

THE ARCHITECTURAL REVIEW

With which is incorporated "Details" . .

NOVEMBER 1911

VOLUME XXX. No. 180



CHAIN SUPPORT ON EMBANKMENT WALL,
LONDON COUNTY HALL
GILBERT BAYES, SCULPTOR. RALPH KNOTT, ARCHITECT



LA BAGATELLE, PARIS: DETAIL OF ENTRANCE

LA BAGATELLE

BY PATRICK ABERCROMBIE



THE Château of Bagatelle, that quintessence of Parisian charm, half hidden in the Bois de Boulogne, is of particular interest to Englishmen, as it was here that the Marquis of Hertford, and afterwards his son, Sir Richard Wallace, lived, while they were making that wonderful collection of pictures and furniture of which we now as a nation are the fortunate heirs. But outside this sort of proprietary interest which we feel in it, the little formal pavilion and its picturesque garden have had a fascinating history, both architectural and otherwise.

When and by whom the first château was built is uncertain; there is even some doubt as to where it stood. But it would seem that there were two small dependencies attached to the Château of Madrid,* one known as the Petit Madrid and the other as La Bagatelle; and during the first quarter of the eighteenth century Mlle. de Charolais, granddaughter of Louis XIV, was living in the former, while the latter was in the possession of the Duc d'Estrées, the Field-Marshal of France, who beat the Duke of Cumberland during the Seven Years War, and who made a fortune through creating a corner in chocolate. The two dependencies were probably contiguous, but separately enclosed by a light fence which cut them off from the Bois de Boulogne, of which they formed legally a part. Bagatelle, therefore, was on royal property and was leased from the King. No trace of the first château remains; it was probably a one-storey building with a mansard roof, and it had only three salons and a bedroom on the ground floor; we can imagine it as a charming but slightly-built example of Louis XIV architecture, resembling perhaps the Choiseul pavilion, now forming part of the Musée Carnavalet.

The Duc d'Estrées, in order to further his speculating schemes, installed his complaisant Duchess (known as La Maréchale) in the Bagatelle, and with the help of her royal and *joyeuse* neighbour she proceeded to baptise the little château to that life of gallantry which it led until the Revolution. "They order this matter better in France," said Sterne, at any rate in the *telling* of it, and certainly no English horticultural guide-book could have entered into the intrigues and gallantries of the early life of Bagatelle with anything of the blithe spirit of the French one, entitled "Bagatelle et ses Jardins," which was published last year in Paris by the Librairie Horti-

* To-day the celebrated restaurant near the Champ d'entraînement.

cole, and from which some of the accompanying illustrations have been redrawn.

But in all this there is little of architecture, and the nearest approach to architectural interest in the period of the first château is contained in a letter from the Earl of Chesterfield to the Marquise de Monconseil, who had acquired possession after two years of "supposed austere eclipse," during which Bagatelle was in the possession of a grave Conseiller de Parlement. The Earl, whom Carlyle quotes so sagely foretelling the Revolution in 1753, is here seen six years earlier writing in a vein of decorous fooling—he tells the Marquise that he is about to do up a little house which he owns about five miles from London and which he is going to call "Babiole" (a trinket of even slighter worth than a bagatelle), and he wishes for a magician to transport "Babiole" to the Bois that it might pay its court to "Bagatelle." Thirteen years later we find him keeping up the threadbare sentiment, writing in the third person as "Babiole" to present its respects to "Bagatelle" and tell her that it is about to change its name to "the little Chartreuse" as more suitable to its present elderly and pensive condition. It would be interesting to know whether this Babiole or little Chartreuse exists to-day.

But Bagatelle was falling into a material decay even as the Marquise herself, who was fain to live in Paris to be nearer her grandchildren. In vain did she attempt to have the house repaired out of the royal coffers. There was always some uncertainty as to whom the actual building belonged to, and the King did not relish doing tenant's repairs; so the Marquise must have been somewhat relieved to sell her life interest in the house and garden to the Comte d'Artois, Louis XVI's younger brother. D'Artois, the linnet-headed, who eventually became Charles X during Napoleon's exile, needed a pavilion in the Bois where he could give those frivolous dinners that followed his nominal deerhunts, now become no more than fashionable promenades. On one of these occasions in 1777 he bet the Queen Marie Antoinette that he could rebuild the little château of the Duc d'Estrées and create an Anglo-Chinese garden so as to be ready to receive her on her return from Choisy in two months' time.

The Comte d'Artois was one of the chief upholders of that Anglomania which was one of the last faggots added to the bonfire of the old régime: English jockeys, English trot, English racehorses, English riding-coats (redingotes), and, not least, English gardens, such as Marie Antoinette created for the Petit Trianon. His architect, how-

LA BAGATELLE

ever, was a Frenchman, Belanger; but to aid him in the new and mysterious art of Anglo-Chinese garden-design he imported an Englishman of the name of Blaikie. The immediate surroundings of the château, that is to say the original concession of five or six hectares, were laid out by Belanger in the old formal style with forecourt, trellises, and boskages cut into regular shapes. The plan reproduced below shows this area; but ten additional hectares were taken in from the Bois de Boulogne, and these were handed over to the imported garden architect to lay out with wriggling paths, hermitage, grotto, Chinese pagoda, Egyptian obelisk, Palladian bridge, glacier, tomb of Pharaoh, roots-and-moss hut, Indian pavilion, philosopher's cell, Paladin's tower, bust of Alexander, and other curiosities, including a large artificial rock from which spouted a stream of water pumped from the Seine.

Bagatelle, then, represents a transition stage in which the immediate setting of the house was formal and architectural, while the garden, detached, was treated as a piece of wild romantic country.

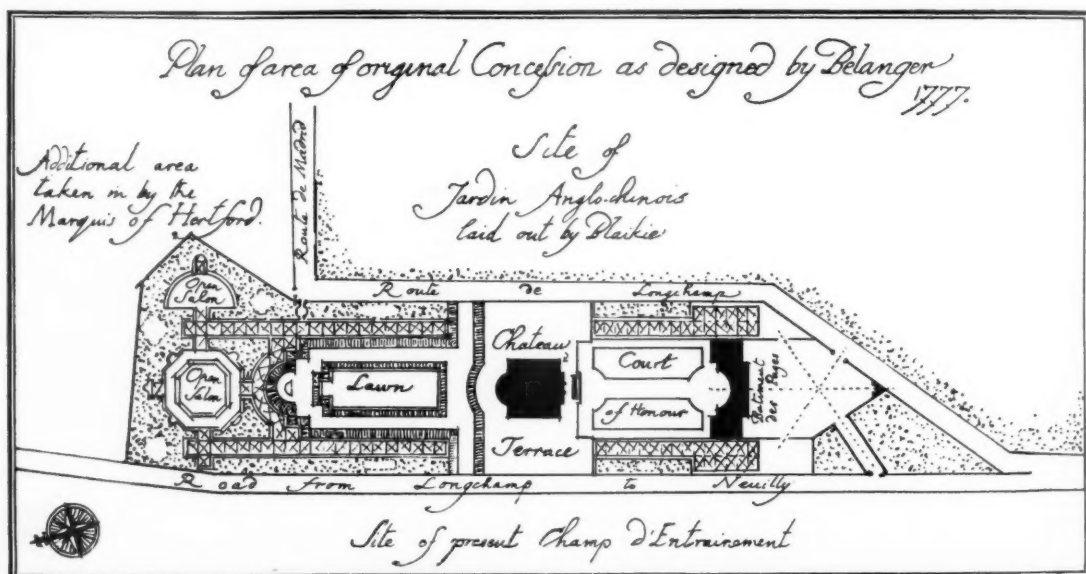
At first sight it might appear that French and English man had not hit it off, and that each had kept his area distinct; but Belanger, eventually at any rate, became a convert to the fashionable style of gardens, and we even find him twenty-five years later reading a paper at the opening of the *Athénée des Étrangers* in which he defends "l'art nouveau du jardineur" with a sufficient vagueness* to

* "Mais cette imitation (de la Nature) offre des principes si généraux et des résultats si vagues, que le jardineur, à moins d'être pénétré de son art, prend souvent une marche opposée à celle de la nature."

please Professor Blomfield (who, by the way, does not mention this conversion of a capable Louis Seize architect to the style or no-style which he execrates). Belanger, in fact, was a successful pliant society architect who carried out large commissions for the aristocracy, and succeeded in winning the heart of the most charming and witty of the frail "chanteuses" of the day, Sophie Arnould—she even wanted to marry him. "What," asked a friend of hers, "could you do with this architect?" "Pooh!" cried Sophie, "he could make use of the stones that I get thrown into my garden."

But to return to Bagatelle, the Folie d'Artois, as it came to be called. In forty-eight hours Belanger had completed his design and put it in the builder's hands. How long Blaikie took to get out his design, or whether he flung himself unpremeditated upon the virgin Bois, we do not know. One great difficulty was the sudden provision of the requisite building materials; but under the *ancien régime* this was easily overcome—the Comte merely gave orders to the Swiss Guards to patrol the streets and watch the city gates, to seize any wagons laden with suitable materials, and direct them to the Bagatelle! The value of the material was paid on the spot, but without much discrimination as to to whom it really belonged; the *ancien régime* was growing rather too decrepit for such pranks; the public of Paris was revolted.

D'Artois won his bet of 100,000 francs, but Bagatelle had cost him one million two hundred thousand—equivalent to-day to three million francs (£120,000). All he had to show was a minute house or casino containing, on the ground floor, one fine circular saloon, two oval ones, and two small

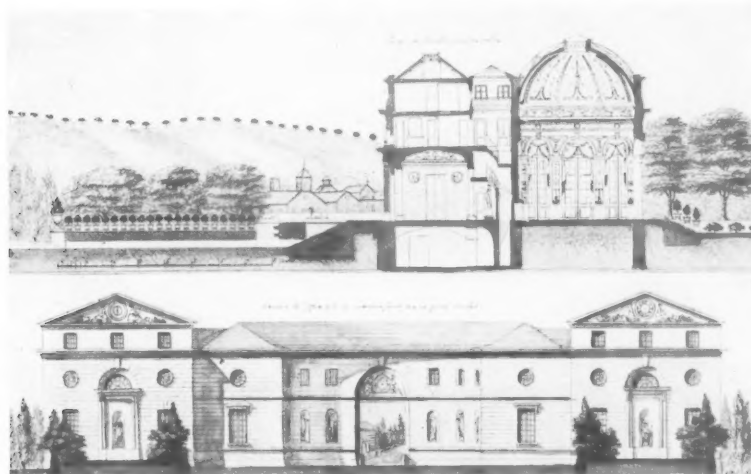


FROM A PLAN IN THE BIBLIOTHÈQUE NATIONALE
SHOWING BELANGER'S FORMAL SETTING WITH ITS TREILLAGES AND BOSKAGES

square cabinets, and two bedrooms on the first floor lit by square attic-windows—a mere *pied-à-terre*. At the opposite end of the *Cour d'honneur* there was also a *Bâtiment des Pages*, under the central arch of which one entered from the outer court. The face of this service building to the château was concave, and it was connected by an underground passage under the raised side of the *Cour d'honneur*; underneath were vast cellars necessary to store monseigneur's wine for his drinking bouts.

The house and its immediate setting were probably complete in time for the Queen's return, but we can hardly imagine that Blaikie's garden can have been other than raw, although of course he had the existing wood to work upon. Though the actual construction of the house was so rushed, the exterior detail possibly showing signs of hurry, there is no feeling of this sort about the

Seize. In this sham paper age (Carlyle), in which a thin sentimentality glossed over a gross coarseness, architecture lived a life to itself of cold and delicate yet virile refinement. It is almost inconceivable that the brainless, swilling, debauched d'Artois can have really appreciated the exquisite interior decoration which was carried out for him at Maisons (Laffitte) and Bagatelle. The Jardin Anglo-Chinois, with its curiosities and trivialities, was much nearer the level of the Comte's intelligence, and we can only explain it that the house was accepted as a thing inevitable, while real appreciation was lavished on the gew-jaws and trincum-trancums of the garden. The architecture that should really have suited the latter is occasionally to be seen in the modern French seaside villa, and Mr. Wells has described it in the house, "practically a mansion," which the architect, his art having run away from him,



SECTION THROUGH BELANGER'S PAVILION, AND
ELEVATION OF THE BATIMENT DES PAGES

(From an engraving after the drawing by Krafft)

interior finishings. They have the exquisite, refined, and apparently leisured detail of the Louis Seize period, and are all the work of famous decorative artists of the day; the panels were painted by first-rate artists, including Hubert Robert, who, it may be added, was also an enthusiastic designer of *jardins anglais*, which he composed in the same landscape way as his pictures, after the theory advocated by the Englishman Wheatly (quoted by Professor Blomfield in his "Formal Garden in England"). Robert's forte was rocks (which, according to Wheatly, should inspire the beholders with "dignity, terror, and fancy"), and he designed for Blaikie the Grand Rocher at Bagatelle.

There was never a time in which architecture, fortunately for itself, was less in touch with the life of the people than in the period of Louis

designed for Kipps "in the best Folkestone style." "It had a central hall with a staircase, a Moorish gallery, and a Tudor stained-glass window, crenellated battlements to the leading over the portico, an octagonal bulge with octagonal bay windows, surmounted by an Oriental dome of metal, lines of yellow bricks to break up the red, and many other richnesses and attractions."

For the next five years Bagatelle was at its zenith; but gradually, as the Revolution gathered head, d'Artois relaxed his frivolities, and in 1789 he fled to Turin. During the Revolution, the first Empire, and the Bourbon Restoration, the architectural history of Bagatelle was at a standstill, except for the inevitable wear and tear and decay owing to quick changes of occupation—as a restaurant and public amusement haunt, the

LA BAGATELLE



ENTRANCE FRONT

LA BAGATELLE



GARDEN FRONT

LA BAGATELLE

spring residence of the little Rois de Rome, and again in the hands of Comte d'Artois, soon to become Charles X of France, and so cured of his youthful follies that he caused all the gay decorations which had escaped the hands of creditor and tenant to be whitewashed over.

The third period of the Bagatelle now begins. The first was the original château, the second the Folie d'Artois, the third the Marquis of Hertford's residence. In 1835 the last-named bought the domain in public auction for the sum of £12,524; it had for some reason or other become alienated from the Crown property of the Bois de Boulogne. Bought first probably as a whim, the

Quatorze style with straight drives and "ronds points," as the Forest of Saint-Germain is to-day. This did not suit Napoleon III, for picturesque landscape gardening was again to the fore, under the guidance of Alphand, walking hand in hand with formal town-planning under Haussmann. The Emperor started Alphand on his serpentine walks, and found he had spent £40,000 in a flash; but with his usual adroitness he offered to give the Bois, which he himself had stolen by the *coup d'état*, to the City of Paris, if they would carry out his programme and repay him the money he had already spent! It was possible, while this transformation was in progress, for the Marquis



SPHINX AT STEPS TO GARDEN ENTRANCE

little place fascinated the Marquis as he began restoring it (for it had fallen into woeful decay, owing to its hasty construction and the proximity of the Seine), until he made it his headquarters. When Louis Napoleon, whom the Marquis had known in England, was proclaimed Emperor, Bagatelle again became a point of political interest and amusement. It was here that the Prince Imperial learnt to ride, on a lawn which the Marquis had specially levelled for the purpose.

Among his other Parisian schemes the Emperor undertook the transformation of the Bois de Boulogne. It was laid out in the old Louis

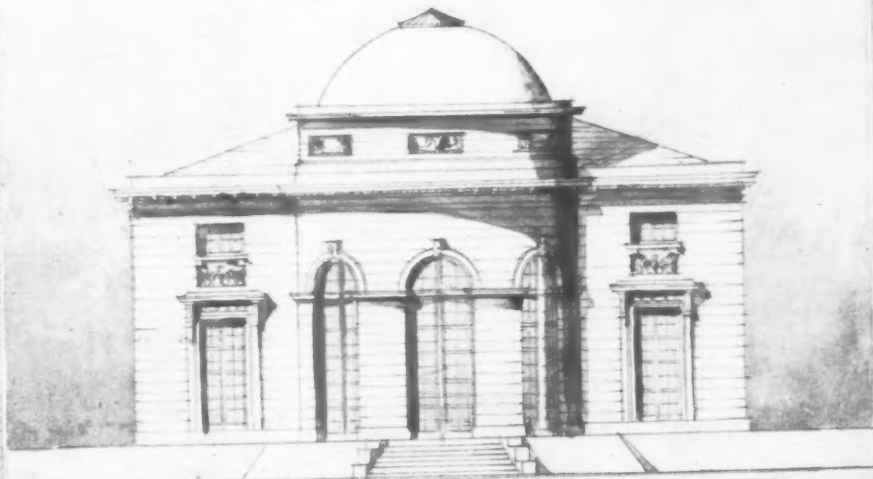
to buy another large slice of the Bois to the north, and add to his garden. The new curved routes in place of the old straight ones now no longer skirted his boundary walls, thus giving additional privacy to the retreat, which he further completed by a boundary wall.

The Marquis of Hertford died in 1870 and left Bagatelle and all his unentailed property to his natural son Sir Richard Wallace, who died twenty years later. The alterations made by father and son may for convenience be considered together; and unfortunately, though they were carried out with perfect taste, they can hardly be otherwise than regretted, except in so far as their

La Bagatelle.



Elevation of Entrance Front.



Elevation of Garden Front

0 5 10 15 20 25
Feet.

L. B. D. S.

1911.

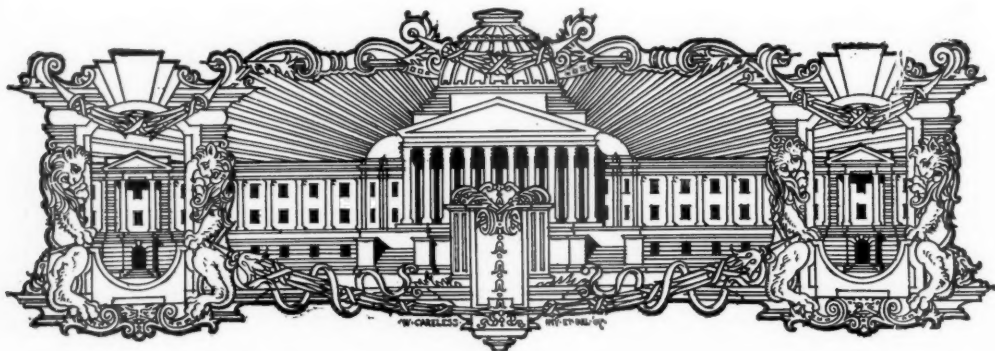
LA BAGATELLE

restorations prevented the total decay of the house. In the first place the upper storey proved wholly inadequate for permanent residence. The Comte d'Artois' bedroom had been fitted up in the similitude of a tent, with blue silk, but the window was small and near the floor. The Marquis of Hertford raised the whole of the upper storey, including the dome, and added a blind attic. If we can judge from earlier engravings, the whole of the fronts were refaced, with a change of detail. The angles were strengthened with rusticated pilasters carrying twin triglyphs, and the typical heads to the ground-floor windows were altered; but most important was the entrance door. The illustration on the preceding page shows it with Doric order and fanlight over, and above the niches are two circular reliefs. The existing door has an Ionic order, the frieze enriched with swags and carrying an iron balcony; the circular reliefs have disappeared. M. Planat, in his fine book "*Le Style Louis Seize*," illustrates this existing door without comment as the work of Belanger. It would rather appear, however, to be the work of De Sanges, the architect whom the Marquis of Hertford and Sir Richard Wallace employed. It is curious that these subsidiary features should have been changed, unless it was the intention to produce a complete piece of Second Empire architecture instead of a patched Louis Seize. The style of the interior, however, was very scrupulously preserved.

There can be no doubt but that this raising of the little château has robbed it of much of its intimacy, and it was probably in order to bring it into scale that most of Belanger's formal setting, and the boundary which enclosed it, has been suppressed and the building thus brought into direct connection with the English garden—particularly with the big lawn to the east. Finally, Sir Richard Wallace entirely swept away the charming *Bâtiment des Pages*, and in its place put up on one side of the Court of Honour a new and somewhat dull building known as the Trianon, for his son Captain Wallace, who died before it was completed.

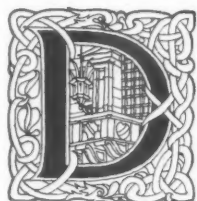
The alterations to the garden carried out by Varé, the pupil of Alphand, are of less artistic significance; they were very considerable, however, as scarcely one single walk in that part between the main entrance and the house is where Blaikie put it. Though still in the curvilinear style, Varé suppressed the superabundant wantonness of sinuosities, but left many of the "adornments" untouched. He laboured above all to bring the house into direct connection with the picturesque garden. It can thus be seen that, charming as Bagatelle and the gardens now are, it is not a Louis Seize but a Second Empire ensemble that we see.

In 1904 the whole domain of twenty-four hectares which had been put up for auction by Sir Henry Scott, the proprietor, was bought by the Council of the City of Paris for £260,000. It is fortunate that this property was not allowed to fall into speculative clutches and be sold for building plots, but the extraordinary advance in price on that paid by the Marquis of Hertford is a warning against letting Crown or national property lapse into private hands. The extra eight hectares and restorations can hardly account for the difference of £247,476. It was decided not to throw the domain into the Bois de Boulogne, but to preserve it as a separate enclosure, using the garden for growing rare plants without the formality of a botanic garden, and the house for small picture exhibitions. We confess that this use of the gardens might have proved disastrous, but under the artistic direction of M. J. C. N. Forestier the change has been carried out without hurting the charm of the old garden. For, in spite of errors of style, this landscape garden, like that of Marie Antoinette at the Petit Trianon, possesses an indefinable charm, akin to that possessed by a dress of forgotten fashion; it may have sinned against all the canons of beauty, it may have belonged to an age of light morals, but the very fading of its pattern, the faint fragrance that lingers about it, the true touch of nature—age—rob us of our cold critical faculties.



SARACENIC VAULTING

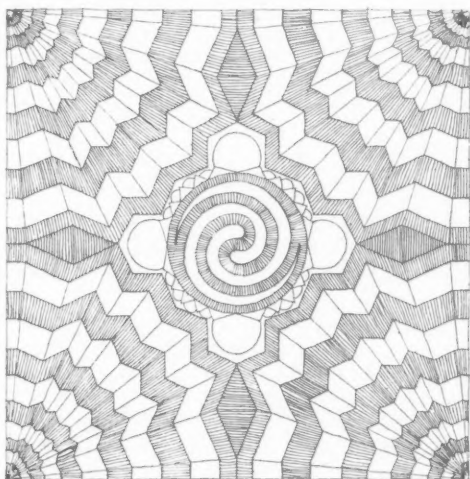
BY W. HARVEY



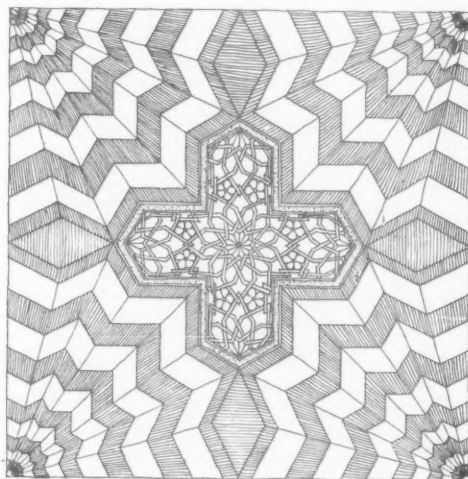
DEVELOPED in lands practically devoid of timber, Saracenic architecture had recourse to the arcade and the vault from an early period, and, partly through necessity, and in part through the employment of architects familiar with Byzantine methods of building, the arcuated style of construction became the fixed tradition of Mahomedan public works. Examples of vault construction were readily to be found when the Mahomedan conquest brought in its train the need for a new type of religious erection.

To the south ancient barrel-vaults existed in

against possible earthquakes, thick walls and small windows were naturally adopted in contrast to the Gothic practice of thinning down walls and enlarging windows, which would only involve discomfort and danger in the East, however scientifically carried out. Instead of a series of external buttresses and flying buttresses such as were used in Gothic lands to uphold a high or wide vault, the architect of a Saracenic building obtained stability by arranging the internal walls or arches, subdividing the subordinate parts of the structure so as to buttress the important central vault or dome without intruding a row of projecting buttresses upon the fair surface of his external enclosing wall, which was thus left free for polychromatic



FAN VAILTED PORCH BRASS BAZAAR CAIRO PLAN



FAN VAILTED PORCH TO A SCHOOL JERV SALEM:PLAN

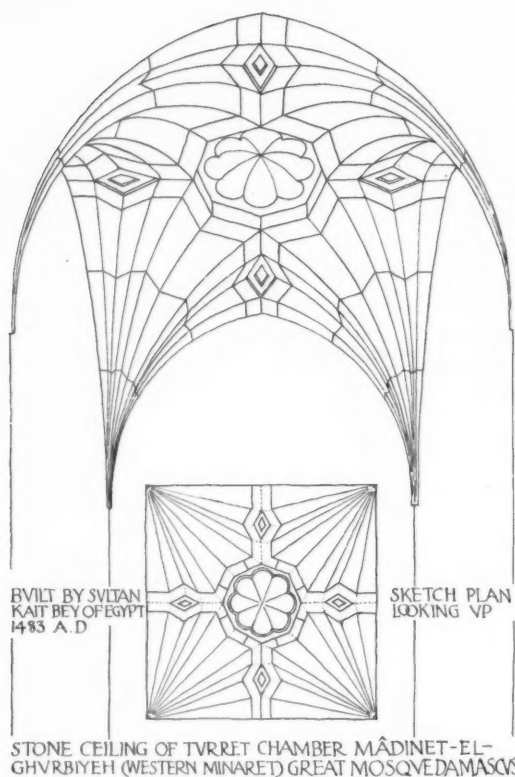
Egypt, together with a great number of Coptic churches embodying the principles of vaulting in brick and mortar; while in the north the palaces of Serbistan and Ctesiphon and other works of the Sassanian dynasty contained domes and vaults of great magnitude, adjusted one against the other with considerable science and economy of abutment. Further west the works of the Byzantine Empire contained similar constructional features enriched with the coloured surface-decoration of marble and glass mosaic that was afterwards to play such an important part in the adornment of Saracenic monuments. From these elements the evolution of a distinct style was a gradual process, some early Saracenic works being extremely like their Coptic or Byzantine prototypes; the use of ancient materials, marble shafts, capitals, and bases heightening the resemblance. Other causes of similarity of construction are to be found in the natural and climatic conditions. To afford shelter from a burning sun, and protection

treatment with either marble, tiles, or particoloured masonry.

The concentration of weight and thrust upon comparatively small isolated supports that has been carried to such a refined perfection in some of our later Gothic cathedrals and chapels necessarily has no counterpart in Oriental work, in which the opposite principle of diffusion of weight and thrust upon the inert mass of heavy walls or collections of walled chambers has been followed with remarkable results. Partially ruined domed or vaulted buildings are not infrequent in Egypt or Palestine, and in many cases where a whole corner carrying a vault-springer has been broken away, the remainder of the vault still exists, supported aloft by virtue of the coherence of the vaulting material itself and the absence of any arched ribs that would tear the whole vault to pieces if one support were to be removed.

In addition to buttressing the vaults with thick walls and the careful grouping of subordinate

SARACENIC VAULTING



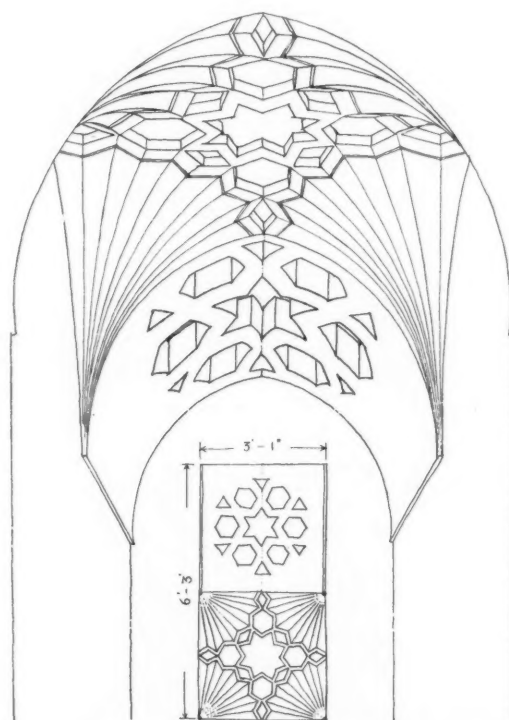
chambers two other devices are used to absorb the thrust of vaults and arches. Tie-bars of iron or bronze, or anchor-beams of wood serving the same purpose, are often used to connect the walls or piers at the springing of arches and prevent any possible tendency for the arch to overturn its supports. Although at first sight objectionable to Western eyes, these tie-bars become attractive as they become familiar, and of course in a Saracenic building they have none of the ugliness of the modern iron tie-bars in Westminster Abbey, where the whole vertical character of the place, with its soaring lines of clustered mouldings, is flatly contradicted by the intrusion of these obviously extraneous elements. In some instances, and notably in the "Dome of the Rock" at Jerusalem, large anchor-beams of much greater dimensions than necessity would require have been used and profusely ornamented to take the part of a richly wrought entablature below the gorgeously coloured mosaic-covered arches. The other device for absorbing the outward thrust of vaulting is to build up the haunches of the arches and the vault pockets with a sort of concrete composed of a light chalky stone and mortar to the level of the crown of the vault, which becomes, by virtue of the large proportion of mortar employed, practically a solid homogeneous mass cast into shape and possessing the utmost stability obtainable with the materials employed. In the case of wrought

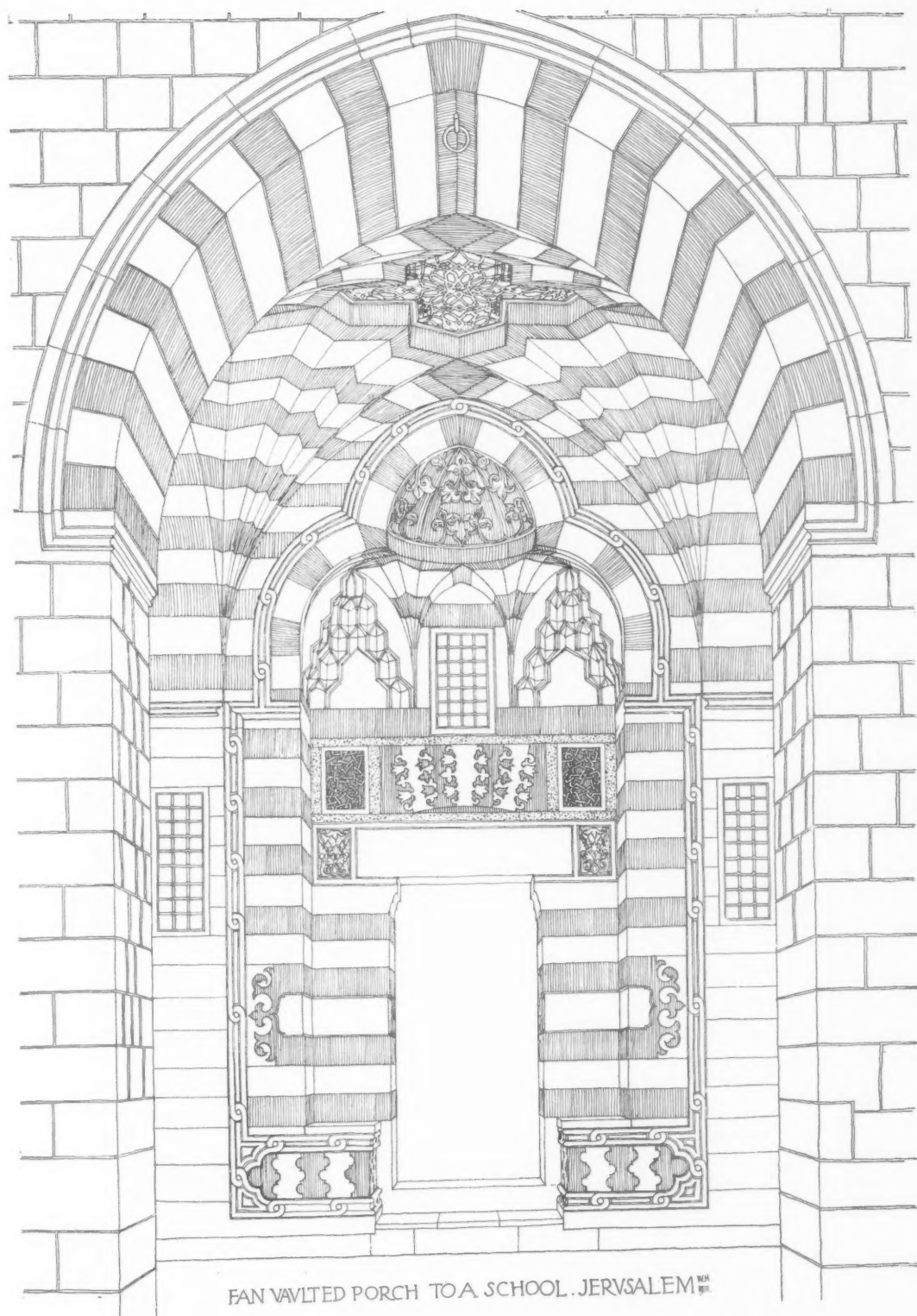
masonry domes rising above the general roof-line the backing up is of course omitted, but the outward thrust of a highly pointed dome is so slight that this additional aid to stability would be superfluous. The comparative thrust of a barrel-vault with that of a dome on corbelled pendentives is very clearly exemplified in the Mosque of Sultan Hassan in Cairo. The great transept of the mosque proper is a rectangle of approximately 70 ft. by 87 ft. roofed with a single pointed barrel-vault springing about 40 ft. and rising to a height of 90 ft. from the pavement.

The walls supporting this colossal arch measure nearly 30 ft. in thickness, with chambers hollowed out of their bulk. Adjoining this vaulted transept stands the tomb-chamber, 77 ft. square, vaulted with a pointed dome upon corbelled stalactite pendentives. Although the base of the dome is perched more than a hundred feet up in the air, the walls are only about 11 ft. in thickness, or one-seventh part of the clear span instead of three-sevenths, as in the case of the great vault.

Three other barrel-vaults 90 ft. high of the same mosque are supported upon walls of about 11 ft. thickness, or approximately one-fourth of the clear span of 47 ft.

In modern house construction in the Jerusalem district the proportion of 1 to 5 for the thickness of wall to width of clear span is very generally adhered to if the vaulting springs at no excessive



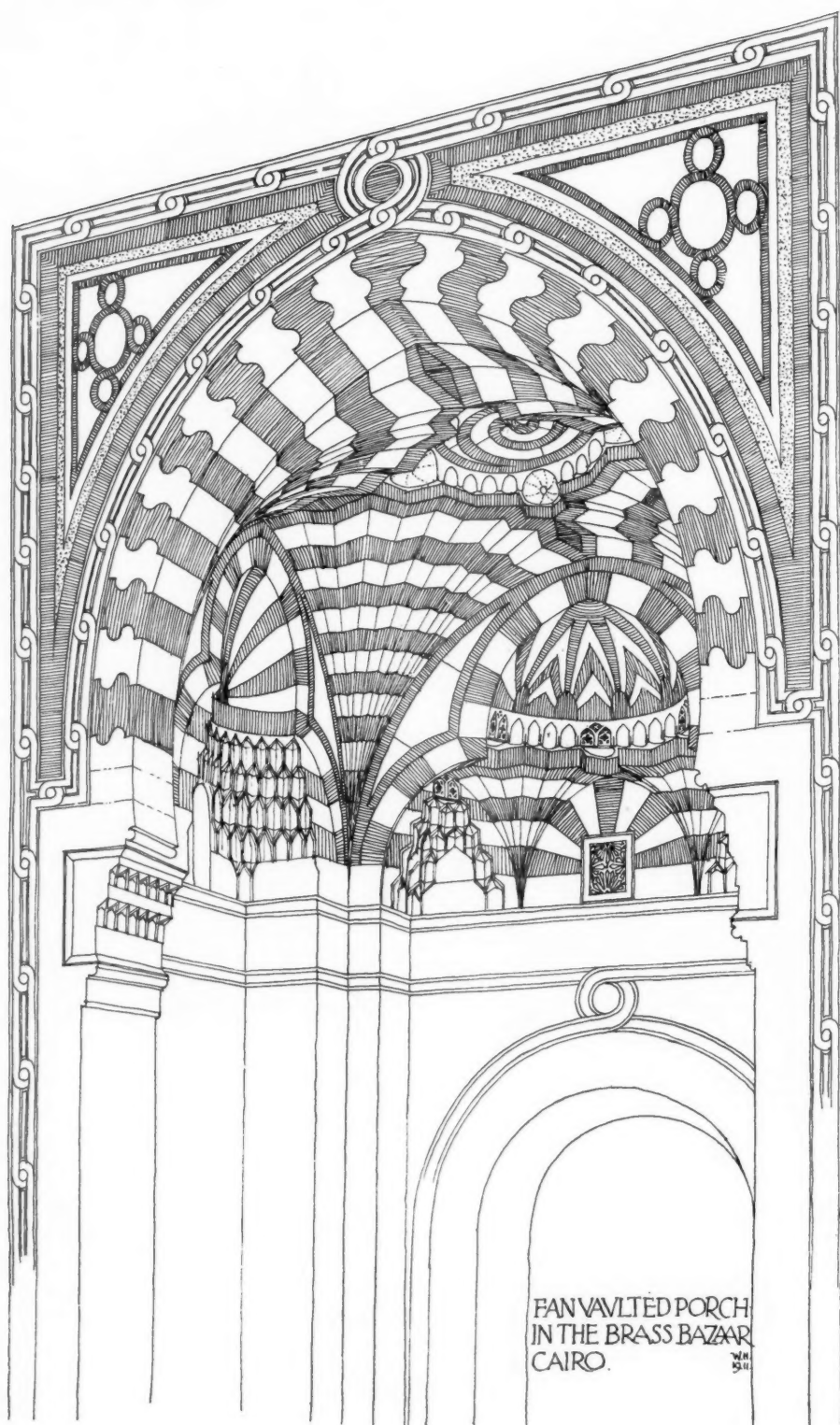


FAN VAULTED PORCH TO A SCHOOL. JERUSALEM ^{W.H.}

DRAWN BY W. HARVEY

November 1911

SARACENIC VAULTING



DRAWN BY W. HARVEY

height from the floor. In the case of the four barrel-vaulted transepts of the Mosque of Sultan Hassan the haunches of the vaults are only partially filled in, so that the upper segment of the curve is visible from the roofs of the adjoining parts of the mosque, the colossal scale of the building making it expedient to forgo loading the vaulting to the extent of its whole height. In the interior these great vaults are finished with extreme simplicity, the vast sweeping surfaces being covered with plaster and only ornamented with a number of slender bronze lamp-chains hanging down from the vault to within a few feet of the mosque pavement. The barrel-vaulted passages in other parts of the building are finished with the same severity, the vaulting being treated as an integral part of the walls supporting or adjoining it.

During the fifteenth century a charming style of fan-vaulting was invented, examples being found in Cairo, Jerusalem, and Damascus of approximately the same period. Sometimes quite minute in scale, this late development embodies the same principles of construction and abutment as had been shown in earlier works, yet exhibiting by haphazard a marked-similarity to fan-vaulting produced in England about the same time. A series of inverted quarter conoids springing from the corners of the apartment, with bases in contact at the centres of the four walls, supporting a recessed slab or small saucer-dome in the centre of the ceiling, is the typical arrangement. Instead of the moulded ribs carved into the surface of the Gothic conoid, still more fan-like ridges and furrows are formed, so arranged that at the crown of the vault small panels of varying shape can be inserted between the adjoining conoids. In general the springing of the vault (the apex of the inverted conoid) dies into the corner of the room without any ornamental corbel or colonnette; the Saracenic idea that the vault should be one with the wall preventing the pious deception that the weight of the vault is conducted down on a thin pipe-like stem to the ground.

The eastern principle of diffusion of weight and thrust is sometimes emphasised by carrying horizontal courses of alternately cream and red stones round the vault surface and arranging them to match the arch stones at the faces of the vault. The fine porch to the brass bazaar at Cairo, and that standing before a Koran school entered from the Haram-esh-Sheruf, in Jerusalem, have both this added colour-interest. In the Cairene example a low dome with a curiously arranged spiral of dark and light voussoirs occupies the crown of the vault. The same place is taken in the Jerusalem example by a recessed cross-shaped panel filled in with a geometrical design carved in low relief. In both cases the colour-scheme of the vaulting is

continued over the adjoining wall surfaces and elaborated with inlays over the doorways. A miniature vault over a lobby in a disused mosque outside Cairo is interesting on account of its combining with the fan-vaulting a bay of barrel-vaulting pierced for ventilation with a geometrical pattern. Turret chambers and stair landings of minarets have frequently dainty little ceilings following upon much the same type, and one at Damascus has a close resemblance to Egyptian work. The minaret containing it was erected by the Sultan, Kait Bey, of Egypt, A.D. 1483.

In Jerusalem, where even now practically all buildings are vaulted, many forms are to be found intermediate between the fan vaults just mentioned and domes on pendentives; and it is not at all unlikely that the fan-vaulting is an adaptation from the pendentives of a dome, the dome itself having shrunk by degrees in different examples until it could be replaced by a mere central slab or a saucer-dome of miniature scale. Growing in the most natural manner from the broad surfaces of the adjoining walls, and following the curve of slightly horseshoe arches of exquisite contour, these most elaborate constructions have all the repose of the Orient combined with an easy grace and a sparkle of fancy expressed in honest straightforward construction.

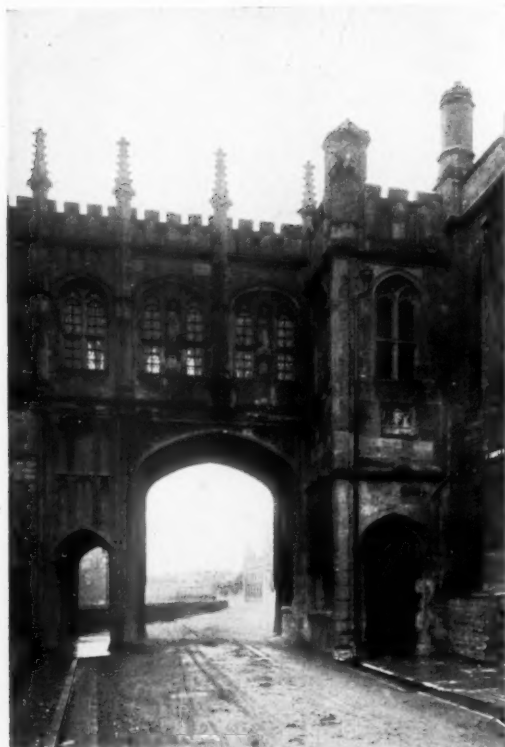
THREE WELLS GATEWAYS



SINCE the early days of revived interest in mediæval architecture, Wells has never ceased to exercise the very strongest appeal on the enthusiast. Britton described and illustrated it, Pugin loved and drew it, and all writers since have united in extolling its wonderful completeness as an example of a mediæval ecclesiastical city. In truth no better could be found. Never having enjoyed any commercial importance (as heaven send it never may), and having no military position to fulfil, its unique ecclesiastical developments were pursued undisturbed through the Middle Ages, and remain almost intact to this day. "If you want to be delighted, if you want to be astonished, if you want to be half mad, as I at present am," wrote Pugin to a friend, "for God's sake come over to Wells."

A great part of the charm of a mediæval street—as of a mediæval building—depends on the occurrence of obstructions, giving scale and atmosphere by their interposition, and suggesting the existence beyond of fresh attractions, but revealing them only bit by bit. In the street,

THREE WELLS GATEWAYS



"THE CHAIN GATE" AND ENTRANCE TO THE VICARS' CLOSE, WELLS

gateways fulfil in fact a somewhat similar function to screens in the cathedrals and churches, by maintaining the pleasure of anticipation. Quite other motives probably actuated their builders in placing these delightful features, which are frankly utilitarian in purpose. Of the three gateways here shown, the two leading from the Market Place are defensive (though we are not impressed with the seriousness of their intentions), and the other, well known as the Chain Gate, is in fact but a covered way or bridge spanning the Bath Road to connect the cathedral and chapter-house with the buildings of the Vicars' Close beyond.

All three gateways were built by order of Bishop Beckington (1443-66), and his arms and rebus are freely displayed. The latter, a *beacon* lighted, with its fire in a *tun*, may be distinguished in the illustration of "The Penniless Porch." We learn from a eulogy written by his Chancellor in 1454 that he "at his own proper pains and charges conferred such a splendour on the city, as well by strongly fortifying the church with gates and towers and walls, as by constructing on the grandest scale the Palace in which he resides," from which it appears that his efforts were appreciated. After his death, the mayor and corporation of Wells showed their gratitude for the "splendour" which he had conferred by going annually to his chantry in the cathedral to pray for his soul.

The fine turreted gatehouse known as "The

Bishop's Eye" leads from the Market Place to the Palace, and is the most imposing of the three. It bears considerable resemblance to the collegiate type of Oxford and Cambridge, and its early use of the depressed arch and spandrel in a professedly defensive gateway has attracted notice. The Douling stone of which Wells is built has not, generally speaking, weathered pleasantly, being in fact too good; but this gateway had acquired a delightful time-stained effect, and the necessity of restoration is to be regretted. The inner front, facing the Close, is generally similar to that shown in the photograph, but has a single central niche only, and the surrounding detail is also less rich.

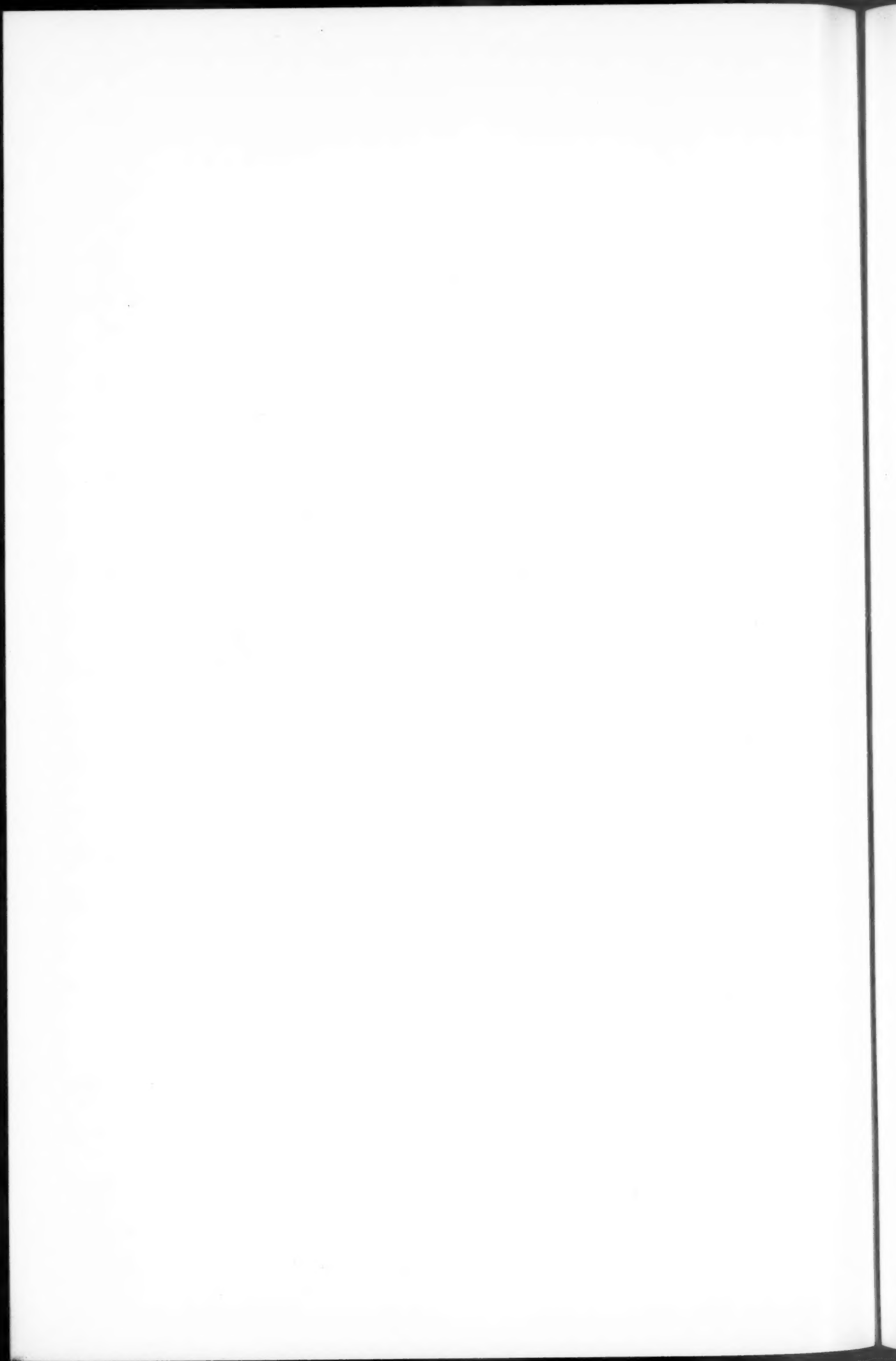
The quaintly-named "Penniless Porch" leads from the corner of the Market Place towards the south side of the cathedral. More closely enwrapped with buildings than the other gates, it has also suffered greater damage, the substitution of aggressively modern sashes for the original windows looking strangely incongruous. The detail where



"THE PENNILESS PORCH," WELLS



"THE BISHOP'S EYE," WELLS



THREE WELLS GATEWAYS

remaining is richer than that of "The Bishop's Eye," the wide hollows of the jamb and arch-mould having pateræ of foliage, and the spandrels also being carved. Parker applied the name of "Penniless Porch" and "Bishop's Eye" to the same gateway, calling the other gateway in the Market Place simply the Bishop's Gateway. He suggests that "The Penniless Porch" received its name from the distribution there of the Church's alms to the poor.

The Chain Gate exhibits that spice of the

would not have tolerated this blank wall and irregularly-placed arch; but substitute what you will for the wall, or alter the height of the arch, or replace both by an arcade, and the dignity of the little gateway is gone." While professing the earnest hope that no one will ever try to do either, it is perhaps permissible to characterise as nonsense this ascription of motives for details which obviously worked themselves out with not too much heart-searching on the part of their constructors. As to the actual bridge, it is a standing



"THE CHAIN GATE," WELLS

unusual which always succeeds in arousing interest. It has in fact come in for some rather exaggerated praise, even so calm a critic as Professor Freeman referring to it as "an ingenious device," which it hardly is, its undoubted merit lying rather in the simple naturalness with which it goes about its object—a naturalness at once direct and expressive. But while fully recognising this it is not necessary to go to the lengths of a more recent writer, who attaches so magnified an importance to every item of the rather fortuitous surroundings of the actual gate as to say that "a correctly-minded architect

exemplar of the value of design over mere contrivance of detail. The latter is throughout of a rather pedestrian order—sane and reasonable but exhibiting no high flights of fancy.

The grant for its erection has been preserved, and is quoted by Parker. It is dated 1459, and sets forth how "by reason of the common way from their Close to the said Church being much exposed to rainy nights and other perils from which such Vicars may be henceforth defended; and also for their greater protection and security" the bridge was to be built.

THE PRACTICAL EXEMPLAR OF ARCHITECTURE—LXIII



ST. PAUL'S CATHEDRAL, besides standing over London like a hill "with a dome conspicuous above the houses," is a veritable architectural mine, rich with detail. Famous craftsmen in many kinds, Grinling Gibbons and Tijou, Caius Cibber, the Stronges, Francis Bird, and many others, have all left behind them records of their activity and art. And the master-hand, not content with poising his dome over the city, designed within and around it many beautiful and notable works. The "Geometrical Staircase," a *tour de force* in construction, yet withal not a vain thing, has already been illustrated in these pages,* as also the delightful doorway which leads to the crypt level of the staircase.† The vestry of the Lord Mayor is no less interesting. St. Paul's has three

vestries, more or less alike in design, contrived in the huge buttresses which fill the external angles formed by the intersection of the transepts with the nave and choir. The fourth buttress contains the circular staircase, with a hollow newel, which admits visitors to the gallery over the south aisle and the library. In the two eastward vestries, which are used for the clergy and choir, the floors are raised several steps above the level of the nave, to give headway to stairs leading to the crypt. The Lord Mayor's vestry, on the other hand (it is in the north-west angle), is level with the nave, and is, in consequence, more lofty. It gains in dignity what it loses in homeliness. Being co-trustee of the cathedral with the Archbishop of Canterbury and the Bishop of London, the Lord Mayor has his own vestry—the distinction which goes with the honour.

It is an octagon on plan, about 20 ft. in diameter, and vaulted in stone. Pilasters with two faces are placed in the angles carrying segmental arches, which intersect the vault and form lunettes on the same plane as the walls. These arches have projecting key-blocks, with carved heads of children on them, very bold and vigorous in design.

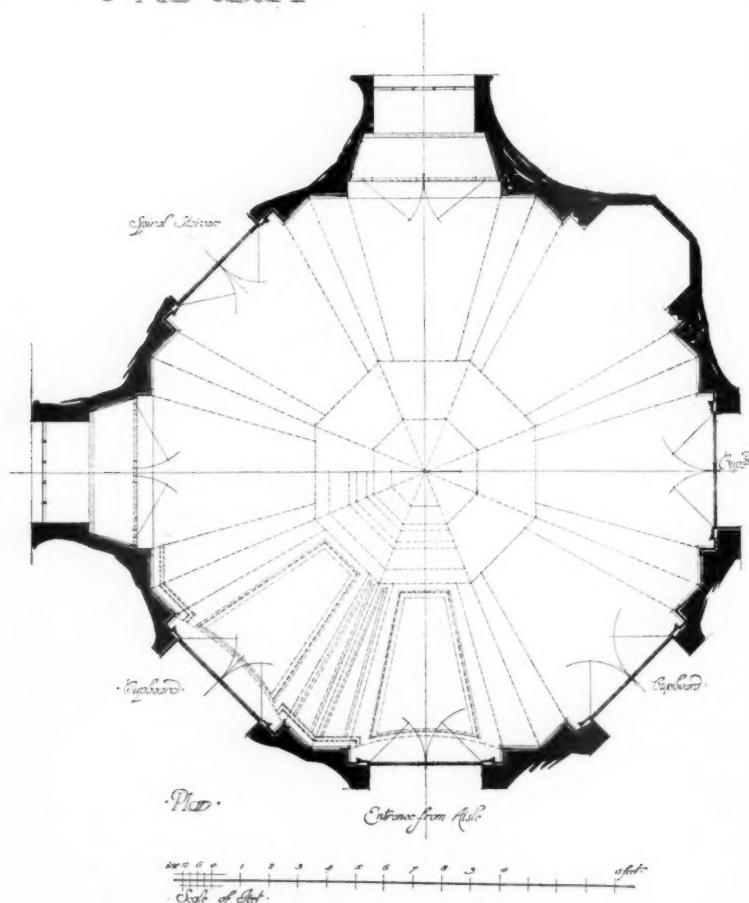
Oak wainscot 9 ft. 6 in. high panels the walls (which measure about 16 ft. 6 in. to the springing of the vault) and relieves the coldness of the stonework.

Perhaps no detail of architecture is more delightful than Renaissance panelling. In painted deal, with simple mouldings as adopted during the 18th century, it is comfortable, clean, and dignified; but in the earlier times of Inigo Jones and Wren, when it was made of oak with boldly raised panels and bolection mouldings, it had a sumptuousness and warmth scarcely surpassed in effect by the gorgeous wall coverings of the Venetians. At Hampton Court Wren used panels of a large size, and got a breadth and ease of diction very pleasant to contemplate; but the nature of the Lord Mayor's vestry—the small wall spaces, the many angles—suggested a different treatment. Here the panels are small. They are, however, no less carefully

* THE ARCHITECTURAL REVIEW, July 1910.

† THE ARCHITECTURAL REVIEW, November 1909.

*The Lord Mayor's Vestry
St. Paul's Cathedral*



MEASURED AND DRAWN BY GORDON PILKINGTON



LORD MAYOR'S VESTRY, ST. PAUL'S CATHEDRAL. VIEW OF ROOF

Photo: "Architectural Review"

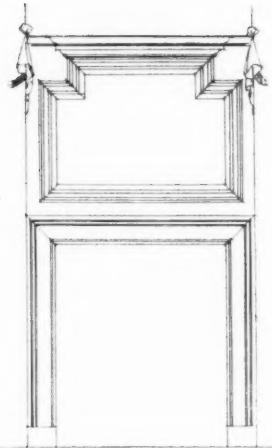
designed, and their general effect serves as a contrast to the stronger and bolder mouldings and sinkings in the stonework. Much enrichment has been used to heighten the effect of the oak-work, and some of the carving, especially the swags in the reveals of the windows, is of the very best. The chimneypiece is simple; it is similar to the one in the hall of the Deanery—moulded marble jambs with a plain panel above it, without a shelf or any other amenity. The stove is contemporary with the rest of the work. Wren loved the domical form of roof, and he used it whenever he had the chance. How many delightful domes has he contrived! Great or little, he always managed them successfully. In the present instance it is only 23 ft. from the floor

of the vestry to the wooden carved boss at the crown, so that the rich carving with which its angles, panels, and crown are marked, are distinctly valuable to emphasise them. The carved bands under the boss are peculiarly fine and architectural, but the swags in the middle of the panels are rather *mesquine*. On the other hand the wooden boss is a consummate piece, after a Roman model. One wonders, in contemplating this little chamber, why there is nothing like it done to-day. St. Paul's itself is a work which occurs only once in many centuries, but the vestry, as waiting-hall, as vestibule, as this and the other, must enter within the orbit in which most architects move and have their being.

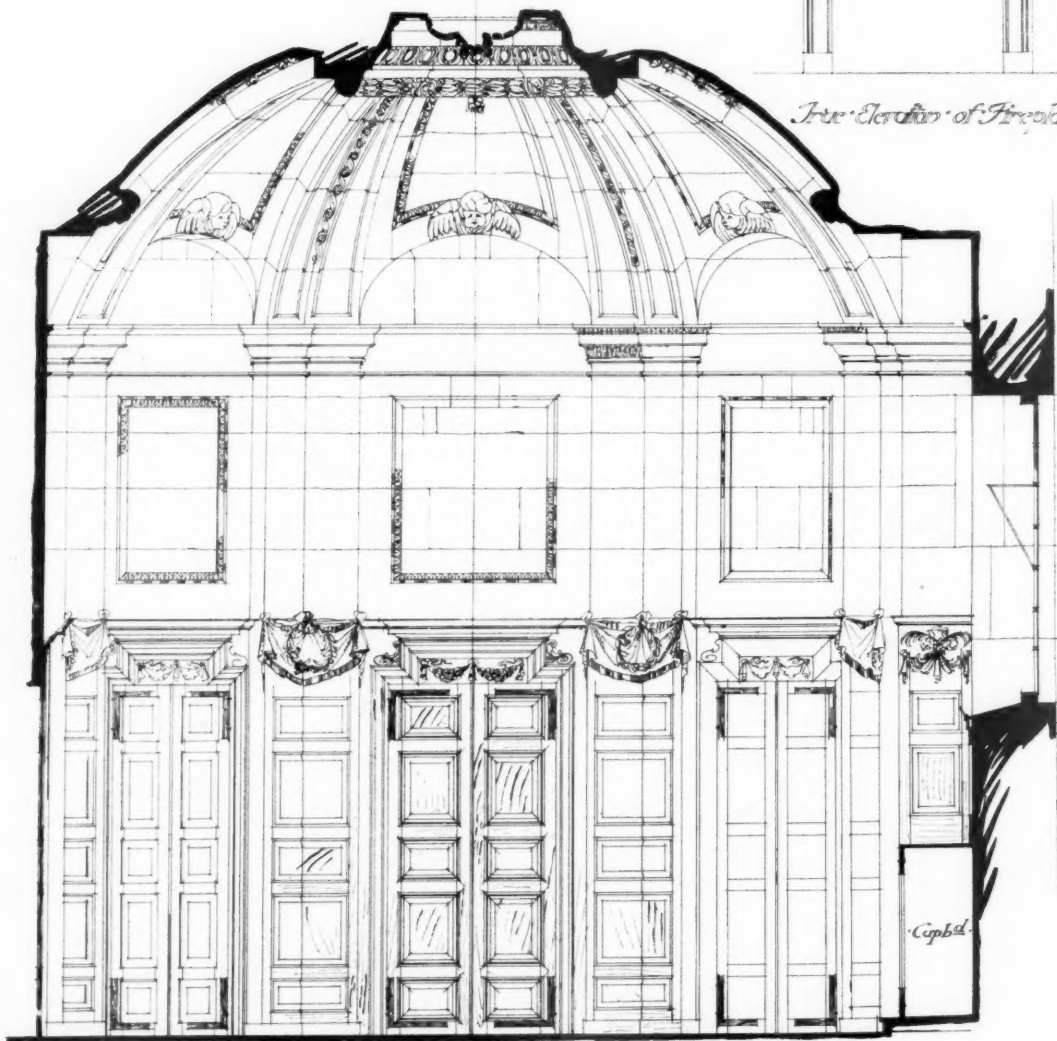
J. M. W. H.

THE PRACTICAL EXEMPLAR
OF ARCHITECTURE

*The Lord Mayor's Vestry
St. Paul's Cathedral .. London*



The Section of Fireplace.



Elevation ..

*12 6 0 1 2 3 4 5 6 7 8 9 10 ft.
Scale of Feet.*

MEASURED AND DRAWN BY GORDON PILKINGTON

THE PRACTICAL EXEMPLAR
OF ARCHITECTURE

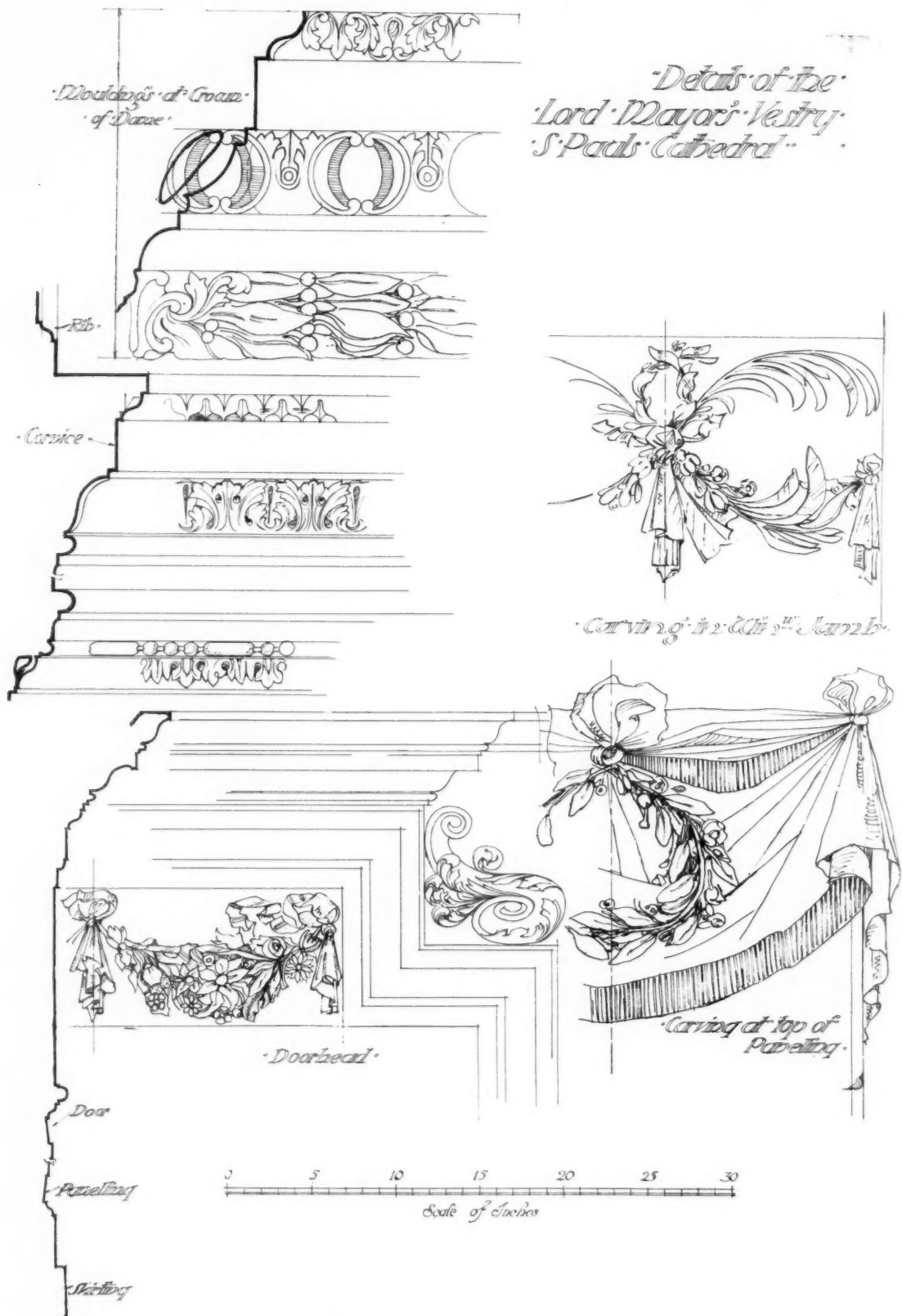


Photos: "Architectural Review"



THE LORD MAYOR'S VESTRY, ST. PAUL'S CATHEDRAL, LONDON

THE PRACTICAL EXEMPLAR
OF ARCHITECTURE



MEASURED AND DRAWN BY GORDON PILKINGTON

THE EMPIRE STYLE IN ENGLAND—I



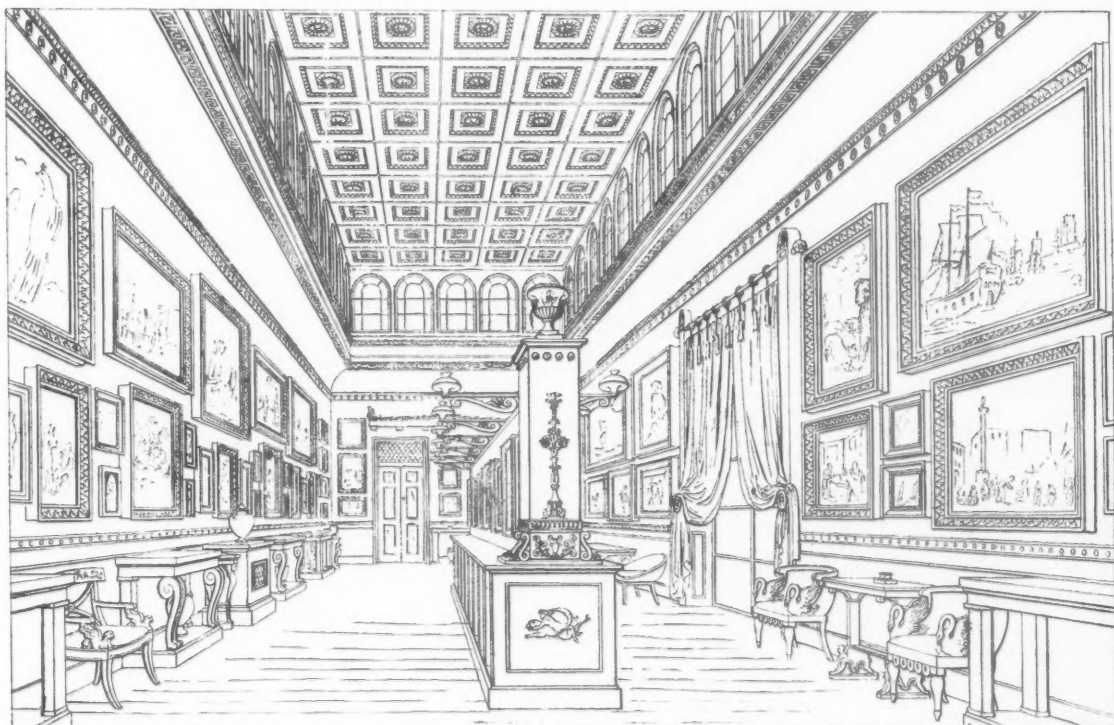
At the present time, when almost Babylonian confusion pervades the realm of decorative art, the question may well be asked, What is the English Empire Style? Possibly there are those in our midst who might construe the title as embracing the modern civic architecture practised throughout the British Empire. The true meaning of the term "Empire Style," however, apart from its associations with the Imperial tendencies of Napoleon the First, is that it literally means the "Eclectic Style."

We are so accustomed to think of the names of Percier et Fontaine and *Le Style Empire* as synonymous, that their actual relationship to the origin of the style is apt to be overlooked. The pre-Revolution days in France had witnessed the decay and final exclusion of the sinuosities of the Baroque, as well as a gradual hardening of the vernacular traditions made possible by fusing them with the antique. Thus, by the exertions of Clerisseau and Le Roy, together with the inspiring etchings of Piranesi, there was disseminated throughout France that smattering of classicism which found its cogent expression in the epoch Louis Seize.

In England an almost parallel development was taking place, in some degree even more anticipatory of *Le Style Empire* than the contemporary Louis Seize style. This movement, inspired by the researches of the Dilettanti Society, and fostered in turn by James Paine, Sir Robert Taylor, and the brothers Adam, found its ultimate expression in the elegant ornamental style which reflected the contemporary London life and customs. The fashionable London society of the time readily accepted the work of the enterprising Scotch architects; their style flattered the prevalent classic taste. And many delightful interiors were designed, not only by the brothers Adam, but also by their professional brethren, who were eager to participate in their successes.

Robert Adam had studied with Clerisseau at Spalatro, and in addition he had watched Piranesi working for dear life, plying his needle day and night, and weaving those tapestries of inspiration which were destined to secure his immortality. When Henry Holland and Soane came on the scene they had but to express the vernacular classic according to their own views, in order to carry the process of architectural design a stage further.

Chippendale worked for the brothers Adam, Hepplewhite compounded with the two latter



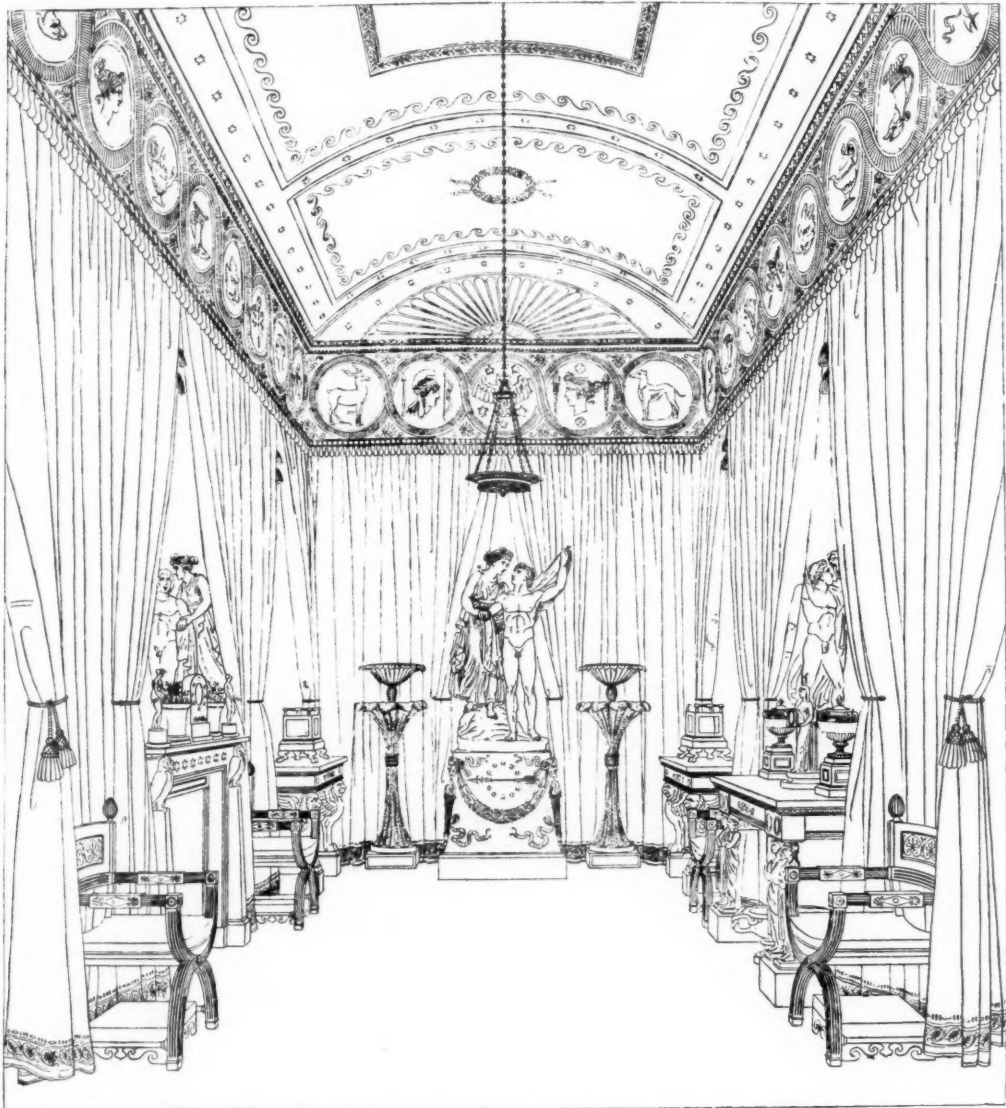
THE FLEMISH PICTURE GALLERY IN THE MANSION OF THOMAS HOPE, DUCHESS STREET, CAVENDISH SQUARE, LONDON

(From Britton and Pugin's "Illustrations of the Public Buildings of London," 1825)

THE EMPIRE STYLE IN ENGLAND

styles, while Sheraton in his earlier efforts reflected an English version of the style Louis Seize, or, to be more exact, the work of the brothers Adam; in his later days he affected the Empire style of the French. During the awful days of the Revolution many notable emigrants from France settled in England, and, turning their artistic talents to good account, kept alive the

France was set, and it only remained for Percier and Fontaine to display their ingenuity in selecting motifs fit to express the Emperor's Imperial ambitions. Thus was evolved that phase of symbolism and discipline in the arrangement of martial motifs which gave to *Le Style Empire* its rigid character. The various campaigns in Italy and Egypt, coupled with the French overtures to Turkey and Persia,



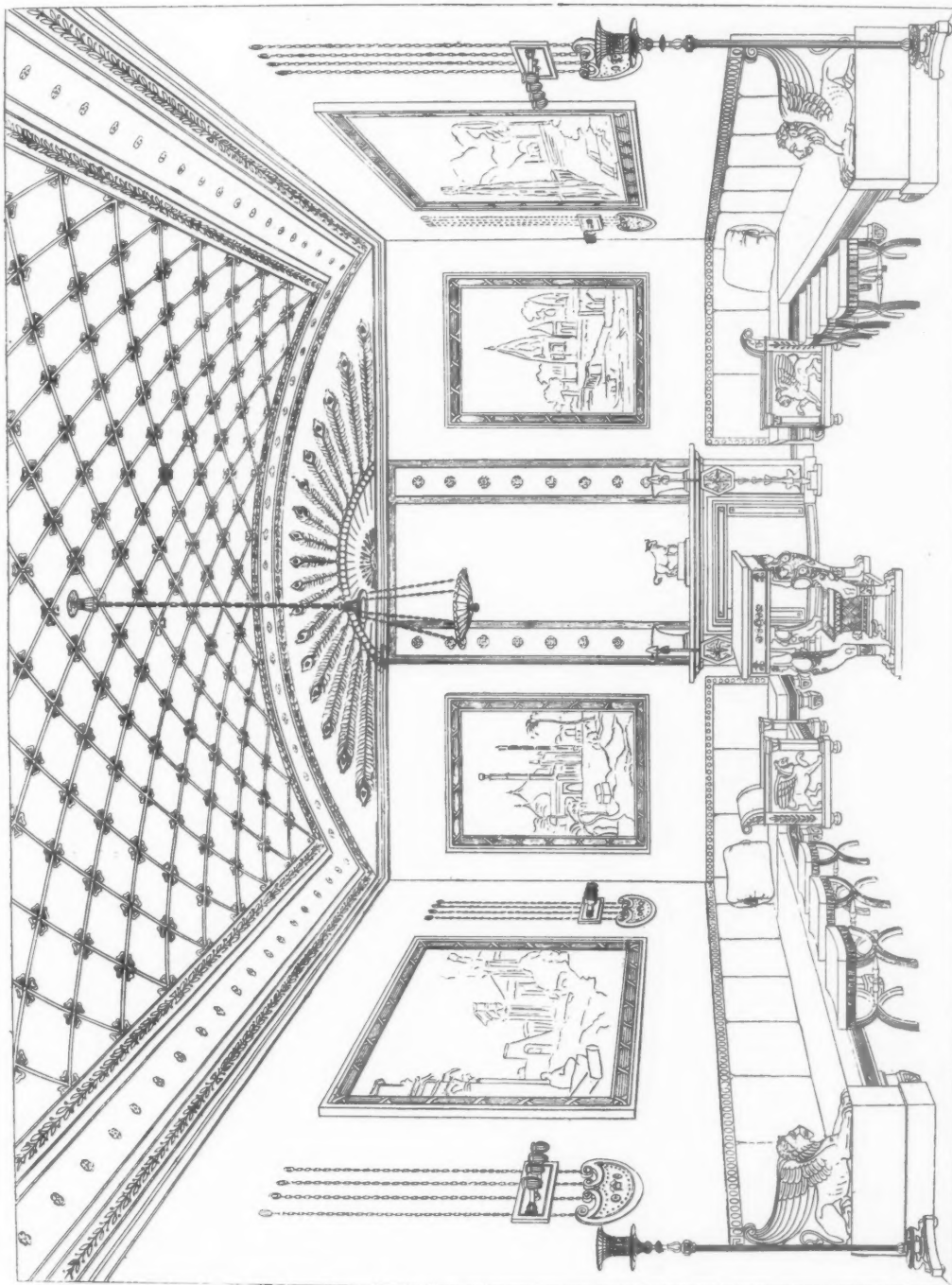
A ROOM BY THOMAS HOPE, WITH MARBLE GROUP (BY FLAXMAN) REPRESENTING AURORA VISITING CEPHALUS ON MOUNT IDA

(From "Household Furniture and Interior Decoration," by Thomas Hope, 1807)

elegances of the Adams' work by leavening them with purely French ideas. Even the intermittent Napoleonic wars failed to prevent intercourse between the two capitals, and in those days, as now, fashions in dress and other matters reacted from the one city on the other.

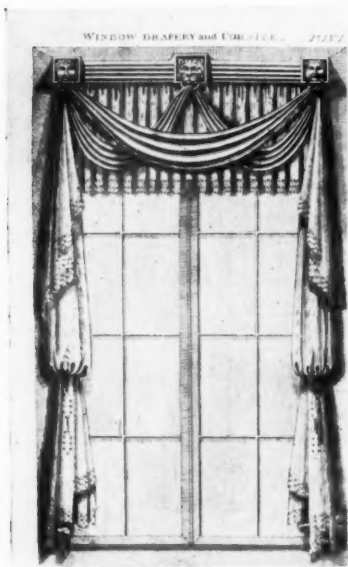
When *Les Sabines* was painted by David the seal of public approval on formal classicism in

witnessed a corresponding introduction of imported motifs from those countries, ultimately to be blended into the style. None but a Frenchman could have the audacity to compound such a delicious potpourri. The concurrence of the men and the moment made the thing possible, and the style for the nonce faithfully portrayed topical events. Not only do we find that the French Empire



DRAWING-ROOM BY THOMAS HOPE, PRINCIPALLY DESIGNED FOR THE RECEPTION
OF FOUR LARGE PICTURES OF BUILDINGS IN INDIA
(From "Household Furniture and Interior Decoration," by Thomas Hope, 1807)

THE EMPIRE STYLE IN ENGLAND



DESIGNS FOR DRAPERIES TO A WINDOW AND A PIER GLASS
BY T. SHERATON, 1801

style was practised in the Netherlands, Germany, and Italy, but even distant Russia imported some examples of furniture for the adornment of her palaces. With Great Britain the case was somewhat different. Certainly a few specimens of French Empire furniture found their way to England, but, broadly speaking, the trend of English decoration had been steadily advancing towards the same formalistic goal. In Sheraton's designs for curtains, pelmets, and cornice boxes, we see a reflex of the French taste—lions' heads, bundles of reeds, and, in the case of the Trafalgar chairs, crossed ships' anchors, being characteristic of the military times.

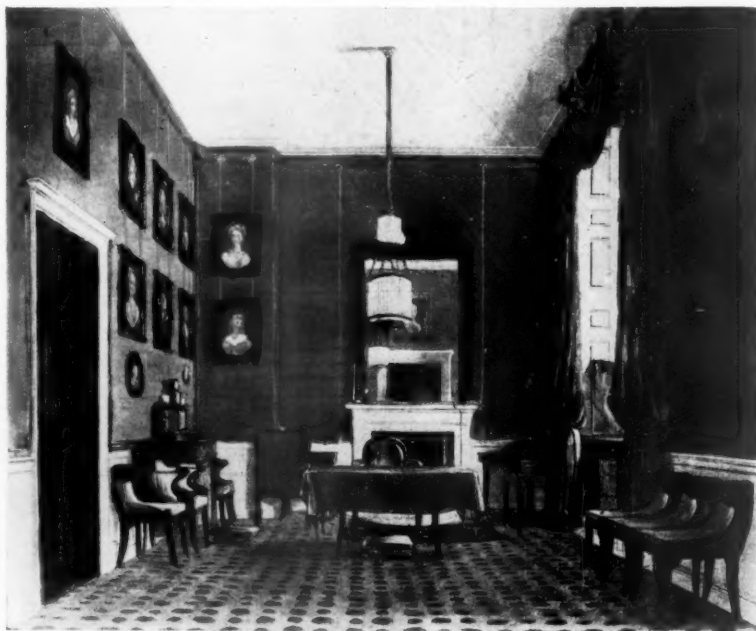
In England the classicism of the day was productive of dramatic monumental architecture, relying for its grandeur on the massing of its component parts. The ivy-like ornamental character of the Empire style could not compete with the sturdiness of these grand structures; hence its employment for interior design alone.

The item of next importance to consider is an account of the talented Englishman who was really responsible for the English Empire style in its fullest phase. Thomas Hope was a member of a rich family of bankers at Amsterdam.

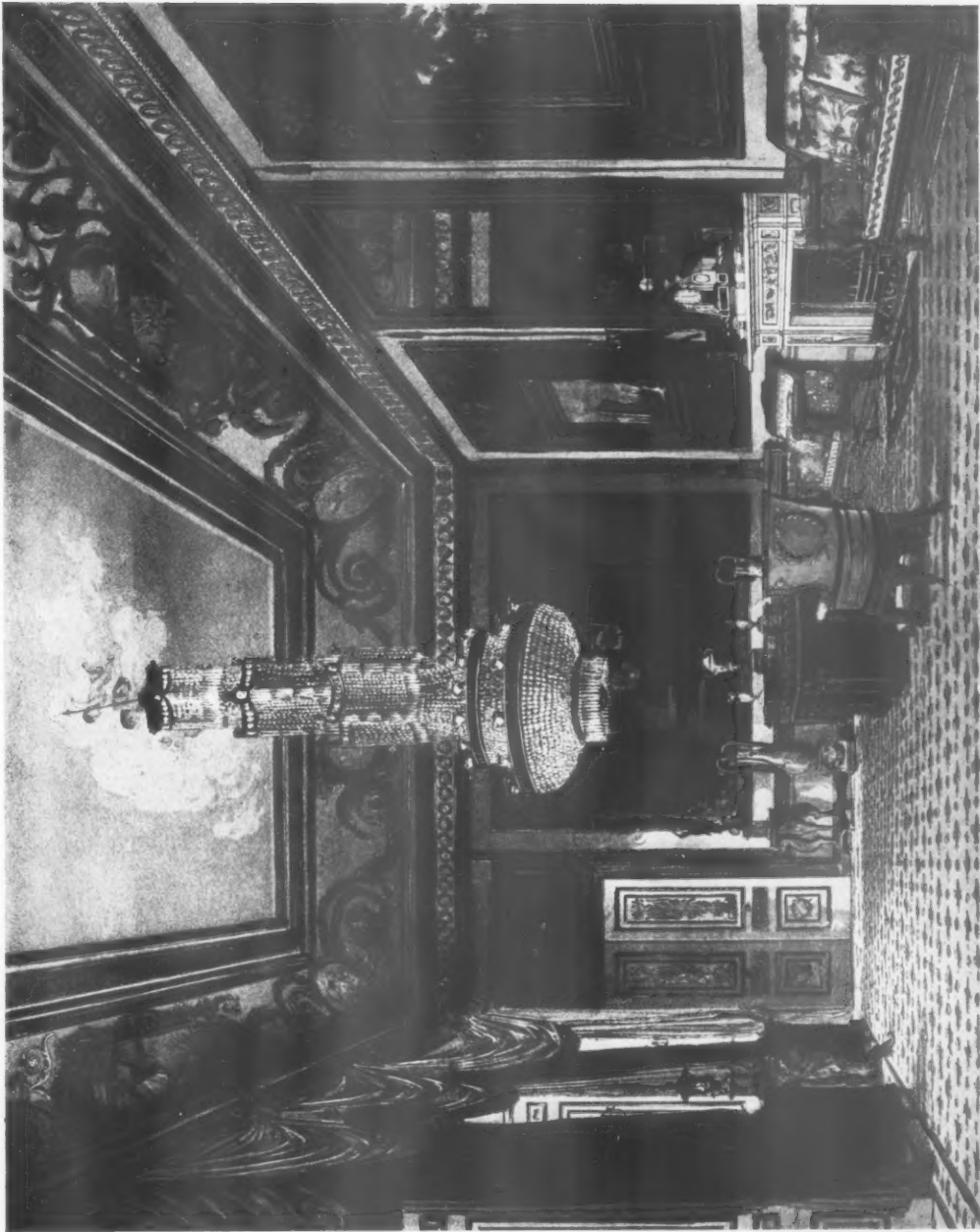
There seems to be a divergence of opinion about the date of his birth, which is given as 1770. His father's house at Haarlem contained a magnificent collection of pictures which cannot but have been of absorbing interest to the young man. Early in his career he travelled for eight years in Italy, visiting Egypt, Greece, and the East, in pursuit of architectural study. Following the fashion of the day, he collected a large number of valuable antique marbles, which were housed in his London house in Duchess Street, Cavendish Square, and afterwards at the classic villa he built as a country seat at Deepdene, near Dorking.

Hope's taste for furniture was remarkable, as may be seen by reference to his important work on the subject. He attempted to raise furniture design from the rank of a cringing second-rate art practised by tradesmen to the level of a living and first-rate art closely allied to architecture. Hope wrote two other well-known books in addition to his volumes on design. One of these is on the costume of the ancients, and the other, "Anastasius, or Memoirs of a Greek." He was elected a member of the Society of Dilettanti in 1800.

Hope acknowledged his indebtedness to the work



THE GREEN CLOSET, BUCKINGHAM HOUSE



THE BLUE VELVET ROOM, CARLTON HOUSE

THE EMPIRE STYLE IN ENGLAND

of his friend Percier, with whom he was very familiar, and remarked that his work could not be classed with that of the incomparable Frenchman. Through the liberality of Hope, Flaxman was advanced, and at various times sculptured many beautiful works of art, among the most noted being "Aurora visiting Cephalus on Mount Ida." Hope expressed his disapproval of the employment of Egyptian motifs except for matters of mere novelty; perhaps he had in mind the not ineffective Piccadilly façade of the vanished Egyptian Hall.

Such works as Durand's "Parallèle d'Édifice," Stuart's "Athens," Winckelmann's "Monuments Ancien et Moderne," "Antichi inediti," Piranesi's works in general, and particularly his vases, candelabra, and chimneypieces, were consulted by the cultured connoisseur in his researches for the antique. Hope's minor furniture designs will be dealt with more fully in a subsequent article describing the furniture of the style in detail.

England at this period contained in the private art galleries of her travelled sons nearly all that was best in the art of the antique world. Soane had founded the nucleus of the present unrivalled Soane Collection. Nash, inspired by Soane, had in mind something better than his own house in Dover Street, and ultimately erected a stately mansion in Lower Regent Street, in the design of which an art gallery formed a prominent feature.

What would one not give for a peep into the apartments of the vanished Carlton House! All its treasures, together with those of Buckingham House, have long since been removed to Windsor Castle, or dispersed elsewhere. The Prince Regent was a man of exquisite taste in furniture and appointments, but he ruined poor Vulliamy, contemptuously dubbed "the furniture man."

When Sir Jeffrey Wyattville carried out the extensive alterations to Windsor Castle in 1824, his designs for the interior decoration were in the English Empire style, which he concealed within an Edwardian Gothic shell. The change of his name from Wyatt to Wyattville was considered at the time a piece of affectation, and gave rise to the following squib:—

Let George, whose restlessness leaves nothing quiet,
Change if he will the good old name of Wyatt;
But let us hope that their united skill
Will not make Windsor Castle—Wyat—ville.

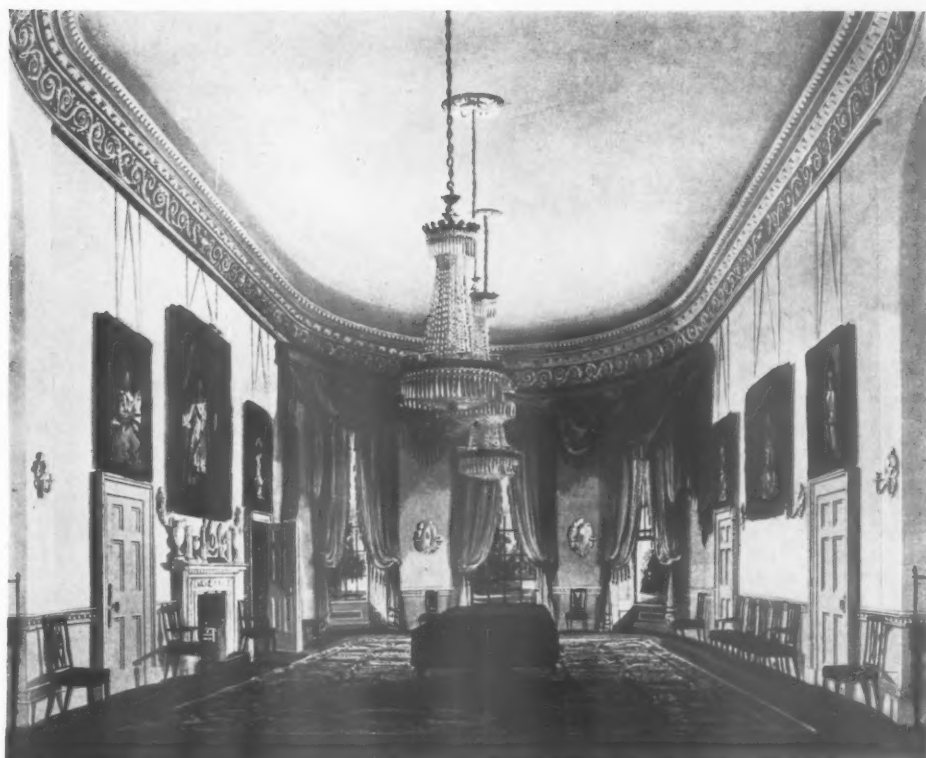
The completion of the works at Windsor Castle cost over £700,000.

In Sir John Soane's house in Lincoln's Inn Fields is to be seen not only a fine series of contemporary English Empire furniture, but evidences of Soane's own version of the style as applied to fireplaces and fitments.

The special point of interest with regard to the English interior decoration of the period is in the absolute non-inclusion of such architectural



ANTE-CHAMBER LEADING TO THE THRONE ROOM. CARLTON HOUSE



THE DINING-ROOM, FROGMORE

features as stereotyped columns and entablatures as decorative adjuncts to a room. The interest is concentrated entirely on the design of the furniture and the other appointments, the walls being simply used as backgrounds to the movable furniture, carpets, and curtains. Extremely simple and effective colour-schemes were considered to be in good taste; and what little information there is on the subject proves the effectiveness of the style.

All the theatres built in London between the years 1800 and 1830 were representative of the style, which was adapted to give a lightsome buoyant effect to the interiors. Among the most noted were the New Opera House, Covent Garden (destroyed by fire), the Haymarket Theatre, by Nash (the original interior has been much altered), the interior of Old Drury Lane, and the Royal Opera House in the Haymarket, pulled down ten or twelve years ago to make way for the present Carlton Hotel.

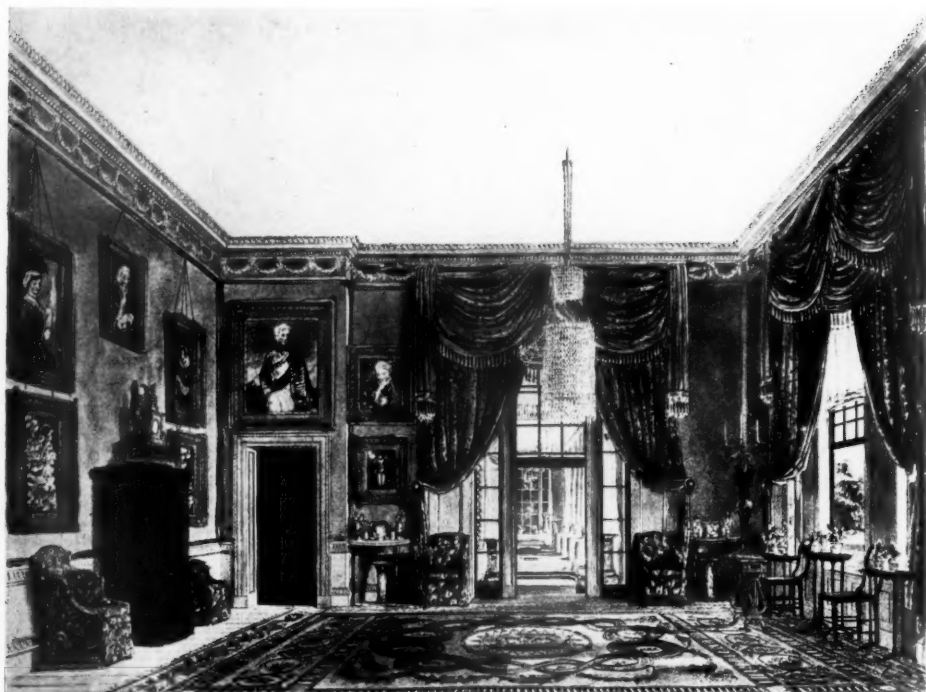
Many London shop-fronts of the "Regency" were designed in the style, notably No. 143 New Bond Street, which still stands unaltered, both externally and internally, and the charming double terrace of shops known as Woburn Buildings, designed by the Inwoods. The houses forming the Regent's Park terraces by Nash, as well as those in Belgrave Square designed by Basevi in 1825, exhibit in their interior decoration

some delightful features of the style in the form of cornices and ceiling decoration, fireplaces and basket-grates.

The object of the present article is not to hymn the praises of the English Empire style over the grandiose mannerisms of the contemporary French phase, but rather to direct attention to what is comparatively an unknown period in the annals of English decorative art and furniture design. To be brief, the classic tendencies of English furniture designers during the later years of the eighteenth and the first quarter of the nineteenth century were profoundly influenced by the travels and liberality of the cultured amateurs, such as Thomas Hope, Lord Elgin, and many others. This resulted in the production of honest well-made articles of furniture and other appointments, which rivalled in finesse the artistic objects of the antique world.

After the Regency came artistic stagnation. There was an abortive attempt to revive the style of the Adams for interior decoration, but, following a reaction then apparent in France in favour of a revival of the ancient régime, English furniture lost all its meaning, and, following the Parisian school, masqueraded under the guise of pseudo-Louis Quinze. What with the sentimentalism engendered by the novels of Sir Walter Scott, and the scourgings of Pugin's ridiculous "Contrasts," it is a matter of wonderment that the

THE EMPIRE STYLE IN ENGLAND



THE GREEN PAVILION, FROGMORE



THE WEST ANTE-ROOM, CARLTON HOUSE

decadence of decorative art during the Victorian era was not a great deal worse than it really proved. The Great Exhibition of 1851 was the direct cause of that pitiful burlesque of all styles which is most apparent in modern interior decorations. Surely the critic of the future will shower opprobrium on the perverse tendencies of the present day, which sanction the incongruous jostling of the crude furniture of Elizabeth's age with fine specimens of the Age of Mahogany and later. The hysterical outburst on the part of those who desire to gibe at the meek and mild Victorian people will eventually react on their own devoted heads unless in the meantime they reform. In the early years of the last century the art collections of the country were comparatively few and almost inaccessible to the ordinary decorative artist; yet the period witnessed an enormous output of tastefully designed and refined movables which reflect the utmost credit on the upholders of the day. Even when the artificialities of the Regency period are taken into consideration, there still remains a clarity of expression, not only in the reticent design of the furniture, but in the simplicity and breadth of

the style in general. If only the astylar treatment of the interiors is taken into consideration, the absence of the march of the orders into every room is surely an achievement of note.

Nowadays, nearly every known historical style has been exploited, only to be cast aside after its most delectable motifs have been reproduced time without number. It is so easy for the services of the architect to be dispensed with in matters of internal decoration, when creditable reproductions of any style can be obtained at a few hours' notice. In the meantime active creative art, which selects its motifs from proved sources as a preliminary to making them its own (and, paradoxical as it may seem, begetting the highest form of originality), remains stagnant. If architectural design as well as decorative art is ever to regain the high place it once held in public estimation, English architects and designers must be prepared to consider the minutiae of their profession, and personally to take in hand the design of furniture and other household appointments as a sequel to their essays in architecture proper.

A. E. RICHARDSON.

(To be concluded.)

NEW LIGHT ON OLD SUBJECTS—IX THE TOWER OF LONDON AND ITS DEVELOPMENT

BY ALFRED W. CLAPHAM



MOST of the great capitals of modern Europe are cities of comparatively recent growth and importance. Berlin, Madrid, The Hague, and St. Petersburg fill little or no space in the mediæval history of their respective states, while Vienna and Brussels have been promoted from a humbler position. Rome, London, Paris, and Lisbon may, however, claim that exalted status which accrues only to the city that has been for centuries the centre of the national life. Such a position inevitably leaves its mark on the civic architecture, which, however, has been too often expunged and obliterated by the varying fashions and fortunes of more modern times. Thus it happens that London devastated by the great fire, Lisbon by the earthquake, and Paris, to a less extent, by the revolutionary changes of recent times, retain comparatively few of the concrete monuments of their great past, and even Rome herself is a memorial rather of the Renaissance than of the Middle Age. It is not surprising, then,

that in the great palatine fortress of the Tower London possesses a building, standing as it does largely intact, which is almost without a parallel amongst the European capitals. The mediæval military architecture of England generally can hardly be said to approach, far less to rival, that of the Continent, for the more settled condition and greater cohesion of the English state rendered these huge defensive works unnecessary. Scores of English castles have no recorded siege, and comparatively few of the English towns, save those on the Scotch and Welsh borders and on the coast towards France, were defended by walls. Nevertheless the fortress projected by the Conqueror and built by his successor is perhaps the most important example of military architecture which the country affords, and an attempt to explain its origin and growth will not be without interest.

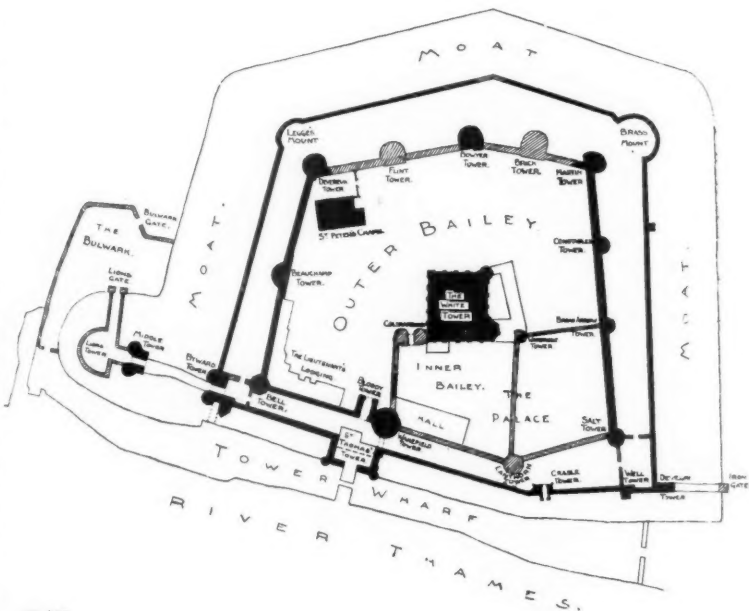
The Norman Conquest found London defended on the landward side by its Roman walls, repaired in Saxon times, and by the remains of the wall, also of Roman date, along the river front. These walls were protected at intervals by semi-circular bastions more or less regularly spaced, the positions

THE TOWER OF LONDON

of many of which are shown on Ogilby and Morgan's survey of the city taken in 1677. The south-eastern angle of the area thus enclosed was the site chosen by the early Norman kings for their new fortress, which was to overawe and keep in check the London citizens. It has long been a matter for some surprise that, with the exception of the White Tower or Keep and the basement of the Wakefield Tower, no trace of Norman work exists in any other part of the fortress, all the remaining towers and walls being of more recent date. The explanation of the circumstance which I here offer appears to me, from its very simplicity, to contain all the elements of probability.

At the date of the building of the Roman wall at this angle was intact, and the Norman builders to incorporate a portion of it in the castle. The course of the Roman east side of the city is well known, but the position of the southern or river front has been the subject of much conjecture. The existing evidence is, however, in my opinion, sufficient to establish this, at any rate with regard to the south-east angle. The mediæval building known as the Wardrobe Tower, of which a portion still remains standing, has been proved to stand on the base of a Roman bastion. The line of the still existing city wall between Aldgate and the Tower Ditch when produced southwards exactly strikes this point, and a portion of its base adjoining the tower has been uncovered. The lines of this fragment, however, prove that from here the wall turned slightly and headed in a direct line for the centre of the modern Lanthorn Tower, which stands partly on the foundations of its predecessor destroyed in the eighteenth century. From this there seems little doubt that the Lanthorn, like the Wardrobe Tower, was built on the base of a Roman bastion. Now, the bastions to the north and south of Aldgate shown on Ogilby's map of London are spaced about 200 ft. apart, which is approximately the distance between the Wardrobe and Lanthorn Towers. The wall must of necessity have turned at this point, and the same

dimension set off on a line running parallel to the river gives the positions in succession of the Wakefield, the Bell, and the northern bastion of the Middle Tower. It seems, then, almost more than probable that we have here the river line of the Roman wall and the position of the first four bastions on its southern face. It may be further noted that all four towers are in perfect alignment, and that each of them is or was of circular form. The Norman builders probably found some of these towers still standing with the wall between them, and constructed their Keep as near as possible to the eastern line, without disturbing it, and leaving a considerable space on the south side between it and the southern wall. By this proceeding they obtained a bailey ready made enclosed on the north by the Keep and on the east and south by the Roman wall and the bastions which later became the Wardrobe, Lan-



PLAN

THE TOWER OF LONDON

thorn, and Wakefield Towers. All that was needed to complete the defences was a protection on the western side, and this was temporarily provided by a wooden stockade, the remains of which were brought to light some years ago. Subsequently a great gatehouse, called "Coldharbour," and a strong curtain were erected on its site. These buildings formed the whole extent of the early castle, which was probably isolated by the destruction of a portion of the city wall immediately outside its limits. There is no evidence that its defences included either a fosse or mound, and

Apothecaries' Hall in Blackfriars represents exactly, in position and dimensions, the hall of the guest-house where the Emperor Charles V lodged during his visit to London in 1522.

The great Keep of the Tower of London, in spite of the unfortunate repairs and alterations of Sir Christopher Wren, must always remain amongst the finest examples of its class in the country. If it does not cover so much ground as Colchester, and is less lofty than Rochester, it possesses, in the Chapel of St. John, a feature which is unapproached by any other Norman keep



Photo: "Architectural Review"
VIEW OF TOWERS BETWEEN OUTER AND INNER WALLS
EAST SIDE

thus two of the most characteristic features of Norman castle-building were absent.

It may seem improbable that buildings still standing in the twentieth century should have retained the exact positions, through successive rebuildings, of their Roman predecessors; but the more one studies the features of London topography the more one is struck by the extraordinary persistence of ancient building lines. To mention two instances only: the modern warehouse on the site of the old Barbers' Hall in Monkwell Street reproduces exactly the lines of the Roman bastion which formed its western termination, and the

in the country; and here, fortunately, the structure has been left largely in its original state. The chapel at Colchester, which occupies the same relative position, is also apsidal, but at the Tower alone is found the encircling ambulatory and the aisled nave. In the stages beneath the chapel are two crypts, the lower a gloomy vault, with massive walls and barrel roof, which carries the mind back irresistibly to the early days of Norman rule. The many writers on the Tower have found themselves unable to identify the original entrance to the Keep, but once the early arrangement of the castle is understood its position

THE TOWER OF LONDON

becomes quite obvious. In the western bay on the south side, at the first-floor level, is a large arched opening with a small niche cut in the thickness of the wall on either side; this, now fitted with a modern window, is the original door. It was approached by an external and probably roofed staircase from the bailey, all trace of which is now lost. A similar arrangement is found in most of the existing keep-towers of this period, the examples at Newcastle and Rising (Norfolk) being perhaps the best preserved.

The first great enlargement of the Tower probably took place in the latter half of the twelfth century, when the great ditch was begun, and the western half of the inner circle of fortifications projected, which eventually transformed the castle from the early keep-and-bailey type to the concentric form which it afterwards assumed. Here again the position of the Roman city wall appears to have played a part, for this enlargement consisted of that part only of the later fortress which was within its limits, bounded outwardly by the Bell, Devereux, and Bowyer Towers. The great ditch was begun by Longchamp, Bishop of Ely and regent of the kingdom during the absence of Richard I; but the buildings—the curtain with its towers—appear to be of slightly later date. It is

evident from the remarks of Fitzstephen (temp. Henry II) that at this date the southern wall of the city was in great part undermined and cast down by the action of the tides, and consequently the Bell Tower, though on its line, presents no more ancient features above ground than the time of John. It is, however, an exceedingly massive work, being built solid for a considerable height, and may well incorporate in its base the remains of a Roman bastion.

The line of the inner circle of defence was completed under Henry III, when the eastern half, without the ancient city wall, was added, bounded by the Martin, Salt, and the intermediate towers. Most of the existing towers were rebuilt under this king, with the exception of those already noted, but many have been marred by nineteenth-century restoration, and the Flint, Brick, and Constable's Towers have been almost entirely rebuilt. It may be noted (if our theory be correct) that where the position of these towers was not determined by the pre-existence of the Roman works they are spaced much closer together. The first of the later towers on the east, the Salt, is comparatively close to the Lanthorn, and the straight line of the southern Roman wall is at once abandoned when nothing in the shape of old foundations could assist the thirteenth-century builder.

King Henry III is also responsible for the second and outer line of fortifications, and for the construction of the Tower Wharf. The former is on the east, north, and west sides, little more than a revetment to the great ditch. It is pierced, however, with loops, and two sally-ports are observable on the north front. On the river front this line also was defended by towers, which include the great water-gate called St. Thomas's Tower.

There is little doubt that a great hall of timber existed in the inner bailey in Norman times, but it was not until the thirteenth century that the hall of stone was erected against its southern curtain. This building has now entirely disappeared, and even in Elizabethan times it was in a ruinous state. It abutted on the west against the Wakefield Tower, and an idea of its appearance is given in the well-known 15th-century view of the Tower. The upper stage of the Wakefield Tower was rebuilt with it, and communicated by a short passage with the dais end, forming a feature corresponding in some respects to the oriel



THE CHAPEL OF ST. JOHN

Photo: "Architectural Review"



THE BLOUNT MONUMENT IN THE CHAPEL OF ST. PETER AD VINCULA

Photo: "Architectural Review"

of purely domestic work. The deep embrasure of the eastern window forms a small oratory—one of the many that the Tower formerly contained.

One of the most remarkable features of the fortress is the elaborate system of defences guarding the entrance from the outside world. To reach the Keep from Tower Hill it was necessary to pass through no fewer than six gatehouses—the Bulwark and Lion Gates, the Middle and Byward Towers, the Bloody Tower, and Coldharbour. The other entrances included two water-gates, and a small postern and bridge on the eastern side, protected by the Irongate and Develin Towers.

To Henry VIII must be assigned the final important changes to the building—the construction of the two great bastions on the north face, now called Legge's and Brass Mount. They appear in a view of Edward VI's coronation procession, and can hardly be earlier than his father's time. The Lions Tower, now vanished, was a work of

similar character, so called from the small zoological collection kept there by the later kings.

Turning now, more particularly, to the architectural part of our subject, it will be found that the towers on the inner and outer circuit, which has not been rebuilt, present an infinite variety of form and construction, and each of them retains some feature of interest. The Bell Tower, besides its early vaulting, possesses a charming early eighteenth-century bell-cote; the fifth gatehouse, called the Bloody Tower, has a richly-ribbed vault of the fifteenth century and a massive portcullis of timber still in working order. The great water-gate, called St. Thomas's Tower or the Traitor's Gate, has its little hexagonal-vaulted oratory, while the water-gate of the Palace, called, for some reason unknown, the Cradle Tower, is, where unrestored, an excellent example of fourteenth-century work with a graceful vault springing from embattled corbels. The Salt Tower

THE TOWER OF LONDON

contains an original thirteenth-century fireplace with a massive stone hood and a curious joggled arch; the Well Tower, though small, contains an early vault; and the Martin Tower, with its eighteenth-century patchwork, has an appearance equally picturesque and venerable. The Devereux Tower adjoins a large Tudor casemate of brick, and the Beauchamp is well known for the tragic list of noble names cut upon its walls by the ambitious and the unfortunate, who exchanged its narrow confines only for a narrower bed in the little chapel hard by.

The two outer gatehouses, called respectively the Middle and Byward Towers, are worthy of careful study. Both are of similar form—an entrance flanked by two circular bastions, the ground floors of which have groined and ribbed vaults of the fourteenth century. In addition to this the Byward Tower contains a fine early fireplace with a stone hood not unlike that in the Salt Tower, but rather more ornate. The inner face of this tower was transformed in Tudor times into a dwelling-house, and its half-timber walls and mullioned windows are still intact. Another example of Tudor domestic work is to be found in



THE HORSE-ARMOURY, BY WREN

Photo: "Architectural Review"

"The King's House," the lodging of the Lieutenant of the Tower. A succession of picturesque gables with enriched bargeboards looks on to the green, made pleasant in summer by a number of trees—a scene of peace and retirement which needs the ominous presence of the two Tower ravens to recall the fact that this was the place of private execution.



CARVED PEDIMENT WITH ARMS OF WILLIAM III
A FRAGMENT OF THE HORSE-ARMOURY, DESTROYED BY FIRE

Photo: "Architectural Review"

THE TOWER OF LONDON

Not the least interesting building in the Tower is the Chapel of St. Peter ad Vincula. Quite apart from the overwhelming associations of the place that enshrines the bones of queens and would-be kings, the victims of Tudor despotism or Stuart spite, there is sufficient in the building to demand attention on its architectural merit alone. One monument, that of the Blounts, father and son, is of quite unusual excellence. The mouldings and enrichments, and especially the carved masks which ornament the frieze, are

London. It still stands against the inner eastern wall between the Salt and Broad-Arrow Towers, and while marked by a suitable simplicity of design its proportions and the roof brought out over a broad projecting cornice are admirable.

The Great Armoury, begun under James II, and completed in the time of his successor, occupied the site of the modern barracks. It was a large building with projecting wings, and an enriched façade with a sculptured pediment in the centre.



FIREPLACE IN THE BYWARD TOWER

Photo: "Architectural Review"

of almost Italian delicacy and charm, while the pomp of heraldry in the many quartered shields adds considerably to the richness of the design. The armed alabaster effigy of Sir Richard Cholmeley, Lieutenant of the Tower under Henry VIII, stands near by, and is an excellent example of the period.

Two buildings of considerable merit were erected within the precincts during the second half of the seventeenth century. The earliest in date is the horse-armoury built by Sir Christopher Wren, and reputed to be his first work in

It was unfortunately destroyed by fire in 1841, and nothing was saved with the exception of the carved pediment adorned with the arms of William III, now built into a wall on the eastern side of the Tower.

The modern history of the Tower is a long record of destruction and misguided restoration, and its position has sunk to the level of a show. To the average Londoner it ranks with the Zoo and the waxworks, and he regards a visit to the Tower as one of those childish things which he put away long ago.

CURRENT ARCHITECTURE

NORTHERN CONSERVATIVE AND UNIONIST CLUB, NEWCASTLE-UPON-TYNE

THIS club-house, recently completed from designs by Messrs. Cackett & Burns-Dick, F.F.R.I.B.A., of Newcastle, occupies a site adjoining the old premises, which had become out of date and unsuitable for the expanding membership and more vigorous policy now pursued by the club authorities (prominent amongst whom is Sir Walter Plummer, who is largely responsible for the thoroughness with which the scheme has been carried through), resulting in one of the most complete and best-equipped club buildings in the provinces.

The fine open position, with Hood Street opposite, disclosing a view of the façade from Grey Street, makes possible a proper estimate of the design—a possibility too seldom the case in ordinary town streets.

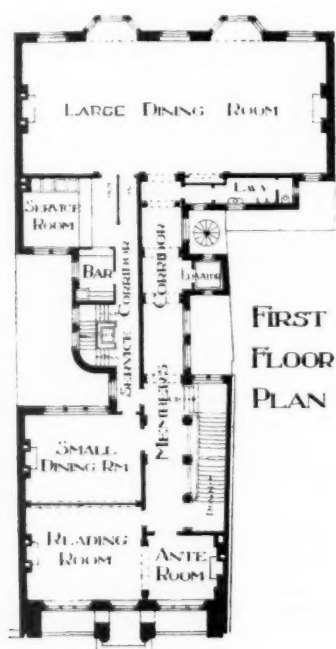
Unfortunately the shape of the site is hardly ideal, and the narrowness of the frontage to Pilgrim Street creates from the outside an erroneous impression of the extent of the accommodation. The accompanying plans will give some idea of this, and of the difficulties to be overcome, chief of which were the absence of any access to the site except from Pilgrim Street, and the great depth without light from either side. The former explains the somewhat unusual treat-

ment of the lower storeys, which are so designed as to secure the necessary service and fuel entrance without disfigurement to the front. In thus fulfilling a requisite purpose, interest is lent to the elevation, and a useful and appropriate balcony opening out of the first-floor rooms is made possible. How the lighting difficulty has been surmounted can be seen from the plans, the actual result being completely satisfactory.

The ground floor comprises a good entrance hall, reception-room, and large smoking-room, with ample cloak and lavatory accommodation, the staircase and passenger lift being about midway between the front and rear apartments; while on the first floor, which may be considered the principal floor, are reading and private dining rooms, and the most important room in the building—the dining-hall, about 64 ft. long by 27 ft. wide, and lofty enough to provide a mezzanine floor with balcony overlooking the room.

The second floor consists of two billiard-rooms (three tables), card-rooms, etc., and on the third and fourth floors are ten bedrooms for members, with bathroom accommodation, servants' bedrooms, etc.

The lower ground or basement floor is efficiently equipped with cooking and heating appliances, and has administrative and staff apartments of a very complete character. A special feature of the planning is the way in which the service arrangements on the principal floors are contrived so as



FIRST
FLOOR
PLAN



PILGRIM STREET

NORTHERN CONSERVATIVE AND UNIONIST CLUB, NEWCASTLE-UPON-TYNE



Photo: Thomas Lewis

NORTHERN CONSERVATIVE AND UNIONIST CLUB, PILGRIM STREET, NEWCASTLE-UPON-TYNE
CAKETT AND BURNS-DICK, F.F.R.I.B.A., ARCHITECTS



Photo: Thomas Lewis

NORTHERN CONSERVATIVE AND UNIONIST CLUB, NEWCASTLE-UPON-TYNE: DETAIL OF ENTRANCE
CAKETT AND BURNS-DICK, F.F.R.I.B.A., ARCHITECTS



Photo: Thomas Lewis

NORTHERN CONSERVATIVE AND UNIONIST CLUB, NEWCASTLE-UPON-TYNE: MAIN CORRIDOR
CAKETT AND BURNS-DICK, FF.R.I.B.A., ARCHITECTS



Photo : Thomas Lewis

NORTHERN CONSERVATIVE AND UNIONIST CLUB, NEWCASTLE-UPON-TYNE
CHIMNEYPiece IN DINING-ROOM
CAKETT AND BURNS-DICK, F.F.R.I.B.A., ARCHITECTS

to avoid contact with the members' corridors, whilst affording the most speedy and effective service to the club-rooms.

The building is substantially constructed, fire-resisting throughout (all floors being of concrete with Expanded Metal), and finished in a quiet club-like manner in appropriate material, such as is found in the solid, dignified work of the designers of the Georgian period.

The general contractors were Messrs. Stephen Easton, Ltd., of Newcastle. The marble-work was executed by Messrs. Emley & Sons, of Newcastle; the sanitary fittings are by Messrs. Shanks & Co., of Barrhead; electric-light fittings by Messrs. Singer & Sons, of Frome; lifts by Messrs. R. Waygood & Co., Ltd., of London; furnishings by Robson & Sons, Ltd., of Newcastle; and heating boilers by the National Radiator Co., of London, while among other sub-contractors were the following:—

Sculpture work and balcony railing on front elevation, the Bromsgrove Guild, Bromsgrove; partitions, the Hempstead Brick Co., Hemel Hempstead; sanitary work, electric wiring, and heating and ventilation, R. W. Cairns, Newcastle; iron balustrading to main staircase and electric-light fittings, Spital & Clark, Birmingham; door furniture, N. F. Ramsay & Co., Newcastle; cooking machinery, R. & A. Main, Ltd., Glasgow; asphalt roofs, Le Brea Co.; painting, decoration, and glass, G. Laidler, Newcastle; furnishings, Jas. Coxon & Co., W. E. Harker & Co., and Messrs. Gullachsen, Newcastle; lightning conductors, P. Tyer & Co., Newcastle.

WHITLEY BAY PLEASURE BUILDINGS

THESE buildings have been erected from designs by Messrs. Cackett & Burns-Dick on the site formerly occupied by temporary buildings for the "Spanish City," Whitley Bay, Newcastle-on-Tyne. They are of a substantial and permanent character, and in the matter of construction are interesting as including one of the largest reinforced concrete domes yet erected, as well as a cantilever gallery in the same material. The dome is of 50 ft. internal diameter, carried on twelve columns 35 ft. high, the whole forming a homogeneous structure of reinforced concrete rising about 90 ft. to the top of the lantern. The gallery of the theatre has a clear span of 66 ft., the cantilevers projecting 17 ft. beyond the centre beam, the latter and the beam supporting the main gable and the back of the gallery being 6 ft. and 8 ft. deep respectively. One month after erection the front of the gallery was tested with a load of something like 80 tons, with most satisfactory results.

The general arrangement of the buildings is shown by the accompanying ground-floor plan.



NORTHERN CONSERVATIVE AND UNIONIST CLUB, NEWCASTLE-UPON-TYNE
THE DINING-ROOM
CACKETT AND BURNS-DICK, F.F.R.I.B.A., ARCHITECTS

Photo: Thomas Lewis



Photo: Thomas Lewis

PLEASURE BUILDINGS, WHITLEY BAY, NEWCASTLE-UPON-TYNE
CACKETT AND BURNS-DICK. F.F.R.I.B.A. ARCHITECTS

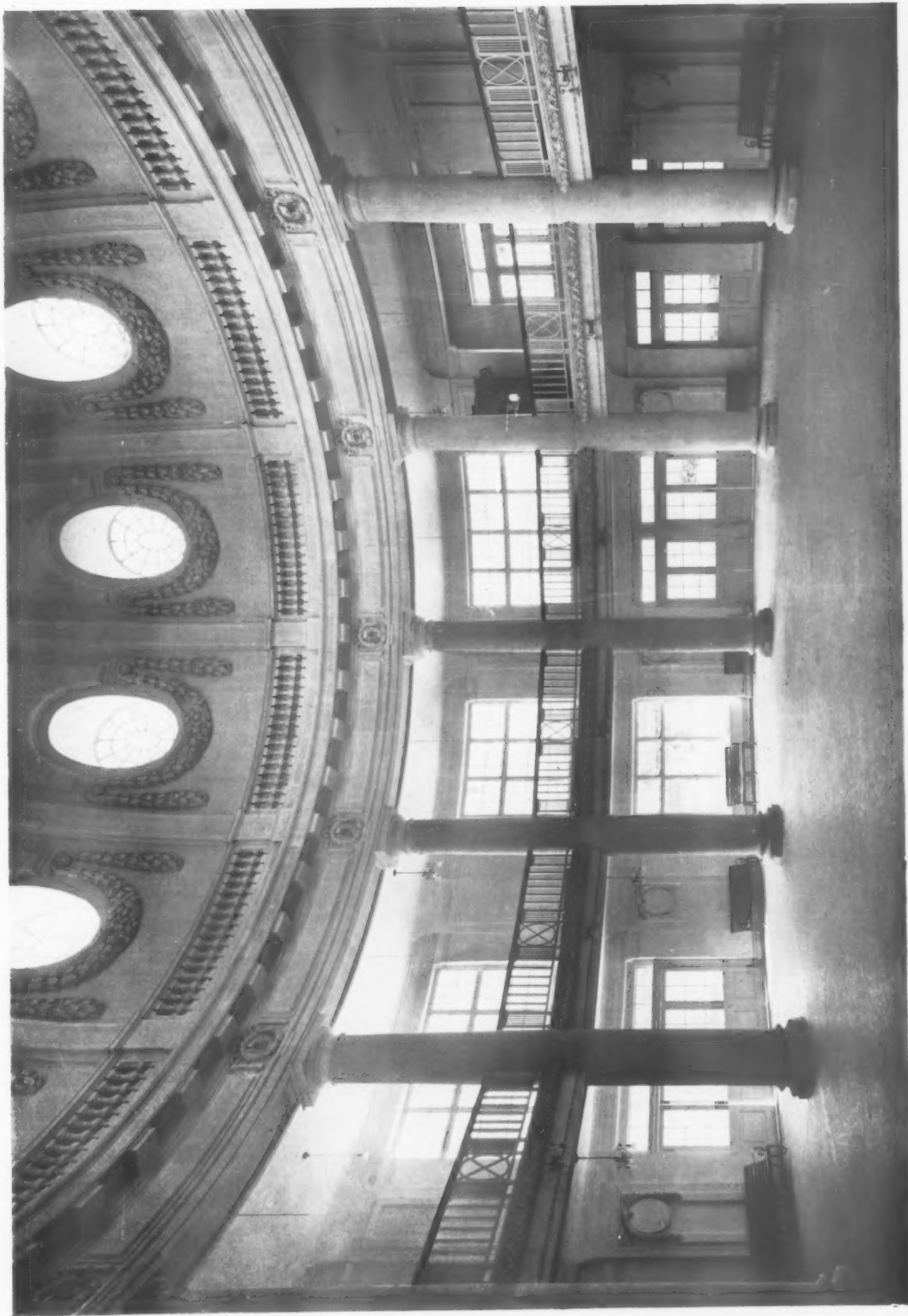


Photo: Thomas Lewis

PLEASURE BUILDINGS, WHITLEY BAY, NEWCASTLE-UPON-TYNE: THE ROTUNDA
CACKETT AND BURNS-DICK, F.F.R.I.B.A., ARCHITECTS

CURRENT ARCHITECTURE

The first floor comprises a café and a restaurant with roof gardens, while round the base of the dome the roof over the café is used as an open promenade, commanding a fine view of the sea-coast and the pleasure-grounds with their many amusement devices.

The theatre is arranged with a promenade on three sides, one of which is open to the grounds; the construction of its great semicircular roof and supports is of steel, timbered and slated in the usual way. The side arcading is fitted with revolving shutters, enabling the promenades to be shut off from the auditorium proper when required; the idea being that in the height of summer the entertainment may be considered more or less as *al fresco*. The stage, with a 30 ft. proscenium opening, is large, and thoroughly equipped for entertainments of any description, the electric installation being of the highest class.

The main walls throughout are of brick, faced externally with Portland cement painted white; the columns of the main front being of concrete reinforced with Expanded Metal. The figures on the towers, and the large lantern on the dome, are of copper. The interior of the rotunda is treated with fibrous plaster. The floors on the ground floor generally are of terrazzo.

The whole work was carried out in exceedingly short time, the buildings having been opened to

the public in May last—four months from the start.

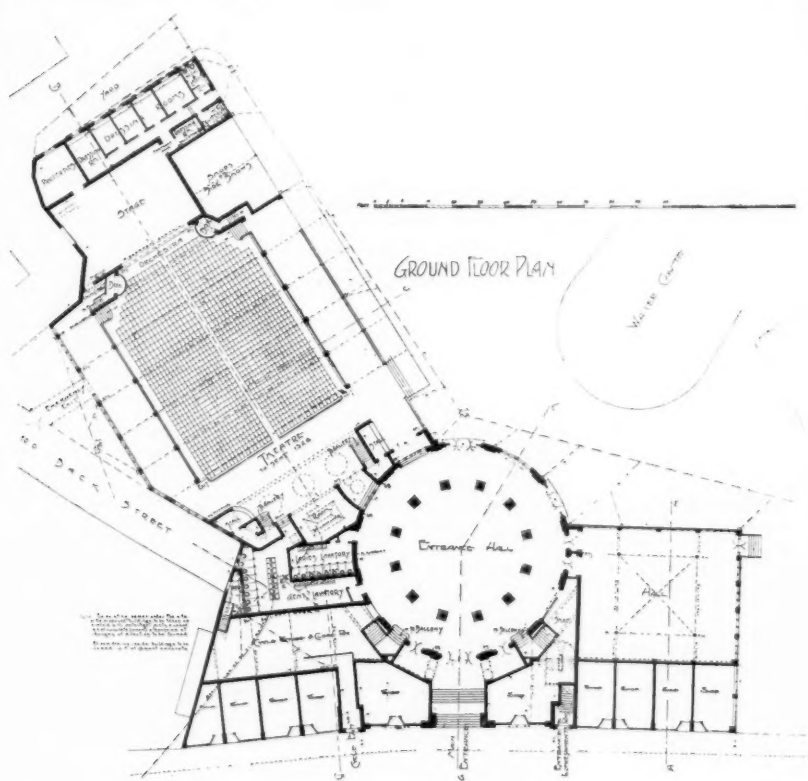
The general contractors were Messrs. Davidson & Miller, of Newcastle-upon-Tyne. Roofings were laid by the Ruberoid Co., Ltd., of London; floorings by Messrs. Emley & Sons, of Newcastle; and electric-light fittings supplied by the General Electric Co., Ltd., of London. Among the other sub-contractors were the following:—

Steelwork, H. T. Newbigin, Newcastle; electric wiring, R. W. Cairns, Newcastle; fibrous plasterwork, R. W. Cairns, Newcastle; door furniture, N. F. Ramsay & Co., Newcastle; copper lantern and the terpsichorean figures on towers, Ewart & Son, Ltd., London.

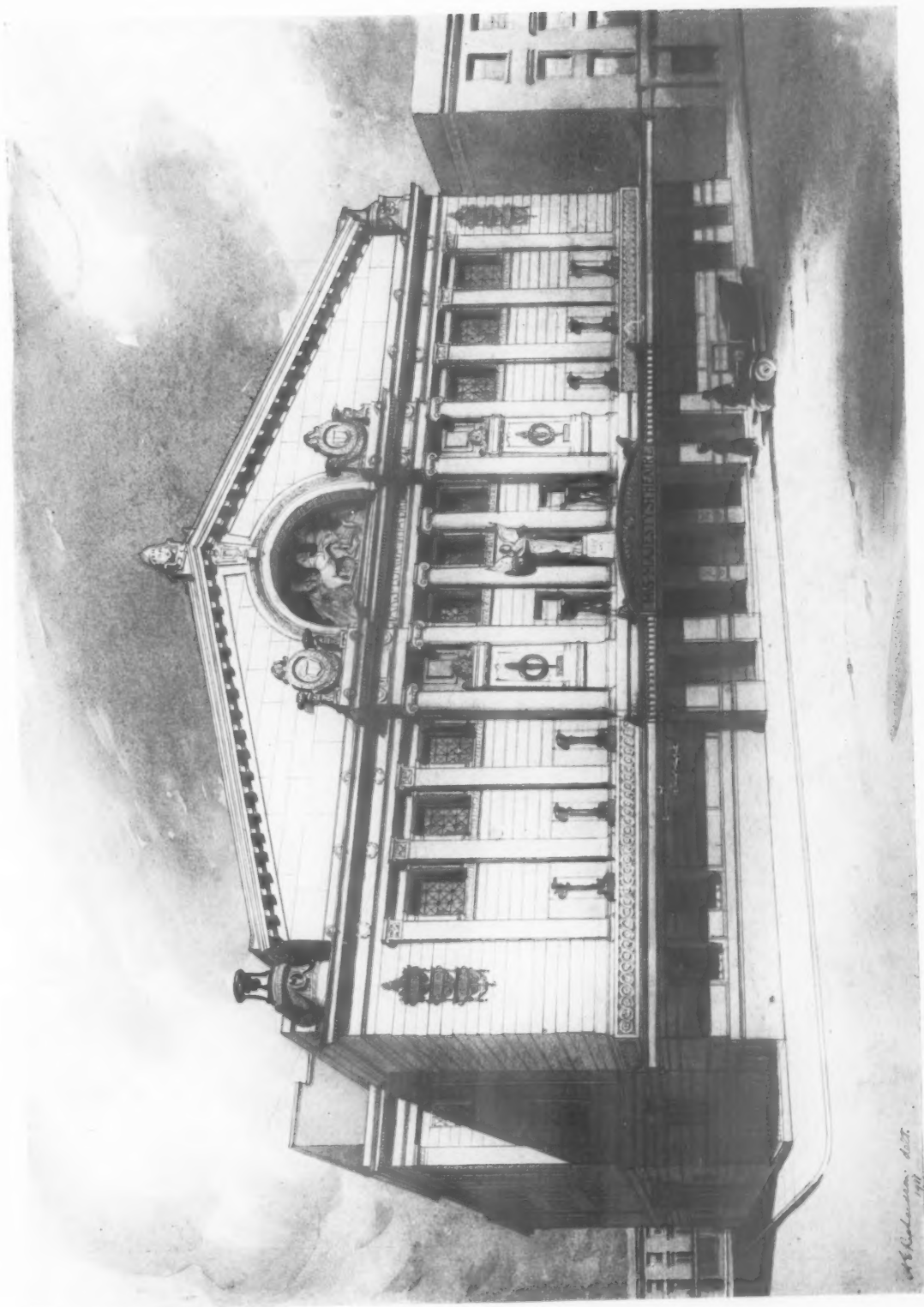
HIS MAJESTY'S THEATRE, MANCHESTER

THIS new theatre is intended for the production of high-class dramatic plays and operas. It will be erected on what is practically an island site, in the theatre zone of the city, and its addition to the theatres already in existence in Manchester will be most opportune. With the full approval of the Board of Directors an architectural scheme has been adopted for the building from the outset, the authors basing their design on the works of the "English Classic" school of the late eighteenth and early nineteenth century. The planning is on academic lines, with all the exits and entrances grouped to form part of the internal design as well as to conduce to the safety of the public. Great study has been given to the design of the stage, and more particularly to the unique labour-saving devices which will be a feature of the working part of the house. In this connection the architects are fortunate in being able to have the advice of Mr. Francis Neilson, M.P., who is acknowledged to be one of the greatest authorities on the subject of stage equipment.

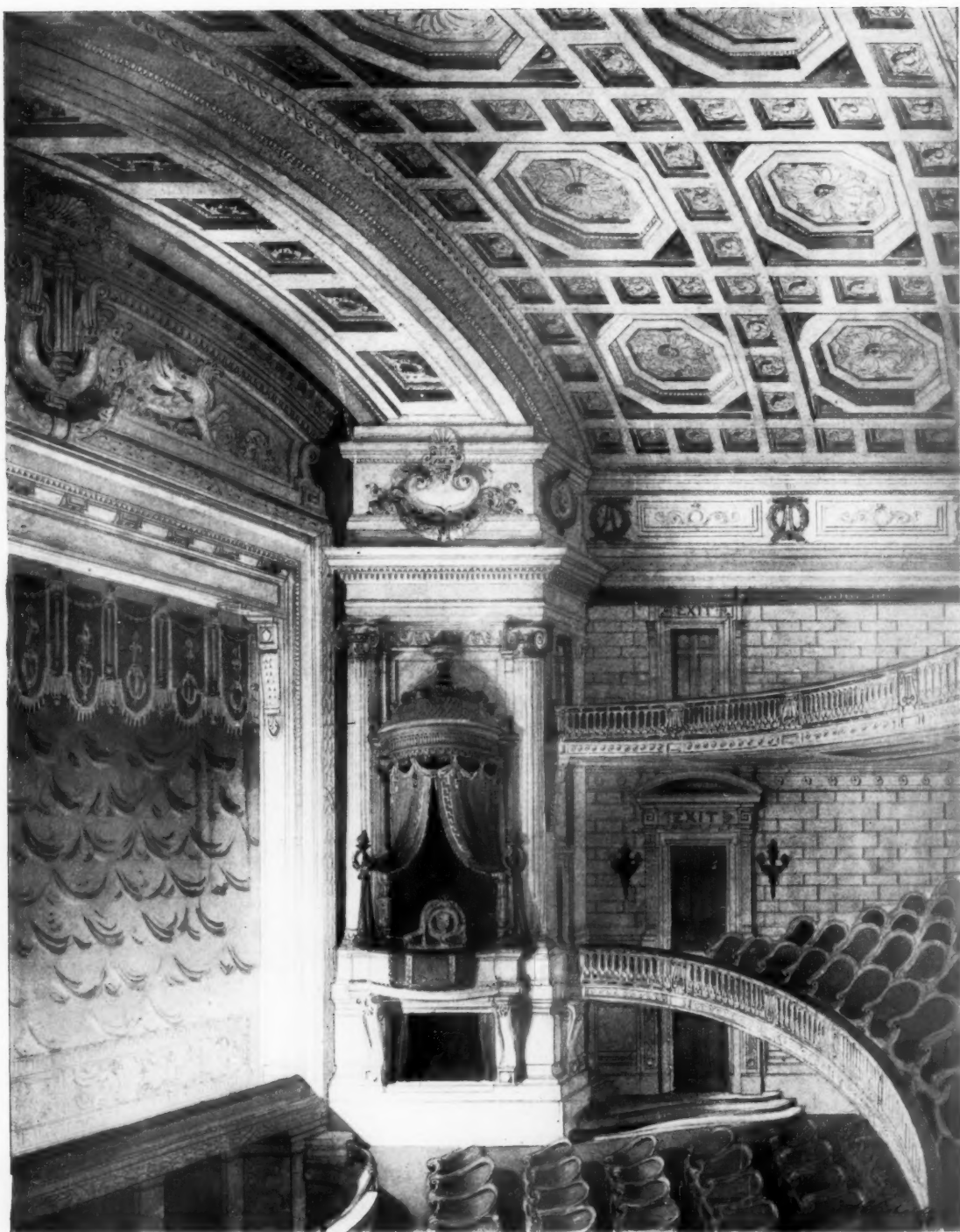
Mr. Horace Farquharson and Messrs. Richardson & Gill, of London, W.C., are the associated architects for the building. They are also designing the open-air theatre, medical baths, and kursaal to be erected at Hastings.



PLEASURE BUILDINGS, WHITLEY BAY, NEWCASTLE-UPON-TYNE



HIS MAJESTY'S THEATRE, MANCHESTER: FAÇADE TO QUAY STREET
HORACE FARQUHARSON AND RICHARDSON AND GILL, ASSOCIATED ARCHITECTS



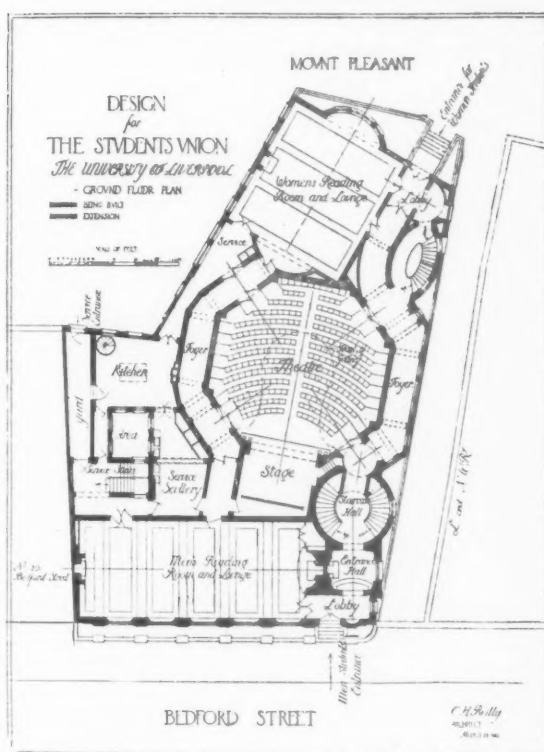
HIS MAJESTY'S THEATRE, MANCHESTER: INTERIOR
HORACE FARQUHARSON AND RICHARDSON AND GILL, ASSOCIATED ARCHITECTS

THE STUDENTS' UNION, LIVERPOOL

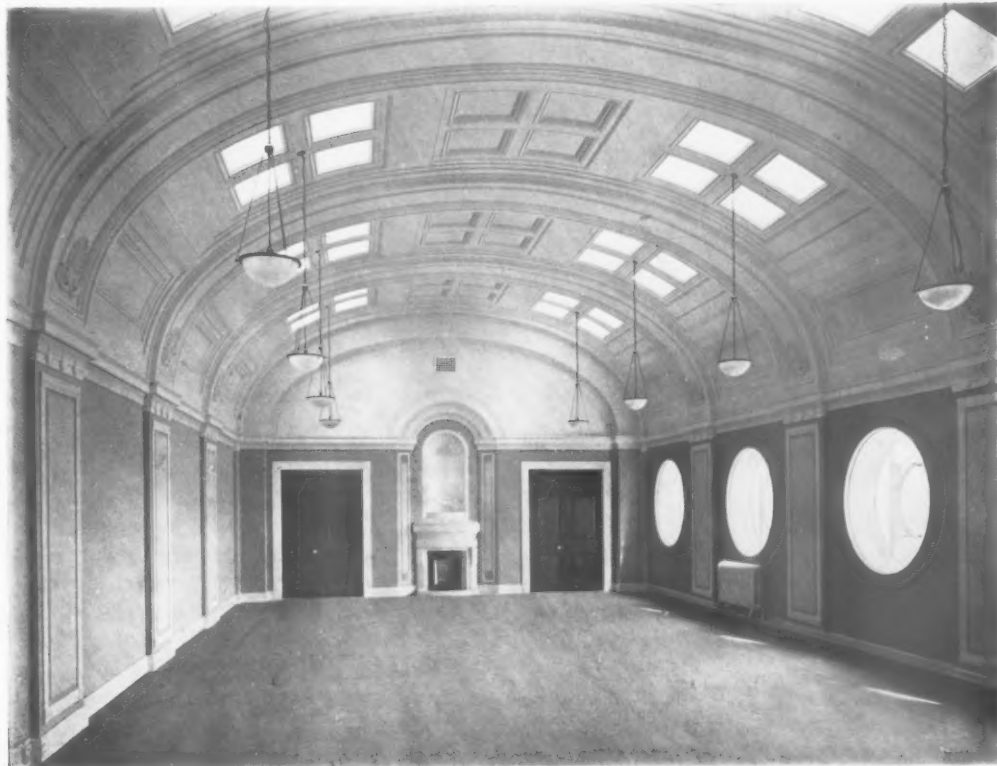
SOME particulars and a plan of this new building were given with a perspective of the façade in *THE ARCHITECTURAL REVIEW* for July 1910. The plan is here reproduced to a smaller scale in order to explain the disposition of the rooms.

The building shown by the accompanying photographs is the first portion of a larger scheme, and provides a club-house for the men students at the University of Liverpool. A similar club-house for women students, with a debating theatre centrally placed between the two portions, will complete the scheme. In the men's portion the chief accommodation is as follows: On the lower ground floor a large billiard-room, on the ground floor a reading-room, on the first floor a dining-room, and on the second floor a library; together with small rooms for committee purposes.

A special feature of the façade is the brick work, which consists of the ordinary stock brick of the Liverpool district wire-cut on the face and made to work five courses to the foot. The joints are ³/₄ in. wide in mortar made with ground stone. The wire-cutting of these common Liverpool bricks gets rid of the extremes of colour (pink and white) and produces a pleasant texture and variety of tone. For the lower portion of the building



and for the balcony piers, window-heads, and cornice. Portland stone (supplied by Mr. F. J. Barnes,



THE STUDENTS' UNION, LIVERPOOL : LIBRARY ON SECOND FLOOR
PROFESSOR C. H. REILLY, M.A., A.R.I.B.A., ARCHITECT

Photo: "Architectural Review"



THE STUDENTS' UNION, LIVERPOOL: FAÇADE TO BEDFORD STREET
PROFESSOR C. H. REILLY, M.A., A.R.I.B.A., ARCHITECT

Photo: "Architectural Review"

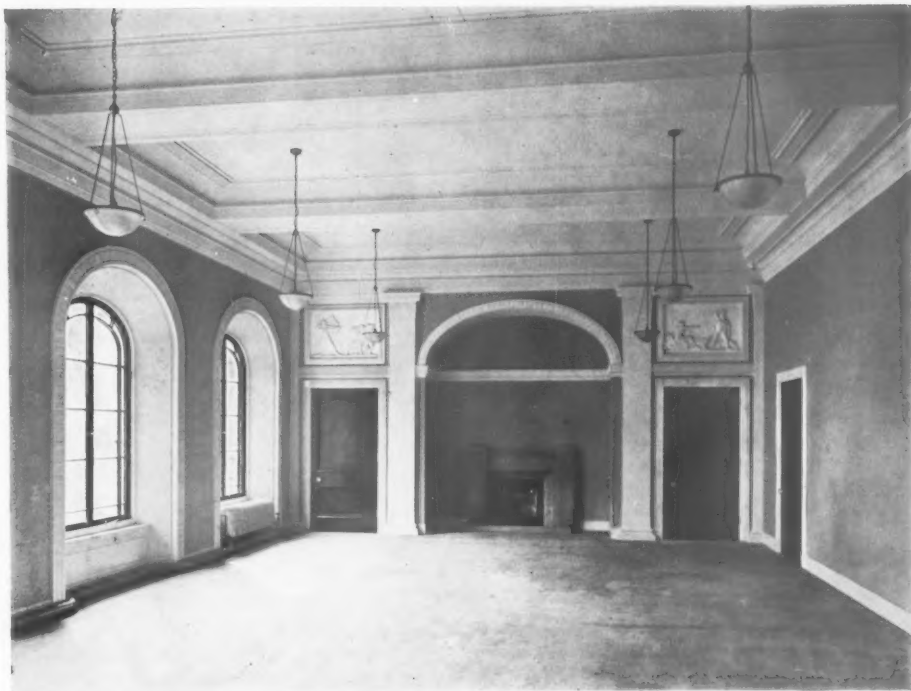
of Portland) has been used, and this, with the painted shutters, cast-iron railings and lamp standards, and terra-cotta enrichment to the cornice, secures a very effective result. At the time the accompanying photograph of the façade was taken, it should be explained, the lamp standards had not been placed in position. They are Classic in spirit, like the rest of the work, and are fixed on the piers provided for them.

Professor C. H. Reilly, M.A., A.R.I.B.A., of the School of Architecture, Liverpool University, was the architect of the building. The general contractors were Messrs. Brown & Backhouse, of Liverpool. Floors and stairs, in fire-resisting

reinforced concrete, were constructed by Messrs. Stuart's Granolithic Company, London; cast-iron standards, balcony fronts, staircase balustrade, cressets, etc., by Messrs. Walter Macfarlane & Co., Glasgow; Hopton Wood chimneypieces by Messrs. The Hopton Wood Stone Firms, Ltd.; terra-cotta cornice enrichment by Messrs. Doulton & Co., Ltd., London; lead down-pipes and rainwater heads, Messrs. Henry Hope & Sons, Birmingham; plasterwork, Messrs. John Tanner & Son, London and Liverpool; casements, Messrs. Wenham & Waters; grates, Messrs. Robbins's "Fire-on-the-Hearth"; sanitary fittings, Messrs. Musgrave & Co.; electric wiring, Messrs. John Hunter & Co.,



Men's Dining-Room, First Floor

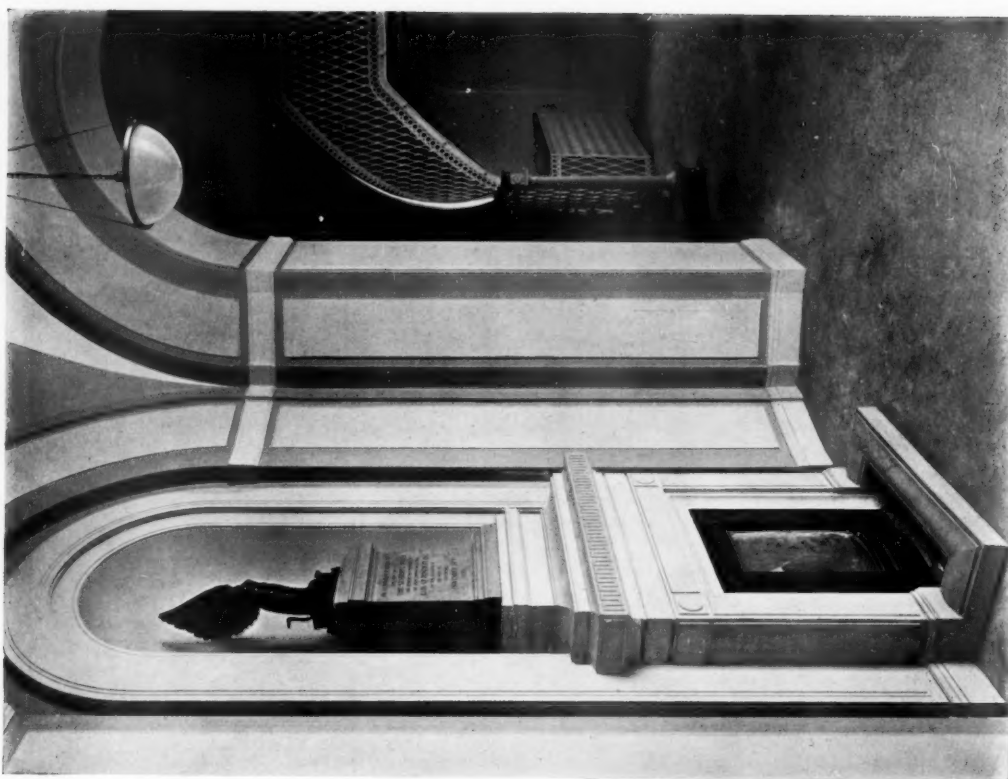


Men's Reading-Room and Lounge, Ground Floor

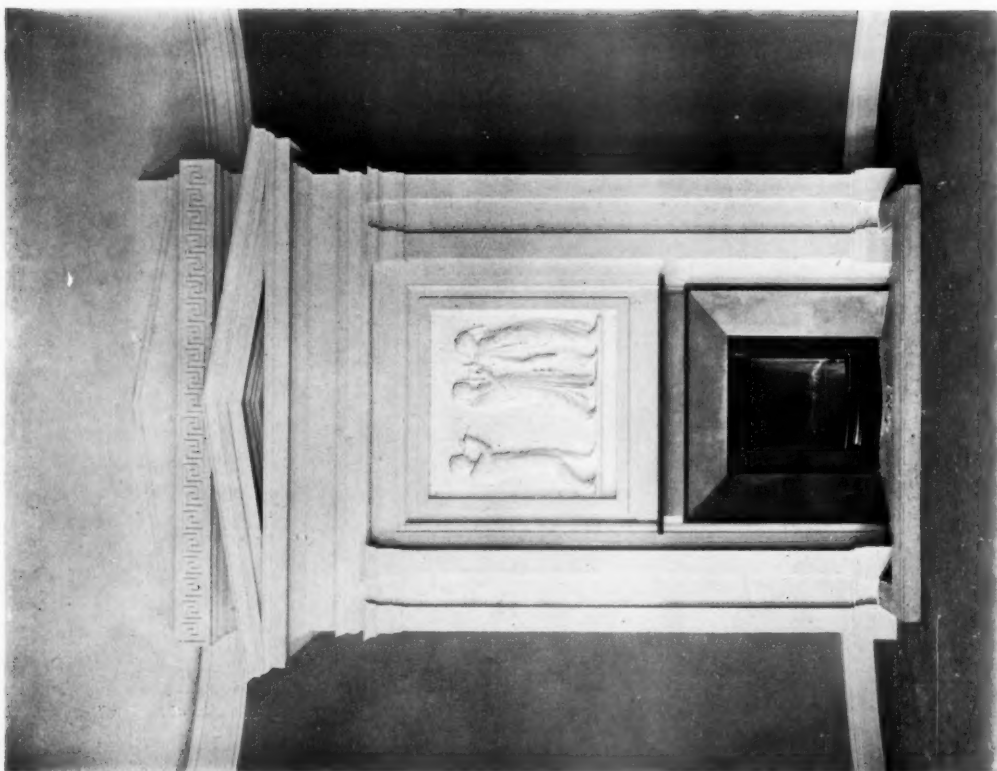
Photos: "Architectural Review"

THE STUDENTS' UNION, LIVERPOOL
PROFESSOR C. H. REILLY, M.A., A.R.I.B.A., ARCHITECT

November 1911



Photos: "Architectural Review"
Chimneypiece in Entrance Hall, and Staircase



Chimneypiece in Dining-Room

THE STUDENTS' UNION, LIVERPOOL
PROFESSOR C. H. REILLY, M.A., A.R.I.B.A., ARCHITECT



FALDSTOOL FOR QUEBEC CATHEDRAL
MERVYN E. MACARTNEY, F.S.A., F.R.I.B.A., ARCHITECT

Liverpool; electric-light fixtures, glass door-knobs, and some grates, Mr. E. A. Clarke, Liverpool; heating and ventilating and cooking plant, Messrs. Killick & Cochrane, Liverpool; sized and polished cork carpet laid direct on concrete floors, Messrs. J. & R. Smith, Liverpool; bricks ("Ravenhead Rustic Face"), Mr. Middlehurst, Sutton; asphalt, Messrs. The Trinidad Lake Asphalt Company; slates, Tilberthwaite.

ON THE USE AND ABUSE OF CAST-IRON

ONE of the features of the Arts and Crafts Exhibition Society, now dead, was the series of lectures given in connection with the annual exhibition at the New Gallery, lectures which appear to have grown out of the thoughtful essays on various forms of design and handicraft that were published as prefaces to the catalogues of the Society's first two exhibitions. These essays, comparatively little known, were written by men in the front rank. They were gathered together subsequently and reprinted, with others, in book form; and in coming upon them recently, as on a side path scarce remembered, we were struck by one dealing with cast-iron by Professor W. R. Lethaby, so excellent in character that we have considered it well worth while to give an abstract of it.

Cast-iron, as Professor Lethaby observes, is

nearly our humblest material, and with associations less than all artistic, for it has been almost hopelessly vulgarised—so much so, in fact, that Ruskin, with his fearless use of paradox to shock one into thought, speaks of cast-iron as an artistic solecism, impossible for architectural service now, or at any time. And yet, although we can never claim for iron the beauty of bronze, it is in some degree a parallel material, and has been used with appreciation in many ways up to the beginning of the nineteenth century. In out-of-the-way farmhouses we find cast-iron fire-backs to open hearths—fine specimens of the founder's art—still in daily use, as they have been for three hundred years or more. The decoration on them is crude, some of it being absurdly inadequate as sculpture, but the treatment and the relief suit-

able to the material never fails to give them a fit interest. With these backs cast-iron fire-dogs are often found, and these, too, within their limitations, are not without grace and character.

But the most usual form of cast-iron as an accessory to architecture is that of railings. The earlier examples of these in London are thoroughly fit for their purpose and their material: sturdily simple forms of gently swelling curves, or with



FALDSTOOL FOR QUEBEC CATHEDRAL
DETAIL OF BRACKET

CURRENT ARCHITECTURE

slightly rounded reliefs. Cast-iron balcony railings and staircase balustrades are common in houses of the late eighteenth century, and, refined and thoroughly good of their kind, they never fail to please, and they never, of course, imitate wrought-iron: the design is always direct, unpretentious, and effortless, in a manner that became at this time quite a tradition. The verandas also, of which there are so many in Piccadilly or Mayfair, with posts reeded, and of delicate profiles, are of the same kind, confessedly cast-iron, and never without the characterising dullness of the forms, so that they have no jutting members to be broken off, exposing a repulsive jagged fracture. The opposite of all these qualities is to be seen in the "expensive-looking" railing on the Embankment, enclosing the gardens, whose tiny fretted and fretful forms invite an experiment rarely successful.

In regard to railings it should be understood that cast-iron ought to be merely a flat lattice-like design obviously cast in panels, or plain post-and-rail construction, with cast uprights and terminal knobs tenoned into rails, so that there is no doubt of straightforward unaffected fitting. The British Museum screen may be taken as an instance how ample ability will not redeem false principles of design: the construction is not clear, nor are the forms sufficiently simple, the result being only a high order of commonplace grandeur. The little lions by Alfred Stevens formerly on the outer rail of the British Museum might be taken, *per contra*, as excellent examples of cast-iron, and proof of how sufficient feeling for design will dignify any material for any object; they are thoroughly iron beasts, so slightly modelled that they would only be blocked out for bronze.

Let it be said, in conclusion, that with cast-iron, as with all else, the design must be thought out through the material and its traditional treatment. The ornamentation, if any, should do no more than gracefully acknowledge its debt to the past, just as the best ornament of all times is neither original nor copied; it must recognise tradition, and add something which shall be the tradition of the future. The pattern for cast-iron should have the ornament modelled, not carved, as is almost universally the case now, for carving in wood is entirely unfit to give the soft suggestive relief required both by the nature of the sand-



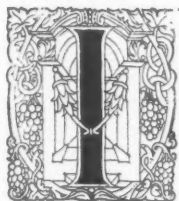
FALDSTOOL FOR QUEBEC CATHEDRAL: DETAIL OF CARVED FRONT

mould into which it is impressed, and the crystalline structure of the metal when cast. Objects in the round should have a simple and substantial bounding form, with but little ornament, and that only suggested; and wherever possible the surface should be finished and left as a metal casting, though gilding or painting is admissible. Casting in iron has been so abased and abused that it is almost difficult to believe that the metal has anything to offer to the arts. Yet in its strength under pressure, but fragility to a blow, in certain qualities of texture and of required manipulation, it invites a specially characterised treatment in the design, and for internal colour arrangements it offers one of the few materials naturally black.

FALDSTOOL FOR QUEBEC CATHEDRAL

THE accompanying photographs show a faldstool designed for Quebec Cathedral by Mr. Mervyn E. Macartney, F.S.A., F.R.I.B.A. This stool, which has just been sent out to Canada, is of oak and was made by Messrs. Maides & Harper, the carving being the work of Mr. Esmond Burton. The symbol on the front is, of course, that of the Trinity.

COMMITTEE FOR THE SURVEY OF THE MEMORIALS OF GREATER LONDON



It may seem a mere repetition of a much-laboured theme if one returns to the urgent need, nay, the necessity, for a greater effort in our record work, and an increased pace in completing the records already begun. Yet there is ample reason for re-

emphasising this necessity, particularly as regards London, for the duty that is postponed till to-morrow is generally indefinitely put off, and with the passage of time the chance is like to be lost. One can understand a little the attitude of the general reader who, noting the activity of various societies—antiquarian and other—and finding little pause in the stream of new topographical works, concludes that the field has been pretty well covered, and that there cannot be very much left that is unexplored or not yet set down in print. But how greatly is this conclusion the reverse of the fact! One has only to become interested in some special building or locality to find how poor are the published records, and how few the drawings of the things of interest therein. The churches have received the chief attention, perhaps, but even their illustration is far from complete. We have Dollman's invaluable Survey of Southwark Cathedral before its restoration, and there is Billings's work on the Temple Church. But they were before the days of photography, and even in their present restored condition these buildings should not be neglected. And who has photographed or drawn the fine tombs that have been stored in the triforium of the Temple? Where, again, are we to look for good drawings or views of St. Helen's Church, and the beautiful monuments which it contains?

Called by those who love it the "Westminster Abbey" of the City, it displays a history of wonderful interest, delightfully portrayed in the varied features of its structure and its fittings, from its Early English relics and fifteenth-century "Nun's grating" to its beautiful woodwork of the early Stuarts. How many of our photographers have essayed the difficult but alluring subjects which St. Etheldreda or Austin Friars can offer them in their windows of flowing tracery? And as for the other mediæval churches that survived the Fire of London, one has to look in vain for views of the many striking features in St. Olave Hart Street

for Allhallows Barking, in St. Andrew Undershaft or St. Peter ad Vincula in the Tower—and measured drawings of the same are far to seek.

But leaving these earlier buildings, our field becomes wider rather than more contracted. Wren's churches have been often photographed, and their plans have been set down, but their detail is almost inexhaustible—with a variety sufficient to prevent the most industrious of us from sighing for lack of fresh fields to conquer. One of our members showed me recently some studies he had made of the windows of St. Paul's Cathedral—and the carved ornament was surprisingly beautiful when isolated thus by the camera. Nothing is too small, nothing too insignificant for record, and in regard to photography it is necessary to reiterate the advice we have often given to use the camera as much as possible for detail—in a strong light with good shadows whenever they can be obtained—in preference to general views. A photograph of a complete building falls far short of a sketch in pen or pencil, since it makes for too uniform a tone and reduces the more striking qualities of the composition by a scale of perspective which is so different from that of the human eye. But in the case of all ornament, mouldings, and similar details the photograph is unrivalled, and gives a better idea of the modelling and texture than could be produced with endless pains and trouble by the artist's pencil. The photographer, therefore, can never expose too many plates in his effort to procure good records of detail. If his subject is a staircase, let him not neglect either baluster or string, handrail or newel, or any bit of carved



WROUGHT-IRON GATE, GROSVENOR HOUSE, CHISWICK

Photo: Geo. Trotman

frieze or bracket. Each should be photographed separately, as nearly as possible in elevation, allowing the light and shade alone to give the idea of relief and the proper modelling. With a telescopic lens a most interesting series of exterior views might be taken, such as of the numerous masks that adorn the keystones over each window in the houses in Queen Anne's Gate.

There is plentiful work for the draughtsman, and for those of our members who appreciate the significance and value of good plans. Where is there a complete and detailed plan of Lambeth Palace, or of that other archbishop's-palace, so often forgotten, at Croydon? The courtyards of the Temple, of Lincoln's Inn, and of Staple Inn

await a complete survey, and are no doubt withholding many interesting secrets until their walls shall be intelligently plotted and laid down. A comparative series of plans of the halls of the City Companies is another work that is much needed, for even where the rooms have been rebuilt the old arrangement has been often retained, and a collection of their methods would be as instructive as it would be valuable for record. Everywhere there is work awaiting the earnest investigator, and it is work that brings with it its own reward—a greater historical insight, a greater knowledge of the present from a deeper appreciation of the past.

WALTER H. GODFREY.

AN AMERICAN GARDEN SUBURB: ROLAND PARK, BALTIMORE

BY THOMAS ADAMS



GARDEN suburbs are various in kind. Some are based on philanthropy, some on business principles, some on a combination of both in varying degree of one or the other. The greater number have a measure of commercial speculation in their composition, although in some of those in which this is most preponderant it is, perhaps, least conspicuous. In England they reach down to the needs of the comparatively poor, as at Port Sunlight, Bournville, and Fallings Park, up to the standard of the comparatively well-to-do, as at Hampstead and Romford. They differ in architectural treatment as well as in their economic basis, partly because of the different classes of people for which they cater. But in general they are recognised as worthy of the description of "garden suburb" if they represent some measure of co-operation between the owners, the tenants, and the local authorities; aim at an improved standard of sanitation, land development, and architectural treatment; and make generous provisions for gardens and other open spaces. If they merit no greater claim to distinction than the foregoing they may be disappointing to the housing reformer, but from the standpoint of the architect they represent a satisfactory advance on the conditions that have previously prevailed.

America has been the nursery of many model communities, and the motives of the founders of several of these have been, or are, as disinterested as those of the founders of Letchworth or Hampstead. But so far there have been few real successes. Either they have been financial failures or they have departed entirely from the basic principles on which they were founded. My present object is not to deal with these social or communal experiments, but to refer to one of several examples of housing the well-to-do.

To those who realise how great are the evils associated with the barrack dwellings of Germany and America, it is satisfactory to find that in both countries, but especially in America, there is a strong tendency to move out to the rural fringes of the towns. The tendency is not so strong, nor does it lead to such widespread development, as in England, but it is all the more hopeful because it is associated with greater difficulties than we have to face in this country. These difficulties are primarily economic. Building land is dearer in the States than in England, and the financial interests of the real-estate owner are protected by law even when they are opposed to the interests of public health. American local authorities have an interest in maintaining high real-estate values, as the greater part of their revenue is obtained from the taxation of such values. In the Board of Trade report on the housing and other conditions of New York City it is stated that the assessed value

ROLAND PARK, BALTIMORE

of real estate in New York exceeds £1,400,000,000 as against £92,000,000 of assessed personal property. The taxes are based on this capital value, and not upon annual rental value, as in this country. As soon as land acquires a building value it is assessed at that value, and it presumably pays the authorities to keep it as high as possible. But by whatever means these values are created they tend to discourage and even to make prohibitive the erection of detached houses. "There is little doubt," said the Board of Trade investigator, "that a demand for self-contained houses at a moderate rental exists, but under present conditions it is practically ineffective."

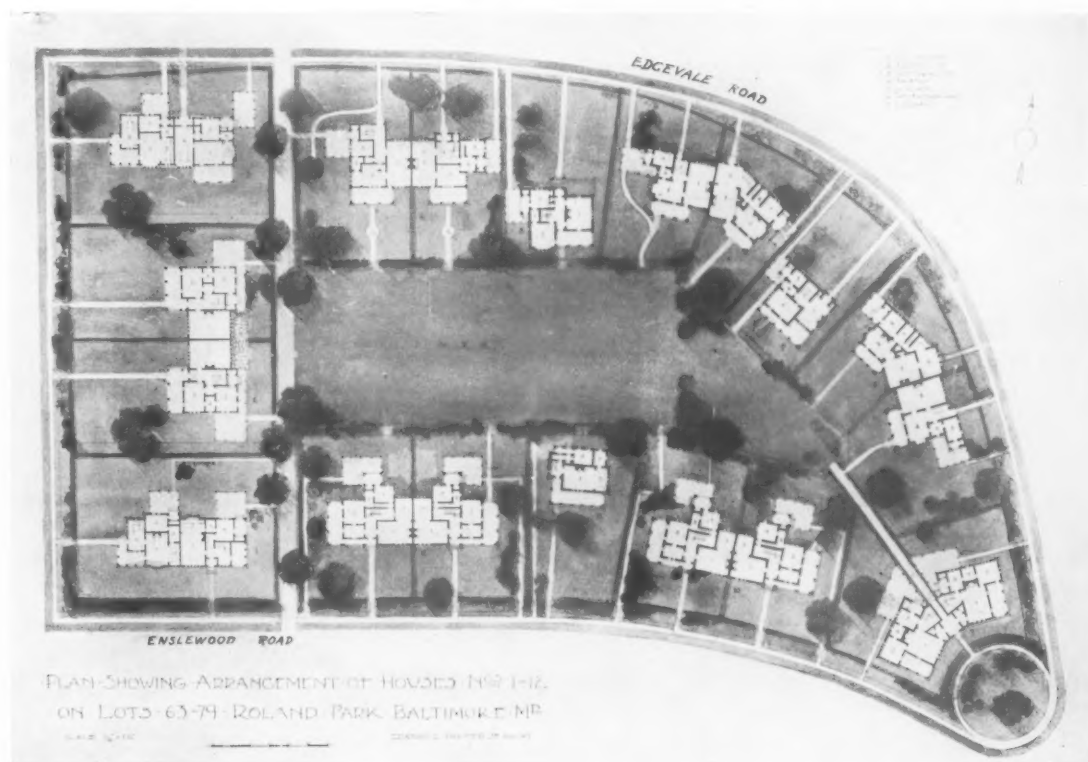
Because of these difficulties the greater part of the wage-earners in New York, and in many of the smaller cities of America, live in tenements and are housed at the rate of from 200 to 700 to the acre, and even up to 1,000 per acre in Manhattan. Until transit facilities are improved or factories are moved out from the crowded districts to the country, and until the value of land is depressed, there is little chance of spreading the people of American cities as widely as they are in London. Even the site for the garden village at Forest Hill, about to be created by the Russell Sage Foundation, will cost about £2,000 per acre. The cost of an average building plot on this site

is about £300, or nearly the cost of house and land together for a well-to-do artisan in this country, and probably about six times the cost of a similar building site in the outer suburbs of London. We have to realise that it is in spite of these difficulties that suburban development in America is proceeding on fairly satisfactory lines.

But there is a gradual improvement going on in regard to means of transit, improved sanitation, and the insistence of a better standard of construction for high buildings. All this will tend to increase the disadvantages of the central areas, to widen the circumference of building land, and ultimately to reduce it in value. The time cannot be far distant when, as a result of a strong tendency to move out, and improved facilities for doing so, the lower middle-class and the artisan class will join in the outward advance from the city tenement to the single-family dwelling in the suburb.

In a recent visit I saw very interesting and in some ways excellent suburban schemes in course of development at Cleveland and Chicago, but the largest and best I visited was the scheme being carried out on the Roland Park Estate at Baltimore.

Roland Park occupies a beautiful, undulating, and well-wooded site 400 ft. above sea level. It



PLAN OF A PORTION OF ROLAND PARK, BALTIMORE

(Note variety of building line, treatment of corner plots, and connections with open space in centre)

ROLAND PARK, BALTIMORE



GOODWOOD GARDENS

(Note fencing, all of one character)

comprises an area of about 600 acres, and has been developed under restrictions and in co-operation with the local authorities. The plan of development has no special merit, and its chief distinction is its departure from the gridiron type formerly in vogue in America, and its recognition of the principle of providing highways of varying width to meet the actual needs of each road rather than according to a fixed standard. It has been designed to follow the contours and preserve natural features, and with some effort to secure architectural effect.

The Roland Park Company, which started the development of the site, was formed twenty years ago with a capital of £200,000. The prime mover in the enterprise was and is the present first president of the company, Mr. Edward H. Bouton, to whom I am indebted for the photographs which illustrate this article. His has been the master-mind in the planning and organisation of the enterprise. Strange to say, the scheme was financed at first very largely by English stock, but this was acquired by American stockholders in 1903, since which year the company has made most rapid progress.

The total area of 600 acres was acquired in 1891. Roads

and pathways were constructed, an artesian well was sunk for water, and a modern system of sewerage installed. Since the first lot was sold in 1893 700 lots have been disposed of, and 500 houses, accommodating 2,500 people, have been erected. The original area has now been almost completely covered with houses, and the Guildford Estate, which adjoins, comprising another 300 acres, has been acquired for the purposes of extension.

It is notable that the promoters consider the success of the scheme to be largely due to the restrictions imposed upon its development. In America I was frequently faced with the argument that the Americans loved their individual

freedom too dearly to submit to restrictions upon the development of their lots, or to accept the safeguards of a Town Planning Act. In Roland Park, however, I found a complete answer to this argument, for not only have the purchasers of plots accepted restrictions in their deeds from a private concern, but they have learned to appreciate the fact that these restrictions really provide them with a kind of security and freedom which is not possible where individual liberty is allowed to become licence, and where one man is permitted to use his property so as to destroy



BLOCK OF FIVE CONCRETE HOUSES ON UNIVERSITY PARKWAY: LOOKING SOUTH

(Note park-like effect of open gardens)

ROLAND PARK, BALTIMORE

the amenity and value of that of his neighbour.

Among the restrictions are :

1. No store, saloon, or business property of any kind is allowed to be erected, except on a few shop sites which have been specially allotted for business purposes.
2. Stables are only permitted in certain defined positions.
3. No more than one house is allowed on each lot.
4. Plans of all buildings must be approved by the company's architect, and must be of a certain minimum value.
5. No nuisances are allowed, such as cesspools or keeping of pigs.
6. A special maintenance charge has to be met by the purchasers towards disposal of sewage, repairs to roads and pathways, and collection of refuse.

As a result of its control over the building

connection with the lay-out of many of the roads and open spaces.

To indicate the enterprise of the real estate operator in America, it is interesting to note the special inducements offered to pioneers. A discount of 15 per cent. off the list prices of land and a bonus of 2,000 tickets for use on the elevated railway were given to the first builders. An easy-payment system was also adopted for those who did not wish to pay cash in full on purchase.

The estate was opened section by section as development proceeded. In the first section 21,000 linear feet of streets, averaging 50 ft. in width, were constructed; in the second and third sections the area of streets was almost 23,000 linear feet. The full width was not given up to the macadam, as will be seen by the illustrations. Embankments on one side were laid out with shrubs, and pathways in some cases were raised several feet above the roadways. Channels and



VIEW OF HOUSE SHOWING SUNKEN GARDEN AND WALL

(Treatment of land below level of roadway : site excavated in level steps and retaining-wall built against roadway)



HOUSE IN EDGEVALE ROAD

(View showing treatment of site above road level)

elevations, a very harmonious and tasteful result has been secured.

As many as possible of the existing trees were preserved, among these being well-developed chestnut, oak, hickory, cherry, and other varieties. Pathways were built round the trees in some cases rather than that they should be cut down, and houses were set back to preserve groups of trees on the fronts of the plots. Many hundreds of poplars and maples were planted on the streets as they were made.

Extending through the centre of the estate is Roland Avenue, 120 ft. wide, along which run the trolley cars on street railway tracks, fenced on each side by a California privet hedge. Flowering shrubs and evergreens were planted on waste spaces at junctions of roads and sharp corners of plots. Mr. F. L. Olmsted, the well-known landscape architect, was employed as a consultant in

kerbs were made simple and unostentatious. Grass margins planted with trees were provided in most cases.

The whole effect of these excellent arrangements is very fine. The control of the elevations seems to have been exercised with firmness and taste, but with prudent restraint. Where there is no fencing, the lay-out of the front plots and paths is designed to secure a park-like effect and a harmonious street picture. Where fencing is allowed the same character has been preserved in any one street, and some attempt has been made to keep the fences in character with the buildings which they enclose, with the result that the untidy and ugly effect of a conglomeration of different kinds and varying qualities of fencing is entirely obviated.

From the illustrations it will be seen that the design of the houses is much influenced by the English styles of domestic architecture, and in

ROLAND PARK, BALTIMORE

many cases most pleasing results have been secured by individual architects. In selecting the views illustrating this description, one object has been to show the various styles of treating the roads, the economy with which they are constructed, and the fine park-like effect which is secured throughout. The cutting of some of the roads along the contour lines leads to the houses being erected above the road level on one side and below the level on the other; and the treatment of these respective elevated and sunk building sites is a pleasing feature of the planning.

The estate is approached from Baltimore in one direction by the University Parkway, 120 ft. wide. This parkway and other roads were laid out by co-operative action on the part of the owners and the City of Baltimore. The land was given by the owners for the portion of the road in excess of what is required by the building regulations, and the cost of construction was borne by the authority.

The social side of the suburb is well organised. There is a country club open to outsiders, a golf club, tennis courts, and during the season lectures and concerts are arranged.

Sufficient has been said to show that this suburb possesses many features which it has been the



VIEW OF PARKWAY, SHOWING TROLLEY WAITING STATION AND APPROACH ROADS TO ESTATE

fashion to assume were peculiar to some of our most progressive English suburbs. It is true that it caters for well-to-do people, but this is because of the high cost of the land, and because the company which has promoted the scheme is out for profit and wants the wealthiest customers. Many of the houses are comparatively small, and the largest is not much in excess of the size of some of those erected in the Hampstead Garden Suburb. But the principles underlying the Roland Park scheme might very well be adopted by those who are interesting themselves in housing the small tradesman, the poorer professional classes, the well-to-do artisan, and even the labourer.

The greatest weakness of all private schemes is that the restrictions contained in the deeds of sale are apt to be broken through in process of time, owing to the absence of some representative body to keep them in force. One of the best features of Roland Park is that the administration of the suburb is being allowed gradually to pass from the company into the hands of a Civic League formed by the inhabitants. This is an advance on any of our English garden suburbs. This league was incorporated in 1907 for the maintenance of an educational, moral, social, and beneficial association, for the



CLUB ROAD

(The houses on this road are closely fenced and screened by trees)

promotion of friendly intercourse, for taking action from time to time on matters affecting the property interests of the members, and, in general, for the purpose of fostering the common good of the members. There is also a Roads and Maintenance Corporation, formed as a result of a conference held between the league and the company, the league having a controlling financial interest. This form of government has been found to be a success after several years' working. In this respect Roland Park is an advance on anything I know, and the chance of an individual owner breaking through the contract at any future time is reduced to the minimum. Communal action of this kind stimulates the interest of the inhabitants in preserving the beauty of their surroundings, it destroys the individual licence to injure one's neighbour so often perpetrated in the name of liberty, and it encourages a love of home in a country where that love has suffered serious decay. At the same time, the only really and permanently effective way to secure that all land development shall take place on the right lines in the suburbs of American cities, as in the suburbs of English cities, is to carry out the right principles of land development under a town-planning scheme which has behind it the disinterestedness and public spirit of a local authority. Roland Park provides the example of how some of the right principles of development can be applied and maintained, and proves the feasibility of controlling a large area in the public interest. As time goes on, and the demand for better housing and public health conditions increases, no doubt the public authorities of the United States will be able to find much that is helpful and suggestive in the example of private enterprises such as Roland Park.



COTTAGE ON MERRYMOUNT ROAD, ROLAND PARK, BALTIMORE

November 1911

TOWN PLANNING: FORMAL OR IRREGULAR?

MR. RAYMOND UNWIN, F.R.I.B.A., at the Architectural Association on October 16th, read a very interesting paper on this subject. He first pointed out that those who said the town plan should consist entirely of straight streets and square places symmetrically arranged upon axial lines quite ignored both the economic necessities and the great architectural opportunities which spring from the fact that the site upon which the plan is to be carried out has in England, in nine cases out of ten, an undulating surface, and embraces many marked features of an irregular character. On the other hand, those who maintain that because the site consists of hills and hollows, and is marked by winding streams and devious highways, uplands with ragged edges, and the random boundary lines of private properties, it is therefore unnatural and out of harmony with the site to plan straight streets or lay out symmetrical groups of buildings, seem to neglect altogether the legitimate function of human design and the application of architectural principles natural to a work so intimately connected with architectural expression as that of town planning.

Unless the extreme formalist is prepared to depend upon gigantic feats of engineering to provide for him a sufficiently formal stage for the display of his design, however formal he may make it on the paper plan, many sites will play pranks with the lines of his elevations. In fact, if we are to obtain any success, we cannot think of town planning as the creation of a pattern in two dimensions, but must necessarily think of it in three. The formalist will admit that on an undulating surface many of his straight lines will always be seen as curves, and Mr. Unwin could not conceive any valid reason why the lines should not be curved on plan if by so doing a horizontal line for the elevation can be secured.

Perhaps the essential fallacy of the irregular school is the idea that the free exercise of fancy uncontrolled by any precision of purpose or law of proportion is the natural basis for the highest type of design in all branches of human activity. Having quoted Ruskin's powerful denunciation of "the right to do what we like," Mr. Unwin said he would like further to suggest that in the alternative definition, first given, he believed, by James Hinton, that "liberty is the

The Architectural Review

TOWN PLANNING: FORMAL OR IRREGULAR?

power to like what we may do," will be found some reply to the extreme informalist. To maintain that no one is competent to compose, either in the form of buildings or in the field of town planning, on a symmetrical line, that the beauties of proportion and relation can only be displayed when axially planned, seemed to him a proposition which is amply disproved by many of the most beautiful buildings, streets, and places which have resulted from the work of the greatest periods of the past.

Answering the question, What is town planning? Mr. Unwin said that it consists in making provision for the needs and affording satisfaction for the aspirations of an organised community. It is its purpose to minister to the convenience of the inhabitants, to increase the efficiency of their associated industrial and commercial activities, to foster their social intercourse and their intellectual development by the facilities which it affords, and to add to the pleasure of their lives by preserving the amenities of the town as a place of residence. This is, in mere outline, the useful function which town planning must fulfil. The very expression of some of its purposes would constitute town planning an art, and it is impossible, as in the kindred art of architecture, to draw any precise line between the useful purpose and the beauty of the form adopted to satisfy that purpose, the two being intermingled. If properly appreciated, both by the citizen and the artist, these two aspects of the subject are not antagonistic, but they may become antagonistic if the artist forgets the purpose of that which he is creating and imagines that it is his duty to create something beautiful which the citizens may with an effort make use of, instead of creating something useful and expressing it in a beautiful form.

Still, of course, there are limitations. It might be true that the steep straight street leading over the top of the hill would make an excellent basis for a formal scheme, but if every cyclist has to dismount and push his machine up that hill, and every driver to walk his horse with difficulty down the other side, the purpose of convenient access will hardly have been satisfied, and any beauty which the design may have will be rendered unpleasing by its obvious want of suitability to its proper purpose. Therefore the plan, whatever its form, must properly satisfy the requirements. But, though these practical considerations will often be irreconcilable with some preconceived formal scheme, it is not often that they will be antagonistic to all forms of beautiful expression.

Use and fitness will dictate certain lines of development, but it is seldom that these will be exact lines; rather they will usually be limits of deviation, and it is within those limits which

the useful purpose allows that the town planner must keep, and it is of the scope which they afford him that he must take advantage to produce the beauty of form at which he is aiming.

But not only are there limitations due to the useful purposes of town planning; there are, as in other art, limitations due to the medium.

First, this art is not complete in itself. The town planner but lays down the general design, creates the opportunities. He must depend upon the architects who come after him to fill in the details and take advantage of the opportunities he has created. He will be able to a greater or less extent to influence the result by determining the position of main buildings, and sometimes by fixing frontage lines and limiting the heights and character of the buildings, but at best he must leave all detail out of his count; he can deal only with the main masses. It is by the handling of these masses of building and the disposition of the spaces or voids between them, by bringing all the masses and spaces into proportion with each other, and the whole into proper relation to the site so as to produce an organic composition, and by this alone, that town planning can speak, can produce its effect. It is by the completeness of the organic composition also that town planning gives expression to the ideas of corporate activity, civic association, and human fellowship, a range of ideas which can hardly, with equal adequacy, be expressed in any other way.

If that be so, then our artistic aim proves true when brought to the test which Mr. Reginald Blomfield has well suggested when he says: "This is, I think, the vital touchstone of any art, that what it does can only be done by that one particular art." Anything, then, which contributes to the force and clearness of this expression of the organic unity of the city must be proper to the practice of this art, while anything that detracts from or blurs this expression must be improper. It is by appealing to the sense of correlation which springs from spacing and proportion, to the sense of unity which springs from definitely apprehended form, whether in plan by the disposition of the parts upon a level plain, or in elevation by the piling of them up upon the hillside, that alone we can produce this our highest form of expression. We are seeking definiteness of form: it can hardly be right to take informality or irregularity as our means.

Summing up, therefore, Mr. Unwin said he believed that town planning should be formal, using the word in a broad sense and always remembering that there are limits set by the useful purposes that the plan must provide for, and by the nature and opportunities afforded by the site.