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The Silk Mill, St. Albans.

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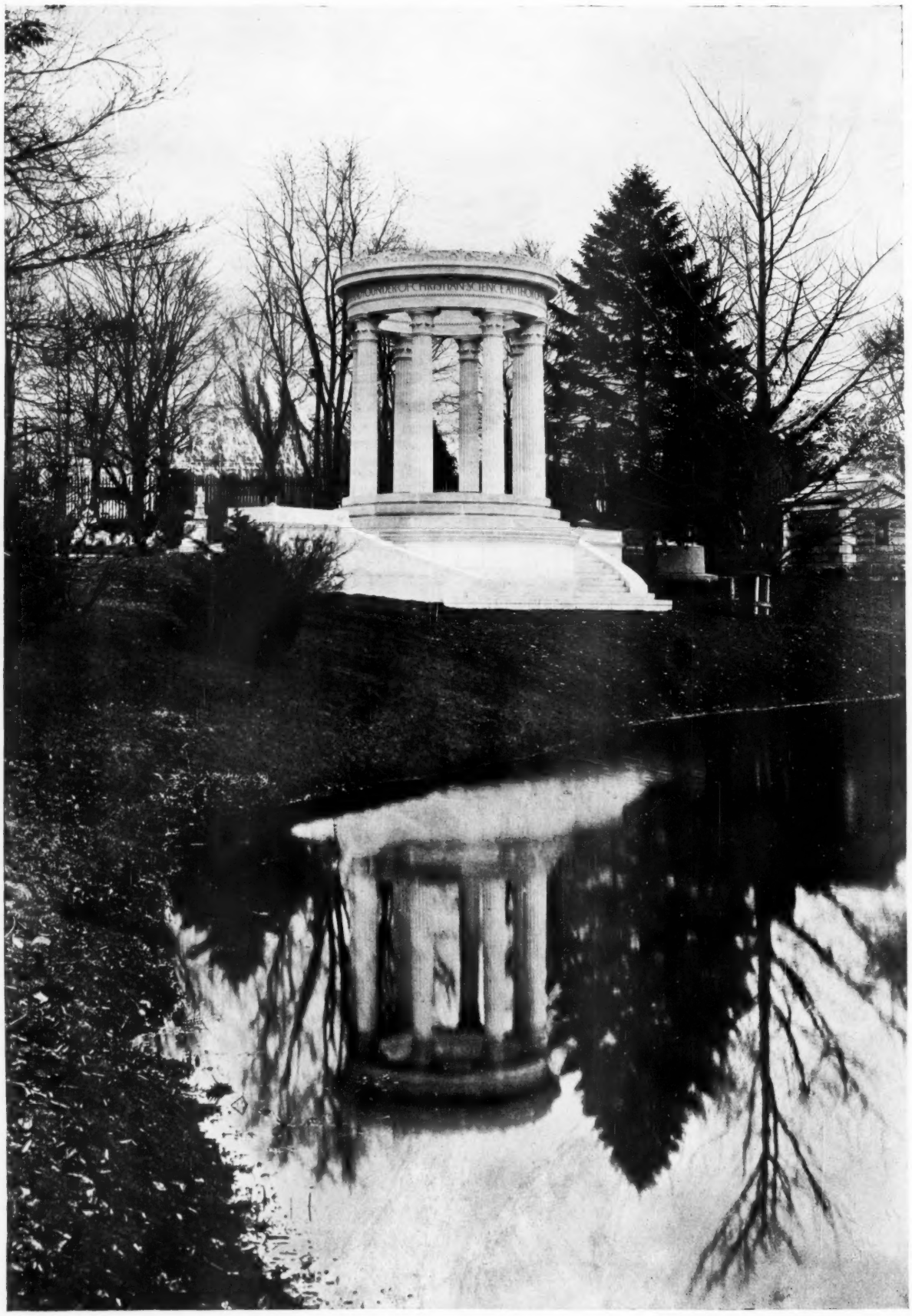


Plate I. October 1917.

THE MARY BAKER EDDY MEMORIAL, MOUNT AUBURN CEMETERY, CAMBRIDGE, MASS.

Egerton Swartwout, Architect.

THE MARY BAKER EDDY MEMORIAL.

THE memorial to Mary Baker Eddy, which has recently been erected in Mount Auburn Cemetery, Cambridge, Mass., from the designs of Mr. Egerton Swartwout, has been, as regards its scheme, a gradual development of the original conception, and its final form was influenced in greater or less degree by the character of the subject, by the site, and by the material that was finally adopted. It was essential that the memorial should be simple and dignified in character; not over-ornamented, and yet worthy of its high purpose; strong, and yet expressing in its detail feminine rather than masculine power; and, above all, it should not be in any sense a copy of any existing structure.

The site is singularly pleasing. It can be seen from all sides equally well, close at hand from the cemetery road, and from a quarter of a mile away across the lake. Indeed, it is this body of water which forms the chief charm of the site. There is a fall of approximately ten feet from the level of the road to the level of the lake, the natural terrace on the axis of the plot lending itself admirably to the architectural development of the memorial. This change of grade in the memorial is accomplished by a double flight of circular steps leading from the platform in front of the memorial to a similar platform some five feet below it on the lake side, and these circular steps, as seen from across the water, seem to embrace the memorial and give it a substantial foundation, and by their curved lines complement the curve of the colonnade above. This lake is usually still, and has a mirror-like quality which reflects admirably the white granite of which the memorial is built.

DETAIL OF PERISTYLE.

The original scheme was essentially a marble design, as it seemed that in no other material could the requisite fineness of detail be obtained; but after much investigation it was decided to abandon marble as not sufficiently durable and lasting, and white granite from the Bethel quarries was finally selected. It then occurred to Mr. Swartwout that it might be advisable to use bronze for the more delicate ornament that could not be carved in granite, and that this bronze might be white, rather than of the more customary colour, so that there should not be too much contrast with the granite. After great deliberation, this idea was given up, because the ornament looked a little spotty, due to the fact that almost all the work was curved, and the bronze was constantly seen in different lights.

Mr. Menconi, the modeller and carver, then made a series of experiments with the granite, under the direction of the architect and the Christian Science Board of Directors, to determine just to what extent the carving could be carried, and it was found that with the aid of modern methods this hard granite could be carved with the delicacy of marble, and that wonderful results could be obtained. It took a long time to carve the granite in this manner, on account of the hardness of the material and its brittleness, and the greatest care had to be exercised; but the result has certainly justified the time and expense entailed. It is doubtful whether such perfection and delicacy have ever been attained before in this unyielding and enduring material. There seems to be nothing in modern times to compare with it, nor is it excelled in any of the monuments of antiquity. The Greeks and Romans employed granite but little, and while the Egyptians have left some wonderful carving in that material, they did not carry their work to such an elaborate or delicate finish.

Having discovered that almost anything could be done in granite, Mr. Swartwout proceeded to develop in plaster the model of the complete memorial at full size. This model was the subject of the greatest painstaking care and attention on the part of Mr. Menconi and the architect, and at least six months were occupied in study and revisions. It was early decided that the ornament itself should not be as highly conventionalized as is usual in Classic work, but that floral forms should be used exclusively, and it was specially desired to make use of the wild rose as a *motif*, as this was Mrs. Eddy's favourite flower. The task of carving a wild rose in granite appeared to be rather formidable; but it was found, after repeated attempts, that it could be done. In the two rose panels in each of the pylons there is a vibrant living effect that is almost inconceivable in any other material, even in bronze.

The detail is novel; it is not a copy of any highly conventionalized type, but at the same time it still retains its Classic feeling. It is interesting to note that in the best period of Greek and Roman art the detail was not the stiff formal thing

that is usually imagined by modern restorers; it was highly conventionalized, but yet it was free, and the greatest individuality was displayed by the carver; no one piece of ornament was exactly a replica of another piece, and this same feeling has been obtained in the memorial. Freedom and individuality were secured by stimulating the carvers themselves with the promise that when a man had succeeded in doing an especially fine piece of carving he would be permitted to put his name upon the stone—not, indeed, upon the face where it would be seen, but upon the bed where it would be concealed, and so the individual man felt that there was a recognition of his own ability, and that that was his stone, and his name was on it. There were about twenty of these carvers, all from Northern Italy, and they were all master carvers. It happened that the work was done in the winter, when there was little carving to be done, and the pick of the profession could be readily obtained.

The panels in the pylons are a little over 1 ft. high and about 3 ft. long, and are in high relief, the detail being elaborated to an extent never before attempted in granite. Some of the stems of the leaves are no bigger than a match, and some of the larger stems and leaves are virtually free-standing, so great is the relief. The entire memorial is cut not by a machine, but by hand, and a smooth eggshell finish is obtained for the entire structure by the use of the pneumatic tool. By this original treatment the granite appears much whiter than if the same smooth surface had been obtained by rubbing.

The white bronze is an alloy containing an unusually large proportion of tin, and is known in the trade as Benedict metal. It does not turn black as does ordinary bronze by exposure to the elements, nor does it stain the stone. It is a dull pewter colour, with a golden tinge, which harmonizes extremely well with the granite.

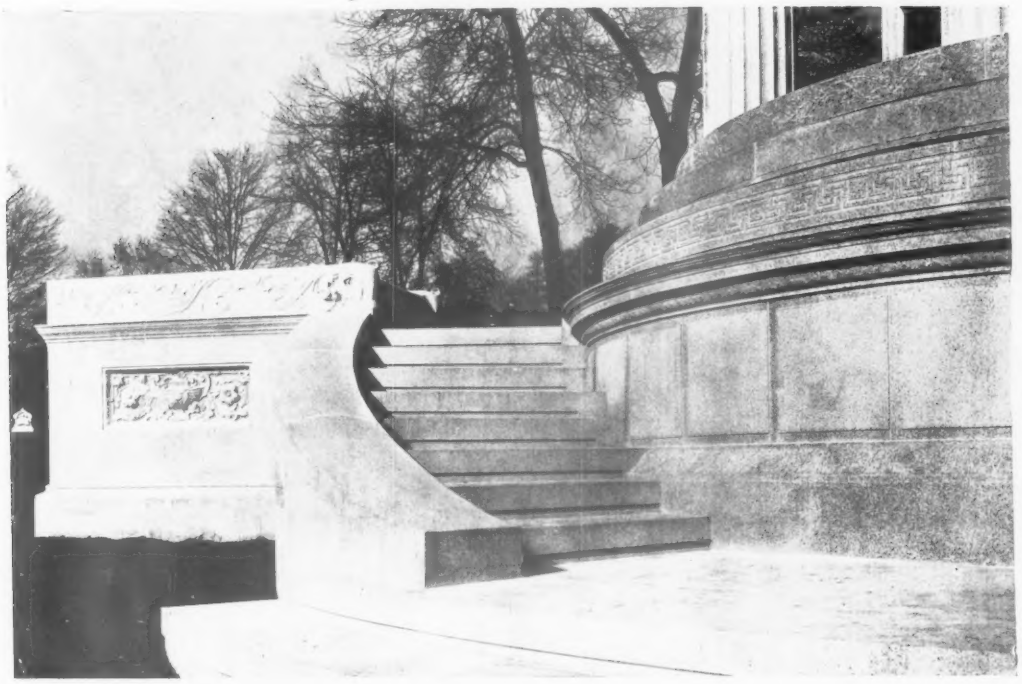
The memorial itself consists of a circular colonnade of eight columns, 15 ft. in height, surmounted by a cornice and a cheneau course or cresting. There is no roof or covering; the colonnade is open, and similarly there is no pavement in the circle enclosed by the columns, nor is there any stone structure of any kind over the grave itself; the space between the columns will be filled entirely with growing flowers, rhododendrons possibly, or plants whose flowers will be large enough to be in scale with the memorial. This colonnade rests upon a stylobate of three steps, surrounded on the road side by a broad platform of Pompton pink granite, which makes admirable contrast with the white granite of the

THE MARY BAKER EDDY MEMORIAL, MOUNT AUBURN CEMETERY, CAMBRIDGE, MASS.

Egerton Swartwout, Architect.

Detail of Carved Panel on Base.

Detail of Carving on Return End of Base.



Detail of Base.

THE MARY BAKER EDDY MEMORIAL, MOUNT AUBURN CEMETERY, CAMBRIDGE, MASS.

Egerton Swartwout, Architect.

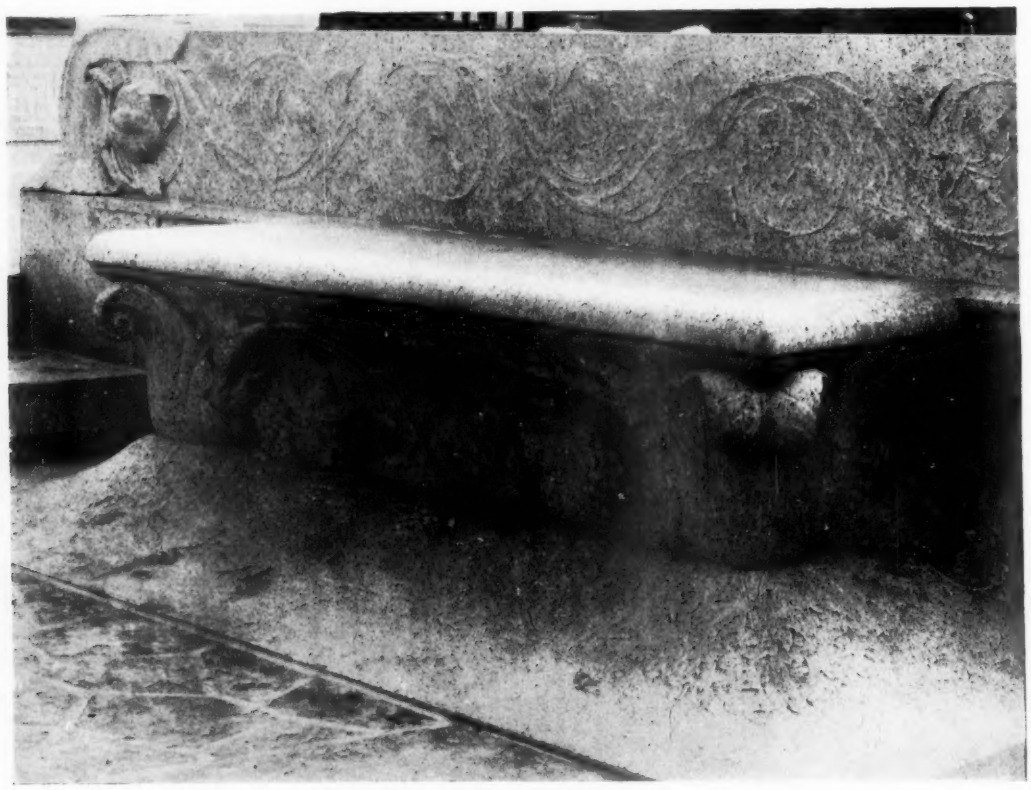
memorial itself. On the lake side there are, as already mentioned, the double flight of circular steps, flanked on each side by large pylons, on the top of which are inscriptions of white bronze, let into the surface of the granite. There is also an inscription on the top step of the stylobate, and a dedicatory inscription in the frieze of the entablature.

"I have been often asked," says Mr. Swartwout, "in what style the memorial was designed; was it Greek or Roman, or was it Ionic or Corinthian? and I have been forced to answer that it was none of these. It was Classic, I hoped, but yet it was modern. The columns and the caps have a certain resemblance to an order which was transitional between the Doric and the Corinthian, and is best known from its use in the little clepsydra of Andronicus Cyrrhestes, in Athens, sometimes called the Tower of the Winds. I do not mean to infer that the columns of the memorial are copies of, or are similar to, the order of the Tower of the Winds. They are merely of the same type. The entablature is not similar to any entablature that I know of; it is extremely simple, relying for its ornamentation on the exterior chiefly upon the carved cresting and the bronze inscription in the frieze, and on the interior upon the elaborate and effective frieze which is carved in high relief."

All that now remains to be done to complete the memorial is the planting for the landscape, which is to consist chiefly of some evergreen plants which will preserve their form and leaves throughout the year, and some cedars and rhododendrons.

Christian Scientists throughout the world contributed to the cost of the memorial, which was more than $150,000 (roughly, £30,000).

Mr. Swartwout's brief account of the genesis of the monument is not without some slight trace of psychological interest. It reveals—of course unintentionally—how scholarship influences the mind of the artist. To have produced so refined a monument as this without consciously copying some great model, whose form it nevertheless suggests, is to illustrate the law that the mind of the artist grows by what it feeds on. The architect who has thoroughly assimilated the Greek spirit has no need to copy the Greek masterpieces; he re-embodies it, and acts as the medium through which it assumes fresh shapes, expressing anew the essential elements of beauty—those few and simple though elusively subtle elements that the ancients discovered for all time. No man may add to them; and if he fail in reverence for them, or have but a dim perception of them, or an imperfect sympathy with them; or if, in his egotism or his vanity, he strains after originality; or if he is besotted with the spirit of modernity: then he will work in vain, for he is opposing to principles that are eternal and immutable the paltry pretensions, the whims and caprices, that are temporal, local, accidental. Surely it is never necessary to assert individuality, nor to give aggressive expression to "the spirit of the age." These things may be left to speak for themselves; and Mr. Swartwout, happy alike in his fellow artists and in his clients, has worked in the true spirit and with the right measure of restraint, yet with perfect freedom from mere slavery to tradition and precedent; and he has produced a monument that, while modestly expressive of time, place, and subject, and sufficiently revealing the temperament of the artist, is also stamped with the authentic seal of ancient nobility. Yet, while it is obviously of long descent in a legitimate line, it has a distinctive grace that is eloquent of its day and generation.



DETAIL OF CARVED SEAT ON BASE.

SMALL HOUSES AND COTTAGES AT ST. ALBANS.—II.

Illustrated by Photographs taken by Mr. W. R. L. Lowe and others.

(*Concluded from p. 25, No. 249.*)

THE charm of this assemblage of humble dwellings (houses in Fishpool Street: see August number, p. 25) inheres in their diversity of interest, which ranges from the proportion of the windows to the ingenuity and taste displayed in the bracketed door-pents, and even in the detail of the Norfolk latches and door-knockers. The student of architecture should note the absence of the gable placed parallel with the street. Such reticence is an object lesson in good taste, and goes far to disprove the theory of "set-square" architecture. St. Michael's village contains some admirable specimens of early eighteenth-century cottage building, including the Mill House and the pair of demure cottages above the bridge (see Fig. 14).

Fig. 14.—WATERSPLASH AND ST. MICHAEL'S VILLAGE.

Farther along in Fishpool Street, adjoining Bank House, we encounter a group of four cottages which fitly epitomize the unwritten laws of proportion and composition. This group, as far as the elevational treatment is concerned, belongs to the third quarter of the eighteenth century (see Fig. 15). Adjacent to St. Peter's Church there is an interesting group which underwent addition at this period, but notwithstanding have a charm entirely their own (see Fig. 19). The same remarks apply with equal force to the range of cottages in Fishpool Street shown in the detailed photograph (Fig. 20). No. 38 St. Peter's Street belongs to a different category. It shows the costume of the 1780 period fitted with care to an older house, presumably because the owner wished to be in the fashion. This house-front is successful by reason of the faultless proportions of the windows, the contrast of the brick surfaces with the openings, and the magnificent foil to the latter provided by the entrance doorway (see Fig. 16). The double cottage, Nos. 52 and 54 St. Peter's Street, is noteworthy for the arrangement of the windows and doors, as well as for the employment of weather-boarding and timber-framing by the builder (Fig. 17). Additional evidence of the use of weather-boarding in timber-framing for cheap cottage building is forthcoming in the design of the cottages on the west side of Catherine Street (see Fig. 18). A typical brick cottage of early nineteenth-century date stands nearly opposite to the latter, the original doorway being obscured by a "rustic porch" of amateur construction (see Fig. 21).

Fig. 15.—GROUP OF COTTAGES IN FISHPOOL STREET.

One of the most pleasant ranges of cottage buildings occurs near the junction of Sandpit Lane with the Sandridge Road; in this the two extremes of the eighteenth century meet. The first cottage was built on an open site in

Fig. 16.—38 ST. PETER'S STREET.

the reign of Queen Anne. A hundred years later an enterprising carpenter ran up a group of four timber-built dwellings, which complemented the original brick cottage by continuing the eaves line direct. Simplicity and absence of architectural self-consciousness resulted in a whimsical grouping which is both pleasing and convincing (see Fig. 22).

As previously mentioned when the maps of St. Albans were under discussion, the opening years of the nineteenth century brought about renewed activity among the people of the town in the direction of building. The Napoleonic wars did not cause an abrupt stoppage of this important industry, such as we have seen during the present crisis. In 1804 a large addition was made to the Silk Mill in the form of a three-storeyed timber building roofed in gambrel fashion and finished with a diminutive bell-turret (see Fig. 23). Externally this building is unique, although entirely sympathetic in style to the types of mill of the period used for the production of paper in Hertfordshire and Kent. Another fine example can be seen at the side of the canal near Ware. Internally the timber framing is revealed, and the effect of the various floors when the silk is being wound recalls Longfellow's poem, "The Ropewalk." Such a building gains considerably from its placing, and the St. Albans Silk Mill in this regard is particularly happy in its umbrageous setting.

After the building of the Independent Chapel, in Spicer Street, in 1811, a new era of brick building occurred, varied with

Fig. 17.—DOUBLE COTTAGE, 52 & 54 ST. PETER'S STREET.

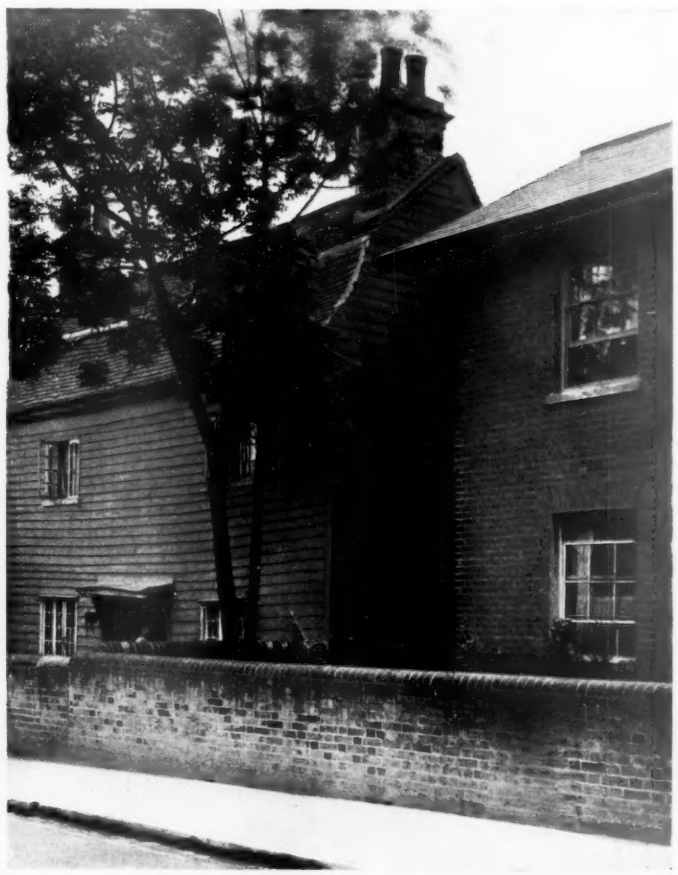


Fig. 18. COTTAGES ON WEST SIDE OF CATHERINE STREET.

Fig. 19.—Cottages Adjacent to St. Peter's Church.

Fig. 20.—Cottages in Fishpool Street.

COTTAGES AT ST. ALBANS.

experiments in flint and stucco, which will be described. The range of six cottages known as Albion Terrace, in Dagnall Street, belongs to this period (see Fig. 24). In this pleasant group proportion plays a notable part; the treatment of the raised parapet is good, as it affords scope for a name tablet, and the outside frames to the windows, recurring at such a late date, should be noted as evidence of the respect paid by the builder to local tradition. Sportsman's Hall, built in 1815 (see Fig. 25), is typical of many cottages on the outskirts of the city, both in the direction of Harpenden, at Camp, on the Watford Road, and in Park Street.

The development of building in the city on traditional lines reached its zenith about the year 1829, when George Smith, a London architect, was commissioned to design the Town Hall, to take the place of the old Moot Hall, which was found inconvenient. A Lambeth firm of builders secured the contract for this work, and it is probable, although no direct evidence is available, that they undertook the erection of the numerous villas then projected beyond the centre of the town, both in the direction of Redbourn and towards London. The influence of an architect of taste is apparent in the detail of these houses; no ordinary builder could have achieved such results or have worked out the details with such consistency as is shown. George Smith stamped his personality on the Classic façade and interior of the Town Hall; he had a passion for two-panelled doors and Greek detail which he communicated to cornices and fireplaces with consummate skill. The people needed houses which should be convenient and larger than cottages; Telford's improvements had effected a considerable change in the internal communications of the town, and local residents desired to rent villas outside the business centre, yet at the same time in touch with the interest of the shops and the coaching traffic. From a study of the houses of the period it is reasonable to assume that the architect of the Town Hall made designs for the enterprising builder who saw what was needed. A start was made with the range of villas on the site of the yard

Fig. 21.—BRICK COTTAGE, CATHERINE STREET.

of the old "Cross Keys" (these houses were illustrated in THE ARCHITECTURAL REVIEW for August 1912). Then followed the stuccoed villas on the west side of the Redbourn Road, and other houses in the new London Road, after which the Flint houses are perhaps the most interesting.

Fig. 22.—COTTAGES IN SANDRIDGE ROAD.

In the design of the latter an attempt is made to reconcile the fashion of George IV with the earlier traditions of St. Albans. In 1829, when the flint houses were built, with the exception of the neighbouring London Terrace the aspect was open, and these houses, with others of white painted stucco on the same side of the way, formed the outposts of the city in a southerly direction. Smith had been a pupil in the office of Robert Furze Brettingham, and was familiar with eighteenth-century methods. There was a convenient quarry of flint for the builders in the ruins of the neighbouring Sopwell House, and it only remained for the architect to devise a treatment whereby the flints could be incorporated with brickwork to secure a pleasant effect. The flint houses are thoroughly sympathetic with the late Georgian period; in every respect they represent the last flicker of domestic

Fig. 23.—THE SILK MILL.

tradition before the architects, headed by Loudon, turned their attention to the reproduction of stodgy villas of quasi-Italian design. The plan of these semi-detached villas is well thought out; they have oak staircases of geometrical form, two-panelled doors, respectable fireplaces, and diminutive stables, and were evidently designed to catch the eye of passengers on the coaches. The rate-books show that these houses were purchased by a local farmer, who occupied one and let the other (see Fig. 26). Two smaller villas of similar plan were built at this period in Spicer Street. They show distinction of the same stamp (Fig. 27).

The design of the Marlborough Arms, at the foot of Holywell Hill, although from an architectural standpoint unassuming, should be noted as an example of the reticent taste of the period (see Fig. 30). In 1837 various improvements were made in the direction of the roads entering St. Peter's Street, such as the widening of the Hatfield Road. This necessitated the refronting of the houses, and here again the respect accorded to traditional methods should be noted, for almost invariably the builders had recourse to outside frames for the windows, and they evolved some very interesting and refined pents over the doorways. The brick cottages in Waddington Road and Russell House in St. Peter's Street coincide with the accession of Queen Victoria. Opposite Kingsbury Farm, in St. Michael's village, there is a square cottage, bearing the date 1831, which is both effective and original (see Fig. 28); and another example of the late period is the diminutive house in Fishpool Street, in which a low-fronted shop emphasizes the purpose for which the building was intended and is still used, namely, a builder's office (see Fig. 32).

Before bringing this article to a close, the Marlborough Buildings, or Almshouses, in the Hatfield Road, remain to be described; for, although the original formation has been retained, together with the interior details, the outside underwent a complete transformation at the middle of the last century. The almshouses were erected in the year 1735 by Sarah, Dowager Duchess of Marlborough, the youngest daughter of Richard Jennings, of Sandridge. It appears that the termagant Duchess purchased of her two sisters their share of the paternal estate, and acquired from the heirs of the Robotham family the Manor of Newland Squillers, within the parish of St. Peter, of which the manor-house stood at the extremity of the borough by the side of the road leading to Hatfield and Hertford. It is shown by traditional accounts that the house at that time had long been abandoned by the family, and had been let as a boys' boarding school for the Dissenters. The Duchess pulled down the house, and erected the present buildings on the

Fig. 24.—ALBION TERRACE, DAGNALL STREET.

site, which buildings and the grounds to the same, together with certain estates in Crowhurst and other places in the counties of Surrey, Sussex, and Kent, formerly the property of Edward Gibbon, one of the South-Sea directors, and several other estates in the county of Warwick, formerly the property of Robert Surman, deputy cashier of the South-Sea Company, the Duchess by deed of Chancery, dated 2 June 1736, conveyed to Daniel, Earl of Winchilsea and Nottingham, the Right Hon. Sir Thomas Reeve, Chief Justice of the Common Pleas, and others, in trust, for the maintenance of the almsmen and almswomen, but subject to the sole management of the Duchess during her life. She also directed that £20 per annum

when the period is considered, good taste, although it is to be regretted that the original treatment has been lost (see Figs. 29 and 31).

Such are the attributes of the minor buildings of St. Albans, evolved by architects and unknown builders during two hundred years of the city's history. The charm of the façades is apparent in the simple proportioning. There is no pinched pretension to fashion, no architectural finery to tarnish and moulder away, but an honest and almost subconscious attempt to explain the conditions determining the lives and social status of every class of the community. The architectural interest of these buildings is nevertheless great. They have

Fig. 25.—SPORTSMAN'S HALL, ST. ALBANS (1815).

From the Sketch by Hanslip Fletcher.

should be paid to the rector of the Abbey Church, or to the vicar of the parish church of St. Peter, for attending the inmates of the buildings.

These almshouses are divided into nine separate houses, forming three sides of an oblong. Each house has comfortable apartments for four persons, and a detached garden. There is in addition an annual allowance of money and coals. As previously mentioned, the interiors of the houses, with the plain oak staircases, are practically as they were when built; but the exterior, although retaining the lines of the older structure, took on a new character when the repairs were effected in 1850. As it happened, the alterations were carried out with skill and, a character entirely their own, yet one closely allied to the tradition of the home counties. The peaceful life of old St. Albans hovers over these boxes of brick, flint, and timber, standing demurely in marked contrast to the garish modern villas which disfigure the recent growth of the city. Some of the houses are more "genteel" than others; but all, without exception, have that air of restraint peculiar to the past, and exhibit with pride their enriched doorways and chased brass knockers. If the designers of garden cities took the trouble to study the cottages in Fishpool Street and other parts of St. Albans, they would learn much to their advantage. They might be brought to understand that the

gabled front is not always an architectural *sine qua non*, and that good proportion is above all things the one attribute that tells. Houses are curiously like individuals—their idiosyncrasies improve with acquaintance. Twenty years ago cottages of the type illustrated would have been passed over by architectural critics; but to-day, with the problem of economic building facing the Government, such charming examples of the past cannot be ignored.

Fig. 26.—FLINT HOUSES, LONDON ROAD, ST. ALBANS.

The charm and sweetness which constitute the character of the typical old English country town are mainly attributable to the sound common sense displayed in the sympathetic grouping of the buildings, and also in the respect accorded to the preservation of natural beauties. As we have seen, these qualities are plainly apparent in St. Albans. Gradually, through the centuries, houses have been merged with fields and standing trees, the whole forming a most delightful *ensemble*, leafy screens separating street from street, yet co-ordinating the whole. This, it seems, is the kind of model to follow in the arrangement of garden cities—no mere desecration of the countryside, no abrupt junction between town and country, but a gradual and barely perceptible fusion of convention with nature.

Recent legislation has led to the exploitation of these natural oases; corduroy roads have been formed, and the speculative builder has been allowed to work his will, with detriment to the amenities of the city. It was with the advent of the London and North-Western Railway in 1856, followed by the Great Northern enterprise, and later in 1869 by the Midland Railway, that what may be termed the modern development began, and this part of the city's history makes little appeal to the artistic mind. But, in spite of all the depredations of modern times, St. Albans still retains much of its old-world charm. The very atmosphere is redolent of ancient history.

And dominating the whole, and giving the key-note to the city, we still have Paul de Caen's majestic Norman tower, harmonizing by its mass the heterogeneous collection of roofs and imparting to the clustering buildings a moiety of its own warmth.

A. E. Richardson.

Fig. 27.—VILLAS IN SPICER STREET.

Fig. 28.—COTTAGE IN ST. MICHAEL'S VILLAGE.

Fig. 29.—The Marlborough Almshouses, St. Albans.

Fig. 30.—The Marlborough Arms, Holywell Hill.

Fig. 31.—MARLBOROUGH ALMSHOUSES: DETAIL OF ENTRANCE.

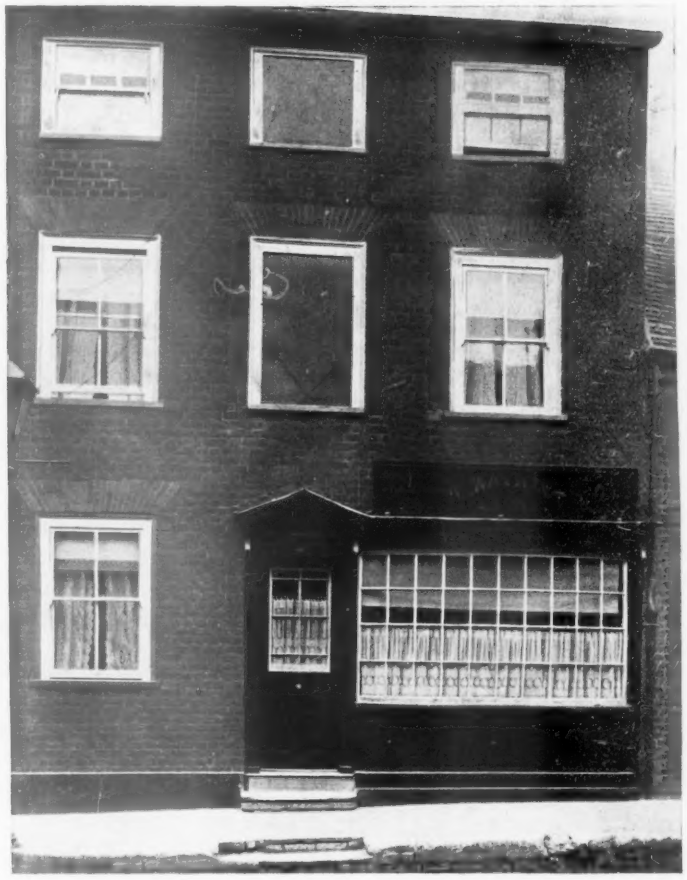


Fig. 32.—HOUSE IN FISHPOOL STREET.

SIR T. G. JACKSON'S SALONIKA MEMORIES.

In the course of an interesting letter to "The Times," Sir Thomas Graham Jackson, R.A., who, it will be remembered, has travelled much in the Balkan States, writes :—

"My knowledge of the place goes back not only before the fire, but before the Balkan Wars, when the Young Turks were in the first flush of victory, and were being hailed as the apostles of a new and regenerated Turkey. That was a happy time for students of architecture and antiquity, both at Salonika and Constantinople. One could wander about with sketch-book and camp-stool where one pleased: no one shouted 'Shaitan,' and if an occasional stone was thrown the Turks assured one the hidden culprit must have been a Greek. Probably at no time was access to the ancient monuments of the country so easy as during that happy time, all too brief. At Salonika East and West meet. Along the sea front, whence you look out upon the Thessalian Olympus, are hotels and modern houses, warehouses and magazines, in the uninteresting style of European civilization. Behind is the old town piled up on the steep hillside, full of the mystery of the Moslem world. A good wide street runs through it from end to end, spanned by an arch resting on piers covered with late Roman sculpture; but little or nothing remains of ancient Thessalonica on which the eye of the great Apostle of the Gentiles could have rested. Round the back of the town the Venetian walls still run, starting originally from the White Tower on the shore at the east end, though they do not now reach it. At the west end of the main street was a fine gateway largely composed of fragments of ancient buildings; but it was pulled down, within a month after I had sketched it, by the Young Turk in the fervour of his newly awakened zeal for progress and enlightenment, in order that a tramway might run over its site. At every turn one came upon old Byzantine churches turned into mosques. St. Sophia, then in process of restoration after a fire, was the most ancient cathedral. It has some of the most lovely mosaics I have ever seen, and capitals, imported no doubt from Proconnesus, of the purest Byzantine delicacy. Still finer are, or were, those of St. Demetrius, that splendid basilica whose destruction by the late fire makes an irreparable gap in the history of the style. We are told only the bare walls remain; walls, when I saw them, lined throughout with lovely marbles and priceless mosaics. The splendour of the interior almost passed belief. The round church of St. George, reminiscent of the Pantheon at Rome, has mosaics in the dome with a circumference of seventy-two yards. The mosque of Eski Djuma, whose Christian dedication is forgotten, is a superb basilica with marble columns and delicate Byzantine capitals, supporting arches to which mosaic still clings, though, as I sat to draw, tesseræ of gold, sapphire, and ruby every now and then fell with a gentle patter on the ground. High up on the hillside is the church of St. Elias, who, like St. Michael, was always honoured on the site nearest to heaven; and in another part of the town is the Dodec-Apostol, or Souk-su (cold water) mosque; both of them churches in a later style, with fancy brickwork arranged in the walls with patterns of fret, vankykes, guilloches, and circles; a kind of ornamentation imitated in the Serbian churches of the fourteenth and fifteenth centuries."

THE LINCOLN MEMORIAL CONTROVERSY.

A SLIGHT contretemps has arisen with respect to the statue of Abraham Lincoln for which our Government has offered a site near Westminster Abbey. The circumstances are set forth in the following extracts from various communications which have appeared in "The Times." Cabling on 22 September, the Washington correspondent of our contemporary alleged that "Much concern and no little indignation were felt in the highest circles at the news that Barnard's statue of Abraham Lincoln was actually cast and ready for shipment to England, to be erected opposite the entrance to the House of Lords." He cites objections to the Barnard statue by the late Mr. Choate, Senator Lodge, and the late Mr. Robert Lincoln, son of Abraham Lincoln. The last-named gentleman expressed himself very strongly against the Barnard statue; adding: "I should, of course, have filial pride in having a good statue of my father in London or Paris, but that my father should be represented in these two great cities by a work such as that of which I am writing to you would be a cause of sorrow to me personally."

On the other hand, there is evidence that many competent judges have expressed great admiration for the Barnard statue as a work of art; and the position is explained by the honorary secretary of the British-American Peace Centenary Committee, who writes as follows to "The Times":—

"The statue of Lincoln which was originally presented about three years ago to the British-American Peace Centenary Committee by the American Committee was a replica of the superb work of the great sculptor Augustus St. Gaudens, which is universally acknowledged to be the finest memorial in stone of the great American. (This is illustrated on the opposite plate.) A site was found for it by the Office of Works facing Westminster Abbey, and it is the hope of the committee to be able to erect it on that site after the War.

"It was only recently that the committee was offered the second statue on behalf of Mr. Charles P. Taft, and while we did not decline the gift, we did not accept it in substitution for the St. Gaudens statue, although the Office of Works was ready to place the Westminster site at our disposal. At the last meeting of our committee, held in July last, a cablegram was sent to the chairman of the American Committee begging him not to ship the Barnard statue during the War. The relative merits of the statues have been inquired into and discussed by our committee, who were naturally influenced by the views expressed by Robert Lincoln, the late Mr. Choate, and others who knew Lincoln well. Our secretary is now on a mission to the United States, and will clear up any misunderstandings which may have arisen with regard to the offer of the second statue."

"The Times" is informed that the First Commissioner of Works and his advisers are of opinion that, inasmuch as the Lincoln statue was a gift from the American Centenary Committee, it was impossible for them to refuse it merely on account of a wide divergence of opinion as to its merits, such as generally exists in connexion with any important work of art. The question of site would, of course, be reconsidered, as it was originally chosen for the St. Gaudens replica, but it is not possible to say whether this can be done until the statue has been seen and its suitability considered.

"The first offer of a statue of President Lincoln was made on 14 February 1914, by Lord Weardale, chairman of the Executive Committee of the British Branch of the International Committee formed to celebrate the Hundred Years' Peace between Great Britain and the United States. The offer was made to the British Government on behalf of the American Committee, the donor being Mr. Charles P. Taft, a well-known art lover, possessing one of the finest art collections in the States. The matter was placed before the Cabinet, who gladly accepted the offer made on behalf of the American Committee.

"On 14 March of the same year Mr. A. Shirley Benn, M.P., joint acting secretary with Mr. Robert Donald to the British Committee, asked in the House of Commons whether the Government would grant a site for the statue at the south-east corner of the Canning enclosure, facing the Abbey. The reply was to the effect that the suggested site was being favourably considered. Later an offer was made of the site, which was accepted very gratefully by the committee as being admirably adapted to the purpose.

"Nothing more was heard of the matter until March of this year, when His Majesty's Office of Works received a letter from Mr. Robert Donald, on behalf of the committee, showing what progress had been made with the project. It was first thought that the statue would be a replica of one by Augustus St. Gaudens, but later the committee were informed that the statue by Barnard was, in the opinion of leading art critics in the States, much superior, and that a casting of it had been ordered, and would, it was expected, be ready in July of this year.

"The opinion of Mr. J. S. Sargent, R.A., was sought, but was not obtainable. Recently a communication had been received from the other side stating that 'wide divergence of opinion existed in the States as to the respective merits of the St. Gaudens and Barnard statues.' The Commissioner felt that he had nothing to do with the choice; that concerned only the donors. The face of the Barnard statue was modelled from a mask taken of Lincoln's face during his lifetime."

Lord Weardale's explanation of the case is as follows: "When it was decided by our committee to set up in public positions in London statues of Washington and Lincoln, a fine replica of a statue of the former for this purpose was presented by the State of Virginia to the British Government, and it was further proposed by our American friends that a statue of Lincoln should be similarly presented, and a replica of the statue by Augustus St. Gaudens was suggested as suitable. Time passed, however, and this suggestion never materialized, and eventually Mr. Charles P. Taft, brother of President Taft, made to the committee the generous offer of a replica of Barnard's statue, which the committee gratefully accepted.

"The statue by Barnard was erected by public subscription in the City of Cincinnati, and is considered, we understood, by millions of Americans as a most faithful presentment of Lincoln as he really was.

"We should, of course, cordially appreciate the donation of more than one statue of Lincoln, and worthy sites would readily be found for them. It rests, therefore, with the supporters of the present movement in America to decide which statue they prefer for erection upon the particular site already granted by H.M. Government at Westminster, and, when they have arrived at a definite conclusion, generously to present a replica of the one chosen in preference to the Barnard statue, which, however, would certainly be placed in some prominent position, where I am sure it would be much appreciated by the countless admirers of Lincoln as a popular hero."

It may be recalled that a fine memorial of Lincoln has also been executed by Daniel Chester French.

Plate IV. October 1917.

THE LINCOLN MEMORIAL, LINCOLN PARK, CHICAGO.

Augustus St. Gaudens, Sculptor.

THE WORKING-CLASS HOUSING PROBLEM AND ITS SOLUTION.

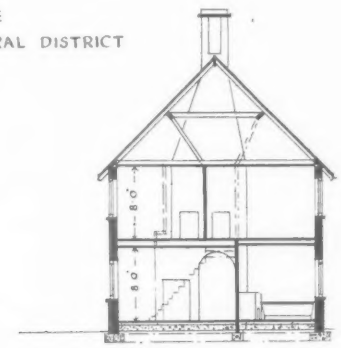
By MERVYN E. MACARTNEY, B.A., F.R.I.B.A.

NOW that the Government has appointed a Commission to inquire into the matter of Housing for the Working Classes, it behoves all those directly concerned to do their utmost to help on this most important business. Architects ought especially to be interested, and they should endeavour by every means in their power to assist the Commission to make a success of the finest opportunity ever offered to a community for improving not only the material but also the moral welfare of this country. With this object in view I wish to contribute my mite towards the solution of the problem. In the first place I shall not trouble to discuss the subjects of selection, purchase, or laying out of sites; these are more or less the special province of land agents, house agents, and surveyors. I will apply my remarks more particularly to the questions of: (1) Design, (2) Planning, and (3) Construction of these cottages. Taking these in order, (1) Design.

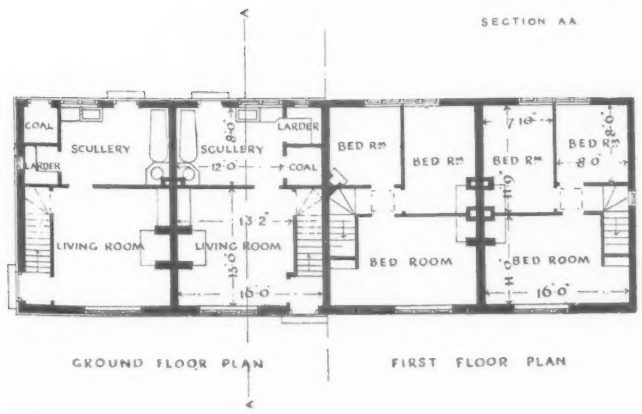
The best guide is to treat every building in the traditional style of the locality in which it would be erected. Brick—where this is the usual material employed, and so on. The only construction I should rule out is half-timber. It is expensive and unsatisfactory. All efforts to make the cottages "pretty" must be eschewed. Inspect any village built before the beginning of the reign of Queen Victoria and you will find innumerable examples of quiet and suitable houses which could be reproduced practically in facsimile. The besetting sin of the present day is the craze for novelty. If the openings for doors and windows are rightly proportioned, and all frills and trimmings discarded, you will have a building which, if not picturesque, will fulfil its purpose and improve by growth of time. There are difficulties to be overcome by the cottage builder of to-day: the conditions insisted upon by the Local Government Board by-laws and the impossibility of imitating the mellowing hand of time.

Most of the old homes of the rural labourer, beloved by the painter, are insanitary. The floors are often only brick on

STANDARD PLAN OF COTTAGE
ADAPTED FROM EVESHAM RURAL DISTRICT
COUNCIL HOUSING SCHEME.

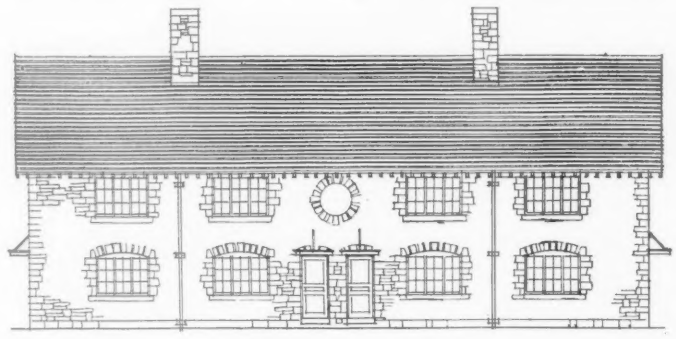


SECTION AA



STANDARD COTTAGE PLAN BY LIEUT. E. HOLLOWAY.

Note.—Outbuildings (tool-shed, earth-closet, etc.) are not shown on this plan, their position and the necessary access to them being dependent upon the site.



ELEVATION NO 1
STONE WITH SLATE ROOF

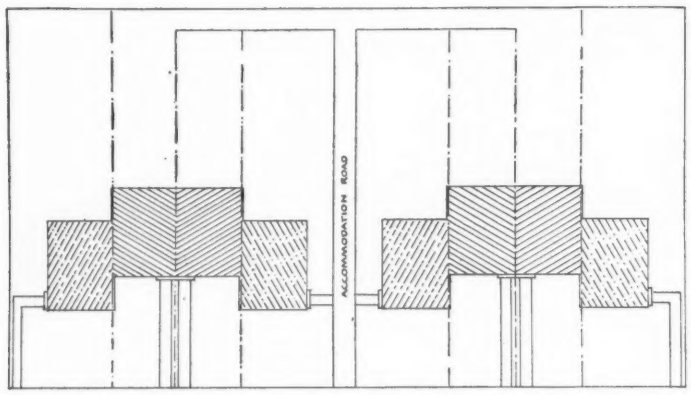
ELEVATION NO 2
BRICK WITH HANGING TILES.

FRONT ELEVATION.
PLASTER WITH BRICK PLINTH & QUOINS.

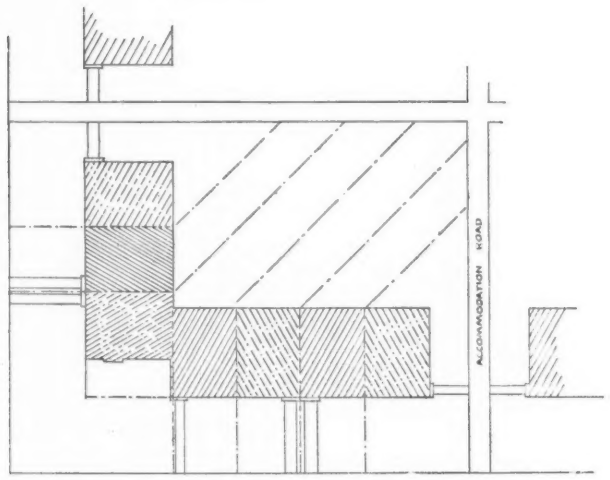
ALTERNATIVE DESIGNS FOR ELEVATIONS TO LIEUT. HOLLOWAY'S STANDARD PLAN.

By J. J Joass, F.R.I.B.A.

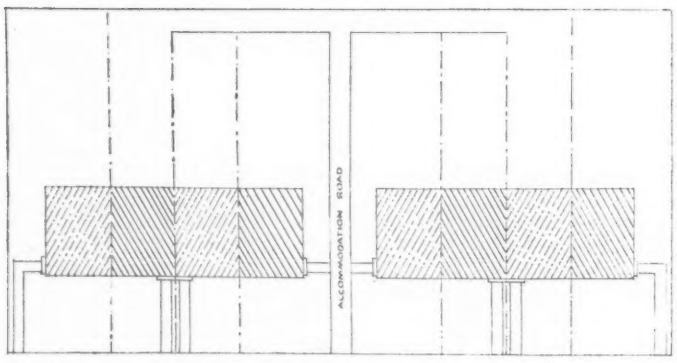
sand, nothing in floors or walls to prevent damp rising, the walls thin and porous to wet, the height of the rooms rarely over 6 ft. 6 in.; the bedrooms half in the roof, with no efficient means of ventilation, no fireplace, and the top of the window generally less than 4 ft. 6 in. from floor. Lastly, the thatch roof is a poor covering against weather, and forms a harbour for vermin and needs constant repair. The doctors and sanitarians have conducted a violent and successful campaign against these buildings, and have insisted on drastic alterations in all these details. Unfortunately, they have gone too far in direction of height of rooms (especially in rural districts), fire-resisting construction and thickness of walls, with the result that these requirements prevent cottages being erected that would pay anyone to build unless aided by the State or some corporate body. I believe that a room with a maximum height of 8 ft. is more capable of efficient ventilation than one of greater height. It is impossible to construct a window (excepting the sash-window shown by the accompanying plan, section, and elevation) which would reach within 9 in. of the ceiling, of any decent proportion without a transome. This



STANDARD PLAN. GROUP 1

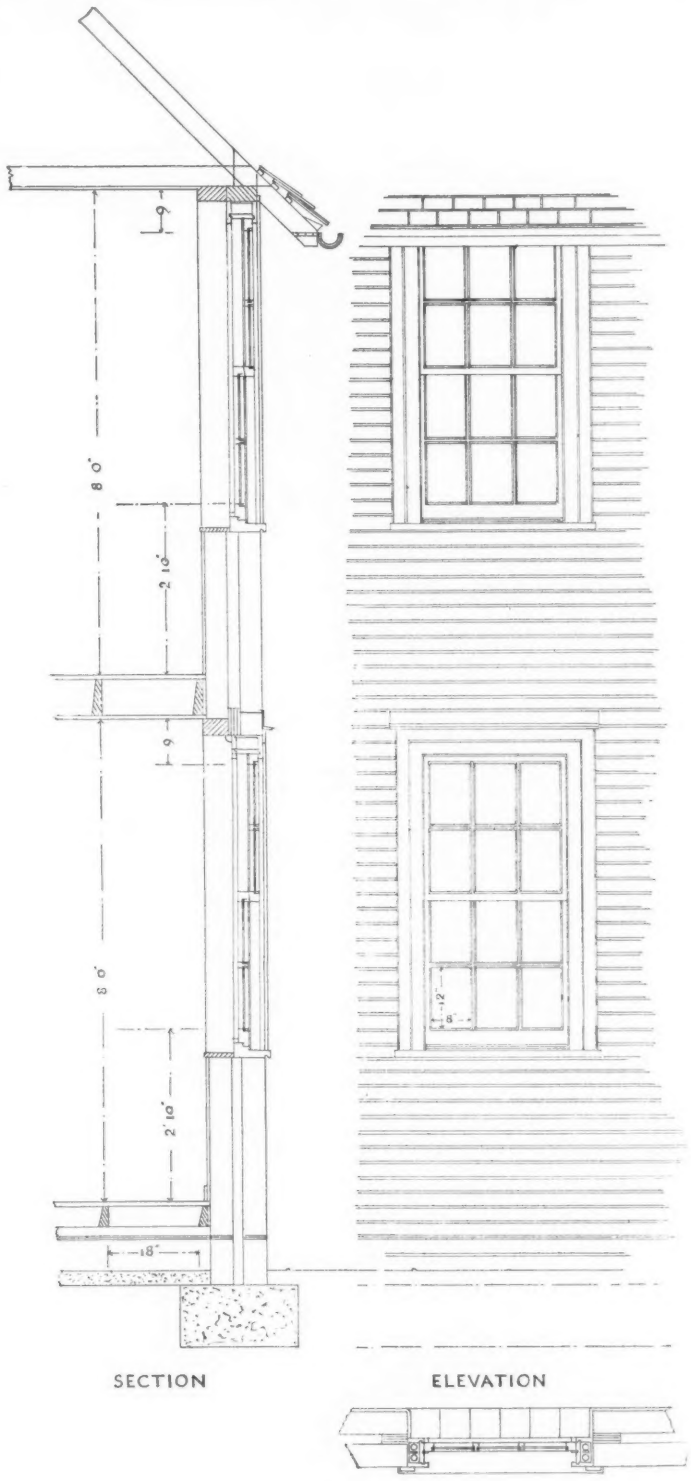


STANDARD PLAN. GROUP 2



STANDARD PLAN. GROUP 3

ALTERNATIVE ARRANGEMENTS IN GROUPING OF THE STANDARD PLAN.



SECTION ELEVATION

PLAN

SECTION, ELEVATION, AND PLAN OF A GOOD TYPE OF SASH WINDOW.

By Mervyn E. Macartney, F.R.I.B.A. — By Walter Cave, F.R.I.B.A.

THE WHITELEY HOMES, BURHILL, WALTON-ON-THAMES.

means that the upper casements could not be opened by a woman of average stature without standing on a chair, and that means that they will not be opened. Again, the Local Government Board by-laws prohibit the use of wood and many other materials for walls, except brick and stone or concrete, and the minimum thicknesses are unnecessarily onerous. Most of the towns in the Western States of America are built of wood, and in Norway you pass through village after village of wood. In the home counties there are hundreds of examples of this construction dating from the middle of the eighteenth century down to the middle of the nineteenth. If the buildings are kept sufficiently detached from their neighbours there is very little chance of danger from fire. The prejudice against them in the minds of the Local Government Board officials makes their employment practically impossible owing to the high rate of interest charged on loans. Æsthetically they are extremely pleasing and economical. As to the roofs, slates or tiles are, in my opinion, the most satisfactory materials available. Cheap substitutes do not appeal to me. Doubtless they are a great initial saving, but I do not believe they will prove so in the long run. These cottages are not temporary buildings, but are meant to last at least a century, and the question of upkeep must not be lost sight of, nor that of dilapidations. Roughcast, tile and slate hanging, and plaster are all very sound and beautiful methods of construction, and charming examples could be produced from all parts of this country, especially south of the Humber. Wood might be employed in country districts, and patent bricks plastered, such as are made by Colliers of Reading. Abroad and in America the scantlings are less; rafters or spars are often rough poles from larch plantations. By doing this the carting to mills and back to the job, besides the sawing, makes a considerable difference in cost. Again, in France they save in timber by sawing 4 in. by 3 in. diagonally, making two joists where we should only get one. Moreover, instead of 14 in. centres for joists and rafters they space them 18 in. And then a small economy is to bring your plastering up to the solid frames of doors and windows. This is the old Dutch habit, and saves architraves, linings, etc., as well as sweeping away a favourite harbour for insects, etc.

By using a self-setting stove half the brickwork of a chimney is saved. The small portable range has won its way into many cottages in rural as well as urban districts. It has many advantages, but one fatal drawback—that you do not get the British open grate. But the fetish about this (which I must say I worship myself) is being slowly exorcised by the introduction of gas and petroleum stoves, which are more economical and cleanly—advantages which the thrifty house-

By Mervyn E. Macartney, F.R.I.B.A. — By Reginald Blomfield, R.A., F.R.I.B.A. — By Ernest Newton, A.R.A., P.R.I.B.A.

THE WHITELEY HOMES, BURHILL, WALTON-ON-THAMES.

wife is not slow to appreciate. No cottage should have more than one coat of plaster on its walls. The old three coats is extravagant and unnecessary.

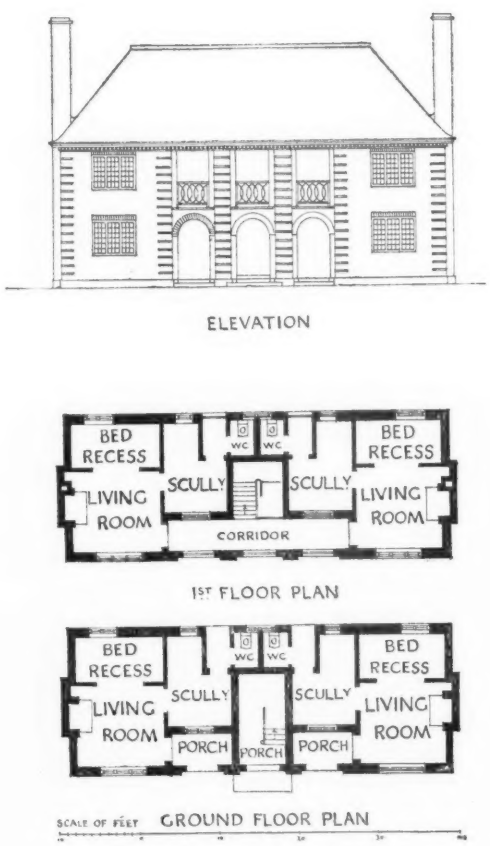
As to planning, the bedrock requirements are simple, and you may say pertain through the length and breadth of the country. Two living-rooms and three bedrooms answer the needs of nine-tenths of the workers in these realms. By the courtesy of Lieut. E. Holloway I reproduce in this paper the plans which he created for the Evesham Rural Council. Mr. J. J. Joass has kindly drawn out three alternative treatments of the elevation. They show how different the appearance of an identical plan can be made to look by employing a variety of materials. I have also introduced plans of the Whiteley Homes taken through the courtesy of "The Building News" from plates in that journal. All the architects employed on these designs were instructed to form their plans on a standard plan. The sizes of rooms were practically fixed and unalterable, also fittings, etc. It is interesting and instructive to see how diverse are the results, and this convinces me that it is quite unnecessary to have a great choice of plans. A selection of half a dozen good schemes would, I believe, answer every purpose. The only hope of effecting economy in building is by repetition of the same plan and making the construction of these cottages so simple and easy that the labour of supervision and the need for expert

By Mervyn E. Macartney, F.R.I.B.A.

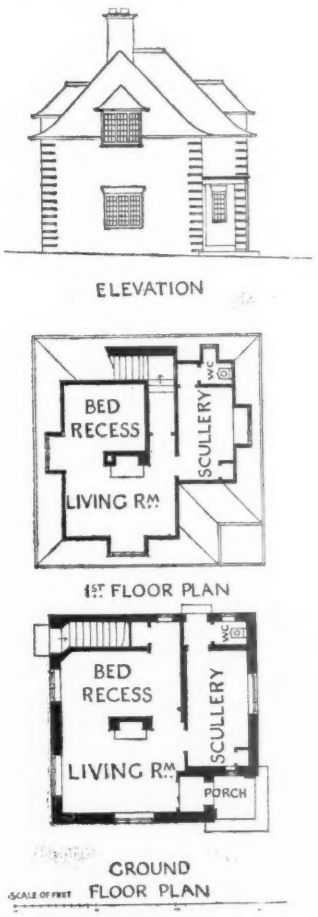
workmen is reduced to a minimum. The late Mr. Chapel used to number all the different items in the construction of a building. He said it paid him handsomely to go into all this detail. By adopting this method, and by standardizing your doors and windows, an enormous amount of time would be saved. I was surprised to find that at the Oxford Conference there was a considerable amount of opposition to my standardizing proposals from the representatives of the Trade Unions, on the ground that it meant passing off a poor unsightly article on the working man. It was no use arguing against this, because the prejudice was founded on ignorance of the first elements of architecture.

Ornament is not beauty, and a building slimed over with ornament, while it might captivate the vulgar crowd, would be abhorred by the man of taste. If you come to investigate the subject, you will find that the speculating builder has been standardizing his villas for years. Look at the appalling streets of Tooting, Willesden, Leyton, Hammersmith, Fulham, and scores of other London suburbs, as well as our great cities. I feel confident that nine-tenths of the smaller houses built between 1870 and 1900 were practically identical in plan, whether they were built in London, Bristol, Nottingham, or Liverpool. Was any objection ever raised by the artisan or clerk to this standard plan? Why should one deplorable type not

By Reginald Blomfield, R.A., F.R.I.B.A.



By Ernest Newton, A.R.A., P.R.I.B.A.



By Walter Cave, F.R.I.B.A.

THE WHITELEY HOMES, BURHILL, WALTON-ON-THAMES.

only be endured but admired, and yet the adoption of plans passed by men who have studied the subject all their lives be condemned?

As to construction, the only path which leads to any real reduction in cost is, as I stated before, standardization.

THE ARCHITECTURAL REVIEW will be pleased to receive correspondence from architects and others on this very important subject, to which Mr. Macartney has supplied such an admirable introduction. Suggestions, more ingenious than practicable, appear in the lay press from time to time. For example, a correspondent of the "Spectator" wrote recently: "There are millions of officers and men who have lived for years in Nisson huts, tents, shacks, and shelters, and those who have at any time possessed a share in a well-warmed Nisson hut during a cold French winter have found themselves sufficiently comfortable to declare that they are no longer willing to spend from one-tenth to one-fifth, or even one-fourth, of their income in rent of a cottage or small dwelling. At the close of the War there will be available a very large number of such huts, which will probably be disposed of to contractors at a few shillings apiece. Could they not be utilized, especially in country districts, and would they not be accepted by men who have learned that such a hut is cheap and good, and who have got rid of old-fashioned prejudices in favour of stone and lime or brick houses, which cost a great deal, and, when badly built, are poor enough shelters?" All such rather desperate expedients seem to assume tacitly that while everything else is progressive the conditions of rural labour are immutable. Until that fundamental fallacy is finally uprooted, discussion of the rural housing problem must be to a considerable extent futile, because the most vital factor is ignored.

ILLUMINATION AND THE ARCHITECT.

THE design of buildings is in many respects determined by the admission of daylight. This is the chief factor in deciding the size and shape of the most modern schools and factories; but in any interior of architectural distinction the natural lighting will likewise receive close attention from the architect, for the appearance of the room by day depends very greatly on the way the lights are arranged.

On the other hand, artificial lighting, generally speaking, does not seem to receive the attention which it deserves from the architect. When the expenditure allotted to the various features in a building is apportioned, the artificial lighting is apt to be left to the last. This is not as it should be. Illumination is a necessity and not a luxury; for example, it is vital to the proper use of schools and libraries, and in factories it has an important influence on health, freedom from accidents, and quality and output of work. The appearance of a noble interior may be quite spoiled by the use of unsuitable and unsightly fittings. In these days the appearance of a room by artificial light is quite as important as by day; in many cases more so. Some buildings—theatres and picture palaces, for example—are used almost exclusively by artificial light.

During the last decade, illuminating engineering—the art of applying light for purposes of illumination—has made immense strides. The subject is now too complex to be studied in complete detail by the architect, whose attention is necessarily spread over a great variety of matters. There have been marked improvements in lamps and fittings, and a corresponding advance in our knowledge of how to use them. We can now manipulate the distribution of light in many different ways. By the aid of illumination-photometers, lighting effects can be studied numerically, so that to-day it is possible to predict very closely the illumination resulting from a given arrangement of lamps in specified fittings, and afterwards to check these results by actual measurement. At the same time illumination has been studied very closely in relation to the eye. It is necessary not merely to provide a sufficiency of light for any purpose, but to ensure that the eye is not offended by glaring, unshaded sources of light, falling within the direct range of vision, nor by violent contrasts or inconvenient shadows. If sources of high intrinsic brilliancy are used they should be high up and quite out of the field of view, softened or concealed from the eye by appropriate globes, shades, or reflectors.

Improvements in shades and reflectors have had a very marked influence on illumination. To-day the lamp with its appropriate reflector, globe-bowl, or other appliance is considered as one unit. From the illuminating engineering stand-

Fig. 1.—INDIRECT LIGHTING IN ANTE-ROOM AT THE ROYAL INSTITUTION, LONDON.

Fig. 2.—INDIRECT LIGHTING AT HOLDERNESS HALL, HULL.

point a well-designed shade or reflector is expected to fulfil one or more of the following requirements:—

(1) It should conceal or soften the light so as to avoid glare.

(2) It should be so designed as to distribute the light where it is mainly needed (in general, on the tables and in the lower region of a room).

(3) It should form a diffusing surface, spreading the light over a more extensive area, and thus softening the shadow.

(4) It should be itself a pleasing and decorative object.

These four requirements will naturally vary in relative importance according to the nature of the problem. In lighting a factory (1) and (2), and in some cases (3), are of paramount importance. In a decorative interior (4) must also receive attention, and is not necessarily incompatible with the others. One still sees in use shades in conflict with all these requirements — for example, reflectors too shallow to cover the light or materially influence the direction of its rays; one even observes shades of clear or tinted glass which merely absorb light, do not alter the distribution, and leave the inconveniently bright filament fully exposed to view. Such shades are not only inefficient, but prejudicial to eyesight. The brightness of the ordinary metallic filament was already so high as to make proper methods of shading highly desirable; in the case of the much brighter "half-watt" lamps it is absolutely essential to shade the direct rays. Moreover, the distribution of light from electric lamps (which may vary within wide limits according to the shape of the filament) is rarely suitable for practical lighting problems. One important object in using a shade or reflector or other lighting appliance is to redirect those rays of light which would otherwise merely escape and dazzle the eyes into directions where they can most usefully be employed.

Fig. 3. INDIRECT LIGHTING IN VESTIBULE OF LIME STREET PICTURE HOUSE, LIVERPOOL.

The walls and ceilings of a room may also be effectively used to promote the diffusion of light, and, speaking generally, it is a great advantage if these surfaces are relatively light in tint. The nature of an object can only be clearly perceived when it receives light from many different directions; the relatively small amount of reflected light available is one of the greatest difficulties in lighting streets and large open spaces.

In lighting an interior we may adopt either general lighting (i.e., flood the entire working area uniformly with light) or local lighting, in which appropriate units are allotted to certain spots where close work is done, or a combination of both methods. There is now a strong tendency in factories towards "overhead lighting" from units mounted direct on the ceiling or girders, especially with half-watt lamps. This leaves the room clear, keeps the lights out of the direct range of vision of operators, and makes it possible to alter the positions of machines, etc., without much interference with the illumination effects.

In these circumstances we employ direct lighting, i.e., lamps in open reflectors. The distribution of light from such units has been accurately determined, and directions are given by modern firms concerned with such appliances for the correct spacing to produce uniform illumination. It is possible to determine, with an accuracy quite sufficient for practical purposes, the illumination to be produced on the working plane by a given consumption of electricity per square foot. For example, with well-designed direct lighting with tungsten lamps, half a watt per square foot gives approximately two foot candles; with gas-filled ("half-watt") lamps the consumption for a given illumination would naturally be less. Experience also enables us to judge with fair accuracy the conditions of illumination necessary for various industrial processes, although special cases will always arise which have to be studied on their merits.

We have also a choice between direct, semi-indirect, and indirect lighting. While direct lighting is mainly used (though not exclusively) in factory lighting, there are many opportunities for indirect and semi-indirect methods in offices, theatres, etc., and for domestic use. In indirect lighting, the source of light is completely shielded and its rays are reflected on to the ceiling, whence they are diffused throughout the room. The lamp is often mounted in a bowl suspended from the ceiling, but it is sometimes convenient to make use of cornices, etc., for the reflection of light. This method has made considerable progress since the introduction of the half-watt lamp, and has several distinct advantages. The complete shielding of the lamp is favourable to elimination of glare; the diffusion of light from large surfaces gives soft shadows, causes the light to penetrate into every corner, and avoids inconvenient reflections of light from the polished surfaces of books, etc.

Architecturally, these methods have distinct possibilities, but they must be skilfully applied. The impression of flatness and monotony sometimes arising from this form of lighting may be due to imperfections in design and application. In some cases it is desirable to relieve this impression by the use of bracket fittings or other local lights, equipped with an appropriate mildly luminous shade, which serve to "break up" any apparent monotony in the surroundings.

Indirect lighting involves, as a rule, a somewhat higher expenditure of electricity to produce a given illumination on the working plane, but the fact of a much larger proportion of light being shed on the walls is often an advantage for showing up pictures, etc. Through the courtesy of The British Thomson-Houston Co., Ltd., who, while utilizing all these methods of lighting, have been largely responsible for the scientific development of indirect lighting, we are reproducing in Fig. 1 a view of their installation in the ante-room at the Royal Institution, taken by artificial light. This is a typical example of the effect of relatively high illumination on the walls, allowing the pictures, busts, etc., to be clearly seen. Figs. 2 and 3, referring to installations by the same firm, show the application of this method to cinema theatres, for which it is considered to be specially suitable. The plan of arranging the bowl immediately under a dome makes the lighting unit appear quite a natural element in the general design.

Semi-indirect lighting resembles indirect lighting, except that the bowl is made of translucent glass, so that some direct light is received. The design of these ornamental glass bowls affords exceptional opportunities for artistic treatment, and the effect of the transmitted light is often useful in avoiding monotony of brightness, where there is a danger of this impression being produced.

The possibilities of decorative lighting in halls and other large interiors has not yet been fully developed. To get the finest results the design of the building and the lighting should be worked out together; it hardly offers a fair chance to the lighting expert if his assistance is only invited when the building is practically complete; in these circumstances it is often exceedingly difficult to get the desired unobtrusive effect and to make the lighting an integral feature of the general design.

As an additional instance of the combination of structural design with the study of lighting conditions, we may mention the lighting of underground passages on some of the tube railways by lamps concealed in slots in the upper wall. In a recent American installation the idea has been carried further by cutting sections in the walls and inserting lamps behind panes of diffusing glass. The lamps have special blue bulbs giving a colour of light closely resembling daylight, and the passage is thus made to appear as though it were above ground, and receiving natural light through windows in the ordinary way.

Figs. 4 and 5, which were displayed before the Illuminating Engineering Society some time ago, show the difference in appearance of an interior by natural and artificial light. Notwithstanding the reversal of the shadows, the effect of the artificial light is pleasing—perhaps even more so than the natural illumination. It has been remarked that the impression made by an interior is, in many respects, mainly determined by the artificial lighting. Why therefore not recognize this, and ensure that the artificial lighting is such as to display the interior to the best advantage? Artificial lighting wisely applied need not be an incongruous element, but may add much to the beauty of an interior.

A somewhat complicated problem arises in the case of old churches and mansions and buildings of historic and antiquarian interest. Here, it is sometimes contended, one

Illuminated by Natural Light.

Illuminated by Artificial Light: Note reversal of Shadows.

Figs. 4 and 5.—OFFICES OF THE ALLAN LINE, COCKSPUR STREET, LONDON.

should aim at reproducing the original lighting conditions. One can appreciate this view, though, logically, it would involve adhering to the use of oil lamps and candles. But, as a matter of fact, the tendency is for electricity to be used more and more for such buildings; and if a certain sacrifice of artistic fitness to modern convenience is made, one should at least take pains to make the new illuminant unobtrusive, and, so far as possible, harmonious with the general scheme. One may conform to a distinctive style of fitting and yet not offend against the fundamental principles. Yet one often finds that electric lamps are introduced without any regard to artistic considerations; those responsible seem to have despaired of avoiding incongruity, and to have allowed the contractor to install lights and fittings which are a positive eyesore.

In all such cases much might be done by the co-operation of the architect and the lighting engineer. There are now firms, such as The British Thomson-Houston Co., which have an illuminating engineering department able to advise and prepare lighting schemes; and there are also now arising independent specialists in lighting, who, in the case of important buildings, could help the architect by acting as an intermediary with the firm supplying the lighting appliances. There is no reflection on the architect in thus seeking expert help. Already he invites the assistance of experts on heating and ventilation, and it is unreasonable to expect him to be familiar with the constantly changing developments in lighting in the same way as one who has made illumination his special province. In taking advice on this subject he is only following the precedent of the general medical practitioner who consults a specialist in complicated cases.

A notable instance of such co-operation was afforded by the design of the Carnegie libraries in New York about ten years ago, when plans were worked out by the architects and the consulting illuminating engineer conjointly, and with very beneficial results. Another instance of such co-operation was the remarkable Soldiers' Memorial Building at Pittsburg. There is also ample room for co-operation in regard to external lighting, both of streets and the outsides of buildings. Skill and forethought might make our streets more pleasing by night than by day. This is one of the many problems in lighting which in general cannot be very actively dealt with at the present moment, but will deserve attention when we return once more to normal conditions, and even at present when new installations are undertaken or plans are being prepared for future action on a large scale.

ST. PAUL'S CHURCH, STONYCROFT, LIVERPOOL.

IN the general design of this new church by Mr. G. Gilbert Scott, F.R.I.B.A., an attempt has been made to obtain an effect by largeness of scale and dignity of proportions rather than by elaboration of treatment. The main idea consists of three transepts on each side of the church, with a large square tower at the intersection of the central transept with the main roof. Internally, the intersection of the transept vaulting with the main vault produces an original and striking effect, and results in the main arcade being composed of high and low arches alternately. In the transepts at each side, and in the end gable facing Derby Lane, are groups of three tall lancet windows. The church stands on a foundation of red sandstone rock about 10 ft. below ground level, and its principal dimensions are as follows: Internal length,

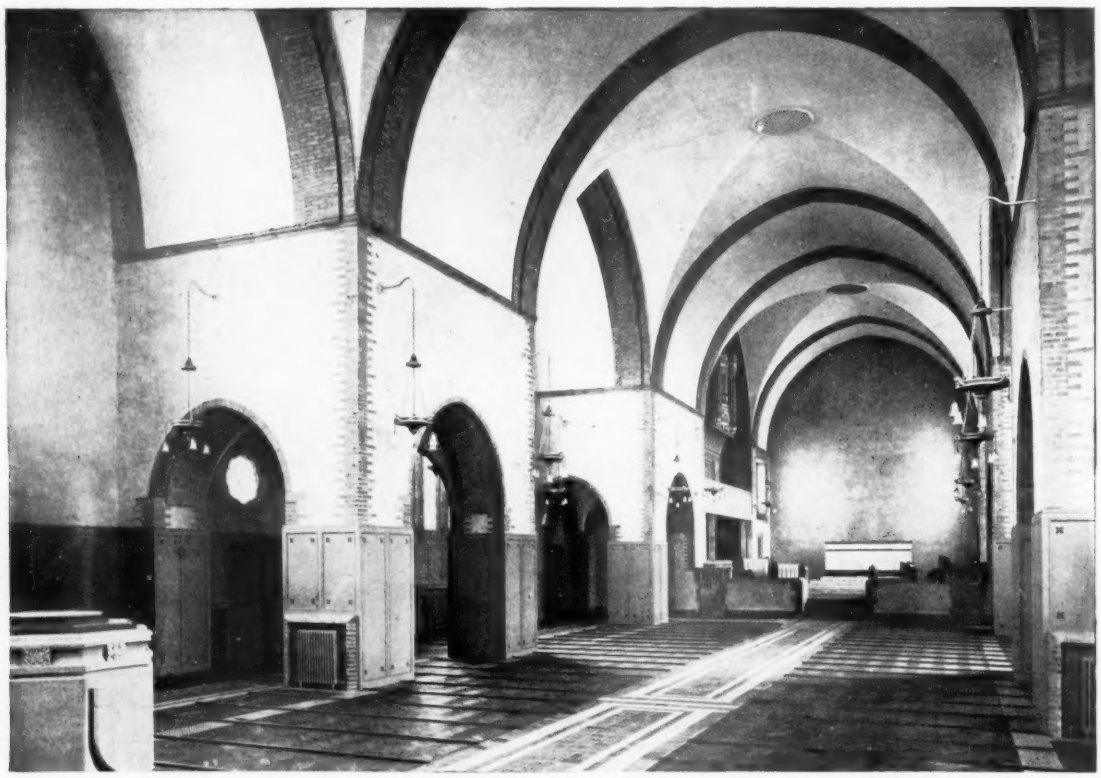
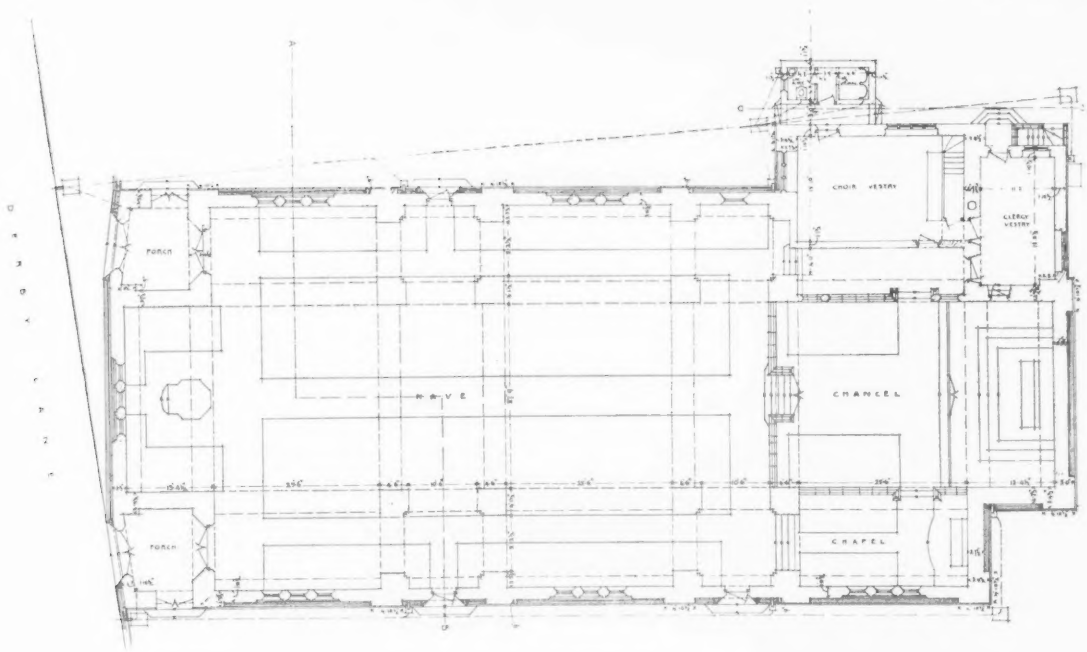


Photo: Stewart Bale, Liverpool.

ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL: INTERIOR, LOOKING EAST.
G. Gilbert Scott, F.R.I.B.A., Architect.

Photo : Stewart Bale, Liverpool.



ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL : VIEW FROM SOUTH-EAST.

G. Gilbert Scott, F.R.I.B.A., Architect.

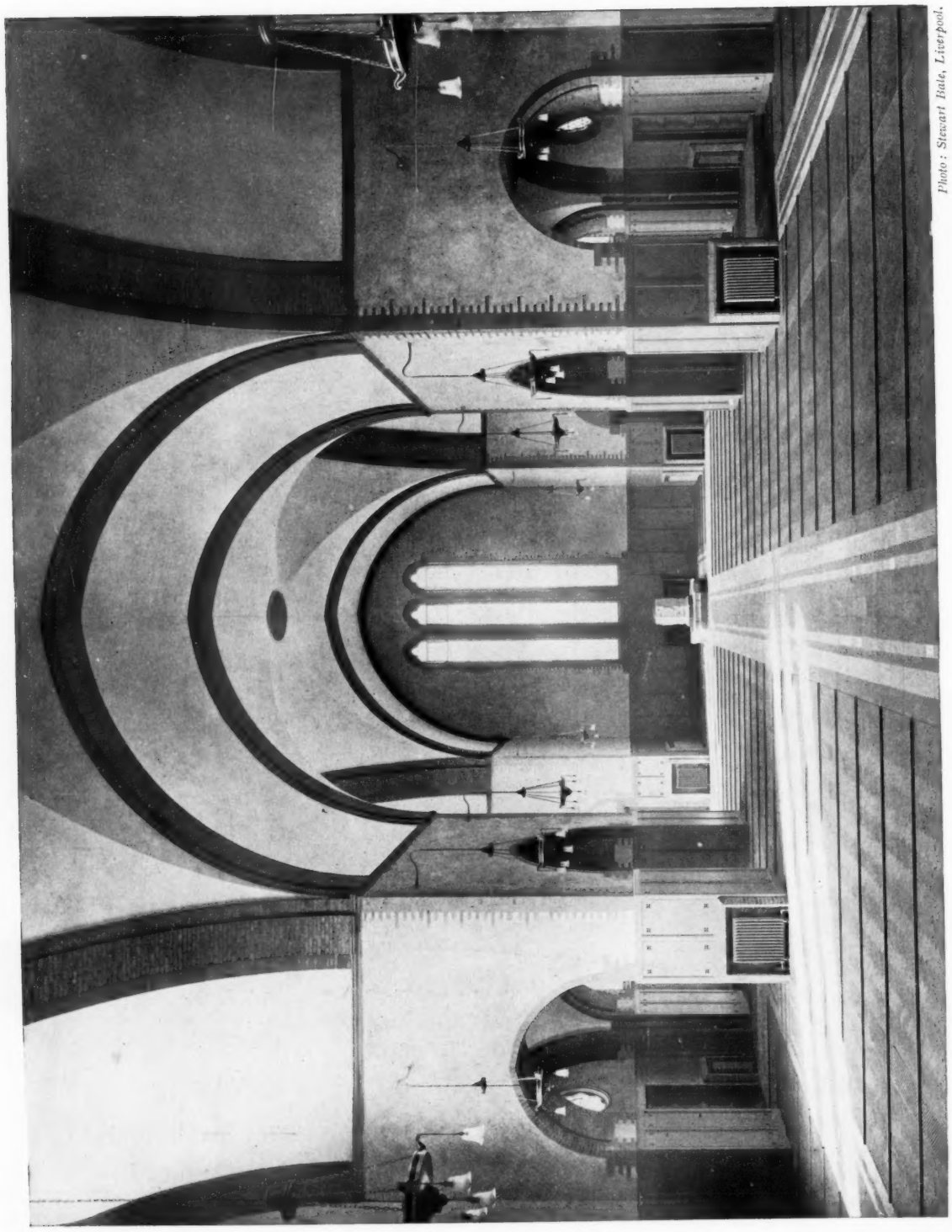


Photo: Stewart Bale, Liverpool.

ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL: INTERIOR, LOOKING WEST.
G. Gilbert Scott, F.R.I.B.A., Architect.

142 ft. 3 in.; width of nave and chancel, 27 ft. 9 in.; total internal width (including aisles), 57 ft. 4 in.; height of nave and chancel roof, 40 ft. The tower rises to a height of about 80 ft., and is surmounted by a pointed roof, making the total height to the apex about 108 ft. Accommodation is provided for a congregation of about 640 persons. The walls of the church are of concrete faced on both sides with brickwork, that to the exterior consisting of small silver-grey bricks, specially made for the work. These, together with the grey terra-cotta which is used throughout in place of stone dressings, were supplied by J. C. Edwards, of Ruabon. The roof generally is covered with hand-made tiles, the flat aisle roofs being of reinforced concrete covered with asphalt. The reinforced concrete work was executed by The Trussed Concrete Steel Co., Ltd. The inside of the church, including the vaulted ceiling, is plastered, with the exception of the quoins, arches, and dressings around windows and doors, etc., which are built with the bricks mentioned. The organ case was designed to embody various pieces of carving from a case that came from the old Renaissance church of St. Paul, which stood in the centre of Liverpool. Messrs. Morrison and Sons, of Wavertree, Liverpool, were the contractors.

Other contractors concerned with the work were: Messrs. The Basford Stone Co., Mr. John Pye, Mr. W. Miles Horsfall, Mr. James Parkinson, Mr. James Gibbons, Messrs. Bainbridge Reynolds, Ltd., Messrs. Farmer and Brindley, Ltd., Messrs. Jeffreys & Co., Ltd., Messrs. Rushworth and Dreaper, Ltd., Mr. John Taylor, Messrs. William Rowlands & Co., and Messrs. Watts & Co.

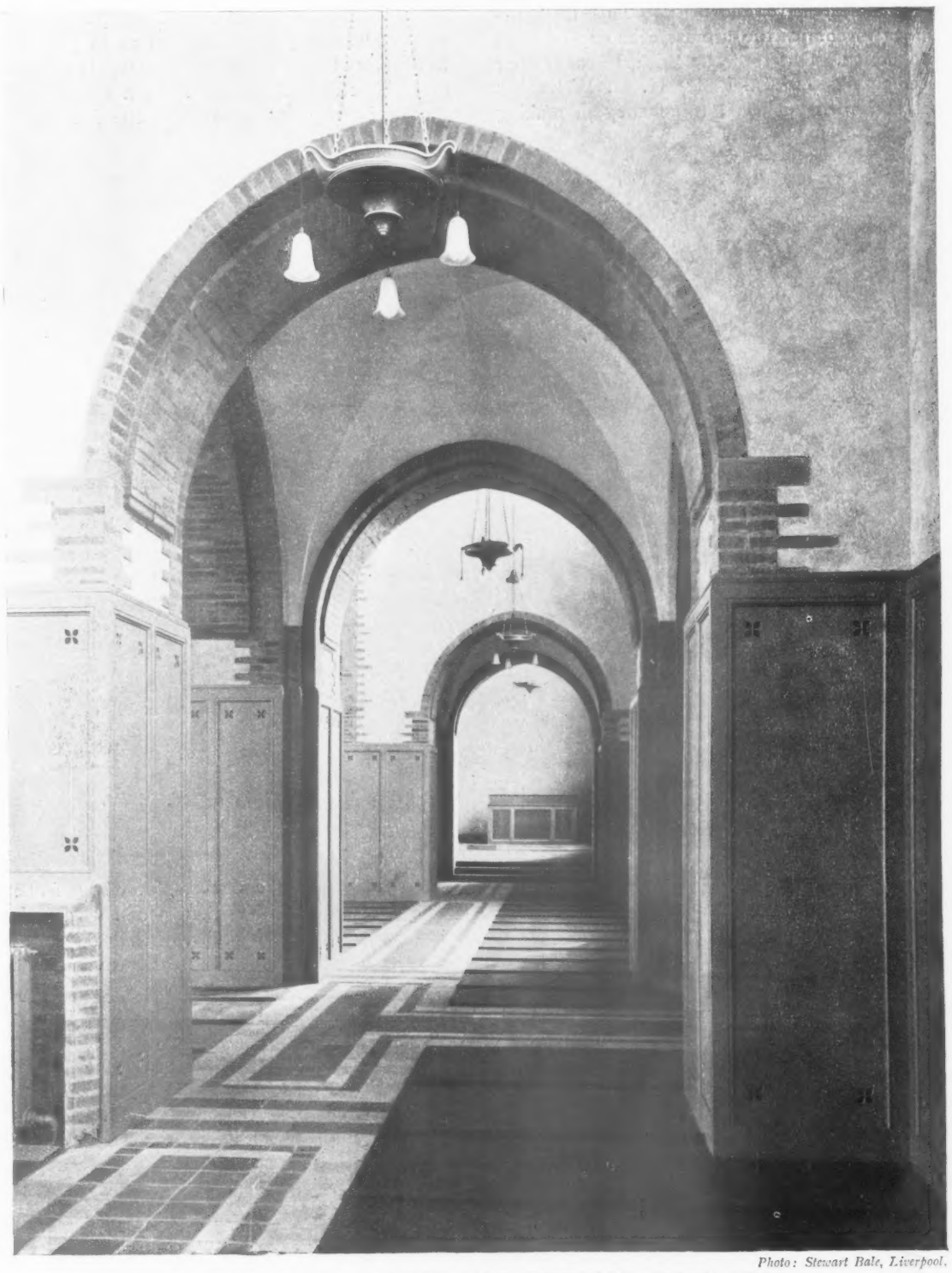


Photo: Stewart Bale, Liverpool.

ST. PAUL'S CHURCH, DERBY LANE, LIVERPOOL: SOUTH AISLE.
G. Gilbert Scott, F.R.I.B.A. Architect.

NEW BOOK.

MODERN INDUSTRIAL BUILDINGS.

BRITAIN'S long start in the manufacturing industries is not without certain disadvantages. Sooner or later, pioneer processes and methods are superseded, and the pioneer is likely to be outpaced and outclassed by those who take up the running from the stage at which he has arrived, and who are unhampered by his prepossessions or his impedimenta. Many, perhaps most, of our manufacturers are rather heavily handicapped by buildings that were put up before the study of principles could become intensive, and before competition was sufficiently strenuous to compel the utmost economy of ways and means of production. Our trade languished because our methods had become obsolete; and Mr. H. G. Wells has expressed the position with his usual trenchancy in making Mr. Britling say: "It was an extraordinary thing that England, which was the originator of the industrial system, and the original developer of the division of labour, should have so fallen away from systematized manufacturing." ("Mr. Britling Sees It Through," Chapter I.)

We are on the eve of a great renaissance of industry. Upon our success in the fierce struggle for commercial supremacy which will ensue immediately upon the restoration of peace will depend our very existence as a first-class power; and it is very plain that the provision of thoroughly efficient factory buildings is a primary condition of competitive production. These are mere truisms, but their reiteration at the present moment is almost a national duty. It is precisely the most obvious things that are most commonly overlooked, and there are indications in this book that Mr. Kahn is well aware of the fact. But his very useful review of the position does not stop short at mere recapitulation. It consists, for the most part, of shrewd deductions drawn from the very comprehensive data with which practical experience in two hemispheres has supplied him, and these deductions he has set forth in a series of tersely written chapters dealing seriatim with all the essentials of the subject.

In a book in which principles are so clearly enunciated it is natural that the modern spirit in industrial organization, in so far as it relates to the planning and construction of the buildings which are to embody it, should be adequately discussed. Mr. Kahn, besides giving sound advice on such practical matters as choice of the type of building most suited to particular requirements, and as to planning, lighting and heating, and plumbing, insists strongly on the business value of architectural appearance. In a special chapter, he shows that it is wise policy to make the fullest possible provision for the welfare of the workers, for whom factory life may be made pleasurable rather than penal, with a favourable effect upon the quantity and quality of their output that, quite apart from the moral obligation to treat them as human beings rather than as machines, is a "business proposition" yielding a return that even the Gradgrinds of this world can appreciate. In a series of more than seventy plates, Mr. Kahn shows many different types of industrial buildings, most of which have quite pleasant exteriors: the accompanying illustration is an average specimen. Mr. Kahn has opportunely produced a book that is at once a harbinger of the new movement in factory building and an important agent in its promotion.

ADMINISTRATION BUILDING OF THE FORD MOTOR COMPANY, DETROIT, MICH.

From "The Design and Construction of Industrial Buildings."

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