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THE

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John Loudon Macadam

The Road Behind and Beyond Him

By P. Morton Shand

THREE months hence will fall the centenary of the death of a man who generalized what for a century remained the standard type of road, and gave his name to it in most languages. "*Ecrasé sur le Macadam*" is still a common enough headline in French newspapers. Yet his own generation was far from unanimous in hailing John Loudon Macadam as a public benefactor. Everyone knows the story of the old lady angrily spluttering her excuse for arriving late at a dinner-party, "It was all those mac-a-damical roads!"

According to Sir Alexander Gibb, Macadam "humbly disclaimed any right to the honour and title of engineer," and so "felt himself unrestricted by either the ethics or etiquette of the profession." Certainly he owed much of his material success to his address in presenting petitions for grants. In a parliamentary debate on one of these Hume, the historian, expressed amazement "at the absurdity of characterizing that gentleman as the inventor of the system adopted under his name" when a Fifeshire surveyor named Paterson had used it before he was ever heard of; while the Member for Surrey denounced the £41,000 Macadam and his three sons had received from 79 different turnpike trusts in the last ten years for exploiting methods of road-making which had been applied in his own county for half a century.

The facts of Macadam's life are soon told. Born in Scotland in 1756, he emigrated as a boy to New York, where he worked in a counting-house. Returning in 1783 he bought an estate at Sauhrie in Ayrshire. Here he became a "road trustee" and started to experiment in the improvement of local highways. Though this was at his own expense it aroused spirited opposition. A small government post secured in 1798 enabled him to continue this hobby at Falmouth, but it was not till 1815, when he was made surveyor of the Bristol roads, that he started "macadamizing" in earnest. In 1827 he was appointed Surveyor-General of Roads to the State. Macadam's chief publications were *A Practical Essay on the Scientific Repair and Improvement of Roads* (1819) and *The Present State of Road-Making* (1820).

What, then, is Macadam's just title to fame, or rather how much of it is properly due to Telford? To answer this question necessitates summarizing the history of road-making. Its first date is 312 B.C. "the Appian Way begun." Roman roads *were* roads. Since all led to Rome they were designed as speedways for horsemen. Trenched to a width of 14 ft. and a depth of 3 ft., the subsoil was rammed till it formed a solid bed for 3 or 4 separate strata of filling. The lowest was of flat stones often bonded in mortar, and the next a course of rough concrete (sometimes covered by a layer more finely graded); the surfacing being of large finely-jointed stones that were the genesis of the French *pavé*. Like our arterial roads they had raised stone kerbs and paths bordering them for pedestrians. Where Roman roads were unpaved, they were cobbled with flints or pebbles set in mortar or marl and clay. From the end of the Roman era to the end of the eighteenth century is a complete gap, in which there was nearly everywhere no attempt to use Roman or any other methods. Roads were just meandering ruts, and repairs consisted of throwing ballast into the worst holes and leaving the rest to the passage of man and beast. But in France the old Roman skill never quite died out, and revived magnificently in the great network of *routes nationales* which Napoleon devised as his primary weapon for the subjugation of Europe. The "pacification" roads General Wade's troops built in the Highlands after 'forty-five were the first new construction in Britain for a thousand years. Every English parish had to maintain its own roads by a kind of *corvée* called "statute labour." How incredibly bad they were can be read in Arthur Young's diary of a six-months' tour in 1770. Nor did the creation of the Turnpike Trusts bring any sensible improvement till Telford and Macadam appeared on the scene at the beginning of the nineteenth century.

Telford's outstanding achievements were 900 miles of new roads in the Highlands (1803–1820), the great Holyhead Road (1810–1828), and a realignment of the Great North Road that reduced its length by 30 miles. Being superior to the needs of that day his roads have lasted till ours. But they were decidedly costly. Macadam, who confined himself to reconstructing existing roads, and used to remake and maintain them with the buried material generation upon generation had dumped along their course, could offer far cheaper and quicker work. By no means all Macadam's principles were sound, but this is not to deny that he provided surfacing good enough for the new mail-coaches to average 10–12 miles an hour over, and better alignment than anything then known. He agreed with Telford on the vital importance of proper drainage to prevent voids, carefully prepared materials, a surface of broken stone consolidated without earth or sand, and a moderate camber instead of the old eliptical cross-section. Where these fellow-Scots differed profoundly was in regard to foundations: Macadam claiming that the subsoil, however faulty, could be made to bear any weight, and Telford insisting on the necessity for a rigidly solid bed as in the French *chaussées*. Giving evidence before a Select Committee of the House of Commons Macadam declared:

> "It matters not if the soil be clay, sand, morass or bog. I should not care whether the sub-stratum was soft or hard. I should prefer a soft to a hard one . . . I never use large stones at the bottom of the road; I would not put a large stone in any part of it."

The centenary occurs this autumn of John Macadam, the celebrated road engineer. He was born in 1756 and died in 1836. The portrait of him on the facing page is an engraving after Charles Turner, published in 1825. In the article beginning on this page Mr. P. Morton Shand defines Macadam's place in the history of British roads and road-making.

Writing to the chairman of a local sub-committee of the Great North Road, Telford said :

> " In new road-making it is well known that scarcely two hundred yards is precisely of the same consistence, and unless rendered so by a rough pavement or otherwise a portion of the broken stone metalling comes in contact with the earth, sinks into it, works unequally, and can never be rendered so perfectly uniform as when the layer of broken stone is placed upon a proper pavement; the greater strength of the lower part of the road is thus obtained and preserved without being at the expense of breaking the stone; the pavement, however, must be executed with judgment and care, and this, proper workmen soon acquire the habit of."

Telford was right, but the invention of the internal-combustion engine was needed to demonstrate it.

Just after this high degree of technical progress in road-making had been attained, the railway emerged. Its rapid triumph put a full stop to all further developments. Use of the roads shrank to those connecting with the nearest stations; long-distance traffic deserted the highways. Railways were even more expensive than Telford turnpikes, but speed always proves cheap at any price. Their engineers were free to start where the road-engineers had left off. No one disputed the demand of these dictators for a fenced-in right of way, physically independent up and down tracks, the avoidance of crossings on the same level, minimum gradients and maximum curves, and the fewest possible detours to circumvent natural obstacles. They could slice cuttings out of hills or bore tunnels through them, and span the intervening valleys with viaducts approached by embankments. Bridges were minor considerations to them for iron arches could be made flat.

As tangible lines drawn between definite geographic points traversed with growing speed, railways fired the imagination of the public as historic roads had never done. The title of Stephenson's original " Liverpool and Manchester " inspired the realization of the American transcontinental systems, the Siberian Railway, and the still fragmentary dreams of the " Cape to Cairo " and the Baghdadbahn. Railways were not impersonally identical. Their liveries and performances and idiosyncracies inspired fervent boyish loyalties. For close on half a century countries that are almost continents—the United States, Canada, the Argentine, India, Australia, the exploited regions of Africa—with more than adequate railway networks, had no connected systems of through trunk roads. Rail-heads crawled like caterpillars farther and farther into the unpeopled prairie, pampas, steppe and hinterlands, throwing off isolated little spider-webs of dirt tracks from their halting-places that ended at remote mining camps, farmsteads or plantations in the back of beyond.

The silence of the world's main roads, now hardly even secondary means of communication, was only broken by an occasional farm-wagon or a marching regiment. Macadam remained the only alternative to " just gravel "; granite sets being confined to big towns, and wood blocks or asphalte to a few wealthy capitals. Meanwhile the Public Health Acts of 1848 and 1875 and the Local Government Acts of 1888 and 1894 had consolidated our present system of road administration. The Road Improvement Funds Act of 1904 coincided with the opening of the Motor Age. Finding that macadam ravelled under the pace of " those stinking machines," road-engineers turned to tar—at first simply to lay the dust, then as a carpet to protect the road's foundations, and finally as a binder in place of water. Rebaptized in gas-works distillate as " Tarmacadam," nepotic old John Loudon was still their only help in ages past and hope for years to come. But concrete soon superseded hardcore for foundations, because being unstandardized the latter was necessarily of uneven quality. As a culminating contribution the pre-war era introduced bituminous concrete, laid and rolled hot; but the only new highway it gave England (the first designed for motor traffic) was the Birmingham–Wolverhampton, sponsored by the recently established Road Board under Colonel Crompton.

After the war (in which prisoners were sometimes set to build roads when there was " nothing better for them to do ") first the motor-engineer and then the motor-owner, who was ousting the less interested and vocal chauffeur, started to make the running pretty hot for the highway-surveyor. Mass-production of cars and the phenomenal multiplication of urban motor-bus and cross-country motor-coach services made it hotter still. Concrete up to a foot thick (which now began to be made with rapid-hardening cement and stiffened with reinforcement) was the only foundation that stood up to an ever-increasing speed, weight and density of traffic such as no railway had known or could hope to cope with. Surfacing, however, remained a moot point, though the perils of a smooth crust were daily more apparent. A new Ministry of Transport was created, which in 1925 launched the first trunk roads programme. Old highways were widened and realigned, disused diagonals of Roman roads modernized, towns and villages with narrow streets by-passed. Then came relief, access and orbital roads for London, and later the new Liverpool–Manchester, Glasgow–Edinburgh and Pass of Glencoe " arterials," whose engineering was approximating more and more to railway practice. Just as 4 ft. 8½ ins. (the axle-span of the old mail-coaches) had become the standard gauge for railways, so 10 ft. was fixed as that of a single " stream of traffic," giving standard road-widths of 20–60 ft. and upwards. Camber was reduced from 1 in 24 to 1 in 48, the average gradient to 1 in 30 (anything under 1 in 300 complicates surface drainage), and the outer side of curves 'super-elevated' by banking. When the pneumatic pick appeared manual labour in the construction and maintenance of roads almost disappeared. Motor roads stretched from the Atlantic to the Pacific; new routes were being built across the Alps and to the shores of the Arctic. Branch railways closed and handed over their traffic to the lorry and the bus.

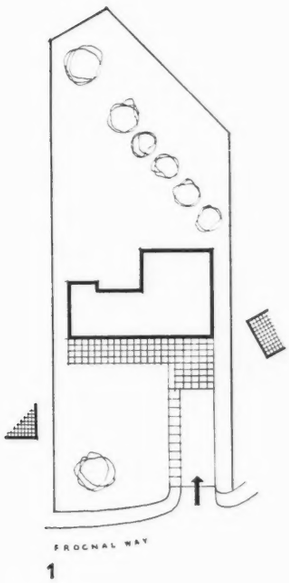
At last we reach another name. In 1922 Piero Puricelli, a Milanese engineer, published a well-documented project for direct high-speed motor turnpikes without any kind of level crossings. The pioneer *autostrada*—the Milan–Laghi (85 kms.), which he planned and built himself—was opened in 1925. It is no more than poetic justice that the first " racing roads " reserved for mechanical transport should have been built in Italy, where *autostrade* now stretch most of the way from Turin to Trieste. The latest embodiment of the same principle is the vast network of toll-free *Reichsautobahnen*, with separate up and down roadways throughout and " cloverleaf " junctions, which Hitler is actively constructing in Germany. Having recently " abolished " the Little Belt, Denmark is proposing to embark on the most ambitious scheme of all : an *autostrada* carried over the Sound (where it is 8.7 miles wide) and the Great Belt (nearly 11 miles across) by immense bridges linking the whole of Scandinavia with the mainland of Europe via Copenhagen and the islands of Zealand and Funen. It is not to our credit that all major British estuaries but one remain unbridged by road; and that of the only two " deinsulated " British islands the larger was yoked to the shore (thanks to Telford) as long ago as 1826.

While this article was being printed the Minister of Transport announced that next year all the principal trunk roads in the kingdom would be taken over, and henceforth maintained directly by the State as in other countries. Thus ends the long irrational interregnum of local *laissez - faire* and beggar - my - neighbour " individualism."

HOUSE IN HAMPSTEAD

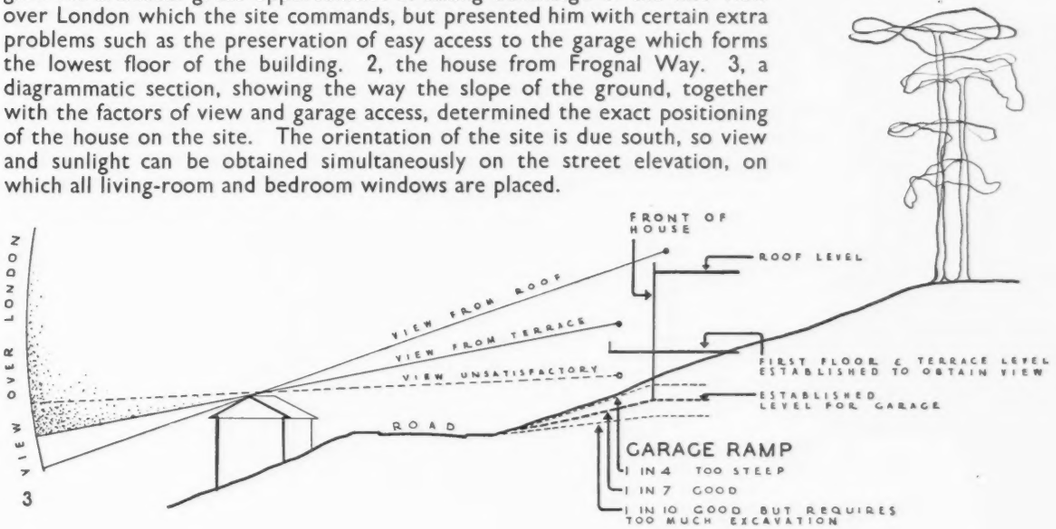
E. MAXWELL FRY, ARCHITECT

2



1

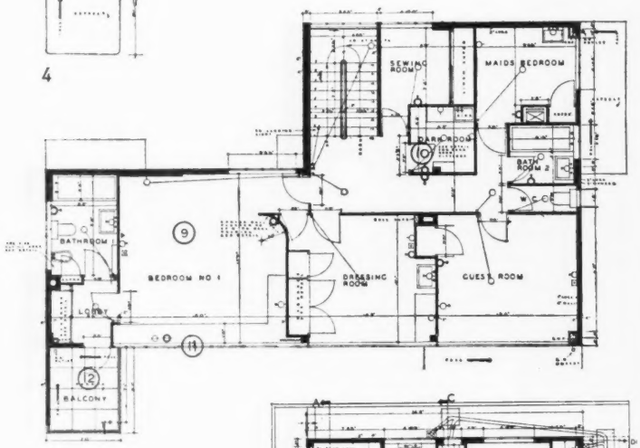
Frognal Way, the street on which this house is situated, slopes steeply, and the actual site of the house, 1, also slopes upwards away from the street. This gave the architect great opportunities of taking advantage of the fine view over London which the site commands, but presented him with certain extra problems such as the preservation of easy access to the garage which forms the lowest floor of the building. 2, the house from Frognal Way. 3, a diagrammatic section, showing the way the slope of the ground, together with the factors of view and garage access, determined the exact positioning of the house on the site. The orientation of the site is due south, so view and sunlight can be obtained simultaneously on the street elevation, on which all living-room and bedroom windows are placed.



3

H O U S E I N F R O G N A L

4



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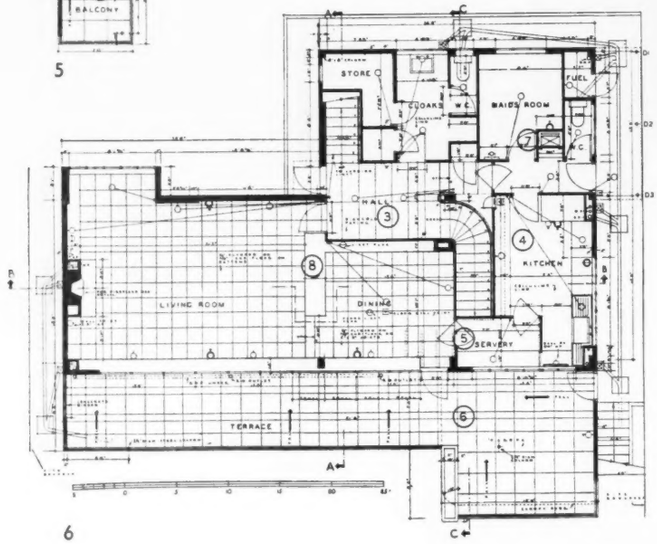

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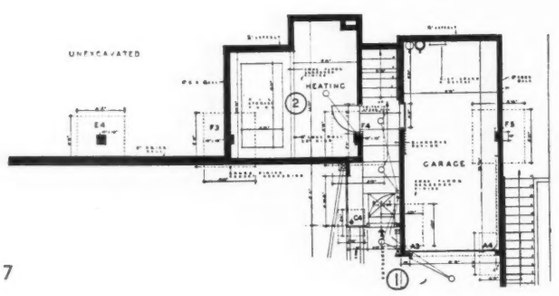

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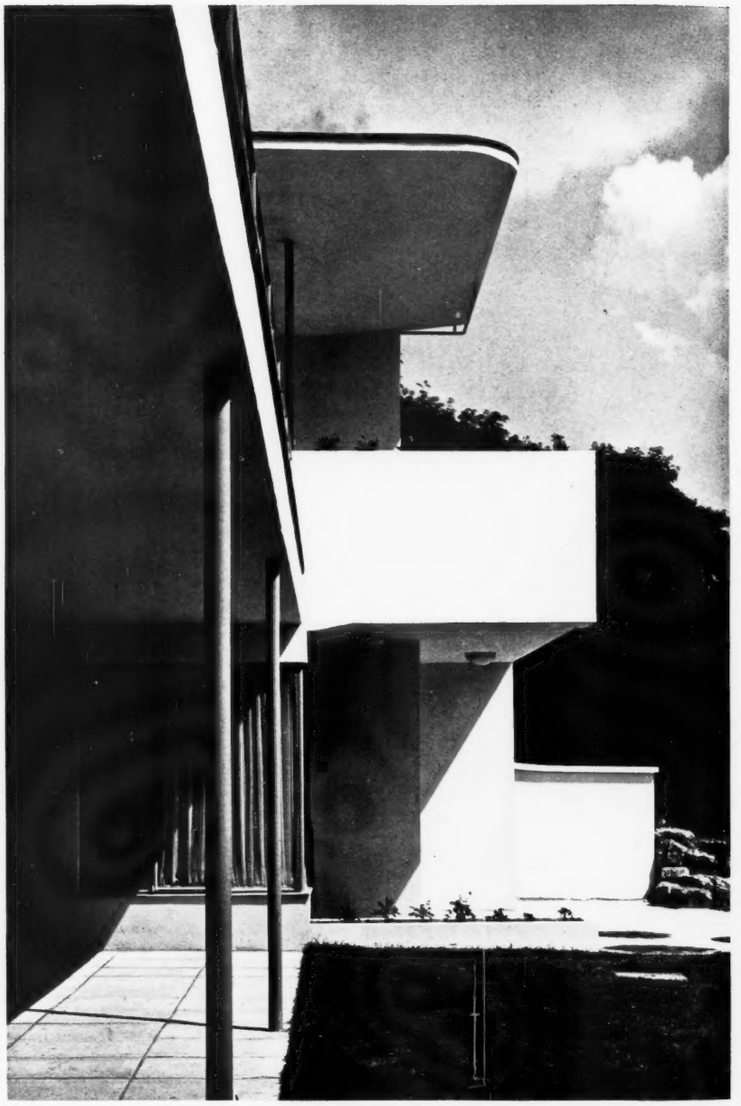
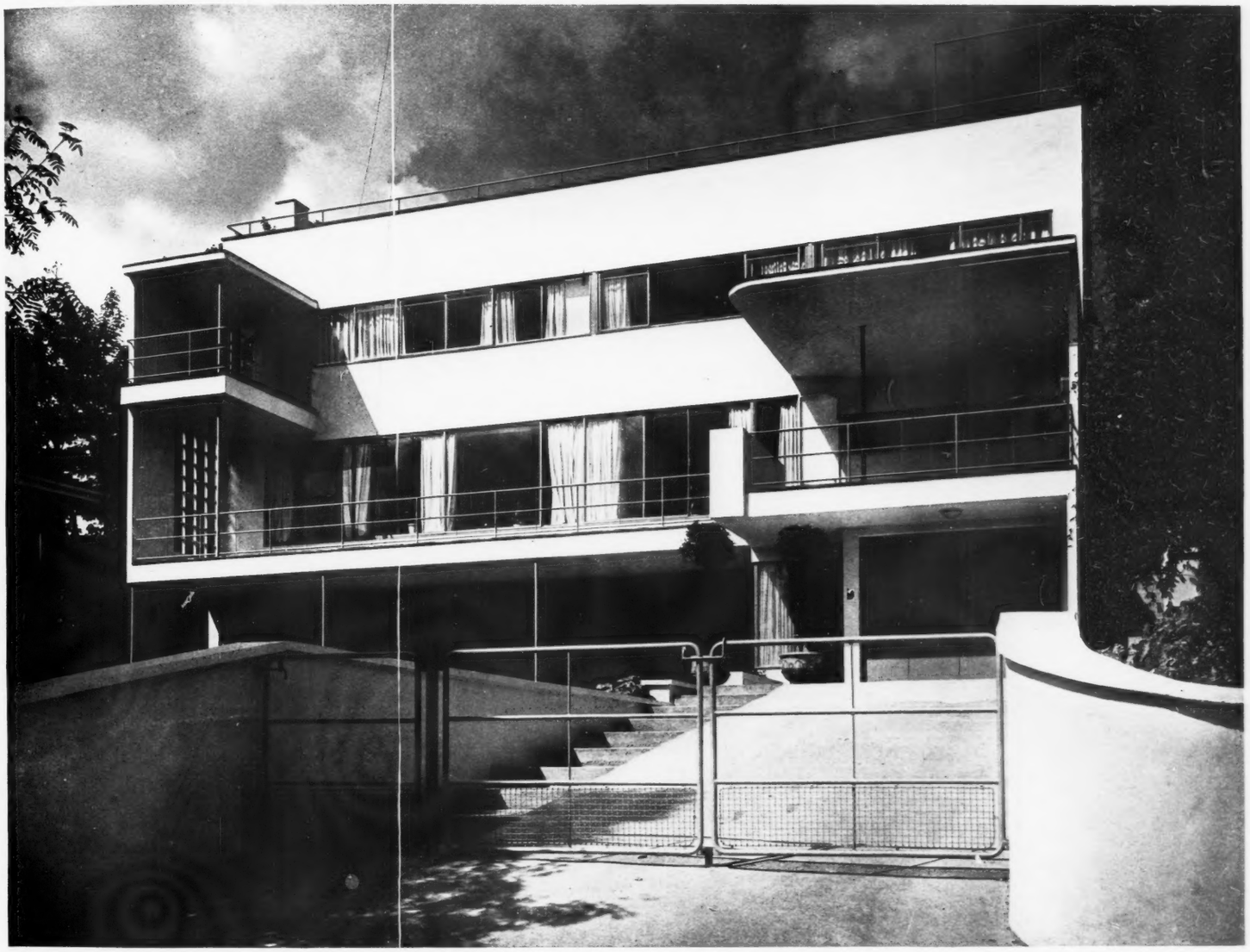


8

The house is planned with a garage at lower ground floor level, as explained in the section through the site on the previous page. This utilizes the sloping site with minimum excavation and allows direct under-cover access from the garage to the house by means of a staircase leading from the adjacent entrance vestibule. On the lower ground floor level, 7, are also the heating chamber and stores, etc. Above this is the main floor, 6, with a wide terrace the full length of the house, supported on steel columns and projecting over the garden loggia and entrance, 8. This floor remains still at ground level at the back, where there is a small but secluded garden. The clients asked for the living-rooms to be planned to provide large spaces for entertaining, and these rooms occupy almost the whole length of the house in the shape of a large living-room with a window at the back as well as front, and a smaller dining-room adjacent to it, both rooms having almost continuous windows opening on to the terrace. These rooms are separated only by a low piece of built-in furniture, but the transition from one to



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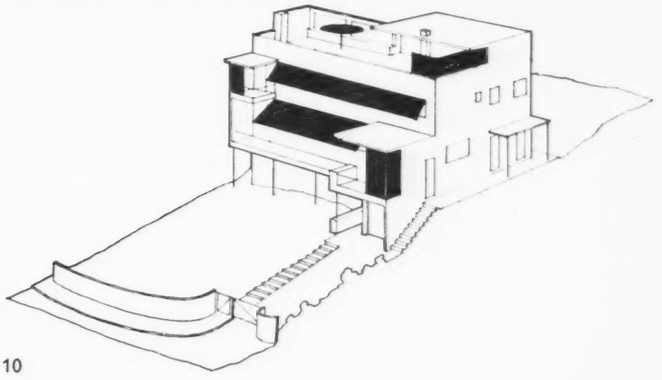
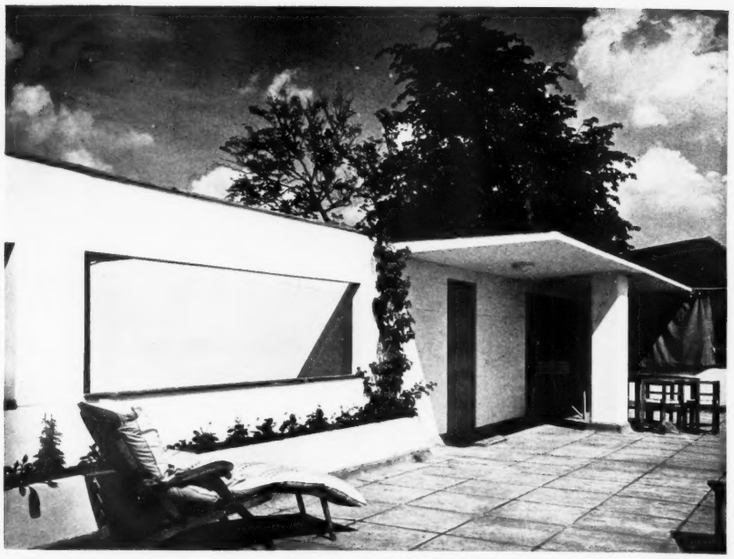


10

the other is also marked by a slight change in level ; there are two steps up from the living-room to the dining-room. The placing of the kitchen quarters allows direct access into the living-rooms and on to the terrace for serving tea, etc. The kitchen quarters with maid's room are planned as a separate working unit, carefully arranged so that there shall be no cross circulation. The terrace is sheltered at either end from the wind. On the bedroom floor, 5, there are two large bedrooms and a dressing-room, all also facing towards the south and the view. The main bedroom has a covered balcony of its own projecting over the terrace. At the back are a maid's bedroom, sewing room and bathrooms. The roof, 4, up to which the main staircase continues, is paved like the terraces and laid out as a roof garden. A service lift from the kitchen is also continued up on to the roof. 9, a general view from the south, showing the ranges of living-room and bedroom windows, and the open and covered terraces. The same features, together with the roof garden, are shown in the exterior axonometric, 10. Construction is of reinforced concrete throughout, except for the steel columns that support the balconies and terraces and the large canopy. The smooth external face was produced by using wall-board as shuttering and treating the surface afterwards with a mechanical rubber. It is finished with a concrete paint. The railings are painted a pale green and the back wall of the loggia grey. No rain-water pipes are visible on the outside of the building as they are all taken down internal ducts.

HOUSE IN FROGNAL



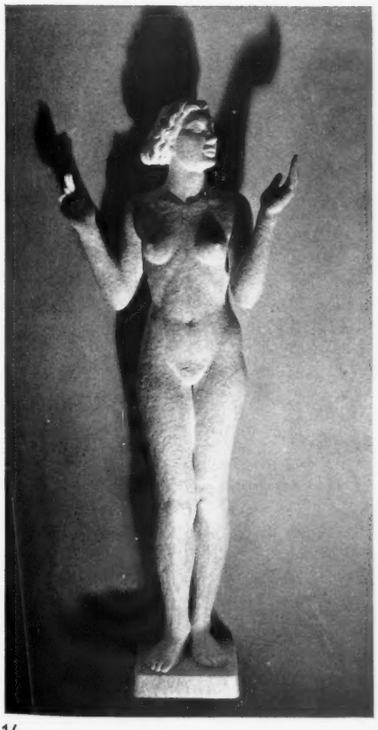
11

12

11, on the roof terrace. This terrace has been laid out on the principle that a flat roof is not of great use as a terrace unless some protection from wind is provided and some portion is under cover. The wind-screen, as shown in the photograph, is used also as a wall for climbing roses, and has windows pierced in it to take advantage of the view. At the far end are adjustable curtains, also provided as screens against the wind. The surface of the terrace is carefully drained so that it can be used a few minutes after rain. The main staircase, 12 and 15, starts, as explained by the plans, at garden level and leads direct from the front door to the entrance hall on the level above. In 15, the front door itself can be seen at the end of the corridor, and on the left the door giving direct entrance to the garage. On the wall above the staircase stands a sculptured figure, 14, by Henry Ellison. 13, the living-room, showing the range of large windows looking on to the terrace and the view over London beyond, and also the dining-room, separated from the living-room only by a low barrier of built-in furniture. At the far end is the door to the servery. The sliding windows, with minimum amount of metal, were designed in co-operation with the manufacturer, modifications being made when necessary after testing at full size.

W A Y , H A M P S T E A D

13



14

15

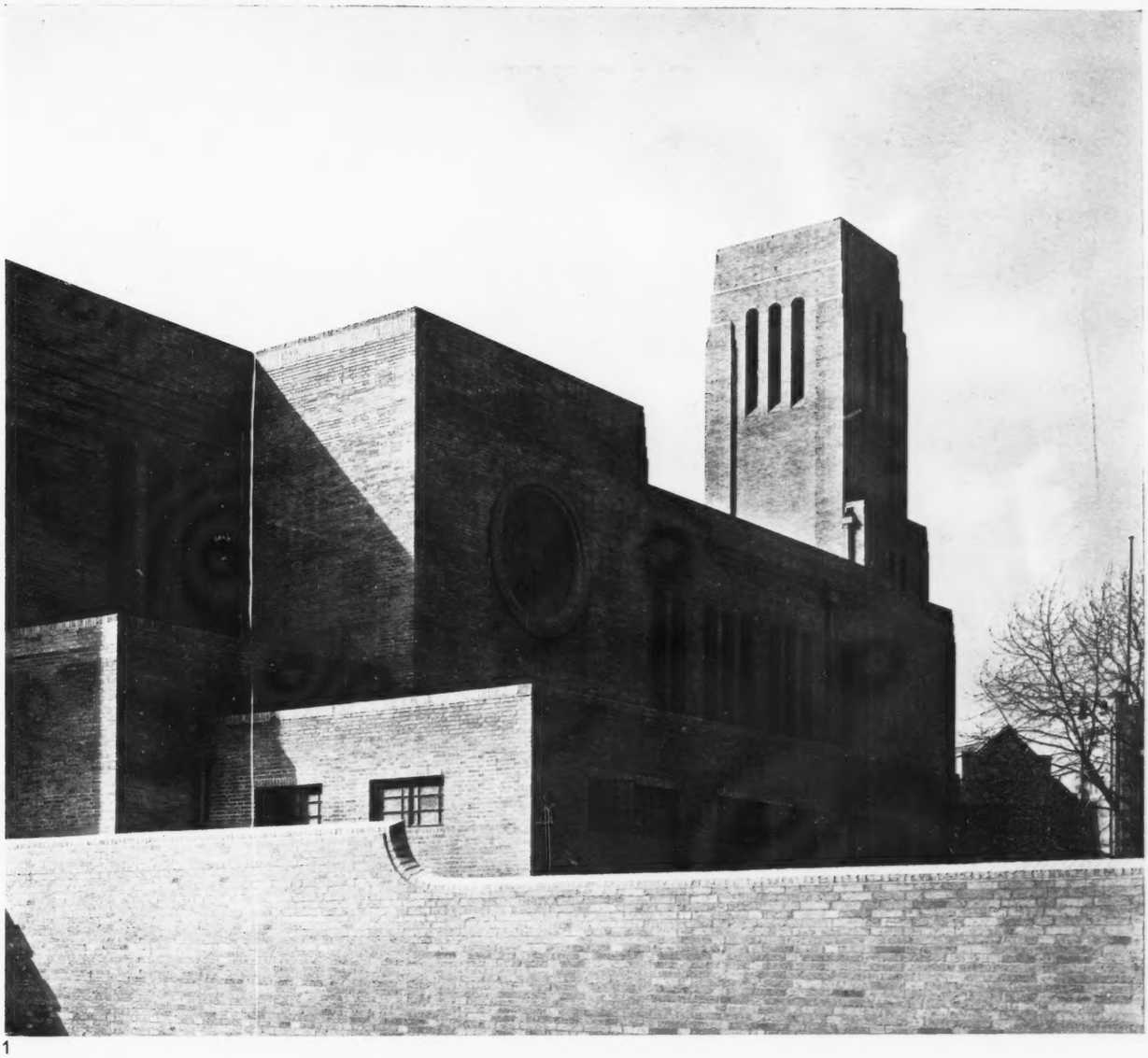
HOUSE IN HAMPSTEAD

16

17

18

16, another view of the living-room looking towards the fireplace, showing the mural paintings by Hans Feibusch on the end wall. 18, a detail of these two mural paintings and a third one by the same artist that occurs on the end wall of the dining-room. The colour scheme in the living-room and dining-room is cream and shades of brown, the floor being in dark brown polished parquet. There is a large amount of built-in furniture designed by the architect and worked out with care beforehand with the clients. Some of this furniture, and some of the movable furniture also designed by the architect, is seen in 16 and in 17, the latter being a view of one corner of the principal bedroom.



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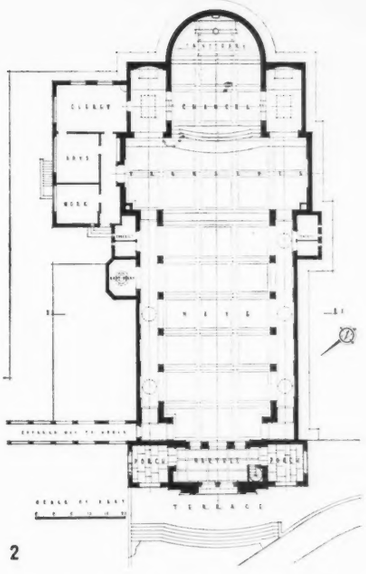
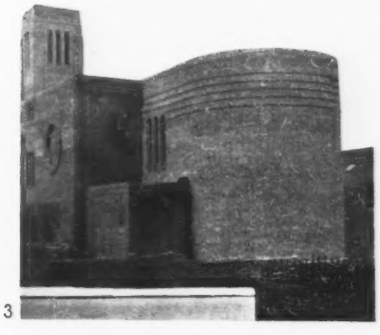


2

The site of this church is an open one, having on either side the schools and the presbytery. The main axis is south-east by north-west, giving the traditional orientation for the sanctuary. The plan, 2, is of a completely traditional type, and comprises nave with ambulatories, transepts, chancel with apsidal sanctuary, and two chapels, a western narthex with tribune over, and a campanile rising to a height of 73 ft. above the church floor. 1, the north side of the church, showing the campanile. 3, the curved east end. The construction is steel frame and solid brickwork, and the flat roof is of hollow fireclay blocks, finished with concrete and asphalte. The external walls are faced with Maltby metallic bricks, 2 ins. thick.

C. M. HADFIELD AND ROBERT CAWKWELL, ARCHITECTS



3

HILLSBOROUGH CHURCH, SHEFFIELD

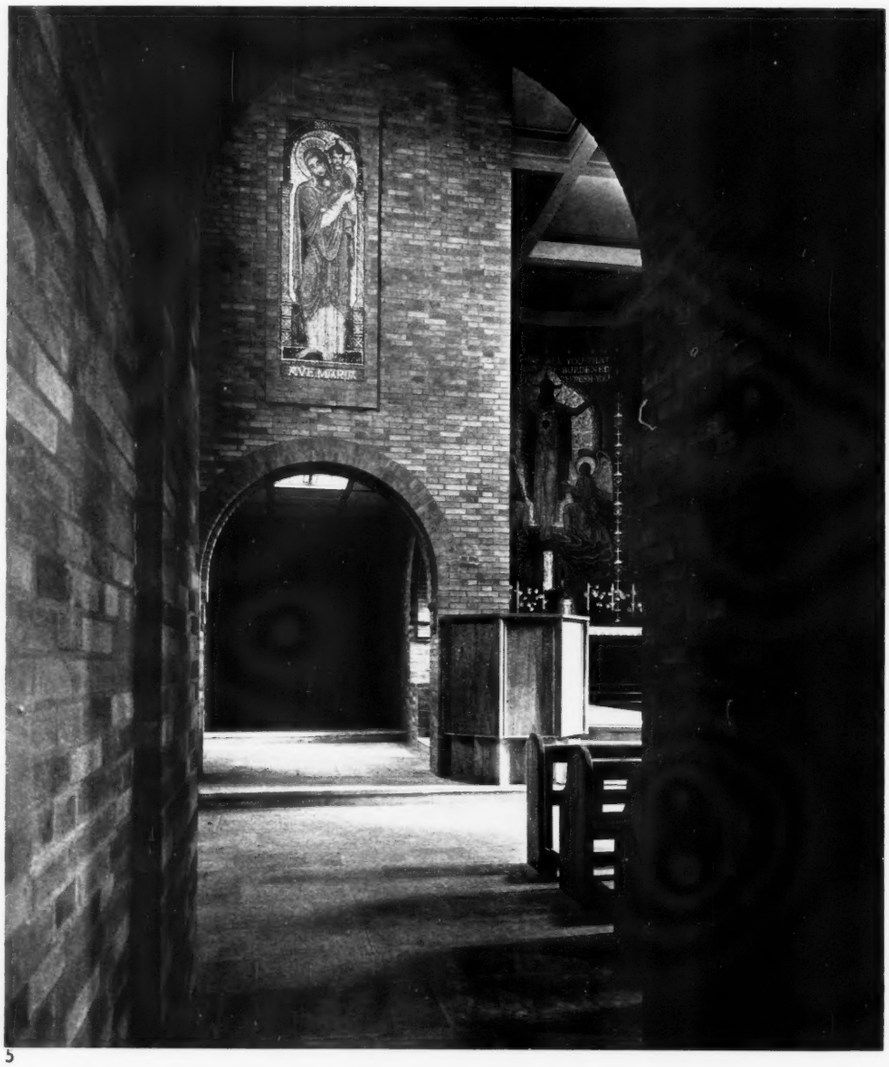
HILLSBOROUGH CHURCH, SHEFFIELD

COMMENTARY BY A LAYMAN

The architectural world of today presents a singular spectacle to the enquiring layman. He is made aware, by the architectural press, and the conversation of architects, that, after a period of exceptional uncertainty, there is today a considerable measure of agreement among the best minds of the profession upon a number of fundamental matters. It is conceded, for example, that the practical requirements of a building should determine its design; that ornament should bear an intimate relation both to purpose and construction is also generally accepted. But as the enquiring layman looks about him, at the buildings that are actually erected, he notices with some surprise that the average architect appears to be wholly oblivious of this imposing concensus of opinion among the best minds in the architectural world. On every side he sees practical requirements ignored, a perverse and unimaginative aping of the historic styles, and the ugly blooming of redundant ornament. He is compelled, sadly, to the conclusion that the buildings which embody the finer aspirations of the age are sufficiently uncommon still to merit attention when they do appear. Among the most notable of these upon which the present writer has lately chanced, is this church.

The church is a new one, but the plan is the traditional plan, answering the historic needs of Catholic worship. What makes the building notable is the exemplary manner in which traditional requirements have been met by modern methods of construction and equipment. Of the equation of these requirements and those methods, the design of the church is the immediate outcome. The main walls, roofing and tower are carried by a steel framework, and the walls are faced externally and internally with brick. The acoustic properties of the interior have been accurately determined. To obviate echo and ensure the requisite measure of absorption, the ceiling panels are coated with sprayed asbestos. The electric lighting is derived from concealed reflectors fixed behind the ceiling beams; no suspended or bracketed fittings are employed. The architects have relied for their austerely impressive effect upon the harmony of the design and of the various materials, not on ornament. This effect is nevertheless enhanced by two important decorative schemes, the rich and dignified mosaics in the apse, by Mr. Eric Newton—one of the outstanding contemporary achievements, surely, in this medium—and a sculptured tympanum and The Fourteen Stations of the Cross by Mr. Philip Lindsay Clark. Those responsible for the design, the decoration and the building of this admirable church have had in Canon Dunford, Rector of the Parish, a patron worthy of them.

JOHN ROTHENSTEIN,
Director, City Art Gallery, Sheffield.



5

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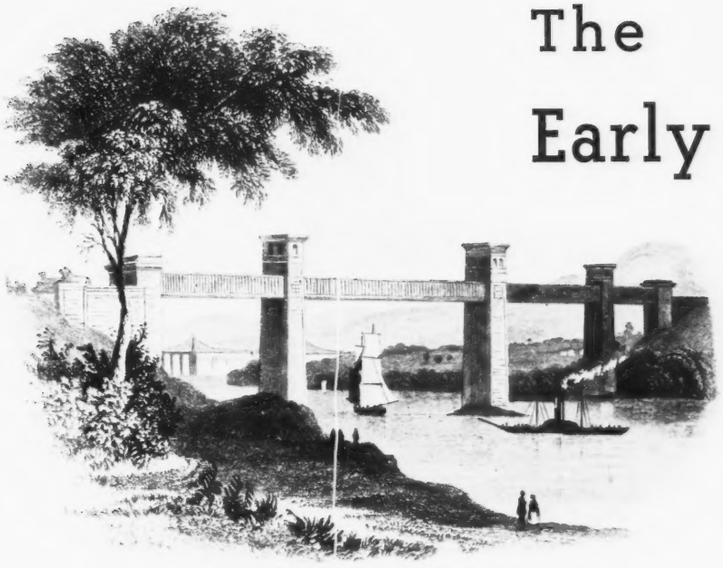
7

8

The interior, 4 and 5, is faced with special hand-made Lincolnshire bricks, graded in tone and pointed in lime mortar. The joinery is untreated Burma teak. 5 also shows some of the mosaic decoration by Eric Newton and 6, 7 and 8 three of the sculptured Stations of the Cross by Philip Lindsay Clark.



The Early Iron Bridges* of the British Isles

By C. B. Andrews

THE general public's outlook on bridges is still surprisingly narrow. The admiration of old stonework and brickwork has lasted for many generations, but far fewer turn their attention to the beauty of metal bridges, especially to those of a century or a century and a half ago, built in that period of rapid development, at once industrial and romantic, when iron was being used for the first time for bridges and large structural purposes. There is a joy in the early products of a fresh discovery which never comes again, and the building of metal bridges was, in its way, as much of an adventure as the substitution of metal for wood in the building of ships; Brunel astonished the world not only by the *Great Eastern*, where he discarded all the old traditions of wooden shipbuilding, but also, on the Great Western Railway, by some of the finest metal bridges that have ever been built.

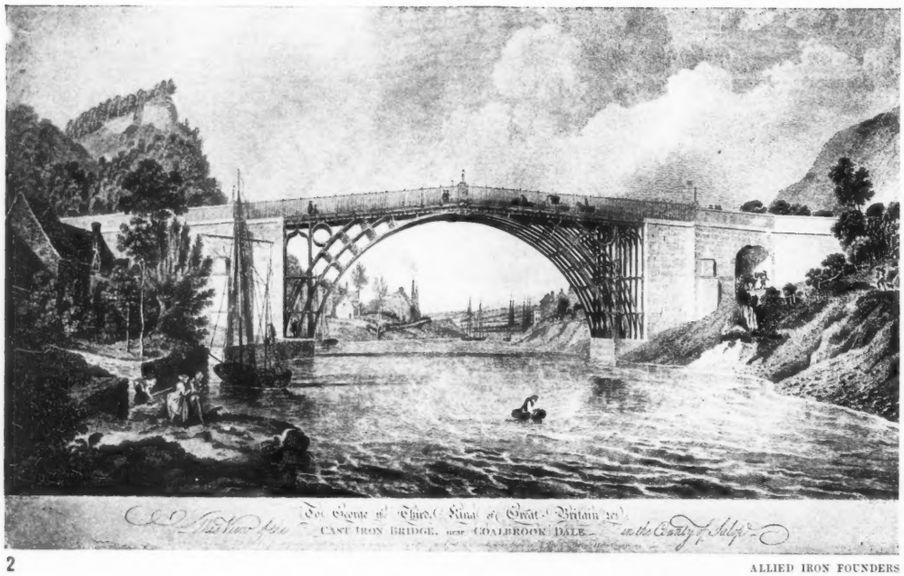
Iron had been suggested for bridges many centuries before; Leonardo da Vinci in his treatises had explored its possibilities; but till late in the eighteenth century such suggestions were regarded as historical curiosities rather than practical projects. The excitement of the discovery of iron for larger uses was as fresh and thrilling as if it had been thought of for the first time.

What was popularly known as "the first Iron Bridge in the world," which is still in existence, was built in 1777–9 by the Coalbrookdale Company, at a town in Shropshire from thence onwards known as Ironbridge. People travelled miles to see it, and, although it is now confined to pedestrian traffic, we can still admire the workmanlike semi-circle of cast iron which, when reflected in the river beneath, forms a complete circle of unusual perfection, 2 and 3. Prints of it, dedicated to George III, had preceded its appearance, showing it in the full picturesqueness of its rural surroundings. In these prints, 2, as well as in the contemporary plans, there were stone, instead of metal, arches on the banks under one of which the tow path passed; but in both the early prints and in actual fact the soft beauty of nature made an admirable background to the stiff, but almost equally slender, curves of man's wonderful new handiwork.

Its proportions were certainly not large compared with present-day standards, nor even compared with what was soon to follow. "The road over the Bridge, made of clay and ironsag, was 24 ft. wide, the space of the arch 100 ft. 6 ins., and the height from the base line to the centre 40 ft. The weight of iron in the whole was 378 tons 10 cwt., each piece of the long ribs weighing 5 tons 15 cwt. The whole was cast in open sand and a large scaffold being previously erected, each part of the rib was elevated to a proper height by stone ropes and chains, and then lowered until the ends met in the centre. All the principal parts were erected in three months without any accident either to the work or to the workmen, or the least obstruction to the navigation of the River."

It is perhaps strange that the first iron bridges were not composed of a plain girder instead of an arch, for man's first bridge was probably a stone or wooden plank rather than an arch, but apart from the arch form being the general form of the stone bridges of the period, it was at once realized that cast iron resists compression stresses particularly well, but tension stresses to a lesser degree, and that an arch form was, therefore, particularly suitable. It was not until the advent of railways, many years later, that the cast iron girder became popular, partly because it could be submitted more easily to preliminary tests, but also because of the cheapness of casting a great number of girders from the same mould.

*In this article some of the outstanding pioneer engineering structures of the late eighteenth and early nineteenth centuries are dealt with—for it was in bridge construction that Telford, Brunel, Rennie and their less famous associates made many of their epoch-making experiments. It will be noticed, however, that suspension bridges have been excluded. These, forming a more circumscribed category, and occurring as they do only during a relatively small proportion of the historical period covered, will later be dealt with by Mr. Andrews independently, so as to form a more specialized pendant to the present article.



2 ALLIED IRON FOUNDERS

If we except the ill-fated bridge which was made by Payne at Rotherham in 1789, and which, after journeying to London and back, finally in 1796 formed part of the bridge at Sunderland built from a new patent by Burdon, "the second iron bridge in the world" was built by Telford in 1796, not far off at Buildewas, over the Severn, and was not replaced till 1905. After a gap of nearly twenty years cast iron soon became quite popular in bridge construction and its pioneers were able to profit to some extent by each other's experience. Iron bridges were recognized as having a beauty of their own; utility was not considered the same as ugliness, and localities vied with each other in this novel use of iron.

In 1801 Telford made his beautiful but, alas, never executed, design for a London Bridge, 4, and there were some failures such as his unlucky bridge at Dornoch Firth in 1811–12. Successes, however, were far more frequent and many still exist. Craigellachie, 5, one of the most picturesque, with its battlemented towers and delicate ironwork which rivals the beauty of Telford's masonry arches, was completed in 1813 in five months and still blends most delightfully with its rural surroundings. Yet sometimes Telford was not so happy in his designs. There was his Tewkesbury Bridge of 1823–26, with its tall narrow Gothic arches in masonry at the side, which, as he says, give the whole a light appearance corresponding with the iron and which certainly are useful for the ready passage of water in flood time, but which would strike many today as having merely the grotesque charm of conflicting styles muddled together, only amusing in the same way as the Regency medley at the Royal Pavilion at Brighton.

Before long Rennie, too, was to bring to perfection what he at first only hinted at. The first bridge of his design, 6, was erected at Boston in Lincolnshire as early as 1807. It was built of cast iron although a small amount of wrought iron was used (about three tons) for almost the first time in bridge building. The span was 86 ft. 6 ins. with a fine low arch easy for road traffic, and the total breadth was 39 ft. On the east side of the bridge stood a watch tower in classic style with Doric columns. Though the bridge was taken down some twenty-five years ago, the abutments of stone still remain in use, carrying the present steel super-structure which was erected in 1912.

In 1811 Rennie designed, but withdrew, a plan for the building of Vauxhill Bridge, soon to be the first iron bridge across the Thames. It was afterwards completed in

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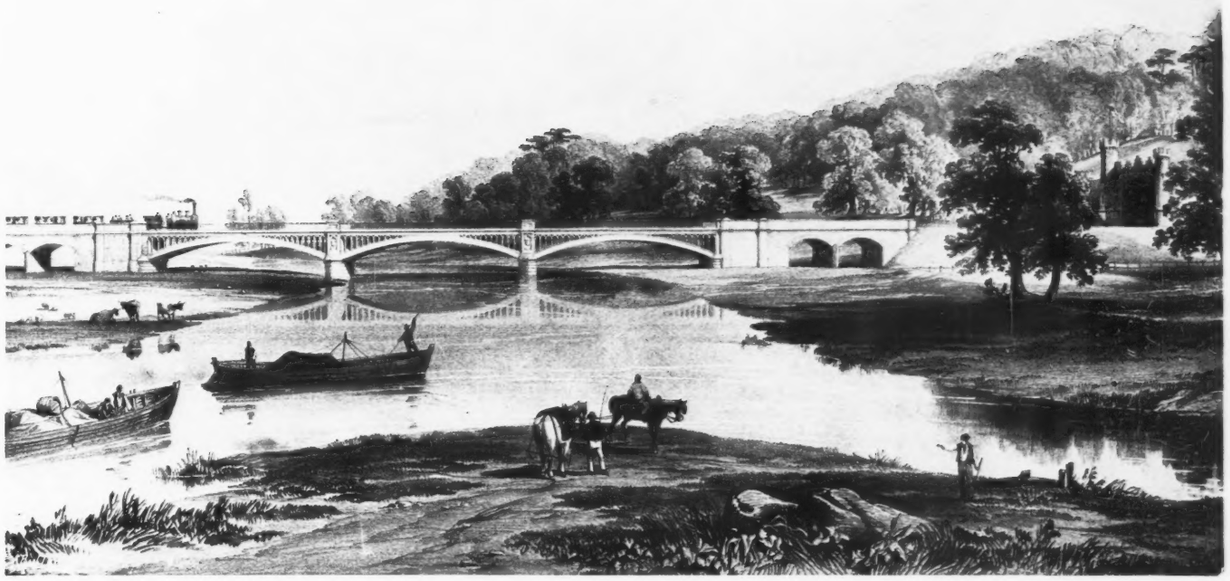
2 and 3, the first iron bridge ever constructed, built at Coalbrookdale in Shropshire (the place has since been known as Ironbridge) in 1777–9, and still in existence; 2, as it was designed; 3, as it was actually built. The headpiece to this article, 1 on the previous page, represents Stephenson's Britannia Tubular Bridge over the Menai Straits, built in 1850.



The original railway bridge constructed in 1839 over the River Trent, to carry the Sawley Junction to Leicester line which was completed about 1840; from a contemporary engraving. The portion of the bridge spanning the river consists of three cast-iron arches, each 100 ft. long, supported on stone piers. On the right-hand side the entrance to the Redhill Tunnel is visible. The bridge was in existence until 1902, when it was replaced by the present one with steel lattice spans.

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4, Telford's design for a single-span London Bridge, made in 1801 but never executed. 5, Craigellachie Bridge, also by Telford, completed in 1813. 6, Rennie's first iron bridge: at Boston, Lincolnshire, 1807.

1816, 8, not without skill or beauty, by James Walker, Rennie's competitor from the start. Three years later, in 1819, Rennie designed and completed Southwark Bridge, 7, reaching the highest development, probably never since surpassed, in this particular branch of engineering. Vauxhall Bridge and Southwark Bridge, the latter as beautiful in its way as Waterloo Bridge, are both gone, but we still have in London a pleasant example of fairly early ironwork in Sir Joseph Bazelgette's Battersea Bridge, which was opened in 1890, and several delightful country bridges within reach, such as that built at Windsor in 1822, 9, the corner stone of which was laid by the then Duke of York according to Masonic Rights. Many of these later bridges were charming combinations of masonry and ironwork, and sometimes from quite accidental circumstances form a beautiful whole; such a one is the Valley Bridge at Scarborough, 10, built in 1865 from the framework of a bridge which collapsed at York three years before.

Many of the earlier railway bridges followed quite closely what we may term the Rennie tradition. One of the most attractive, Plate ii, was built by Messrs. Butterley over the Trent, and was only replaced by a more modern structure in 1902, when the requirements of the Midland Railway necessitated it.

But the greatest excitement in railway bridges came in the middle of the century with the construction of the Conway Tubular Bridge, 11, and the Britannia Bridge over the Menai Straits, 1. The construction of one great solid tube, through which the trains run, was a wonderful, if somewhat expensive feat; Stephenson on March 18th, 1848, passed through one of the tubes of the Conway Tubular Bridge on the first locomotive that went through, and on the 2nd January, 1849 the tube parallel to it for trains going in the opposite direction was completed. The Menai Britannia Bridge, the foundation of which was laid in 1846, was completed in 1850 with two parallel tubes similar to those of the Conway Bridge, and on March 5th of that year Stephenson put the last rivet in the last tube and passed through another completed bridge, with 1,000 people drawn by three locomotives. These two great tubular bridges, unique of their kind, have proved a lasting tribute to Robert Stephenson's engineering skill; and, in spite of the vastly increased railway traffic, they are still in use.

But a solid wrought iron girder through which the trains actually passed proved a very costly method and soon after, with labour cheap, it became more practicable for the trains to pass through what we may call a cage instead of a solid tube. The Windsor, Chepstow and Saltash Railway Bridges are the outstanding examples of Brunel's great skill and foresight and are not only still used for the enormously increased traffic, but copied almost exactly in the modern bridges that the Great Western Railway builds today. The Windsor Railway Bridge was built first and the Saltash Bridge (a lenticular truss) third, but of the three the great girder bridge at Chepstow, 13, is perhaps the greatest achievement. It is interesting to quote the words of the resident Railway

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7, Southwark Bridge, Rennie's iron masterpiece, built in 1819. *8, Vauxhall Bridge, the first iron bridge across the Thames, built by James Walker in* 1816. *9, The early iron bridge at Windsor,* 1822. *10, The Valley Bridge, Scarborough,* 1865. *11, Robert Stephenson's Conway Tubular Bridge; the first tube was completed in* 1848, *when the first train passed through carrying Stephenson himself, and the second tube in* 1849.

Engineer in South Wales written on March 1st, 1856, nearly four years after the opening of Chepstow Bridge on July 24th, 1852: "Beyond completing the painting of the ironwork I find by reference to my books that not a sixpence has been expended since the opening, and no alteration or adjustment of the screws for increasing the tension has been required, nor have the supporting cylinders and piers shown the slightest settlement. The tubes expand and contract according to temperature and from observations taken the greatest difference appears to be three-quarters of an inch due to 57 degrees of heat."

"The peculiarity of the site," he continues, "did not permit of any display of 'Art'—that is of architectural embellishment; indeed a pure taste rejects any attempt to decorate a large mechanical work with sham columns, pilasters and small ornamental details. London Bridge is admitted to be the finest of the Thames bridges and this arises in a great degree from its severe simplicity, and the absence of all 'shams' about it. To a cultivated eye it has beauties derived from size, perfect adaptation to the required purpose, and from the ease with which its details can be examined, watched and, if necessary, repaired."

Such were the æsthetic views of an engineer in 1856, and they might have been written today when the architect no longer wastes his time in adding aesthetics to the simplicity of an engineer's designs, but rather adapts himself to it.

In the middle of the nineteenth century were built a large number of fine examples of the simple beauty of engineering skill. The first wrought-iron girder road bridge had a span of only 31½ ft. and was built near Glasgow in 1841, but amongst the more important bridges one of the finest is Robert Stephenson's High Level Bridge at Newcastle, 12, which, still bearing

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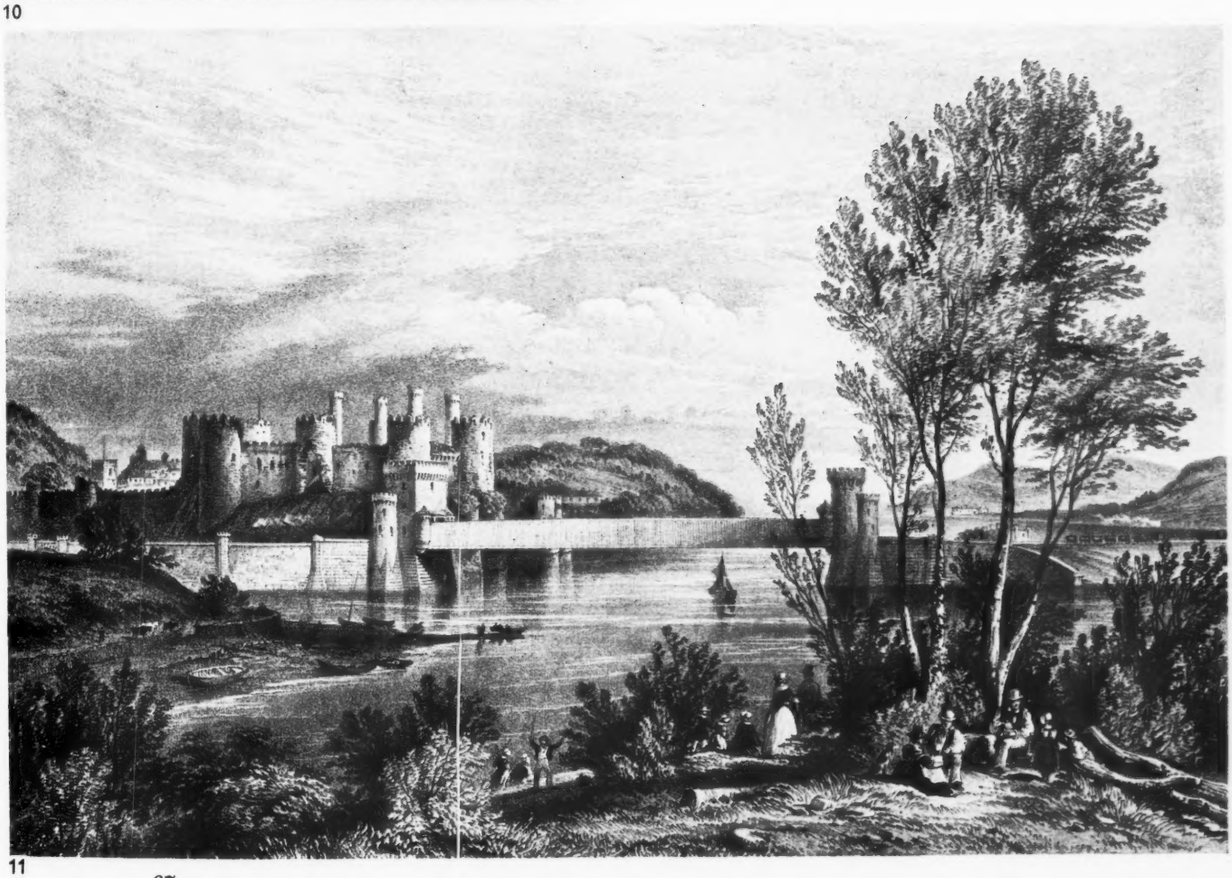
all the great strain of modern traffic, stands as a lasting monument to his technical skill and quiet dignity in carrying it into execution. It was the first large girder bridge of iron, the girders being formed of cast-iron ribs with concealed wrought-iron tension chords, and the combination of the two gives the happiest results. Rennie considered his bridge at Staines the best designed and best executed of his bridges, but there are many out-of-the-way unobtrusive iron bridges all over the country whose practical simplicity has each a beauty of its own, the Cookham bridge of two continuous wrought-iron girders built at a total cost of £2,520, or the simple little lattice girder bridge built above Medley Weir on the Upper Thames, or perhaps most of all the great variety of suspension bridges built all over the British Isles during the last hundred years, all of which will be dealt with separately in another article.

In the other direction, as an example of ornamentation in the worst sense, we had until it was recently replaced by a bridge by Lutyens, the old iron bridge at Hampton Court, whose obituaries were given in the *Observer* in September 1929 with due emphasis on its ugliness. It had brick and cast-iron columns, the girders were really of a continuous lattice, but the lower



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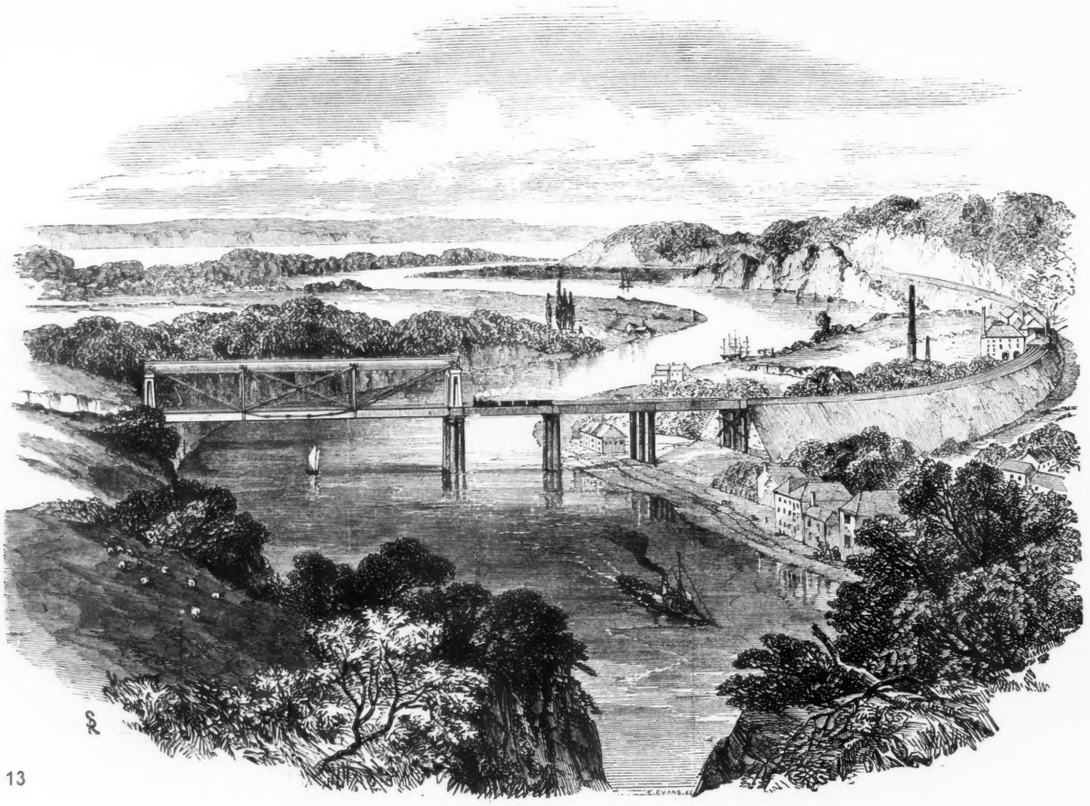
12, *Stephenson's High Level Bridge at Newcastle, built in* 1849 *and still in use.* 13, *I. K. Brunel's Chepstow Bridge,* 1852, *carrying the South Wales Railway over the River Wye.*

member in each span was curved "so as to offer the pretence of an iron arch springing from the columns." It seems unkind to dwell further on a bridge that is no more, except to say that age might have given a charm even to "pretence" and that ugliness as well as beauty is in the mind of the beholder.

The future of metal bridges rests today on their almost unlimited size. We must bear in mind that steel, when it came, brought with it no new principle of construction but a much greater tenacity, and a return to the plate girder bridge would be in accord with our modern simple taste in design and might lessen labour costs. In the arch form it is dangerous to carry simplicity too far: large full spandrels are much heavier in fact than they appear in drawings and open spandrels give a much more pleasing effect. In the matter of abutments metal bridges no doubt save much expense, for masonry or concrete bridges usually require much heavier supports. Metal bridges, moreover, have stood the test of time remarkably well; the life of the modern metal bridge is practically unlimited provided the uses for which it was built remain the same, and often where they far exceed them. But lasting qualities and past achievements are not everything, and it is quite possible that changing conditions may alter our whole outlook. Even in respect to the environment in which he places his bridge, the task of the modern bridge builder is very perplexing. Today his bridge may be an approach to an old village, tomorrow the old village may have ceased to exist. He may design his bridge as part of a rural landscape and almost before it is completed it may be in the centre of streets of houses on both banks of the river. But though it is difficult to design a thing of beauty without regard to its surroundings, the fact of the survival of so much of the aesthetic virtue in the early iron bridges, in spite of drastic change in their surroundings, may to a certain degree restore the shaken confidence that modern uncertainties engender.

In arranging what to include, and still more what to leave out, in this article, and for help with the one that is to follow on the Suspension Bridges, my most grateful acknowledgments are due amongst others to the hundred and twenty-nine Clerks and Surveyors to the County Councils of England, Ireland, Scotland and Wales, to many of the Borough Surveyors, to the Ministry of Transport in London and at Cardiff, the Office of Works, the Society of Antiquaries, the British Steel Work Association, the Iron and Steel Institute, the Record Agents in London, the British Museum, the Institute of Civil Engineers, the Chief Engineers' Department of the Great Western Railway, Messrs. Butterley, Mrs. David Rowell, the Coalbrookdale Co. and last, but not least, to Mr. McMasters, the expert on old prints.



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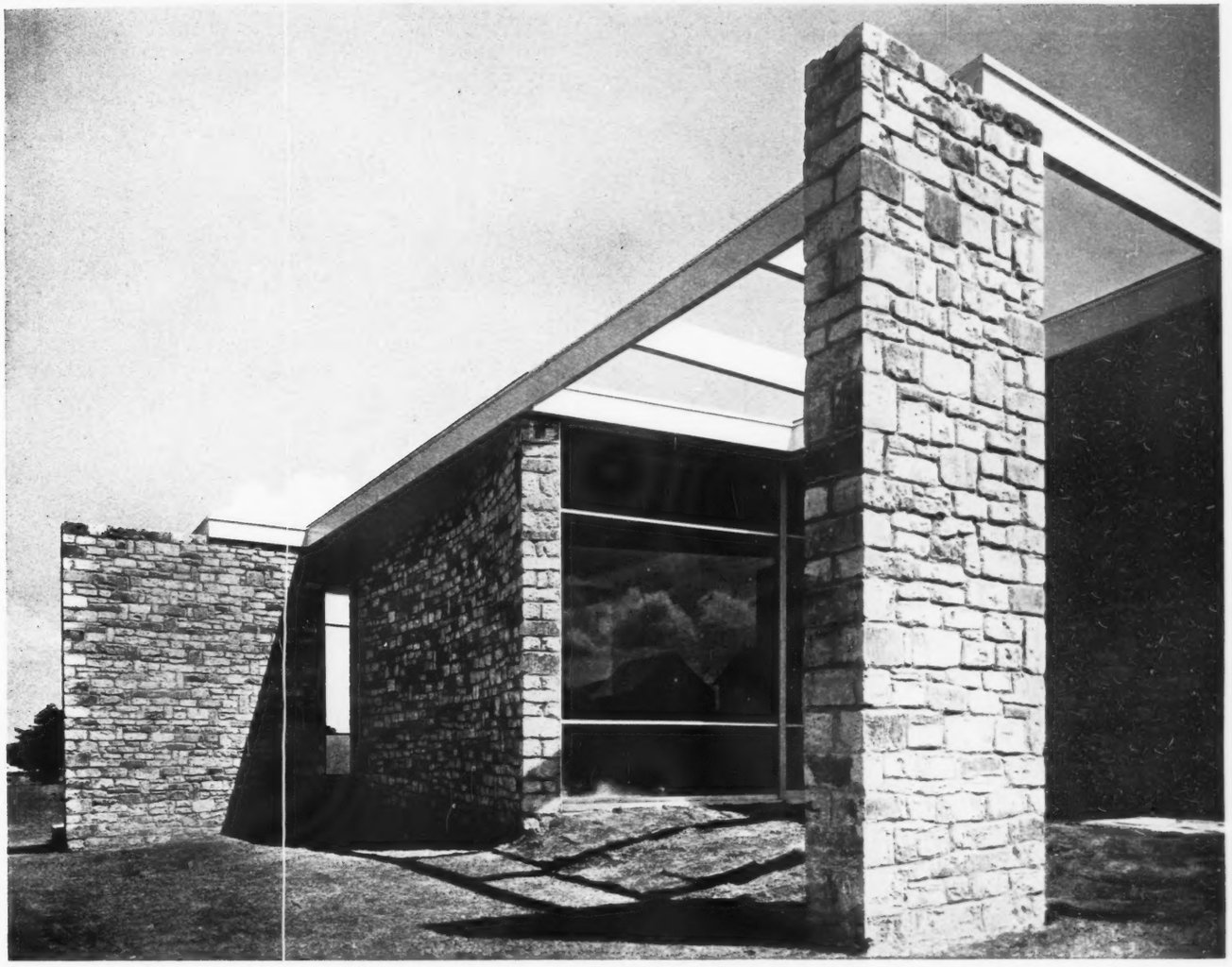
EXHIBITION HOUSE AT BRISTOL



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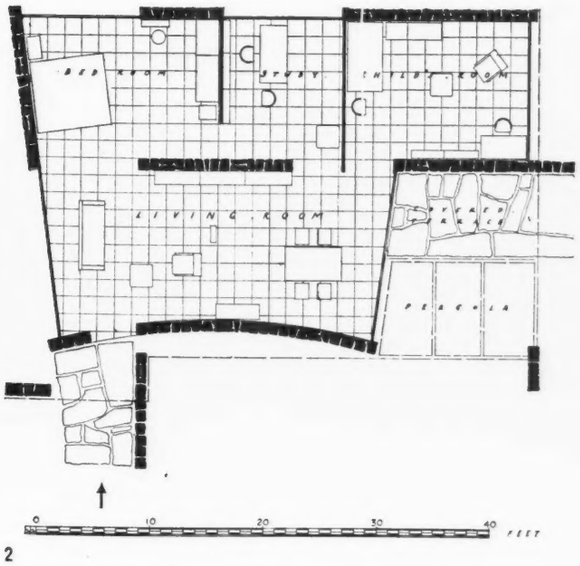
MARCEL BREUER AND
F. R. S. YORKE, ARCHITECTS



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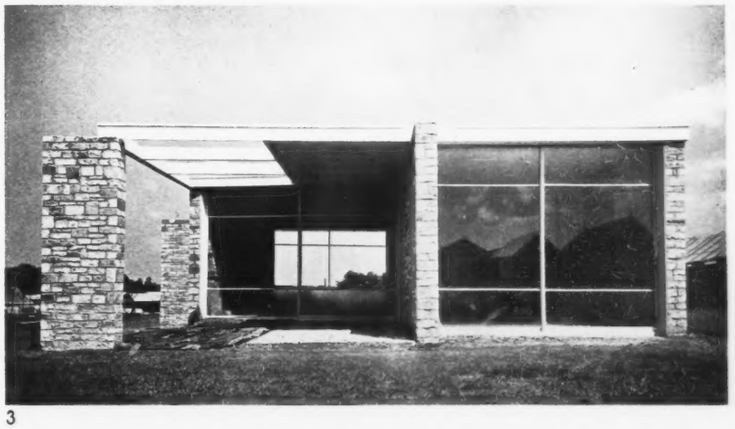

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This structure, a pavilion for the display of a West-of-England furniture manufacturer's products, was erected at the Royal Agricultural Show, held at Bristol last month. Its especial interest as a piece of modern architecture lies in the use of traditional materials, the local stone laid in the traditional squared-rubble fashion for the piers and external walls and wood for the roof structure; the whole being none the less modern both in its free utilization of space and in formal affinity. 1, the exterior, showing on the left the free-standing projecting wall, designed to form a wind-screen in the garden. 2, the plan, simply laid out as a sequence of exhibition rooms. 3, another exterior, looking into the pergola.

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The building consists in effect of an arrangement of walls of three materials, each constructed according to its own material's character : solid stone for the exterior, glass for the large windows and screens, and wood for the internal partitions. In some of the glazed walls half the wall slides aside to throw open the room to the terrace or garden. 4, an exterior, showing the large glazed end-wall of the living-room. 5, an interior, taken from the bedroom, looking across the living-room towards the slightly curved wall shown externally in 4. 6, another view of the living-room, showing the sliding window open to the pergola ; also the partition walls lined with natural birch and the birch plywood floor.

6

EXHIBITION HOUSE AT BRISTOL

CURRENT ARCHI-TECTURE I

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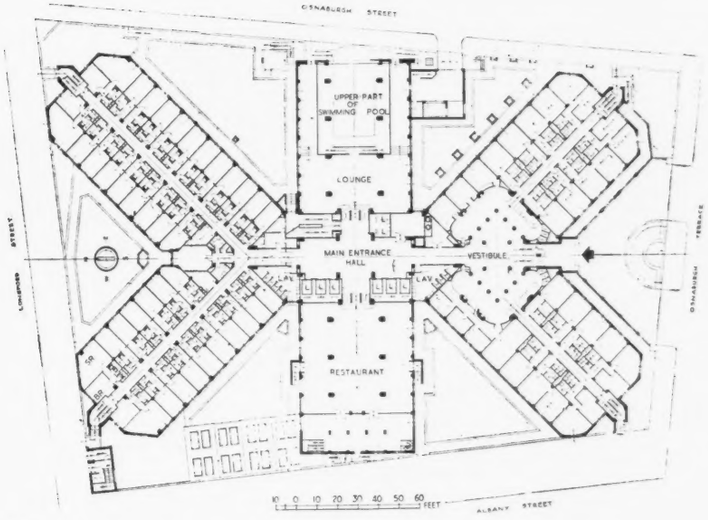

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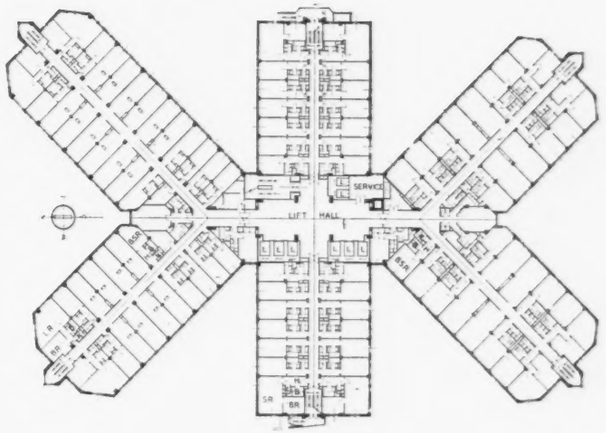

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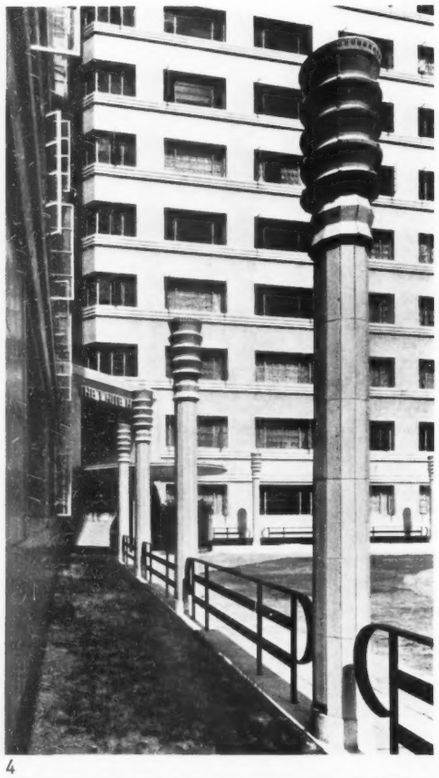
This large block of flats, 1, known as "The White House," at the bottom of Albany Street, near the south-east corner of Regent's Park (Robert Atkinson, architect) is a response to the contemporary demand for small, but compactly planned and well-equipped, flats for bachelors and married couples. Of the 758 flats in the building 626 are one-room flats and the rest two-room, each, of course, with kitchen and bathroom. They also show the contemporary tendency to provide club-like communal facilities for social life and exercise. The tenants have the use of a swimming pool on the ground floor, squash courts in the basement and a restaurant and large public lounges. The unusual planning of the swimming bath actually in conjunction with the public lounge is shown in the ground-floor plan, 2, and in the photograph, 5, overleaf. 3, a typical upper-floor plan. The plans and the general view, 1, show the star-shaped lay-out, which avoids internal courts and gives the maximum street frontage. At the same time the angle the wings bear to each other gives less overlooking



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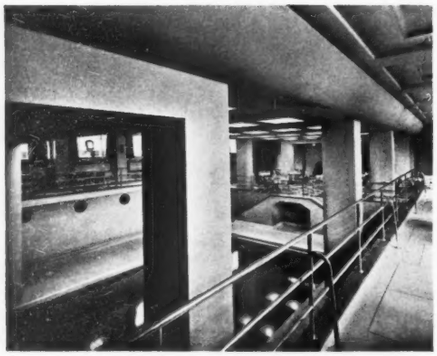

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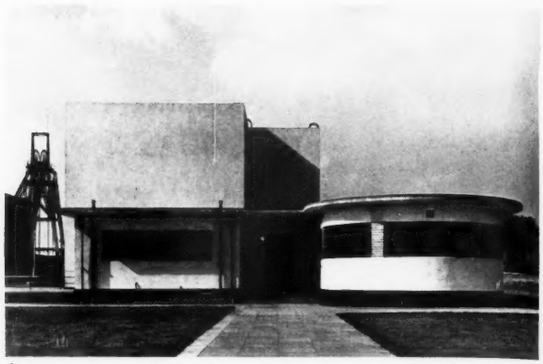

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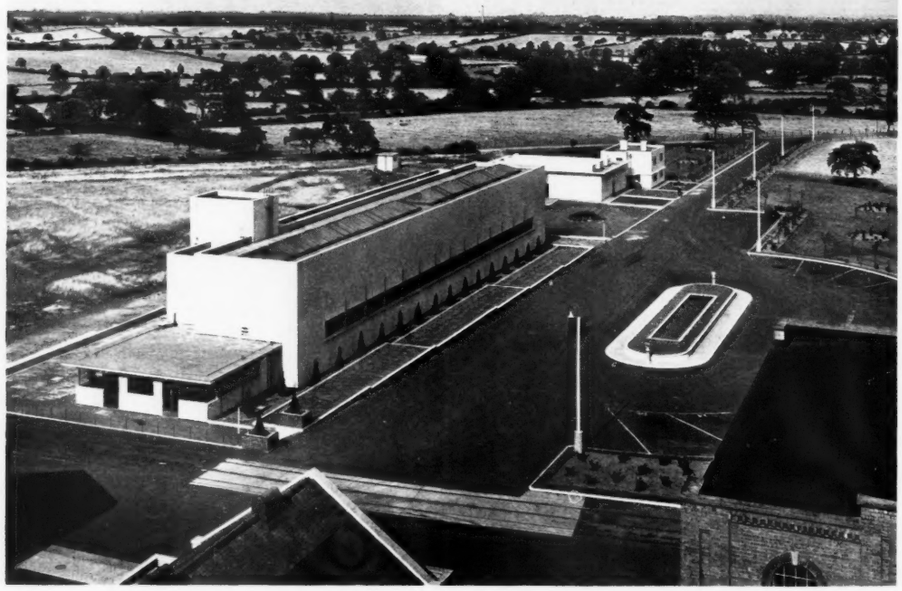

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of one flat by others than is given by parallel wings facing each other across any but a very wide court. Internally the kitchens and bathrooms are placed in all cases as a sound buffer between living-rooms and corridor, and are artificially ventilated. The building is constructed of a reinforced concrete frame with concrete floors and panel walls of 9-in. cellular brickwork. The external facing is faience slabs, 18 ins. by 12 ins. by 1⅛ in. thick. These slabs are fixed to the brickwork with a ⅜-in. screed of sand and cement ; also by copper cramps every three blocks in height. It was intended to fix the faience slabs with continuous vertical and horizontal joints, which would have indicated their non-structural character, but at the request of the Crown Surveyor they were bonded like stonework. The building is warmed by a low pressure hot-water system utilizing radiators, radiant panels or warmed air according to the needs of the different rooms ; the swimming bath is warmed directly by means of a calorifier working in conjunction with the main boiler plant. 4, an exterior detail looking towards the main entrance, showing the lamp standards. 5, the swimming bath, with lounge adjacent, on the ground floor. The total cost of the building was approximately £300,000.

The pithead baths and canteen at the Coventry Colliery, Kersley, Warwickshire, 6 and 7, is another of the series of similar buildings that have been erected within recent years in mining districts throughout the country under the auspices of the Miners' Welfare Committee. Under the direction of the chief architect to the Committee, J. H. Forshaw, these buildings, designed individually by various of his

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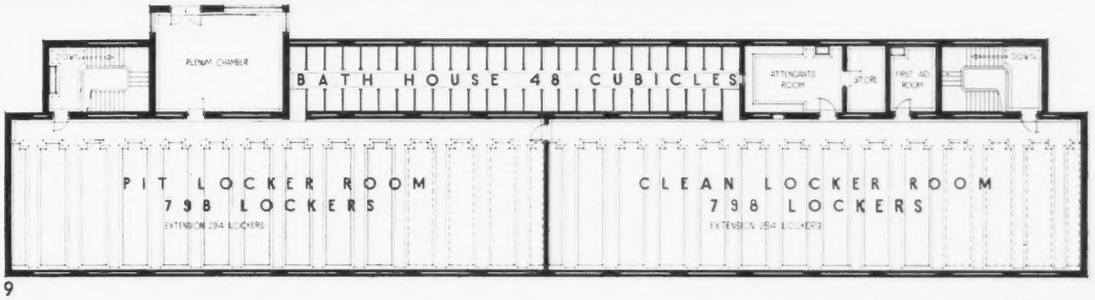

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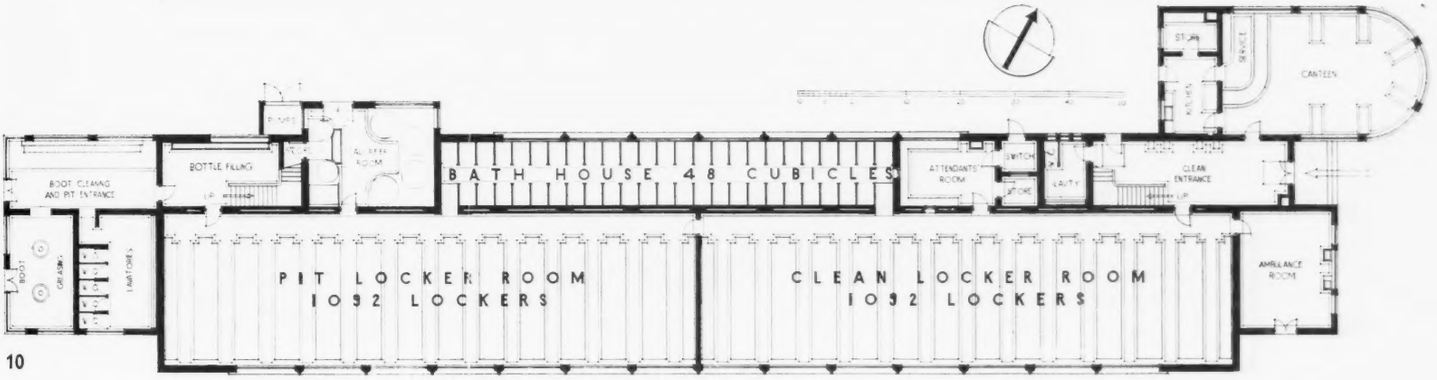

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associates, have attained a remarkable standard both in design and in the service they provide, making a real contribution to modern architecture in this country. The Coventry one, though perhaps not quite so genuinely modern in spirit or quite so free from the stylistic mannerisms of modernism as the very best examples—notably those at Betteshanger, Hatfield Main and Marine Collieries—is nevertheless well up to the average standard. An excellent feature, which can be seen in the air view, 7, is the spacious and orderly lay-out of the site, in contrast to the disorder generally found in pit-head localities. This layout includes a 'bus park and service roads, and extensive planting. The plans, 9 and 10, also show neat, serviceable layout. There is accommodation for 1,890 men. The construction is a reinforced concrete frame with 14-in. and 11-in. cavity brick in-filling between beams and columns. The exterior has an ivory white cement rendered finish with black cement plinth and brick mullions to the windows. The flat roofs are of concrete finished with asphalte. The internal finishes are mostly tiles up to dado height with plaster and paint or distemper above. The tiles are black for the pit entrance, grey for the "clean" entrance and staircase, white for the bath-house, ambulance-room and first-aid room and putty-colour for the canteen. 6, the "clean" entrance, showing also the semi-circular end window of the canteen. 8, the interior of the canteen, with coloured concrete paving and glossy painted ceiling. The total cost was just over £17,000. The architect was W. A. Woodland, working in conjunction with the Miners' Welfare Committee's architects.

CURRENT ARCHI-TECTURE 3

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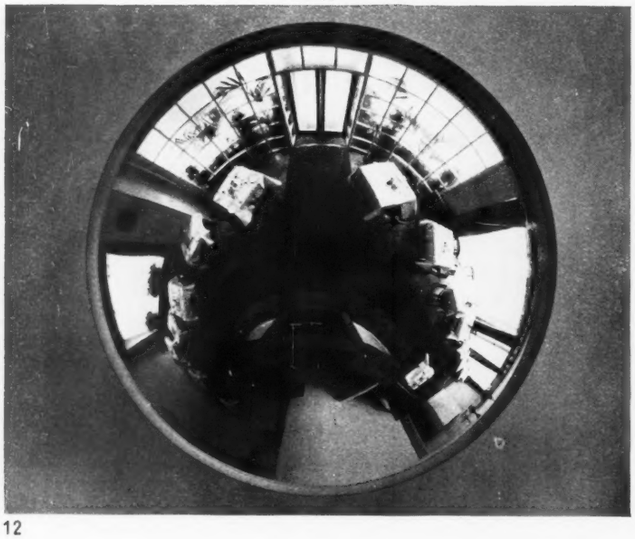

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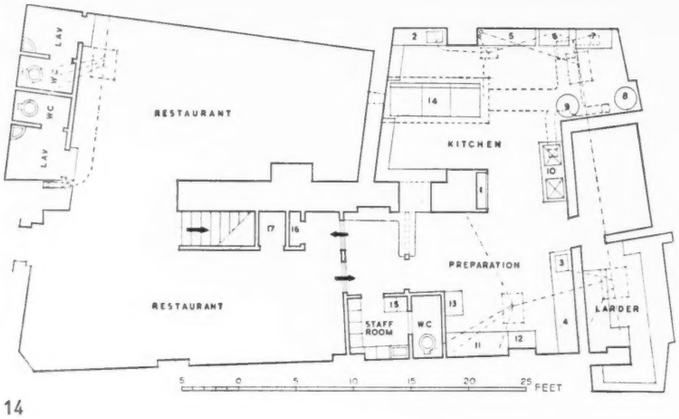

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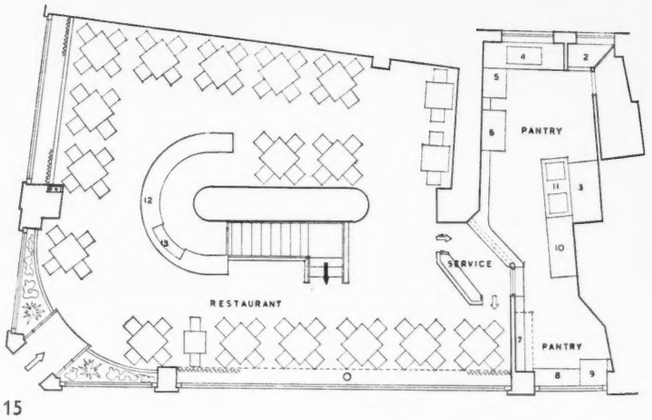

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The problem set here was that of enlarging a very small existing restaurant (the " Vega Restaurant," near one corner of Leicester Square) by taking in the next-door shop and basement, together with a small store belonging to a different building. Unity and a sense of space have been given to the new interior on the ground floor by reducing the party wall as near as possible to a single column, and by forming a continuous false ceiling right through, so that no beams show ; the new interior is both simple and serviceable in shape and particularly elegant in colour. The stair has been reversed in order to lead as near as possible into the middle of the basement restaurant, and the entrance lobby has been entirely reconstructed to form a double window for plants and at the same time link together the windows in the old and new restaurants. Ventilation is effected by means of wooden louvres fixed between the false ceiling and the transom level of the existing windows, which were not altered in any way. Colour has been used, as well as for its decorative value, to emphasize points of construction. The walls are painted a light rose cream ; the ceiling, the trellis, and the framing and sides to the service screen and counter white ; the plywood faces to the service screen and counter light blue ; doors and balustrade to stair and ventilating louvres deep brown red ; and soffit to windows light blue with white return under louvres. The counter top, cash-desk framing, entrance doors and

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wood-block floors are of oak. The kitchen has been entirely reconstructed and equipped, and gives easy circulation for the preparation of both hot and cold meals. The cooking and water heating is by gas; a ventilating plant extracts air from the basement restaurant above the cooker and at the same time draws air from a clerestory window in the preparation room. All the ventilating ducts in the kitchen are contained in the false ceiling. 11, a corner of the ground floor restaurant. 13, the ground floor restaurant, looking towards the corner entrance flanked by flower-windows and with the shop-counter on the left. 16 and 17, two further views on the ground floor by daylight and artificial light respectively. 12, an eccentric view-point : the whole ground-floor seen reflected in the polished centre of one of the ceiling light pendants. 14 and 15, basement and ground floor plans. The key to the numbers on the plans is as follows : basement—1, cupboard ; 2, sink and draining board; 3, sink ; 4 & 5, tables ; 6, mixer ; 7, small cooker ; 8, hot-water heater ; 9, soup boiler; 10, lifts; 11, dish-washing machine; 12, draining-board; 13, table; 14, cooker; 15, lockers; 16 & 17, cupboards. Ground floor—1, 2 & 3, cupboards; 4, sink and draining board ; 5, table ; 6, coffee machine ; 7, hors d'oeuvres rack ; 8, table ; 9, refrigerator ; 10, hot-plate ; 11, lifts ; 12, counter ; 13, cash-desk. The total cost was £2,250. The job was completed without interruption to the restaurant service. The architects were Samuel and Harding.

CURRENT ARCHITECTURE

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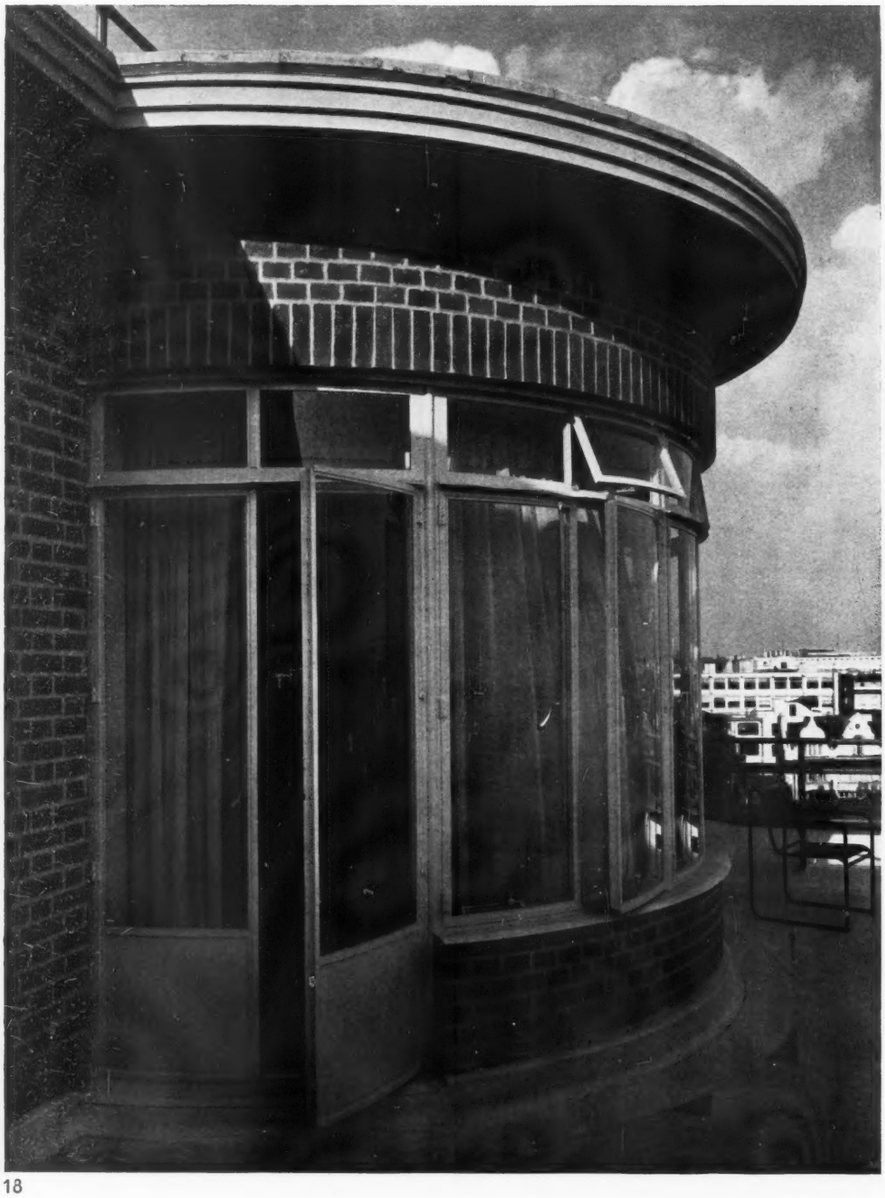

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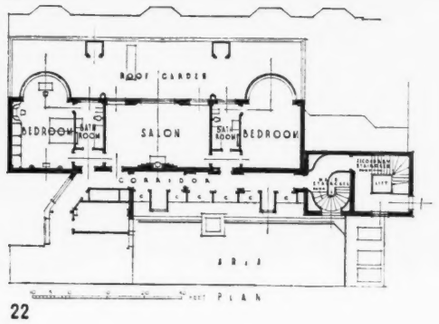

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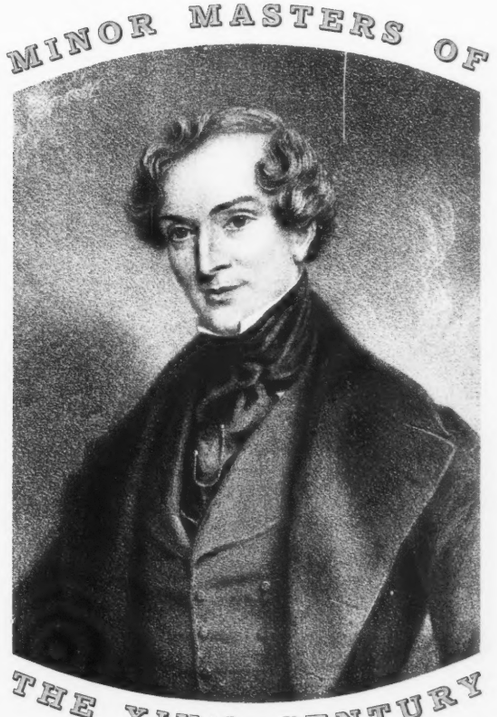
This suite, which consists of a central salon and two bedrooms, each bedroom with its own bathroom, has been built on the top floor of Claridge's Hotel with its own roof garden, to form a self-contained suite, somewhat after the American "pent-house" fashion. The main approach is up an elliptical staircase from the sixth floor of the hotel, which is served by a lift, and the service approach is also served directly by its own lift, as can be seen in the plan, 22. The rooms themselves face south. They are high enough to possess an exceptional view over London ; and each room has folding doors opening on to the roof terrace, from which this view can be obtained, 18. The roof has been planted as a garden with herbaceous borders of flowers in boxes. The floor of the roof garden is paved with polished terrazzo paving. The interior is elaborately finished and equipped, particularly the bathrooms, 21, each bath having its own telephone. The salon, 19, is a large, well-proportioned room with a coal fire. In the bedrooms, 20, the principal fitments have all been built in, including the dressing tables with their own lighting. The furniture throughout the suite was designed by the architect, and the materials were selected by him in conjunction with Miss D'Oyly Carte. Exceptional precautions were taken with regard to the insulation of the roof. On the underside of the concrete roofing there are small fillets to which is fixed half-inch insulating board which in turn takes the plaster. On top of the concrete there is first of all an inch layer of cork, on top of this patent three-ply asphalted felt roofing, and topmost of all patent pumice tile-paving. The heating throughout is by radiant panel heating. On the exterior artificial stone columns between the windows form casings to existing soil and vent pipes. The architect for the new suite was Oswald P. Milne.

"The number of momentous and significant figures that the age produced was nothing short of amazing. Even in art, while we must criticize its results, we must admit that its exponents stood big in their trade or profession. The doctrinaire confidence that is to most of us so unattractive and so mistaken itself made the century the prolific parent of eminent figures. . . . The Victorians never for a moment doubted themselves. The middle class was rich and dominating, but not corrupt. It had a right to believe in its integrity; and similarly, even those who revolted most boldly from the Victorian idea of life, had the confidence in their own revolt that is an essential condition of monumental living and of great creative effort. That their quality is sometimes second-rate comes from the numerous conflicts of one ideal with another, from the fact that there was little united belief except the middle-class one."

H. J. and HUGH MASSINGHAM, *The Great Victorians.*



Notes on some lesser-known architects

V. Charles Mathews
or Architect into Actor

By Dudley Harbron

The cobbler who changes his calling is by many people preferred over the shoemaker who sticks to his last. They like their poets to have been policemen; their lawyers sailors, their architects to have begun in some remote occupation. Presumably change suggests to the public that at the onset of their career these men have overcome difficulty, that they have triumphed in the conflict.

The familiar cases of success in other callings following indifferent beginnings in architecture embrace Thomas Hardy, the novelist, who, nurtured in Victorian gothic, found life a complex of shadows; James Ward, the psychologist, who, probing into the impulses which propel us to behave so strangely, propounded, "That the dusk which sends the fowl to roost sets the fox to prowl," and would doubtless have designed a functional hen coop; Hall Caine, who had he remained among us might have outshone Viollet le Duc in the restoration of Carcassone; and Aubrey Beardsley, whose elegances we regret are not immortalized in Edwardian terra-cotta. There are others, but these will suffice. None of them is in the first rank of great figures, as the world assesses greatness in the present. None of them has influenced the course of history. Had they remained architects we should doubtless have heard less of them. As it stands, the architectural years of their lives are overshadowed by their final achievements.

This is not entirely the case with the personality about whom I write, Charles James Mathews, the architect who dropped his pen from his hands after writing 482 pages of reminiscence of architectural failure, and left to another to record "the ordinary uneventful life of a practised and prosperous actor."

Seemingly we cannot have it all ways. Mathews was so bored by success that he could not bother to write about it. In that he displayed the same common sense as his father. In their parts as actors the two men selected the role of the misunderstood, the misunderstanding which the spectator finds the most interesting, just as does the reader—it was the part in real life which they played best.

C. J. Mathews was born in Liverpool on Boxing Day, 1803. He says he should have been born in York where his parents were married and where he was baptized in St. Helen's Church. His parents were actors. Mathews senior had had some dealings with the profession of architect before his marriage. When a young man he had met John Nash (then of Swansea and later of Regent Street) with Augustus Pugin, his assistant. The three of them, then little known, had spent an enjoyable time together and had combined forces in the production of Sheridan's *The School for Scandal.* Pugin painted the scenery and Nash and Mathews acted parts. Mathews was amused by Augustus Pugin's accent and his humorous account of his early misfortunes. He composed these into a sketch which he afterwards performed for many years. Leigh Hunt says that Mathews' personal appearance as a young man was that of a small and slight youth with a twisted lip—which disfigurement aided him in his comic parts. He had artistic leanings that led him in his successful days to collect portraits of actors and actresses by living artists. He bought portraits of his friends by Reynolds, Romney, Gainsborough and others when the works of these masters could be had for what now seem small sums. These friendships and hobbies of the senior Mathews influenced his son in the choice of a career and in the selection of the man who should commence his training for that adventure.

When Mathews senior decided to build a gallery to house his collection of pictures, he recollected his early encounter with Nash and paid a visit to that worthy in quest of advice. For Nash was now established in London in a large way. The architect recommended Mathews to Pugin who for some time had been in independent practice as an architectural draughtsman and as the proprietor of a school for the training of young men as architects.

So it came that young C. J. Mathews found himself at sixteen installed as a member of the Pugin establishment in Great Russell Street. Unlike Benjamin Ferrey who was a resident pupil in the same household, Mathews rode each day on horseback to the office. Unlike Ferrey, who, despite his long friendship with the Pugins yet found Mrs. Pugin's regimentation of the household irksome, Mathews appears to have enjoyed his term of tutelage and never indicated any dislike for the lady of the house. For Augustus Pugin he had the highest regard. Like Ferrey, and indeed everybody who encountered the Frenchman and who took the trouble to record his impressions, he found Pugin jolly, polite and an efficient instructor; very amusing by reason of his indifferent English and habit of thinking in French; but broad minded and tolerant. Young Mathews claims to have had some part in the design of the additions to his father's place—Ivy Lodge. He may have been an unofficial clerk of works on the job; the architect was Pugin. Mathews was too young and inexperienced to have had any hand in the design of the gallery.

His training in architecture was obtained by preparing measured drawings of buildings for Pugin's publications: — *Specimens; The Environs of Paris;* and *Public Buildings of London.* It was in the last of these that he figured for the first time as a contributor, with his name engraved below the plate from his original work. He was very proud of this recognition and, as he was not even out of his articles, it was gracious on Mr. Pugin's part to recognize his assistance. When Mathews had completed his articles with Pugin, Nash offered him a post in his office in order that he should gain some real experience of buildings. For the instruction given at Pugin's was

mainly theoretic. Actually he did not go to Nash, the reason being that Lord Blessington, an Irish peer called upon Mathews senior and was intrigued by the celebrated art gallery. At the same time Old Mathews showed him some drawings by his son.

His Lordship said nothing although he was obviously impressed and it was some days later that he wrote to Mathews senior:—

My Dear Mathews, Mountjoy Forest.

I am determined to build a house here next spring and I should like to give your son an opportunity of making his debut as an architect.

The appointment with Nash could not stand in the way of a private client. The suggestion was too attractive to be passed over; young C. J. took the first coach for Holyhead and thence to Dublin, Omagh, and finally Mountjoy Forest, his lordship's seat. The journey occupied a week.

When the youthful architect reached his destination, he found that his client was not at home. Blessington had left instructions that he was to have the run of the place and the stables. In the interval of waiting young Charles enjoyed himself to the full; riding, shooting and touring the district in lovely weather.

At length Lord Blessington returned and the two commenced the fascinating task of building castles in the air. For two months this game engaged their minds with intervals for social entertainment. Mathews soon divined that his chief recommendation was that he was responsive to any suggestions of his client and willing to repeatedly redraw any scheme for his pleasure. His lordship had had some transactions with architects. It appeared that he had already had a house designed for the same site by James Wyatt. He had dismissed the great man as intractable.

After months of labour on the plans they pegged out the site of the intended structure and stripped some of the sods. This was as far toward actual completion as they got. Lady Blessington called his lordship to Naples. Obediently my lord and his architect packed their traps and returned to London. His lordship designed to take the drawings and the architect to Naples with him, in order to learn if they met with his wife's approval, and that Mathews might undisturbed complete their preparation.

The prospect of a visit to Italy was sufficient compensation for young Mathews for the deferred pleasure of getting on with the actual contract.

Blessington was an oddity. He cut his own hair. He had a horror of wet and damp, not only lest he should get wet himself but lest his companions should be wet or damp—as he was fearful of catching cold. So sensitive was he to draughts that he could tell if the key was sideways in a lock without looking at it. Although odd, he was a kind-hearted and generous man. He was acting the patron of the arts as had been the habit of noblemen for some centuries.

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The party set out in September 1823 on their long journey overland to Naples in Lord Blessington's carriage. The passengers were Lord Blessington, Sir Charles Sutton and Mathews. They were in no hurry to reach their journey's end. They had ample time to explore the sights *en route*. Their host, Lord Blessington, was not interested and spent most of his time when not in the carriage, lying sleeping or reading in bed. But Sir Charles Sutton and Mathews enjoyed themselves in odd corners while his lordship slept.

The trio stayed a month in Geneva. Here they met Manners Sutton, the Speaker of the House of Commons and party, whom Lord Blessington promptly invited to come on to Naples with him. He had a habit of entertaining profusely. The passage of the Alps, regarded as a very perilous experience, was in actual fact rather amusing: the party having anticipated intense cold had wrapped themselves up as if for an expedition to the North Pole—and found themselves sweltering in the heat. At Milan they bought another carriage to lighten the burden borne by the Blessington family coach. At Borghetto they were delayed for some days by heavy rains which made the roads and river impassable. Here, confined in a dirty little house, in and out of which the pigs wandered at will, Lord Blessington and Mathews amused themselves by decorating the whitewashed walls of the sitting-room with frescoes: Blessington, Napoleon and his generals on horseback, Mathews, the Temple of Paestum. Their amateur efforts were much admired by the tenant who exhibited their work to visitors for years afterwards.

Eventually, as the rain showed no signs of abating, they had to abandon the carriages and conclude on horseback the journey to Naples.

At last they reached the Palace Belvedere, the magnificent establishment in which Lady Blessington and Count D'Orsay held court. The whole *ménage* was fantastic. The palace was full of distinguished visitors. Still amid these distractions Blessington continued to plan his castle and to compose his novel *De Varvasour*. Mathews helped him with the former when not visiting Naples, Pompeii and the neighbourhood on sketching expeditions.

Meantime, Lord Blessington in the course of a long letter to his protegé's father revealed the true position of affairs:

"I discovered that Lady B did not like our plans, and so without arguing the topic I determined upon abandoning it."

The enthusiastic young architect was still in ignorance of this decision, and not likely to learn the truth yet awhile for Lord Blessington asked his father to "Keep this unto yourself."

A year passed in this enjoyable company at this delightful place where Lady Blessington—a famous beauty, then in her prime—reigned over her court.

At the end of a year's stay Mathews returned to London and opened an office as an architect with one client, "and set to work busily on the drawings and specifications of the at last completed design for Mountjoy house." For Lord Blessington had not even yet summoned up sufficient courage to disappoint him—or to abandon the scheme which only lack of means prevented him commencing.

Other business there was none. In this situation Mathews was on the point of joining the staff of Nash. The great man had made a standing offer to take him in. But fate intervened, as she had done earlier, for he was suddenly appointed to the position of architect of the Welsh Iron and Coal Mining Company at Coed Talwn, North Wales.

The Company required an architect to design "a hundred cottages, an inn, a chapel, a bridge, a house for the resident director; in fact a little town." They had selected Mathews for the job because his father was a large shareholder in the venture.

The director's house was to be composed of materials from part of an existing house called Heartsheath which it was intended to extend. To this place, 200 miles from London, Charles Mathews rode down on his favourite horse, Cupid, by stages of 60 miles a day. They reached the place without event. Thereafter for a year he lived at a farmstead half a mile away from the house he had come down to alter. In his spare time he hunted, fished, sketched and wrote.

The sum of two thousand five hundred pounds had been set aside by the directors for the alteration of Heartsheath. But Mr. Gray, the director to be housed, had such expansive ideas that Mathews found the amount of money granted totally insufficient. Gray wanted a staircase similar to one in Penrhyn Castle. In addition he had a mania for buying things that took his fancy, whether furniture or livestock. These frequent purchases he expected Mathews to house at once—"he wishes a cart shed to be erected by next morning." Nor were Mr. Gray's additions confined to livestock and furniture; he had nine servants and engaged more. And before the roof was on he invited a dozen friends to come and stay under it. The unwanted visitors had to accommodate themselves in the neighbouring houses.

Gray was a most entertaining man, and although Mathews tried to curb his extravagance, he was quite unable to check it, and he soon found that the amount of money allotted for the director's house by the Company was not enough. Rather than incur

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any unauthorised extras Mathews went to London and explained the situation to the board. Two directors and the secretary of the Company, John Wilks, were sent down to Wales on a visit of inspection there to decide upon the desirability of Mr. Gray's demands.

The party enjoyed themselves hugely at Gray's expense, but Mathews could get no definite instructions from them as to his course of action, until the last evening of their stay. Tired of waiting, he sent in a note to the London deputation who were dining merrily, requesting their instructions. The reply, on the back of his note, was scribbled by Wilks and read :—

"£5,000 has been granted for completion of Heartsheath and its dependencies, so make your mind easy, young shaver."

Mathews put the note away in his pocket book. It was fortunate that he did so, for the Company was attacked soon afterwards by a Mr. Clark, who was curious as to the soundness of this and other companies, and who, being a shareholder, commenced enquiries into the management of the new colliery. Mathews was hauled before a general meeting of the shareholders and accused of squandering their money. His father was called upon to pay the amount that had been expended in excess of the estimates.

When cross-examined before the shareholders by Mr. Clark—"I simply replied, that subsequently five thousand pounds was granted to complete the Heartsheath works, out of which I had only spent four thousand six hundred; four hundred pounds less than the amount granted."

"'Granted by whom?' said Mr. Clark.

"'By the directors themselves, through their secretary, Mr. John Wilks.'

"'I never gave any such latitude,' said Wilks.

"'Have you anything to show that I did?'

"'I have,' said I, throwing the pencilled note across the table. 'I believe that is your handwriting. That is my voucher.'"

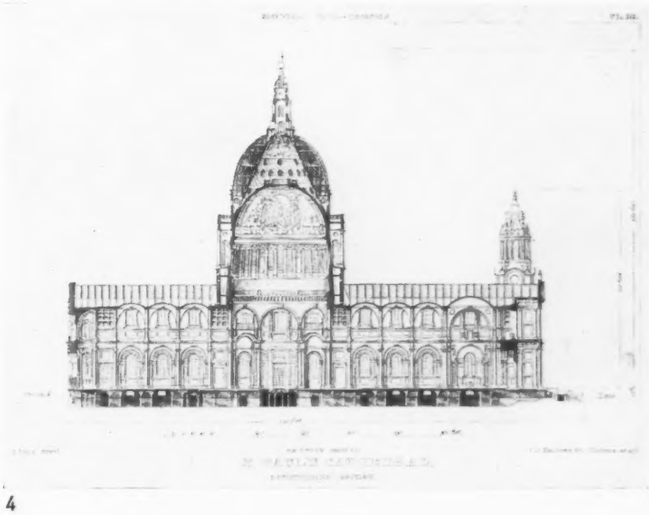
The meeting recognized that Mathews' actions had been quite proper. Still they now had no need of his help and hardly enough funds to pay his salary. The only course open was to resign. This he did. Further, he decided that it would be advisable to accept a post in Mr. Nash's office and there to try to gain more worldly experience. He was to be allowed to continue in private practice, and intended only to help Nash in his spare time.

In anticipation of his arrival old Nash amiably suggested to Mathews senior that Charles should design a Temple in the Doric order to be placed in Piccadilly Circus, so that his name and reputation should become speedily established. Nash had an agreeable habit of talking in this manner, which though it never eventuated in anything material yet flattered the hearer. It was one of the arts of his success. Mathews himself was under no illusion. He found himself in Nash's office, where he was employed doing the donkey work for the great man. Drawing the buildings in Regent Street and the blocks around Regents Park, and unravelling the Buckingham Palace job. He spent far more time on these than on his private affairs, for the good reason that he had only one job of any magnitude, and that, a large market in Oxford Street, was never built. The client on this occasion was a friend, a solicitor who endeavoured to float a company to carry out the scheme which his architect prepared. The plot failed, and his friend defaulted and decamped and left Mathews to pay accounts for lithography out of his own pocket, which had been incurred by him on his client's behalf.

Mathews knew Nash well. In his opinion he was not a great architect, but rather a great organizer, and a man having large and sweeping ideas which he carried into effect, undaunted by obstacles. This view of Nash is similar to that formed by Augustus Pugin of him; both thought him a greater man than architect.

After some time spent in this unsatisfactory way Mathews decided that he would be better employed if he were to recommence to study architecture on the Continent. It would be more economical than maintaining an office which did not pay its way. People would not employ young men.

With this object in view he went



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1, 2 and 3, Heartsheath Hall, near Mold, North Wales, designed by Charles Mathews: the house, the stables and the bridge, the latter dated 1825. 4, one of Mathews' delicate drawings of St. Paul's Cathedral, from Britton and Pugin's, "Public Buildings of London."

abroad with his friend D'Egville, a fellow pupil at Pugin's, and for three years they toured about Italy living for a year in each of the cities of Florence, Venice and Rome. Together they made some very ambitious drawings and were in consequence elected members of, or awarded diplomas by, several Universities in Italy.

They moved in the highest society in all these centres, where Mathews was extremely popular.

Yet it was for his personal attraction and wit that he was entertained. His hosts never realized that life was for him a serious business and that he was an architect, and must commence as such in earnest some time or other. Though Mathews knew the Normanby's and the Duke of Bedford, to whose homes he paid long visits, they only found him amusing company, useful at designing stage settings for private theatricals to entertain their house-parties.

It was an architect, Samuel Angel, whom he met in Rome when in Italy with the Blessingtons, who first took him seriously and suggested that he should apply for the post of District Surveyor to Bow and Bethnal Green.

This was rather a prosaic step after his previous adventures. But needs must, so Mathews took it.

In order to press his claim it was necessary that he should have an address. He rented an empty room in Furnival's Inn —" had my name painted on the door, and a slit cut in it for letters; wafered a paper on the outside with 'back in five minutes' written upon it "—and got busy.

From this address he bombarded all the Middlesex magistrates for votes toward his election as Surveyor.

" I was successful, and found myself staggering under the honour of being publicly recognized as Surveyor of Bow. Down I went on the top of the omnibus, with the Building Act in my hand, to take possession of my kingdom. A charming mission it turned out; and for three years—on the top of the same omnibus, with the same Building Act in my hand, which I never succeeded in understanding to the last—I journeyed to perform the pleasing duties that devolved upon me. The only touch of joy I had was on the discovery of a locality rejoicing in the name of Cutthroat Lane, and in no other place could I make up my mind to fix up my office."

" 'District Surveyor Cutthroat Lane' was something to have on one's card, and gave a spice of romance to the affair. The emolument arising from the appointment was startling, and about forty pounds a year compensated me for my agreeable labours—that is, would have done so had I received it, but there was the difficulty. It consisted of fees—fees to be collected by myself in person, and a pretty time I had of it. At one house I knocked humbly, after considerable hesitation. The door was opened cautiously, with the chain up, and a stout suspicious-looking dame, in a pair of nankeen stays, asked me if I came 'ater the taxes or summat?' 'No, madam,' I said deferentially; 'I am the district surveyor, from Cutthroat Lane, and I have called for—' 'Oh bother,' said the lady; 'summons me, if you like. I'm not going to be humbugged by you.' Another defaulter kept an oilcloth warehouse in Whitechapel."

The case of Mathews is singular. As an architect he was awarded diplomas by most of the universities in Europe. He was known to a vast number of influential people. He was in touch with the two greatest architects of his day—Soane and Nash. He knew many others. He made three attempts to establish himself as an architect—and yet they all failed.

He made his fortune "drawing houses"—as an Actor.

5, *Charles Mathews in the part of George Rattleton in " The Humpbacked Lover,"* 1836. *This and the portrait of Mathews, painted by R. Jones in* 1839, *which appears as the title piece of this article, are reproduced in the biography of Mathews, based on his own diaries and correspondence, which was published by Charles Dickens in* 1879.

Book of the Month

The Hellenistic Spirit

By D. Talbot Rice

HELLENISTIC ARCHITECTURE. An Introductory Study. By Theodore Fyfe, M.A. Cambridge University Press. 1936. Price 21s. net.

A CONCISE book on Hellenistic Architecture has long been wanted, and we must all be grateful to Mr. Fyfe for supplying one which shows not only a first hand acquaintance with the monuments, but also a very deep and sincere appreciation of the style that characterizes them, whether in the descriptions of the remains that can be seen today, in the discussion of the role that they played in the cultural structure of their own time, or in the very penetrating analysis which is given to the survival of the Hellenistic spirit in art from the second century A.D. down to the present age.

The Hellenistic period is, as Mr. Fyfe notes, hard to limit exactly, and the style is even harder to define in concrete terms. Its first monuments belong to the age of Alexander the Great; its last, in the Western world, coincide in date more or less with the rise of Roman power, though in the East, and more especially in Syria, the Hellenistic, as opposed to the Roman, element remains characteristic for many centuries more; it even survives the Roman Empire itself. In this region no hard and fast rules can be drawn; as Mr. Fyfe says, the only true guide is " the touchstone of style." What is certain, however, is that the changes that mark the later Hellenistic do not necessarily bode decadence, as the older generation of scholars so often asserted.

The importance laid upon style throughout is one of the most pleasing features of the book, anyhow to the student of art, and though some may at first fail to be convinced by the surprising places in which Mr. Fyfe finds the survival of the Hellenistic spirit, closer consideration shows that he is undoubtedly right. The Hellenistic style has, in fact, left a far more considerable legacy than either the true Greek or the true Roman, and the best Hellenistic monuments, like the market-front from Miletus, now reconstructed in the Pergamon Museum at Berlin, show a monumental quality, a delicacy, and a lightness of touch which make them comparable at once with the best of any work in degree and with the best of the eighteenth century in actual fact. They are also, in spirit, if not in the letter, to be compared with Romanesque (see the last chapter), and

we would add that the Hellenistic spirit played an extremely important role in the development of the best in Byzantine art.

Style, again, is the main basis for comparisons which Mr. Fyfe draws between Hellenistic and Baroque; the similarities in the two are, he thinks, to be attributed to the fact that both took over the same classical elements and used them in the same way. This seems the obvious and straightforward explanation, and it is a comfort to read the book of one who has looked at the material, digested it and sensed its character, and has been content to put down his conclusions and impressions, without drawing ponderous and often entirely hazardous conclusions of a psychological and metaphysical nature, in the manner of so many German writers.

So much for Mr. Fyfe's approach. The presentation is rather less successful, for the book is often hurried and disjointed, and gives the impression at times of an architect's travel journal rather than that of a neatly constructed treatise on a special subject. At times, again, it is over brief, and one wishes that the author could have given greater consideration to subjects which he seems to skirt. On p. 115, for instance, he writes, "Recumbent figures, characteristic of the entire Hellenistic East, are more oriental than Greek. It must, however, be remembered that recumbent figures were a feature of Etruscan art. Rome's debt to Etruria was principally one of construction; but both the construction and the art were, in all probability, of Eastern origin." These remarks are of great importance, and give rise to very far-sweeping speculations. One wishes that they could have been followed up at greater length; in so short a book the inclusion of two or three extra pages could hardly have been refused by such a publisher as the Cambridge University Press. Rather hurried again seems the frequent avoidance of attempts at dating (see for instance p. 44, the round temple at Baalbeck, p. 51, the temple at Belevi, p. 60, the grave towers at Palmyra, etc.). Style may be the main thing from the point of view of the art historian, but the date of an ancient monument is also essential, and to the archæologist it even surpasses style in importance. For the architectural student, who is not always very familiar with Roman history, the inclusion of actual dates in brackets after names (*e.g.*, Nero, p. 41) would have been a help.

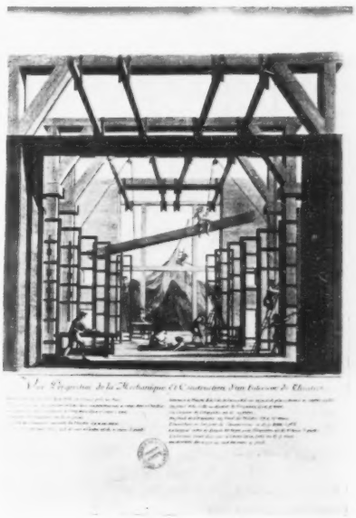
The book is illustrated with twenty-nine carefully chosen half-tone plates. The photographs from which these were made might in some cases have been better, and one feels that for 21s. the publisher might well have seen fit to allow more space, and by increasing the number of plates, but not the number of actual figures, have necessitated less reduction in scale. There is an excellent index, and the inclusion of a glossary of architectural terms is most welcome.

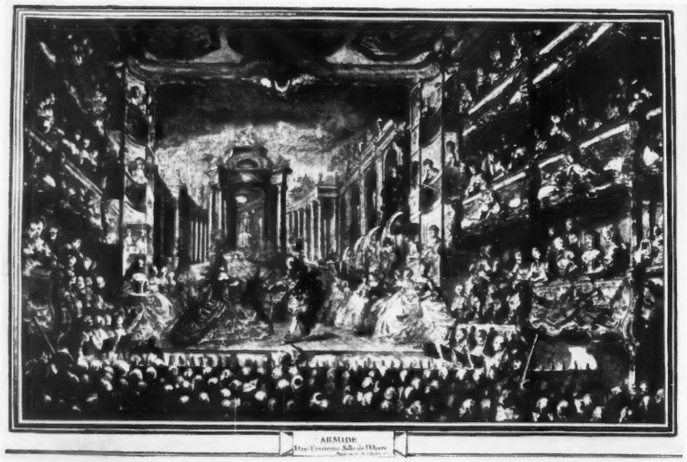
A Theatrical Encyclopædia

"HISTOIRE GÉNÉRALE ILLUSTRÉE DU THÉÂTRE." Edited by Lucien Dubech. Paris: Librairie de France. 110 Boulevard St. Germain. 5 vols. Price, 120 francs per volume.

THERE are altogether 1,548 pages in these five volumes; and I should say, roughly speaking, that there are as many as 2,000 illustrations. Historians of the theatre have been criticized for not giving enough illustrations—they have been

Above: "Hell," from the "Très Riches Heures du Duc de Berry" (Musée Condé, Chantilly); a design which shows us what the stage people of the 15th century would have liked to realize. They tried to do so but fell short of it by the same distance that divides any good drawing from any theatrical attempt to realize that drawing. Below: fire-fighting apparatus being tested in a theatre in Paris, 1772, from a drawing by Dumont; and the construction of the interior of a theatre in eighteenth century France or Italy, from a design by Dumont. All three illustrations from "Histoire Générale Illustrée du Théâtre," edited by Lucien Dubech.





A performance of "Armide" at the opera in Paris, sometime in the late 18th century. From a painting by Gabriel de St. Aubin (1724-1780), Musée de l'Ermitage, Leningrad. From "Histoire Générale Illustrée du Théâtre," edited by Lucien Dubech.

urged to leave the illustrations to do much of the talk ; for, indeed, pictures of that kind speak so much more critically, more exactly, than do most pens.

And it is the pictures that are so valuable in this new *Histoire Générale Illustrée du Théâtre*.* The Bibliothèque de l'Arsénal of Paris is a treasure-trove of pictures of the world's theatres, and Madame Horn-Monval, who is *bibliothécaire* at the Arsénal, is a collaborator in this *Histoire Générale*. Monsieur Dubech has two other assistants—J. D. Montbrial and Mlle. Claire-Eliane Engel.

The five volumes cost about £8 in our English money, but it would cost anyone much more than £8 to get together all these pictures and to have them bound up into volumes of this size—for each volume measures $10\frac{3}{4}$ ins. by $8\frac{1}{2}$ ins.

And how speak of Monsieur Lucien Dubech's work? To have compressed so many books into five—not to have been tempted to excavate more and to discover new things—to have used such control—this shows the sensible master-historian; and all students can feel very grateful to him and rely, to a great extent, on what he says. Where they must go very cautiously is in regard to what he does not say : but how could the omissions have been omitted, when he was forced to include his inclusions? We all want to hear once again what Talma said to Mars, and to get her back-chat; we all want to hear once more the story of Dumas' "Antony"... "Elle me résistait, et je l'ai assassinée"—who could possibly get tired of that? And M. Dubech knows it well : he knows that all the old plums are as fresh as ever they were, and he puts most of them in. When obliged to omit anything, you can feel how it grieves him.

To the student of the living theatre, some of the things which have been omitted are far too important : whereas the Greek and Roman Theatres, about which he can find so much in other books, take up a whole volume of 237 pages. While M. Dubech is generous with his space when it comes to Antoine, and devotes fifty pages to him in Vol. 5, he only gives twenty-five pages to the entire Russian Theatre from 1745 to the present day—which is, in my opinion, not doing the thing properly. An omission such as this is like an *oubliette* in some old French château—the unwary student sees it not . . . the lowing herd winds slowly o'er the lea. . . .

By the by, quite a number of students—perhaps those who are going to prove the best actors—may not even know what an *oubliette* is : and there are hundreds of words in this *Histoire Générale* which will puzzle them. And it is almost as if anticipating this, that the idea occurred to M. Abel Chevalley (and Madame Marguerite Chevalley said : "I say ditto to Abel") to hurry up and get ready the *Concise Oxford French Dictionary*,* which came out just in the nick of time. There is hardly a word in Dubech of which you won't be able to find the meaning explained by M. and Mme. Chevalley—although I searched in vain for that expression "Tiens!" which is one of the words that I know best in the French language : and had I not been assisted and told to look under "*tenir*," I should not be able to be of such valuable assistance as I trust I am proving to be at this moment to the young student.

I am afraid that a flippant mood is come upon me—far more flippant than these five big volumes should make one : rather should it conduce to solemnity, to see these five volumes—these go-little-books—going. Five whole years, and success achieved at last by M. Dubech and his three collaborators—and not only by these, but by that excellent firm the Librarie de France, which has sent me the volumes year by year.

There are some odd defects. For instance, in the last volume, while the Italian Theatre has a brief chapter to itself and Rossi, Novelli and Zacconi are referred to, I can find nothing about Tommaso Salvini. Again, in the chapter on the nineteenth-century stage of Paris, while there is much about Frédérick Lemaître, there is nothing about Paulin Ménier, of whom Henry Lyonnet says : "On le classe immédiatement après Frédérick Lemaître." Neither is there any reference to the great author-actor, Nestroy, of Vienna—nor to Appia, of Switzerland, nor Meyerhold of Russia. There is no worth-while reference to Reinhardt of Germany, although his name appears under a design by Emil Orlik and under a photograph of his theatre—just as my name appears under two of my designs for the Irish Theatre.

But M. Dubech doubtless said to himself, "My dear friends Reinhardt, Appia, Meyerhold and Craig must be so thoroughly sick of seeing their names in every *other* book on the Theatre, that I, at least, shall pay them all the Latin compliment of omitting to notice their existence." So we four must be content to be with Nestroy, Ménier and Salvini, under a crowd of papers on a table—straggler stray leaves, of whom one says : "Where *can* I have put him?"

* * *

Again for a splash of blame, or rather of regret that more information is not given with each illustration : we need its date, where it comes from, whether it is a miniature, a painting or a drawing, and so forth. For instance, in Vol. 2 there is a "Vue d'ensemble et plantation d'un *Miracle de la Vierge*, reconstitué par Marcel Dieulafoy (No. B. du Bull. de la Sté du Th.)"—that is, the Bulletin of the Société du Théâtre. It does not say which volume, who the publisher of the Bulletin was, whether this is a drawing or an engraving, where the original is to be found—its date—in which town this Miracle of the Virgin was given. If I am hungry to know about this, how much more hungry will a young student be?

This is the defect of the book (and of most books of the kind)—that it does not pause long enough on each item to tell carefully what is represented, when, how, why; and by whom.

There is a marvellous painting reproduced here—for the first time, so far as I know—showing a performance of "Armide" at the Opera House in the Rue St. Honoré—date not given : painted by G. de St. Aubin. But there are not enough facts written under this marvellous little painting—which, by the by, belongs to the Musée de l'Ermitage at Leningrad. But doubtless someone will bring out an *opuscle* about it. *Vide Concise Oxford French Dictionary*—wherein you will not learn what an *opuscle* is; you will find only this : "(L. *opusculum*) Opuscule, opusculum." Most extraordinary—I, who know no foreign language, have the misfortune to be always looking up the one word which the author of a dictionary refuses to explain. The French word (a Latin word, too) "*opuscule*" means a booklet or leaflet—a book of very few pages.

And such a note will surely be written before long around this picture by St. Aubin, for it is a historic document, not a fantasy. There is nothing under the reproduction to state whether it is the Gluck or the Lully "Armide" that St. Aubin shows us. I think this little painting is like some superb eighteenth-century sonnet—one of those "moment's monuments" of Rossetti—if they ever wrote a sonnet in the eighteenth century. At any rate, here reproduced, is a moment's monument.

Another design worthy of a small opuscle is the colour-plate of "Comediens Italiens donnant une representation privée," in Vol. 3.

In this volume is an entire section—98 pages—devoted to the English Theatre from its origin to Shakespeare and his imitators. A great number of the illustrations will be new to many of us. For example, a scene from "Julius Cæsar" as interpreted by De Max, 1906; a colour-plate showing Miss Smithson and Charles Kemble in "Romeo and Juliet" in 1827—from a lithograph made by Deveria and Boulanger when the English Company visited Paris; a scene from "Hamlet," from a German engraving.

Then we have to put up with those fearful representations of Shakespeare himself—"with the deep, deep, deep, subtle, subtle, subtle expression of a bladder" (Mark Twain).

I would draw attention to a little picture by Sir John Gilbert, a more or less forgotten illustrator of our Isles, who lived 'twixt 1817 and 1897. I wonder if anybody knows how well Gilbert's work was consulted by Irving, and how carefully it has been looked at by artists in Moscow and Leningrad at the present day? But no one must exaggerate this into meaning that Gilbert has exercised an enormous influence on the European Theatre; for it is not so—but this "Performance before Henry VIII at Greenwich on Christmas Day," for instance, is a little piece of creative criticism and should continue to inspire and will, some day, give birth to something towards a better English stage.

GORDON CRAIG

* The words "Générale Illustrée" are printed in red letters, by the way.

* *The Concise Oxford French Dictionary*, compiled by Abel Chevalley and Marguerite Chevalley. (Oxford University Press. 925 pages. 7s. 6d.)

OVERLEAF : *AT CLOSE RANGE*

Fixed to the external walls of the new fire station in the Rue Mesnil, Paris, are a steel ladder and a series of steel balconies, intended for rescue training. The photograph shows these balconies on the upper storeys of the building, which contains, besides garages for the fire-engines and offices for the fire department, accommodation for 25 firemen, a gymnasium and 14 family apartments occupying six storeys above the station: also a roof playground for children. The building is of reinforced concrete and steel construction, with grey cement finish and with the ironwork painted black. The architect was Robert Mallet-Stevens.

1

A REBUILT AND REFITTED SHOP AT GOLDERS GREEN. ERNÖ GOLDFINGER, ARCHITECT

This work comprises the reconstruction of an existing building in Golders Green Road as a ladies' clothing store, and the design of a very complete series of show-cases, shop-fittings, etc. The shop is planned on three floors, a considerable part of the ground floor, 7 on the following page, being devoted to a deeply-recessed shop-window arcade, to provide maximum display space on a small site. On the ground floor are also offices, switchboard room, heating chamber and chamber for a pneumatic tube compressor. Staff rooms are on the first floor and the manager's offices on the second. 2 and 3, also overleaf, show the exterior, 2 showing the first-floor show-case. The elevation is in simple bright colours, the wall over the windows being faced with opaque grey glass. On the pages that follow are details of the show-windows and the internal shop-fittings. 1, the flood-lighting system in the ground floor show-rooms. The two asymmetrical metal reflectors shown are special ones, designed by the architect as a standard product, to give an absolutely even illumination of the ceiling.

2

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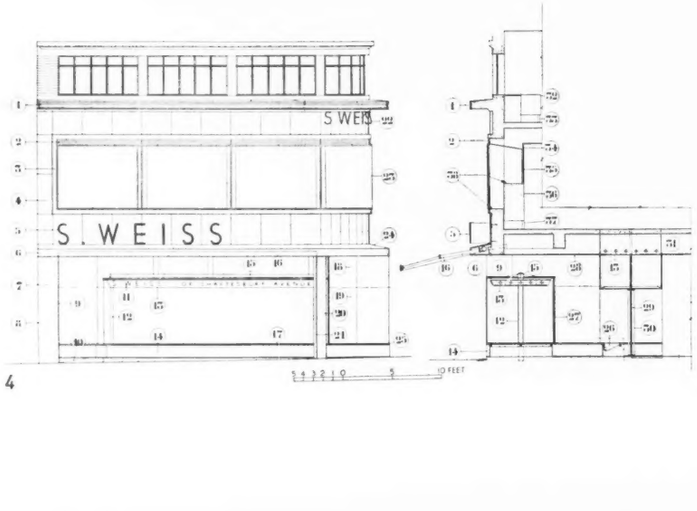

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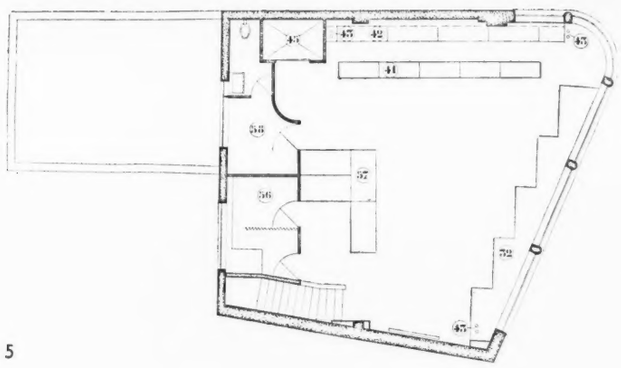

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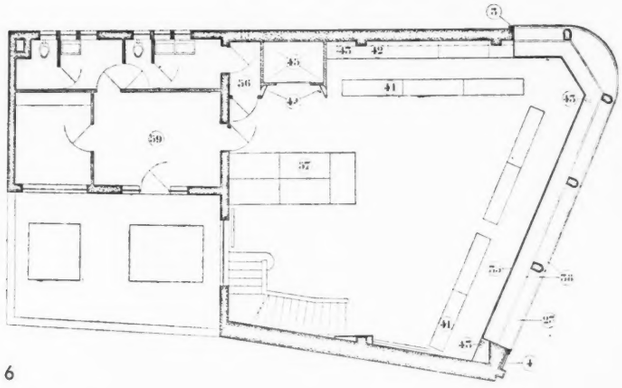

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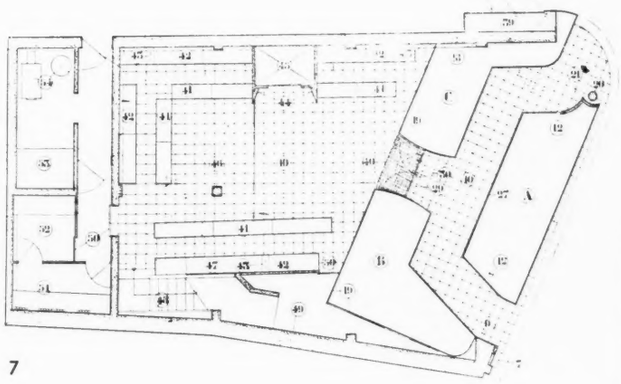

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2 and **3**, the exterior. **4**, elevation and a section at right angles to the street. **5**, **6** and **7**, second, first and ground floor plans. The key to the numbers on the drawings (on the facing page) indicates the detailed lay-out and the materials used. In the arcade show-windows, **8**, the chief planning problem was not only to provide easy circulation and the maximum possible window area, but to give quick access to the cases, so that customers who are attracted by an article seen in the window can be sold the identical one. The flooring of the arcade is terrazzo divided by copper strips into squares. The windows are particularly well lighted, the ceilings being composed of alternate squares of prismatic reflectors and obscured glass, with an electric bulb behind each square. The back show case has extra lighting by means of footlights. The structural column seen in the photograph is coloured red ochre and the metalwork grey. An apt use of standard material appears in **10**, a detail of one of the windows, where ordinary rolled steel channels form a recessed base, with the glass of the windows flush with the outer edge of their flange. **9**, the lift entrance on the ground floor.

NUMBER 17

1. Cornice cement rendered.
2. Ventilation louvres.
3. Cement rendered window framing.
4. Grey opaque glass facing.
5. Metal letters with free-standing neon tubing.
6. Blind box.
7. Cellulosed wall-board.
8. Gearing of blind.
9. Flexible mirror-glass facing.
10. Terrazzo paving and riser.
11. Neon lettering (blue).
12. Supporting stancheon.
13. Metal light-box with prismatic glass panels.
14. 15 in. x 4 in. metal channel forming stall-board riser.
15. Rolled steel joist supporting light-box and top of show-case.
16. Sun-blind.
17. Anti-condensation vent.
18. Inside show-window, painted white.
19. Inside show-window, dark grey obscure glass sliding sashes.
20. Reinforced concrete column, painted red ochre.
21. Screen; blue flexible glass facing.
22. Neon lettering (red).
23. First floor show windows.
24. Lead covering to blind box.
25. Stainless steel glazing bead.
26. Trough lighting.
27. Sliding plate-glass sashes to island show-window.
28. False ceiling.
29. Door glazed with Georgian and wired plate glass.
30. Stainless steel tubular handles.
31. Accessible space for lights and services inside shop.
32. } Interior fittings.
33. }
34. Ventilation louvres.
35. Translucent glass sliding sashes.
36. } Interior fittings.
37. }
38. Lighting for first floor show-windows.
39. Cleaners' cupboard.
40. Mat.
41. Counters.
42. Fixtures.
43. Pneumatic tube stations.
44. Light panels.
45. Lift.
46. Reinforced concrete column.
47. Grey glass panel.
48. Showcase.
49. Electric switchboard.
50. Sliding doors.
51. Pneumatic tube station.
52. Telephone switchboard; inquiries.
53. Pneumatic tube motor and pump.
54. Boilers.
56. Fitting room.
57. Hanging cupboards.
58. Manager's office.
59. Staff room.

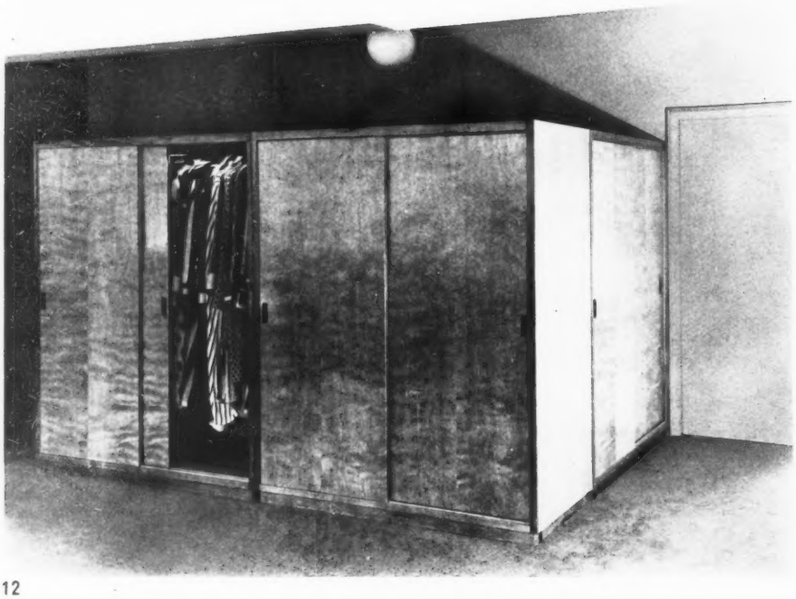
A. } Show windows; window bottom in plywood; lighting by prismatic glass panels.
B. }
C. }

8

9

10

11



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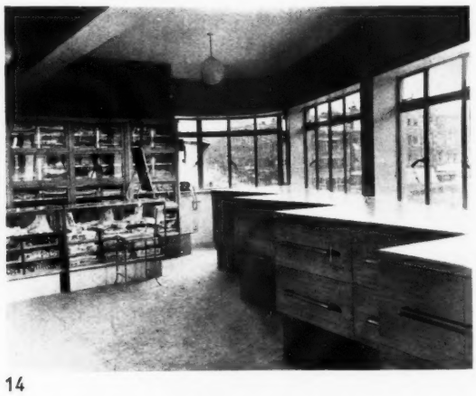

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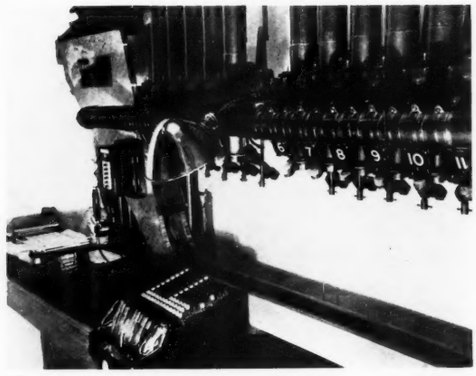

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11. counter show-cases and storage fittings in the underwear department on the first floor. The sliding windows overlooking the street face due south and have heat-obstructing glass to prevent over-heating of the interior. Above the windows are continuous ventilation louvres. The ceiling is of birch plywood, with spun aluminium light fittings recessed into it. The carpet is beige. On the second floor is a range of hanging cupboards in birch, 12, which form a screen to the entrance to the manager's office. 13, a corner of the same floor showing again the entrance to the manager's office and, on the right, the lift. 14, a general view of the second floor, containing jersey and beach-wear department. The zig-zag arrangement of the counters is devised to facilitate individual attention to each customer. All the woodwork is birch and the metalwork brass. 15, the pneumatic tube control desks in the ground floor office. This tubing, as well as central heating pipes and electric wiring, is carried in a space left above the false ceiling on each floor. An entrance trap is provided for repairs.

THE DESIGNER IN INDUSTRY

BY NIKOLAUS PEVSNER

3—Gas and Electric Fittings

Part II—Lighting Fittings

It is unnecessary to say anything about gas lighting fittings. They are nowadays, except for the elaborate models made for display at Gas Companies' show rooms only, of the simplest utilitarian design.

With regard to electric lighting fittings, most of them are produced by the same firms that manufacture electric fires*, and developed under the same conditions, in the same drawing offices. But there is one difference between a light fitting and a fire that is of importance in our context and should entail certain diversities in the methods of design. While fitness for purpose is the one essential criterion in judging the value of designs for electric fires, a ceiling fitting or a table standard should have certain decorative qualities of a purely aesthetic appeal as well. This is felt by the buying public which, in purchasing a ceiling fitting, wants to get a work of decorative art, while for those who acquire a fire the decisive factor would be efficiency. Hence the maker's name is the primary selling point in fires; in lighting fittings it is the appearance of the model. Hardly anybody would say that he prefers a certain brand of electric lighting fittings to those of any other manufacturer, but it is quite usual to make such a statement about a Radiation or a Porteullis or a Magicoal fire.

In spite of this, only very few manufacturers seem to regard the artistic problem in lighting fittings as different from that in fires. Special chandeliers for cinemas or liners or hotels may be designed by architects, but stock models are usually worked out by the staff draughtsmen at the works, the same men whose position was described in the last article.

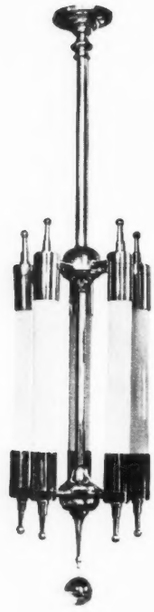
This lack of appreciation of what the problem in the design of lighting fittings really is I have found wherever I was able to enquire, except in three cases, two of which were discussed last month, because there the same serious consideration was given to lighting fittings and fires. I need not say that the manufacturer who calls in a sculptor from outside and pays him for adding art to the works' products is not successful in his ceiling fittings either; and I need not say that the other manufacturer who was trained in a progressive art school and is full of ideas about design which he sometimes develops by himself, sometimes with free-lance architects and designers, has produced besides his fires some of the most satisfactory and some of the most interesting lamps. In the third firm where design is given a prominent place the owner, a young and enterprising man, engaged, a good many years ago, a young designer who had come from the Royal College of Art and made him director of design. All artistic questions were left to him, with the result that the firm grew rapidly, and, within a few years, gained a leading position in modern English electric apparatus. This firm, incidentally, does not manufacture either the glass parts or the metal parts of their lamps, though they are responsible for the design of most of the lighting fittings on show in their shop.

Fashions in electric fittings have gone through considerable changes during the last two or three years. Once more it may be instructive to follow the tendencies of style and of fashion which characterize the last decade. In England, there were hardly any but period fittings between the war and, say, 1926. It was the sinister Paris Exhibition of 1925 which, just as in the carpet trade and in several other industries, was responsible for the introduction of "Modernism." In the electric trade this means as a rule jazz designs consisting of pseudo-cubistic angular panels of lusciously coloured glass. Similar spiky forms had been the vogue in Germany immediately after the war; a commercially diluted expression of post-war excitement. However, in Germany, a reaction against these vulgar caricatures of what was utterly serious in contemporary painting, set in almost immediately. The Bauhaus brought out their first simple spherical fittings in 1921 or 1922. Since then, these unadorned fittings, spherical as well as tubular or square, have steadily gained ground. There was a short time when they really seemed to have defeated the more elaborate models. The final result in Germany was a compromise. In chandeliers jagged decoration was given up and replaced by simple arrangements of three, four or six arms carrying upright tubular holders for the lamps, or bowls of some sort.

In England, box fittings were introduced about 1926 or 1927 inspired by what some progressive designers had seen in Paris; tubular and spherical fittings about 1930. Amongst the first firms to import and produce lighting fittings of these types, Messrs. Troughton & Young and Messrs. Best & Lloyd must be mentioned. However, when I began my research in 1933, they were still preachers in the wilderness. The favourite kind of ceiling fitting then was something like illustration 1, the panels being made of orange glass. This was the kind that went into the tens of thousands of semi-detached houses, where sometimes not more than three pounds is put aside by the builder for all the necessary electric fittings. It was also the kind which to the head of the electric department in a London department store seemed so much more "homely, comfortable and harmonious" than box or bowl fittings. These latter, incidentally, he wanted to allow for bathrooms and landings only. A sad consequence of this deplorable lack of understanding amongst builders, retailers and consequently the public, was pointed out to me by one of the most enterprising manufacturers whom I met. He said that he could

* Electric fires were dealt with in the previous article in the July issue.

1



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certainly not live on his sales of models which he himself liked, and that sometimes he had got to garnish up a new model because it would not sell without any frills. It is in such cases as these that Paris catalogues of 1925 are so invaluable to the designers, because from them can be picked out any number of meretricious modernistic ornaments. Since 1933, a new influx of Continental forms has brought a considerable improvement. The General Electric Company informed me that in 1934-35, illustration 2 had become one of the most popular models, and that in 1935-36, illustrations 3 and 4 have been best sellers. 3 is evidently derived from German examples, 4 from Swedish ones. These new types are certainly much more satisfactory than the best sellers of 1925-33. As we have seen that the same progress has been made in fires, the general development of electric and gas fittings seems to bear out forcibly that the campaign for fitness to purpose has after all not been wasted.

However, the position is as satisfactory as this only in a certain medium-priced range of lamps. Inexpensive lamps are usually not as acceptable as inexpensive fires. In the multiple stores you still find orange jazz-fittings as badly designed as the patterns of modernistic carpets, and so-called modern floral decoration on so-called parchment lampshades as badly designed as most lithographed pottery and most appliqué wallpapers. And, on the other hand, looking at the display of ceiling fittings in London's most expensive department store, you will notice that the majority of the lamps there are still shaped on period lines. Among the best-selling models in two other department stores, one in Oxford Street, and one in the S.W. district of London, I was also shown several relatively cheap gilt and painted wrought iron chandeliers in period or semi-period forms. Not that period fittings are really important in the general trade at present. Two firms gave me 25 per cent. as their ratio, a third firm even less. Sales of reproduction lighting fittings are supposed to be higher in the North and in Scotland than in London, although an upward tendency has been noticed in London within the last twelve months.

In expensive modern pendants the situation is more complex. A larger proportion of

7

8

7, *a ceiling fitting by Best and Lloyd, one of the better of the more elaborate or decorative type of fitting.* 8, *one by Troughton and Young shown* in situ, *typical of the fittings of very simple, geometrical design that have been found appropriate for many modern interiors.*

4

5

6

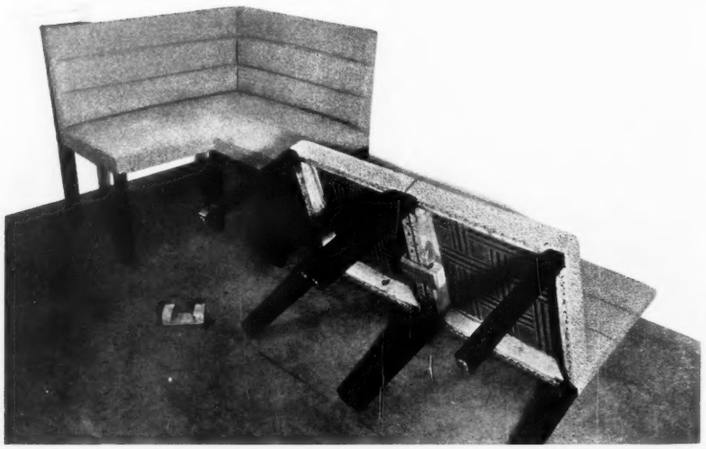
The progress of taste: 1, 2, 3 *and* 4, *best-selling English ceiling light fittings:* 1, *for the year* 1933–34, *showing the persistent influence of the Paris Exhibition of* 1925; 2, *for the year* 1934–35, *showing the influence of later Continental work;* 3 *and* 4, *for the year* 1935–36, *showing modern German and Swedish influence respectively. All are products of the General Electric Company.* 5 *and* 6, *two designs of very high standard that have proved popular notwithstanding; by Best and Lloyd and Troughton and Young respectively.*

the production here is based on architects' designs, which means a much greater variety of types than in the designs of works' studios. On the whole, however, it must be said that more elaborate designs which rely entirely on the beauty of materials and proportion—such as those shown in 5 and 6—are still rare. The vast majority of the more decorative fittings which are put into public buildings, theatres, hotels, etc., are in the showy stalactite type of the suburban cinema.

In looking for an explanation of this, we are led back to the statements I have already made about fires. It is a fact which the readers of this series of articles should keep in mind, that while the doctrine of simplicity, honesty and straightforwardness in everyday things has penetrated widely into the consciousness of those who acquire an ordinary gas fire or electric fire (or a pan or a pot or a wrist watch), it is cast to the winds as soon as there is a demand for something costly. People feel that for their money they should get some art into the bargain. Now art in an electric fire seems to appear in the form of the technical tricks of the imitation flickering coal type, whereas in a ceiling fitting it appears to identify itself with the atmosphere of the cinema. As far as the fire is concerned, should we blame the engineer? His attitude is understandable. He is proud of the shrewd devices which he has invented, and

INTERIOR EQUIPMENT: THE INDIVIDUAL SOLUTION, 3

1



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Some ingenious space-saving furniture, designed by Paul Bry for an apartment in Paris, in which a corner of the living-room was required also to be used for dining. A set of dining chairs was devised which unite to form one or more living-room settees. 1, the dining table, with a settee on two sides and two independent chairs. 2, extra chairs being detached from the settee. The method of locking them together is shown, by means of wooden coupling pieces holding the adjacent frames of the seats. The frames are slightly tapered, so that the coupling pieces can be made to grip firmly simply by sliding them along to the centre. 3, the table brought out into the room with four independent chairs, the extra chairs being used detached from the settee. In the same room is a dumb-waiter on wheels, 4, on which a meal can be laid ready for serving and concealed within its "garage," which makes also a useful side-board, as shown in 3.

probably feels like the patient and skilful 16th century craftsman who carved a crucifixion with 52 attendants out of a cherry stone. Maybe that his work appeals to modern people in the same way as those little marvels did to Renaissance connoisseurs; maybe that here we are up against an eternal human quality and not an atavism.

It is different in ceiling fittings, and yet one feels doubtful again whom to blame. The designer? The manufacturer? The public? I am afraid the existence of so few expensive and yet artistically acceptable fittings is an outcome of one of the unalterable qualities of our age. This century is too massive, it is also too preoccupied and too stern to develop decoration in the sense of the Renaissance, the Baroque, the Rococo. We have no longer the leisurely craftsman working for the leisurely patron, and although of leisurely patrons there may be more left in this country than anywhere else, the universal trend is against them, and genuine and constructive art is always one of the earliest forms of expression of universal trends. Here we are faced with an important reason why many modern-minded architects feel so obviously at sea when they are asked to design something purely decorative. This is as far as we can go at the moment. I shall have to refer to this problem again, and at greater length, when dealing more specially with the architect's role in modern industrial design.

Carte Blanche

The morning after the initiatory dinner the young Duke drove to Hauteville House, his family mansion, situated in his family square. His Grace particularly prided himself on his knowledge of the arts; a taste for which, among other things, he intended to introduce into England. Nothing could exceed the horror with which he witnessed the exterior of his mansion, except the agony with which he paced through the interior.

"Is this a palace?" thought the young Duke: "this hospital a palace!"

He entered. The marble hall, the broad and lofty double staircase painted in fresco, were not unpromising, in spite of the dingy gilding; but with what a mixed feeling of wonder and disgust did the Duke roam through clusters of those queer chambers which in England are called drawing-rooms!

"Where are the galleries, where the symmetrical saloons, where the lengthened suite, where the collateral cabinets, sacred to the statue of a nymph or the mistress of a painter, in which I have been accustomed to reside? What page would condescend to lounge in this ante-chamber? And is this gloomy vault, that you call a dining-room, to be my Hall of Apollo? Order my carriage."

The Duke sent immediately for Sir Carte Blanche, the successor, in England, of Sir Christopher Wren. His Grace communicated at the same time his misery and his grand views. Sir Carte was astonished with His Grace's knowledge, and sympathized with His Grace's feelings. He offered consolation and promised estimates. They came in due time. Hauteville House, in the drawing of the worthy knight, might have been mistaken for the Louvre. Some adjoining mansions were, by some magical process for which Sir Carte was famous, to be cleared of their present occupiers, and the whole side of the square was in future to be the site of Hauteville House. The difficulty was great, but the object was greater. The expense, though the estimate made a bold assault on the half million, was a mere trifle, "considering." The Duke was delighted. He condescended to make a slight alteration in Sir Carte's drawing, which Sir Carte affirmed to be a great improvement. Now it was Sir Carte's turn to be delighted. The Duke was excited by his architect's admiration, and gave him a dissertation on Schönbrunn.

* * * *

. . . The young Duke had departed to his chief family seat, Hauteville Castle, in Yorkshire. He arrived at Hauteville amid the ringing of bells, the roasting of oxen, and the crackling of bonfires. The castle, unlike most Yorkshire castles, was a Gothic edifice, ancient, vast, and strong, but it had received numerous additions in various styles of architecture, which were at the same time great sources of convenience and great violations of taste. The young Duke was seized with a violent desire to live in a genuine Gothic castle: each day his refined taste was outraged by discovering Roman windows and Grecian doors. He determined to emulate Windsor, and he sent for Sir Carte.

Sir Carte came quick as thunder after lightning. He was immensely struck with Hauteville, particularly with its capabilities. It was a superb place, certainly, and might be rendered unrivalled. The situation seemed made for the pure Gothic. The left wing should decidedly be pulled down, and its site occupied by a Knight's Hall; the old terrace should be restored; the donjon keep should be raised, and a gallery, three hundred feet long, thrown through the body of the castle. Estimates, estimates, estimates! But the time? This was a greater point than the expense. Wonders should be done. There were now five hundred men working for Hauteville House; there should be a thousand for Hauteville Castle. Carte Blanche, Carte Blanche, Carte Blanche!

The Rt. Hon. BENJAMIN DISRAELI. "The Young Duke."

PLUS ÇA CHANGE—

"The question asked in the House of Lords on Thursday elicited from the Bishop of London an acknowledgment '. . . that the scheme proposed some years back for the wholesale removal of the City churches is continuing its destructive course unimpeded. Four more churches are to be sacrificed to the Mammon-worship and want of taste of this great city'."

WILLIAM MORRIS.
"THE TIMES," 1878.

Gas-proof Gothic?

It is strange that none of our modern architects have yet realized, at least publicly, the propaganda value for modern architecture of the present air-defence panic. If all our future buildings have by law to be provided with all the latest devices to render them as immune as possible from the air, it will mean bidding a long farewell to the Gothic, the neo-Baroque, and the Oxford Street Renaissance. For if gas as we are told, clings as long as possible to every nook and cranny it can find, then in the next war such buildings as St. Pancras Station and the Imperial Institute will be given the highest rating as potential death traps.

The Pantheon

It has recently been announced that the Pantheon in Oxford Street has been acquired by the well-known firm of Marks and Spencer Ltd. "A final decision," says the *Daily Telegraph*, "has yet to be reached as to the way in which this Oxford Street link with the eighteenth century is to be dealt with to turn it to the uses of a multiple store. In any case the portico, so well-known to all passers-by, which projects over the pavement, will disappear."

Why? Is it because Mr.

MURALS AT BLANDFORD

A detail of one of the walls and a general view of the completed murals, by Osbert Lancaster, recently executed in the Assembly Room attached to the Crown Hotel at Blandford, Dorset.

Wyatt's Doric columns will not allow an uninterrupted view of Messrs. Marks and Spencer's tasteful green and gold shop front, or is it just another example of the rage that seems always to possess the authorities when they are confronted with anything that could conceivably be regarded as an Arcade? Of course we all realize that had the Pantheon been built in a really historic style, Elizabethan for instance, with plenty of half timbering, no amount of inconvenience would have justified the slightest alteration: as, however, it is merely the work of an eighteenth century architect whom it is now the fashion to despise, there is no possible reason for its preservation.

More Things to Come

"*The prophecies of H. G. Wells appear moderate when compared with some of those recently made by certain American scientists.*

"*In* 2036, *according to these gentlemen, we shall open our eyes in the morning and become fully awake by swallowing a 'wake producer' pill: and at night we shall take another kind of pill to induce enjoyable dreams. Whether we can dream solutions of our day's problems is not specified.*

"*Bedclothes will weigh only about a couple of ounces, as they will be woven from special fibres that exclude cold air.*

"*There will be no laundries as the special cellulose textiles worn will be so cheap that they can be tossed into the waste-paper basket at the end of each day.*

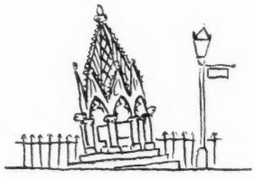
"*Tooth-brushes will be also a thing of the past, as a mouth-wash will consist of a solution that dissolves all tartar or germs from the teeth and stimulates the gums.*

"*A few drops squeezed from a tube of hair remover on to the face will eliminate the necessity for shaving.*

"*Meals will consist of concentrated essence pills, so that no time will be wasted by feeding, and labour will be reduced to such a minimum that the average working day will be about two hours.*"

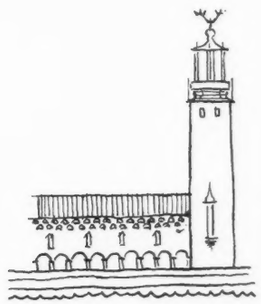
SUNDAY MERCURY.

And what, pray, are we going to do with the remaining twenty-two? Even with the dream-provoking pills it seems unlikely that we shall want more than ten hours sleep o' night.



Another Art Treasure in Danger?

A gentleman crossing Parliament Square the other afternoon was horrified to notice that his favourite London eyesore, the Buxton Memorial Fountain (that little Gothic Gem!) was rapidly deserting the perpendicular and already shows signs of a nasty lean. Whether this is due to faulty foundations, the vibration of the traffic, or some sinister plot on the part of the Surrealists, has not been ascertained.



No sense of Values

The account of the following deplorable incident comes from the *New Statesman and Nation*.

"*After the interview Low remarked that he was going to take me to see Stockholm's wonderful Town Hall. Now you must understand that this Town Hall is a very remarkable building with steps going down to the water and a façade like the Doge's Palace at Venice. Low has the highest admiration for it. But the young man who reported was not pleased at hearing it called wonderful. He told us he was bored with the Town Hall and that fifty architects came to see it every week and talked the same rot about it. Low was amused. 'You would rather have me call it rotten' he said. 'Well, have it your own way; it is certainly out of tune with the rest of Stockholm architecture.' And we left the hotel laughing. That evening the interview appeared with 'The Town Hall: Rotten', as the headline, and a largely fictitious account of Low's views about the Town Hall. This was quoted throughout the Swedish press and nearly made an international incident.*"

What a country! One hardly knows which is the more extraordinary of the two delusions under which, one gathers from the above, the Swedes seem to suffer: architecture is a potential source of national pride and, as such, is worth a place in the news; or Low's views could be of the slightest interest to the public. After all he is only an artist, not a cricketer or a film-star.

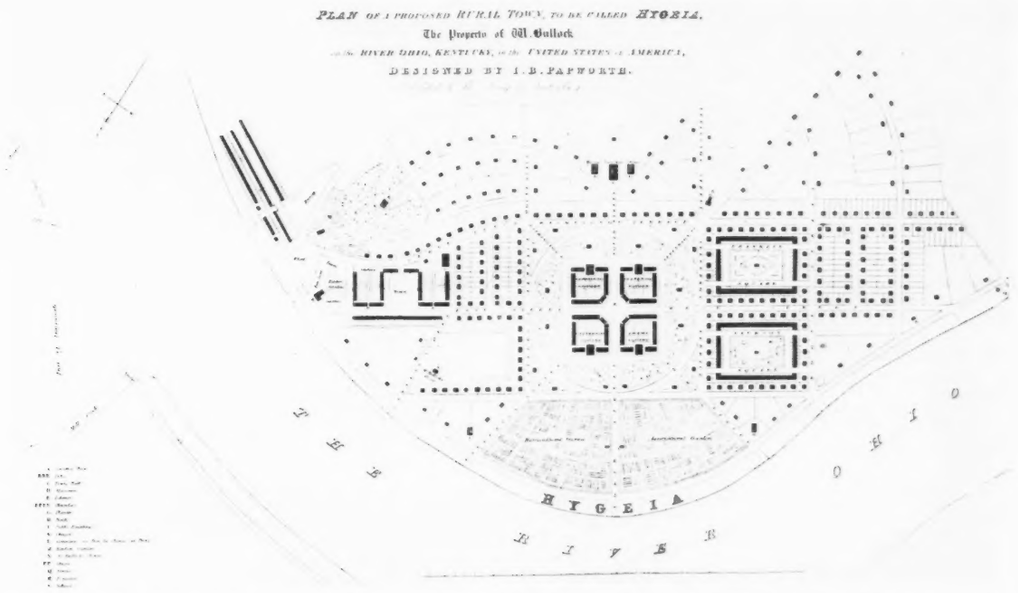
Jours de Gala

"*It is greatly to be hoped that the opportunity will be used by local authorities at next summer's Coronation to employ architects and architectural students so that our street decorations may present a planned and harmonious whole, while allowing for diversity within that whole, and may present something worthy and representative of contemporary talent rather than be left to the inspired chaos of individual enthusiasm or the dull vulgarity of the contractor.*"

So said Mr. Gerald Barry, speaking at the opening of the annual exhibition of the Liverpool School of Architecture. Personally we have our doubts. A little healthy competition and inter-shop rivalry seems just as likely to us to produce the required effect as an all too well thought out plan produced by a local committee. As for the art schools, those of us who remember the grisly efforts produced by the Slade and South Kensington at the Jubilee, can hardly be expected to view the prospect of their contributions with any undue enthusiasm. Reactionary old individualists we may be, but next May will see a tasteful arrangement of Union Jacks and Gilt Crowns over our front door, and all our own work too!

Modified Rapture

In the evidence given before the Select Committee of the House of Lords now considering the proposed extension eastward of the Central London Railway, it was revealed that the



The print reproduced above has come to hand since the publication in our June issue of Mr. Ross Williamson's article on John Buonarotti Papworth. It represents Papworth's design for Hygeia, a model town that he was to have laid out on the banks of the Ohio, in Kentucky, for the remarkable Mr. Bullock, proprietor of the Egyptian Hall in Piccadilly. The project was made about 1828, but was, unhappily, never carried out.

inhabitants of Newbury Park, while welcoming the proposed electrification of the suburban lines of the L.N.E.R., objected to the new tube going under their houses. They would much prefer it, they said, if it were to go under other peoples houses.

THE ARCHITECTURE OF THE FAIR

"*In origin, a fair is a combination of a merchant's market, like a country fair today; a grand urban spectacle, like the return of a triumphant army; and a museum of curiosities and wonders. The architectural problem is to provide a setting that will make the fair pay, make the spectacle amusing, and make the museum interesting and profitable. Everybody who went to Chicago said that it was the visitors who really made the show interesting: there is a clue here. Everybody who went to the earlier Chicago fair carried back, besides sepulchral memories of Beauty, the image of Olmsted's beautiful water course in greenery: another hint there. In short, the fair in every department, should speak the current American vernacular. Vernacular architecture today is based upon a popular acceptance of the machine: it demands the sort of technics and materials that the builder would use, as it were, without giving them a second thought.*

"*This effortless, unemphatic style, as closely moulded to life as the skin is moulded to the flesh, is the precise antithesis to ancient theatricality and monumentality; that is, no doubt, the reason our monuments are for the most part grim failures—effortful but unheroic—while our subway stations, our lunch counters, and our kitchens are so unerringly good. When our architects try to be gay and fantastic, they are just silly: levity, fantasy, caprice, the qualities of the Dresden Baroque, say, are now at home only in motion pictures or musical comedies. Indeed, even our stage designers are usually best when they are most restricted, if not suppressed. But an architecture 'moulded to the flesh' can never be better than the idea and the programme that have formed it. That's why the American Philosophical Society had better go into a quick huddle and give the Fair Committee an Idea. If they don't there won't be any exposition worth looking at or into in* 1939."

LEWIS MUMFORD
in the NEW YORKER.

MODERN TREASURY—I

A charming example of the modern genius for improvement, in Catherine Street, Westminster. The eighteenth century, of course, was all right in its way, but just a trifle monotonous, don't you think? It is so important if one has a period house, to take care it is the *right* period. If it is not, a few skilful additions will soon give it that Tudor look we all so much admire.

A PROPHET IN HIS OWN COUNTRY

"*Writing to the 'Architectural Review' fifty years ago* an architect predicted that in years to come some other means of heating dwelling houses than by stoves needing flues would be found. Householders would then be rid of the sooty smell which the reversed draught down the chimney brings in hot weather. Little did he realize that the next century would certainly bring the chimneyless house, but that in many cases people would still be enduring the smell of soot in hot weather. He would, perhaps, have doubted modern sanity had he been informed that in* 1936, *while engineers were carefully washing the flue gases of the least offensive chimneys, namely those of power stations, millions of domestic flues were permitted to emit tarry smoke for eight months in the year. It would surprise the same architect to know that many of his profession still honestly believe that adequate ventilation can be achieved by burning solid fuel or towns' gas in such a way that it uses the freshest air in a room and leaves stale air untouched. In the light of modern conditions it is astonishing that such views did not receive severe condemnation or at least the rebuke that their sponsor was half a century before his time. And it is to no one's credit that fifty years has not been sufficient to prove him right by unanimous practice.*"

ELECTRICAL INDUSTRIES.

* Among this architect's predictions, incidentally, must have been the "Architectural Review" itself, the first number of which did not appear till 1897—39 years ago, not 50.—*Editor*, "A.R."

The Long View

As doubtless our readers are aware, one of the most flourishing of the recently started young people's movements in America is that of the United States Veterans of Future Wars.

Not only are they demanding, with unanswerable logic, that they shall receive their Veteran's Bonus now, before they are launched into the next war, but they are also taking into account such matters as the erection of Future War Memorials, Pre-Service Men's Homes and all the other various buildings and organizations that hitherto we have stupidly left till *after* a War to start work on.

It has occurred to us that this simple but revolutionary idea is capable of considerable profitable expansion, and we here and now propose to found a Society for the Preservation of Unbuilt Monuments. We shall start by launching a telling appeal for funds to preserve for the nation for ever the New Charing Cross Bridge.

Simpson's, Piccadilly

We are asked to supplement the information given in our June issue about Simpson's store in Piccadilly (Joseph Emberton, architect) by stating that Messrs. Helsby, Harmann and Samuely were the consulting engineers.

Trade News and Reviews

By BRIAN GRANT

The Floodlighting of Buildings

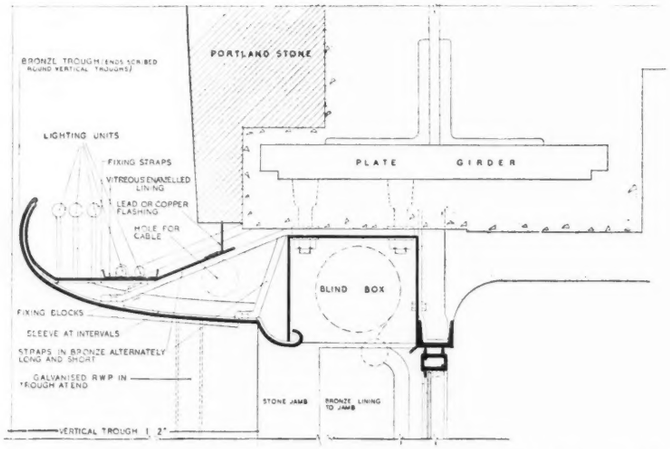
In the March issue in these notes I dealt briefly with the Cleora system of neon floodlighting—I illustrated, as an example, the Bon Marche Pavilion at the Brussels Exhibition and mentioned that a certain new building in London, then in course of erection, was to adopt this system for the floodlighting of its main elevation. That building, the new Simpson Store in Piccadilly, was opened a month or so back with fitting pomp and ceremony, but only in the last few days have I had the opportunity of viewing it by night. The store has been designed not simply to house merchandise but to advertise it and, in the centre of London, publicity by night is every bit as important as publicity by day.

• • •

Joseph Emberton has produced for his clients the best possible form of nocturnal publicity - - verve without vulgarity, boost without blatancy.

• • •

Eighty yards from Piccadilly Circus the store stands out in pleasing contrast from many of the buildings that flank the Circus itself. Poor little Eros, night life for him must be very trying—from sundown to the early hours of morning he is dazzled with garish lights and flashing signs.



Section through a flood-lighting trough at Simpson's, Piccadilly. Architect, Joseph Emberton.

The frontage of the Simpson building is functional and a little austere, relying for effect on clean bold lines. Four wide, non-reflecting windows traverse the whole length of the frontage divided by narrow strips of Portland stone; the stonework has been applied frankly as a facing material only and the floodlighting has been incorporated in the design by the use of bronze lighting troughs. At each side of the building a 52-ft. trough runs vertically and above each window there are five horizontal troughs. In each of these are three neon tubes (red, blue and green); by using all three simultaneously a white light is obtained and by altering the combination other colours can be produced. The tubes are in 15-ft. lengths, and for each length a transformer is provided to increase the voltage to between 4,000 and 6,000. Current for lighting the whole frontage of the building is consumed at approximately 7 units per hour. A section through the lighting trough is reproduced on the previous page and it will be noted that the facing stones are tilted slightly so as to reflect the full effect of the illumination. The contractors for the floodlighting installation were Claude General Neon Lights, Ltd.

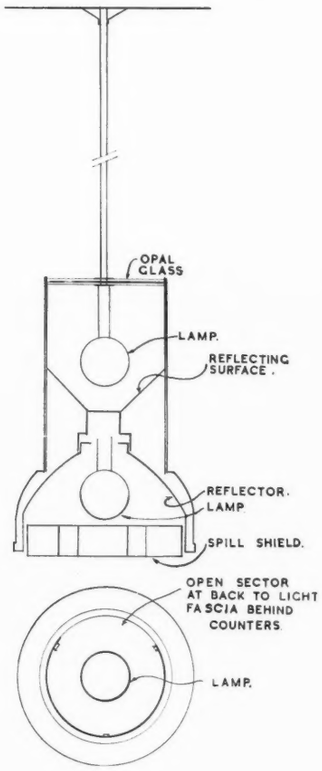
• • •

Interior Fittings

Inside the store, on the ground floor, I found some fittings of interesting design. As can be seen from the photograph and drawing reproduced here the fitting has been designed to combine the advantages of direct and indirect lighting, and, in illuminating, the lamps cast practically no shadow.

In the upper part of the lamp there is a 100-watt bulb which reflects upwards and backwards on to the ceiling and walls through two concealed glass panels.

An electric fitting giving direct and in direct shadowless lighting. Designed by Joseph Emberton in collaboration with C. Harvey & Co.



Exhibition Stand for Ascot Gas Water Heaters Ltd.

I must compliment the "Ascot" directors on their decision to organize a competition amongst architects for the design of their Building Trades Exhibition stand.

The result was announced on July 10th at a reception held at The Building Centre and the awards were :—

Design placed first (premium £100), Rodney Thomas, A.R.I.B.A.

Design placed second (premium £25), Whitfield Lewis and W. G. Sweet.

Design placed third (premium £5), W. J. T. Godwin.

The assessors were G. Grey Wornum, Keith D. P. Murray and F. R. Yerbury.

The idea of thus inviting young architects to co-operate in the display of building materials at a Building Exhibition is more than a good one; it is an entirely logical one, and I hope that in future years many more firms will have the courage and the common sense to emulate the good example set by Dr. Friedman and his co-directors.

At the last Building Trades Exhibition in 1934 the best exhibits were undoubtedly those that had been designed by architects—a fact that is, after all, not in the least surprising.

• • •

Between now and August 10th I shall be glad to receive from manufacturers details of their exhibits at this year's exhibition—in particular shall I like to receive perspective drawings of architect-designed exhibits.

• • •

"Modern Fire Fighting"

It is, I believe, estimated that the total annual fire loss in Great Britain is in the region of £50,000,000. A sufficiently alarming figure this and one that would, without doubt, be multiplied several times over were it not for the speed and efficiency with which the modern fire brigades tackle their most arduous duties.

Nothing provides so thrilling a spectacle as a really good fire—for preference, a riverside fire on the darkest of dark nights, when the great flames, leaping incredibly high, are reflected in the sombre waters below. The magnificence of the spectacle, however, is no consolation to the poor devil whose property is providing the blaze.

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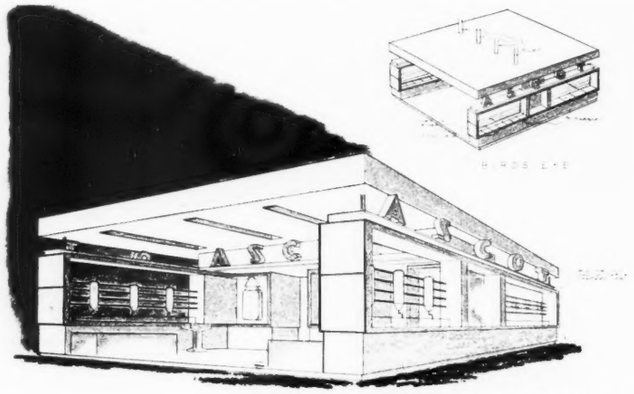
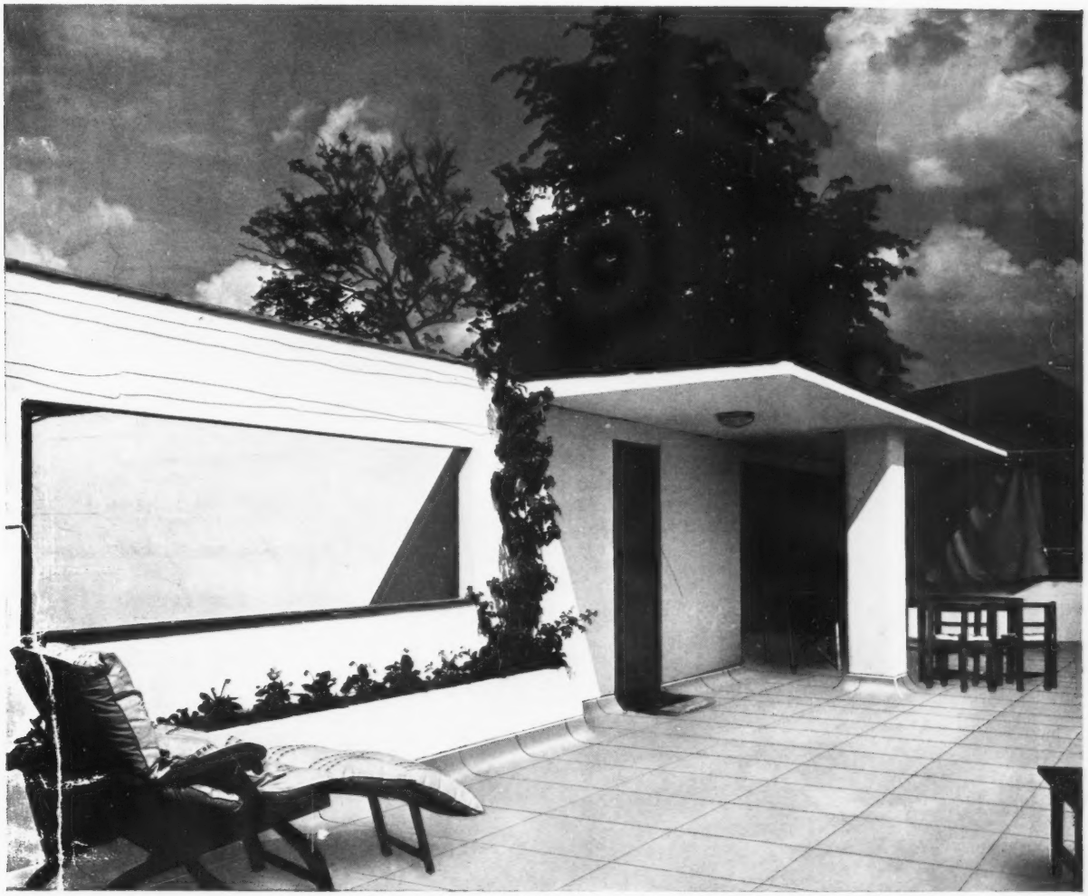
In the construction and equipment of the modern building the architect contributes his share of labour as a "fire fighter." The ability of a structure to



Perspective drawing of the "Ascot" exhibition stand designed by Rodney Thomas



Contractor: W. H. Gaze & Son

A sunny retreat . . . You have only to look at this picture for a moment to realize the many advantages of a flat roof—that is weatherproof and durable. For this house at Hampstead, the Architect, E. Maxwell Fry, A.R.I.B.A., specified 'Paropa' roofing, laid and jointed in situ. May we tell you more about 'Paropa'? We know our experience can be useful.

FRAZZI LIMITED, LENNOX HOUSE, NORFOLK STREET, STRAND, W.C.2

withstand fire (defined in British Standard Specification No. 476, 1932, in terms of the time during which it will perform its functions when subjected to the action of a conflagration) is largely dependent upon the skill of the architect and his knowledge of materials; in factories, schools, hotels and all buildings in which large numbers of people are assembled together, fire prevention and fire protection are problems that directly concern the architect.

• • •

"Modern Fire Fighting" is the title of a book just published by the Pyrene Company, Ltd., fire appliance manufacturers. Its object is to assist those concerned with fire safety in determining what is the most suitable protection for their respective fire risks, and deals comprehensively with the wide range of fire appliances available. It is an eminently useful work, thoughtfully compiled, containing a great deal of information of immediate concern to the architect. I would criticize only the constant reiteration of the Company's various trade marks—a serious book of this nature is in itself a sufficiently good advertisement for the firm that produces it.

• • •

A.C. Motors and Control Gear
—an informative handbook.

Brook Motors, Ltd., of Empress Works, Huddersfield, have compiled a convenient pocket-sized handbook containing over 100 pages of useful data regarding the installation and maintenance of electric motors and control gear. Dealing primarily with the Company's own manufactures, its contents also include authoritative general data with accompanying diagrams, specifications and tables.

Of particular interest to the architect is that section in which the special requirements of different types of buildings are tabulated, the pages devoted to the existing regulations for the electrical equipment of buildings, and the table giving the voltage frequency and phase of the various electrical supply authorities throughout the country.

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The Buildings Illustrated

House at Hampstead.

Architect: E. Maxwell Fry, B.Arch., A.R.I.B.A.

The general contractors were Messrs. W. H. Gaze & Sons Ltd. Among the subcontractors and craftsmen were the following: L. G. Mouchel & Partners (reinforced concrete design), Helical Bar & Engineering Co. Ltd. (reinforcement), London Brick Co. Ltd. (flettons), Frazzi Ltd. ("Paropa" patent roofing), F. McNeill & Co. Ltd. ("Insulerete" partitions), Cellulin Flooring Co. (cork carpet and lino), Venesta Ltd. (walnut plywood flooring and flush doors), Richard Crittall & Co. Ltd. (panel heating), Bratt Colbran & Co. Ltd. (grates), Falkirk Iron Co. Ltd. (gas fixtures), Gas Light & Coke Co. Ltd. (gas fitting), Mortimer Gall & Co. Ltd. (special lighting fittings, electric wiring and bells), Troughton & Young Ltd., Allom Bros. Ltd.: Ascog Ltd. and Best & Lloyd Ltd. (electric light fittings), Shanks & Co. Ltd. (sanitary fittings), Baldwin Son & Co. Ltd., and Conyn Ching & Co. Ltd. (door furniture), Oscar Kanter ("Wehag" door furniture), Williams & Williams Ltd. (steel windows, window furniture, steel front door, casements), P. C. Henderson Ltd. (sliding door gear, garage), Hilmor Ltd. (external metalwork), Light Steelwork Ltd. (staircase balustrade), Synthetic Stone Ltd. (copings), Fenning & Co. Ltd. (living room fireplace), Fairways Ltd. (tesselated tiles), A. Quiligatti & Co. (terrace tiles), B. Cohen & Son (furniture and built-in furniture), Waygood-Otis Ltd. (lifts), Smith's English Clocks Ltd. (clocks),

RECONSTRUCTED STONE

What more perfect example of the art of Reconstructed Stone could be found than in this imposing structure of John Wright & Co., Ltd., executed to the design of Ewen Harper Brother & Co., of Birmingham, in Reconstructed Portland.
Every stage in the production of Reconstructed Stone—whether it be in the Laboratory or the Casting Shop—the Planning Department or the Finishing Shop, is governed by that meticulous care and supervision which has gained for 'ELLIS' of LEICESTER a name that is respected in all branches of the Architectural World.

We shall be very happy to let you have along the fullest information

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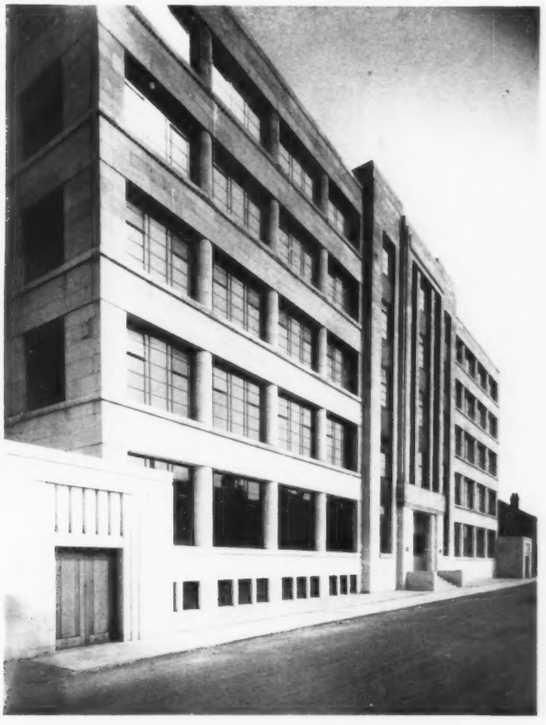
by Ellis OF LEICESTER



The Buildings Illustrated

United Water Softeners Ltd. ("Permutit" water softening plant). Stic B. Paint Sales Ltd. (concrete paint). Nobel Chemical Finishes Ltd. (interior and exterior paint, and distemper).

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Church of The Sacred Heart, Hillsborough, Sheffield.

Architects: C. M. Hadfield, F.R.I.B.A. R. Cawkwell, A.R.I.B.A.

The general contractors were Messrs. W. G. Robson Ltd. Among the sub-contractors and craftsmen were the following: John Hadfield & Sons (asphalte), Maltby Metallic Brick Co. (external facings and bricks), Williamson Cliffe Ltd. (hand-made facings and internal bricks), Gregory Bros. (Ancaster Freestone in sculpture and paving stone), Robinson & Kershaw (structural steel), Frazzi Ltd. (hollow tile roof), Robertson & Russell (hand-made glass), Mellowes & Co. (casements and patent glazing), Hollis Bros. & Co. Ltd. (wood block flooring), Hodkin & Jones (patent flooring), G. N. Haden & Sons, Ltd. (central heating, electric light, ventilation), G. A. Simpson (plumbing), Alfred Brown & Co. (door furniture), J. Taylor & Sons (25-cwt. bell), Hayward & Gellstein (tower stairs), Newells Insulation Co. (acoustic spray), W. J. Wilson (fibrous plaster), W. G. Robson, Ltd. (teak), Art Pavements & Decorations (high altar and pavement), T. B. W. Cockayne Ltd. (carpets), L. Conroy & Co. (Sanctuary furniture and teak pews), Albert Keetes (organ), A. Beach (external notice boards).

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Pavilion at the Royal Agricultural Show, Bristol, for Messrs. P. E. Gane.

Architects: Marcel Breuer and F. R. S. Yorke, F.R.I.B.A.

The general contractors were Messrs. Stone & Co. (Bristol) Ltd. Among the sub-contractors and craftsmen were the following: Williams and Williams (windows), Venesta (plywood floor, walls and ceiling), Wood Products Ltd. ("Ensonit" underlay to roof and floor), J. H. Hall & Sons (glass), Ruberoid Ltd. (roofing).

● ● ●

The White House, Albany Street, N.W.

Architect: Robert Atkinson.

The general contractors were Sir Lindsay Parkinson & Co., Ltd. Among the sub-contractors and craftsmen were the following: Goodman Price Ltd. (demolition and excavation), Trussed Concrete Steel Co., Ltd. (foundations and reinforced concrete), Excel Asphalte Co. Ltd. (asphalte), London Brick Co. Ltd. (bricks), Shaws Glazed Brick Co. Ltd. (terra-cotta), F. McNeill & Co. Ltd. and E. J. Elgood Ltd. (partitions), Decorative Specialists Ltd. (glass), John Cooke (Huddersfield) Ltd. (patent flooring), James Combe & Son (central heating, gas fixtures, gasfitting, boilers, ventilation), Electrical Installations Ltd. (electric wiring, clocks, electric light fixtures, signs), Walter Cowan, Ltd. (plumbing and water supply), George Jennings & Co. Ltd. (sanitary fittings), Charles Walker & Co. Ltd. (stairtreads), Clark Hunt & Co. Ltd. (door furniture), Henry Hope & Sons Ltd. (casements and window furniture), General Post Office (telephones), Bostwick Gate Co. Ltd. (folding gates), Light Steelwork (1925) Ltd. (iron staircases and metalwork), King & Co. Ltd. (plaster and decorative plaster), Southerns Ltd. and Sharp Bros. & Knight Ltd. (joinery), J. Whitehead & Sons Ltd. (marble), Roberts Adlard & Co. Ltd. (tiling), A. Davey (Blackpool), Ltd. (textiles, furniture and office fittings), D. Burkle & Son Ltd. (shop fittings), Express Lift Co., Ltd. and Lift & Engineering Ltd. (lifts).

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Pithead Baths, Coventry.

Architect: W. A. Woodland.

The general contractors were W. R. Lane and Son, Ltd., and the principal sub-contractors and suppliers included Matthews and Mumby, Ltd. (steel reinforcement and steel work), James Gibbons, Ltd. (metal windows), Hills Patent Glazing Co., Ltd. (patent glazing and lantern lights), J. A. King and Co., Ltd. (Glaserete roof lights), W. F. Furze & Co. (electrical installation), G. N. Haden and Sons, Ltd. (heating and plenum

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installation). Lion Foundry. Co., Ltd. (rain water-heads, C.I. cesspool boxes, shirt and towel hooks). Messrs. Steelway, Ltd. (galvanized steelway scraper mats, non-slip treads, channel plates, steel tables and stools). Sankey Sheldon (steel lockers). Durose and Sons. (W.I. grills and metal ladders). Pearce and Cutler, Ltd. (sanitary fittings). Universal Grinding Wheel Co., Ltd. (non-slip tiles). Bostwick Gate and Shutter Co., Ltd. (collapsible gates). William Boby and Co., Ltd. (water softening apparatus). Tuke and Bell, Ltd. (sewage treatment and pumping plant). Stourbridge Glazed Brick and Fireclay Co., Ltd. (tiling). Hoyle, Robson, Barnett & Co. ("Glazement" wall finish). Eric Munday (commemorative tablets and directional signs). Girling's, Ferro Concrete Co., Ltd. (concrete tiles). Turner's Asbestos Cement Co., Ltd. (asbestos tiles). Walker and Wood, Ltd. (ironmongery). John Unite, Ltd. (cubicle curtains). A. J. Hawkins Co., Ltd. (first aid and ambulance). Pyrene Co. (fire extinguishers.)

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Vega Restaurant, Panton Street.

Architects: **Samuel and Harding.**

The general contractors were Messrs. Frederick Cope & Co. Ltd. Among the sub-contractors and craftsmen were the following: Vigers Bros. Ltd. (wood-block flooring). Benham & Sons Ltd. (gas fixtures and ventilation). Oswald Hollmann (electric light fixtures). John Bolding & Sons Ltd. (sanitary fittings). Nettlefold & Sons Ltd. (door furniture). Honeywill & Stein Ltd. ("Gyproc" plaster board). Etchells Congdon & Muir Ltd. (lifts).

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Claridge's Hotel—7th Floor Additions.

Architect: **Oswald P. Milne, F.R.I.B.A.**

The general contractors were Messrs. James Carmichael Ltd. Among the sub-contractors and craftsmen were the following: Williams & Williams Ltd. (windows and Thermolux glass to bathrooms). Shanks & Co. Ltd. (sanitary fittings). Caxton Floors Ltd. (hollow tile flooring). Bratt Colbran & Co. Ltd. (fireplace in salon). W. W. Jenkins & Co. Ltd. (marble work to bathrooms and fireplace surround in salon). Croft Granite Brick & Concrete Co., Ltd. (paving and artificial stone columns to roof gardens). D. Burkle & Son, Ltd. (salon furniture). Dorman Long & Co., Ltd. (steelwork). A. A. Pegram (bedroom furniture and fitments). A. H. Samouelle, Ltd. (plumbing). D. Anderson & Sons (asphalte roof covering). Light Steelwork (1925) Ltd. (handrailing to roof garden). Joseph Avery & Co. (sun blinds). Troughton & Young Ltd. (light fittings). Allom Bros. Ltd. (light standards). Pugh Bros. Ltd. (circular mirror in salon and vitrolite in bathrooms). Smith's English Clocks Ltd. (electric clocks). A. J. Tatham Ltd. (terrazzo paving in bathrooms).

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Store at 2 Golders Green Road.

Architect: **Ernö Goldfinger.**

Among the sub-contractors and craftsmen were the following: E. Pollard & Co. Ltd. (structural steel, joinery, shop fittings, furniture). Thermolux Ltd. (Thermolux glass). Chance Bros. Ltd. (Reflectalyte glass). British Vitrolite Co. Ltd. (Vitrolite and Vitrollex). Diespeker & Co. Ltd. (patent flooring). H. Dutton & Sons (central heating). Ascot Gas Water Heaters Ltd. and Ideal Boilers and Radiators Ltd. (boilers). Duncan Watson & Co. Ltd. (electric wiring). Holophane Ltd. (electric light fixtures). Alfred Goslett & Co. Ltd. (sanitary fittings). Dryad Metal Works Ltd. and Parker Winder & Achurch Ltd. (door furniture). Bostwick Gate & Shutter Co. Ltd. (folding gates). Armstrong Cork Co. Ltd. (wallpapers). Marryat & Scott Ltd. (lifts). Smith's English Clocks Ltd. (clocks). Ionite Ltd. (signs).