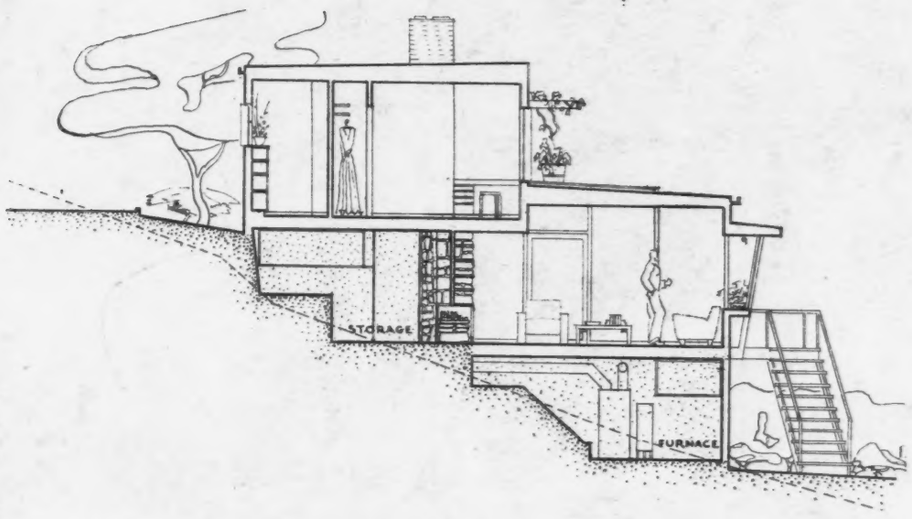
THE ARCHITECTURAL REVIEW

A Magazine of Architecture & Decoration

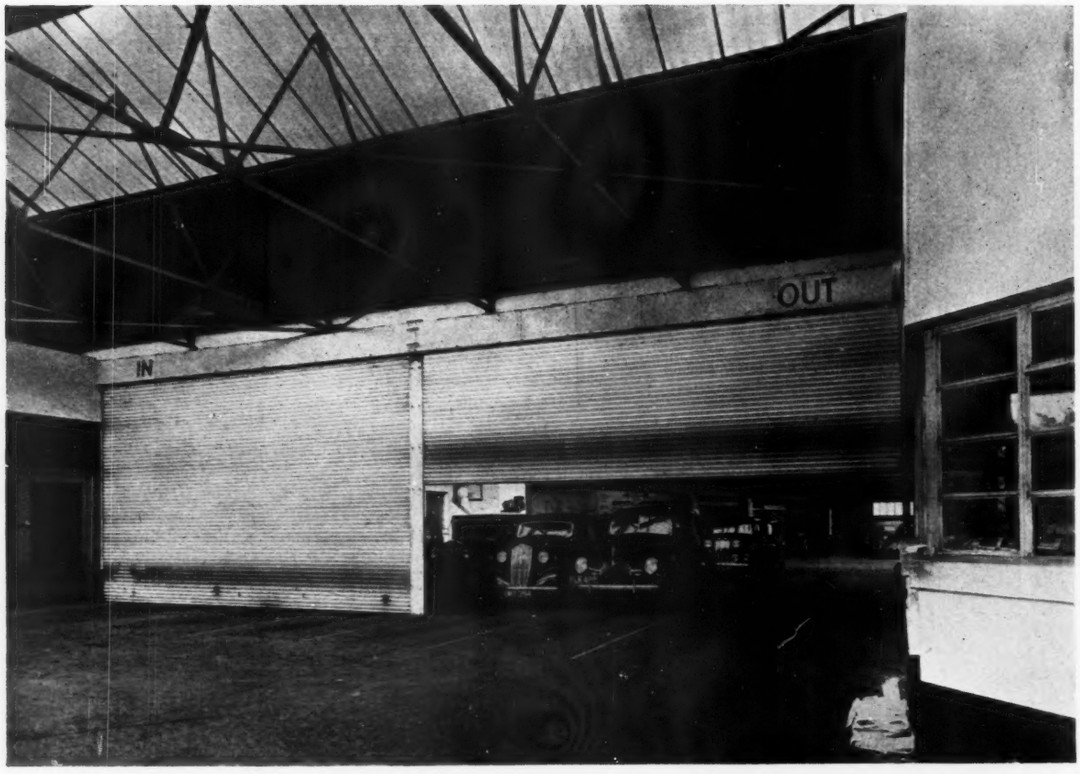


Incorporating
THE
RECONSTRUCTION
SUPPLEMENT

Two Shillings and Sixpence Net

Vol. XCI February 1942 No. 542

ALPHABETICAL LIST TO ADVERTISERS

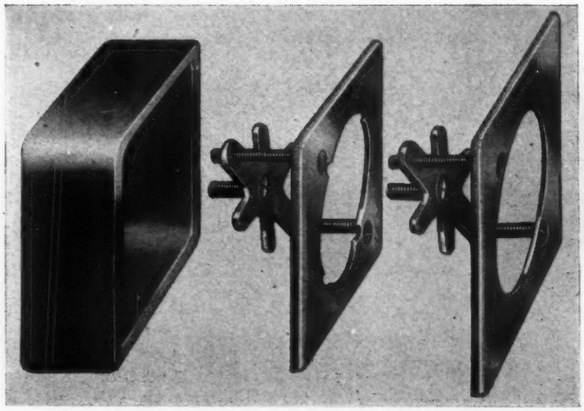


Steel ROLLING SHUTTERS

Steel Rolling Shutters, constructed of interlocking laths, are the most efficient method of covering all kinds of openings in buildings. Mather and Platt Steel Rolling Shutters can be supplied for either hand or electrical operation.

Mather and Platt Ltd.

PARK WORKS, MANCHESTER, 10. PARK HOUSE, GREAT SMITH STREET, LONDON, S.W.1.



Box with both surface and flush types intermediate plate and grid.

G.E.C.

WIRING INSTALLATIONS *using* CORBELUX

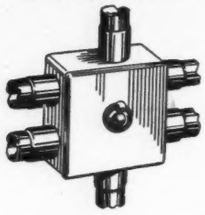
"ALL-PURPOSE" CONDUIT BOX

The Corbelux All-Purpose Conduit Box has as its main advantage — SIMPLICITY IN DESIGN. Switches, plates, plugs, or ceiling roses, etc., can be accommodated in the same box. Simplicity and speed in fixing result—which are important factors in these days where rapid installation is imperative.

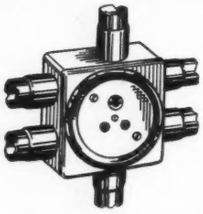
Other important features include :—

- **Any standard electrical component suitable for mounting flush, surface or semi-recessed with fixing at either 2″, 1″ or 1⅝″ centres can be accommodated.**
- **Conduits up to 1″ diameter can be terminated in all four sides and back without restricting the space required for wiring and equipment.**
- **Every point serves as a draw-in box.**
- **The self-aligning features of this, the first ALL-PURPOSE CONDUIT BOX, enables it to be used for flush or surface work.**

Three examples of the many applications.



Used as a surface switch-box. Any standard 2 amp. or 5 amp. switch can be fixed.



Accommodating the new 2 amp. and 5 amp. 3-pin shutter type socket outlets.

Used in place of the universal box for various types of ceiling points.

Ample Stocks Available

Advt. of The General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2.

Why not all Britain too?

In the valleys of the Cotswolds a peculiar harmony is to be found between the works of man and the background of Nature. The English landscape, so frequently degraded by human settlement, here actually acquires from it an added charm. This pleasant influence is felt by every visitor—together with the rather mournful reflection, why is not all Britain like this too? . . . . The Cotswolds cannot be copied, but they should serve as an inspiration. A wise use of modern materials and methods will mean an altogether different relationship between town, highway, countryside. Makers of a material of the future, Celotex look with enthusiasm to the possibilities of the post-war world. **CELOTEX LIMITED · STONEBRIDGE PARK · N.W.10**

Warm-hearted walls!

WHEREVER A wooden building goes up, whether for army or civilian or storage use, wind and damp come creeping around to destroy the comfort and security of whatever lives within . . .

Line all wooden walls — and roofs — with IBECO waterproof kraft ! No wet or damp gets past the close-knit fibres of IBECO, impregnated with bitumen *in the process of making*.

No extremes of temperature will "sweat out" the bitumen from IBECO. It has no fragile skin of proofing to break down with handling, folding or stretching. It is waterproof to start with and it *stays* waterproof. It has excellent insulating properties against heat and cold. It is completely light-proof. There are four weights, and the lightest costs round about twopence a square yard.

Use it in air-raid shelters, too ; under wallpaper on damp walls ; beneath parquet where moisture is suspected. It spells shillings' worth of insurance against pounds' worth of damage and discomfort.

IBECO is British-made (remember that in war-time !) and is in steady production all the time. Technical details, samples and prices on request.

WATERPROOF IBECO KRAFT PAPER

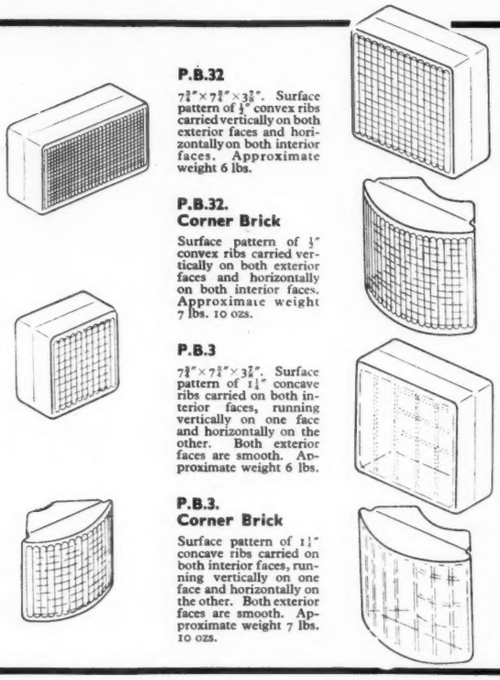
MADE BY C. DAVIDSON & SONS LTD : MUGIE MOSS, BUCKSBURN, ABERDEENSHIRE

FACTS ABOUT GLASS FOR ARCHITECTURAL STUDENTS

No. 8—Insulight Glass Bricks

Insulight Glass Bricks are hollow translucent units, made in two halves and sealed together, forming bricks which can be laid in the ordinary way.

TYPES



P.B.1
8″×4¼″×3⅛″. Surface pattern of ½″ convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 4 lbs. 5 ozs.

P.B.2
5¼″×5¼″×3⅛″. Surface pattern of ½″ convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 3 lbs. 11 ozs.

P.B.2. Corner Brick :
Surface pattern of ½″ convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 3 lbs. 10 ozs.

P.B.32
7¾″×7¾″×3⅛″. Surface pattern of ½″ convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 6 lbs.

P.B.32. Corner Brick
Surface pattern of ½″ convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 7 lbs. 10 ozs.

P.B.3
7¾″×7¾″×3⅛″. Surface pattern of 1¼″ concave ribs carried on both interior faces, running vertically on one face and horizontally on the other. Both exterior faces are smooth. Approximate weight 6 lbs.

P.B.3. Corner Brick
Surface pattern of 1¼″ concave ribs carried on both interior faces, running vertically on one face and horizontally on the other. Both exterior faces are smooth. Approximate weight 7 lbs. 10 ozs.

USES

Eminently suitable for external or internal walls, for staircase lights, panels, bays, partitions; for flat or curved surfaces; for any position where a diffused all-over light is required: or light combined with privacy.

ADVANTAGES

Thermal Insulation.
Reduced condensation.
Little maintenance required.
Sound Insulation.
Hygienic surface.
Fire resisting (classified Grade D under the British Standard Definitions No. 476, as a fire-resisting building material).

FIXING

Insulight Glass Bricks are non-load bearing units which will carry their own weight with a wide safety factor up to any practical height, but because of wind pressures and other stresses it is necessary to put an intermediate support in panels over 20 ft. high or 120 ft. super. Very wide panels require an expansion joint every 20 ft.

Mortar

A fairly dry and fatty mortar is advisable as the Glass Bricks are non-absorbent. The best mix has been found to be 4 parts (by volume) sand, 1 part Portland Cement and 1 part Slaked Lime putty, mixed fairly dry. The sand should be clean Builders' sand free from gravel. Slaked Lime putty has been found to be more fatty and therefore preferable to hydrated lime (*i.e.* dry lime or bag lime).

Pointing

The face of the joints may be struck back and smoothed during the erection or they may be raked out and later pointed up with Snowcrete, Colourcrete or similar materials. A "keyed" joint formed with a curved jointing tool is the finish mostly used.
An alternative method of adding "colour" to a panel is to paint the joints with a good oil paint or aluminium paint after the mortar is quite dry. This method should only be used on internal panels.

Reinforcement

Reinforcing strips should be built in every third to every fifth course according to the size and position of the panel. The ends should pass through the clearance joint and be built into or secured to the main structure. "Exmet" 2½in. wide No. 20 gauge expanded metal has been found most suitable for this purpose.

Clearance Joints

The top and both vertical edges of every panel must be built free of the main structure—except for the reinforcement—to avoid risk of settlement, load or expansion strains affecting the panel. A ½ in. clearance is advisable and this should be kept free of any spillings of mortar and be filled with a non-hardening material.
Our Griponex mastic has been found most suitable for filling the clearance joints on exterior panels and Gripon 10.10.N. for interior panels. There are, however, many non-hardening bituminous and other compositions on the market.
Wherever possible the top and ends should be built into a "recess" to provide stability not otherwise obtainable owing to the clearance joints. This recess should be 4½ in. wide by 1 in. deep, allowing ½ in. clearance and ½ in. cover over the face of the glass brick with $\frac{3}{16}$ in. play on either face, and this also should be pointed with a non-hardening composition. Only small internal panels should be built into a "rebated" joint, *i.e.* recessed 1 in. on one face only, as a plain "butt" with no cover on the face to provide stability is not generally advised, and schemes requiring this type of joint should be submitted to our Technical Department before allowing the job to go on.

This is published by Pilkington Brothers Limited, of St. Helens, Lancashire, whose Technical Department is always available for consultation regarding the properties and uses of glass in architecture.

LONDON OFFICE AND SHOWROOMS: 63 PICCADILLY, W.1. Telephone: Regent 4281

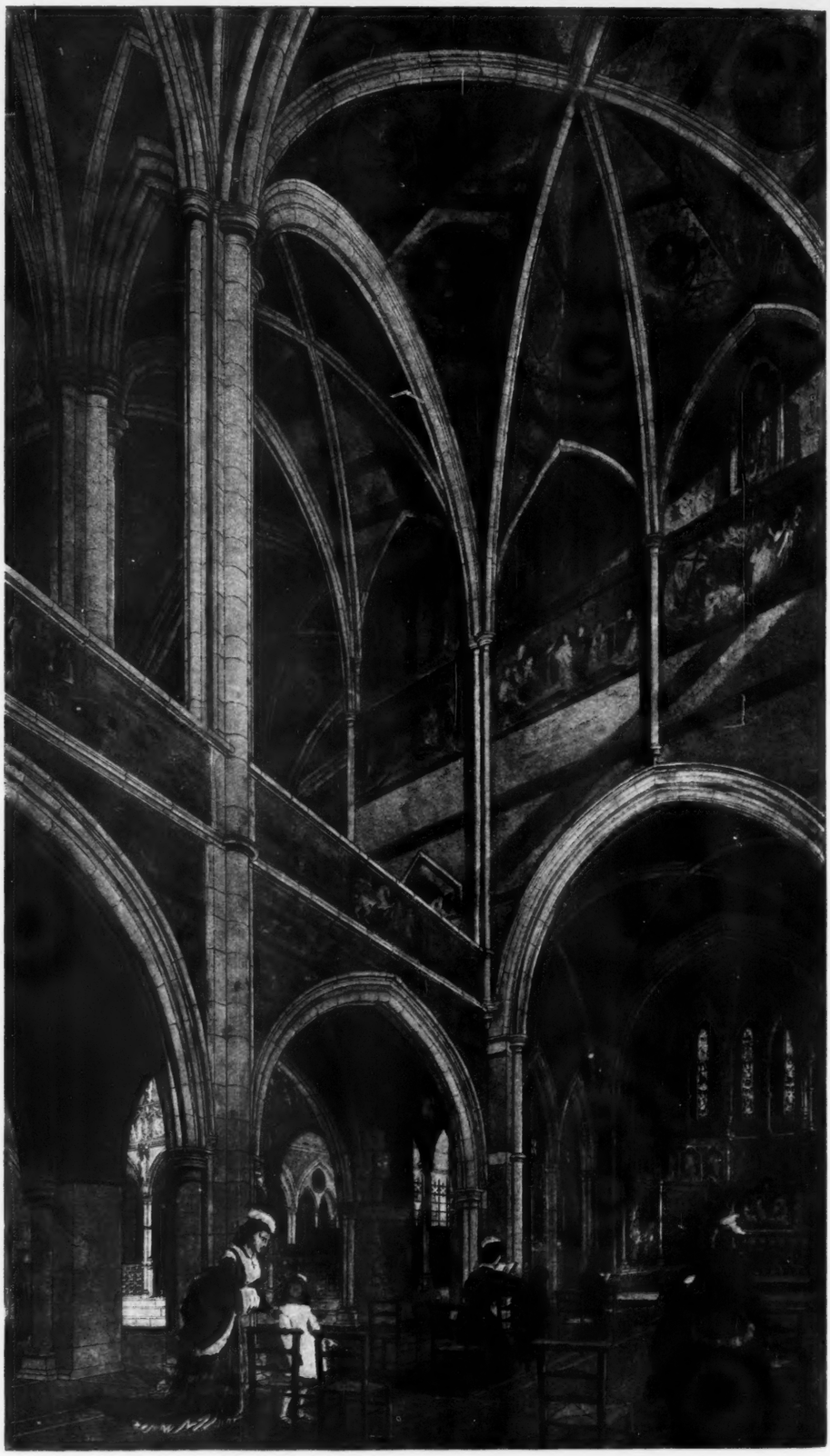
The Architectural Review

CONTENTS FOR FEBRUARY, 1942

SUBSCRIPTION RATES: United Kingdom, £1 5s. 0d. per annum, post free. U.S.A., $8 per annum, post free. Elsewhere abroad, £1 5s. 0d. per annum, post free. An index is issued every six months, covering the period January to June, and July to December, and can be obtained without charge on application to the publishers:

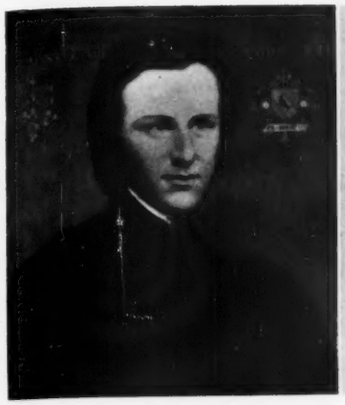
THE ARCHITECTURAL PRESS,
45, The Avenue, Cheam, Surrey
Telephone: Vigilant 0087

Vol. XCI *No. 542*

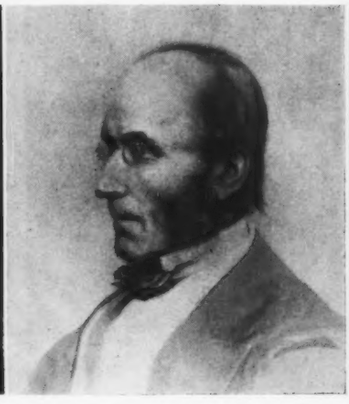


" That is the great virtue of vaulting—it is a law-giver to an entire design." Not many Victorian churches were vaulted throughout. Pearson's St. John's, Red Lion Square, was one of them, a dignified, exquisitely poised interior developed on an ingenious plan to cope without any loss of usable space with an extremely awkward site. Some original drawings of the church are preserved at the Royal Institute of British Architects, by whose courtesy we are able to reproduce two of them, the interior here, and the exterior on p. 31. The church was severely damaged in one of last spring's air raids, one of the most deplorable casualties amongst nineteenth-century buildings. In an article beginning opposite, Mr. Goodhart-Rendel discusses four of the best Victorian churches in London that became casualties at the same time : this one, Pugin's St. George's, Southwark ; Butterfield's St. Alban's, Holborn ; and Street's St. John's, Kennington. The damage done to them may be severe, but much could be saved, and—in the case of St. John's, Red Lion Square, this would be especially desirable—restored. However, authorities and the public still take shockingly little interest in even the best of nineteenth-century architecture. Nothing protects such churches from becoming the victims of demolition gangs, who set to work without sufficiently responsible instructions, and with no knowledge of the vandalism they may be guilty of.

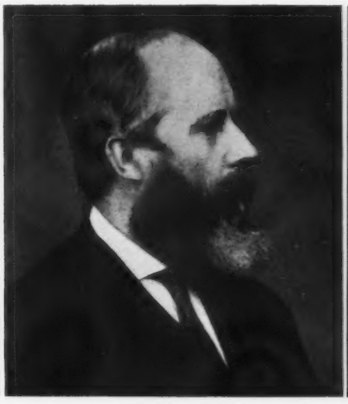
The extent of damage done by bombing to buildings of the Middle Ages and the Wren period has to an alarming degree paralysed public concern about what has happened to the architecture of the last two centuries. Of the loss of Victorian buildings in particular hardly anything is given in the papers beyond the bare facts, even when the very best are destroyed. The following article is a tribute to four of the most important London churches of the nineteenth century, the work of four of the most important architects of their age, which were all destroyed at approximately the same moment. They were less known than they deserved, and the damage inflicted upon them has remained unnoticed by the majority of those interested in architecture.



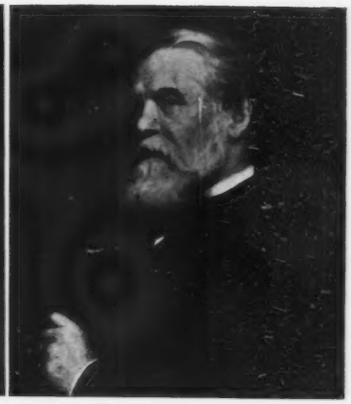
PUGIN (1812-52).



BUTTERFIELD (1814-1900).



STREET (1824-81).



PEARSON (1817-98).

Faces are as dated as buildings. Pugin was the belated Romantic, a sensitive Peruginesque face against a background with mediæval emblems (reproduced by the courtesy of the National Portrait Gallery); Butterfield, the austere champion of Anglo-Catholicism and friend of the Cambridge Camden men, one of the "hards," as Lethaby used to say; and Street and Pearson the scholars, no less religious than Pugin and Butterfield, conscientious and industrious, but of a more antiquarian, less self-certain frame of mind.

Four Gothic Revival Casualties

By H. S. Goodhart-Rendel

GOOD Victorian architecture may still be caviare to the general, but needs by now no apology with critics who think for themselves. Like most things that are being destroyed by the enemy it may become indignantly over-valued, but there can be no doubt that four such churches as St. George's Cathedral, Southwark; St. Alban's, Holborn; St. John's, Kennington; and St. John's, Red Lion Square, were monuments it is very sad to have lost.

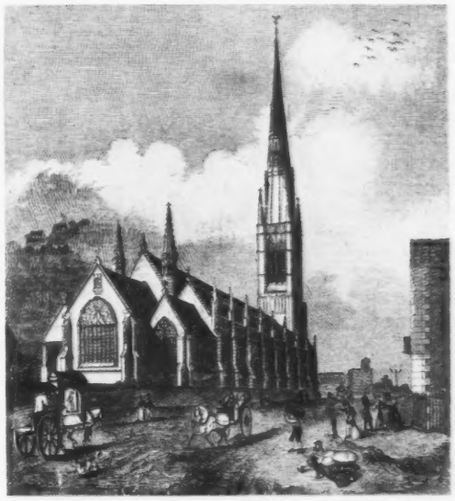
St. George's Cathedral, built between 1840 and 1848 from designs by the great Pugin, was an early and important specimen of neo-mediævalism. In St. Alban's, Holborn, built between 1859 and 1863, William Butterfield displayed admirably the style he had evolved for the special needs of his fellow Anglo-catholics. George Edmund Street built St. John's, Kennington between 1870 and 1874 in a manner no less accordant with Anglo-catholic tenets, but with less architectural dogmatism and greater elegance. The building of this church was followed almost at once by that of St. John's, Red Lion Square, designed by John Loughborough Pearson, and consecrated in 1878. Pearson may have had less force than Butterfield, less facility than Street, but his skill in architectural combination and construction made this church the most valuable of the four.

Pugin once said sadly that his life had been spent designing grand buildings and producing poor ones. To this some hostile protestant—it may have been Ruskin—retorted that "he starved his roof-tree to gild his altar." Certainly at Southwark the altar was carved and coloured and the timber roof was thin and bare. Till it was burnt, however, this roof was sufficiently strong and weatherproof: and whatever in a church must be starved should hardly be the instrument of its central rite.

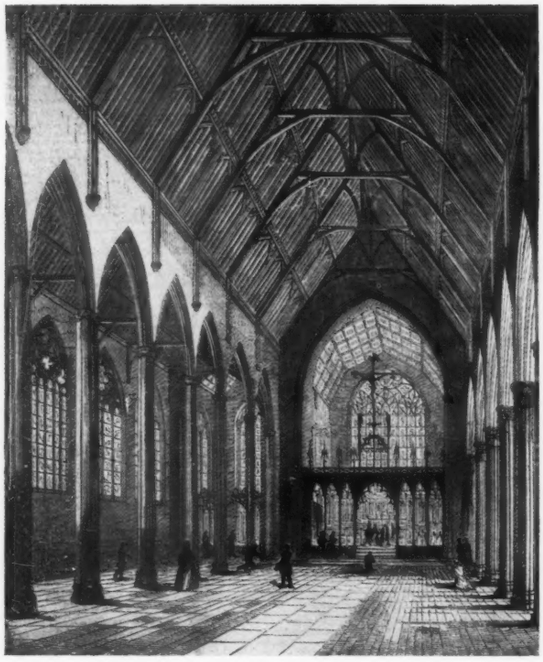
Building for catholics in a country whose wealth was in protestant hands, Pugin had to build cheaply or not build at all. His method of building cheaply was to subdivide his plans into relatively narrow parts needing no great height of wall or breadth of roof-span. At first he hoped to escape from this necessity at Southwark, and planned a lofty cruciform cathedral of the traditional English kind. Soon, however, it became clear that he must be content to follow the more modest example set by the preaching orders in the late middle ages: that he must enclose a large area with walls of moderate height and cover it with three parallel and similar roofs, all springing from one level.

As built, therefore, St. George's Cathedral consisted of an oblong rectangle, divided into three longitudinally by two rows of pillars, seven on either side. Each row supported a series of eight continuous arches, and close above the crowns of these arches came the roofs. At the altar end of this rectangle was a short chancel flanked by chapels; at the opposite end was the unfinished stump of a great tower, through which was the main entrance.

Roofs are gone, but the stonework mostly



St. George's Roman Catholic Cathedral in St. George's Street off Westminster Bridge Road was begun by Pugin as a parish church in 1840. The upper part of the tower and the spire were never built.



Pugin's St. George's, Southwark

Pugin's church had a surprisingly fine interior, of rich simplicity, a quality rare in Victorian religious architecture. The fire destroyed the roofs, and most of the furnishings and glass designed by Pugin. The walls, however, and the arcades which are modelled on the pattern of the Austin Friars' Church, remain.

remains, and a visitor to-day can look through the great doorway down an open avenue formed by the arcades and ended by the lofty chancel arch framing the east wall of the chancel. Through the arcades can be seen the side walls with their elaborately traceried, and now glassless, windows. This perspective view is one of great beauty, preserving, as it does, the best characteristic of the unruined church —its rich simplicity. Pillars and arches are subtly carved and moulded, window tracery is diverse and complicated, yet the broad design is uninterrupted by any of those needless variations to which Victorian architects were mostly so much addicted.

The exterior of St. George's Cathedral was not so good as the interior. It was into the design of the steeple that Pugin had thrown all his power, and that steeple never got beyond its lowest storey. The aisle—that on the gospel side—which faces the street has heavy pinnacled buttresses and a traceried parapet; both rather mechanically designed and over magnificent for an unvaulted building of slight construction. The windows are subdivided into lights too many and too narrow. The material of the walls is yellow brick of poor colour and texture. Internally the architecture of St. George's was good for any period, externally it is merely good for 1840.

The stones of St. George's may stand, but gone for ever is its beautiful coloured glass and also most of its furniture. Pugin's pre-eminence as a glass designer is insufficiently recognized, and the loss of his superb heraldic windows in the Houses of Parliament has been insufficiently deplored. Perhaps the two best windows of his now remaining are the east window at St. Andrew's, Neasden, and that at The Sacred Heart, Henley-on-Thames, both removed from positions elsewhere, though fortunately there are still many others. Using glass of a quality that would now be thought intolerably poor, entrusting his cartoons to craftsmen to whom he had to teach everything, he obtained results that in their kind have never been surpassed. The Southwark glass, like that in most church windows, was seldom cleaned, and therefore darkened the church more than was pleasant. Nothing else could be reasonably said against it, and its beauties were many.

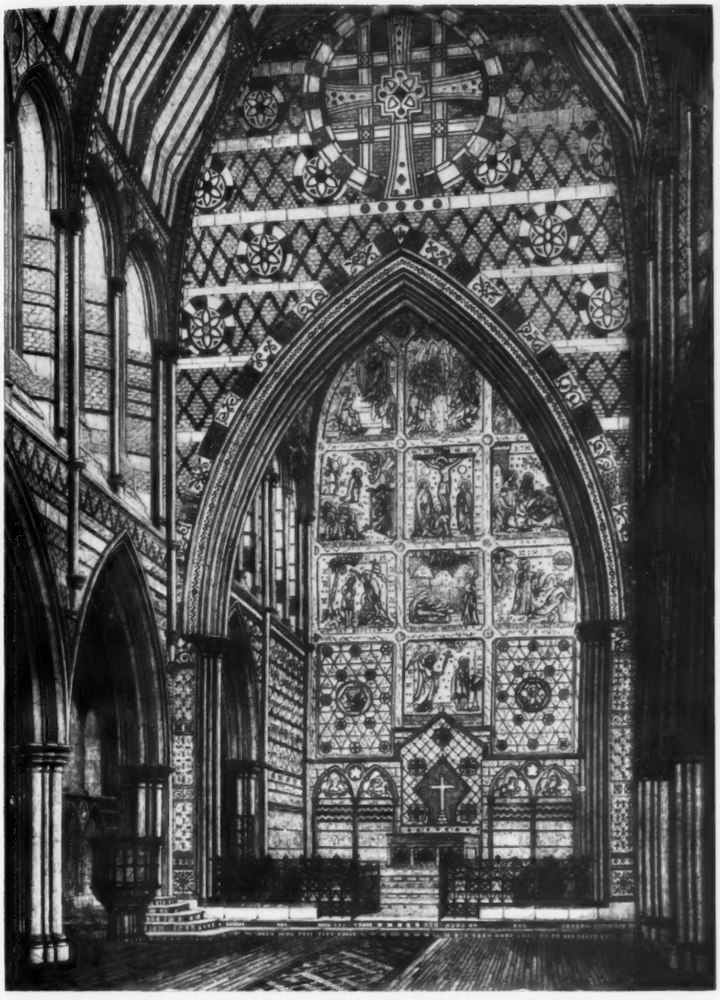
Pugin was a neo-mediævalist, holding that the new Christian order the world must establish would be a perfection of all that had been best in the Middle Ages. Butterfield was a revolutionary, holding that the Anglican conception of Church and State could build a new order upon an Anglo-catholic foundation. Both abhorred the words and deeds of the Renaissance, but both held unconsciously the Renaissance concept that the style of a building could be arbitrarily pre-ordained by its architect. For Pugin, with his nostalgia for the saintly past, old forms were sufficient; he expressed what was in him by means of mouldings, traceries and carvings as completely systematized as those of the Five Orders. True, he was greatly occupied with the relation of these architectural details to the facts of construction, but he acknowledged no new problems and sought no new solutions.

Butterfield, on the other hand, brought into his designing a philosophy essentially of his time. He built churches for High Church clergymen who held that the reformed Church of England must test every catholic practice by its own notion of authority, and re-adopt only those that satisfied this test. His churches must bear exactly the relation to those of mediæval England that his neo-catholicism bore to catholicism itself. They must contain no outward tokens of that part of the faith which High Churchmen rejected, they must express to the full that part of the faith which High Churchmen retained. Furthermore, he had extraordinary scruples about architectural "reality" and an almost puritan dread of elegance. Materials coloured by nature must always be preferred to materials coloured by paint, and forms that were harsh and stimulating to those that were graceful and delicate.

St. Alban's, Holborn, long regarded by many as the headquarters of Anglo-catholicism, now stands roofless and scarred, its accumulation of rich furniture destroyed, its bones starkly displayed. Yet the uncompromising spirit of Butterfield is everywhere immanent, perhaps more obviously so than when Bodley's great reredos and Mr. Comper's towering font-canopy softened with their profuse ornament the asperity of their surroundings. The size of the church is considerable, its design admirably simple. A tall clerestoried nave with lean-to aisles stretches between a broad short chancel and a species of narthex carried up as a huge western tower. The wall surfaces are of brickwork patterned in colour, and the architectural details are worked in stone. All the design is marked by ascetic nobility; and the grandeur of the tower is very striking both within and without. There is nothing here to captivate the eye but very much to satisfy and delight the mind.

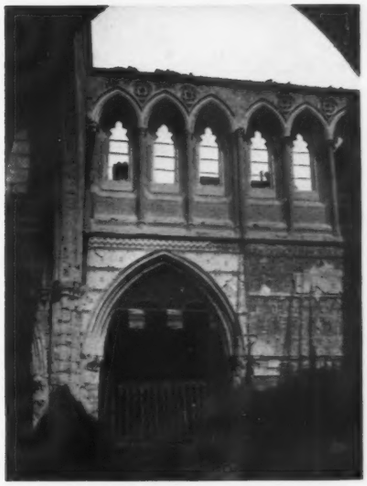
In the middle of the nineteenth century most Anglican churches had only one altar. Nave-aisles accordingly could end eastward only in blank walls or in vestries or organ-chambers. To these Butterfield always refused to give the form of chapels, although most of his contemporaries were less scrupulous than he. Yet without some form of chapels or transepts opening into nave-aisles and chancel, the altar must be invisible from the greater part of the nave-aisles. Street, a church architect even more prolific than Butterfield, experimented constantly toward the solution of this difficulty. His favourite method was that of tapering a very broad nave by canted walls

continued on page 30



St. Alban's, built in 1859-63, *is one of the few widely known nineteenth century churches in London. This is due more to its intimate connection with the Anglo-Catholic movement of the sixties and seventies than to its undeniably forceful architectural character. Butterfield believed in the use of materials coloured by nature to create by their contrasts an impression of almost barbaric magnificence. There is nothing elegant in this interior except for the reredos by William Dyce, the "Nazarene" amongst English Early-Victorian painters.*

Butterfield's St. Alban's, Holborn



The tower is the most imposing feature of St. Alban's—bold, sturdy and original, ascetic in detail, harsh in outline and overpowering in its sheer height when looked at from the west. The roofs and most of the patterns on the walls have gone, but the walls themselves and the tower remain. Their pure architectural vigour seems almost enhanced by the silence imposed upon the somewhat demonstrative decoration.

into a chancel of smaller span, terminating his relatively narrow nave-aisles in large arches that gave into spaces open at the sides to the chancel itself.

This he did with great success at St. John's, Kennington, a church whose lack of clerestory might have reminded us in some degree of Pugin's St. George's. At St. John's, however, the disparity in breadth between nave and aisles was much greater than at St. George's; indeed the aisles were mere adjuncts, roofed by lean-tos. St. John's, like St. George's, depended for most of its architectural effect upon its handsome nave arcades and traceried windows; but it was as sumptuous in detail as St. George's was frugal. The poor stock-brick of the older church contrasts with the younger one's red brickwork of exceptionally good quality; and the unfinished steeple of the one with the noble tower and spire of the other. Both steeples were planned in the normal position west of the nave, that at St. John's being narrower than the nave, which was of exceptional breadth. The design of the steeple is by Street's son, Arthur, but it is believed that in making it he followed his father's intentions. Street disliked spreading the outlines of towers with deep buttresses and at St. John's the steeple rises almost sheer from the ground to the springing of the spire. The spire, moreover, is short in relation to the height of the tower it stands upon; and this is in accordance with Street's almost invariable practice.

In St. John's was a great deal of decoration, including an elaborate reredos by Bodley which fitted very badly into Street's noble apse. In contrast with St. Alban's, Holborn—that church of the slums—it was a church of the suburbs, suggesting prosperity without any excessive display. True, its parish contained within its boundaries the once notorious "Sultan Street area" but the greater part of its congregation was spread fairly easily and comfortably over the ground.

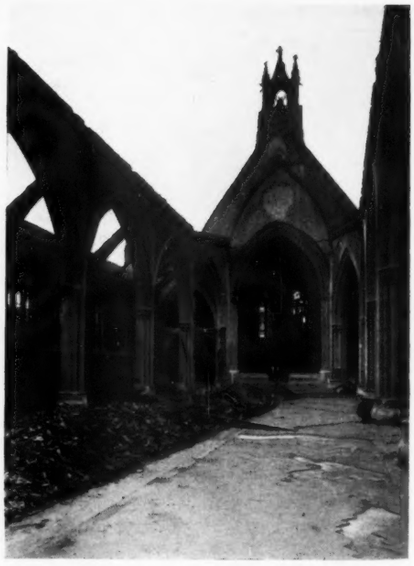
In the other St. John's this article is written to commemorate—St. John's, Red Lion Square—there were congested surroundings and poverty that huddled nearly up to the church's door. The site was irregular and completely covered by a plan as ingenious as any contrived for the crowded City by Sir Christopher Wren. Here, as at Kennington, there was a broad nave and a relatively narrow chancel, but the one was not tapered into the other. Instead, the nave arcade was returned in the form of two narrow arches on either side of the chancel arch and in the same plane with it. The rest of the complex plan can only be learnt from a drawing; it was extraordinarily ingenious and picturesque, although cut up into parts many of which seemed a little "below life size." The primary beauty of the lovely interior was the vaulting, not only in itself but in the discipline it imposed upon the whole of the substructure.

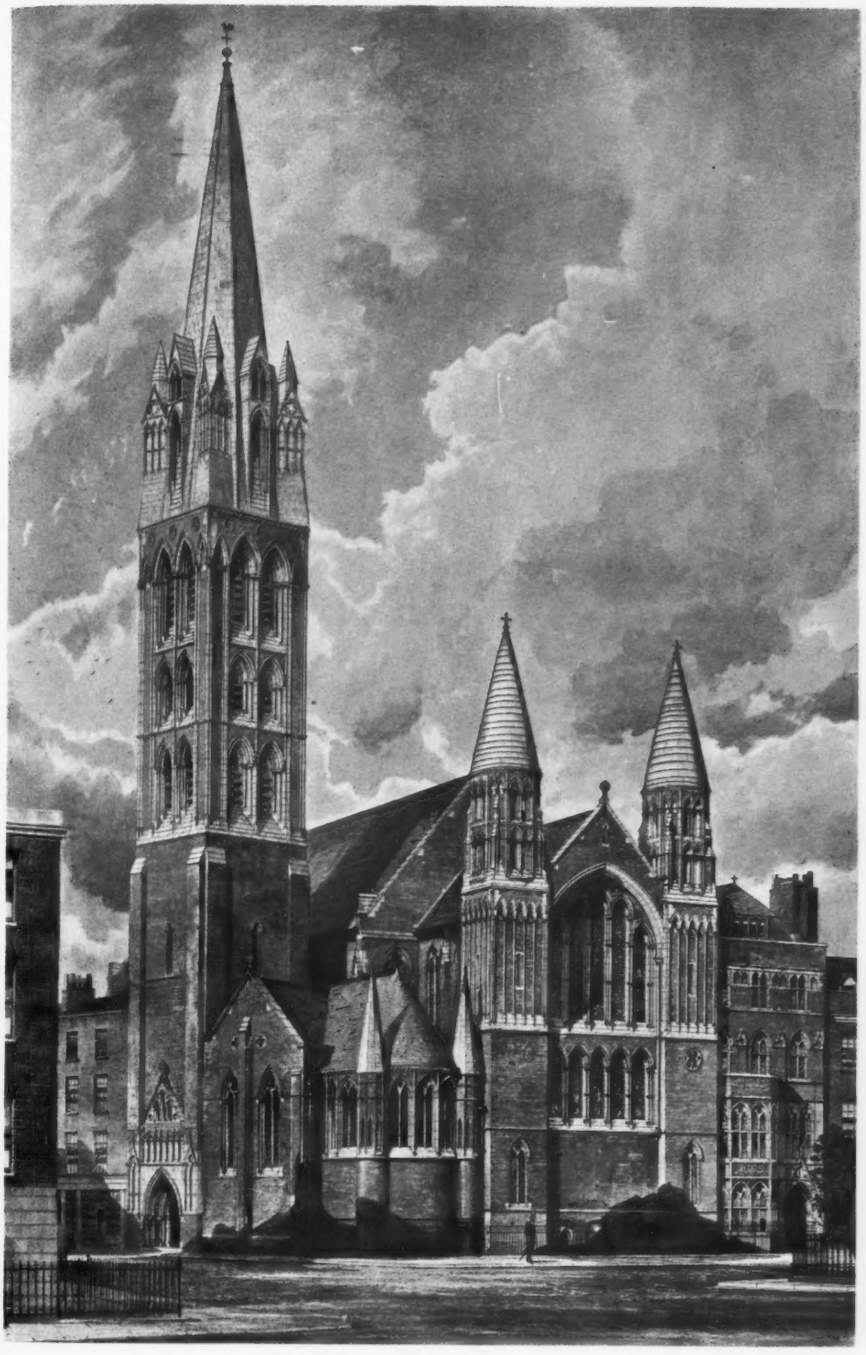
That is the great virtue of vaulting—it is a lawgiver to an entire design, and if the design be lawless the vault falls. At St. John's, Red Lion Square, every pillar and wall told of thrust and counterthrust exquisitely poised; nothing was either too heavy or too light; all had the inevitable beauty of a healthy young animal. Clayton and Bell's stained glass was beautiful, the lace-like chancel screen was beautiful, in all the furniture and decoration there was no false note. But the beauty above all others was that of the skeleton shaft and rib, rising and combining into the harmonious overarching roof.

continued on page 32

St. John's, Vassall Road, Kennington, was built in 1870-74. *Its tall tower, rising almost sheer from the ground to the springing of the comparatively short spire, is in the main undamaged. The wide nave has canted walls to the easternmost bay, a typical Street device to arrive at a smooth transition to the choir.*

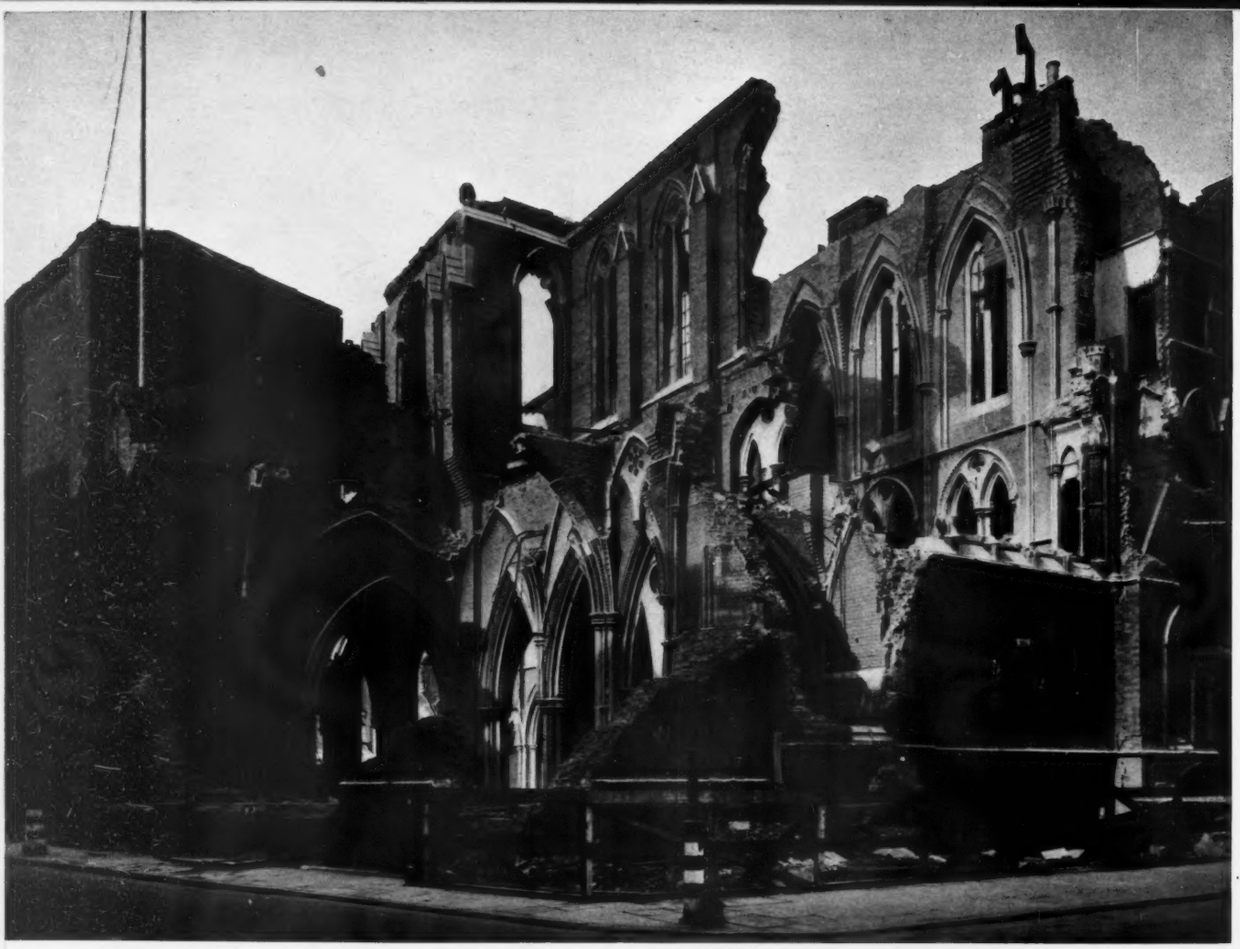
Street's St. John's, Kennington





St. John's, Red Lion Square (1874-78), *was Pearson's masterpiece in London. Its interior, illustrated in the frontispiece to this issue, is a* tour de force, *the ingenuity of which only architects can fully appreciate. How magnificent its exterior would have been had the tower, with its spire, ever been completed the original drawings at the Royal Institute of British Architects—reproduced here by the courtesy of the Institute—can show. The detail is more correctly Early English than anything the earlier nineteenth century would have been able to do. Yet the church is by no means a copy or an imitation. The execution in brick, the placing at a street corner wedged in between houses on the north and the west, and above all the picturesque grouping are most conspicuously Victorian. Designers of the thirteenth century would probably have disliked all this, but any architect of an age interested in the problem of combining the dignified with the picturesque might have been proud of Pearson's composition. Those to-day who believe in the free arrangement of blocks will find it worth their while to follow carefully Pearson's sequence of the chancel with the two turrets, the South-East chapel with its two minute turrets and then the rise up to the tower and spire. The top photograph on the right shows the crossing, the one below the vaults underneath a side chapel.*

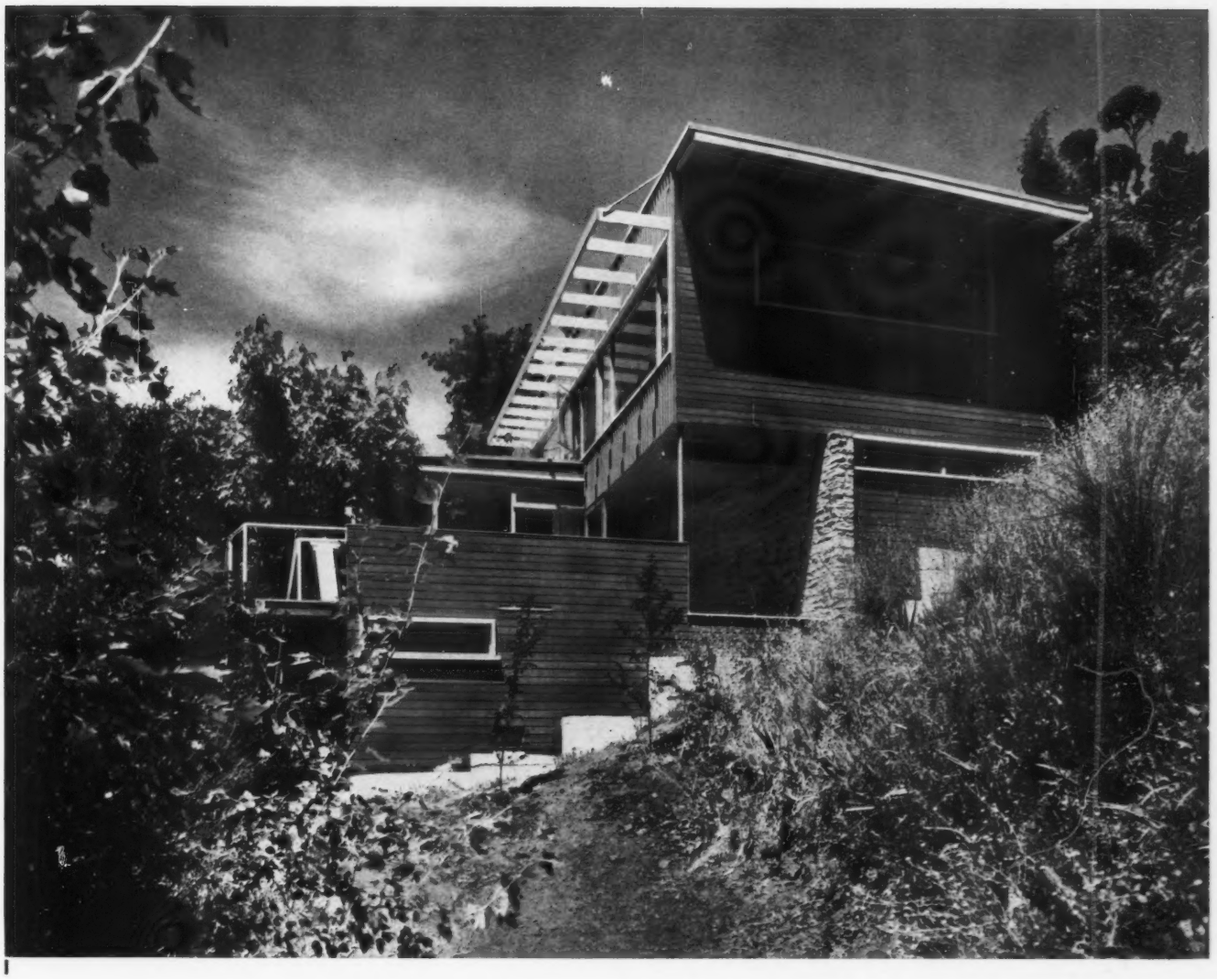
Pearson's St. John's, Red Lion Square



Top, St. John's, Red Lion Square, from the south-east in its bombed state, but before a second period of demolition work took place. The beautifully detailed Early English arcades and windows are clearly visible on the photograph. So are the springings of the ribs. For here — rare in Victorian architecture—were rib-vaults sensitively designed and competently built, over nave and chancel, aisles and chapels. Yet they were brought down by high explosives, leaving the walls in a state that made immediate measures necessary. But these were not taken. Left, the nave and the south-east chapel, both in the spectacular condition in which they were last October.

Pearson's St. John's, Red Lion Square

St. John's is now wrecked beyond all hope; its arches fallen, its walls twisted and rent. Ordinarily it would seem unwise to reproduce in this age a building shaped to the fancy of another age. But if a church should still be needed in Red Lion Square, where is the Pearson of to-day who could equal the merit of the church that was? If drawings of that exist, drawings complete enough to make its re-creation possible; if the Anglican toleration of obstructed complex plans still persists, as recent designs seem to indicate; there could be no better work of architectural piety than that of recapturing for the future this treasure that enemy action has now hurled into the past.



1

HOUSE AT BERKELEY, CALIFORNIA

JOHN EKIN DINDWIDDIE, ARCHITECT

ALBERT H. HILL, PHILIPP E. JOSEPH, ASSOCIATES

Berkeley, the Harvard of California, lies opposite San Francisco, on the mainland side. There is hardly a break now between Oakland and Berkeley. The house has an unimpeded view to the west down over the bay of San Francisco behind John Galen Howard's university buildings. Sather Tower, the campanile, is clearly visible in **2**.

As the site slopes steeply down to the west, the architect has chosen a gradated plan which enables him to keep close to the ground on both floors and achieve in a house of only one living room and two bedrooms a surprising variety of spatial effects. The entrance lies on the hillside and is reached by a drive that comes round

2

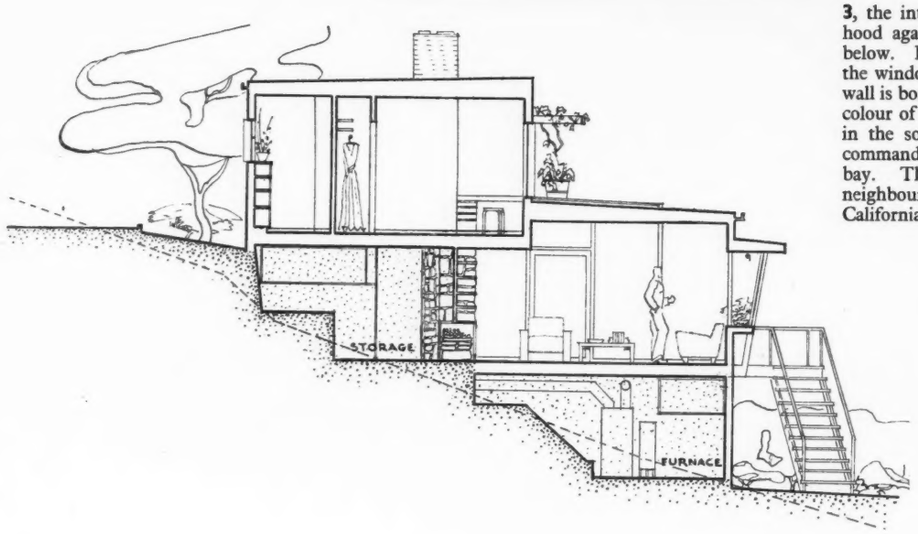
1, general view from the south illustrating the contrast of one heavy fieldstone wall against light timber walls. On the top floor there is a trellis for vines in front of the bedrooms, on the main floor a wide terrace by the side of the living room. **2**, also from the south, shows the campus of the Californian State University and the bay of San Francisco in the background.

from the left to the back of the house, leading straight on into the garage. Six steps bring the visitor to the door—in size and position curiously insignificant. The hall, small and tapering to the left, gives access to the bedrooms with a combined bath and lavatory (the only one in the house) in between. The staircase is opposite the entrance and goes straight down into the large living room. The dining corner is separated by a curved curtain. The west wall of the room has a band of windows right across. The south wall is glass throughout and has a door to the spacious south terrace. The kitchen lies in the north-east corner behind the dining compartment. All its equipment is built in. It has a special service entrance with steps down from behind the garage.

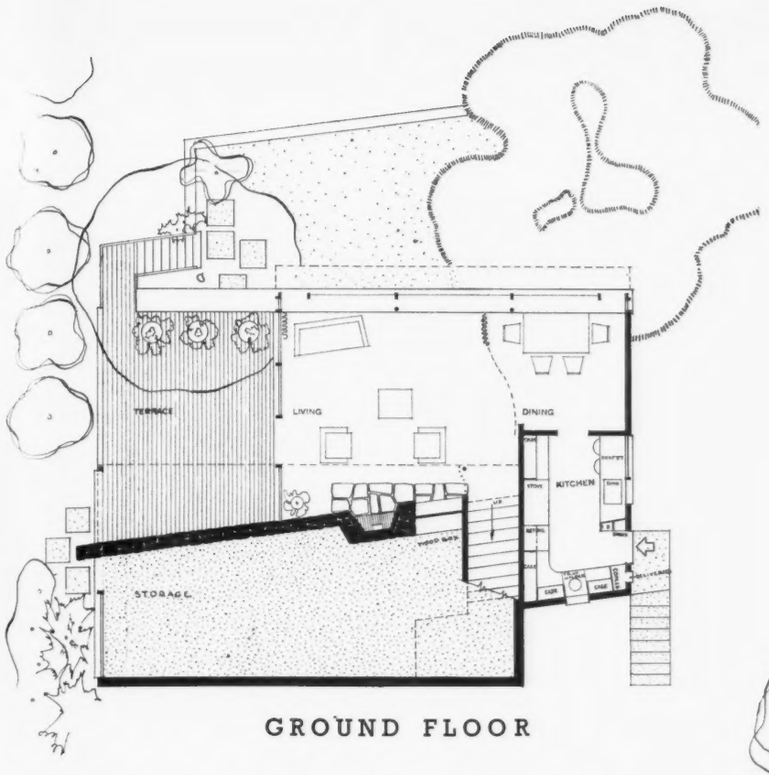
The back wall of living room and terrace is fieldstone left in the rough, in the technique which Le Corbusier introduced some twelve years ago in the Cité Universitaire. It provides an effective contrast with the red pine boarding, stained a greyish green, of the other walls. Only the front wall of the bedroom, shaded by an open trellis for vines growing down from tubs on the roof, has the boarding stained a greyish gold and the timbers vertical instead of horizontal. Sashes and mullions are greyish blue. The silvery grey of the tall

3

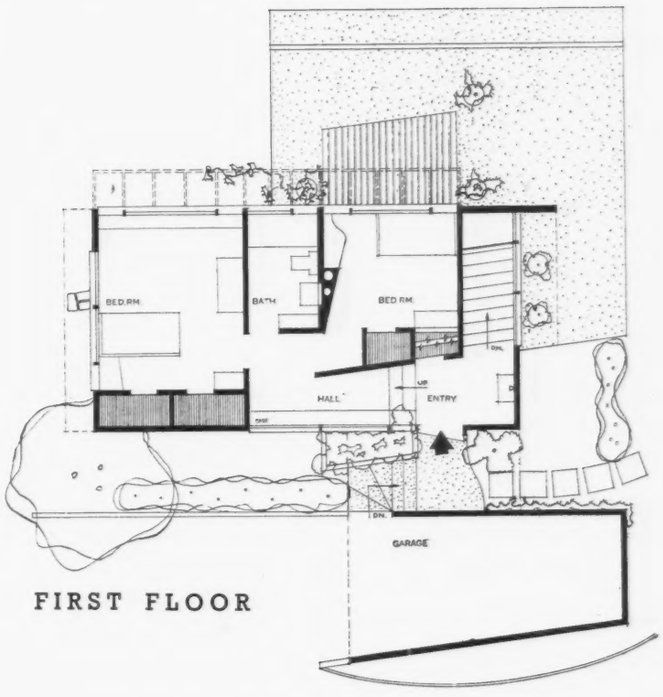
3, the interesting western elevation of the living room. A hood against the early afternoon sun shades the window band below. It is supported by slanting uprights which are, above the window cill, reduced to a graceful chamfered section. The wall is boarded red pine stained a greyish green to blend with the colour of the leaves of the tall eucalyptus tree behind the house in the south-east corner. The windows of splayed out glass command an unimpeded view of the university buildings and the bay. The terrace lies behind the living room. There are neighbouring houses on the right and the left, but the luxuriant Californian vegetation screens them off effectively.



EAST-WEST SECTION



GROUND FLOOR

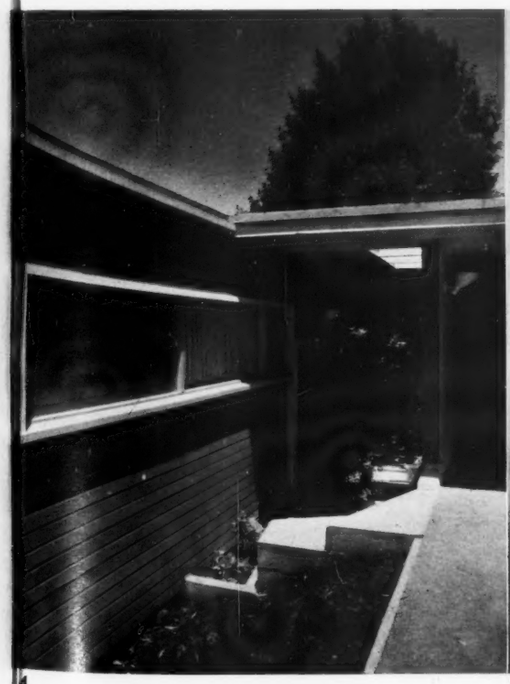


FIRST FLOOR

eucalyptus tree behind the house in the south blends subtly with the shades of the woodwork.

The front wall of the living room has a timber hood on slanting cantilevered wooden supports. Inside the room the ceiling above the fireplace is lower to give this part more intimacy. The lowering is obtained by carrying the bedroom block on the first floor forward into the living room space (cf. section). The narrowly spaced poles which stand between the fireplace corner and the lower end of the staircase are reminiscent of a favourite motif in Voysey and Mackintosh houses. Then, as now, the motif helps to achieve separation without abandoning spatial unity.

4, the entrance, on the upper floor at the back, with the garage straight on in the background and the door to the house a few steps down on the left. Sashes and mullions are painted a greyish blue. The walls are greyish green. **5**, the ply-boarded staircase down from the entrance into the living room. **6**, the terrace with the living room behind. The contrasting treatment of timber throughout the house—flat horizontal boarding outside, flush sheets on the staircase, reeding along the bedroom wall above the terrace—is especially pleasant.



4

5

6

7

The main floor contains the living room, **7**, with its dining corner cut off, if desired, by a curved curtain. The windows face west, the terrace south. Again the variety of timbers is most effective, the pine floors, the reeded face of the lowered fireplace part of the room, and the poles of circular section which indicate a separation between the fireplace part and the staircase (cf. groundplan). Most of the furniture is of the Finnish Aalto make. Yet the Persian rugs do not look out of place. **8**, another view of the living room taken from the opposite direction. It shows the curtain that screens off the dining corner.

The bedrooms, **9**, face west, i.e., town, university and bay. The bedroom furniture (except for the chair) was designed by the architects.

The kitchen, **10**, lies to the north-east. It has a separate service entrance hidden by the wall on the right of the sink. The furniture, with the exception, of course, of the standard refrigerator, is all built in and all of one height.

Heritage of Compromise

a note on Sir Joshua Reynolds who died one hundred and fifty years ago

Lady Sarah Banbury sacrificing to the Graces. Painted in 1765 in what Mr. Waterhouse calls Sir Joshua's "Public Face" manner.

By Nikolaus Pevsner

THE Church of England and Sir Joshua Reynolds are about the most English phenomena in the history of England. In what other part of the world could one conceive a church keeping peace and goodwill amongst its members with a dogma essentially protestant and a cult essentially catholic, and with bishops whose uninterrupted sequence back to St. Peter as one of its fundamental tenets, while the King as its *Summus Episcopus* appoints them at the suggestion of the Prime Minister. It is all disarmingly illogical and only understandable as a compromise accepted because of its eminent adaptability and practicability, by the most compromising, the most adaptable, the most practical of all nations.

Disarmingly illogical Sir Joshua Reynolds is, too. This is the verdict to which the respectful yet baffled, sometimes enchanted, sometimes amused and sometimes annoyed student of his work is led who entrusts himself to the guidance of the recently published monograph* by Mr. Ellis Waterhouse.

Mr. Waterhouse is excellent at tracing the changing sources of Reynolds's inspiration as a painter and a theorist, and at analysing the contents and significance of the *Discourses*. But he does not elucidate the contrast between what Reynolds said and what he did—Roman (just the reverse of the Church of England) in his dogma, Northern in his practice. The *Discourses* lead up to a magnificent panegyric of Michelangelo. But is there a more poignant contrast imaginable than that between the accomplished, intelligent, enlightened, sociable first president of the Royal Academy and the fiercely struggling, rude, fanatic, solitary painter of the Sistine ceiling and the Last Judgment; between Reynolds's clear and somewhat shallow *Discourses* and Michelangelo's sombre, throbbing sonnets? Reynolds must have been aware of this conflict. On rare occasions he admitted it. As a rule, however, he is satisfied with recommending to the students the Grand Style of religious, historical and mythological painting, and at the same time painting the portraits of the English aristocracy of birth and

Lady Mary Bruce, Duchess of Richmond. Painted in 1765-67. One of the outstanding examples of Sir Joshua's art as a painter of intimate portraits. The author of this article tries to answer the puzzling question, how it can have been possible for the same painter, during the same years, to paint pictures like the Duchess of Richmond and Lady Banbury.

brain of his day. The way out of this conflict which he found for himself, or rather adopted for himself—for Rembrandt and many Dutch and French painters of the age of Louis XIV had done the same before Reynolds—is curious and highly characteristic. He endeavours to raise the portrait on to the plane of the Grand Style by providing it with a few of the attributes of the latter. Mr. Waterhouse points out very convincingly that this was first and chiefly done by him for exhibition pictures—pictures, that is, by which Reynolds wished to convince his public of the elevated cultural status that should no longer be denied the English painter. Thus the first regular art exhibitions ever held in England, the foundation of the Royal Academy and the allegorical or mythological portraits turn out to be only different expressions of the same primarily social and not æsthetical intention.

Artists and connoisseurs have indulged of late—under the influence of Impressionism, no doubt—in unrestrained praise of Gainsborough at the expense of Reynolds. This seems one-sided if not narrow-minded. It cannot be denied that Sir Joshua was one of the most influential European artists of his age and that besides being—to postpone an answer to the real question for a moment—at least one of the best English painters of the eighteenth century (this even the staunchest Gainsboroughians would admit) he was a polished and lucid writer, the president of the Royal Academy and a celebrated conversational partner of Dr. Johnson, Burke, Gibbon and Oliver Goldsmith. It is rare enough for the president of an academy to be one of the best artists of his time, rarer still for a good painter to be also a good writer, extremely rare for a painter to be able to hold his own amongst the thinkers and poets of an age—but all these qualities together in one man are to be found in Reynolds alone.

His most representational portraits suffer from this, one might say. They are not as exclusively *peinture* as Gainsborough's. Yet Reynolds was fully capable of purely painterly achievements too. A portrait such as that of Lady Bruce is as exquisitely painted and as intimately characterized as any Chardin. The psychological insight in Reynolds's Dr. Johnson at the National Gallery

* Ellis K. Waterhouse: *Reynolds (English Master Painters. Edited by Herbert Read. Vol. I.)* Kegan Paul, Trench Trubner and Co. 1941. 126 pp. of text and 300 pp. of illustrations.

or his Laurence Sterne, his Baretti, his Joshua Sharpe is admirable. The lightness of touch and the delicacy of colouring in his Nelly O'Brien at the Wallace Collection or his Miss Cocks with her niece at Kenwood is matched only by Gainsborough and Tiepolo. The point is that Reynolds wanted more than that. What made him paint Lady Sarah Banbury in the act of sacrificing to the Graces ? It is not easy for us to reproduce the frame of mind conceiving this type of portrait, the frame of mind demanding it, and the frame of mind appreciating it. The processes involved are by no means strictly logical. The sitter wanted a portrait, an accepted domestic commodity of the wealthier classes in those days, very much as a conservatory was in Victorian times. The portrait had to be a good likeness ; but it was flattering to be raised by undated costume and Neo-Classic paraphernalia to the station of something superhuman. It was equally flattering to be silently accepted as one who can respond to allusions of ancient mythology. The painter on his part liked to show himself versed in Greek scholarship. He thereby asserted his social claims, and at the same time his wit. For the duplicity of meaning—Lady Sarah, yet a Greek virgin—could only be relished by the refined and sophisticated. There is a distinct element of snobbery in this attitude, but also a just intellectual pretension. The first comes out clearly in Gainsborough's Blue Boy in his van Dyck dress, in all probability an ironmonger's son, the second in such equivocal portraits of children as Reynolds's Master Crewe as Henry VIII or his Infant Johnson. If you cannot feel the tension : A little boy—yet Holbein's Henry VIII, or : a baby—yet the great Dr. Johnson, such pictures are lost on you.

It is in this context that the student of architecture may have a useful contribution to make. In England the study of the history of art and of architecture are usually kept wholly apart—much to the detriment of both. As a rule the historian of painting (not Mr. Waterhouse) is solely interested in biographical data (a glaring example is Mr. Whitley's *Gainsborough*, in which not a word is said on the style of Gainsborough's paintings), and the historian of architecture (but not, for example, Prior and Lethaby) in technical facts. Thus general problems of style are often overlooked—and parallels of architecture and painting even more often.

Now if one takes any of the large English country houses of Reynolds's day, Kenwood for example, built, in the very years in which Reynolds painted Lady Banbury and Lady Bruce, by Robert Adam, who died less than one month after Reynolds, at about the same age as Reynolds, one will find exactly the same contradictions and the same resulting compromise, though more successfully concealed. There is the pleasurable contrast between the frankly artificial classicism of the building and the garden mildly suggestive of untrimmed nature, of the happy dreams of sensibility and the arcadian landscape of Claude. There is the raising of the house from a commodity to a monument of social pretension, the associational value of Neo-Classical form, the subtle snobbery. Gainsborough stands for the conveniently planned, unassuming, yet æsthetically perfect, Georgian town house, whereas Sir Joshua stands for the representational domestic architecture of the eighteenth century, far more ambitious and hardly less successful—though successful more in the achievement of a compromise than of perfection.

Now—and this strikes one as especially illuminating and entertaining—the same exactly is true of Mr. Waterhouse's book. It is the best book on Reynolds brought out within the last generation, the result of many years of research and patient compilation, consisting of 360 excellently printed and generously sized illustrations, a large number never before photographed and published, a chronological catalogue of 45 pages, registering approximately 1,200 pictures, and an introductory text. This unfortunately is only 17 pages long—far too short for what Mr. Waterhouse has to say and could have easily said on 75 pages, the amount of space given to the introduction by Mr. Shirley in his new Bonington book, the companion volume to Mr. Waterhouse's *Reynolds*. Thus Mr. Waterhouse's book cannot be as final an appreciation of Reynolds's art as, for example, Roger Fry's early book is of Giovanni Bellini's. Nor is it a catalogue *raisonné* proper as were Hofstede de Groot's famous catalogues of the work of the most eminent Dutch painters. And it is not a complete illustrative record either such as Bode's *Rembrandt* or, on a less unwieldy scale, the many red volumes of the *Klassiker der Kunst* (in fact only one out of every three pictures is illustrated, and such famous paintings as Cimon and Iphigenia or such important ones as Ugolino are left out). It could have been all this. Mr. Waterhouse would have been industrious and sagacious enough to achieve that. But it would have been an affair of " about four fat volumes," as he says himself in the first sentence of his preface. And who would have printed them—war or no war ? Or rather who will one day print them ? It would under normal arrangements probably be beyond the means even of the most enterprising publisher. To comply with such cultural duties as a complete standard Reynolds or Gainsborough or Inigo Jones or Sir John Soane, organisations for financing them would be needed of such a kind as other countries possess. Museums are recognized in Britain as a public affair ; why not a national theatre and national and municipal orchestras ? And why not publications of such national weight ? We have over here for such matters still to rely entirely on private public-spiritedness. The Wren Society has shown what extremely valuable work may be carried out that way. But it is not good enough as a principle. Besides—could a Reynolds, a Gainsborough, an Inigo Jones, a John Soane Society, etc., etc. all live together, and all collect the necessary means for the publications needed ? The Royal Institute of British Architects, the Royal Academy have no special publishing or research funds. Government money is necessary to supplement what private enterprise is willing to do. A tendency in this direction has, within the last seventy-five years or so, been the typical development in elementary and higher education. Subtler cultural necessities, as far as they are also of national importance, must follow the same direction after the war.

Kenwood was built by Robert Adam during the very years when Sir Joshua painted the portraits illustrated on the preceding page. It is the architectural expression of the same compromise that we find in his work : that of the representational and artificial with the intimate and natural.

DESTRUCTION AND RECONSTRUCTION

THE ARCHITECTURAL REVIEW SUPPLEMENT: FEBRUARY 1942

A Theoretical Basis for Physical Planning

The trouble about town planning as we know it is that it is not based on any positive principles. Its operation is almost entirely restrictive and is being stifled by quantities of ad hoc rules and regulations. But what is not always understood is that an over-abundance of red tape arises directly out of an absence of principles. Red tape is an expedient for coping with problems that would largely solve themselves if a theoretical basis for planning existed. This article, which will be continued next month, is an attempt to formulate some principles with this need in mind.

By J. M. Richards

1. INTRODUCTION

WE have suffered in this country from two kinds of so-called town-planning. I use the word "suffered" deliberately both in its colloquial sense of being inflicted with something painful and in its literal sense of putting up with the infliction rather too meekly. One kind consists in shutting the stable door after the horse has got out, and the other consists in shutting the door before the horse has got in.

Typical of the first kind are all the restrictive measures which in recent years have degraded the term "town-planning," in the eyes of architects and others who appreciate the need for planning of a constructive kind[1], into a mere bureaucratic nuisance: the ribbon-development legislation that applies a mild palliative when a ruthless attack on the root of the trouble is called for, the "amenities clause" that takes the lowest level of taste as its standard and only operates against originality, the zoning regulations that elevate convenient rules of thumb into immutable laws of action and reduce the complex task of developing a countryside for human habitation into one of limiting the number of houses to be built on each acre, the permissive legislation which leaves to the enterprise of local authorities action of urgent social necessity without realizing that such authorities feel it just as much their duty to keep down the rates as to foster a programme of improvement. And so on; examples could be multiplied indefinitely.

Typical of the second kind is academic town-planning which reduces a social science to the level of an exercise in the manipulation of architectural symbols. It manages somehow to ignore the

1 *The final test of an economic system is not the tons of iron, the tanks of oil, or the miles of textiles it produces: the final test lies in its ultimate products—the sort of men and women it nurtures and the order and beauty and sanity of their communities.*
LEWIS MUMFORD ("*Faith for Living*").

social basis of the subject altogether and treats the task of planning a town as one of laying out a pleasing sequence of streets and squares—see any conventional treatise on town-planning with its pedantic classification of axes, vistas, *rond-points* and other drawing-board devices.

These kinds of so-called town-planning have this error in common: that they are both concerned with abstractions of one kind or another. They persistently take the shadow for the substance and tend to make the plan itself the end instead of the means to an end. It is, perhaps, an error that is sufficiently understood nowadays[2]. The nature of the attention that has been paid to planning in recent months, and the social conscience that has in part informed it, suggests that we have at least got so far as to understand that planning cannot be isolated into a formal affair, but is the science of controlling the whole environment of the organism we call society, and that the raw material of territorial planning is not the street or the housing estate or the civic centre, but simply the man, woman and child.

Does this bring us much nearer, however, to discovering positive planning principles? It is easy enough to say, as modern planners say with absolute truth and all humanitarian enthusiasm, that planning must be based on the fulfilment of human needs, and it is not very difficult to pick out a typical human and cross-question him as to what his needs actually are. But it has already been pointed out in these pages[3] that it is a fallacy to imagine that by multiplying an individual's needs by the number of individuals any positive result can be obtained. The results that have to be sought for are qualitative not quantitative ones; moreover the needs of society as an organism are of a different order from the needs of the individuals of which it is composed, and the distinction has in any case to be drawn between the needs felt by an individual for whom society appears largely in an unsympathetic role and the needs he might express were society to show him its ability to fulfil them.

The recent re-establishment of the individual man, woman and child as the basis of the whole planning structure, although as essential as it is significant, must therefore be regarded only as a preliminary to the building up of a new planning structure based on the forces actually at work in society and this time tied to social realities instead of to architectural abstractions.

For the planner cannot afford to wait for circumstances to dictate expedients, as he has done hitherto; it is clear that he must take the risk of formulating a programme of his own, one that will itself have a share in producing the circumstances in which the actual planning is to be carried out. He must not be afraid, that is to say, of committing himself as to his *aims*, which means accepting the risk of falling into that error which is commonly—and rightly—condemned under the label "wishful thinking" or "Utopianism"; an error which consists in cherishing theoretical ideals in a way that distracts attention from the problems on which their ultimate achievement depends.

It is fully realized that actual planning policy, together with the authority needed to put it into practice, is inseparable from current political issues, and from study of the forces in control of the human adventure as a whole. But I have, I hope, sufficiently made my apology for taking the means for granted, so far as this article is concerned, and concentrating on the ends. It is also realized that it would be naïve, indeed, to imagine that there can be any such things as immutable laws or absolute social generalizations, allowing us to make statements of planning ideals that would be valid for an indefinite future. We are aware nowadays that facts which were once regarded as part of human nature itself are only facts in a relative sense. They are elements in a constantly changing picture of human society. Any statement, therefore, of the social—and consequently of the territorial—planner's aims must be qualified by the reservation that they are susceptible to modification as the social organism evolves, and must be constantly subjected to the tests which it is the true function of consumer research to apply, consumer research being only the ascertainment of the individual's needs as he is conscious of them at a given moment.

Another reason for trying to make a statement of aims that looks beyond the present scope of the planner's opportunities, lies in the uniqueness of this moment. We are now faced with the opportunity—in fact almost with the certainty—of being able once and for all to break down the forms and shibboleths that have held back the forces of progress in recent years. Already this war has jumbled together the pieces of the social jig-saw puzzle to a degree that is bound to prevent our finishing up with exactly the same picture as we began with, and the process is likely to go much further. The forces of reaction—the elements in society that have a vested interest in the *status quo*—are not to be despised, but if we believe in their victory—that is, if we believe we shall lose the war, ideologically if not militarily—there is no point in our being planners at all. On the other hand, in the words of a recent P.E.P. broadsheet, although "at every period there have been idealists who have wanted to reform the world, only at rare moments has the demand for the assertion of new principles and new liberties surged from the bottom of society upwards with such overwhelming force that serious opposition is not possible. Now is one of those moments. Do not underrate its importance because some of the principles now solemnly asserted have been discussed so long by many of us as to seem commonplace, while others have been asserted before in documents which were widely trumpeted but failed for lack of the backing of armies of determined men who knew what they wanted and knew also what they would no longer tolerate."

The same broadsheet ends with these words: "while too much stress should not be laid on abstractions, it is im-

---

2

The necessity of verifying the nature of the problem before embarking on a programme of research is illustrated by the following anecdote, from Sir Walter Scott's own preface to his novel, *Woodstock*:

Doctor Rochecliffe . . . was one of the constituent members of the Royal Society, and was the person through whom Charles required of that learned body solution of their curious problem, "Why, if a vessel is filled brimful of water, and a large live fish plunged into the water, nevertheless it shall not overflow the pitcher?" Doctor Rochecliffe's exposition of this phenomenon was the most ingenious and instructive of four that were given in; and it is certain the Doctor must have gained the honour of the day, but for the obstinacy of a plain, dull, country gentleman, who insisted that the experiment should be, in the first place, publicly tried. When this was done, the event showed it would have been rather rash to have adopted the facts exclusively on the royal authority; as the fish, however curiously inserted into his native element, splashed the water over the hall, and destroyed the credit of four ingenious essayists, besides a large Turkey carpet.

3

"The idea has grown up that truth is revealed only in proportion to information collected. But the total amount of information already available of the sort that research workers collect so indefatigably, is prodigious. It is far more than we can put to use in years, and adding to it will not get us much further.

"The collection of data leads, in the absence of any hypotheses, only to the collection of more data, with no more end in view than a vague hope that somehow, when the endlessly hoarded facts and observations have been sifted, truth will automatically be revealed.

"But the fact is that truth must take the form of a substantiated hypothesis, and the only purpose of the data is as evidence; it can prove or disprove an hypothesis but it cannot invent one.

"The lack of principles has been a serious handicap to the progressive development of town-planning, if only because, without a basis in theory, planning cannot be anything more constructive than an *ad hoc* technique of dealing with existing emergencies—which is exactly what it has become in practice in recent years. These *ad hoc* decisions have, it is true, been backed by a number of useful slogans that have had some of the appearance of principles: slogans such as "regionalism," "decentralization" and the like, but rather than forming part of a systematic theory of planning, these pseudo-principles are in fact only prejudices with all the unscientific shortcomings of their kind.

"Society is an organic structure with its own laws and behaviours, which the science of sociology exists to study. . . . Sociological theories become dangerous when those who uphold them acquire a vested interest in them, but it can just as truly be said that equal danger lies in the deliberate abandonment of all theoretical conjecture, and the acquisition of a vested interest in the disinterested pursuit of facts."

The Architectural Review, November, 1941.

4

It is bold for the ordinary person to use nearly any words or to have any opinions on any subject whatever. As things go on, they become more complex and can only be dealt with by specialization, so that no place is left for the average man of good-will. It seems that the chaos of warring philosophies should be settled as a preliminary, then the inquirer would find other "subjects" like Ethics and Psychology, which properly should be dealt with before he came to the hundred volumes on Economics—all dismal. Even then he must not teach till he had taken a certificate in pedagogy. If, as a matter of fact, a mere man ventures to touch on any subject whatever without some such preparation, he is at the mercy of the trained assassin's polished weapons of debate. Fancy venturing a word on theology to an Archbishop! It is like that to speak of Political Economy with the humblest of its professors. It may not be done: he turns with hurt surprise and then says drily (as Tolstoy noticed): "Ah, but have you read Schwartzburg?" The priests of Economics seem to seek to shield their doctrines with a theory of inspiration. But this is only their way with the outer world: amongst themselves, their science, so called, is rent through and through and across like a torn-up letter, and their quarrels are so bitter that they have (happy paradox) to take the plain man into their confidence to arbitrate between them.

W. R. Lethaby ("*Political Economy or Productive Economy*," 1915).

5

It is true that Le Play, in putting forward his theory of the Valley Section, did classify people into occupational types, and he and Geddes produced the celebrated "place-work-folk" formula. But they were only dealing with a comparatively primitive rural economy. The same method proved quite unprofitable when applied to modern urban communities.

portant that some . . . pattern . . . should be in the minds of those who are planning for reconstruction in various fields, if the reconstruction is really to meet contemporary needs and if its various parts are eventually to form an harmonious whole."

2. THE PLANNER'S AIMS

The foregoing is the case for a statement of ultimate aims, irrespective of the political, economic and other circumstances with which the immediate future must be concerned and by which planning *policy* (which should be clearly distinguished from *aims*) must be guided. But if such aims are going to be anything more practical than a general enunciation of ethical ideals, they must be integrated so as to take the form of an intelligible pattern, as P.E.P. suggests; and, moreover, since we are here concerned with the role of the territorial planner, they must be defined in terms of his own activities. They must provide a theoretical basis on which the planner can build up his various working hypotheses; and to be of much practical use, such a basis must not only be founded on logical reasoning, but must be fundamental enough to be applicable in a simple way to simple issues. It is essential that it should be simple as well as subtle, since it has got to serve as a yardstick to which the planner's policy, as it evolves, can be constantly referred back, as a way of making sure that it remains consistent with his ultimate aims and with the actual nature of the forces he has to control.

It has also got to be easily understood by the Man in the Street, because planning is no fit subject for professional mystification[4]. Its success depends on the acceptance of social responsibilities, which society demands from individuals just as much as individuals expect benefits from social organization. In fact, to distribute the responsibilities of a highly organized community life equitably is just as much the function of social planning as to distribute its benefits. Let the *technique* of planning, therefore, be as esoteric as its complexity makes necessary, but let its theoretical objectives be clear to the simplest minds. I may add that to make them so is the only *literary* task in the planning effort—all others consist in the work itself, in treating each problem on its merits and not subjecting any of them to broad generalizations. So that defines at once the useful scope of this article.

How can the aims of the territorial planner, then, be simply enough stated to fulfil these conditions—not, I repeat, in ethical terms, but in terms that belong to his own practice? One might begin by saying that it is his aim to control the growth of society's physical environment so that each element in society (that is, in effect, each individual, although we can never make sense out of nature's diversity by thinking of society as simply a lot of people)—so that each element, then, has access to a type of physical environment suited to its own nature and at the same time contributive to society as a whole. It will be noticed that this definition maintains the same dual conception of society that we have already referred to, one in which the privileges the individual expects from it are regarded as inseparable from his responsibilities to it. It is important that we add that each element in society must not only be catered for according to its present state of development, but in such a way as to allow full scope for whatever expansion—cultural, physical or spiritual—its nature demands.

The primary need, therefore, that we are faced with is the need for a method of *differentiation:* a way of defining the kinds of fulfilment people want. For it is in fulfilment that civilization lies. In fact fulfilment of one sort or another is the purpose of society and therefore the planner's object. His incidental object of arranging for functional convenience is only relative to his ultimate object. There can be no absolute standard of convenience, or the vehicle runs away with the driver.

But fulfilment and civilization are unsatisfactory words, connoting all sorts of spiritual values that the physical planner rightly views with the greatest suspicion. He is all too familiar with the tendency, which he associates with Fascist sophistry, to clothe unscientific thinking in grandiose but nebulous terms. What he wants to be is more, not less, scientific about the realities of his own raw material. And he is not, in any case, looking for philosophical generalizations about society in all its aspects, but for a particular way of redefining society's objectives that will help him to bring the confusing diversity of needs and means within reach of his own integrating technique. Nor, of course, does he presume to lay down new objectives for society. The trouble is merely that the old ones have never been defined in physical planning terms.

How can this be done? Obviously we must begin by looking at society itself as a physical affair. To describe how society works physically is the first step towards describing in similar terms the ends for which it works and towards which the planner's efforts are directed. But a descriptive definition of this kind already exists—and is, indeed, a commonplace in another context. For certain specialists have long made a habit of looking at society in its essential but restricted role as a piece of mechanism: namely, the *economists*. Territorial planners have, for some reason, in their search for sociological truths, ignored the already established truths of economics[5], notwithstanding the fact that the dependence of the whole structure of society on economic factors is something that has illuminated all the most progressive thought of modern times.

I am not insisting that society is in every sense purely an economic affair, nor that the planner should regard it as such; only that the language of economics is one language in which society and its problems can be scientifically described. And I am further pointing out that this happens already to have been done in terms so lucid and illuminating that their application to the planner's wider problems can be made to carry his own redefinition of aims an important step further.

The science of economics describes society in the terms it knows about; that is, in terms of function. It says that society has three functions, which it has labelled in three words that are not less fundamental for having long ago become clichés: PRODUCTION, CONSUMPTION and DISTRIBUTION. Or, as the planner would say, the social pattern, which is the physical expression of distribution, is the outcome of supply and demand.

Now no one could quarrel with the truth of this statement or say that it is insufficiently explicit. The point to be decided is what bearing it has on the physical planner's objectives. The link between the two is this: that economics describes society in terms of function and it is *out of function* that the form of any civilization develops. Perhaps a more illuminating word than civilization is *culture*, a culture being the collective product of society's activities: the achievement of society as an organism regulated by its own laws.

But a culture is a humanization of a form of work. It cannot be divorced from work as a human activity; that is, from the economist's functional realities. If you define, for example, the character of one of society's principal works, farming, you also define the character of one of its principal cultures, agriculture. (A failing of our times is that we have not regarded the agricultural life as a cultural life.) And this self-evident truth is of universal application. The science of economics states that in all societies at all times, there are three main kinds of work. There are also, therefore, three main kinds of culture, and in so far as the kinds of work are distinct and capable of isolation, so are the kinds of culture. To put it another way, physical society at any given time is the product of a particular relation of supply and demand. At one time problems of PRODUCTION may dominate the scene and dictate the social pattern, at another time problems of DISTRIBUTION. But these activities will also determine the kinds of *culture* found in the society in question (or its culture will determine the activities: to the planner it comes to the same thing), so if we can isolate within our own society the aspects of it that belong to each of the three economic activities, we shall also succeed in isolating the cultures that go with them and will have done something to clarify the ultimate aims of the physical planner. We shall have re-orientated his functional expedients towards a more fundamental social objective.

Economics, we can now see, draws our attention to an already existing classification of quite a different kind from the population groupings that sociologists and humanitarians are apt to concern themselves with: a kind

that cuts right across conventional social groupings and at the same time is closely related to society as an organism. The conventional kind of grouping needs little comment. When Benjamin Disraeli, for instance, almost exactly a hundred years ago, laid his plans for the trilogy of novels in which he aimed to " picture something of that development of the new and, as I believe, better mind of England, that has often been the subject of our converse and speculation " (the words are taken from his dedication of the first of these novels, *Coningsby*, to Henry Hope) and to embody the romantic spirit which lay behind his " Young England " party, he called the whole trilogy " The Three Nations." His three nations—three forces which he saw as dominating the England of his time, each of which was to be studied in a separate volume—were the Aristocracy, the People, and the Church. To-day we have outgrown the romantic Toryism of 1842, which envisaged a rosy future based—with a characteristic mixture of altruism and arrogance—on the assumed permanence of the existing social structure. But the modern planner has to modify nineteenth century ideas a good deal more drastically than this. Not only has the grouping by class no long-term validity, since we are dealing only with *ends*, even though the class struggle and other real-life factors must remain the basis of the policies which are the planner's *means;* not only do we no longer incorporate class barriers in our ideal patterns[6] as though they were laws of nature—but all other *population* groupings that have been valid at various times in the past, or have been found useful by sociologists in various specific contexts, are equally invalid for the planner's purpose: that which regarded the military section of the population as composed of different beings from the civil section, that in which the peasants were catered for differently from the townsmen, that in which a nomadic population was distinguished from a stationary one, and so on.

Many other Victorian philosophers besides Disraeli attempted to classify the elements in society with a view to putting everything neatly in its place, for the Victorian was a materialist, and could not bear to observe phenomena without finding a pigeon-hole to put them in. One of the most notable of these was Matthew Arnold, with his famous classification[7] of people as Barbarians (the landed aristocracy), Philistines (the commercial middle-class) and Populace, which accompanied his ruthless exposition of the spiritual shortcomings of each. He at least went a little deeper than Disraeli in that his terminology implied a consideration of cultural characteristics, and so did Le Play, who thought in terms of work and the characteristics that spring directly from it, Comte[8] and others. But they could none of them escape the necessity of classifying *people*, which is bound to be unrewarding in view of the very diversity of individuals, and in view of the fact that it is highfalutin nonsense to talk as though people's aims, so far as the individual as such is concerned, are anything but security, freedom, a good job and a square meal, which it is the immediate job of planning policy to help provide him with. What makes the foregoing alternative method of differentiation (that which follows the economist's analysis) so much more rewarding to someone trying to define the physical planner's ultimate aims is that it takes him beyond the satisfaction of private needs[9]—which cannot be defined except in relation to the immediate social conditions that stimulate them and that limit the demands of which the needs are only an expression. They bring him immediately to his ultimate objective: that of fostering what we, for the lack of a more precise term, have labelled " cultures "; that is, the opportunities for development that spring direct from the working of society and represent its achievement as an organism.

Another advantage of this method is that it leaves people as *individuals* to contribute to any or all of the cultures we are isolating, severally and simultaneously. Instead of regimenting the individual into social compartments it tends towards emancipation in the sense of encouraging fulfilment through the characteristic activities and aims of society itself.

But let us not go too fast. What the economist says is that all social activities can be classified according to which of three kinds of work they are related to: PRODUCTION, CONSUMPTION or DISTRIBUTION. And what I am particularly suggesting in this article is that the territorial or social planner will find his task more intelligible if he will begin by accepting this classification of the economist, and then take it very much further, using these labels to indicate not only the economic nature of the three basic human activities, but the nature (for planning purposes) of the three basic types of *culture*, into the perfecting of which the social efforts of the human animal are canalized. All human activities, together with their environments, belong, that is to say, to a PRODUCTION, a CONSUMPTION, or a DISTRIBUTION *culture*.

We are now once more talking the planner's own language. Activities and environments are what he has always been concerned with. One of his primary aims has always been to allow full outlet to the diversity of human activities—that is, to leave fewer square pegs jammed into round holes, but at the same time (in spite of current authoritarian declarations) to admit the continued existence of variously shaped holes and people's freedom to prefer one to another. And the obvious and readily admitted fact that most people combine all three economic activities in their daily lives, and the outlooks typical of all three in their own temperaments, and the further fact that people should remain free to transfer their allegiance from one culture to another as the balance of their own and their social group's nature develops, do not affect the validity or the usefulness of these three primary groupings.

But before we go into this more deeply, it might be useful if, in the next instalment of this article, I were to test our belief in the serviceability of the above method of differentiation by seeing how the phenomena observable in our present surroundings bear it out. In other words, I shall try to demonstrate that the typical contemporary development of our physical environment—and the chaos in which it finds itself—is identifiable with our failure to maintain the distinctions implicit in the economist's three categories of human activity, and thus that only a fresh recognition of these distinctions can lead to that reintegration of the physical structure of society which the planner aims at.

to be continued next month

6
In spite of the fact that even quite enlightened contemporary theorists still persist in speaking of " working-class housing " as though its problems were different from those of housing people generally.

7
Culture and Anarchy, 1869.

8
Auguste Comte, 1798–1857, as nearly as anyone in the nineteenth century did get away from the consideration of society merely as people. When he talked about the dependence of social progress on *moral* development (as distinct from mere political and economic mechanisms) he intended " moral " to a large degree in the same sense as that in which we are using the word "culture." To him progress meant giving wider scope to the three complementary moral attributes which he distinguished—Intellect, Energy and Feeling.

He was also one of the first philosophers to appreciate the interdependence of social phenomena. In his Law of the Three States, which is the foundation of his theory of Positivism, he defined the three successive phases through which human understanding progresses as first the Theological, in which phenomena are attributed to immediate volition; secondly the Metaphysical, in which they are attributed to properties possessed by the object but with independent existence, and finally the Positive, in which general laws are sought by analogy and deduction. It is this last approach which implies (and indeed makes inevitable) the treatment of society as an organism susceptible to scientific study and not a mere conglomeration of individual actions. Karl Marx, of course, followed up this line of study much further.

9
Nor do the biological social groups, based on the family unit, such as P.E.P. employs in the Broadsheet already mentioned (*The New Pattern*, P.E.P. Broadsheet No. 178, September, 1941), contribute to the differentiation of social *purpose*.

BOMB DAMAGE TO NOTABLE BUILDINGS

LONDON

FIFTH INSTALMENT

HARPUR STREET (top, and lower left) was formed in the 17th century and rebuilt about 1760. It was perfectly symmetrical and uniform in detail. The east side has been completely destroyed; of the west side a little more than half remains, including the pedimented centre house (No. 16) which has an interesting interior. From 1767, this was the home of Dr. John Fothergill, political associate of Benjamin Franklin, and the first physician to diagnose diphtheria. The street runs north from Theobalds Road on the estate of Bedford College, from whose founder, Sir William Harpur, it takes its name. The neat joinery of the Doric doors and the precise spacing of the windows made this a distinguished street. The false pediments on the centre houses were typical of the period and its tendency to artificial over-emphasis, which disappeared by the end of the century.

FEATHERSTONE BUILDINGS (lower right) was a narrow street north of Holborn, built about 1720 and almost intact. A few houses on the west side precariously survive, with their carved hoods and panelled rooms.

Domestic

GUILFORD STREET and **GUILFORD PLACE** once formed a fine town-planning unit opposite the Foundling Hospital. It was laid out by S. P. Cockerell at the end of the 18th century when the Foundling estate was developed. The houses were put up by various speculative builders. A Victorian fountain, not without charm, stands on the axis of Guilford Place but it lost much of its effect when a repulsive iron-railed convenience was constructed near by. The convenience, the statue and all the surrounding houses have been severely bombed, and the ruin of this part of Georgian London, which began with the demolition of the Foundling Hospital, is now practically complete.

Domestic

SUFFOLK STREET, near the Haymarket, was laid out by Nash about 1820, nearly on the lines of an older street. The buildings, by several architects (Nash included), were completed within the next few years. The illustration shows the north end with the remains of Garland's Hotel, whose quiet, comfortable, old-fashioned interior was " discovered " by many an American in search of traditional England. The building on the left, with the fan-headed window (a favourite Nash motif) is part of the back elevation of the Haymarket Theatre.

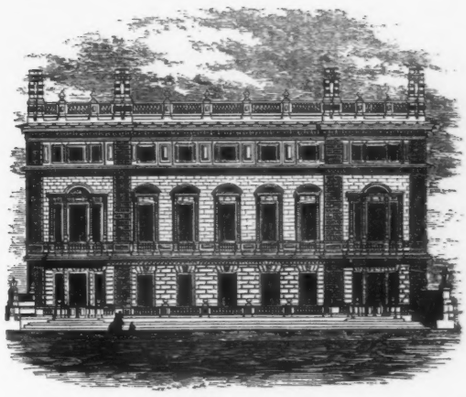
THE PARK VILLAGES, EAST AND WEST, were the last parts of the Regent's Park layout to be executed. Nash was always fond of the idea of a romantic suburban village but was prevented from following out all his intentions and was, in any case, too old to design more than a few of the houses. Most of the work was done by James Pennethorne. The illustrations show Park Village East, which contains one or two Gothic and Swiss curiosities. One of a pair of Gothic houses (No. 18) has been destroyed, but most of the others are intact. It would be difficult to exaggerate the beauty which this water-side village once possessed, but is unlikely to possess again.

PORTMAN HOUSE, otherwise known as Montagu House or simply as No. 22 Portman Square, possessed some of the finest domestic interiors in London. The house lies across the north-west corner of the Square, in its own grounds. It has been entirely burnt out, and only the shell, which has undergone considerable modernization, survives. It was begun some time after 1760 for Mrs. Elizabeth Montagu, the queen of intellectual lion-tamers, for the express purpose of providing a centre for high-brow parties. Her architect was James Stuart, the pioneer of the Greek Revival, whose exquisite, sparkling decorations formed the chief beauty of the house. The work proceeded spasmodically and the building was still unfinished in 1781. It was here that Mrs. Montagu gave her annual May-day parties for chimney-sweeps. The house subsequently reverted to the Portman family, whose London residence it was until its destruction. The illustration shows the front drawing-room on the first floor, with the surviving indications of its beautiful segmental ceiling. The Athenian capital, seen through the gap in the floor, reminds us of the novel architectural scholarship which made Stuart famous.

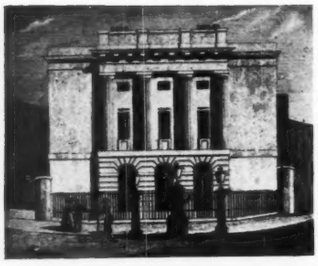
ST. **PAUL'S CHAPTER HOUSE** in St. Paul's Churchyard, was begun in 1712 from designs by Wren. Only the shell remains of this simple but extremely well-proportioned and delightful building. Its interior was little known to the public and had been used for commercial purposes for many years. There was a noble staircase built round three sides of a rectangular well, with a rich wrought-iron balustrade executed by the smith, Thomas Robinson. Most of the rooms were panelled and the great room on the first floor had been redecorated in the 18th century.

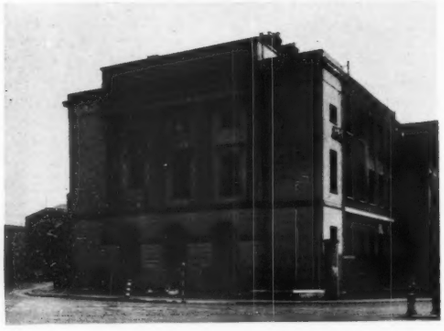
NO. 35 LINCOLN'S INN FIELDS was one of the most impressive late Palladian houses in London. With No. 36 (long since rebuilt) it was designed by Sir Robert Taylor in 1754. The façade is unique among London houses in its suggestion of a super-imposed order by means of a double tier of string courses. The interior contained a splendid staircase and some interesting rooms, while the windows were glazed in a curious and rather effective pattern of hexagons. The first occupant of the house was a rich Georgian lawyer: the last was the College of Estate Management.

BRIDGEWATER HOUSE, built in 1847, was the latest of Charles Barry's great Italian buildings in London. His biographer notes that it indicates "a desire for greater richness of effect" and the structure, though damaged, still stands to witness how Barry could express extreme affluence without becoming vulgar—an important asset in an architect much employed by Victorian aristocrats. The photograph shows the remains of the picture-gallery, designed to accommodate the famous collection which the last Duke of Bridgewater acquired from the Palais Royal after the Revolution and which passed to Barry's client, the Earl of Ellesmere. Although much of the interior of Bridgewater House was executed by a German architect, Götzenberg, on lines which Barry did not approve, the picture-gallery is authentic. Note the characteristic use of cast-iron principals for the roof.

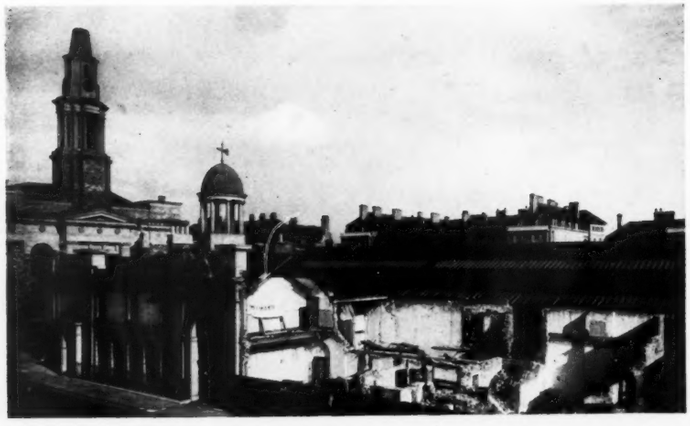


The dormitory of **WESTMINSTER SCHOOL**, though burnt out from end to end, is externally intact and the long façade to the Dean's garden looks as noble as ever. Wren's name has often been mentioned in connection with the building but in fact it was designed by the Earl of Burlington and begun in 1722. It was the first structure in London to be faced with Bath stone, preceding the usual claimant to this distinction, Gibbs's gateway at St. Bartholomew's, by eight years. Little of architectural value was lost in the burning of the interior, and it is to be hoped that the shell may be found capable of re-use.





THE ST. KATHERINE'S DOCK was the last in the series of dock schemes which followed each other rapidly after 1800. The West India Dock was the first; then followed the London Dock, the Surrey Dock and the East India Dock. St. Katherine's was ambitiously squeezed in higher up the river than any of the others, displacing a medieval college and a Georgian slum, just east of the Tower. The engineer was Telford, but Philip Hardwick was called in to design the Dock Offices shown in the illustration, which form part of the architectural scenery of Tower Hill. They were completed in 1828.



ALBANY STREET is part of Nash's layout on the Crown's Marylebone estate. The illustration shows Nos. 152-4 built by Nash, in 1818, as a military Ophthalmic Hospital. It did not long serve this purpose, but became a laboratory for a primitive type of steam engine, a factory for no less primitive machine guns, and, later, though still in Nash's lifetime, a distillery. In recent years it had been let as workshops. On the left of the picture is James Pennethorne's ponderous but interesting Christ Church, Albany Street, dating from 1836-37. The tip of its spire has been knocked off.

LONDON FIFTH INSTALMENT

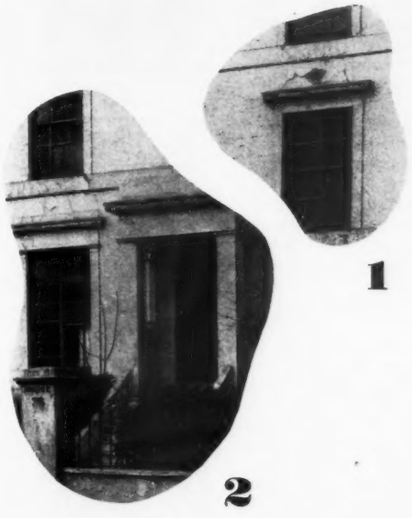
CRITICISM

The object of these articles is to stimulate an interest, both critical and appreciative, in the æsthetic aspects of nineteenth century architecture. At least ninety-five per cent. of the houses that surround us where we live and where we work are of the last hundred years. Yet hardly anybody takes the trouble to look at them with anything like the attention that he pays to a half-timbered Tudor house or a Jacobean Cotswold cottage. Hence the history and characteristics of the "Coburg Style" are less familiar than those of any within the last nine hundred years. To get to know them, one must hunt for motifs typical of each stage, each decade, collect them and compare them. The game will prove entertaining and illuminating in whatever district it is played.

A B

Treasure Hunt

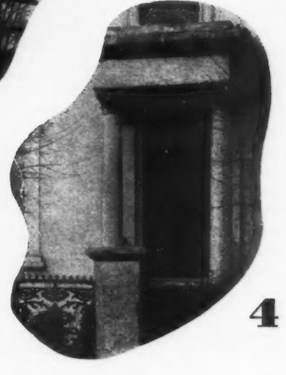
By Peter F. R. Donner



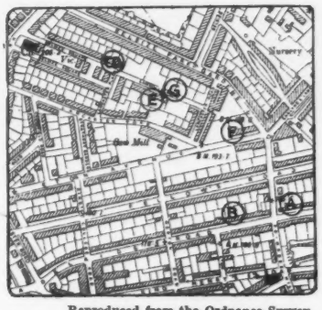
1

2

3



4



Reproduced from the Ordnance Survey Map, with the sanction of the Controller of H.M. Stationery Office.

The Eton College Estate and the Belsize Estate between Adelaide Road and Belsize Park in South Hampstead are as good as any to watch what happened during the last century to the detached and semi-detached upper middle-class house in England. In ten or twelve minutes' walk one passes through a number of strata well worth sampling. They exhibit a number of characteristics which are local, others which are national, and even a few that can be accepted as international. Into these I cannot go here. To distinguish between strictly local and more generally English features it is sufficient to compare the houses here illustrated with what a tour through Kensington or Bayswater or Edgbaston, Birmingham would show.

In the Eton and Belsize districts, the four earliest stages are of standardized patterns, in the two later ones standardization is deliberately concealed, though not given up. Adelaide Road consists almost entirely of examples of the first two, one in the east, the other in the west half of the street.

House A

Adelaide Road east. This is a house of distinct Regency character (cf., the example from Herne Hill at the top of the reference column on the right), sensitively proportioned and very sparingly decorated. The motifs are familiar: the unmoulded string courses, the windows with thin cornices above, on the ground floor supported by pilasters in very low relief (cf., the old St. Paul's School of 1823, by G. Smith, in the reference column) on the first floor resting only on the slightly projecting framing of the windows, **1**, and the porch on Roman Doric pillars, **2**. The heaviness of the porch, especially in the entablature, betrays the builder as against the architect.

House B

Adelaide Road west. A was detached, the other houses which I have picked out for my comparisons are semi-detached. The system of B is identical with semi-detached specimens from Adelaide Road east. The porch has now Corinthian columns with heavy capitals, **4**, a feature frequently used during the eighteenth century (cf., reference column). The windows have alternating triangular and segmental pediments, **3**. This motif is of ancient Roman origin, was revived by the Renaissance and imported into England by Inigo Jones. It was used by all the Palladians of the eighteenth and early nineteenth centuries (cf., Hardwick's Goldsmiths' Hall, reference column). The wider window on the ground floor, with its pulled-out segmental gable right beneath the narrower one on the first floor, is an awkward device. The designer evidently was tired of the straightness and flatness of the Classical Revival and wanted something rounder and bulgier instead. The same bulginess characterizes the contemporary iron garden gate, **4**. The top windows are framed by brackets supporting the eaves of the roof.

House C

This is the Belsize pattern. It occurs, almost completely standardized, in street after street between the Swiss Cottage and Belsize Park stations. It is the same house as B, but with sig-

To A: Regency house at Herne Hill.

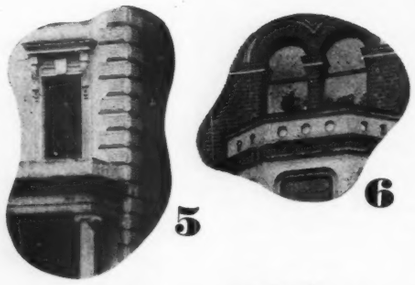
To A: G. Smith's St. Paul's School, 1823.

To B: From Ashley House, Epsom.

To B: From Hardwick's Goldsmiths' Hall, 1829-31.

C

D E F

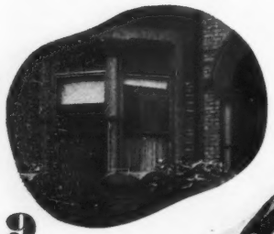


5

6

7

8



9

10

nificant modifications. The porch is now Ionic, **5**. Its projection, isolated and therefore effective in the Adelaide houses, is repeated in the bay-window. The result is a restlessness and jerkiness well in keeping with the addition of the Palladian motif of the quoins, rusticated and rather unpleasantly disappearing behind the porch with the cornices above the windows on vaguely Italianate brackets that cram the bosses above the centres of the windows and with the increased number of brackets under the eaves of the roof.

The Dates of A, B and C

The development from the simple to the multiform, from low to high relief, from restraint to grandiloquence, is evident. But how is this development to be dated? To get that exact, one would have to go to estate offices or look up old newspapers. However, certain indications one can usually find without special research. Adelaide Road is named after Queen Adelaide. She was queen from 1830 to 1837 and died in 1849. Moreover, those who know the district will remember that a systematic demolishing of houses in the east half of the street had begun just before the war. That means, as a rule, that ninety-nine years' leases have expired. So we shall probably not be far out if we date A as 1835–40.

As to C, I was lucky. I found in a number of *The Builder* of 1853 an advertisement saying that the Belsize Park Estate would be let in plots between Swiss Cottage and the Hampstead Road (i.e., Haverstock Hill). So C will be *c.* 1855. B one would expect to be in between. Indeed *The Builder* of 1851 published an account of New College, a Neo-Tudor building just north of the Swiss Cottage—it was pulled down about five years ago—and said that not long ago the Swiss Cottage stood alone, whereas now it is "in the midst of villa residences as smart as compo can make them." That probably refers to the pretty Gothic villas a little way down the Finchley Road. Many of these survive. So B will be *c.* 1850.

House D

The immediate neighbour of C is a house that, I suppose, one should call Gothic. The basic pattern is the same as in C. But stucco is replaced by yellow brick. Quoins, brackets and Ionic columns are dropped. The porch has a Gothic lintel on columns of a mixed Italo-Early English character, **7**. The round-headed windows are of the same indeterminate type, **6**. Are they meant to be Italian Transitional between Gothic and Renaissance? One is reminded of the same motif in the 1862 parts of the Victoria and Albert Museum (cf., reference column). Ground floor and first floor windows are rounded at the top corners in a curious unmistakably Mid-Victorian way, **7**. You find it often in buildings round about 1860 (cf., reference column) and also in Victorian mirrors and the like. Especially amusing is the billet frieze of the bay-window: the Ionic dentils of 1830 gone mediæval. So the infiltration of mediævalism into the Neo-Renaissance version of the Neo-Classical house begins here about 1860.

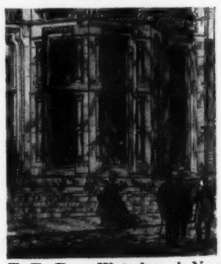
House E

In the same street as D a little farther down on the other side are houses such as E. Shall we call them inflated Early English cottages? The barge-boarding, **8**, comes from the Gothic villa such as Nash had already built at Park Village in the 'twenties, and such as were illustrated in Loudon's and P. F. Robinson's popular works of the 'thirties and 'forties (cf., reference column). The shafts of door and bay-window, on the other hand, are downright Early English, **9**. Gilbert Scott's *Remarks on Secular and Domestic Architecture*, a plea for domestic Gothic, came out in 1857. His St. Pancras Station is of 1866-71, Waterhouse's New Universities' Club in St. James's Street, pulled down just before the war, of 1865–68 (cf., reference column). Ruskin's books had, of course, also helped to popularize the blessings of Early English. So the elements of E lead into the 'sixties. The

To D: From the Victoria and Albert Museum, 1862.

To D: From Bartlett's Promoter Life Insurance, Fleet Street (*The Builder* 1860).

To E: From P. F. Robinson's Rural Architecture, 1836.



To E: From Waterhouse's New Universities' Club, St. James's Street (*The Builder* 1868).

To F: From W. Sugden's designs for new public buildings, Newcastle-under-Lyme (*The Builder*, 1886).

house may, however, be later. There is usually a time-lag between the work of leading architects and of suburban builders. Most suburban estates as late as 1930 and 1935 were still built in a debased Voysey style of 1900. E is detached to remove the dullness of symmetry. This was a significant step, the conclusion of a development that had begun when the terrace house as the universally valid type had been replaced by semi-detached pairs. Its meaning is evident. The goal was the expression of extreme architectural individualism, or to put it negatively, the disintegration of the street which characterizes the nineteenth century in its city as well as its suburban buildings. As for details, they are grouped primarily with a view to picturesqueness.

House F

The next move was Norman Shaw's. He built a number of houses a little farther west around Fitzjohn's Avenue between 1875 and 1888 of red brick in the style of the Dutch seventeenth century. This Neo-Dutch had a tremendous vogue. It altered to a surprising extent the domestic sections of the architectural magazines from 1878 onwards. F, in Eton Avenue, is in its essence the same house as E, although it is more substantial and meant for a wealthier tenant. It has a Shavian pediment over the entrance, a Shavian segment-headed window above the bay-window, **10**, a Shavian grouping of the chimney stacks on the left, and a Dutch gable a little gayer than Shaw himself would have designed, **10** (cf. reference column). It can safely be attributed to the 'eighties or early 'nineties. Eton Avenue was probably intended to be continued with houses of this type. But then operations seem to have stopped, and when they were taken up again, the style of the day was Voysey's and Ernest Newton's. I may be able another time to discuss this later part of the history of the district.

House G

A few lines are sufficient on G. It stands, one of a row of identical houses, near D and opposite E. In type it is F reduced to a lower income; also presupposing Norman Shaw, because it was he who revived the brick fashion. William Butterfield had used brick for ecclesiastical work before (All Saints, Margaret Street, 1853–59), and Philip Webb's Red House for William Morris dates from 1859. But their effect was nothing like as wide as Shaw's. The aprons under the window-cills are a typical Shaw motif. The Tudor gable is a stranger in this composition and looks a little later. I should not be surprised if G turned out to be about 1900.

G

A note on three legs

THAT a wooden chair should have four legs is now generally taken for granted. It is worth noting, however, that the prototypes of two different patterns of chairs were three-legged.

More obvious and better known of the two is the Windsor type, which was developed from the three-legged milking stool commonly used even in modern cowsheds. The addition of a back to a large stool resulted in such a piece as **1**—or **2** if there were arms and a primitive comb-back. With such extremely primitive chairs, mostly home-made, the reason for having only three legs is the same as with milking stools: it is much easier to construct three legs so that they seem to be of equal length than four, because the margin of permissible error is so much larger when there are only three. And to milking stools, at least, three legs afford sufficient stability. It is, perhaps, rather odd that more civilized three-legged stools for household use were not made, especially since large numbers of three-legged tables were produced for farmhouses and cottages in the eighteenth century.

The other three-legged type of chair is the extraordinary kind of which Percy Macquoid wrote that they were of "Byzantine origin; their pattern was introduced by the Varangian Guard into Scandinavia, and from there doubtless brought to England by the Normans. They continued to be made until the end of the sixteenth century."

Some, however, are now known which date from the seventeenth and even the early eighteenth centuries. Horace Walpole had started to collect these chairs as early as the seventeen-sixties, for on August 20, 1761, he wrote to George Montague: "Dicky Bateman has picked up a whole cloister full of old chairs in Herefordshire—he bought them one by one, here and there in farm houses, for three and sixpence and a crown apiece. They are of wood, the seats triangular, the backs, arms and legs loaded with turnery. A thousand to one but there are plenty up and down Cheshire, too, if Mr. or Mrs. Westenhall, as they ride or drive out would now and then put up such a chair, it would oblige me greatly. Take notice, no two need be of the same pattern."

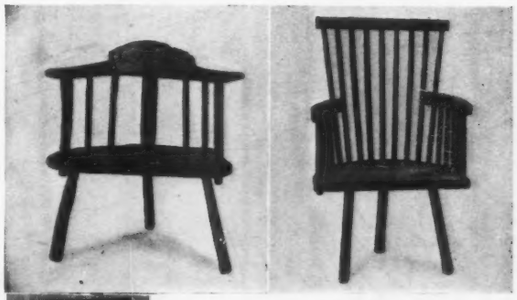
With the skill displayed by the turners of these chairs (in **6** no fewer than fourteen loose rings, turned from the solid wood, may be detected on the spindles), it is difficult to believe that the problem of making four legs of equal length would have afforded them much difficulty. The three-legged form is, therefore, something of a puzzle to anyone with the preconceived notion that a wooden chair *ought* to have four legs.

The suggestion of one ingenious critic that chairs were made with three legs in order that they might better fit into corners need not be taken too seriously, since he omitted in his haste to state what happened to the straight crosspiece of the back when the back leg was firmly planted in its appointed corner. But it may justly be observed that, in these very heavy and usually rather large chairs, a sufficient degree of stability could be obtained with three legs.* When the chairs developed into the lighter spindle-backed type (commonly called Lancashire spindlebacks, though the type was made with relatively slight local differences from Herefordshire to Cumberland), four legs were the rule—a rule without exception so far as my experience at present goes.

It was, no doubt, the instability of light three-legged chairs that led to the general adoption of four legs for Windsors: there are extant five-legged antique Windsors which evidently began their existence as three-legged chairs, and not a few four-legged specimens carry evidence, in their seats, of having originally been three-legged. (These statements apply to "local" types of Windsors, such as may be found in the Welsh Marches, **3**, rather than to the commonest type of hoop-back, wheel-back Windsor, which was made by the thousand in the villages of the Chiltern Hills.) Possibly the problem of making legs of even length is partly responsible for the extreme scarcity of antique English Windsor settees. In America (whose Windsor chair-makers seem to have attained to a higher standard of skill than their English cousins) even ten-legged Windsor settees are not very uncommon, but in England a mere six-legged Windsor settee is a rarity.

J. D. U. WARD

* Yet not all these early chairs of the heavily turned pattern were three-legged. One may find four-legged specimens like Sir Richard Granville's chair **5**, which seems to illustrate a transition from three legs to four, with its seat much the same shape as the seat of a caqueteuse chair of similar date, and there are not a few four-legged pieces with almost square seats. The turned chair, now in Hereford Cathedral, which King John is said to have used may be pertinently recalled, despite the fact that it was probably made long after John's death.



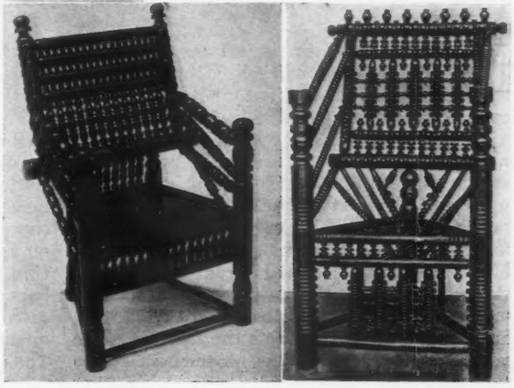
1, 2

3

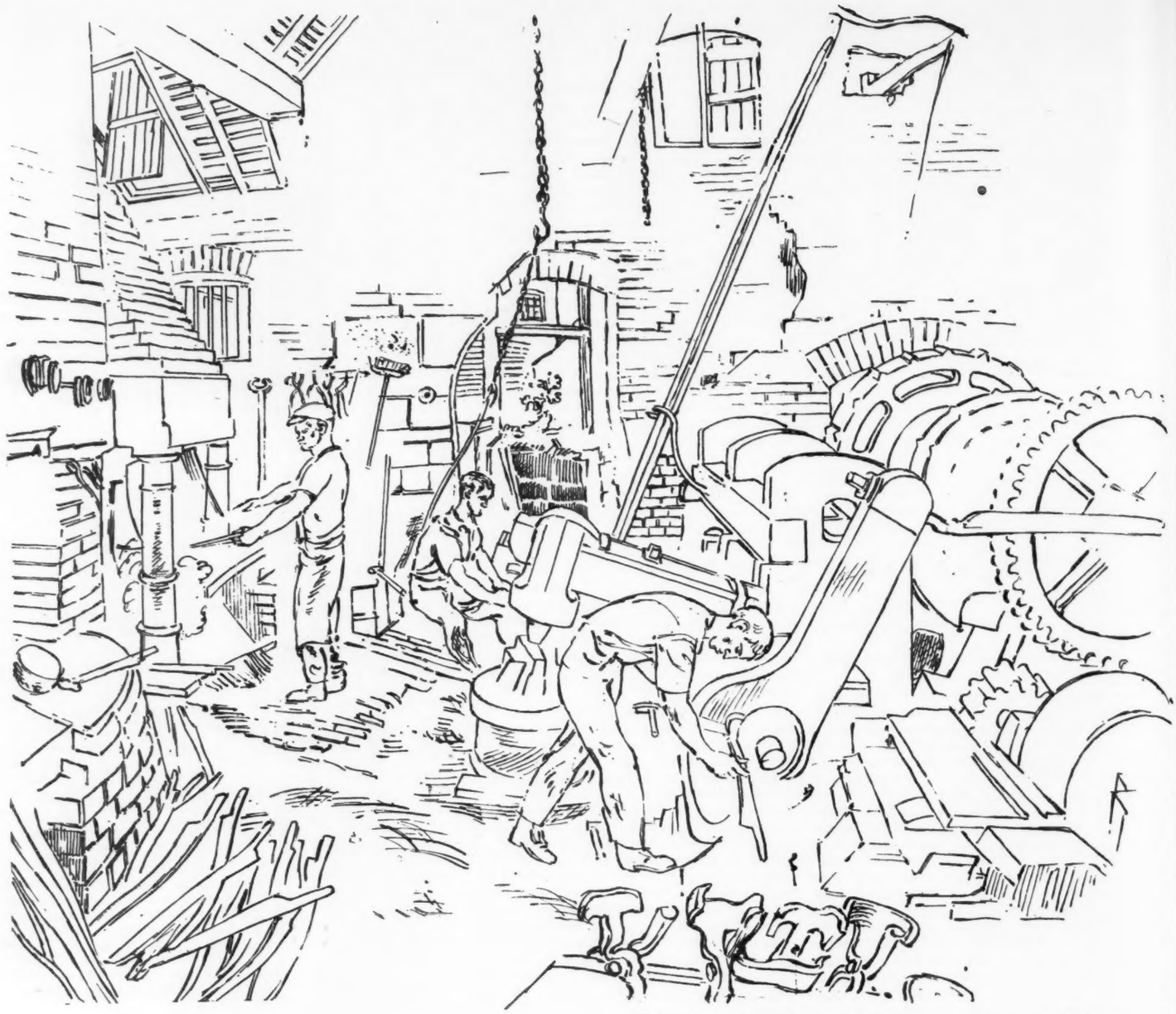
The prototype of two varieties of four-legged chairs was three-legged. One is the Windsor chair, derived from the milking-stool. **1** *illustrates the most elementary form of the three-legged chair (by courtesy of Acton Surgey);* **2**, *the three-legged Windsor chair (by courtesy of S. W. Wolsey);* **3**, *a Welsh speciality: the five-legged Windsor (by courtesy of F. E. Anderson).*

4

The other type that seems to have been three-legged originally, is characterized by the use of ornamental turning. It came from Byzantium via Scandinavia. **4** *is of an early date (by courtesy of S. W. Wolsey);* **5**, *Sir Richard Granville's chair (by courtesy of Mrs. Grenville), shows the four-legged form;* **6** *(by courtesy of the Victoria and Albert Museum), one of the most elaborate three-legged examples.*



5, 6



The scythe forge, Belbroughton, Worcs.

COUNTRY CRAFTSMEN

The Scythe Smith

By Thomas Hennell

MAKING scythes is an ancient craft which, though carried on by only a few firms in England, is by no means dying out: for the quality of English scythes ensures a large demand from Ireland, and from the western hemisphere. There are two types of scythe and two districts in which they are made; the "rivetted-back" and the crown scythe. "Rivetted-back" scythes are chiefly made in the Sheffield area. They consist of a blade cut and formed from sheet-steel, strengthened along the back by a bar of tougher metal, which is exactly fitted and rivetted to it, and of which the end forms the tang or crewe which is attached to the wooden snead or snath. But it is only of the blade and back that the smith speaks in using the term scythe.

The crown scythe is made particularly at Belbroughton and several adjoining villages in Worcestershire. This is rather more expensive, but is the tool preferred by men who do much mowing: it requires more skill to sharpen; the beginner is liable to rub the edge off again. A crown scythe is altogether a beautiful piece of smith's work, for it consists of four bars of metal welded and forged together so that each contributes to give the blade a unity of qualities which none would possess singly. The crown scythe is thus made all in one piece; it has a clear ring when struck, it can be bent and re-straightened without any harm, yet it has a keen edge of perfect temper.

The first stage in making the crown scythe is to cut four bars of equal length from metal of three grades, thus: a narrow bar of "blister-steel" (which in the process of forging is converted into shear-steel); upon either side of this two narrow bars of pure charcoal iron; for the back a bar of mild steel, of weight equal to the other three. This bundle of bars the smith holds with a pair of box-tongs, raises them to a bright heat in the forge, and welds them together under the rapid and heavy blows of the tilt-hammer.

In this work, which is the subject of our main illustration, two smiths use hammer and forge together, occasionally exchanging positions, although most of the hammer-work is done by one man, most of the forge-work and cutting by his partner. The forge illustrated dates from about 1780, and the tilt-hammer is worked by an overshot water-wheel of probably 20 ft. diameter. The wheel consists of a chain of buckets which are filled from a culvert, whose flow of water can be regulated, by means of a pole-handle and crank. This is done from the smith's seat, which is suspended so that he can change his position freely in front of the hammer and anvil. The water-wheel drives a main axle on which are built several vertical wheels, on whose circumference, at intervals of about two feet, are stops or cogs which as they pass depress and release a corresponding

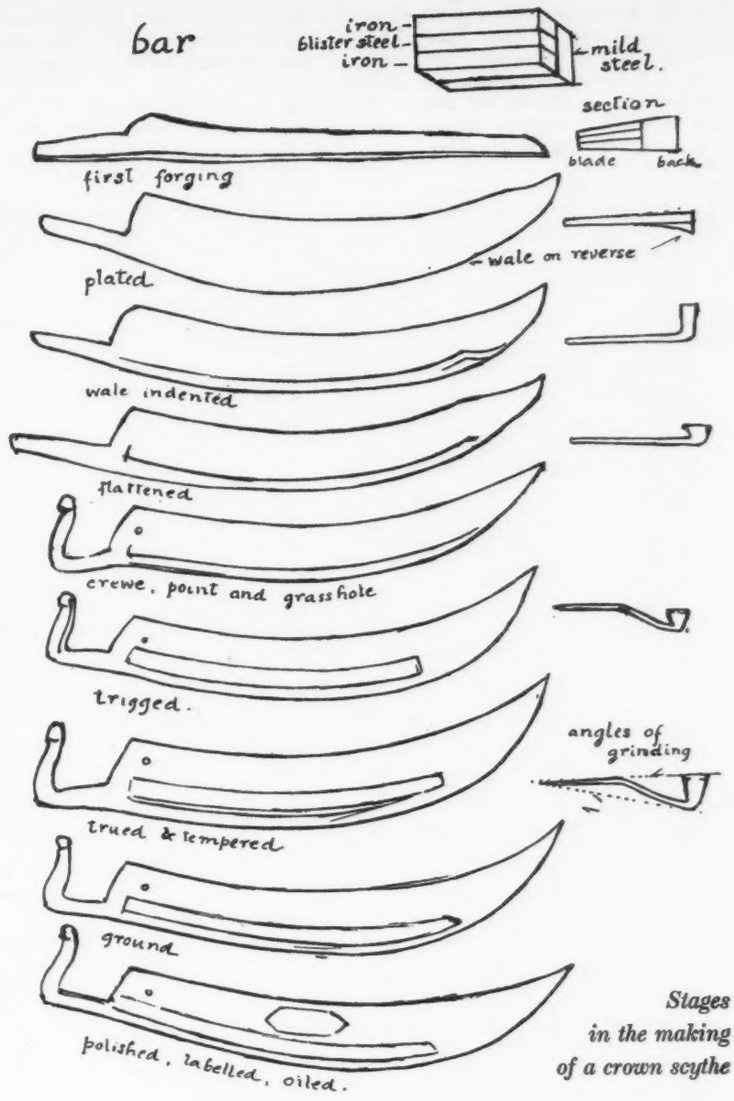
Forging the scythe

projection on the hammer-beam, which is pivoted horizontally.

So as the wheel revolves the hammer strikes rapid powerful blows on the anvil, and the smith, continually changing the position of his work, welds together the bar and draws it out into a long bar, with a clearly marked tang at each end (formed of the mild steel), and with a thickened back or "weal," also of that metal. On reaching this stage the bar is cut in two by a pair of giant shears (also worked by the main axle); so that from each forged bar two scythes are made.

The next process is plating, which means flattening and spreading the blade to its proper breadth and thinness: next the point, and "crewe" (that is, the tang) are formed. These first processes, and the final ones of tempering, grinding and polishing, are used, with modifications for shape and size, in making scythes, slash-hooks, fagging-hooks, hay-knives or turnip-knives; though heavy-edged tools (e.g., axes and bill-hooks) are made on another principle. But in making the crown scythe there are some intervening processes. The blade is planished, then bored for the grass-nail: next, the wall (or back) is first steeply indented on the upper surface, then flattened and trigged; that is, bent along the middle of its breadth. This peculiar angular section gives the right "set" to the edge for mowing: the scythesman sharpens, as he says, "from the back" (as shown on the diagram). This means in practice that the under edge has the steeper angle, while from the top only enough iron is rubbed away to expose a narrow line of steel: and in this way it leaves the works: the top surface being ground flat, the under surface at a slight angle; and then the blade is polished, labelled, oiled and packed in a binding of wood-wool rope.

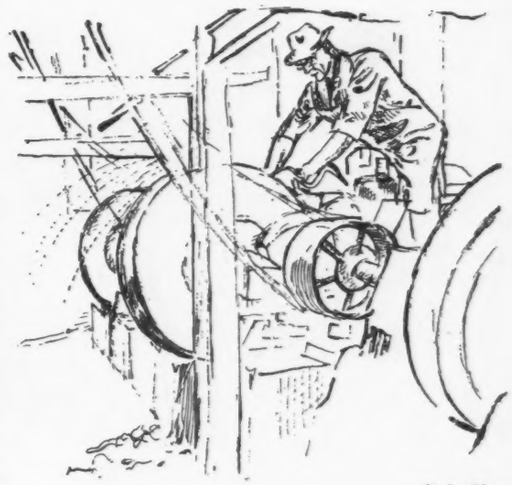
The grinding-house consists of a floor with deep trenches on either side: the grind-



Stages in the making of a crown scythe

stones, which are four feet or more in diameter, and nine inches across, revolve away from the grinders, who are mounted astride wooden horses so that they can press the blade with both hands upon the whizzing stone. A jet of water plays on the stone and is carried away by the trench, but notwithstanding the water the blade throws out sparks like a firework. The noise is immense, making speech useless: there is a high singing note which, except for its loudness, would be musical. Great improvements have been made on behalf of the workers, who were formerly liable to silicosis, a disease caused by inhaling particles of the local ferrous sandstone which was traditionally used. For with the synthetic abrasives now in use, though the cost is fourfold, there is no such risk. Sandstone grinding is still to be seen and heard in the Sheffield district, a rougher, interrupted, neighing sound. Here the stones spin towards the grinder, but in Worcestershire away from him.

The quality of a crown scythe depends upon the skill and judgment of the many hands through which it passes: it is worked and reworked with several heatings; so that a slight omission or a false blow may damage it, and one unskilful workman ruin the work of a dozen. The rivetted-back scythe depends on exactitude of fitting and manipulation: the back is the only part which is forged, but this work calls for great skill and accuracy.



Grinding

The blade is cut from sheet steel (described as 20-gauge high-carbon steel). The outer curve of this " blank " is cut wider near the point, to allow for a flange to be made and turned over, which forms a sheath for the point of the back to which it must be fitted. This flange and a narrow rim along the back are formed by cold pressure, but in order to turn the flange right over the back of the blade it must be heated; this must be done with care, and the flange accurately folded over a mandril which corresponds in shape to the point of the back, without damaging the point or edge by heat.

The blade has first been *punched* for the rivet-holes and grass-holes, then *gristed*, that

Cutting-out and gristing the rivetted-back scythe

is to say stamped with the groove into which the back fits, a shallow angle and a narrow rim. The rimming and gristing have the effect of making the thin steel rigid, as paper is stiffened by folding it into a spill. When the steel is thus complete in form it is first hardened throughout and afterwards tempered. The hardening is done by placing the blades, in batches of five or six, into a " long furnace "; that is, one in which the heat is carried through a horizontal chamber; from this they are removed at the right moment and plunged into a bath of oil. This has the effect of making them as hard as glass, and almost as brittle.

Tempering is a distinct process. The blackness caused by the oil having been removed from them, the hardened blades are brought to another small furnace, in which is a smooth ledge of fire-brick; and on this each blade is separately laid, so that its back only is exposed to the full heat. As the heat increases the colour of the metal changes towards the edge of the blade; this is watched, and at the right moment the blade is removed.

The scythe-back starts from a short oblong bar, which is drawn to the desired length by working it at a bright heat under a steam-hammer. The head of this hammer is wedge-shaped, suspended on a coach-spring of steel plates; the speed of its rapid, bouncing blows can be regulated. The curve and taper of the back can be determined by eye, but, absolute accuracy being required, it is finished with a hand-hammer upon two successive blocks or dies which fit a socket in the anvil. They are called the drawing-tool and the beading-tool.

The beading-tool produces the slight ridge or " bead " which exactly fits the rim at the back of the blade. Another tool is used to form the tang to the correct shape and angle with the blade, with a slight " *cock* " at the extremity: it must be exact in three dimensions.

The back and blade must now be fitted and rivetted. The rivetter, having made holes in the back to correspond with those in the blade, drives short rivets of soft iron—miniature bars with no heads. By holding the scythe at a slight tilt on the anvil he can strike so that both ends of the rivet grip at once. But should the rivet swell, ever so slightly, between the blade and back, his work is in vain.

The form of grinding is somewhat round on the under surface; the upper surface is hardly touched, except to polish it and to remove the " flash," the slight turn-over from the under grinding.

Proving and tempering

Destructive Aspect of the Reformation

She resumed the path which led to the Abbey—a path which, in ancient times, was carefully marked out by posts and rails, to assist the pilgrim in his journey—these were now torn up and destroyed. An half-hour's walk placed them in front of the once splendid Monastery which, although the church was as yet entire, had not escaped the fury of the times. The long range of cells and of apartments for the use of the brethren, which occupied two sides of the great square, were almost entirely ruinous, the interior having been consumed by fire, which only the massive architecture of the outward walls had enabled them to resist. The Abbot's house, which formed the third side of the square, was, though injured, still inhabited, and afforded refuge to the few brethren, who yet, rather by connivance than by actual authority, were permitted to remain at Kennaquhair. Their stately offices—their pleasant gardens—the magnificent cloisters constructed for their recreation, were all dilapidated and ruinous ; and some of the building materials had apparently been put into requisition by persons in the village and in the vicinity, who, formerly vassals of the Monastery, had not hesitated to appropriate to themselves a part of the spoils. Roland saw fragments of Gothic pillars richly carved, occupying the place of door-posts to the meanest huts ; and here and there a mutilated statue, inverted or laid on its side, made the door-post, or threshold, of a wretched cow-house. The church itself was less injured than the other buildings of the Monastery. But the images which had been placed in the numerous niches of its columns and buttresses, having all fallen under the charge of idolatry, to which the superstitious devotion of the papists had justly exposed them, had been broken and thrown down, without much regard to the preservation of the rich and airy canopies and pedestals on which they were placed. . . .

" I pray you, hush, my sister," said the porter, opening a door which led into the great church, " the brethren will be presently here to celebrate their election with a solemn mass—I must marshal them the way to the high altar—all the offices of this venerable house have now devolved on one poor decrepit old man."

He left the church, and Magdelen and Roland remained alone in that great vaulted space, whose style of rich, yet chaste architecture, referred its origin to the early part of the fourteenth century, the best period of Gothic building. But the niches were stripped of their images in the inside as well as the outside of the church; and in the pell-mell havoc, the tombs of warriors and of princes had been included in the demolition of the idolatrous shrines. Lances and swords of antique size, which had hung over the tombs of mighty warriors of former days, lay now strewed among relics, with which the devotion of pilgrims had graced those of their peculiar saints ; and the fragments of the knights and dames, which had once lain recumbent, or kneeled in an attitude of devotion, where their mortal relics were reposed, were mingled with those of the saints and angels of the Gothic chisel, which the hand of violence had sent headlong from their stations.

The most fatal symptom of the whole appeared to be that, though this violence had now been committed for many months, the Fathers had lost so totally all heart and resolution, that they had not adventured even upon clearing away the rubbish, or restoring the church to some decent degree of order. This might have been done without much labour. But terror had overpowered the scanty remains of a body once so powerful and, sensible they were only suffered to remain in this ancient seat by connivance and from compassion, they did not venture upon taking any step which might be construed into an assertion of their ancient rights, contenting themselves with the secret and obscure exercise of their religious ceremonial, in as unostentatious a manner as was possible.

. . . A side door, which closed a passage from the Abbot's house into the church, was thrown open, that the Fathers might enter the choir, and conduct to the high altar the Superior whom they had elected.

In former times, this was one of the most splendid of the many pageants which the hierarchy of Rome had devised to attract the veneration of the faithful. The period during which the Abbacy remained vacant, was a state of mourning or, as their emblematical phrase expressed it, of widowhood; a melancholy term, which was changed into rejoicing and triumph when a new Superior was chosen. When the folding doors were on such solemn occasions thrown open, and the new Abbot appeared on the threshold in full-blown dignity, with ring and mitre, and dalmatique and crosier, his hoary standard-bearers and his juvenile dispensers of incense preceding him, and the venerable train of monks behind him, with all besides which could announce the supreme authority to which he was now raised, his appearance was a signal for the magnificent *Jubilate* to rise from the organ and music-loft, and to be joined by the corresponding bursts of *Alleluiah* from the whole assembled congregation. Now all was changed. In the midst of rubbish and desolation, seven or eight old men, bent and shaken, as much by grief and fear as by age, shrouded hastily in the proscribed dress of their order, wandered like a procession of spectres, from the door which had been thrown open, up through the encumbered passage, to the high altar, there to instal their elected Superior a chief of ruins. It was like a band of bewildered travellers choosing a chief in the wilderness of Arabia ; or a shipwrecked crew electing a captain upon the barren island on which fate has thrown them.

SIR WALTER SCOTT
(*The Abbot*, 1820)

The waste paper campaign goes on. The need for waste paper for armaments is as urgent as ever. Architects, apart from their duty as individuals to do all they can to save and collect paper, have a special duty to search out whatever their own office will produce. For architects' offices are a rich source of waste paper, in the form of plans, correspondence and specifications now no longer needed—a richer source than is generally realized. The photograph above (reproduced by courtesy of *The Architects' Journal*) shows Sir Edwin Lutyens, President of the Royal Academy and, incidentally, the new O.M. in the latest Honours List, at work in his office on this urgent and necessary task. It may be added that a new Government appeal has also been issued for scrap steel, and architects in this case also are often in a good position to help on account of knowledge they may have of sources of steel on building sites and the like.

WASTE PAPER

MARGINALIA

An Exhibition at the Geffrye Museum

Sixty children of the Sheffield College of Art Junior Department have worked for five weeks to make this exhibition. Its title is *The History of English Life*. It consists of six murals of which one —the one illustrating the transition from the nineteenth to the twentieth century —is shown on the next page, pictorial charts of population, housing, work and leisure, education, dress, etc., and a large number of tiny models. The periods chosen are prehistory, the fourteenth century, the seventeenth and eighteenth centuries, the nineteenth century and our own time. The teachers chose these periods, indicated what points of view and what objects might be shown, and left the rest to the children. They went to the Public Library opposite the school to pick out suitable illustrations to work from. Considering their age—over eleven and

Continued on page xxxiv

The children of the Sheffield College of Art, Junior Department, seem to be getting a very live and up-to-date conception of what planning should be like after the war, and how it should be related to the history of civilization in England. The exhibition at the Geffrye Museum to which attention is drawn below shows what excellent work in pictorial charts, models and murals sixty children have done, and pleads for experiments on similar lines that could be undertaken in London schools.

under fifteen—the exhibits are remarkably well and intelligently done. The models are of cheap, easily available materials, lively in their shapes, yet very correct where that matters (e.g. in the model of an early railway engine or of talking apparatus in a modern cinema). The history of dress is represented by charming collages on paper. In an exhibition on such a small scale and of an entirely educational purpose, only a very limited number of sections from the history of civilization can be included at all. The staff of the Sheffield College selected wisely, and the children will derive from the weeks spent in the preparation of the show more knowledge of the realities behind history lessons than could in any other way be obtained in many months. You find the history of tools, weapons and ships, the history of surgical operations and of transport, and the history of education from chained books to Penguin books, and from the model of a grim nineteenth century elementary school to a cheerful white and modern one. To-day and to-morrow are represented, e.g. by flat-roofed flats and factories, a highway intersection *à l'Américaine*, plastics, tanks and planes, talking pictures and television, and communal feeding. It is to be hoped that a result of this delightful show will be attempts at similar work in London schools, especially in the districts for which the Geffrye Museum chiefly caters.

At Burlington House—

Judging from the United Artists' exhibition now to be seen at Burlington House, the most popular hero of the war is not Mr. Winston Churchill nor General Wavell, but St. Paul's Cathedral. A quick tour of the rooms showed at least eleven portraits of the Cathedral, some of them straightforward representations of the building itself, but most of them showing its dome and curtain walls crowning a foreground of bomb ruins. The favourite viewpoint is from Cannon Street, just by the corner of Bread Street. If we add the number of similar pictures in the War Artists' exhibition at the National Gallery, we shall probably conclude that this view has now supplanted the harbours at Polperro and St. Tropez in favour in academic circles.

It is disappointing that not one of the portraits is very good. Foregrounds of bomb damage produce some easy drama, but the contrast in scale and solidity of the Cathedral's calm dome rising behind these tangles of war litter—though this contrast is obviously what caught the artists' fancy—is never well rendered. The painting is insensitive in every case and is, moreover, in many cases not even accurate as representation : the proportions are wrong and the perspective false. But it is early yet ; things may be different when artists have had as much practice with domes as they have with fishing boats.

One has, alas, to pass the same sort of verdict on the exhibition as a whole, for the general impression is one of insensitive and slipshod painting, with

Continued on page xxxvi

Continued from page xxxiv

a certain amount of easy drama, relieved only by occasional examples of good craftsmanship of the kind that academic painting should possess as a matter of course. It is a collective effort, as the title indicates, on the part of all the leading artists' societies. Profits and half the proceeds of sales are to go to the Red Cross. The depressing state of affairs this exhibition reveals is that when the Royal Academy is reinforced by other bodies the general effect is more, not less, ineffectual than the Royal Academy by itself. The few more progressive bodies are lost among numerous minor (and rather amateurish) societies without even professional academic competence.

The only portion of the exhibition that lifts itself above this level is Gallery XI, mostly furnished by the London Group and including good examples of the work of Paul Nash, Edna Ginesi, Anthony Devas, Vivien John, Rachell Reckitt and others. There are not many works of particular architectural interest, the most notable being a couple of Algernon Newton's inimitable town landscapes, invested with the golden glamour that he combines so effectively with his Canaletto-like fastidiousness of architectural representation. There is something about an Algernon Newton architectural piece —especially when the subject is Regency London—that deprives the most carping of his critical armament.

—and the National Gallery

For craftsmanship that is academic in the best sense, look at Sir William Nicholson, who shares with Mr. Jack Yeats the honour of a solo exhibition at the National Gallery—following the most successful one devoted to Sickert. There have not been many chances of seeing Sir William's work in the mass, and the effect, when one does so, is impressive. Though not so much so as Sickert, he is a painter's painter, but has unfailing integrity and (unlike many of the exhibitors at Burlington House) always appears to have something to say in his pictures that can appropriately be said in paint.

Jack Yeats is more dashing, more "modern," least effective in his Dufy manner and most effective in a more subdued key. The odd thing about his work is the markedly cosmopolitan character most of it possesses seeing that it is advertised (like that of most Irish painters) as being remarkable for its interpretation of the Irish character.

Faience in London Architecture

The frontispiece to our January number contained some statements on the use of faience in London architecture which, in the light of recent staff research, can be amplified and to a certain extent corrected.

It was in fact not Beresford Pite who introduced, or rather revived, faience for façades. Mr. Goodhart-Rendel, in his paper in the *Journal* of the Royal Institute of British Architects (vol. 43, 1935, p. 124), says that Pagani's shows Beresford Pite "in pursuit of the ideals upheld by Halsey Ricardo." If this is the case, Ricardo's house for Sir Ernest Debenham at 8, Addison Road, can at any rate not have been his example. For it was built only after Pagani's had been completed. It was first illustrated in THE ARCHITECTURAL REVIEW in 1907 (vol. 21, p. 159 *seqq.*). But though Ricardo had indeed preached the use of imperishable and colourful materials much earlier (e.g. *The British Architect*, vol. 47, 1897, p. 94), is it not much more likely that Pite simply carried on what C. H. Wortley had begun in 1896 in the earlier portion of Pagani's? The blue columns there are of Doulton's Carrara ware, the same material and the same colour being, as *The British Architect*, vol. 46, 1896, p. 130, pointed out, supplied at the same moment "for the new Birkbeck Bank." So this dates T. E. Knightley's Birkbeck Bank, too.

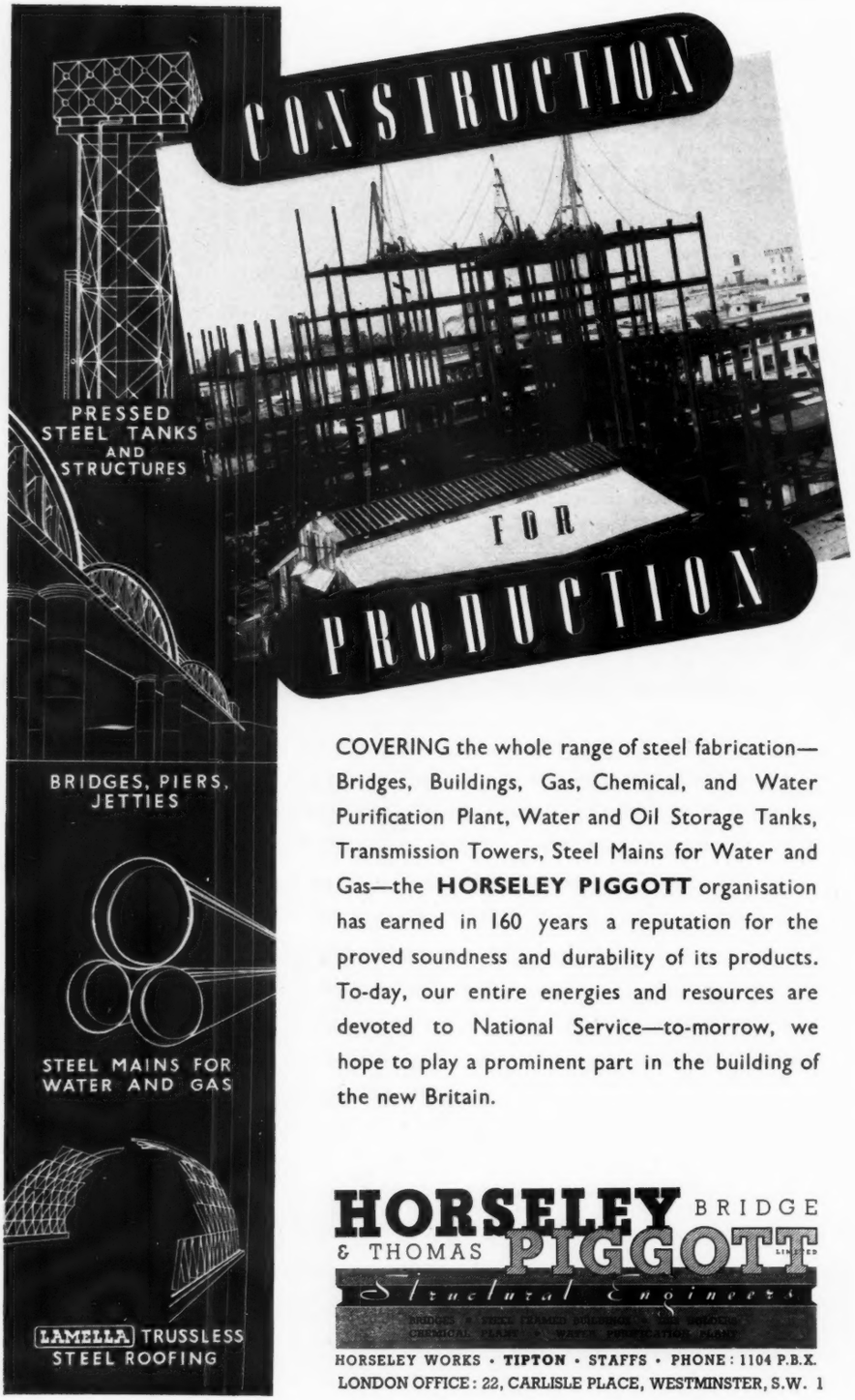
A systematic propaganda for terra-cotta and faience had been started by *The British Architect* as early as 1880 (vol. 14, 156; 16, 416 and 603; 17, 6). It illustrated restaurant interiors in faience at the Holborn Restaurant (by Archer and Green) in 1883, at Spiers and Pond's (by Keeling) in 1884, the Victoria Hotel in Manchester in 1885, the Grand Hotel, Hastings, in 1887, the National Liberal Club (by Waterhouse) in 1888, the Frascati (by Collcutt) in 1893, the Railway Hotel in Newcastle also in 1893, and the Cecil Hotel in 1896. We were incidentally only just in time in photographing the facade of Pagani's. Most of it has in the meantime been demolished.

The National Buildings Record

Acknowledgments are due to the National Buildings Record for the loan of photographs of St. Alban's Church, Holborn, and St. John the Divine, Kennington, reproduced with Mr. H. S. Goodhart-Rendel's article on pages 27–32 of this issue; also for the photographs of Portman House and Park Village, included in the further instalment on London bomb damage on pages 43–46.

The photographs of Westminster School and Bridgewater House, on the latter pages, were taken by *The Times*. The remainder were specially taken for THE ARCHITECTURAL REVIEW by Messrs. Dell and Wainwright and S. W. Newbery.

The fact that goods made of raw materials in short supply owing to war conditions are advertised in the REVIEW should not be taken as an indication that they are necessarily available for export.



COVERING the whole range of steel fabrication—Bridges, Buildings, Gas, Chemical, and Water Purification Plant, Water and Oil Storage Tanks, Transmission Towers, Steel Mains for Water and Gas—the **HORSELEY PIGGOTT** organisation has earned in 160 years a reputation for the proved soundness and durability of its products. To-day, our entire energies and resources are devoted to National Service—to-morrow, we hope to play a prominent part in the building of the new Britain.

HORSELEY BRIDGE & THOMAS **PIGGOTT** LIMITED

Structural Engineers

BRIDGES & STEEL FRAMED BUILDINGS · GAS HOLDERS · CHEMICAL PLANT · WATER PURIFICATION PLANT

HORSELEY WORKS · **TIPTON** · STAFFS · PHONE: 1104 P.B.X.
LONDON OFFICE: 22, CARLISLE PLACE, WESTMINSTER, S.W. 1