in this book of a "Garden City" in which people might live with all the advantages of both city and country, through Mr. Howard's persistent advocacy slowly but surely gained acceptance in England, and seventeen years ago took visible form and shape at Letchworth, where in a peaceful country side thirty miles from London the first Garden City was established.

In those seventeen years, notwithstanding the difficulties that any pioneer effort such as this is bound to encounter, the results have been far beyond the fondest expectations of its most ardent advocates.



EVERY FAMILY HAS ITS OWN HOME.



A PRINTING AND BINDING FACTORY.

Today the Garden City is an accomplished fact; over 10,000 people live in Letchworth. Its eighty-two factories and workshops give employment to a large part of its population.

By the average man the Garden City idea is not fully understood. To him it is "a little collection of Noah's Ark houses, all with red roofs." Even when not thus ironically expressed it is merely an attractive suburban community where people live in pleasant surroundings.

That it is a vast scheme for decentralization of industry; for conservation of the nation's food and coal supplies; for improving the health and morale of the nation, is understood by comparatively few. Notwithstanding the years of educational work by such organizations as the Garden Cities and Town Planning Association, the idea is still imperfectly understood by the average man, who confuses it with the Garden Suburb and the Garden Village.

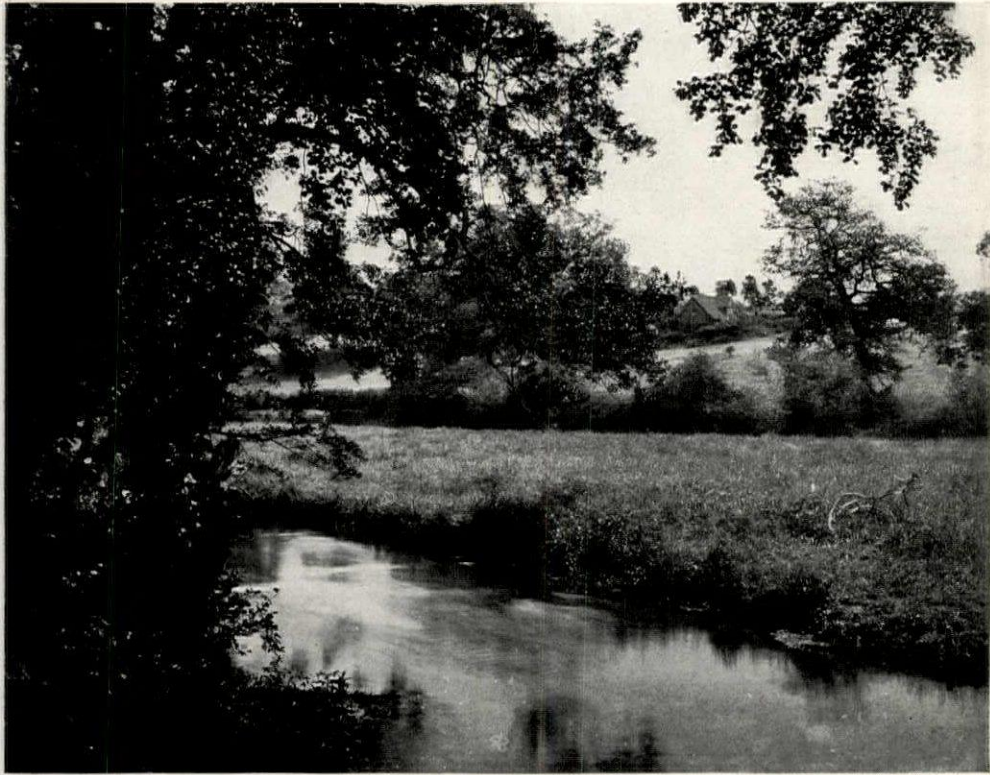
It may be asked "Just exactly what is a Garden City?" The essential features of the Garden City idea may be summed up as follows: Garden Cities are towns, limited in size and population, possessing a permanent reservation of rural land all round them, carefully planned so as to avoid crowding of houses and factories, in a self-contained community with sufficient industries to provide occupation for the inhabitants; with the population living in self-contained houses with gardens, as a rule with not more than eight families to the acre and with the land owned by the community and administered either by the municipality or by democratic non-profit-making bodies on behalf of the community.

As set forth by its founder, Mr. Ebenezer Howard in his original presentation of the subject in "Garden Cities of Tomorrow," the scheme is described as follows:

"My proposal is that there should be an earnest attempt made to organize a migratory movement of population from our overcrowded centres to sparsely-settled rural districts; that the mind of the public should not be confused, or the efforts of organizers wasted in a premature attempt to accomplish this work on a national scale, but that great thought and attention shall be first concentrated on a single movement, yet one sufficiently large to be at once attractive and resourceful; that the migrants shall be guaranteed (by the making of suitable arrangements before the movement commences) that the whole increase in land-values due to their migration shall be secured to them; that this be done by creating an organization, which, while permitting its members to do those things which are good in their own eyes (provided they infringe not the rights of others) shall receive all "rate-rents" and expend them in those public works which the migratory movement renders necessary or expedient—thus eliminating rates, or, at least, greatly reducing the necessity for any compulsory levy; and that the golden opportunity afforded by the fact that the land to be settled upon has not but few buildings or works upon it, shall be availed of in the fullest manner, by so laying out a Garden City



ANOTHER FACTORY.



THE RIVER MIMRAM AT WELWYN.

that, as it grows, the free gifts of Nature—fresh air, sunlight, breathing room and playing room—shall be still retained in all needed abundance, and by so employing the resources of modern science that Art may supplement Nature, and life may become an abiding joy and delight. And it is important to notice that this proposal, so imperfectly put forward, is no scheme hatched in a restless night in the fevered brain of an enthusiast, but is one having its origin in the thoughtful study of many minds, and the patient effort of many earnest souls, each bringing some element of value, till, the time and the opportunity having come, the smallest skill avails to weld those elements into an effective combination.”

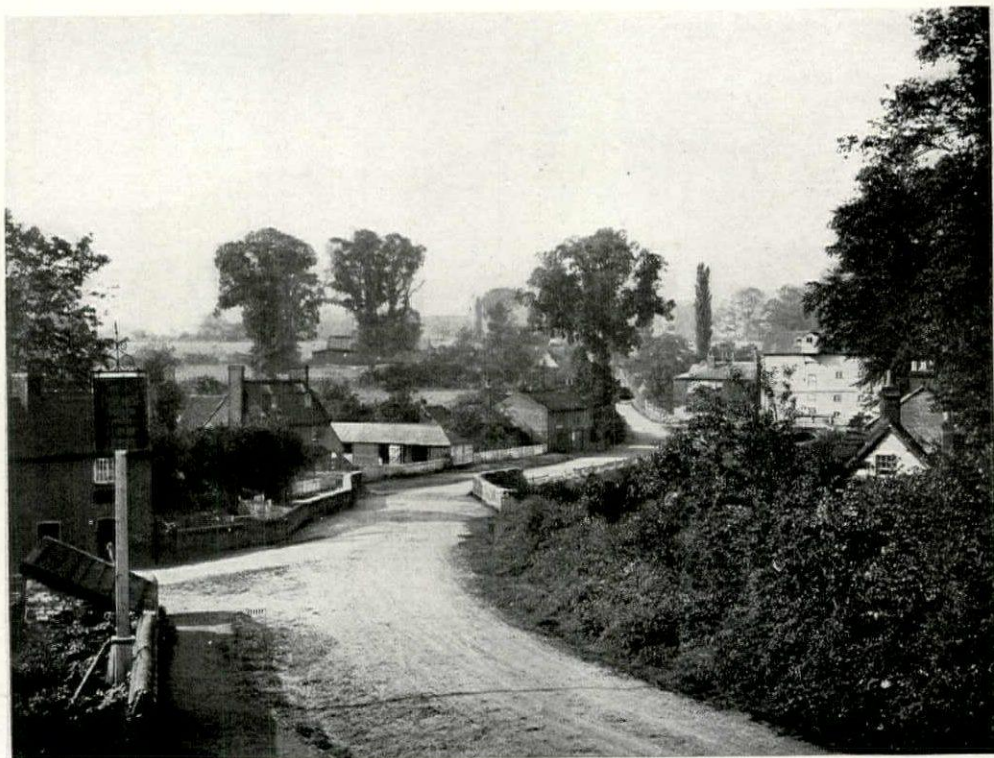
These are the essentials. Some advocates of the idea have placed rather undue emphasis on the feature of community ownership of land. This feature, how-

ever, is in no sense essential to the scheme.

In discussing this question not long ago with Mr. Howard, I asked him point blank to what extent he considered community ownership of land an essential part of the idea. He answered “To no extent,” adding that, personally, he believed in it, and pointing out the many advantages accruing therefrom.

But the fundamental idea is just as sound, just as easily applied without this feature, as with it.

I raise this point because it has much importance for the United States. The conditions of land tenure here are so fundamentally different from those that prevail in England, that it would be folly to cling in America to a feature of the Garden City plan that was devised to meet an evil—very real in England—but non-existent here; for, England is a land of tenants so far as the average man is



WELWYN AS IT IS TODAY.

concerned, while America is a country of home-owners.

The vital features of the Garden City idea have just as much value for America as for England. These are: the definite limitation of the city's population (50,000 people has been set as a reasonable maximum; in the United States 100,000 or even 150,000 might be more appropriate); the agricultural belt surrounding the city, providing the chief part of the city's food supply and acting as a natural barrier against undue growth (better than the walls of the old mediaeval city); the inclusion in the city of diversified industries affording employment in healthful surroundings to the major part of the city's population; and last, but not least, healthful and attractive homes in peaceful and ennobling surroundings, with a definite limitation of the number of persons living in them (not more than eight families to the acre).

To practical men in America to whom such a plan may be proposed, the ques-

tion will at once arise "Can it be done?" Will business men move their factories or establish new ones in such communities? Will they not prefer to stay in the large cities with their less limited labor markets even with their other disabilities? Will the workers move there? Will they not cling to their slums? Will they not prefer the noise and stir of the city's streets, the greater ease of obtaining employment, the greater amount of social life, the shops, the lights, the amusements, the free shows, the stir and bustle and activity of the great metropolis?

Fortunately, the answer to these questions does not have to be on a theoretical basis. It is not what people may do or may not do. It is what they have done. For the scheme has proved itself. It has seventeen years' practical experience behind it. Letchworth has been so great a success that a second Garden City is now being established at Welwyn, twenty-one miles from London.

The question as to whether manufac-



RURAL COTTAGES NEAR WELWYN.

urers will move to such communities is best answered by saying that they have done so. Letchworth contains eighty-two factories and workshops.

On August 1, 1920, the town of Letchworth comprised, in addition to these eighty-two factories and workshops, 2,282 houses, eighty-two shops or stores, and twenty-nine public buildings, including churches. As indicative of the growth of the town it may be of interest to note that in fifteen years the amount of water consumed increased from 10,000,000 gallons a year in 1905 to 177,000,000 gallons in 1919; that gas consumption increased from 5,000,000 cubic feet of gas in 1906 to 92,000,000 in 1919.

During the past year the progress in building has been marked. Eighty-four cottages had been completed by December, 1920, and 707 further cottages are now in course of construction as well as additional shops, factories and public buildings. Secondary schools for boys and

girls are now in course of erection. New industries are rapidly being attracted to the town. Large extensions have been made recently to the Spirella Corset factory, to the Phoenix Motor Works and others. Among the industries which have recently taken sites preparatory to the building of factories at Letchworth may be mentioned a tabulating machine company, a pump manufacturing company, a manufacturer of baby carriages, a saw-mill and timber yard and an engineers' pattern making plant. One of these employers of labor states that he can produce goods much cheaper at Letchworth than he can in a great city for the reason that the workers are more healthful and contented there than under ordinary city conditions. In one factory I found the workers singing at their work.

The best answer as to whether the workers will care to live in such a community is that Letchworth now contains over 12,000 people.

The Garden City idea has more than proved itself, from the point of view of improved health conditions. The local medical officer of health reports that, taking an average of the last ten years, the infant mortality rate for Letchworth was about 40 per 1,000 births compared with an average infant death rate for the whole of England of 89, or more than double that of Letchworth.

The death rate for both adults and children, that is, for the entire community in Letchworth, was but 6.1 as compared with a death rate of 13.7 for all of England.

If a nation can make that saving in human life, has it a right to refuse to do it?

While the Garden City has a direct appeal to all classes of society, to statesmen, to students of government and of economics, social and industrial conditions, it has an especial appeal to Labor and to Industry.

The outstanding feature of American industry today is the increasing importance which attaches to the stabilizing of labor. The war taught employers, among other things, the seriousness of the economic waste involved in the constant shifting of labor; the training and breaking in of new workers in an industry; the importance of quieting industrial unrest. There is probably no one factor which can achieve so much in this direction as the improvement of the living environment of the workers.

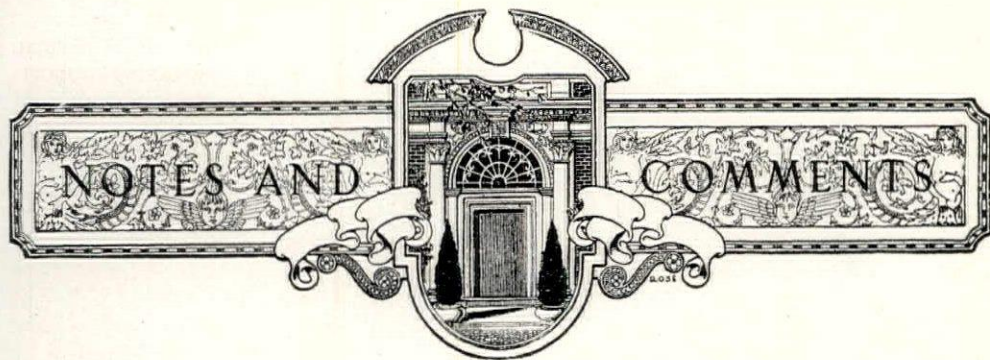
The Garden City is the most helpful and hopeful scheme to stabilize industry that has yet been presented.

England has demonstrated that the Garden City is a practical scheme; of benefit to the workers, of benefit to industry, of benefit to the community, of benefit to the Nation.

Will America heed this example, or will she be content to blunder on in the same old way?



WELWYN OF TODAY, WHERE THE NEW GARDEN CITY WILL BE BUILT.



Design of the Service Units of the Home.

The kitchen, pantry and laundry form a section of the home, particularly of the country home, that must be most carefully and scientifically designed, and no point, however minute,

should be carelessly glossed over or passed by with indifference.

There is a correct sequence in the order of the location of these rooms. The pantry should be placed between the dining room and the kitchen, directly connected with swinging doors, and should have the passageway through the middle of it. The laundry should, if possible, immediately adjoin the kitchen on the side opposite to that of the pantry, thus allowing a direct passageway between the pantry and the laundry and greatly reducing tracking from the outside, particularly in bad weather.

The location of these rooms, as shown in Fig. 1, is excellent, and was the result of much study and thought, but their interior arrangements could be greatly improved and their value enhanced by the addition of deep closets in pantry and laundry. The large hall in front of the kitchen and laundry, connecting with the porch to the grounds, is particularly valuable, and will save much unnecessary tracking and soiling of floors. The arrangement would have been improved had the dining room opened off the pantry from the side opposite the kitchen—minimizing the chance of collisions. The kitchen is well placed, having no direct outside connection. The position of the laundry, near the outside entrance, is excellent, and its design, too, is good. Being quite separated from the rest of the house, it contributes to cleanliness and general exclusiveness of use. The dimensions of these rooms, to combine comfort in working with the least

amount of care demanded for their cleanliness and upkeep, must be most carefully determined, and will be found to vary, of course, according to the size of the house and number of members of the household. The dimensions of the kitchen for a house with four masters' and two maids' bedrooms may be 12 x 15 feet, with the laundry 8 x 12 feet in the clear. The size of the pantry, exclusive of the deep closet, for a house of this size should be about 7 x 10 feet. It is as serious an error to design too large as too small.

The material for the flooring must be studied carefully. Tile, cement and such materials are cold, hard upon the feet, and, in the case of the former, both slippery and dangerous. If of cement or similar material, the surface must be coated with some protective paint to act as a binder and protect the surface against undue wear and flaking, and from forming a fine mineral dust which penetrates everywhere. Patented plastic material for flooring is excellent, but must be fine, close-grained, durable, finished with a surface which can be easily cleaned, and in attractive colors. Hard wood, if thoroughly seasoned and well treated with some solution forming a hard, lasting surface, is excellent, but it is somewhat absorbent and demands constant attention and cleaning. Heavy linoleum is excellent, will stand hard wear and abuse, is easily cleaned, procurable in attractive colors and designs, but should be laid upon a good, well-built flooring, with tight joints.

The side walls of these rooms, for a height of four feet above the floor, should be of some hard, non-absorbent, easily cleaned material—marble, tile, Keene cement, wood or the like. Marble is easily cleaned and will resist hard usage and wear. Cement and wood are much less expensive, well adapted for that use, and should be faced with some preservative ma-

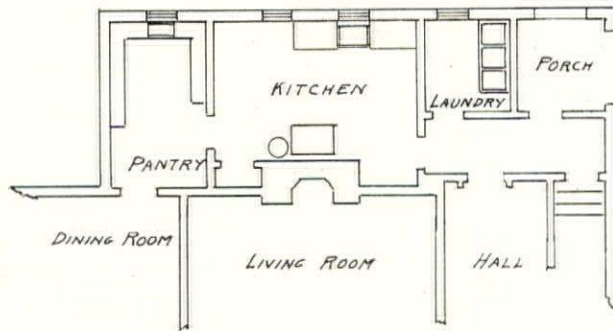


Fig. 1

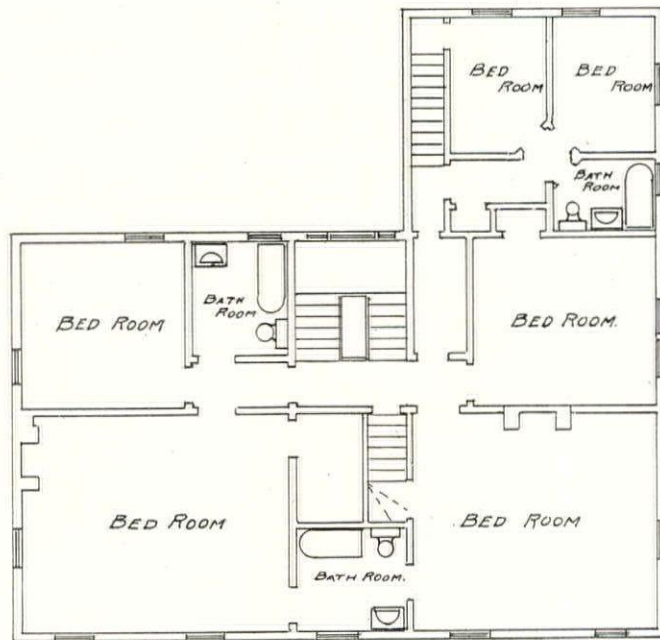


Fig. 2

SERVICE UNITS. DESIGNED
BY WILLIAM C. TUCKER.

terial with a hard, glossy surface, readily cleaned with soap and water.

These rooms should be made as attractive and pleasing to the eye as possible. They should be provided with ample closet space; each room should have a large store closet of its own with glass doors, in which should be stored only what is needed in connection with the room. Soap, starch, etc., should be stored in the laundry closet, but not in that of the pantry or kitchen. All three rooms should be provided with ample counter space under the wall closets, under which should be provided either smaller closets or large-sized drawers. Light and ventilation should be most carefully considered, particularly for the kitchen and laundry. The ventilation should be most thorough; there must be no draughts.

The proper equipment and location of the pantry and laundry is simple and may be well arranged with little study and forethought, but that for the kitchen and its suitable location will demand special attention. It has been demonstrated that a poorly designed kitchen, with equipment carelessly placed, may be the cause of unnecessary steps amounting to over half a mile a day. There can be no hard-and-fast rule for the proper location of the kitchen equipment, which must depend to a certain extent upon the general layout of each individual room. This simple suggestion may be of value in the arrangement of the equipment and the sequence in which it is used—the utility closet, the ice chest, the work table, the range, the sink, and the serving table. To apply this sequence to all kitchens will often be found most difficult; in fact, almost impossible. The serving table should be placed near the door leading to the pantry and should adjoin the range. The ice closet may be placed in the corner of the room, with outside connection to save tracking, particularly in bad weather.

The sink for the kitchen and the tubs for the laundry should be strong, of heavy construction and liberal dimensions, and of latest approved design. They should be attractive in appearance, of porcelain or earthenware, with integral backs, and resting upon firm and secure supports. The writer is opposed to the use of enameled iron for the sinks in the kitchen and for laundry tubs, except when cost is of most earnest consideration. The enamel is easily injured, the fixtures are rather light in weight and lacking in attractiveness of appearance. A separate sink in which to prepare the vegetables and wash the fruit for

the table will be found most serviceable, particularly during the preserving seasons. The sink for the pantry demands particular attention, so that the breakage of glassware and fine china may be kept at its lowest. To accomplish this it should be built of heavy white metal—(German silver)—and, where cost has to be considered, of heavy planished copper, with a secure backing of white pine to resist any sudden blow and protect the metal of the sink against puncture. The faucets for use with these fixtures should be heavy, simple in construction and of some homogeneous metal, easily kept clean. They should not be plated, as plating soon wears off and leaves a splotchy appearance.

The writer is unalterably opposed to the excessive use of plated metal about any of the plumbing fixtures, particularly when in a dark corner or a difficult position to reach for cleaning. It soon becomes unattractive and covered with dirt. It is good designing, and greatly appreciated by those in charge, to have all metal work beneath the fixture so prepared that it may be painted with some good material which sets hard and presents a smooth, glossy surface. This should apply to work in the bathroom as well as the kitchen.

Hot water, particularly for a country house, must be copious and always available, and may be obtained from the kitchen range with boiler adjoining—an arrangement which will be found to meet all normal demands. In case of the house with six bedrooms, three bathrooms, kitchen, pantry and laundry, as shown in Fig. 2, it will be found poor economy to attempt to obtain the necessary service in this manner. In such a case an independent water heater with ample reserve capacity will be needed. It may be located in some spot little used. It is indifferent designing to locate the hot water equipment in any part of the functioning sections of the house, owing to the discomfort caused by radiation. To prevent this, all apparatus, piping, etc., should be well insulated with some non-conducting material.

The scientific treatment of bathrooms is of the utmost importance. In time past it used to be the practice to place this important room in a section of the house for which no other use could be found. The stupidity of this soon became apparent, and today the bathroom, its location and equipment, is given careful consideration. It must be of comfortable dimensions to accommodate the usual fixtures. It should

adjoin the room or rooms it serves. If possible, two bathrooms should be placed adjacent to each other, thus greatly reducing the cost of installation. Each room should have built into it, over the basin, a cabinet to contain toilet articles, and should contain a commodious closet. All dusting and cleaning articles should be placed in a hall closet designed for this purpose. The bathroom should not be located over an important or much used room on account of the noise transmitted from the onrush of water from the discharge of the plumbing fixtures; if such be unavoidable, the space about all buried pipes must be carefully insulated so as to be sound-proof.

For this reason it is good designing and economy of installation to locate the room over the functioning section of the house or over closets. No bathroom should be placed over an open space exposed to the weather, as shown in Fig. 2, in the case of the room at the front of the house. Such a room is always difficult to heat, and there is fear of freezing the water pipes. Hot water pipes buried under tile or similar flooring should be encased in sheet metal covering to avoid excessive radiation, which will cause serious cracking. The flooring must be carefully considered. It must be absolutely water-tight, so that in case of accidental flooding from some fixture the ceiling and decorations below

may not be injured. Wood flooring is not dependable; marble and tile are cold and slippery; rubber is not adaptable; the ideal flooring is yet to be found. The flooring under showers should be water-proofed with sheet metal extended well up and under side walls. It is poor designing to place a fixture in front of a window, particularly the bath, for it necessitates closing the window when in use.

The plumbing fixtures for the bathroom must be simple in construction and of excellent quality. The bath should be of enameled iron of the low, built-in pattern which has no space under it to catch dust. The basin should be commodious, of porcelain or enameled iron if cost has to be greatly considered, with integral back and of rectangular pattern; the oval pedestal lavatory to some may appear alluring, but its utility should be given first consideration. The faucets should be of large size, of Fuller pattern, and of solid metal without plating. The water closet should be of vitreous china, syphon action, low-down type, with low china cistern of large capacity and with full size supply, so that it may refill quickly.

All houses of the size shown in Fig. 2 should be provided with slop sinks on both first and second stories, so that the enamel of the sinks and baths may not be injured from pails used in cleaning.

WILLIAM C. TUCKER.