

# House and Garden

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Steeple Claydon Village

## HOUSES WITH A HISTORY

### THE HOME OF THE VERNEYS

BY A. R. GODDARD

IN studying the remains which have come down to us from other days, as, for instance, the great monoliths of Stonehenge, we are forever foiled by the limitations of the visible. Bound by these and what do we get beyond a bare specification of shape, material and color. So many uprights of brown silicious sandstone, roughly squared; so many lintels of the like laid across; so many smaller stones of an igneous nature standing within the others; so many feet-run of rampart and ditch enclosing the whole. All this may be fully set forth, and even drawn with every added

charm of desolate foreground and weirdness of shadowing and sky effects, without suggesting the least clue to the haunting mysteries of life and meaning and origin wrapped up in the great creation.

The same thing holds good of our old English villages and country-houses. Beautiful though they

often are, their chief allurements is that they are the expression and memorial of another England than the one in which we live and move. Manor-house, church and village—that oft-repeated trinity of our rural lands—enshrine for us everywhere vivid realities of earlier ex-



A COTTAGE AT STEEPLE CLAYDON

## Houses with a History



THE CHURCH AND MANOR

MIDDLE CLAYDON

perience, which do not appear in the small-scale narrations of our general histories. Therefore the research of today strives to recover the detail, as far as may be, life size, that the things of the past may stand before our eyes more nearly on a like plane with those of our own times. To this process of recovery the local annals of manor-house, church and village, as gleaned from many an ancient charter, will and record, have largely contributed.

The Buckinghamshire villages of *Steppel Claydon, Est, and Botyl Claydon, and Middel Claydon*, as they are called in old deeds, are typical examples of rustic sites with vivid stories. They are situated in the heart of the county, on a breezy down, which has been associated for four hundred and fifty years with the fortunes of the Verney family. None of the prefixes of the village names appear in Domesday. The Norman record calls them simply *Claindone* or *Claidone*. At that time the old villas were already long-established and flourishing settlements. Their population in 1086 cannot have been far short of 600 souls, even after the reduction caused by the cal-

amities just overpast. The census of 1901 gives them 1,288 inhabitants. Their Domesday assessment is 50 hides, or roundabout 6,000 acres,<sup>1</sup> with also some 1,500 acres of wood. Their total area at present is a little over 8,000 acres, so that the difference is comparatively slight. These facts prove the strong continuity of the village life from Anglo-Saxon times, and even earlier, for in 1620 a pot was found near the pond of Steeple Claydon full of Roman coins of brass, chiefly of Allectus and Carausius.<sup>2</sup> Hidden money tells its own tale of people on the spot who found it necessary to hide it.

In later Anglo-Saxon days these villas were communities of a distinctly manorial type, with the thegn's headquarters firmly set down within his earthen ramparts and moats, and with his church close by for the service of his own household and his *geburs*, or half-free laborers. At three of the villages the later church stands now, as then, hard by the early manorial center, and at Steeple and

<sup>1</sup> Mr. J. H. Round and others have practically proved that the hide, whilst a term of assessment rather than of measurement, is usually equal to 4 virgate of 30 acres each.

<sup>2</sup> 287 to 296 A. D.



THE PARK

MIDDLE CLAYDON

East Claydon banks and moats still remain, which may very well mark, as in other places, the site of the Saxon manorstead. It is therefore interesting to remember that Sir Edmund Verney, the present lord of all four manors, is the successor of Alwyn the Confessor's thegn, and of Ansgar, his staller, or horse master. Nearly a thousand years divides them, but from century to century the homes of lord and laborer have continued on very much the same plots of ground.

So tenacious is the life of a people when once it takes root in the soil, and tends ever towards freedom. As the illustrations show, these villages, with their homes of wattle and daub, timber and thatch, have all the Old World picturesqueness that befits their long descent, and no specifications of material or artist's sketches can convey what they stand for to the reflective English mind.

The onetime manor of Alwyn, at Middle Claydon, unlike so many large English estates, came into the hands of the Verneys, not by confiscation but by purchase. Ralph Verney, of Fleetmarston, Alderman and Lord Mayor of London in 1465, was the purchaser. He was an ardent Yorkist in the Wars of the Roses, and when Edward IV. rode through London streets after the victory of Tewkesbury, was knighted,



THE DRAWING-ROOM OF CLAYDON HOUSE  
(*Van Dyck's King Charles over the mantel*)

with eleven other prominent citizens, whilst the dead body of the defeated King Henry was being shown to the people in the Tower. Sir Ralph's son John married the daughter and heiress of Sir Robert Mortimer, who lost his life and lands in the cause of Lancaster. When it was desired to recover his estates for his daughter and her husband, it was thus possible to lay claim to them on the strength of services rendered to either side, according to the end of the seesaw

which happened to be uppermost. The Verneys by this time had built a fine house at Middle Claydon, in place of an older one, which had been the home of the Cantelupes. The new house, with the manor, was let to the Giffards of Hillesdon, on two long leases, so that the Verneys did not come into occupation again until more than a century later. Much of the core of that house still remains. An old pencil sketch shows it with the stepped gables of Flemish flavor, and with certain Renaissance detail about the windows which probably belonged to the sixteenth century additions. So near are church and manor-house that, if the house windows are open to the south, an invalid might follow the service from one of the neighboring rooms. The nave of the church dates from the fourteenth century, but the chancel was



## Houses with a History



A VIEW IN THE CHALONER LIBRARY

built by Roger Giffard in 1519, whose brass still remains on its north wall.

Soon after her marriage in 1858, the late Lady Verney began to explore a treasure trove of great historical value which had long lain uncared for in a wainscoted gallery under the roof of the oldest part of the house. There, stored in numerous trunks on tressels, she found a hoard of parchments, rent rolls, old "News" sheets, and, above all, a vast number of family letters and papers, stained by age and sometimes rat-eaten. One packet of these letters had not even been opened, and had never been seen by those to whom they were addressed. Scattered about, too, in all sorts of unlikely places, and but little

valued, were many fine historical portraits by the great painters of their day, which now hang in honor on the walls. From these materials both the late and the present Lady Verney have compiled the four volumes of the "Verney Memoirs," illustrated by admirable reproductions of the chief portraits. What the diaries of Pepys and Evelyn have done for the later seventeenth century life of London, the "Verney Memoirs" have done for that of the country gentleman of the period, but commencing somewhat

earlier, so as to portray for us the dislocations caused by the Civil War.

The most notable figure of the family at this time was Sir Edmund Verney, Knight Marshal to Charles I., and, on the outbreak



EAST CLAYDON VILLAGE



## House and Garden

of war, his Standard Bearer. After the long tenancy of the Giffards, he had taken up his residence at Claydon House in 1620. In the days of James I., he had been the trusted friend and comrade of the young Prince Henry, the English Marcellus, of whom so much was hoped, but who died untimely in his nineteenth year. His case suggests perhaps the most curious "might-have-been" of history. Had he lived, England might have had no Charles I.,—no Civil War,—no Cromwell,—no Charles II., nor succeeding James,—no William III.,—no resort to Hanover for a collateral branch,—therefore no George III.,—and, who can tell, no American War.

After Prince Henry's death, Sir Edmund Verney accompanied Prince Charles, now heir to the throne, on his wife-hunting Spanish journey, unwilling wooer to a lady unwilling to be wooed. Every member of the Prince's suite was as heartily sick of the



COTTAGES AT EAST CLAYDON

venture as was the Prince himself, and Sir Edmund's stout Protestantism entangled him in a broil with a certain priest who came dangling after one of the English pages. Little wonder that no matrimony resulted.

Fine portraits of both Sir Edmund and of his son and successor, Ralph, look down from the walls, and reappear in the "Memoirs." Both sat in the Long Parliament. Of some of its most stirring scenes, we have the vivid jottings of an eye-witness in Ralph's pencil diary, recovered from one of the trunks in the attic. Both father and son were strong upholders of parliamentary liberty against royal encroachment. When the crisis came, Sir Edmund found that he could not fight against the King, and Ralph, that he could not fight against the Parliament. With heavy hearts they parted at the dividing of the ways. Sir Edmund came back no more to Claydon, and lies in an unknown grave on Edgehill field. Though for a time separated



THE "WHITE HOUSE," EAST CLAYDON



DOORS IN THE DRAWING-ROOM OF CLAYDON HOUSE

thus in life and death, father and son are united in the fine Renaissance monument in Middle Claydon Church. Van Dyck's portrait of King Charles, and the ring with the royal miniature, which he gave to

his Standard Bearer, recovered from the severed hand after Edgehill, are now among the most valued heirlooms of the family.

Claydon House was fortunate in escaping spoliation either from one side or the other.

## House and Garden

It was otherwise with the early home of Sir Ralph's mother, Hillesdon House, only some three miles distant, where her brother, Sir Alexander Denton, then lived. There was an anxious day for the household at Claydon in March of 1644. Noise of battle was heard over at Hillesdon. Ralph's brother Tom, and two sisters were at the time staying there with the Dentons. Soon the sky was red with the glare of the burning house. Sir Alexander had fortified it as a royal outpost, and that vigorous parliamentary colonel of growing reputation, Oliver Cromwell, had come out to attack it. He lay with his forces for a night roundabout the Church of Steeple Claydon, and next day carried the outworks of Hillesdon, and then the house, which was given to the flames. Many of its defenders were slain, and forty taken prisoners, including Sir Alexander himself, and Tom Verney. For the master of Hillesdon House the even tenor of country life had come to a sudden end. A few months earlier he had been bereaved both of his wife, a cousin of John Hampden's, and his mother. Now his home had disappeared in this spasm of blood and fire. A few months

later his eldest son, John, was killed fighting bravely in battle, and not long afterwards the broken gentleman himself followed him to the grave. Even amidst such scenes as these, love intrudes, and his sister, Susan Denton, was wooed and wed, all in three days, by an officer of the attacking force. Their tomb is among those of the Denton's in Hillesdon Church. Thus did the Civil War write history across the English shires.

Both before and after these times of trouble, various sons of the family had found the home boundaries and interests too narrow for them. The roving spirit of Saxon and Viking forefathers moved men of the race then, as it does still on both sides of the Atlantic. Thus, Sir Francis, a fine figure of a man to look at, and brother of the Standard Bearer, selling out all his available estates, took to a life of piracy with the Moors of the Mediterranean, and, after two years of slavery at the oar in Sicilian galleys, died miserably at Messina. Sir Edmund's second son, Tom, whose visit to Hillesdon House ended so unpleasantly, was a very typical scapegrace. He, too, wanders unfruitfully abroad; now in Virginia, now in Barbadoes,



*The Library*



*The Drawing-Room*

### PLASTER CEILINGS IN CLAYDON HOUSE





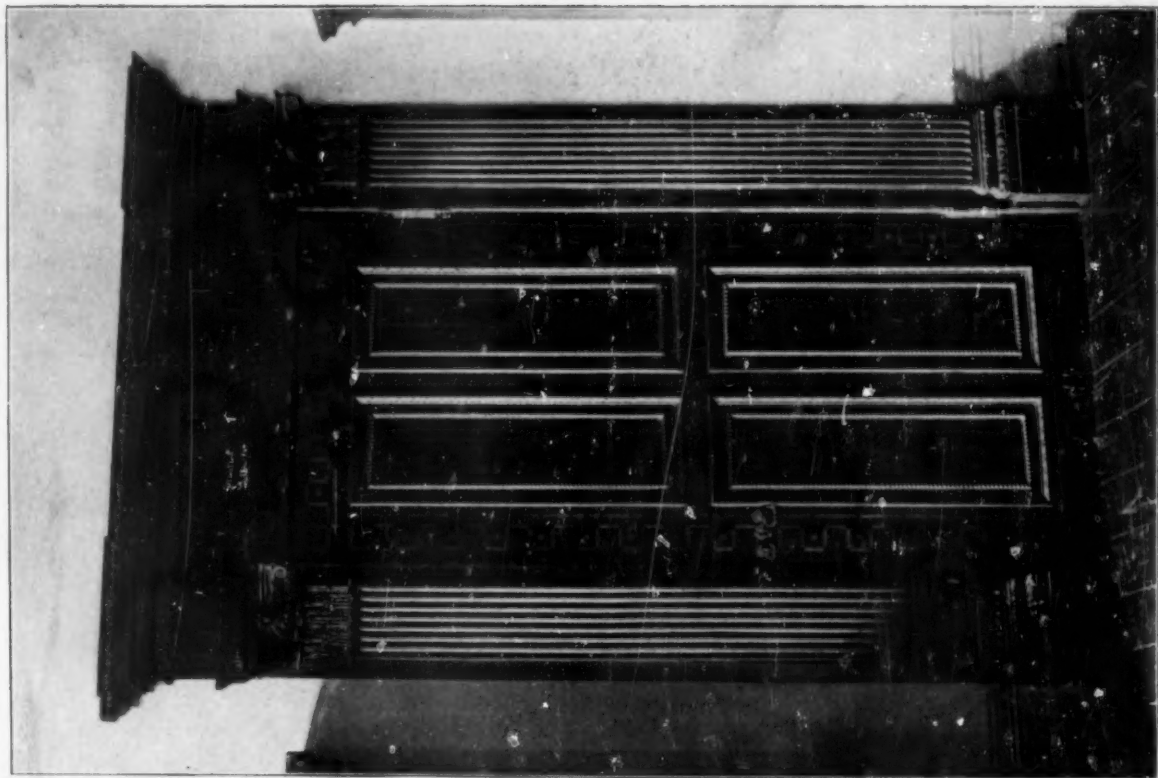
GENERAL VIEW OF THE DRAWING-ROOM

CLAYDON HOUSE

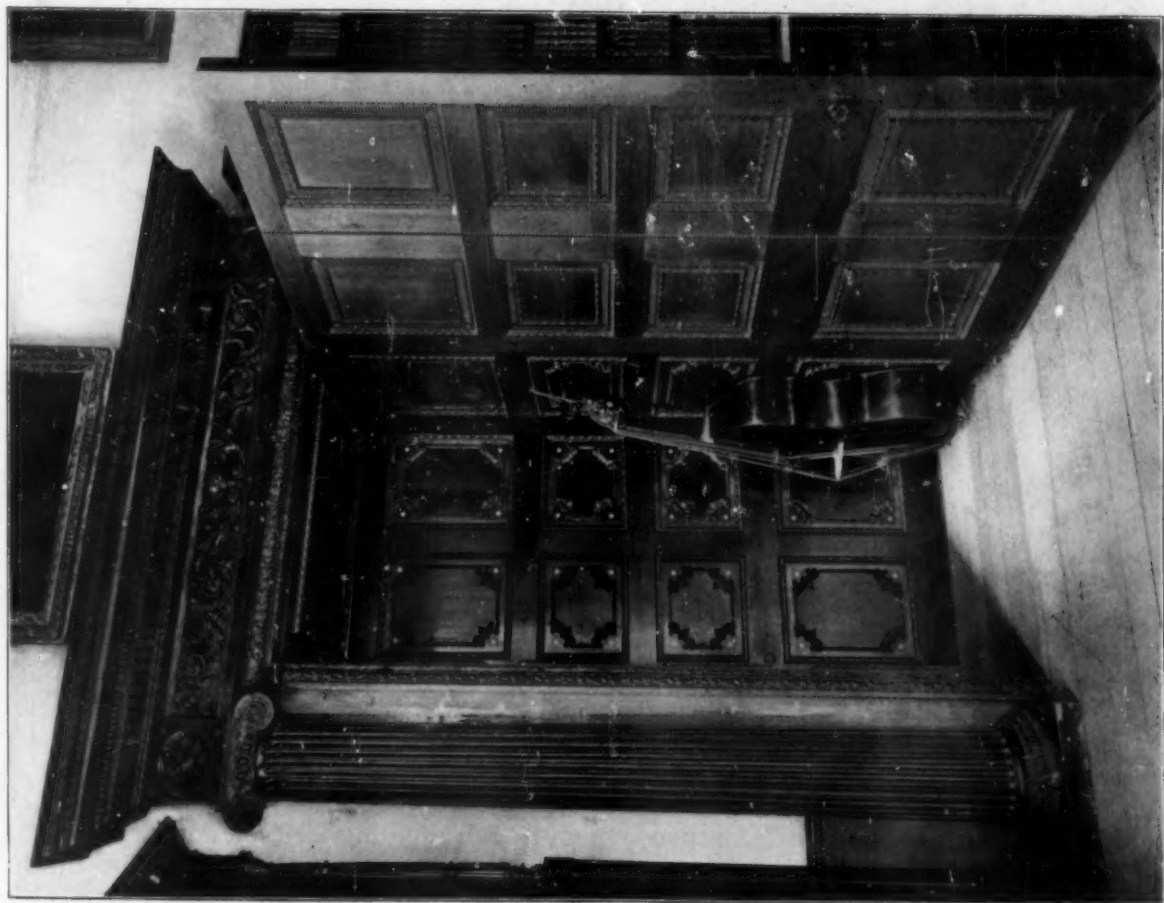
now in Sweden; but ever and anon turning up with an empty purse and a complaining tongue. His younger brother, Edmund, a captain in the royalist forces in Ireland, was one of the slaughtered at Drogheda in 1649. A cousin, hapless Dick Hals, was a gentleman of the highway, who, after many breathless escapes, died, not without dignity, at the hands of the hangman. Whilst his eldest brother, "Mun," was living a quiet country life at the "White House" in East Claydon, a second son of Sir Ralph, John, also sought his fortunes abroad. When at last he comes home to marry and settle down, it is to succeed his father, Sir Ralph, who had outlived his eldest son, and who died at Claydon House in revered old age in 1696.

Sir Ralph had received a baronetcy after the Restoration, and in 1703 Sir John was

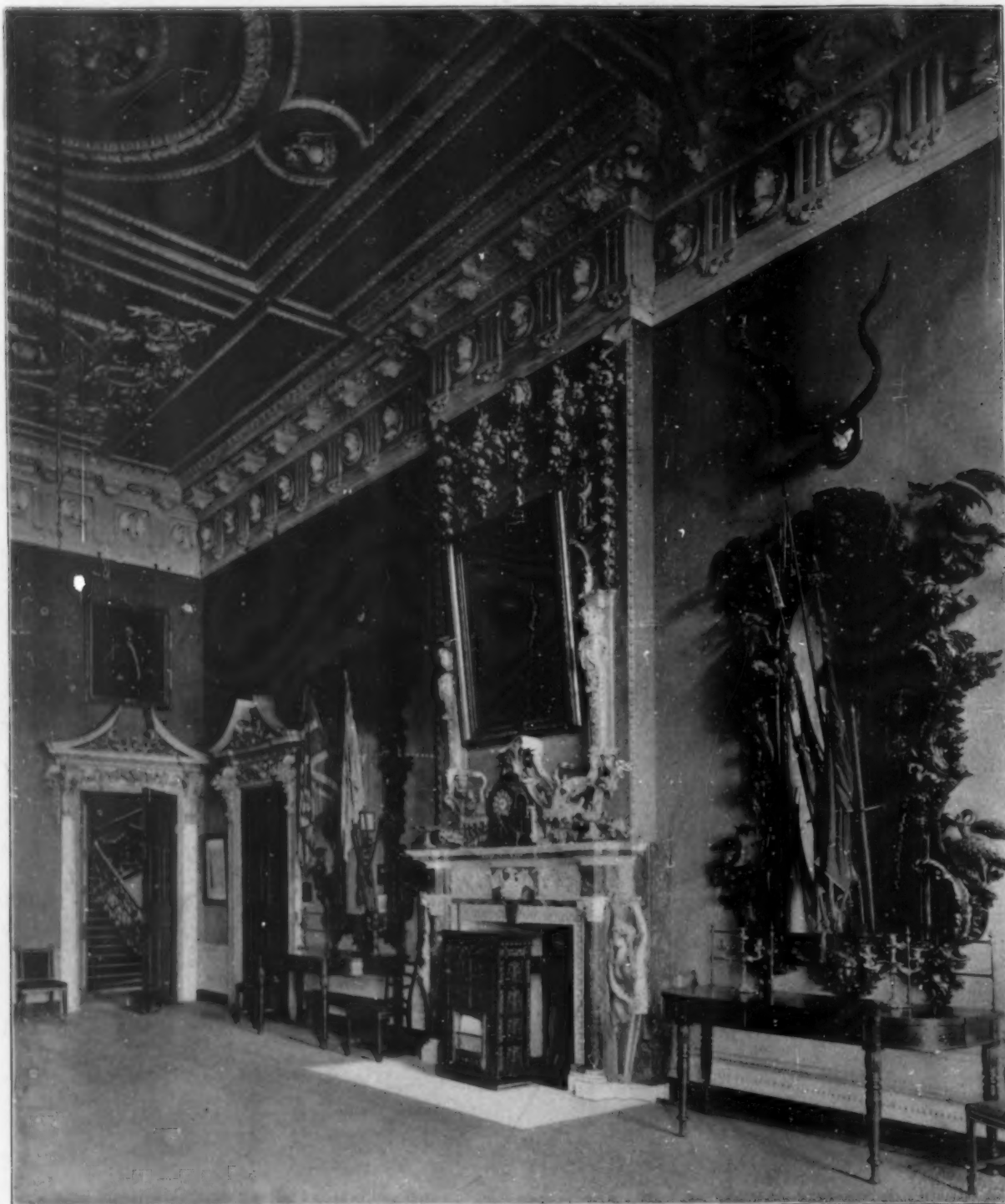
made a peer as Baron Belturbet and Viscount Fermanagh. These were years of expansion. Lord Fermanagh bought Steeple Claydon of the Chaloners in 1705. Forty-five years before, Thomas Chaloner, who had been one of King Charles's judges, had fled the country at the Restoration to escape a barbarous death. He was a man of parts and capacity. His alum works at Guisbro', near Whitby, founded in 1600, were the first of the kind in England, and his descendants still carry on the industry there. The quaint old school was built and endowed by him in 1656, and is now incorporated in a thriving village institute and library, with a fine lecture hall, established by the present baronet, Sir Edmund Verney. Old and new are happily conjoined in the building, and thus the aim of the founder finds fruition three and a half centuries after his time.



CLAYDON HOUSE



DOORWAYS TO THE LIBRARY



THE GREAT DINING-ROOM

CLAYDON HOUSE

In 1726 Lord Fermanagh purchased the property of East and Botolph Claydon, which had already been in the family for a time, when his brother "Mun" married a daughter of the "White House," and had oc-

cupied it until his death. Within a stone's throw stands the church. The fine Norman and thirteenth century detail still to be seen in it, and the mounded lines of the enclosing moats near the manor-house point to the





WINDOW IN THE ENTRANCE HALL

CLAYDON HOUSE

fact that both hold to their primitive sites. In spite of Lord Fermanagh's new purchases, the old house at Middle Claydon still remained the family seat. In that all their memories centered. To it the sons of the house brought their new-made brides. Amongst its pleasant gardens played successive generations of the Verney children. Under its kindly roof-tree gathered friends and kinsfolk, who never ceased to think of

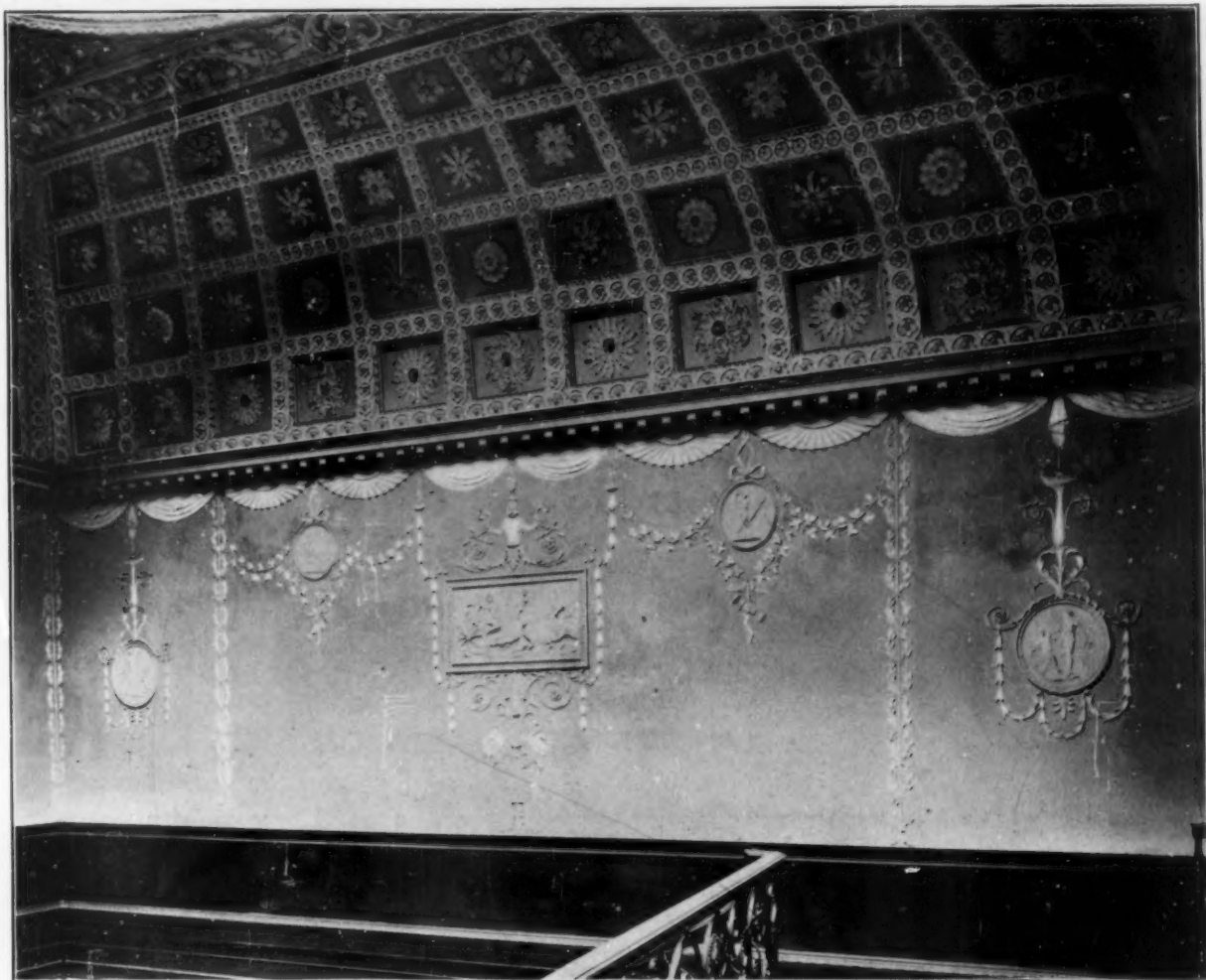
the Claydon hospitality as men think of the fire in winter. There, too, dependent relatives found a home full of affection, and void of any shadow of patronage. Such was Doll Leake, a poor cousin of Sir Ralph's, a good maid and a merry. There, too, fell on the family the solemnities of death, when the still form laid out on the great state bed with its black hangings, became the center of the household's thoughts. This funereal



FLORENCE NIGHTINGALE'S ROOM AND PORTRAIT

four-poster was a valued possession, and with friendly readiness was loaned round even to houses of some affluence, when visited by bereavement.

The time was now drawing on when the good old house was to be deposed for awhile from its wonted servitude. Lord Fermanagh had passed away. His son Ralph had taken



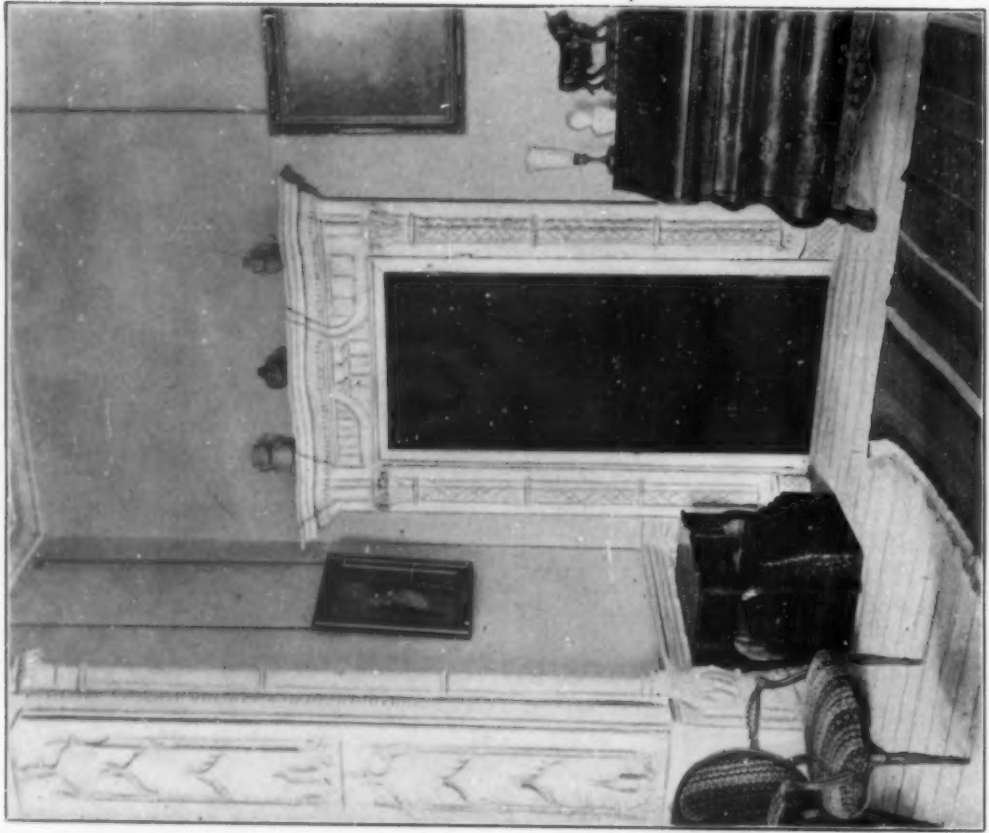
THE CEILING OVER THE GREAT STAIR

CLAYDON HOUSE

a further step forward in the peerage, and had become Earl Verney. His son, the second Earl, a man of large ideas and extravagant life, had entered into possession. Then followed a series of dramatic transformations. The home of his fathers was no longer meet for the high estate of this childless man. About 1760 he called in the Brothers Adam to design and build for him a new house on a princely scale. The rural peace of Middle Claydon was invaded by an army of workmen, English and foreign. They set up their masons' sheds, and laid stone to stone, rearing a vast mansion of Anglo-Italian character, with the cold but stately frontages of the period. Therein was a great central hall with marble columns, and a ball-room, one hundred and twenty feet in length, with a succession of rooms of size on a like scale. Of these, saloon, library, and dining-hall still

remain, each a sumptuous apartment fifty feet long by twenty-five feet broad, and twenty-five feet high. When the roof was in place there came troops of skilful joiners with great store of cedar, rich old Spanish mahogany, and ebony, satin-wood and ivory for inlays. Under the musical ring of the smith's hammer was evolved a wrought-iron balustrade for the chief staircase, with involute scrolls of foliage and wheat sheaves, linked all into one by floral bosses and festoons. On high scaffolds Italian modelers shaped wondrous things in plaster on ceilings and walls; now in richly moulded ranges of deep panels, now in bold devices of high relief, and now in dainty medallions, after the manner of Wedgewood and Flaxman, united by looped and hanging draperies with pendent urns. Then came the stair-hands and marquetry-layers, who spread over the floors and landings





*A Chamber Doorway*



*The Entrance Hall*

VIEWS IN CLAYDON HOUSE

## House and Garden

of the great stair, and on every tread and rise of it, a wealth of most intricate inlay. At last came the sculptors to carve the mantels of Carrara marble.

The enterprise was nearing completion. The old house with its manifold memories stood in the background, like a friend, proven and trusty, but now supplanted. Part of it came down to make room for the new palace, and part was allowed to remain as an appendage in the rear. We have learned something of its associations. Were the same kind of family affections to gather about the magnificence of the new house, in time to come, as had hallowed the simplicity of the old? What had Fate in store?

Fate soon answered, and with cruel irony. The earliest guests to enter, before the noise of hammer and chisel had fairly ceased, were a horde of angry creditors, eager to seize whatever they could lay hands on, and carrying off even a sculptured mantel that they found still unfixd. In the midst of the turmoil the Countess Verney died, and her funeral was the sole family pageant that ever issued from the new grand entrance. Her lord, Ralph, was forced to go into hiding to evade his creditors, and it is said that he only escaped arrest by leaving the house in the hearse which had borne his wife to her grave. A little later he crept back to the stripped and desolate house, where he lay a month in hiding, concealed by the loyalty of his dependents, who brought him food to eat and a bed to lie on. In after times old men remembered that, as children, they had seen his face at a window and had answered his beckoning finger when he called for service. In another month he lay dead in his house in

Curzon Street. This was on 31 March, 1791.

The stately new house, as he left it, stood for a few years in empty splendor, nor was it to know any other associations than those of ruin and death. It was never inhabited, and the niece of its builder, who was created Baroness Fermanagh in her own right, caused two-thirds of it to be pulled down, leaving only the end block as it now remains to convey some idea of its original greatness. The Baroness shunned the place shadowed by so much misfortune and lived in London, where in 1810 she died. The epitaph of the house might very well be that of the dead infant,

Since I was so quickly done for,—  
I wonder what I was begun for.

The Baroness Fermanagh left the property to Sir Harry Calvert, who took the old family name, and was better known as Sir Harry Verney. When he entered into possession both the remnant of the ancient house and the fine fragment of the later, were knit together, and became once more a home. New memories of the happy olden kind again gathered about it. Amongst these occurs the name of Florence Nightingale, a sister of the late Lady Verney, and a frequent visitor to the house. Her portrait hangs over the mantel-piece of the room she has often occupied, and suggests once more the wideness of the range of English experience. Peaceful Claydon, and the hospital beds of Scutari! Historical musings, how easily they respond to a touch or a name. And who could help musing in Claydon House where the old portraits and heirlooms are cared for so reverently, and which has now again become a worthy embodiment of the spirit of the ancient race whose seat it was.



Laborers' Cottages at Steeple Claydon



THE NEW GYMNASIUM OF THE UNIVERSITY OF PENNSYLVANIA

*Designed by Frank Miles Day & Brother, Architects*



## THE NEW GYMNASIUM BUILDING

OF THE UNIVERSITY OF PENNSYLVANIA

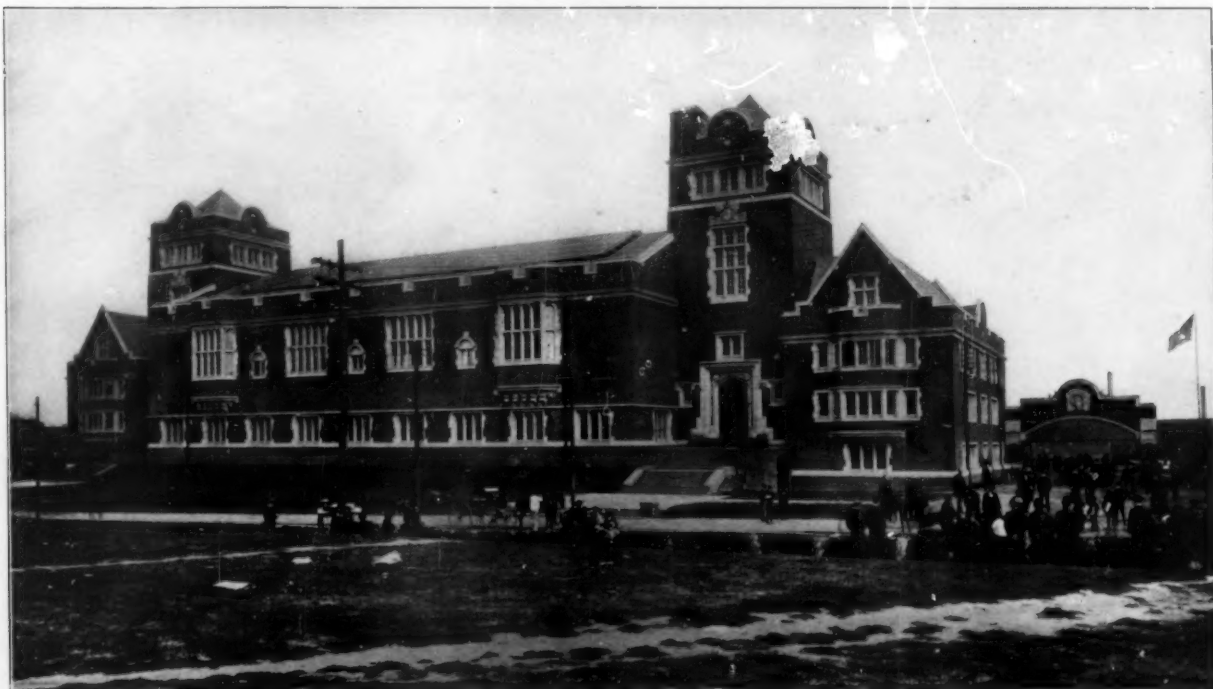
DESIGNED BY FRANK MILES DAY & BROTHER, ARCHITECTS

COLLEGE athletics have become a permanent and important feature of American life. By the academic sounding term "physical culture" they are related to the modern college curriculum and by visions of track records, base ball and foot-ball games they are ever present in the public mind. Being a part of the college training, the athletic department must now have a commodious and well-equipped home. As occasions for vast assemblages the public contests must be held in a place and under conditions where the safety of spectators is as well considered as their satisfactory means of seeing. Thus it is that the former playgrounds of our large colleges are now "fields" whose very names recall to loyal students and their partisan fellows the battlegrounds of hard fought victories won by Penn, Fair Harvard, Old Nassau and the rest.

A few years ago the substantial Stadium was built on Soldiers' Field at Cambridge.

The Greek Theatre, Berkeley, California, is another example of permanent facilities being provided for open-air college life. More complete than any of these, however, is the new gymnasium building, field and grand stand which, as one harmonious design and construction, now embraces Franklin Field, the athletic ground of the University of Pennsylvania, in West Philadelphia. This comprehensive group of buildings accommodates both the outdoor and indoor activities of the athletic department of a University that, by its own records, enjoys a distinct importance, and on account of its nearness to other large Eastern cities, has become foremost in the public eye, for it is on Franklin Field that the national Army and Navy foot-ball game is now annually played.

The entire design is the work of Messrs. Frank Miles Day & Brother, Architects. It covers seven acres. Much of this land was



THE GYMNASIUM FROM THE SOUTHWEST  
Showing the Thirty-third Street Façade

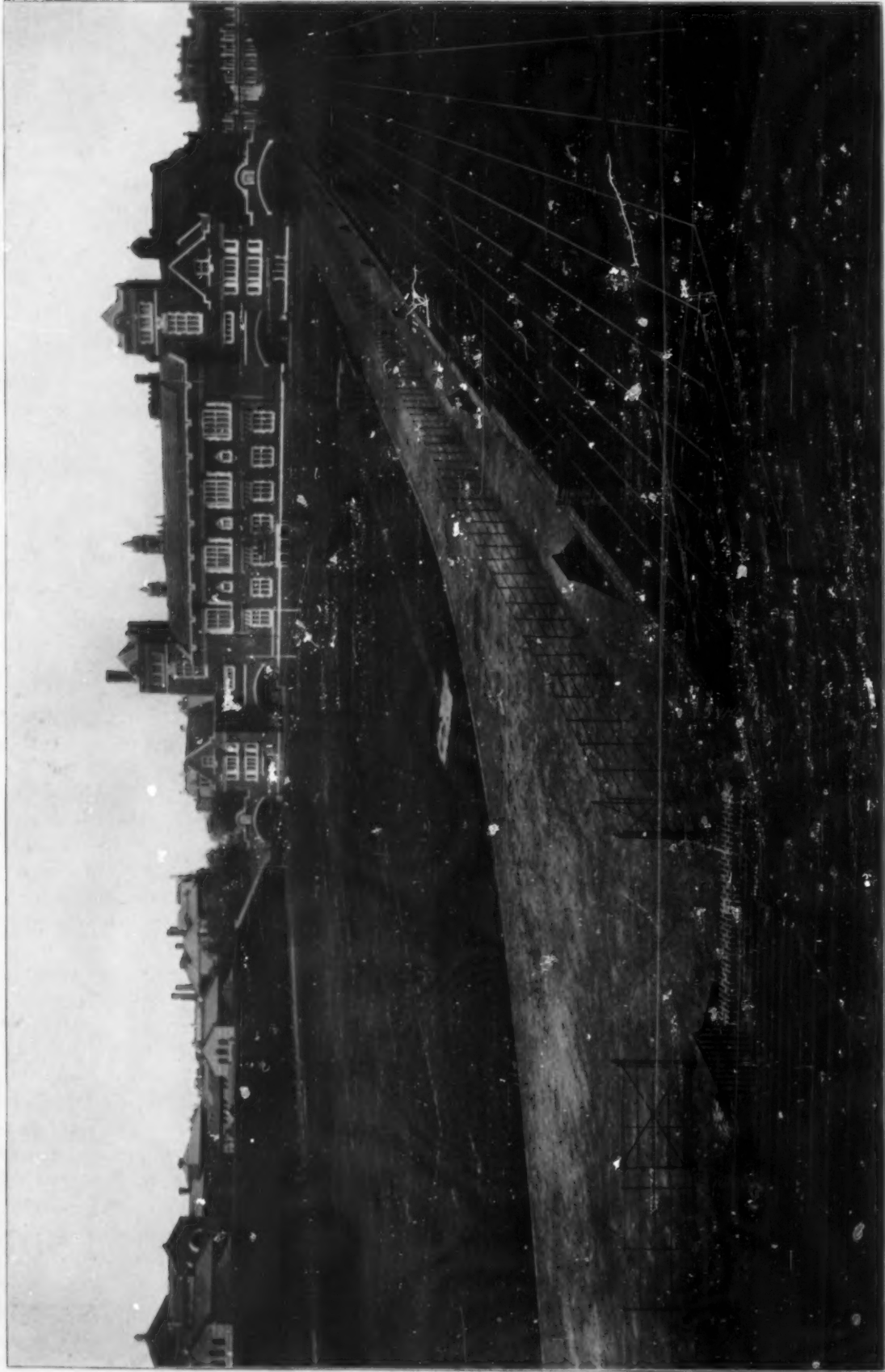
*Engineering  
Laboratory*

*Dental Hall*

*College Hall*

*University Hospital*

*Free Museum of Science and Art*

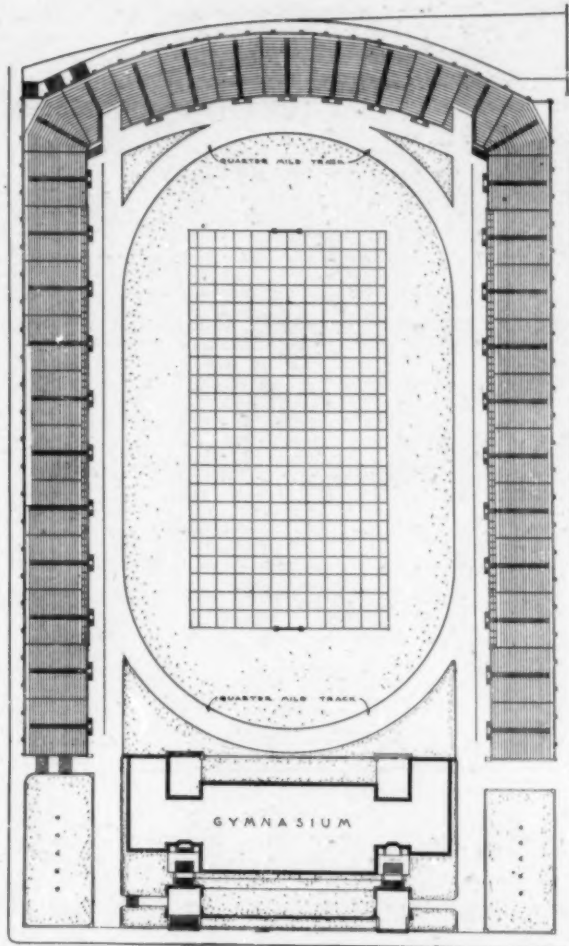


THE NEW GYMNASIUM AND FRANKLIN FIELD

## House and Garden

most unsuitable for building purposes, having been long used as a refuse heap, hospitable to the thousand nondescript objects which are the continual outpourings of a city's margin. A portion of the site once served as a potters' field, where a hundred years ago a visitation of yellow fever caused many bodies to be buried here. All of this "made ground," had to be further filled in and levelled, when a committee of the University alumni acquired it about ten years ago for the end which has now been realized. To accommodate all the various college sports at a given figure of cost and within fixed boundaries of space was a task of difficult proportions. The

entire field was surrounded by a brick wall, the foundations of which had to be made so wide as to tax the insufficient earth with no greater load than a thousand pounds per square foot. The space within was provided with an elaborate drainage system and the finished surface of the field was brought to a slight crown, *i. e.*, made about fifteen inches higher in the center than at the sides. Covered with turf, it accommodates the base-ball diamond in summer; in the autumn, the foot-ball gridiron. Surrounding this is a one-quarter mile track on whose south side a 220 yards straightaway dash is possible. The stands enclose the field on three sides and will seat twenty thousand persons. In the center of the north and south sides is a single row of box seats separated from others by railings and entered by means of wickets. At the summit of the



THE NEW FRANKLIN FIELD  
*The Architects' Block Plan*

north stand is an enclosure for reporters, and with provision for telegraphic instruments. Underneath are ten squash-courts for students, a running track for use in winter, and lavatories for the public. As many as four broad portals give convenient entrance and egress and enable crowds of spectators to reach or depart from the field by means of six electric car lines. Nor are these the only means of transportation which now make Franklin Field accessible to the public. A block and a half away is the new West Philadelphia Station, already an important focus of travel over the Pennsylvania Railroad; and by reason of its location, destined to become the

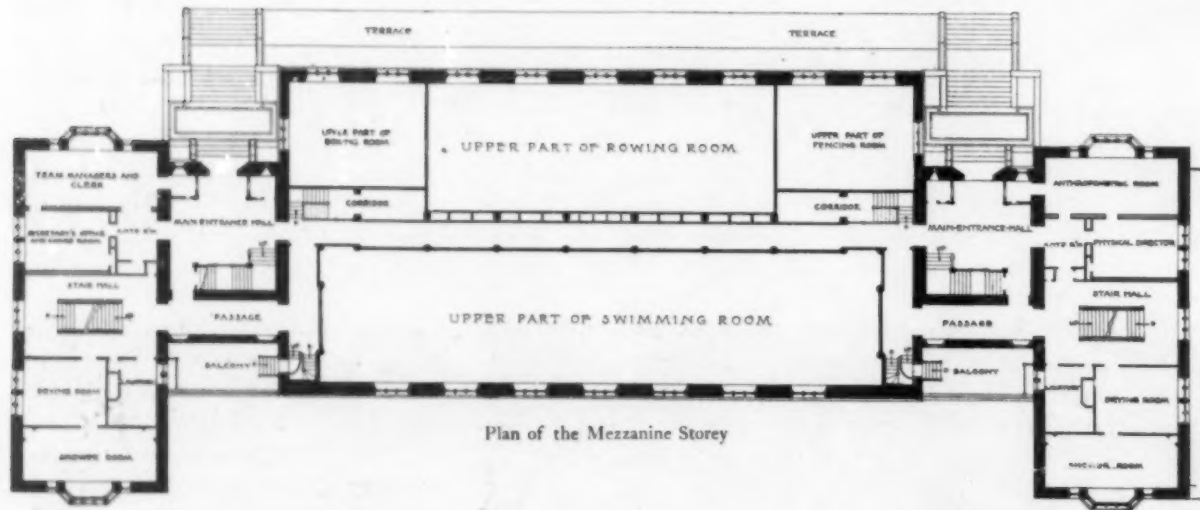
chief railway center of Philadelphia. Coming now to the gymnasium building proper, we shall find it to be in a style similar to other structures recently added to the University group. To be precise, it represents the transition from Tudor to Jacobean work, for there are features which bespeak both of these periods of English architecture. Many of the doorways are of a shape characteristic of the former, and yet it is to be observed that Renaissance traditions have guided the design of nearly all the remaining detail, much as they did in the building of James' time. These details are chiefly carried out in terra-cotta, the only stone used being upon the bay-windows. Both stone and terra-cotta unite in a warm gray color which goes well with the rich red and vari-shaded brick of the walls and the greenish slate of the roof.

The difficulties of building on such a site

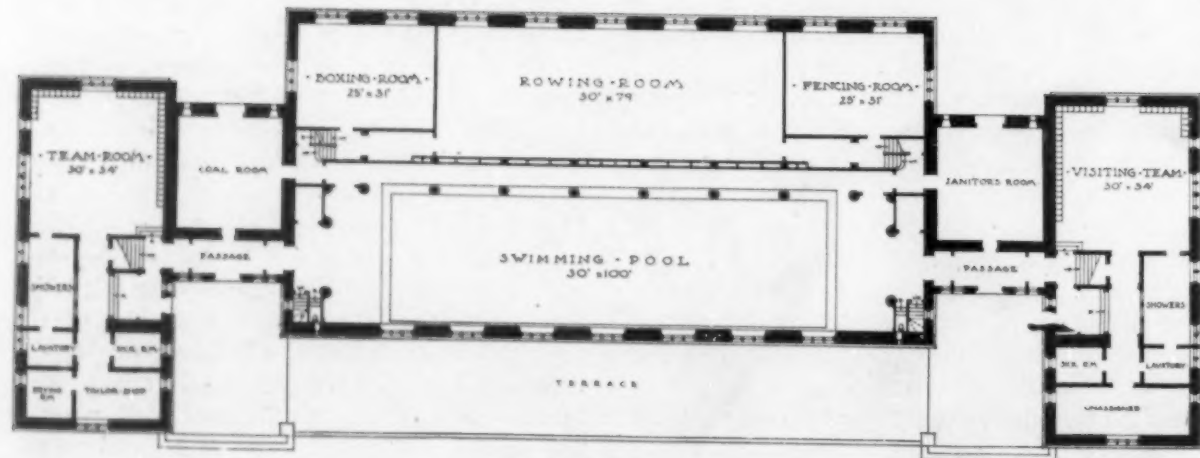




Plan of the Second Storey

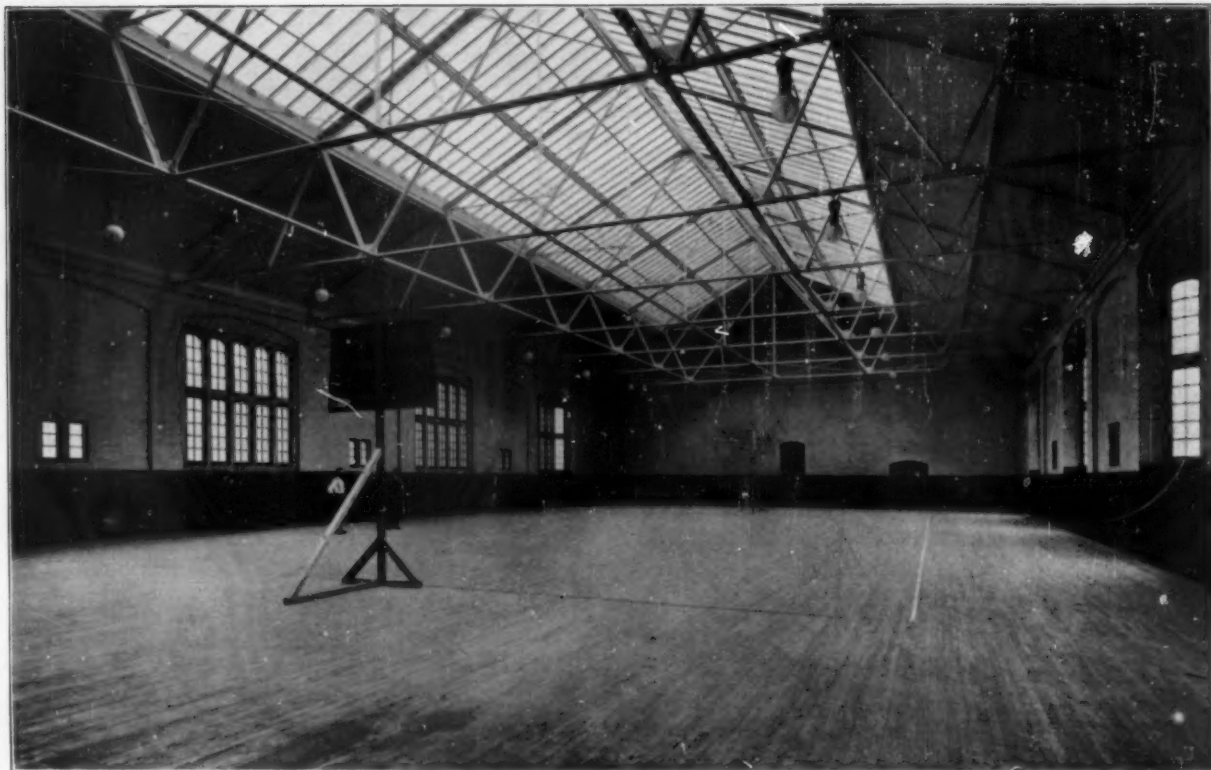


Plan of the Mezzanine Storey



Plan of the Basement

THE UNIVERSITY OF PENNSYLVANIA'S GYMNASIUM  
*Frank Miles Day & Brather, Architects*



THE GYMNASIUM HALL



THE SWIMMING POOL

## The New Gymnasium Building

as Franklin Field can easily be imagined. The reinforced concrete *système de Vallière* having been selected as the structural scheme, the foundations were also made in concrete. They took the form of piers, over a hundred in number, acting as long legs for the structure and starting upon solid rock, sometimes forty feet below the grade. Upon this substructure the building rests, entirely independent of the earth filling. The floors, too, are of concrete, in which material are also formed the supporting girders, spanning in some cases distances of thirty feet.

In the basement, half of the main building is devoted to the swimming pool. This is 100 feet long, in order to provide for all sorts of aquatic sports, and it has a depth of four feet six inches at one end, at the other nine feet. It is entirely surrounded by marble wainscoting and on three sides by a capacious platform. Overlooking the pool is a gallery whence two hundred spectators can view the water sports amid surroundings which are artistically impressive by virtue of spacious proportions and a superb simplicity. The rowing room is a large apartment capable of being used for many other purposes than that for which it is named, on account of only a few winter months' indoor practice of the crew. Besides the boxing and fencing rooms, the remainder of the basement is devoted to the home and visiting teams, whose comfort is assured by means of showers, lavatories, lockers, drying and hospital rooms.

Ascending the stairways to the mezzanine floor, the visitor reaches the gallery overlooking the pool and the various rooms with special purposes located in the wings. In one of these the physical director of the University makes his headquarters, and, in the room adjoining, measures newly arrived students, recording the data for purposes of noting the effects of the physical training. The spaces under the towers on this floor are in effect the main entrance halls, for two imposing series of steps reach this level after traversing a terrace about fifty feet wide on their way from the public (Thirty-third) street. Privet hedges, clipped lawns and formal effects of planting have been studied

for this terrace or parking with a view to still further enhance this extremely dignified and beautiful façade.

On the second floor the large gymnasium room spans the whole width of the building, and receives a flood of light therefore from windows on both sides, not to mention a vast skylight in the roof. The extreme simplicity of this large hall and its undisguised construction exemplify the efficient meeting of desired ends. The steel work of the roof is uniformly kept at a height of twenty feet six inches above the floor in order that all modern gymnasium appliances such as swinging rings, climbing ladders and trapezes can be used with freedom and convenience.

Upon the same floor as the gymnasium room and in close connection with it are the locker rooms occupying the wings. Served with an effective system of ventilation, fifteen hundred of these lockers are already provided in a single tier of height. By taking advantage of iron galleries and placing another tier above, twice this number may be obtained. Further expansion is offered by the towers. Near the summits of these are located the electric pumps, which are part of the ventilating system. The building is heated by means of steam. Fresh air, purified by passing through sheets of cheesecloth, is taken in at the basement and, after being heated is carried through the building by means of ducts.

A training house is proposed to be built upon the vacant rectangle north of the gymnasium, (upon the left of the block plan shown on page 19). This will connect the squash-courts with the main building by means of an underground tunnel. There is need, however, that such an addition be handled with care; that the space be not over-built upon; that the design of the training-house should be of the same spirit, and, if possible, by the same hand, as the larger building of which it cannot but be by nature a dependence. It should be the interest, indeed, of all friends of the University that no discordant neighbor shall ever mar the beauty or dispute the supremacy of the gymnasium building.





Old Cottage near Nutfield, Surrey

## PICTURESQUE ENGLISH COTTAGES AND THEIR DOORWAY GARDENS

BY P. H. DITCHFIELD, M.A., F.S.A., F.R.H.S.

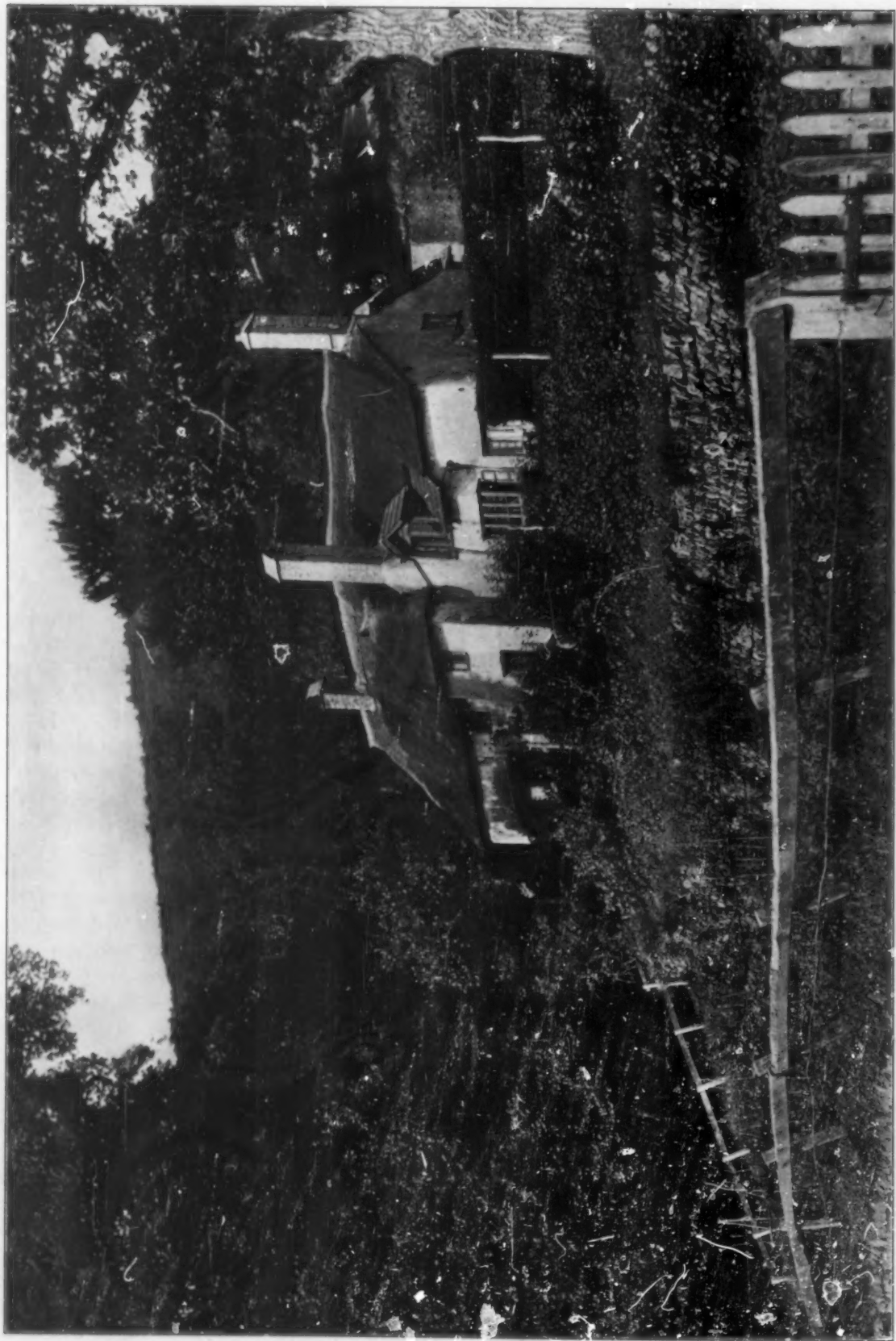
### VI.

IT is interesting to note the process of the development of the English dwelling-house, its origin and evolution. The English are a home-loving race, and England is the land of homes. The natural affection with which the nation regard their homes is to a great extent peculiar to the race on both sides of the Atlantic. The Frenchman, the Spaniard, the Italian, do not have the same respect for home. The *villa* of Italy, the *château* of France, the *country-seat* of England, differ from each other in their arrangements, precisely as their occupiers differ in the habits of life; and whether the home be a mansion or a cottage, it is equally dear to those who dwell therein.

The story of the evolution of the cottage can scarcely be traced so far back as the prehistoric cave-dwellings, where, in paleolithic times, a rude race of feral nomads dwelt and fashioned their crude tools of flint and hunted the brown bear, the hyena, the hippopotamus and other strange creatures which England now knows not. The earliest and simplest notion for constructing a dwelling was that of digging holes in the ground and roofing them over with a light thatch. Hence

we have the pit dwellings of our distant forefathers, the neolithic folk, who made polished flint weapons, and were not an uncivilized race. At Hurstbourne, Hants, nine of these early habitations, rudely pitched with flint-stones, have been discovered. Some of these dwellings had passages leading into them. A few flints, together with wood ashes, showed the position of the hearths. The sloping entrance passages are peculiar, and are almost unique in England, though several have been met with in France. A rude ladder was the usual mode of entrance. These abodes had probably cone-shaped roofs made of rafters lashed together at the center, protected by an outside coat of peat, sods of turf or rushes. We can learn something of the nature of the abodes of the living by examining the chambers of the dead neolithic folk, as in most cases the latter were a copy of the former. The Waddon Chambers, Kit's Coty House, near Aylesford; Wayland Smith's Cave, Berkshire, and hundreds of other examples of sepulchral monuments show the resemblance of the earthly house with the grave.

Another form of early cottage was the



A HOUSE NEAR PORLOCK, ON THE ROAD FROM MINEHEAD

## House and Garden

pile-dwelling, constructed on piles in lakes or rivers, in order to secure the inhabitants from the sudden attack of their enemies or the ravages of beasts of prey. Switzerland is famous for its lake dwellings, and the settlements at Morges, on the Lake of Geneva; at Sutz, on the Lake of Bienna, and at Marin and Auvernier, on the Lake of Neuchâtel, reveal extraordinary evidences of early pre-historic civilization. England, too, has its lake dwellings, the most complete examples having been recently discovered at Glastonbury. A platform was found constructed of timber and brushwood, supported by rows of small piles. The walls were

built of upright posts, the crevices being filled with wattle and daub; and the houses were usually circular in shape, though some were rectangular. The floor was made of clay. Communication with the land was effected by means of a canoe, cut out of the stem of an oak, with a pointed prow, which had a hole through which doubtless a rope was passed in order to fasten it to the little harbor of the lake village. The life of the village extended from about 300 B. C. to the advent of the Romans.

When the Celtic folk abandoned their pit-dwellings they still retained the circular form in the construction of their abodes. At the time of the Roman invasion, Cæsar tells us that their houses resembled those in Gaul. Diodorus Siculus calls them wretched cottages, constructed of wood and covered with straw; and Strabo describes those of Gaul as being constructed of poles and wattled work, in the form of a circle, with lofty, tapering or pointed roofs. The Antonine Column gives

representations of the Gaulish houses which accord with the description of Strabo, except that the roofs are domed, and some of the houses are oblong; but the want of skill in the sculptor has made them appear more like large tin canisters than human habitations. The early races in Britain knew how to build with stone, and evidences of their work can be seen in Cornwall and in

the remote Caithness. At Chun Castle there are walls built of rough masses of granite, five or six feet long, fitted together and piled up without cement, but presenting a tolerably smooth surface, and my friend Sir Francis Tress Barry has been excavating some brocks on the



WAYLAND SMITH'S CAVE

northern shore of Scotland, constructed of uncemented stone. These brocks, buried homes of a forgotten race, are very singular and curious buildings. There is a circular tower composed of a dry-built wall, fifteen feet thick, enclosing a court twenty feet in diameter. The wall rises to a height of forty-five feet, and has no opening to the outside except the doorway, which gives access to the court. Opening from the court are a series of chambers on the ground floor, constructed in the thickness of the wall and rudely vaulted with overlapping masonry. Above these are successive ranges of level galleries, also in the thickness of the wall, each going around the tower, and placed so that the roof of the one below always forms the floor of the one above. These galleries are crossed successively by a stair, from which access to them is obtained by facing around in the ascent and stepping across the vacant space forming the well of the stair. The lower three galleries only are lighted, and





REMAINS OF A ROMAN HOUSE AT SILCHESTER

the windows are placed in vertical ranges so close to each other as to be separated only by their upper and lower lintels.<sup>1</sup> The most famous of these prehistoric buildings is the brock on a small island called Mousa, in Shetland, which approaches very closely to that of the Martello towers which stud some parts of the southern shores, and were built when Napoleon threatened to conquer England. This Mousa brock is still thirty-seven feet high, and is referred to in the Orkney Saga as having been abandoned in about the year 900 A. D.

The tradition of the hemispherical neolithic hut was carried on in the Celtic beehive dwellings of Cornwall, Wales, Scotland, Ireland, and Gaul; whilst the plan may be regarded as the prototype of the circular fortress, such as Chun Castle, the brocks of Scotland, and indeed much of the military architecture in England.

The bronze-age dwellings, on the other hand, whose forms have been preserved by hut-urns, display a tendency to squareness and angularity, which is chiefly due to the employment of timber in their construction. The influence of the use of metal was shown, even in that early age, in the form of the domestic dwelling. The possession of bronze tools made it possible to work timber into the requisite forms of beams and rafters,

<sup>1</sup> Professor Anderson's "Scotland in Pagan Times," p. 180.

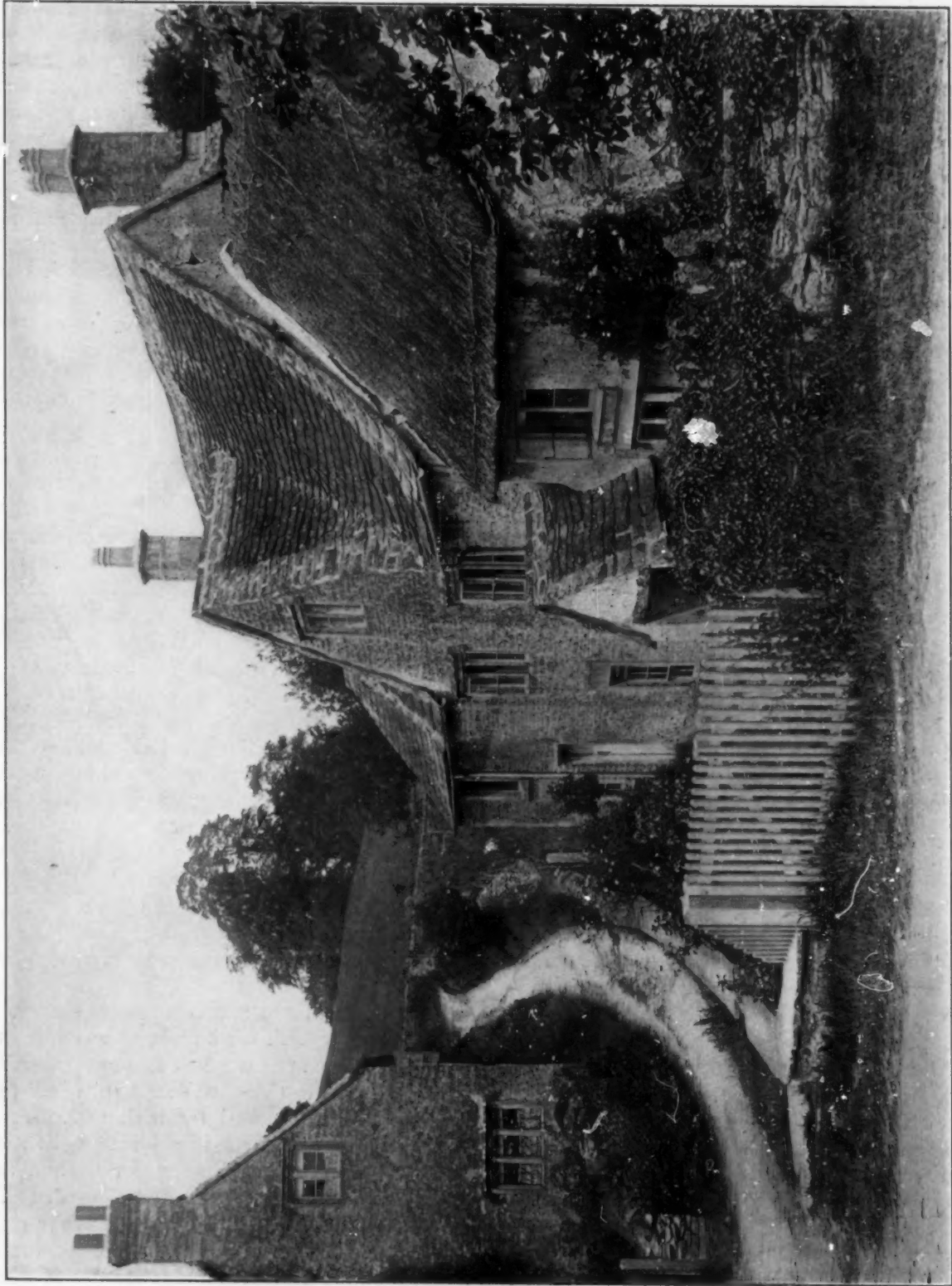
and flat walls and gabled roofs took the place of rounded walls constructed of interwoven branches and wickerwork of the earlier period. Our modern houses may be regarded as the direct descendants, with various modifications, improvements and developments, of the bronze-age hut.<sup>2</sup> The circular hut is therefore the oldest form of human habitation. There are still some of this type in Africa, and evidences of their existence are found in many lands. The hut of the charcoal burner in England is round, built after the neolithic fashion, and the circular plan has had a vast influence on the architecture of subsequent ages.

Our knowledge of Roman building has been enormously increased in recent years by the excavations carried on at Silchester, Hampshire, by the Society of Antiquaries. There we see the adaptation of the Roman ideas of domestic comfort to the needs of a northern climate. In Italy and the south of Europe light and heat are enemies to be guarded against; here, cold and damp. Hence the type of house in Roman Britain is totally different from that of the domestic buildings existing at the same period in more genial climates. There were two classes of houses built by the Romans. One consisted of a row of chambers with a corridor in

<sup>2</sup> Mr. George Clinch on Discoveries at Waddon, Surrey—Transactions of the Croydon Natural History Society.



ROMAN DWELLING NEAR WEST GATE OF SILCHESTER



A VIEW IN THE PICTURESQUE VILLAGE OF FORD (NEAR BATH)

## Picturesque English Cottages and Their Doorway Gardens

front of them; the other has a courtyard with two or three ranges of chambers set around three sides of it, while the fourth side is closed by a wall with an entrance gate leading from the street. All the larger houses have winter rooms heated by elaborately constructed hypocausts. The roofs were constructed of thatch, or tile, or stone. The stone roofing was cut in thin slabs, hexagonal in shape, lapping over each other, like fishes' scales. The tiles were large and flat, with a strongly raised edge on each side. They were nailed close together, and these raised edges were covered by semicircular tiles narrower at the upper end, but broaden-



A FARMHOUSE NEAR HERNE BAY, KENT

ing towards the bottom. Of the architectural details, the profusion of rich coloring, the magnificent mosaic pavements, the ingenious methods of warming the chambers, we cannot now tell. The Roman influence has had little effect on our smaller domestic buildings, though occasionally we find Roman bricks, the pillage of a Roman villa, or city, built up in the walls of cottages, as well as in great minsters, like St. Albans, or in churches like Brixworth.

The germ of the Roman plan of a house was the *atrium* or court, an uncovered enclosure. It prevails in every form of Oriental plan, from the earliest times to the present day.

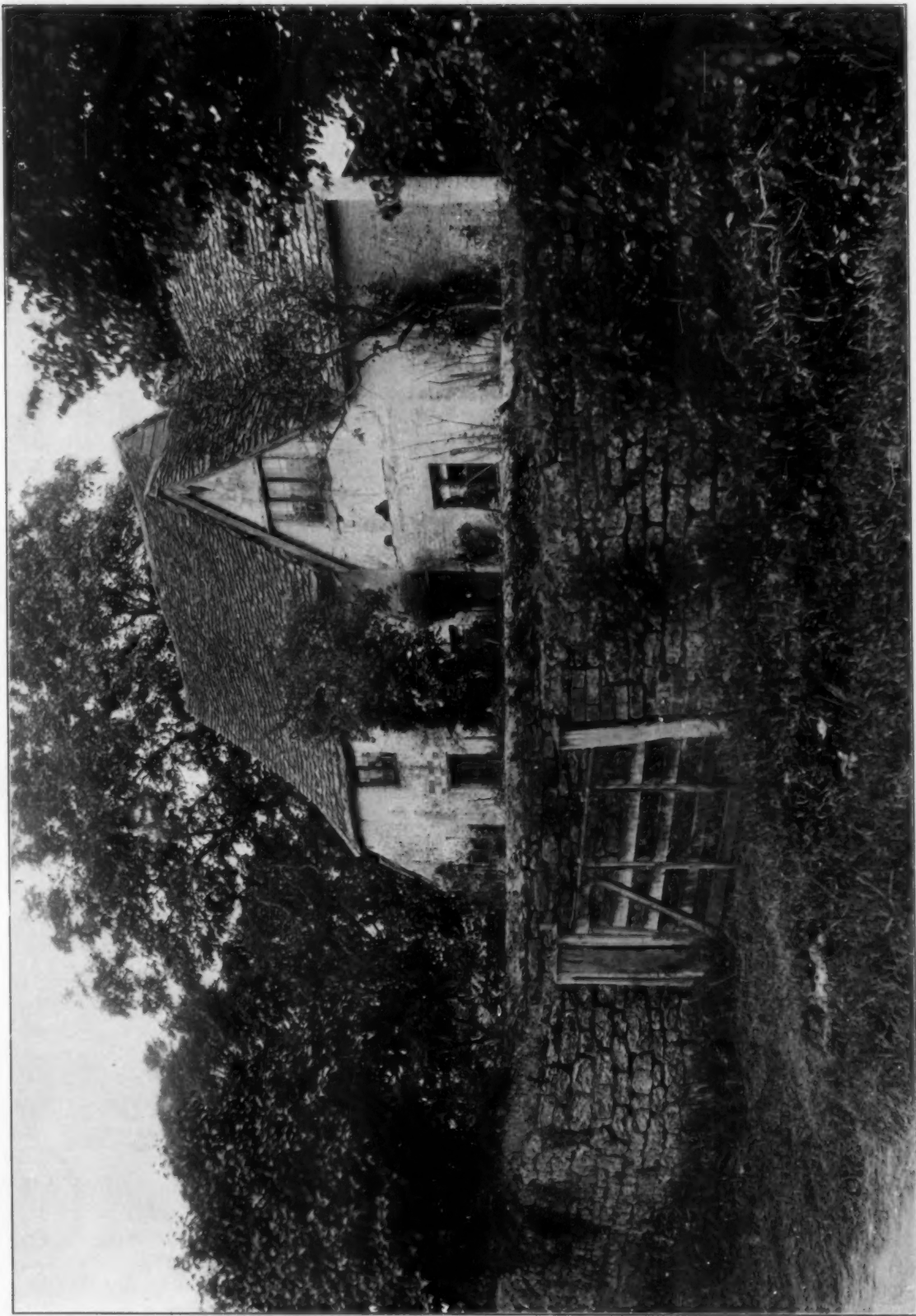
The Anglo-Saxon and the Dane brought

with them to England's shores their own ideas of building construction. The Gothic plan, coming from the cold North, differed essentially from the Roman. Their ideas were rude, and lacked the refinement of the Roman artificers. Their primary object was shelter from the elements. Their type was not an *atrium*, but a hall. The Saxon thane's house stood in the center of the village. It was not a very lordly structure. It was usually built of wood, which the neighboring forests supplied in plenty, and had stone or mud foundations. The house consisted of an irregular group of low buildings, almost all of one storey. In the center of the

group was the hall with doors opening into the court. On one side stood the kitchen; on the other the chapel. There was a tower for purposes of defense in case of an attack, and other rooms with lean-to roofs were joined to the hall; and stables and barns were scattered about outside the house. With the cattle and horses lived the grooms and herdsmen, while villeins and cottiers dwelt in the humble, low, shed-like buildings which clustered around the Saxon thane's dwelling-place. An illustration of such a house appears in an ancient illustration preserved in the Harleian MSS. No. 603.

The hall of the Saxons was the great common living-room for both men and women, who slept on the reed-strewn floor, the ladies' sleeping place being separated from the men's by the arras. Lord and lady, guest and serf, alike used the hall. The floor was made of earth; the door was woven of osiers, or made of boards, and there were small windows along the sides, closed by wicker shutters. A peat or log fire burned in the center of the hall, and the smoke clinging for a time to the blackened roof timbers and the stock of dried meats, escaped through openings in the gables, or a hole in the roof. This common hall remained the prominent feature of the English house throughout the whole of the medieval period, and though the advance of





AN OLD HOUSE ON THE OUTSKIRTS OF SEEND

## Picturesque English Cottages and Their Doorway Gardens

civilization necessitated the addition of other chambers, a sleeping place for the lord and lady, the "with-drawing-room" (modernized to drawing-room), a chapel, kitchen, dormitory, etc., the hall maintained its pre-eminence even in the most complex plans.

Amongst the inhabitants of the early village community, the geburs and villeins, and theows or surfs, we find, both in Domesday and pre-Domesday times, two classes of men who are styled *bordarii* or *cottiers*. These were the cottagers of ancient days, who had



THE HOUSE OF A SAXON THANE

small allotments of about five acres, kept no oxen, and were required to work for their lord some days in each week. The *bordarii* received their name from the Saxon word *bord*, signifying a cottage, and our word cottage is derived from the same root from which *cottier* springs. So in the dwellings of these folk we can see the earliest form of the actual cottage which we know today.

These primitive cottages were built at the side of the principal road of the village, near the stream. They were poor and dirty dwellings, usually constructed of timber-posts, wattled and plastered with clay or mud. Usually there was only one storey, but sometimes there was an upper storey of posts which was reached by a ladder. The furniture must have been coarse and rude, a bacon rack and agricultural tools being the most conspicuous objects. Such luxuries as windows or chimneys were unknown. The floor was the bare ground. Outside the door was the "mixen" or midden, a manure

and refuse heap. The fragrance of the country air and its sweet scents must have been somewhat modified by the unsavory smells.

In the region of stone quarries, cottages at an early period were built of stone. The art of brickmaking, used so extensively by the Romans, was forgotten in Saxon times, and was not rediscovered until some centuries later. The earliest existing brick building in England, with the exception of those constructed of Roman bricks, is sometimes stated to be the fine ruined Castle of Hurstmonceux, erected by Sir Roger De Fiennes, in 1440; but there is one older than this. Little Wenham Hall, Suffolk, built in the time of the third Henry, is, of course, older, and there is Little Coggeshall Chapel, Essex, which is a small brick building. It was not until the sixteenth century that brick building became general, and some of the best and most picturesque of our cottages date from that period.

It is beyond our purpose to sketch the growth of domestic architecture and trace the evolution of the modern mansion from the Saxon hall. But there are many old farm-houses in England, once manor-houses, which retain, in spite of subsequent alterations, the distinguishing features of medieval architecture. The twelfth century saw a separate sleeping chamber for the lord and his lady. In the next century they dine in a room apart from their servants, an arrangement much satirized by "Piers Plowman" in Langland's verse:—

"Now hath each rich a rule  
To eaten by themselves,  
In a privy parlour  
For poor man's sake,  
Or in a chamber with a chimney:  
And leave the chief hall  
That was made for meals  
Men to eaten in."

This process of development led to a multiplication of rooms and the diminution of the size of the great hall. The walls were raised, and an upper room was formed under the roof for sleeping accommodation. In smaller houses, during the fifteenth century, the hall disappears and corridors are introduced in order to give access to the various chambers. Some of these houses are built in the form of the letters E and H, which

fanciful architectural authorities interpret as the initials of Henry VIII. and Queen Elizabeth. But the former plan is merely a development of the hall with wings at each end and a porch added, and the H is a double hall connected by a range of buildings. Sometimes, however, houses were built in the form of some initials. Witness the quaint conceit of Master John Thorpe, who adopted this plan:—



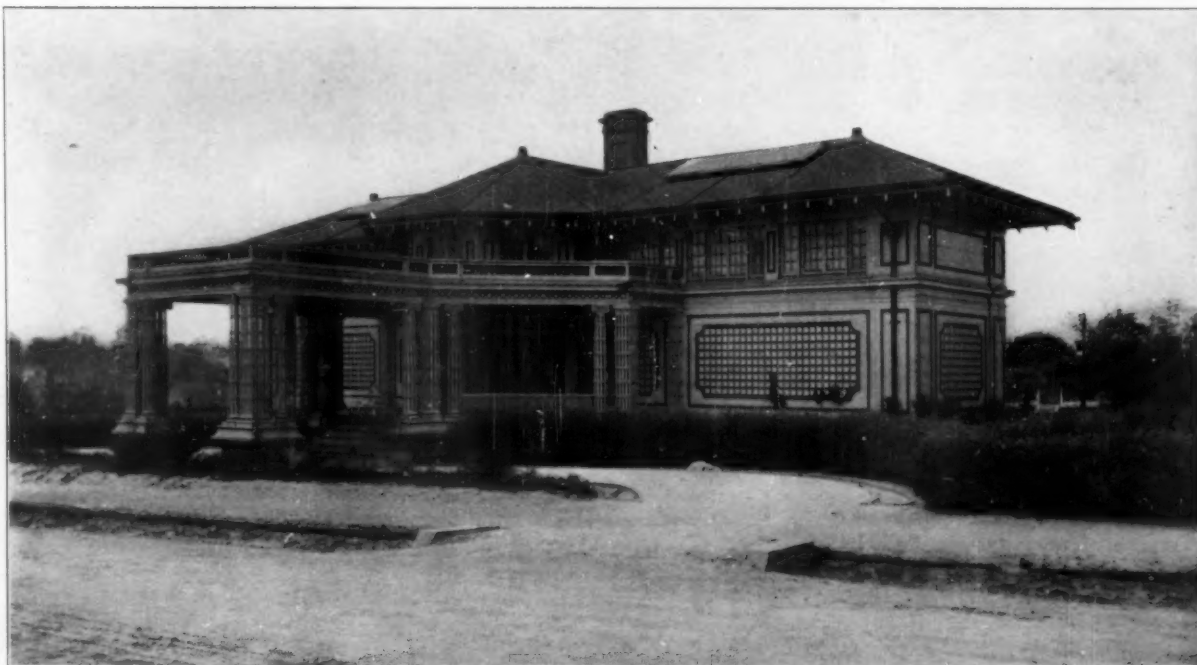
ONE OF JOHN THORPE'S HOUSE PLANS

and recorded his quaint conceit by the lines :

“These 2 letters I and T  
Joined together as you see,  
Is ment for a dwelling howse for mee,  
John Thorpe.”

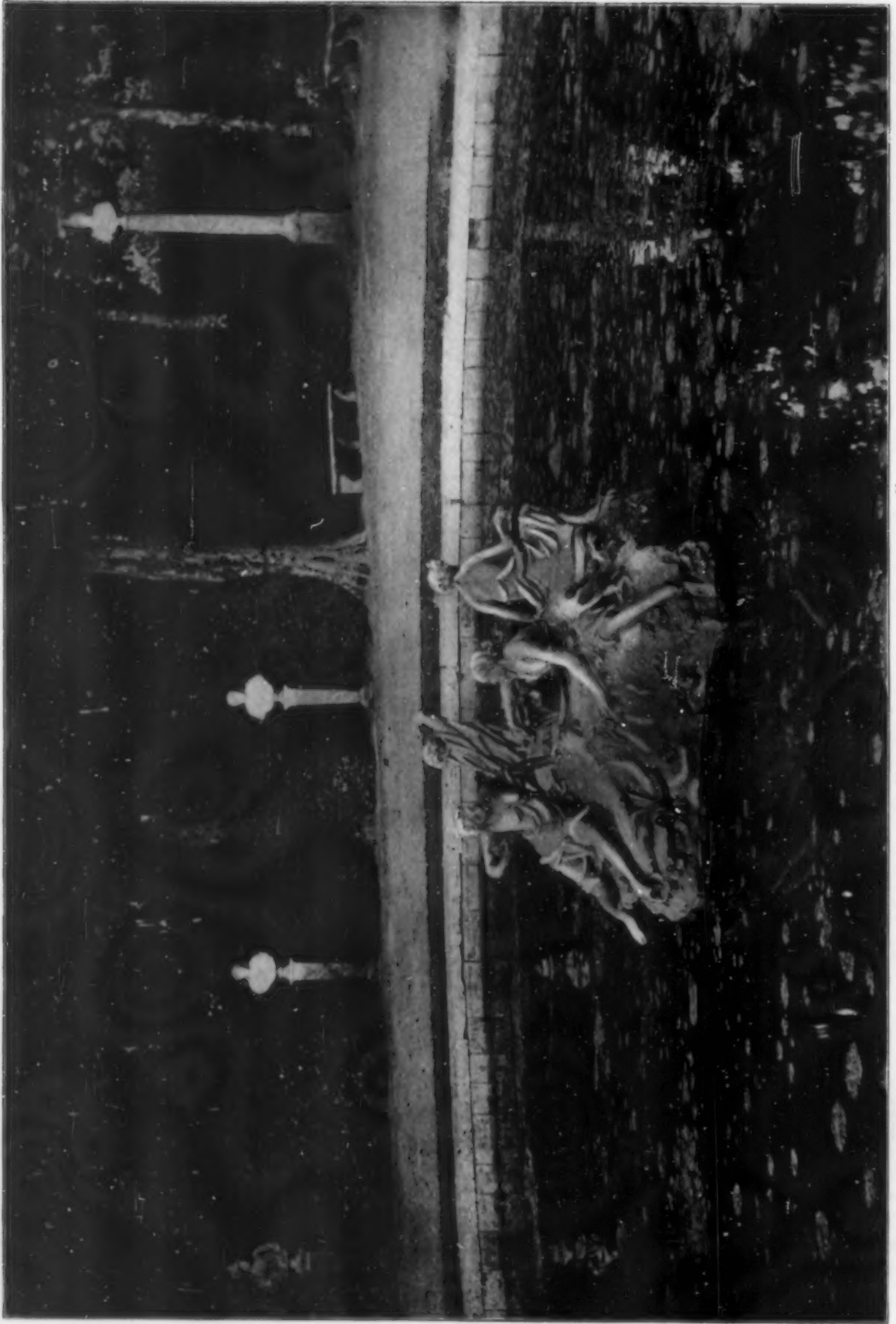
Thorpe's memory is too little regarded. He was the designer of Hatfield, Holland House, and many other noble mansions, and was probably the inventor of Elizabethan architecture. The Soane Museum contains a volume of his plans and designs.

The beautiful Tudor and Elizabethan manor-houses and palaces built at this time, when English domestic architecture reached the period of its highest perfection, are too grand and magnificent for us who are now considering humbler abodes. But the style of their construction is reflected in the farm-houses and cottages. We see in these the same beautiful gables and projecting upper storeys, the same lattice casements, irregular corners and recesses which present themselves everywhere, and add a strange beauty to the whole appearance. Such common features link together the cottage, farm and manor-house, just as the English character unites the various elements of our social existence and blends squire, farmer and peasant into one community with common feeling and interests and a mutual respect.



A Squash Court on the Late William C. Whitney's Estate at Aiken, S. C.  
Designed by Warren & Wetmore, Architects





LEADEN GROUP IN "THE BASIN OF THE NYMPHS," VERSAILLES



Leaden Caskets in the British Museum

## CAST LEAD

AS A MATERIAL FOR ARCHITECTURAL ORNAMENT

BY REGINALD WRENN

“How in base lead pure gold is changed.”

THIS verse of Racine, written near the close of the reign of Louis XIV., voices the contempt in which lead has ever been held in comparison with other metals. Its modern application to roofing, plumbing, or to a coin from which some greedy fellow has abstracted the silver, has not served to raise its reputation. In the decorative arts its use has steadily declined.

It is not our purpose to plead for lead as against gold—such a comparison may remain a poet's figure; but we shall illustrate particular purposes lead has served in the past, wherein its fault of heaviness became a merit, and its cheapness, agreeable color, malleability and enduring quality enabled it to surpass any other of the so-called baser metals. We shall also endeavor to learn why at present its adaptability to these purposes is ignored.

Though lead has always occupied an important place among the materials of building, its value is now considered utilitarian only.

Little heed is given it for architectural ornament. In these cold months when exposed terra-cotta urns are cracked by the frost and garden figures of marble would fain part with a few tense extremities in the crisp night air, such handiwork, if made of lead, would pass stoically through this and other weathers, and cause its owner never an anxious qualm. There would then be some variety in our garden ornaments. Cast iron Diana would soften her smile, and urn and statue would, by a less garish color, cease outrageous self-assertion. Must these objects indeed always be made of marble or of terra-cotta? As well require all pictorial art to be done in oil or

pastel and in these alone. Rather is the diversity of outdoor scenes to be modified by man with such divers means that any material in which his handiwork may find expression should be welcomed and unceasingly tried. Ornament applied to buildings and their surroundings need not be confined to wood—destined to



A SAXON VESSEL OF LEAD  
*Preserved at Lewes, England*



DETAIL OF THE CISTERN AT POUNDISFORD

decay,—nor to terra-cotta—which disintegrates—nor to expensive cut stone or bronze. That malleable lead will honorably and permanently fill these situations is fully proved by a few steps into its

#### HISTORY

Like that of all other metals, the story goes back to the youth of mother Earth, the numerous uses her younger generations made of lead being partially revealed by the relics of the Etruscans, the Greeks and the Romans. The household utensils and the weights and measures of the ancients were of no earlier origin than the primitive plummet of the builder—a tool which has been employed in unchanged form for ages. The lead *cista* in the museums of Naples and Rome and the lead coffins found in England and preserved in the British Museum, at Colchester and Lewes, combined utility with that quality, given by a human eye and hand, which gained them an entrance into the realm of art, and foretold the decorative possibilities of lead as later demonstrated. Numerous examples of Saxon fonts of lead still exist. Leaden sheets bearing inscriptions and ancient documents of lead can be studied today in the British Museum. Finials and crestings, incised or otherwise

ornamented, may be found upon many old architectural landmarks throughout England, while to the ornate conductor heads of Haddon Hall, Bramshill, the Bodleian Library and St. John's College, Mr. J. Alfred Gotch and other architectural writers have directed attention in their published works.

Owing to the mineral wealth of Britain, the metal was a ready material in the isles, but there is evidence that it was not abundance alone which led English builders to apply it to their roofs. There was undoubtedly a predilection due to durability. In choosing it, the roofers surmounted the difficulty of securely fastening the lead sheets and arranging for their contraction and expansion. The record of lead roofing in Britain is punctuated by a church at Lindisfarne built in 638, Canterbury Cathedral, 1160, and the famous palace of Nonesuch which Pepys visited in 1665 and found the uprights of its half-timber work covered with lead. "London was a city of lead spires," says Mr. W. R. Lethaby.<sup>1</sup> The old spire of St. Paul's was of lead, and completed in 1221. All through England, indeed, were spires so covered to be found.<sup>2</sup>

The metal was exported from England to France and used by the Gothic builders for their roofs and spires, pinnacles, flèches,

<sup>1</sup> "Leadwork," by W. R. Lethaby, London and New York, 1893.

<sup>2</sup> Of these the following still exist:—The spire of Long Sutton, Lincolnshire, spires at Chesterfield, Godalming, Almondsbury in Gloucestershire, Wighton in Northumberland and at Harrow.



A LEADEN FONT, BROOKLAND



vanes, crestings and roof gutters.<sup>3</sup> The highest achievement was supposed to have been reached in the roof of the church of St. Eloi. When thus used the lead was closely related to carpentry, because the kind of timber chosen for the roofs and the means of framing the parts were determined with a view to the weight of the lead tiles. The peculiar action of these under extremes of heat and cold and in contact with the sap of certain timbers was also taken into account. The craft of the *plombier*—a word derived from the material in which he worked—began with the early centuries of the Middle Ages and survived until the Renaissance epoch. But we must not confound the plumber of those days with the mechanic whose work today contributes to our comfort and whose bills we dread. The *plombier* of the Merovingian period in France was a roofer skilled in fitting and securely attaching his sheets to



ARCHITECTURAL LEADWORK AT POUNDISFORD PARK

<sup>3</sup> The church of Notre Dame at Chalons-sur-Marne has a roof covered with lead, dating from the end of the thirteenth century. The cathedrals of Rheims, Amiens, Rouen and Evreux, the church of St. Paul-des-Champs, the Hôtel Jacques Cœur, and the Hôtel Dieu at Beaune also have roofs as well as other external details of lead.



AN URN AT VERSAILLES

Made of Lead, Bronzed

a wood superstructure. In the Low Countries, also, the *plombiers* were as active as in France itself and they covered many of the Flemish roofs, of which a notable example is that of the *Boucherie* at Haarlem. These Dutch roofs were always steep, and extra precaution was taken to insure the stability of the covering by having the sheets near the base of the roof very thick, in order to support the lighter ones above.

ORNAMENTATION

Lead roofs were usually decorated in one of various ways. The shape of the sheets and the position of the joints were of themselves an effective surface pattern; but still further enrichment was desired. And probably it was a little deep-rooted disdain for the common metal that caused the roofs to be gilded in semblance of a superior. From the recipe books of the last century giving instructions for this work the following may be quoted as examples:

“Take two pounds of yellow ochre, half a pound of red lead, and one ounce of var-



EIGHTEENTH CENTURY LEADEN FIGURES

of a round figure, such as a leaf of trefoil, was traced upon a sheet "in the flat." It was then cut to the required outline, curved to the proper shape and the joints sealed. A gilding of "Dutch metal" was then often applied on a ground of varnish and red lead, as in the second recipe. Traces which still exist of the ornament upon the spire at Chalons-sur-Marne show that the entire surface was decorated by means of lines cut upon it and filled with a mastic black material. Much of the plumbage of the Middle Ages was decorated by means of painting applied to the metal by means of a very strong mordant. The English architect, Burgess, whose work may



IN THE VICTORIA AND ALBERT MUSEUM, LONDON

nish, with which grind your ochre, but the red lead grind with oil; temper them both together; lay your ground with this upon the lead, and when it is almost dry, lay your gold; let it be thoroughly dry before you polish it."

For another ground: "Take varnish of linseed oil, red lead, white lead and turpentine; boil in a pipkin and grind together on a stone."

"Or take sheets of tinfoil, and grind them in common gold size; with this wipe your pewter or lead over; lay on your leaf gold and press it with cotton; it is a fine gilding, and has a beautiful lustre."

Soon after the medieval *plombiers* had compassed the art of roofing they took to making ornaments of their sheet lead. The development



A LEADEN VASE AT HAMP- TON COURT

be seen at the Architectural Museum, Westminster, London, demonstrated the process of tinning lead with solder in order to obtain the effect of silver. "The surface is coated with lampblack mixed with size; the pattern is either transferred on it or drawn direct and then marked around with a point; all the part to be tinned has the surface removed by a 'shave hook,' so as to leave the pattern quite bright; a little sweet oil is rubbed over this and the solder is applied and spread in the usual way of soldering with a copper bit."

The acme of their art was reached when the *plombiers* fashioned statues of human figures by beating sheets of lead over wooden forms or models. These forms were

slightly reduced from their proper bulk, so as to permit the finished statue to assume the proportions of normal saints, stalwart knights, or robust ladies.

In all of this work it should be borne in mind that the material used was sheet lead. It was pure, *i. e.* without alloy, and was made into sheets by being poured over a level table having slightly raised edges, upon which slid a guide regulating the thickness of the sheets. These were uneven at best, for the crude table could not produce a uniform thickness. It was not long, however, before mechanically perfect rolled or laminated lead came to be produced,—a material similar to the commercial sheet lead of today. But the material which the *plombiers* worked was still a sheet; it first took the form of a



“THE BLACKAMOOR”  
A Famous Figure of Lead in the Inner Temple Gardens,  
London

sheet, whatever shapes it was afterwards made to assume.

Toward the end of the fifteenth century this repoussé work gave way to ornamentation in cast lead, properly so called, for the metal was cast in moulds of sand or stone. The *repousseurs* turned ambitiously to making all manner of statues by the new method. Some of these figures, dating from the commencement of the sixteenth century, can be seen on the roofs of the cathedrals at Amiens and Rouen. Several of the moulds also have been preserved. Those used in casting the pinnacles of the Hôtel Dieu at Beaune may still be seen in that building.

The laminated lead, says Viollet-le-Duc,<sup>4</sup> concealed the faults of smelting which soon

<sup>4</sup> Dictionnaire Raisoné d' l'Architecture française du XI<sup>e</sup> au XVI<sup>e</sup> Siècle, Vol. VII.



URNS OF “THE BASIN OF NEPTUNE,” VERSAILLES





DETAIL OF A LEAD CISTERN (1732)

*Formerly at No. 12 Hanover Square, London; now in the Victoria and Albert Museum*

became apparent under exposure to the air and permitted an infiltration of moisture. Moreover this rolled lead of medieval France was liable to be attacked by insects which in time perforated the sheet. When leaves of lead were fastened to the stone capitals of columns, the pecking of birds making their nests there wrought a havoc that plainly indicates how thin the sheets were. The cast work was much heavier, and the new method quickly rose in popularity. Bronze statues and other garden ornaments which were brought from Italy were copied in lead, both in France and England, and still exist. The lead statuary yard, kept until 1711, in Piccadilly, London, was a source from which outdoor ornaments of lead made their way all over England. Housesmiths emigrating to America employed the metal to a limited extent for architectural details. If the reader should scrape with his knife

the ornaments upon some of the old Colonial buildings, he will find them to be not always of paste composition, as is commonly supposed, but frequently of lead. The emblems of the early American insurance companies, such as "The Green Tree" and "The Four-in-Hand," were made of lead, while of the few isolated cases of the material being used for statuary, perhaps the most celebrated was the statue of King George, a familiar object at the Battery, New York, and which was melted up for Revolutionary bullets.

LEADWORK AT VERSAILLES

Of all the decorative work which has ever been done in lead, by far the most beautiful and those which remain a source of delight and study, are the fountains and urns of Versailles. These were undoubtedly gilded when they were made, imitation of gold being but one form of Bourbon ostentation. M. Pierre Roche, the French sculptor who has cast a number of his works in lead, says of them:



A LEADEN BAS-RELIEF BY BOUCHARDON

*Upon an Urn at Versailles*

"Today, after two hundred years or more, veracious Time rests its hand upon these beautiful fountains. It has shown that lead has no need to be gilded to be an admirable decorative material. The delicate gray statues of the pliant metal, over which faint shadows play, cover themselves gradually with a white velvety patina which assumes

under the shadow of the woods an exquisite quality and unique artistic value. Beside them Keller's bronzes seem like a dark blot in an ensemble of tremulous and flowered parterres of water."

Time is always an aid to the ultimate beautiful appearance of such works rather than a cause for deterioration and ruin in every case where either the pure lead has been properly supported,—as it must always



LEADEN GROUP IN "THE BASIN OF SATURN, VERSAILLES

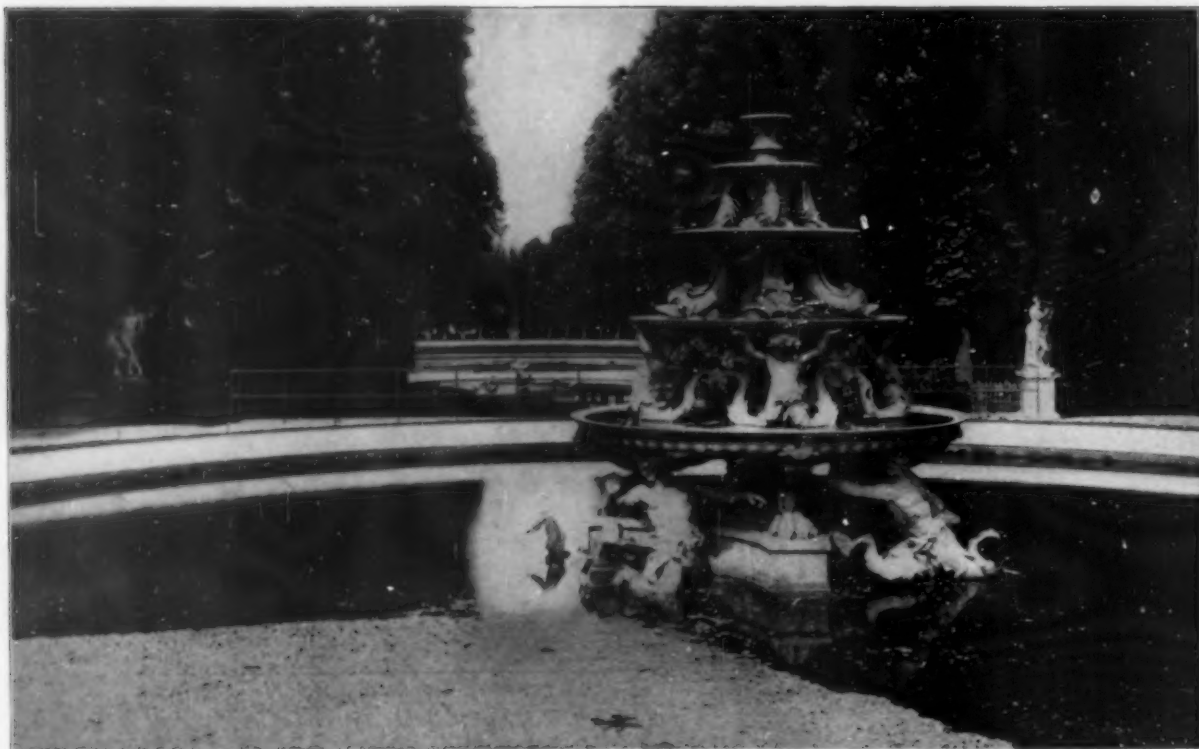
*Cast by Girardon, after Designs by Lebrun*

be when used for statuary or other objects in the round,—or when it has been suitably alloyed. The purer the lead the less does it lend itself to the requirements of statuary. The great weight, together with the pliability of pure lead, causes it to yield or fall upon itself when cast in any large size. In such shapes, for example, as the urns illustrated on page 37, if they were not reinforced the bells of the urns would sink, leaving the stronger stems protruding upward and through them. Iron stays must be cast in the body of the vessel, or, in the case of statues, imbedded in outreaching parts. This is a simple matter, and no more troublesome than strengthening plaster casts or reinforcing concrete.

The present condition of some of the groups of Versailles illustrates what is sure to happen if these pre-



CHILDREN OF LEAD AT THE GRAND TRIANON



"THE FOUNTAIN OF THE PYRAMID," VERSAILLES

*Cast by Girardon*



LEADEN GROUP IN "THE BASIN OF CERES," VERSAILLES

*Cast by Regnaudin after Designs by Lebrun*



cautions are not taken. The "Chariot of Apollo" was cast at the Arsenal by the sculptor Tuby, in 1668, after the design of Lebrun, and was restored in the time of Napoleon. The alloys of that period have been analyzed as follows by Capron, a chemical assayer:

Lead . . . . .	98.82
Antimony . . . . .	.92
Iron . . . . .	.25
Silver . . . . .	.01

several years than the "Chariot of Apollo," presents a different case. The lead, insufficiently supported, has likewise given way and has opened. Rain has corroded the metal, which appears jagged and as if slashed by long cuts. This action of damp air upon alloys of lead and antimony may thus be explained. The two metals united mechanically and not chemically, behave differently in the air. While lead oxidizes and remains otherwise intact, antimony disappears leaving



LEADEN GROUP IN "THE BASIN OF FLORA," VERSAILLES

*Cast by Tuby after Designs by Lebrun*

The above composition lead is at once more solid than purified lead. It still contains two hard metals, iron and antimony with which it remains mixed. However, it is still too soft to be cast, except in great thickness, and the weight of the statues larger than Nature, which figure in this basin, made numerous strong stays necessary. In spite of all precautions, several of these figures have yielded. Another group, "The Triton," has sunk upon itself, but the metal shows no fissures. "The Ancelade," which is later by

in its place small honeycomb cells, which make the lead fragile, inviting it to give way at the least shock and crumble to powder.

The "Basin of Neptune" was the last finished of all the groups, it having been completed under Louis XV. The following analysis of its fragments gives a somewhat different result from the foregoing.

Lead . . . . .	77.50
Tin . . . . .	22.45
Copper . . . . .	traces
Antimony . . . . .	traces

It was manifestly intended to harden the material by a strong proportion of tin and to reduce the elasticity of the stays by diminishing the weight of the figures. Unfortunately the proportion is here such that the pliant character of the metal has been entirely lost. The alloy lends itself no longer to the expansion of the iron stays which should always form one body with it. The iron expands in the proportion of one unit, the lead and tin in twice that proportion. Dislocation was certain to follow and the "Basin of Neptune" was the first which had to be restored from base to summit. The proportions of lead, iron and antimony in the first fountains of Versailles made the composition sufficiently strong as to remain unbroken up to the present time. Antimony, being found dangerous as an alloy was replaced with tin (which only becomes dangerous when used in too large a proportion) and thus a metal was obtained which was at once sufficiently durable and flexible.

MODERN ATTEMPTS AT REVIVAL

It was no doubt the beauty of the work at Versailles which led M. Durand in 1847 to essay the revival of that success which the craft had gained and to surmount the obstacles encountered in adapting lead to the intricate forms of modern statuary.

These obstacles are familiar to any founder. We have seen that pure lead is unsuited to the purpose. Not only is it weak and soft, in some situations it will yield under a hot sun. Neither will it flow freely in the mould, whose cool surface causes it to become quickly chilled and sluggish. Refusing to reach the farthest recesses, it quickly contracts and prevents sharpness or

even completion of the form. Notwithstanding the fact that these difficulties can be easily overcome by means of alloys, the founder of today will meet with a smile any suggestion for casting statuary in lead. He will ask such a convincing question as this: after a sculptor has spent months of labor upon the model for a statue, why cast the result of that work in any metal less certain and satisfactory than bronze? It is true, the casting is the smallest part of the work and it is false judgment and economy to select at such a juncture a metal whose only recommendation is the saving of a few cents in the cost per pound.<sup>5</sup> Applied to ambitious

sculpture the argument holds, and for such we let it pass. But it is also true that there is much minor ornament which can perfectly well be done in lead. In this class can be put the numerous and varied parts of fountains, vases and urns, flower boxes for the parterre or for window gardens, wall, roof and eave ornaments,

—to name only these. Such works can legitimately be duplicated many times; indeed it is often necessary to provide them by the score, and then the plea for using lead becomes a strong one. Sand moulds, difficult of execution except by the most skilled foundrymen, may be replaced by a single brass mould capable of being used again and again.

In England these ornaments are today supplied by commercial firms, either from their own or from architects' designs. Several of the arts and crafts guilds,—as for instance Mr. George Bankart's at Bromsgrove,—consider lead one of their most important



A LEAD URN, BRONZED, AT "THE BASIN OF NEPTUNE"

<sup>5</sup> Metallic lead for casting would today cost about 5½ cents per pound, and composition bronze from 16 to 18 cents.

raw materials. Mr. F. Inigo Thomas, an architect, has devoted much personal attention to the casting of large ornamental urns with which to decorate his formal gardens. In France, M. Pierre Roche has gone farther and has cast in lead his large sculptural pieces, "The Virgin and Child" and "Lot's Wife"; while his large fountain, "L'Effort," exhibited in plaster at the Salon of 1896 and purchased by the State, was conceived with this end in view, the Minister of the Fine Arts ordering the group to be cast in lead. A model of the completed work was exhibited at the Grand Palais in 1900.

In America the practical rôle of sheet lead is manifold. And yet there is no more striking example of successful lead casting than in the linotype machine, where the

day's news is rendered into type-metal in the space of a few seconds. In the manual training schools of the country, also, lead casting is daily practiced by the pupils; but it is regarded as a makeshift in order to teach them general foundry work as applied to iron without the great cost of equipment which operation in the latter would involve. Considering the service performed by the dull metal, so frequently spurned in fact and figure for its more valuable and glittering fellows, it is surprising that the decorative use of cast lead is a craft which still remains almost untried in this country. Beyond the fact that our foundrymen are, and will long remain, less artistically skillful than those of Europe, the cause of our inattention is a lax experimental temperament.

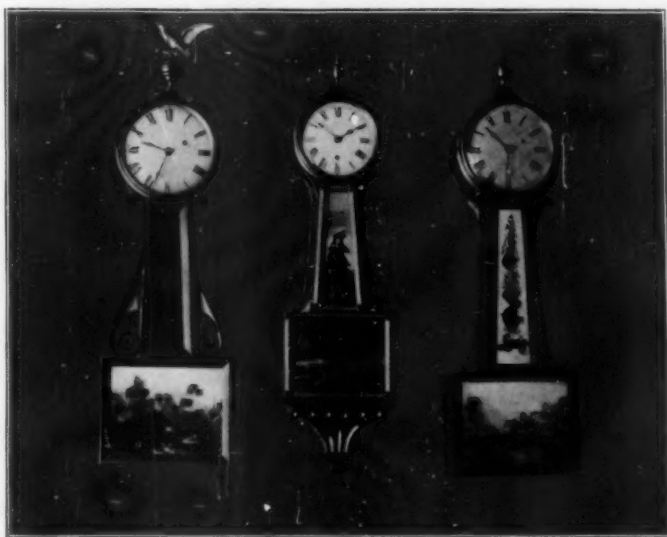
## A GERMAN CLOCKMAKER AND HIS WORK

BY E. N. VALLANDIGHAM

IN a quaint little shop on a side street not far from Madison Square lives and works a German clockmaker to whom his trade is as an art. He has made and mended clocks for forty years, and in that time has been a genuine journeyman, traveling and plying his trade in many lands, and absorbing as he traveled the traditions of his occupation. German as he is, he places English clocks above those of any other country. French clocks, indeed, he recognizes as marvels of mechanism, but he finds them delicate and difficult to manage. A good English clock he can regulate to about two min-

utes a month; a French clock he believes can hardly be guaranteed to keep time within two minutes a week. The difference, he believes, is largely due to the fact that the best French clocks are furnished with pendulums that oscillate within a relatively short arc, and are therefore easily thrown out of proper

regulation by a slight change from the horizontal. When he regulates a French clock he insists upon placing the clock in the spot where it is to stand, and he corrects the level not by placing beneath the clock bits of material that may be removed the first time a careless maid dusts the mantel, but by



EARLY AMERICAN "BANJO" CLOCKS



## A German Clockmaker and His Work



GERMAN, FRENCH AND CHINESE CURIO CLOCKS

means of internal adjustments that do not suffer at the hands of the thoughtless. Having once placed a clock where it should stand, he insists that it shall not be removed by any unskilled person. The English clocks, with their longer pendulum arc and less delicate adjustment, will keep good time with much less skilled care.

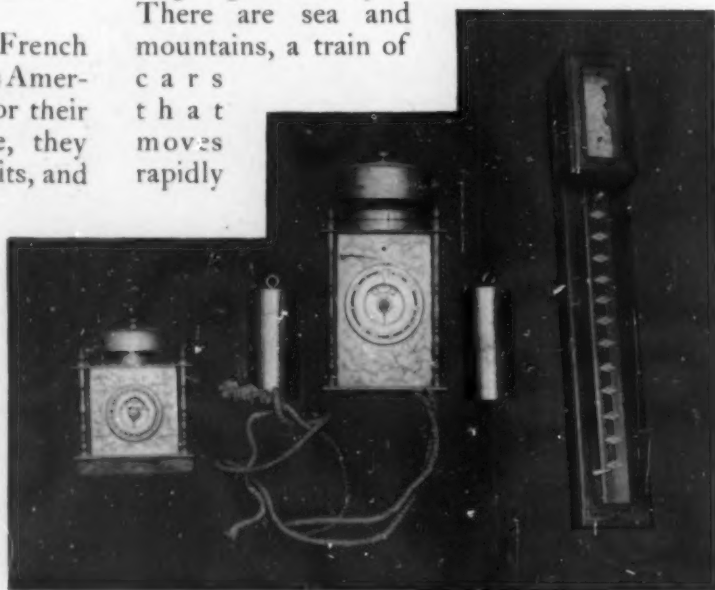
Excellent as are the English and French clocks, the German clockmaker regards American clocks as the best in the world for their cost. They are remarkably simple, they keep good time within reasonable limits, and they run for years without repairs. Furthermore, when they must be repaired the duty may be entrusted to any fairly intelligent clockmaker. They require no such skill and expense as the best French and English clocks to keep them in proper running order.

It is the belief of the German clockmaker that the oldest American tall clocks were not entirely of native make. The works, usually of brass, were, he thinks, imported from England. Later the Ameri-

can clockmakers made wooden works for clocks tall and short, and made them so well that they are often in running order to this day. Doubtless wooden works were used in Europe long before, but they were reinvented, so to speak, in this country, long after most of the European clockmakers came to use brass works.

His own fellow countrymen, says the German clockmaker, are not as good in his trade as are the English, American and French. Within the last twenty-five years, however, the German artisans have greatly improved in the quality of their workmanship. They are now making specially good regulators of the style known as "banjo" clocks, a style in which the American clockmakers have long excelled. The German clockmakers, also, are traditionally fond of producing clocks that are essentially toys. The clockmaker has in his shop what is in effect a small museum of his trade. Among his wares are a number of odd and elaborate German clocks. One has a little door above the dial plate which opens at each hour and shows the head of a pig opening its mouth and exhibiting a red tongue, and squeaking the hour. Another German clock in the collection has a bugler who sounds a call at each hour or whenever a certain spring is touched. Still another of these odd clocks, and the most elaborate of the collection, displays a landscape under a large glass belljar.

There are sea and mountains, a train of cars that moves rapidly



JAPANESE CLOCKS

through the background, and a ship that heaves and tosses on the mimic sea when the hour sounds.

The ancient tradition of the Italian clockmakers seems to be lost. At any rate the German clockmaker believes that modern Italian clocks have no special distinction, and he includes none in his collection. It is somewhat the same with the Swiss, in spite of their reputation as watchmakers and of the fact that the German Swiss produce some curious musical clocks.

Dutch clocks once had a great reputation, but the modern Dutch clockmakers are hardly known outside of Holland. Curiously enough Dutch clockmaking of two hundred years ago or more found a sort of echo in Japan. The German clockmaker has in his collection a very curious Japanese clock the exact significance of whose dial he does not understand. This clock, he finds, is an almost exact reproduction, in so far as the works go, of Dutch clocks made two or three centuries since. His theory is that the Dutch traders in the East introduced such clocks into Japan,

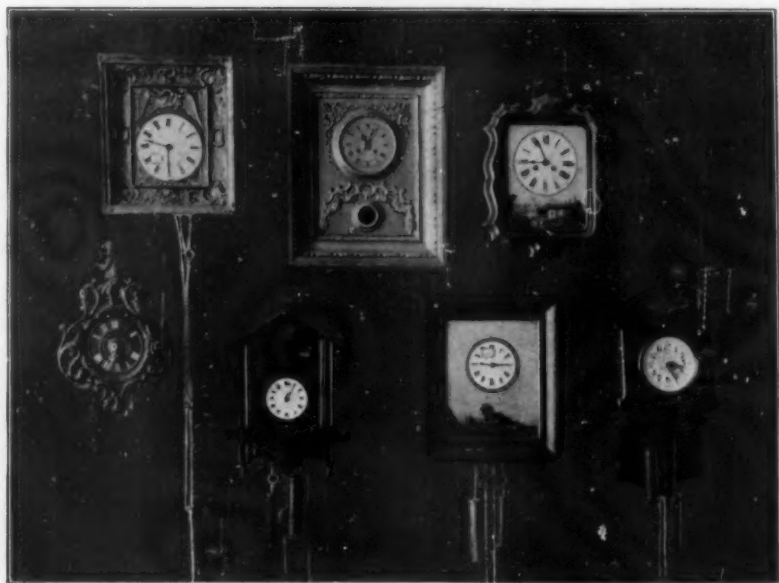


OLD DUTCH CLOCKS WITH LEADEN FRONTS

and that the Japanese artisans, with the ready imitative faculty for which they are famous, learned to make clocks of the same pattern. They are elaborate, compact and beautiful. Whether such clocks are still made in Japan he does not know.

As a collection the clocks that thickly line the walls of the German clockmaker's shop would grace a museum. He has picked up his curios in all lands as the result of his many years of wandering and working. Some are in running order; others would require the work of many days to set them going. Many are only curious, but most have beauty to recommend them. They represent the ingenuity of artist-artisans for several centuries. Some are such clocks as the German apprentice of forty years ago was accustomed to make as a sort of guarantee of his skill. The German clockmaker made one such himself. To the apprentice of that day and to those of an earlier time such exhibitions of skill were in effect equivalent to the modern university student's thesis written for his degree.

English and American clockmakers commonly encase



OLD-FASHIONED GERMAN CLOCKS MADE IN THE BLACK FOREST

## A German Clockmaker and His Work



CLOCKS IN THE EMPIRE STYLE

their clocks in wood, and the German clockmaker has many charming examples of these wooden clock cases, mostly in mahogany, either of solid or veneered. The best of these cases are distinguished by the simplicity and beauty of their designs and the fine markings of the wood. Many local regions in this country have a tradition of famous clockmakers who made beautiful cases as well as excellent works. The mahogany mantel clocks of fifty or seventy-five years ago have much charm of design and marking, and are now greatly prized.

The French have been specially famous for the application of metals and stone to the manufacture of clock cases. Some of the

most elaborate examples in the German clockmaker's little museum are of French clocks in metallic cases. Iron, brass, silver and even gold have thus been used. Marble and rarer stones have been much utilized by the French in the manufacture of clock cases, and have been imitated in metal by means of paint. One of the most curious and interesting clocks in the collection is wholly encased in richly carved glass. This clock is of French workmanship. The Japanese clocks are entirely of metal, and some of the early Dutch clocks are largely of that material.

While the German clockmakers delight in producing toys, the French have long been fond of giving their clocks unusual forms. One French clock in the workshop-museum is in the form of Atlas upholding the world. The dial occupies part of the convex surface of the globe. A dozen variants of this idea have been embodied in French clocks, and the invention of these odd designs does not necessarily imply special skill in clockmaking, but ingenuity directed toward the production of the bizarre, rather than the best and most accurate time-keeping machines. It is noticeable, indeed, that these elaborate and curious clocks are apt to be very bad guides in the matter of time. They are easily thrown out of repair and difficult of adjustment, so that they are commonly neglected after the novelty of the thing has worn off.

Few clocks can be wisely permitted to go without winding to the end of the period which they are supposed to run. The eight-day clock may keep good time if wound once a week at a fixed hour, but the thirty-day clock should be wound at least once a fortnight. The French have been especially successful in producing compact clocks that require winding only at long intervals, but even the best of these clocks, if they are to keep good time, must ordinarily be wound long before they would actually run down.



## AN AMERICAN ARCHITECT

BEING AN APPRECIATION OF LOUIS H. SULLIVAN BY CLAUDE BRAGDON

THE history of any art usually resolves itself into the record of the achievement of a few eminent individuals. When the history of architecture in America shall come to be written there are two men, at least, the omission of whose names from such a history would render it incomplete and incomprehensible. The late Henry Hobson Richardson is one of these men, and Louis H. Sullivan is the other. Each, by the power of his personality and the vitality of his genius, has exercised a distinct influence upon the national architecture. In the case of Mr. Richardson this influence, though widespread, has proved to be ephemeral. Mr. Sullivan's influence, on the other hand, though restricted (thus far, at least), to the Middle West, promises to be more far-reaching and abiding, for reasons presently to be explained.

Mr. Richardson's buildings, though richly picturesque and possessing splendidly architectural qualities, were sometimes not entirely practical, and the so-called Richardsonian Romanesque style, with its thick, rough stone walls, deeply set windows, squat columns and round arches with enormous voussoirs, was both extravagant and ill adapted to American needs and conditions. Being first of all a practical people, and architecture being first of all a practical art, not long after death had put an end to Mr. Richardson's activities and so diminished the force

of his example, we abandoned the use of a style which offered so many impediments to our comfort and convenience, and we returned to the interrupted task of adopting, adapting and distorting classical architecture to serve our purposes. The hope of a distinctly national style which Mr. Richardson's advent had aroused, remained unfulfilled.

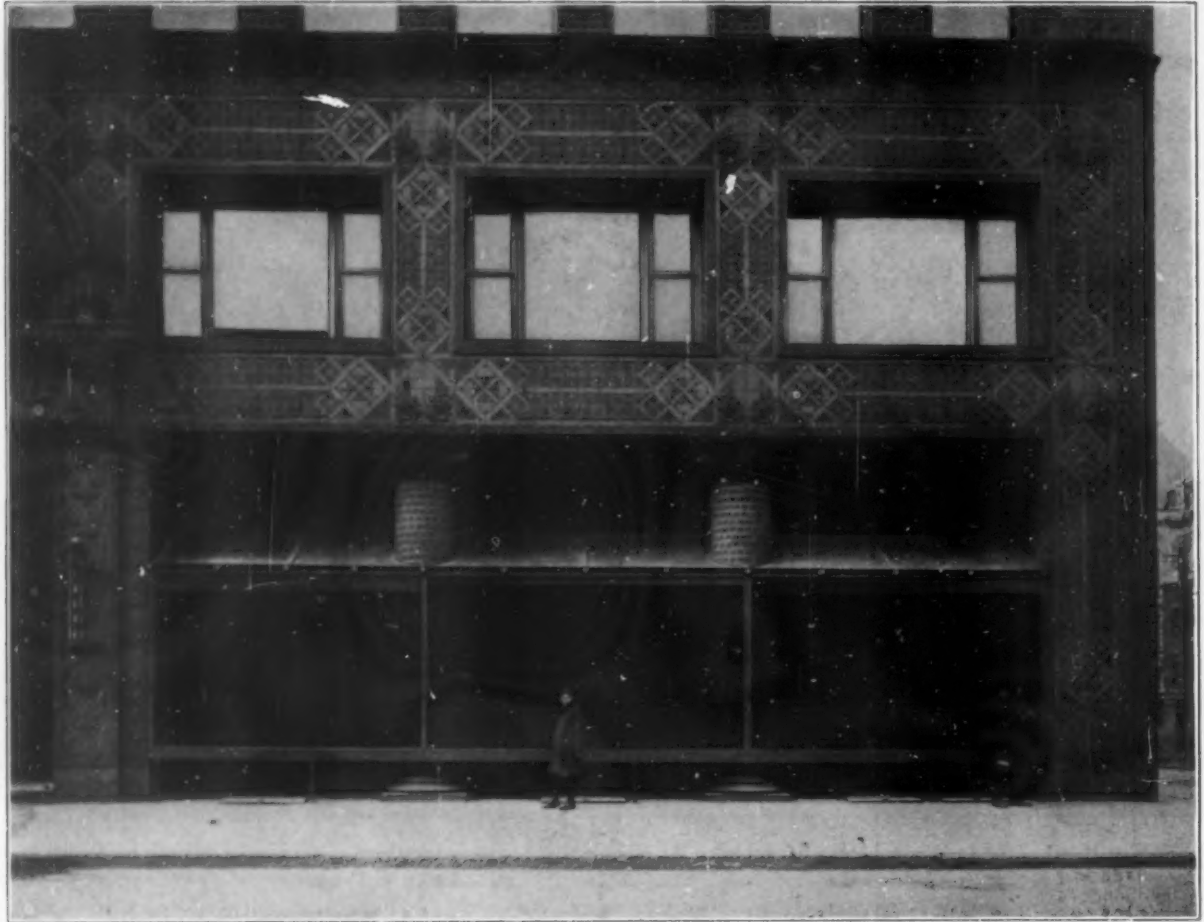
There was need of a new prophet in our architectural Israel, and to the eyes of a little circle of devotees in Chicago he presently appeared in the person of Mr. Sullivan. His "first manner," as the phrase is, was not very different from the manner of his precursor, but he soon developed a style of his own, which straightway became that of a number of others (with a difference, of course)—young and eager spirits, not fettered by too much knowledge—not fet-

tered, indeed, by enough! Outside this little circle Mr. Sullivan was either unknown, ignored or discredited by those persons on whose opinions reputations in matters of this sort are supposed to rest. Engaged for the most part upon intensely utilitarian problems in an intensely utilitarian city, he had no opportunity to captivate the popular imagination as Richardson captivated it in his Trinity Church, Boston.

It was not until the time of the Columbian Exposition, when the firm of Adler & Sullivan had already gained for itself a position of prominence in the business world



THE PRUDENTIAL BUILDING, BUFFALO



THE "MERCANTILE STOREY" OF THE PRUDENTIAL BUILDING, BUFFALO

of Chicago and in the architectural profession at large, that Mr. Sullivan's genius obtained public and general recognition from his peers. The French architects and Commissioners of Art whom the Exposition had attracted, with what seemed to many of us strange perversity, admired Adler & Sullivan's Transportation Building, relegated to what might be termed the Exposition's backyard, in preference to the Peristyle and the other classic confections which surrounded and composed the Court of Honor. These men had seen classic architecture before, and better than we could show them, but the like of the Transportation Building, the Auditorium Hotel and the Schiller Theatre they had never seen. At these they marveled, and them they admired. The hard-headed investors who had employed Messrs. Adler & Sullivan to build for them economical, practicable, rentable buildings had entertained an angel unawares; their buildings

were everything that had been demanded, and they were interesting from an artistic standpoint as well.

In speaking of the work of the firm of Adler & Sullivan as though it were solely Mr. Sullivan's, as I shall henceforward in this article, I would not minimize Mr. Adler's part in it, which, while their partnership lasted (it was dissolved in 1895), was co-equal in importance with Mr. Sullivan's, but of a different kind. Mr. Adler was the engineer, the business man, and Mr. Sullivan was the designer, the artist. In the most successful architectural partnerships the work usually divides itself in this way. On the other hand, I would not, by this explanation, lead the reader into the greater error of supposing that Mr. Sullivan was obliged at any time to depend upon some one else for what is, after all, the essential of good architecture—sound construction. On the contrary, he has planned and carried to successful



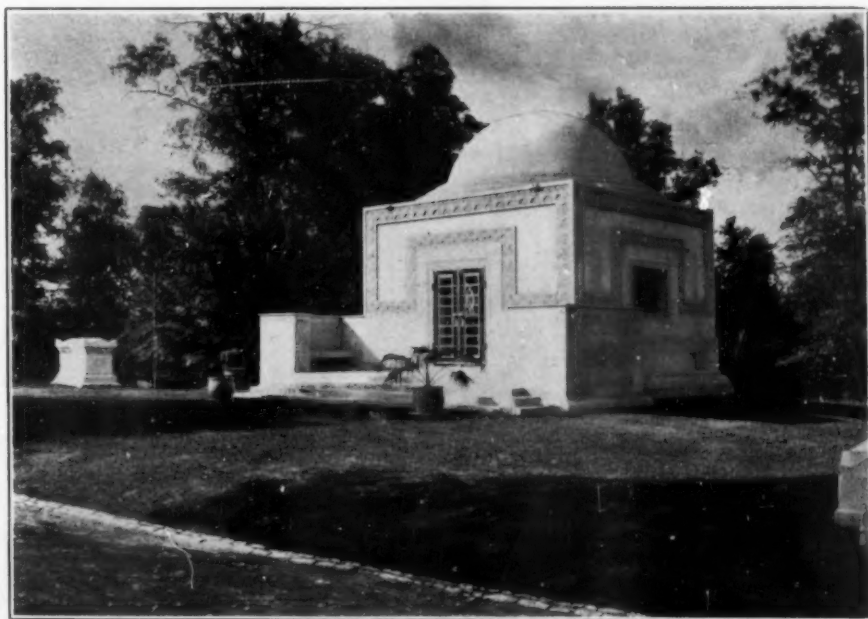
THE WAINWRIGHT BUILDING, ST. LOUIS

chitectural colleagues, and in conversation with his friends. He is a believer in democracy, and in the growing, on our American soil, of an architecture of democracy as beautiful and noble as any which the world has known. He conceives of his art not as a thing of book-knowledge, of accepted forms, of tradition and precedent, but as a living language of thought and emotion, infinitely various and free. He believes that a building, like any natural thing, should be organic and expressive, not composed according to set rules out of the dry bones of vanished architectural styles.

The esthetic problem presented by the tall office building,—the most insistent architectural problem of our commercial civilization,—is confessedly the despair of the architect educated in and wedded to the pedantry of the schools, but Mr. Sullivan conceives it to be “one of the most stupendous, one of the most magnificent opportunities that the Lord of Nature in his beneficence has ever offered to the proud spirit of man.” His greatest successes have been in the field of commercial architecture. The

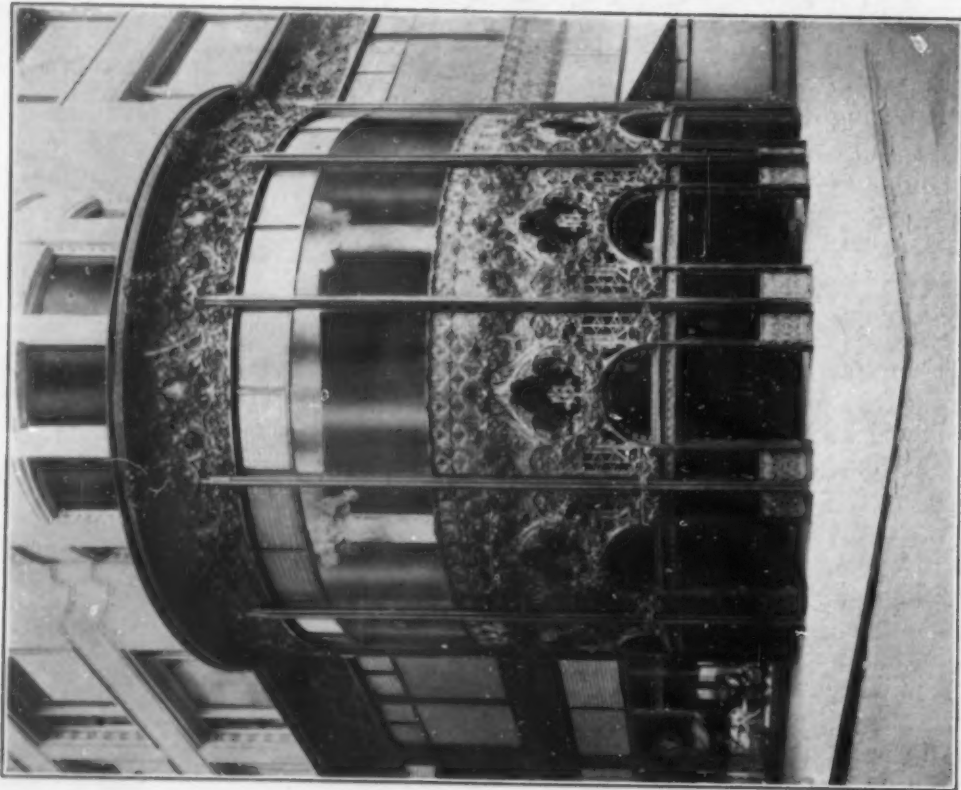
completion engineering operations involving great originality, skill and daring.

An appreciation of Mr. Sullivan's architectural work is made easier by some knowledge of his aims and ideals. He holds views, he cherishes a faith, he promulgates a philosophy of which his work is the expression (in so far as such a thing is possible) in terms of ponderable materials and of three dimensions. These views, this faith, and this philosophy he has set forth in magazine articles, in addresses to architectural students or to his ar-

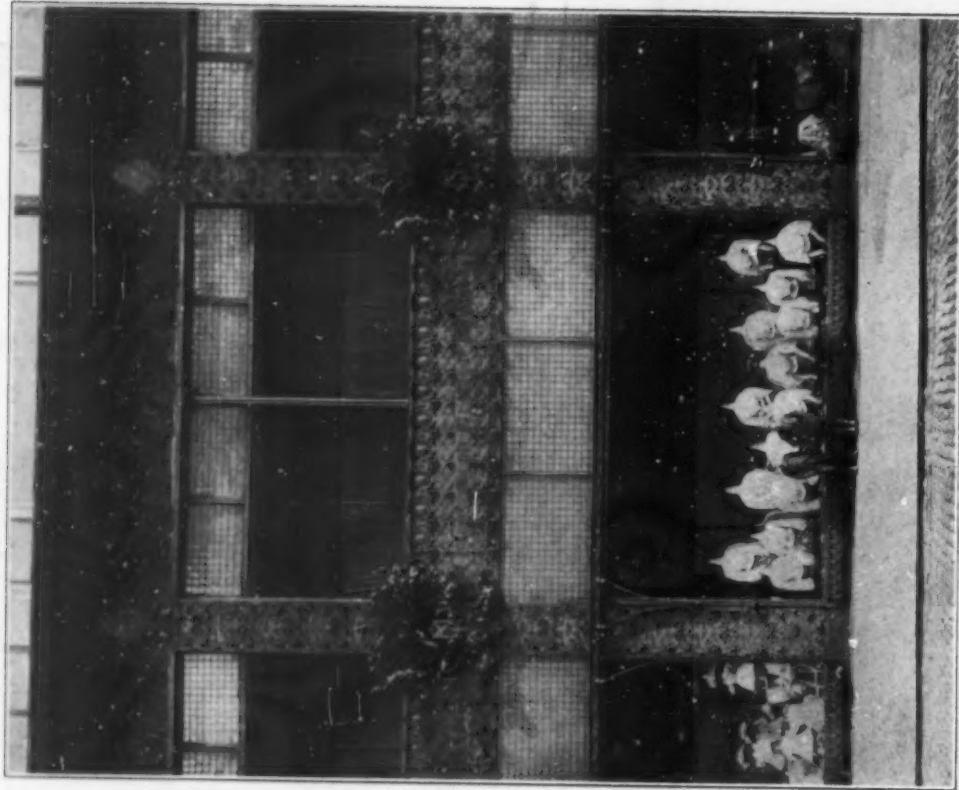


MEMORIAL VAULT IN BELLEFONTAINE CEMETERY, ST. LOUIS





*The Corner Entrance*



*The "Mercantile Storey"*

VIEWS OF THE SCHLESINGER & MAYER STORE, CHICAGO  
*Designed by Louis H. Sullivan*



THE MARQUISE OF THE SCHLESINGER & MAYER STORE

limiting conditions which others accept perforce and compromise with as much as they dare in order the better to conform with traditional ideas of architectural beauty, he accepts willingly, even eagerly, achieving his best effects not in spite of the imposed limitations, but by means of them.

In order to understand the quality and the degree of Mr. Sullivan's success in this field, the conditions governing the problem of the modern office building must be briefly stated. In its last analysis it is a hive, a system of cells,—hundreds of similar rooms side by side and superimposed, all, so far as possible, equally desirable, equally well lighted. It must be lofty, because while its horizontal dimensions are limited by the size of the lot, and the size of the lot by the cost of land, its vertical height is limited only by its stability, and the stability of one of these steel frame buildings is enormous, for it is, in

effect, a truss planted upright in the earth. This steel framework must be protected from the corroding action of the elements, and especially from fire, which destroys it. The building must have natural light in every part, and (usually) great display windows in the first storey.

Let us see, now, by means of a typical example, in what manner Mr. Sullivan has translated this thing of utility into a work of architectural art. The Prudential Building, in Buffalo, affords a good illustration of his method. "What," he demands, "is the chief characteristic of the tall office building? It is lofty. This loftiness is to the artist-nature its thrilling aspect. It must be tall. The force of altitude must be in it. It must be every inch a proud and soaring thing, rising in sheer exultation, that from bottom to top it is a unit without a dissenting line." And he has, therefore, enhanced the height

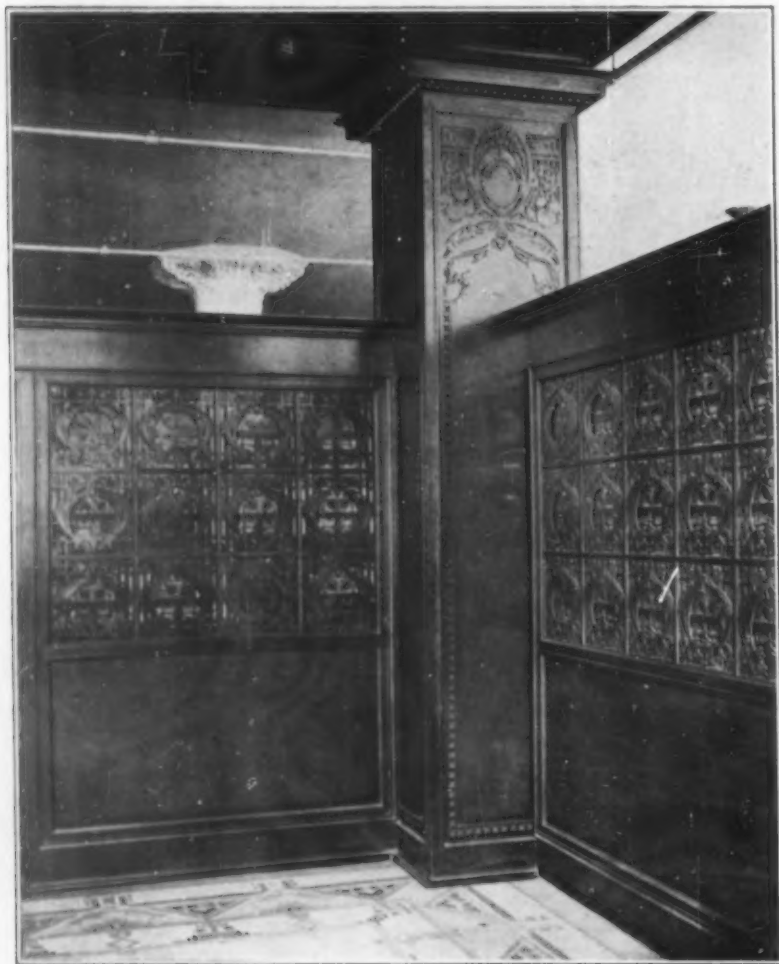
by artfully emphasizing the vertical dimension, so that when seen in sharp perspective the windows lose themselves behind the piers and the eye is carried irresistibly upward to the beautiful coved cornice which crowns the structure.

"The shape, form, outward expression of the tall office building should in the very nature of things follow the function of the building and when the function does not change the form is not to change." The first two storeys, which may be called the "mercantile storeys," serve a different purpose from the rest, and so they are treated differently, but above them all of the windows are of the same size and are spaced equally far apart because they light offices of the same size and equally desirable. This best thing practically, has been made by the skill of the designer the best thing estheti-

cally, for by means of it has been achieved the beauty of monotony, of multiplicity,—the enchantment of the eye by numbers.

"The materials of a building are but the elements of earth removed from the matrix of Nature, and reorganized and reshaped by force—by force mechanical, muscular, mental, emotional, moral and spiritual." The exterior of the building is all of terra-cotta of a salmon-red color, and every square foot—almost every square inch—of this vast surface is "reshaped by force" with beautiful ornament, fine as lace and strong as steel, infinitely various and original. By reason of its flatness and its delicacy, though it charms the eye it nowhere assumes a prominence sufficient to detract from the simplicity and dignity of the architectural composition. Moreover, the ornament is of a kind exactly suited to the plastic nature of fire-clay; it is clear at a glance that it was modeled, not carved, and the subdivisions of the pattern have been considered in relation to the joints, so that these are nowhere too apparent.

The building is rich in those little felicities which reveal the artist. For example, the strength of the angular corner is emphasized by treating it something in the form of a bead rising sheer from base to summit, and this slender, stem-like member flowers out at its far, topmost extremity into an exquisite foliation which seems to cling to and lap over the edge of the main cornice, mitigating its geometric severity of line. Even the dirtiness of the atmosphere has been made to serve esthetic ends, for the terra-cotta ornament is of such a nature that particles of dust or soot, lodging in the interstices, bring the pattern into relief, and the building thus grows more beautiful instead of uglier with the lapse of years. Mr. Sullivan has



A WOOD SCREEN WITH CHARACTERISTIC ORNAMENT



solved the difficult problem of the show window very cleverly. By placing the glass well to the front of the flanking piers he has rendered to the Cæsar of Trade the things which are that Cæsar's; but, mindful of the claims of art, he has recessed it again at the transom level, so as to leave revealed beautifully ornamented terra-cotta soffits and jambs, together with the caps and the upper portions of the columns, which, visible through the show window, rise boldly through a shallow roof of glass. He attains by these means an effect of solidity usually arrived at by deeply recessing the windows and reducing the glass area in the place of all places where the need for space and light is most imperative.

Of the Prudential Building, Mr. Montgomery Schuyler says: "I know of no steel framed building in which metallic construction is more palpably felt through the envelope of baked clay." In it, and in the Wainwright Building in St. Louis, built at about the same time and conceived in the same general spirit, Mr. Sullivan may be said to have "found himself," for in them he left behind what he has called his "masonry period;" that is to say, he abandoned the mistaken attempt to make buildings of skeleton construction, sustaining a protective covering of stone or fire-clay, appear to be solely of masonry of a mass sufficient to be self-sustaining. This was a great step in advance, for every gain in expressiveness is a gain also in art. In the Schlesinger & Mayer store, his latest essay, he has carried his logic to extreme lengths. It is a crystal palace of glass and masonry, and iron overwrought with ornament-like flowers and frost. Here indeed is a new architectural art, superior to *l'Art Nouveau* of Europe in that it is born of reason and not of whim.



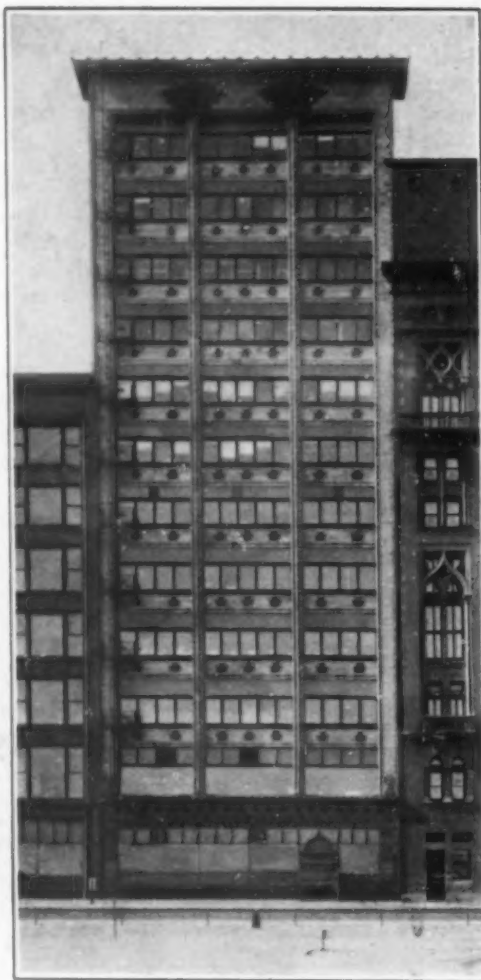
THE ST. NICHOLAS HOTEL, ST. LOUIS

The St. Nicholas Hotel, in St. Louis, is a building of very different aspect, because the governing conditions were different, but the same principle, that form follows function, has determined the disposition of its parts, and each part so clearly expresses its function that the function can be read through the part. The three divisions of the design, horizontally, show three distinct changes of plan. The first two storeys, devoted to the general uses of the hotel, are distinguished on the exterior from the bedrooms above by a difference of treatment and a difference of material, stone being used instead of brick and terra-cotta. The bay windows which form the feature of the second or intermediate division give pleasantness of aspect to the important private rooms, and distinguish them from the inferior rooms and bath rooms. The third di-

vision, consisting of the finishing storey, its balcony and frieze of windows, and the high, picturesque roof, finds its *raison d'être* in the fact that there is here a single great apartment, indicated on the exterior by the large window in the gable end.

To come upon this refined, charming and distinguished building amid the ruck of Middle Western architecture with which it is surrounded, gives one a shock first of surprise and then of pleasure, and inspires the thought that if the architecture of our city streets were conceived in something of this spirit we should not have need to take ship for Europe to feed our starved eyes on beauty in ponderable forms.

Mr. Sullivan works most unerringly when most restrained by practical limitations of all sorts. Some of his interiors, particularly, robbed of their surface ornament reveal no especial graces of form or of proportion. He is inclined to create continually new shapes for cornice, bracket, shaft and capital, instead of developing and refining a few of the most rational. He furnishes a good illustration of the adage that a man's faults are his good qualities carried to excess. His admirable fecundity of invention,—the thing so lacking in most of our architects,—sometimes betrays him. This fecundity expends itself legitimately in the devising of surface ornament so beautiful, so individual, so in the best sense original that the expression "Sullivan-esque ornament," having become current in artistic circles, has given rise to the popular misapprehension that Mr. Sullivan is primarily a decorator rather than an



WHOLESALE PREMISES, CHICAGO

architect. His ornament has too exclusively engaged the attention of even his critics and commentators, who seem to regard it as his most important contribution to an American style of architecture. Mr. Sullivan himself is far from so regarding it; to him it is only a personal expression of a sense of beauty in pattern, and he is chagrined to find his ornament imitated and his architectural doctrine ignored. He says: "It would be greatly for our esthetic good if we should refrain entirely from the use of ornament for a period of years, in order that our thoughts might be concentrated acutely upon the production of buildings well formed and comely in the nude." The word "nude" gives a clue to his conception of ornament as clothing, as adornment.

Developing his thesis, he goes on to say: "We feel, intuitively, that our strong, athletic, and simple forms will carry with natural ease the raiment of which we dream, and that our buildings thus clad in garments of poetic imagery, half hid as it were in choice products of the loom and mine, will appeal with redoubled power." He contends that a building, like a person, has a certain individuality which characteristic ornament, like a characteristic dress, assists in making plain.

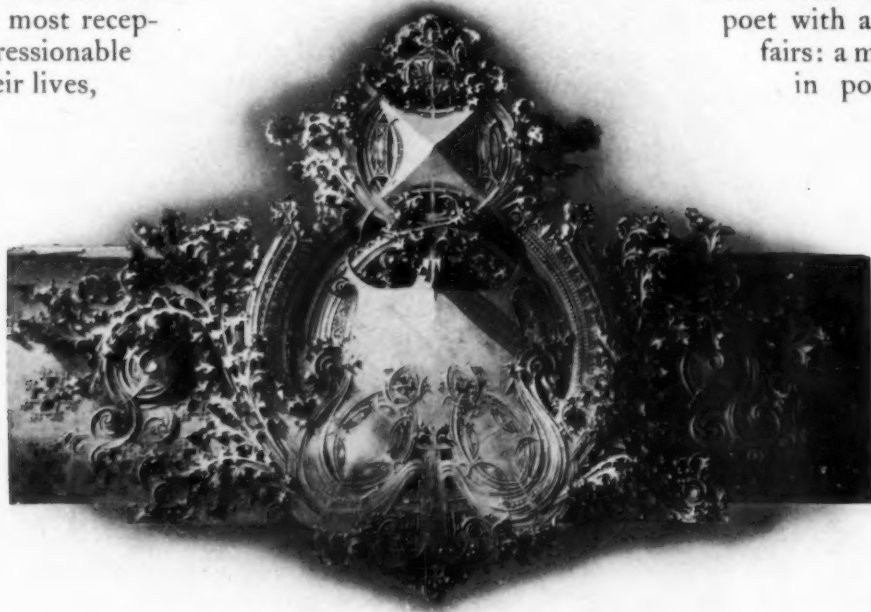
I have failed in my object if the reader has not by this time perceived that the attitude of Mr. Sullivan toward the art of which he is so distinguished a practitioner is philosophical and metaphysical to an unusual degree for one so unmistakably an artist born, because an artist usually "follows the rules without knowing them." His

philosophy, his point of view, he has embodied in a series of fifty-two co-related essays called "Kindergarten Chats," contributed some years ago to an obscure and now defunct architectural journal, and not since republished. They are addressed to the younger generation of architectural students, but of these it is doubtful if they are known to any but a small minority, and to the laity they are not known at all. Their style is redundant and discursive, they abound in excesses of language and errors of taste, but read in sequence, in a sympathetic and not a critical spirit, they are perceived to be the vehicle of a perfectly coherent philosophy of architecture, positive, reasonable, inspiring.

He defines architecture as "the need and power to build." He avers that great art is as possible today as ever, but that great art demands great men. He conceives of the architect as "a poet who uses not words but building materials as a medium of expression." Though himself a graduate of the Massachusetts Institute of Technology, and later a student at the École Nationale des Beaux Arts in Paris, he has nothing but contempt for the architectural colleges as at present conducted, holding that they separate young men from contact with the actual world at the most receptive and impressionable period of their lives,

alienating their sympathies from that true spirit of democracy in which alone our national salvation lies, and preoccupying their minds with bookish and archeological lore which is worse than useless in dealing with the problems which confront the modern architect. Nature, in his opinion, is the best teacher, the one infallible guide. "We in our art are to follow natural processes, natural rhythms, because these processes, these rhythms, are vital, organic, coherent, logical above all book logic, and flow uninterruptedly from cause to effect." Applying the touchstone of his philosophy to present day architecture in America, he finds little that is good, yet the future looks not unhopeful. "We are in that dramatic moment in our national life wherein we tremble evenly between decay and evolution, and our architecture, with strange fidelity, reflects the equipoise." His final note is one of optimism, of faith in the future of democracy, and in a democratic art.

These essays have the added interest of revealing the workings of an original mind as only the literary form can reveal it. Here is a man who has "alike conceived and dared," at once a logician and a mystic; practical, executive, yet tremulous with sensibility,—a poet with a turn for affairs: a man of genius, in point of fact.



An Example of Mr. Sullivan's Characteristic Ornament  
(Done in Wrought Iron)



PHYSICAL changes in American cities embody tasks as complex as men bearing the name of architects have ever been called upon to solve. In the design of great railway terminals especially are the complications new and seemingly without number. The new Washington terminal is perhaps the simplest of any of these. In that city the space is not so restricted as elsewhere and, while street grades must be changed by the engineers, the architectural problem is mainly confined to one ground level. The new Pennsylvania Railroad station in New York is otherwise and is conditioned by paradoxes. A few of what may be termed its "architectural impossibilities" are these: to design a building the main floor of which is forty-two feet below the ground; to provide means for great numbers of people to traverse that distance without depending on elevators, and to do so not only conveniently but with unconscious ease; to provide entrance and egress for people and regiments of people,—yes, and for inanimate objects, no less insistent and cumbersome than trains, baggage vans, automobiles and carriages innumerable. And these, be it remembered, arrive from many directions, from under the river, from under the street and the street itself, as from subway, surface and elevated road,—from everywhere indeed but from above, whence comes alone the inspiration which shall solve these needs and blend and harmonize such various elements.

THE New York terminal is, nevertheless, a passenger station only, and as such it has at least one plea of simplicity. In Chicago thirty million dollars is announced as the appropriation which shall secure an improvement of similar importance for that city. But it is an improvement which shall also accommodate railway freight and railway storage. The Union Depot is to be enlarged as part of an improvement extending from Van Buren Street to Madison, from Clinton Street to the River. Nor is it a railway terminal alone that is to be erected. A boulevard must be spanned, a tunnel built under the river and connection made with an elevated road. Several streets must be raised, others widened,

a passenger terminal must be built, above it an eleven storey office building, adjoining it a large cold storage and supply plant and enormous bonded warehouses. All of this is to be one architectural scheme covering seven blocks; a structural undertaking which shall be done without interrupting the traffic of five trunk railroads and evading always the mischievous waters of the river. Reduced to the simplest architectural terms, it is the design of a railway terminal, an office building, a vast warehouse, a power plant and a waterfront—all rolled into one.

BUFFALO also is to have a new Union Depot whose size may be measured in a way by the fifteen millions to be spent upon it. The Jersey City terminals present the yet different problem of connecting by means of subways and tunnels the five termini now separated from New York by the ferries.

WE have seen *projects* proposed by the most imaginative of people as feats of academic design, *theses* whose scope is broad, elevating the human mind, and whose aim is that architectural concepts shall embellish lands and unite diverse peoples. We remember one in particular, a proposal to academicians to unite two countries by eternalizing the traditions of each at a frontier in the Alps, to link them by a monumental structure springing from two lofty heights. Those were projects unfooted in reality and never to be built. They called on sentiment to spin a web amid the clouds. These schemes of ours here in America call to quite a different sort of fancy; that which gives quick realization. Our *projects* have been started today and are to be finished in the stone tomorrow. They link, if not separate nations, the vital parts of a great one. Daring of attempt, beneficent in their promise of convenience, they call together all the resources of modern times in a way that is keenly practical, yet in a new light, as noble and picturesque,—as poetic indeed,—as any flights of the imagination taken by the French teachers who are supposed to be leading us into the way of architecture.