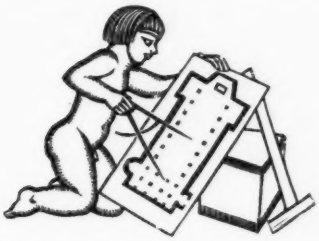
THE ARCHITECTS' JOURNAL



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The Government Bill for the reconditioning of old cottages as a means of providing some relief from the shortage of houses is dealt with in our leading article. Sir Frank Baines's paper on the preservation of ancient cottages, which may be said to have inaugurated the Bill, is epitomized for our front article.

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PRINCIPAL CONTENTS

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CHRISTIAN BARMAN, *Editor*

The Editor will be glad to receive MS. articles, and also illustrations of current architecture in this country and abroad, with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

RENDERINGS OF ARCHITECTURE

Selected and annotated by Dr. Tancred Borenius.

xxx: Giuseppe Bibbiena (1696-1756).
A Ruined Medieval Castle.

This is one more engraving from the volume entitled "Architetture e prospettive" (Augsburg, 1740) from which Nos. xxv and xxvii were chosen. It is no doubt a design for theatrical scenery, though which drama it was intended for must remain uncertain. In evolving his idea of a ruined medieval castle, the artist has mainly made use of Gothic architectural forms; but he has evidently no real knowledge of Gothic architecture, and a number of elements of quite a disparate nature have managed to creep in. All the same, this engraving is remarkable as an early instance of that romantic interest in Gothic architecture which gained so much strength and diffusion later in the century, and of which Horace Walpole was such an enthusiastic exponent. Perhaps he would have said of this as of the artificial Gothic ruin at Hagley, "It has the true rust of the Barons' wars."—[Victoria and Albert Museum.]

THE ARCHITECTS' JOURNAL

Wednesday, August 11th, 1926

THE NEW HOUSING BILL

WHATEVER political significance may appear to lie in the Government's Housing (Rural Workers) Bill, which has just passed its second reading—and our own opinion always has been, and still is, that housing should transcend party politics—the architectural profession must surely give it a welcome; for is it not possible that this Bill, even if it does not do as much good for the architecture of the countryside as the various subsidy Acts have done harm, may at least check the ruthless destruction of England's precious legacy of country cottages.

From time to time during the last five years various individuals and various bodies have protested against the spoliation of the countryside; a spoliation which has manifested itself in the destruction of houses which ought never to have been destroyed, and in the erection of houses which ought never to have been erected. And these protests have always been met with disconcerting logic. Landlords, it is pointed out, are as loth as anyone else to abandon old cottages, but if they cannot obtain an adequate increase of rent then they cannot recondition them. As for the sin of commission, any house, even an ugly house, says the "practical" man, is better than no house at all. But at last it would seem we are to have an Act which will enable the landlord to recondition his cottages, and a double benefit will accrue; the benefit of additional housing accommodation, and the benefit of the preservation of England's swiftly disappearing cottage buildings.

The rural housing problem, as Mr. Chamberlain pointed out, is distinguished from the urban problem by two causes. The population has been stagnant, so that the necessity of providing additional accommodation has not arisen, and, furthermore, for a long time the agricultural worker has not been able, or expected, to pay an economic rent. Thus, although overcrowding exists in rural districts the need for more houses has never been so acute as in urban districts.

The new Bill enables assistance to be given to those who propose to make structural improvements to cottages. The assistance may be by way of a loan or a grant, or by both, in respect of work the estimated cost of which is not less than £50, in connection with houses, whose value, after alteration, does not exceed £400. The amount of the grant is limited to two-thirds the cost of the estimated work, and may never exceed £100 per cottage. This assistance having been obtained the houses may not be let for a period of twenty years to any one whose position is not comparable with that of an agricultural worker, and the rent is not to be more than the normal agricultural rent plus 3 per cent. of the amount expended on the alterations by the owner; it cannot, therefore, be said that the Bill brings affluence to landlords. Indeed, it has been suggested that it offers them insufficient inducement. We hope that this suggestion may prove to be without foundation. We are inclined to think that on the whole rural landlords carry out their obligations conscientiously and to the best of their abilities, although, with the shifting of interests from countryside to town, and with the breaking up of large estates, houses have sometimes passed into the hands of those who are devoid of the old traditions and of the old affections. To-day the best-cared for cottages are, for the most part, in the hands of those landlords who still belong to the old landed stock. Indeed, whenever the traveller is fortunate enough to come upon an unspoilt village or a district free from the pock-like blemishes of the speculative builder, he will find that the cause of his delight is due to the fact that the district is owned by a landlord of the old school who jealously cherishes his heritage. The laws of entail were not without their advantages to the countryside.

The responsibility for the administration of the Act will rest with the county councils. New duties and new responsibilities are thus thrown upon them. We hope that some sort of memorandum will be issued to them in due course setting forth the kind of improvements which should be carried out if the work is to be eligible for financial assistance. According to the Bill the works may consist of structural alteration, repair, addition, provision of water supply or sanitary conveniences, but they shall not consist solely of works of ordinary repair or upkeep. It is clearly impossible to lay down any exact requirements, since each case must be governed by its particular circumstances. It might, however, be possible to formulate certain guiding principles, such, for example, as that where facilities exist a water supply should be provided within the house, and the like. It is surely a happy augury that the second reading of this Bill should follow closely upon Sir Frank Baines's appeal to the Royal Society of Arts to initiate action for the preservation of English cottages, although, as Sir Frank said, "The fact that any appeal should have to be made for the effective preservation of such a record implies an indifference which is a slur upon the national intelligence; for to lack any appreciation of the records of history is to have no past and to deserve no future." Perhaps the slur is to be removed, for the Government is granting the means whereby this record may be preserved if there be sufficient who care about its preservation, and this we can scarcely doubt.

NEWS AND TOPICS

I HAVE just received an illustrated pamphlet setting forth on behalf of the curators of the Bodleian the need for the provision in the near future for the growing size of the university library, and detailing five schemes which have been proposed for meeting it. The Bodleian receives annually between 20,000 and 25,000 new volumes, and it is calculated that in ten years' time, unless some new provision is made, the present available space for books will be entirely occupied. The first suggestion is that the annual intake of books might possibly be lessened without prejudice to the needs of the students, while a certain number of books which now occupy valuable space may be discarded. It is not anticipated, however, that this would bring much relief. The second suggestion is to build new underground chambers, but there are dangers of damp and leakage, and the excavation might endanger the foundations of the Sheldonian and the Divinity School. The third solution is that of building an annexe to the library in the suburbs on university land at Wolvercote. Such an annexe could be connected with the Bodleian by telephone, and rapid delivery of books made by motor-car service. Many thousands of books not frequently required could be exiled to Wolvercote, where room could also be found for unlimited accessions. The fourth suggestion is to enlarge the existing Bodleian by disembowelling the Clarendon building, converting it into a bookstack, which might be completed by a wing connecting the north-east angle of the Bodleian with the south-east corner of the Clarendon building. The adoption of this plan would, perhaps, impair the beauty of the northern end of Catherine Street, and would entail the sacrifice of the view of the flank of the Sheldonian Theatre from New College, but such an enlargement would meet the needs of the library for a century.

* * *

The last and fifth proposal is to build a new Bodleian in the university parks, retaining the old building as the headquarters of the administration and as a store-house for certain indispensable books. It is suggested that a suitable site for such a building would be the meadow lying between the entrance opposite Keble Road and Norham Gardens Lodge. In such a position the new Bodleian would be readily accessible to students. It is obvious that some well-considered division of the university library is unavoidable. Rather than tamper with the historic buildings adjacent to the Bodleian it would seem far preferable to build an annexe on a less congested site, where it would be possible to introduce modern methods of lighting and equipment. The balance of advantage lies with either the third or fifth solution, but whatever be the outcome it is well to have the facts of the situation so admirably displayed as in this pamphlet entitled *The Future of the Bodleian*.

* * *

Yet another beautiful building is threatened with destruction! This time it is the Old Blue Coat School at Liverpool, which for many years has been known as Liberty Building. This famous mansion was erected between the years 1709 and 1725. Everybody familiar with it must recognize the extraordinary charm of its design. As Professor Reilly recently pointed out in the *Liverpool Post*, "the courtyard forms an oasis in the centre of the town near its busiest streets, where one can enjoy the very atmosphere of two hundred years ago. There is nothing like it in this town nor in any of the northern commercial ones, such as Manchester, Leeds, or Sheffield. It is a delightful example of early eighteenth-century architecture, when the Dutch influence, which came in with William and Mary, was still dominant. It has all the charm which one is accustomed to associate with that period—the almost doll's house *naïveté*, the gay contrast of white window-sashes against mellow red brick—but in addition to this it has something of the personal manner of the greatest English architect. Whether Sir Christopher Wren designed the building or not his spirit clearly informs it. The oval windows above the long vertical ones echo his fenestration at Hampton Court Palace."

* * *

In 1906, when the Blue Coat School was moved to new quarters in Wavertree, the old building was saved from demolition by the late Lord Leverhulme, under whose auspices it became a centre for creative art in Liverpool. For many years it was the seat of the University School of Architecture, and it may be said that it was an enormous asset to the school to be housed in such a delightful architectural environment during its formative years. But it is not only old students of the Liverpool School who will retain affectionate memories of the Liberty Building and who will be moved to protest at the prospect of its demolition; the well-known Sandon Studios Society, which has for many years been the centre of the literary, musical, and artistic life of Liverpool, also had its quarters here. Although the present Lord Leverhulme finds it necessary to dispose of this property, there is still hope that the Corporation of Liverpool or some other public agency can be induced to purchase the building and utilize it for some practical purpose. Sir Leslie Scott, in whose constituency the building lies, suggests that the Lord Mayor of Liverpool might call a conference which could consider any suggestions for the future use of the building and the best means of guarding it meanwhile. Officials of the Royal Institute of British Architects and of the Society for the Protection of Ancient Buildings are also interesting themselves in the matter. So it is not too late to hope that this unique architectural possession will be preserved.

* * *

Several considerations conspire to render it painfully doubtful whether I shall be able to go—at all events immediately—to the exhibition at Philadelphia. One of these is, as a matter of course, a reverberation of that precious General Strike and of the coal dispute. Another is, that I jib at the ugly name of it—"The Sesquicentennial Exhibition," an it please you! They might in courtesy have spared us that sesquipedalian monstrosity. On sensitive, shrinking natures, it is like to have the devastating effect of Mark Twain's gallant attempt to pronounce, at all hazards, the name of his fascinating Russian divinity: every time he plucked up courage to make the supreme effort, out came an old snag tooth, until at length he had to abandon his suit on account of the exorbitant bill for dentistry. Surely some shorter and more euphonious term for the 150th anniversary of the foundation of the city was not beyond the wit of man to devise.

If there is exaltation in looking upon the Parthenon at sunrise, then also is there pleasure for a while in the walking of mean streets at dusk—mean streets in London in winter, when the naphtha flares are being lighted, and one's dress is not noticed and remarked upon as by day. Then I like to go out on to the overcrowded pavements and lose my individuality in those patient, slow-moving crowds. The long Mile End Road I know, and Whitechapel High Street, Spitalfields, Hoxton, many parts of Poplar, St. Pancras, and Camden Town. Street after street filled and overfilled with old houses that are as unreadable as old books, and all the people in them only letters or unintelligible words. At last a deadly weariness of mind and body comes upon you, and you hurry homewards by 'bus, grateful for the sight of brighter things. And this weariness, this depression of both body and soul, is, psychologically, an architectural malady. Those mean, monotonous streets, the beholding of which have at first interested you like a new sensation, have at last poisoned the optic nerves and brought their reaction upon the system as surely as does the taking of hashish, or opium, or wine. During one of these walks of mine, when I had left the City and struck northwards through Clerkenwell, I came upon a bright spot in this Darkest London—a new building that in its freshness of form and colour stood up among those stained, debauched dwellings around it like a good thought in a rather awful world. Designed as a factory, there was a great window forming almost the whole façade, and this great window had a surround of white cement and yellow marble chippings, and the metal frames were painted with aluminium.

A warehouse in St. John Street, Clerkenwell. By Messrs. Percy Tubbs, Son and Duncan.

In its neighbourhood there was nobody who could tell me anything of the building, and when I got home I had to write two letters before the names of the architects—Messrs. Percy Tubbs, Son and Duncan—became known to me.

* * *

Now there are fine tales in the volumes of the Magi—in the iron-bound, melancholy volumes of the Magi. Therein, I say, are glorious histories of the heaven, and of the earth, and of the mighty sea—and of the Genii that overruled the sea, and the earth, and the lofty heaven. There was much lore, too, in the sayings which were said by the Sibyls; and holy, holy things were heard of old by the dim leaves that trembled around Dodona—and there are fine yarns spun by " Karshish " in the last number of the JOURNAL about the coming of the Next Client—but, as Allah liveth, that tale which the Architect told me as he sat by my side after lunch in the shadow of his Latest Work, I hold to be the most wonderful of all !

* * *

He took me back to the time when he had just completed his first house—a small £800 pre-war job. The foundations had been dug in the late summer. The weather held, the work proceeded apace. By the autumn the walls were well up, the roofing going ahead. Winter came, and the early dark. With shorter days the joinery work inside was still able to go forward by candlelight. The frosts kept off, the third coat of the plaster dried. By January the house stood there complete, spic and span as fresh paint could make it; the roof glowing warmly under the winter sun, and the walls standing out grandly foursquare against the side of the hill. Wonderful weather it had been for the building of that house, from the turning of the first sod until the final cleaning of the whitewash from the panes. And then it began to rain. It rained as it rarely rains in this country. It was not rain, it was a downpour: not a downpour either, a cataract rather—water falling like a wall down the hillside and sweeping like a sea around and about the house.

* * *

Then there came by the Next Client ! He came to the front door of the new house, rang the new bell, and asked for shelter from The Rain. It was vouchsafed him. The house afforded it nobly. Not a tile in the roof gave, not a window leaked. It was as another Ark in a second Flood. And now the Next Client had time to look about him—to admire the house. He retreated to a far side of the room so that he might enjoy to the full the fine fireplaces, gazed out of the windows with rapture at the ample views. Cast his eye aloft to the airy ceilings; fondled lovingly the stout newel of the stairs. He even had an eye for the beauty of the architraves, and the mouldings on the deep skirtings. It was, he quoth to himself, in very truth A HOUSE. The name of its author was asked and given—and so there came unto the Architect his Next Client.

* * *

Now there are fine tales in . . .

ASTRAGAL

OUR OLD COTTAGES

[BY SIR FRANK BAINES]

COTTAGE architecture is part of that great tradition of craftsmanship which distinguished medieval England; part of that splendid practice of architecture which has been said to comprise the vast scroll of humanity, and has acted as the chief expression of man in all his stages of development.

In medieval cottage building, the tradition is a peculiarly intimate one. Almost every tradition is contained within some building or monument. But cottage building, developing as it did side by side with human thought and capacity, and growing with the changing social conditions of the people, presents a changing yet true symbolism, transforming into palpable shape the records and history of the past.

That rural architecture which truly belongs to the village or hamlet is the building art of the village craftsman, and is a definite branch of our country's culture. In the chartered towns during the Middle Ages the powerful craft guilds held complete sway over their members, supplying the great ecclesiastical establishments and feudal lords with craftsmen of the highest skill, yet leaving at the same time a sufficient quantity and quality of craftsmanship for the intimate village building of which I speak.

The medieval villages were small, containing from 50 to 300 souls. There was no primary difference between the municipal and the rural population. Some townships bought their freedom by charter earlier than others; some lingered unfree because their lords would not sell.

The men who built and lived in these villages did not "wade through slaughter to a throne"; in them were elements of a primitive yet orderly peace. We must not, however, disregard the elements of tragedy to be found in the village, witness the remarkable study of the conditions of medieval peasant life made by Mr. G. G. Coulton.

No man who reads Chaucer's description of the ploughman can doubt that at its best the life of the village had a true dignity. The poet urges us never "to forget the record of poor folk in cottages charged with children and with church lords' rent." It was families such as these which supplied our universities with their best material.

Even in the Middle Ages a village aristocracy, not of rank but of merit, sprang up. When the villager bought his freedom he sought learning. His qualities came from the land which is eternally healthy, and like all people he suffered least when he was the least estranged from it; for nothing ultimately useful is to be obtained from this world of reality but what is wrung from it by the sweat of the brow.

In Chaucer's day it is said that at least seventy-five per cent. of the population consisted of peasants and fifty per cent. of the men were unfree. Yet there must have been a sense of well-being in the country, for Chaucer's poetry breathes a freshness and vigour which reflects the healthy condition of Chaucer's England.

The English villager was probably better off from about 1450 to 1500 than in the earlier Middle Ages, and possibly than in the seventeenth and eighteenth centuries. He enjoyed specific rights, as is shown by the fact that certain villagers complained to their Prior that owing to his neglect they were losing their right of user which they had hitherto

Old cottages at Broad Street, near Selling, Kent.

Old cottages at Stoke-by-Nayland, Suffolk.

enjoyed in the manorial woods, from which they had been accustomed to take wood for fuel and building.

The cottage was recognized as being the chief material possession of the villager. When distresses levied upon him were not paid the Abbots had the right to remove his doors and windows. Priors are known to have claimed the right of seizing the door of any house the tenant of which refused to contribute to their mid-Lent bonfire.

If England is not to suffer from the criticism addressed to the United States by Henry James that "they lacked all sense of the past," attention must immediately be directed to the preservation of the ancient cottages still remaining in this country. The subject is becoming a vital one to those who have this "sense of the past." The vice-Chancellor of Oxford recently called attention to the matter, and after emphasizing the fact that our villages and many of our country towns still preserve the beauty of the past, pleaded for immediate action for their continued preservation.

The question is often asked as to whether the Commissioners of H.M. Works and Public Buildings can take over and preserve cottage architecture, and whether they can definitely act to prevent the destruction of such buildings. As matters stand the Commissioners are precluded from safeguarding buildings used as dwelling-houses under section 8 of the Ancient Monuments Act of 1913.

I do not propose to attempt to give a schedule of examples of destruction, neglect, and ignorant spoliation; they are legion. They depress the mind rather than assist it to take action. Our problem to-day is to interest those who are prepared to assist in and devise a scheme which will prevent this waste and destruction in the future, without alienating the cottage from its original purpose, preserving it as a definite contribution to the housing problem of the people.

An ignorant lack of appreciation has been the cause of the loss of much beautiful old work. In certain cases this is due to an entirely wanton destruction: witness one most lamentable instance, that of a house in Shropshire, at Craven Arms. It was a beautiful cottage, composed of half timber, and plaster, with tile and stone-slabbed roof; it had some remarkable brick chimneys—a wonderful piece of complete design, which can never be recaptured for England.

At Stourbridge, Worcestershire, a piece of village composition, perfect in its way, a complete row of cottages, was demolished to make way for a public library and a war memorial in the worst of taste.

At Birchington, Kent, a very simple type of brick and tile cottage quite distinctive of its kind, was pulled down in 1916; while the Press announced recently a proposal to demolish the First and Last Inn, Exmouth—one of the oldest in the country—to make room for modern premises.

In other cases destruction has been due to, perhaps, uncontrollable causes, such as tempest and fire. For example, cottages of cob walling and thatch at North Tawton, Devon; cottages of stone, brick, plaster, and thatch at Mildenhall, Wiltshire. Another of timber frame, parge, and thatch, a striking example of a cottage dated 1653, at Stanstead, near Long Melford, Suffolk.

Many cottages are in the last stages of dilapidation, such as those at Wyrardisbury and Brill, Bucks, built of half timber, plaster, and tiles; and at Castle Combe, Wiltshire, is one likely to be lost for ever. Others at Nunney, Somerset, built of stone and stone slates in the finest tradition, are also in the last stage of decay. These cottages are probably of late sixteenth-century date, and share the neglect of the fine castle in the village.

Others at Cleobury Mortimer, Shropshire, of half timber and stone slates; at Normandy Village, Surrey, of half

timber and tiles, are in the last stages of dilapidation; while "restoration" has robbed the cottages at Hitchin, Hertfordshire; Shanklin, Isle of Wight; Beddington, Surrey; and Ombersley, Worcestershire, of all their original quality.

Innumerable examples can be cited of the introduction of modern and foreign material, substituted for the native material of the district. At Musbury, Devon, for example, corrugated iron has been used over the old thatch. The list could be indefinitely extended—a catalogue of callousness and error.

The need to be up and stirring is only too plain. The repeated and determined efforts to sweep away Archbishop Whitgift's Hospital at Croydon are too well known to need emphasis; and the proposal to destroy that fine group of cottages at Bury St. Edmunds, with the Star Inn, as the centre, with its remarkable chimneys, is another instance. In this town a row of charming cottages has already been swept away.

There is the special problem, not only of the preservation of the individual cottage or group of cottages, but of the complete small hamlet and township. Here group effect is all important; the complete picture is even of more consequence than the individual fragment. In certain of our towns this group design is rapidly disappearing; witness the case of Edgware, where the character of the village has been entirely altered within recent years. Almost the only hope for our group village and township architecture is when it is out of the way of the main traffic stream, as in the case of St. Albans, Fishpool Street, where the total composition would be ruined by any alteration of any of its various parts.

We have a great responsibility towards these group cottages, while many a Georgian town and village calls for a complete control to preserve what is there as a whole, with due relation to the requirements of modern sanitation and hygiene.

In the extreme west practically all the cottages are built of granite or of slate. They are characteristic of the wildness of this wild coast, and when untouched by the modern builder's methods, fit in quietly with the multi-coloured granites and ironstone cliffs.

In the majority of old cottages still remaining up and down the country, the material comprising the shell is often equal, if not superior, to that employed in modern dwellings. Alteration may be called for, but repair would not be difficult. Only in extreme cases is the charge likely to be more than that for entirely new cottages. The purely technical and physical problem of repair can always be dealt with by an architect adequately equipped and with the requisite sympathy to devise means. In many cases the repair and preservation is likely to prove economic.

Where the movement for preservation is directed and made effective, demolition would not be permitted. It might even be possible to attempt a re-creation of the original village craft spirit and method, whereby local craftsmen added to, patched and repaired with local materials the village cottages. Where, however, the decay has gone so far that neglect would appear to involve demolition, the cost of repair will be greater, and might, indeed, be held to be in excess of the value of the property. Merely economic values, however, have no true relation here; but the assistance of a strong, even national effort is certainly called for.

Much of the charm and picturesque beauty of such cottages is sometimes held to be illusory; for when we grudge the loss of what is alleged to have been an ancient earthly paradise, we may be ignorantly reflecting upon conditions which were crying for amendment and alteration. This pessimistic view would find most things illusory; yet it will be useful if only it prevents us regarding our subject merely sentimentally. Sentiment is said to be a fog about the feet of truth; but no one can deny the validity of true sentiment, and not only for æsthetic reasons, but for historic and sociological reasons, have we a right to demand an interest in these records of the society from which we spring. It is a national duty to preserve such records, beautiful in themselves, of a culture entirely our own, more especially when they are the authentic and full particulars of our ancient cottage building.

Above, old cottages at Appletrewick, Yorkshire. Below, a street in St. Ives, Cornwall.

There are certain elements of medieval society which are only clearly brought out in medieval building, and particularly are the elements of social history brought out by an understanding of the village; its preservation, therefore, is of vital importance, purely as historical fact. It is our scroll of tradition unrolled in "England's green and pleasant land"—a most perfect and orderly record, from which a clear historical synthesis can be obtained, giving a reorientation in the study of the past, of the lives and social habits of our people; and it constitutes the vital material and spirit of our history.

That any appeal should, in fact, have to be made for the effective preservation of such a record implies an indifference which is a slur upon the national intelligence; for to lack any appreciation of the records of history is to have no past and to deserve no future.

CURRENT
ARCHITECTURE
SECTION

THE SMALL HOUSE

[BY OSWALD P. MILNE]

A HOUSE costing £2,000 or under is to-day essentially a modest house. Small it must be in dimensions, and it should accordingly array itself in becoming simplicity. In the days before the war it was £1,000 more or less that would build a small house for a small family—the house with two sitting-rooms, four or five bedrooms, the bathroom and, as the house agents would say, "the usual offices"—and one might reasonably expect such a house to be simply but well fitted. Nowadays, just as our bread and meat, our fuel and our clothing cost us double what they did in the days before the war, so will it cost us twice as much to house ourselves in the same unpretentious way. A man will have to persuade his banker to provide him with something in the neighbourhood of £2,000 if he proposes anything that is more capacious than the six-roomed cottage. There are still hopeful people, as every architect knows, who, with £2,000 to spend, have ideas of picturesque houses with wings stretching out to right and left. As soon as they get down to facts and figures, however, these dreams must be dispelled, and they find that the strictest severity of planning and pruning of accommodation are necessary to bring the coat within the cloth at their disposal.

When one writes of the small house it is better to be clear upon what aspect of the subject one is writing. Whether of the small house especially designed by the architect for the individual owner—a man of taste, or, at any rate, of sufficient vision to appreciate design as a thing worth something in itself—or of the much more numerous class of small house, the work of the speculating builder in which an architect seldom has any part. In the great mass of small houses that grow up in ever-widening circles around all our towns how rare it is to find the house of refined design with individuality and charm; the work of the architect makes little impression on the growing character of our suburbs. There is something wrong here, and yet there is an increasing number of architects who pay particular attention to this modest class of work.

The increased cost of building has schooled architects to approach the problem of the small house in a puritanical spirit. Everything that is redundant, everything that is not logically requisite, must be eliminated. Simplicity of parts and of ornament must be the rule. This, on the whole, has had a beneficial effect on our small architecture. Reliance has had to be placed on scale, balance and proportion for one's effect, rather than upon picturesque arrangement and detail. There has been a purging away of the conceits and tricks of the sham medieval, and the ingle nooks, that were staple of the house builder of twenty years ago.

The tendency is for these small houses to be four-square on plan with as few breaks and projections in the walls as possible. Every angle in the wall, and every corresponding break in the roof, means expense. As soon as economic pressure has brought one face to face with the house that is four square walls with a roof on the top, one finds that Queen Anne, Georgian, and Regency builders have shown us exactly the lines on which to proceed. And where to-day could one go better for inspiration in modern building than to the designers of

Old Way, Deepdene, Dorking. By G. Alan Fortescue. The entrance front.

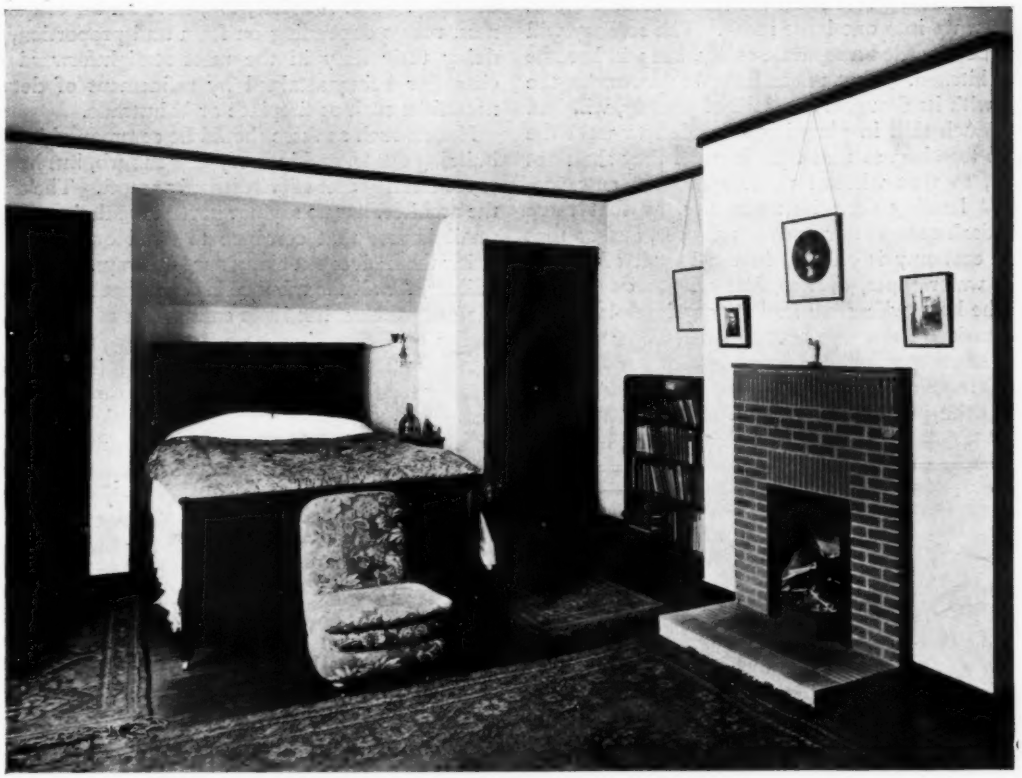
the comely eighteenth-century house? About these, and the furniture that was made to adorn them, there is a refinement and good sense that may well be taken as the model on which to found our own work. The manners and way of living of the people who built these houses were not so greatly different from our own, and it would seem only logical to pick up their traditions and carry them forward. The Queen Anne house, on its street front at any rate, was usually a straight wall with holes in it, and yet what charm and character it holds. There is rhythm and balance in the careful spacing of the windows. The ornament is sparing as a rule, and well arranged. A cornice may give emphasis to the rising of the roof, and a centrepiece is made of the front door by concentrating

Old Way, Deepdene, Dorking. By G. Alan Fortescue. The south front.

here such workmanship and ornament as is permitted. Everything else in the pleasant effect is gained by proportion, and by the proper workmanship of the materials used.

It is these same ingredients, this same common sense that architects are bringing into the design of the modern small house. Their problem is somewhat more complicated than was that of the Queen Anne builder. Modern requirements ask for more concentrated and more intricate planning. Bathroom and lavatories, and other such small apartments, have to be provided; passages have to be avoided as far as possible; bedrooms must not open one through the other; larders, coal space, etc., have to be handy, and a garage is almost indispensable. Even in the small house some central heating apparatus and its accommodation must be provided for. In fact the small house has to be an ingenuity compact of labour-saving and mechanical devices that would have opened the eyes of our ancestors, and that adds much to the difficulties of planning, especially when a balanced effect is aimed at. A house, however, falls far short of perfection if, in the phrase of the wit, it is "Queen Anne in front and Mary Anne behind." The well-designed house has to present pleasing faces in every direction. It must not look cared for on one front and neglected on another, its windows which are its eyes must be well placed, its door should be welcoming, its chimneys must grow pleasantly from its walls or roof; they must not look as if they just happened in awkward places. In a well-designed house, too, this rightness will not be confined to the outside while the inside takes care of itself. If the elevations are happy it is more than probable that they go hand-in-hand with good and sensible planning. A gracious exterior, as a rule, foreshadows good proportion and balance within, combined with convenience and good lighting. The rather prevalent idea that the architect takes care of the exterior while he allows the inside to take care of itself is a fallacy of the amateur who feels sure he can plan a house, but cannot fit to it any kind of elevation. Inversely, perhaps, he thinks that the architect starts on the outside, and that the inside is forced into the mould regardless of any forethought. It cannot be too much emphasized that any well-designed house must be one harmonious whole, and the designer has to be aware of everything that is happening, both in the planning of all floors and in all elevations, at the same time. Good planning cannot be done floor by floor, and elevation by elevation, but must be grasped in the mind in three dimensions.

In the small house, too, there is of necessity a wholesome



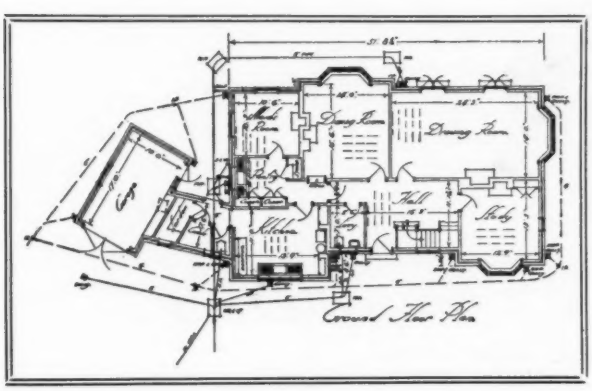
Old Way, Deepdene, Dorking. By G. Alan Fortescue.
Above, the drawing-room. Below, a bedroom.

tendency to simplicity in the number of apartments. It may be that the sitting-room and the dining-room will, on occasion, open up into one large room. The scullery will perhaps not be accorded a separate entity, but will become part of the kitchen. That uncomfortable apartment, the sitting-hall, with its draughts and lack of privacy, will find no place. Much skill in planning is needed to weld the several parts together, so that though small they shall not be cramped, so that without waste space the entrance, staircase and landing shall look spacious, so that there shall be no dark corners nor narrow passages, and so that the greatest economy is effected in the length of drains, the runs of water pipes, and so that all the cupboards, beloved of the housewife, shall find appropriate place.

The illustrations show one or two small houses of this square and simple type, where four walls with a roof on the top of them are given grace by the pleasant placing of the windows, by the proper scale of the chimneys, and the concentration of the most restrained detail around the doorway. The interiors, too, have an air of quiet seemliness, rooms depending on form and proportion, staircases doing their duty in the most straightforward way, but character being attained by refinement of detail in the necessities such as fireplace or balustrade.

Houses such as these should be common objects on every building estate, and in every new suburb, but how rare it is to see small houses of gentlemanly aspect. The truth is that the architect has no say nor part in the design of the bulk of small houses that continue to swell our suburbs and to string themselves out along our highways. The speculating builder, for all the admirable work that he does in housing the community, has little conception of the value of good design or lay-out in his undertaking, and is quite happy to rely on his own resources, although in the art of design he is, as a rule, ill-equipped and ill-trained. It is, therefore, hardly remarkable that he seldom achieves any distinction or refinement in his houses, and that more often than not they are frankly unpleasant to look upon, and often inept in arrangement as well.

Mr. Ramsay MacDonald, speaking not long ago to a body of architects, said: "That houses are built mainly uncomfortable, ugly, bad in ornament and primitive in proportion," and continued that he had been shocked at the



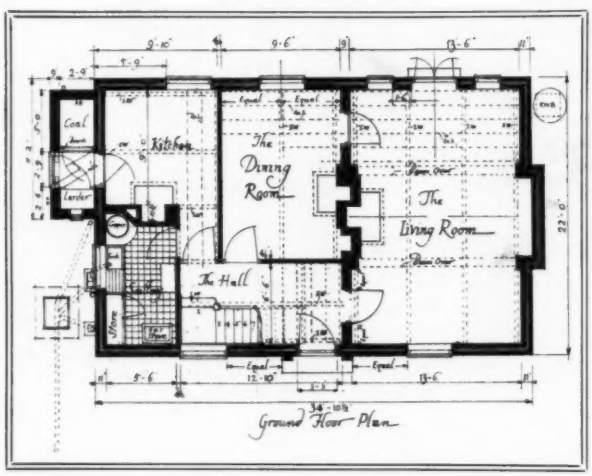
House at Esher, Surrey. By Lanchester, Lucas, and Lodge. Above, the entrance front. Below, the ground-floor plan.

House at Esher, Surrey. By Lanchester, Lucas, and Lodge. Above, the drawing-room. Below, the staircase.

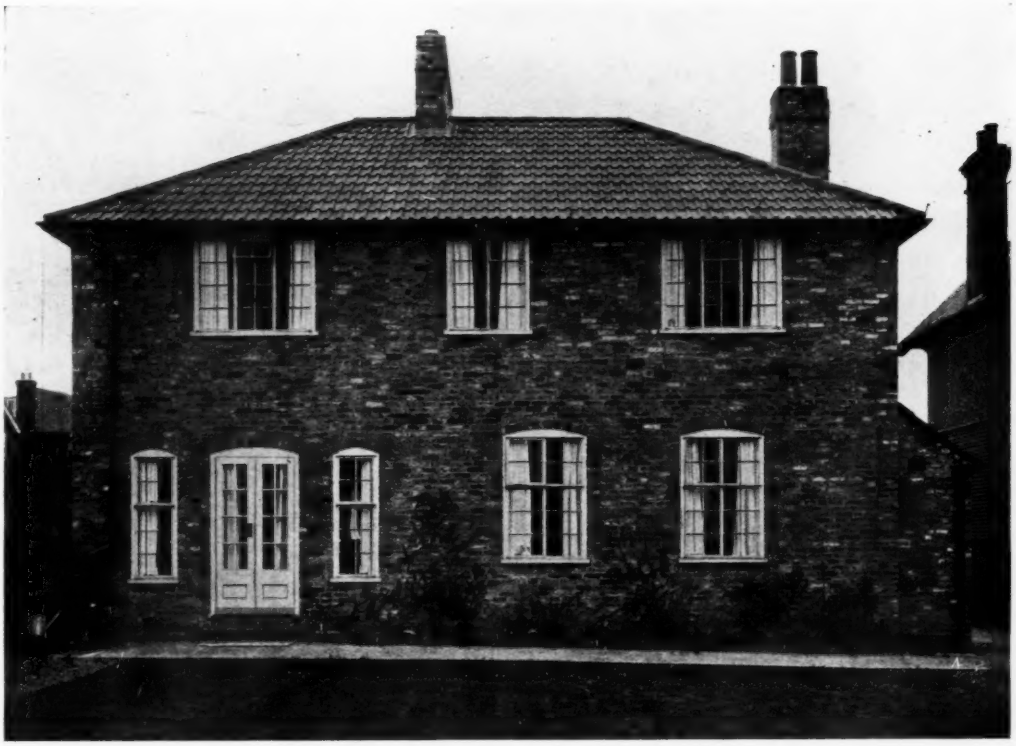
lamentable appearance of a building estate that he had just seen being developed on the outskirts of London, and appealed to architects " to provide beautiful streets, beautiful vistas, and beautiful houses that speak to the soul."

We have all been shocked in the same way as Mr. Ramsay MacDonald at the tragedies and travesties in building that are perpetrated on all sides in the name of land development. We can all remember charming tracts of country that have been covered up and turned into the dreariest suburbs. We can see the same process going on to-day in widening circles. However, his appeal could more usefully have been made to those who control and finance the buying and cutting up of building estates. Architects, as a rule, appreciate and recognize the place that orderliness and beauty should have in our common life, and their training in the art of lay-out planning and the design of small houses is steadily improving. It is, however, very necessary that those who have the ordering of these things should realize that skill, training and special knowledge in the art of design are essential to obtain fair results. The real problem of how to improve the building estate and the small house is how to bring the architect into the business at all. There is something wrong here, and the sooner this ill is diagnosed and the architect, the man trained in the arts of building design, is brought into this business of designing small houses the sooner will the ideal that Mr. MacDonald sets up be realized.

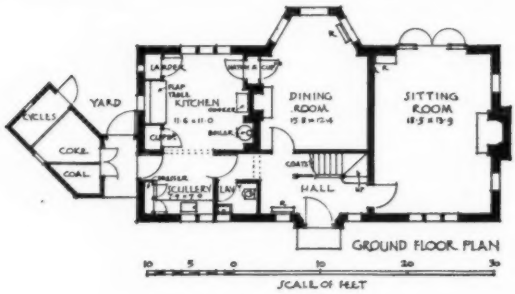
Some of the questions that present themselves are: Is it a distrust of all professional men that makes the speculator avoid the architect? Does he find the architect's designs more costly in execution than his own plans? Is it the fear of the architect's fee being more than he is prepared to pay that discourages him? Does he find the British public, his clients, are perfectly satisfied with what he provides for them? Is he too short-sighted to realize that an estate will increase in value in proportion to the skill and art with which it is planned and built? If by good lay-out and seemly building it is given a charm it will become a neighbourhood that is sought after, whereas, if it is merely a waste of bricks and mortar, it will descend in value as years go on.



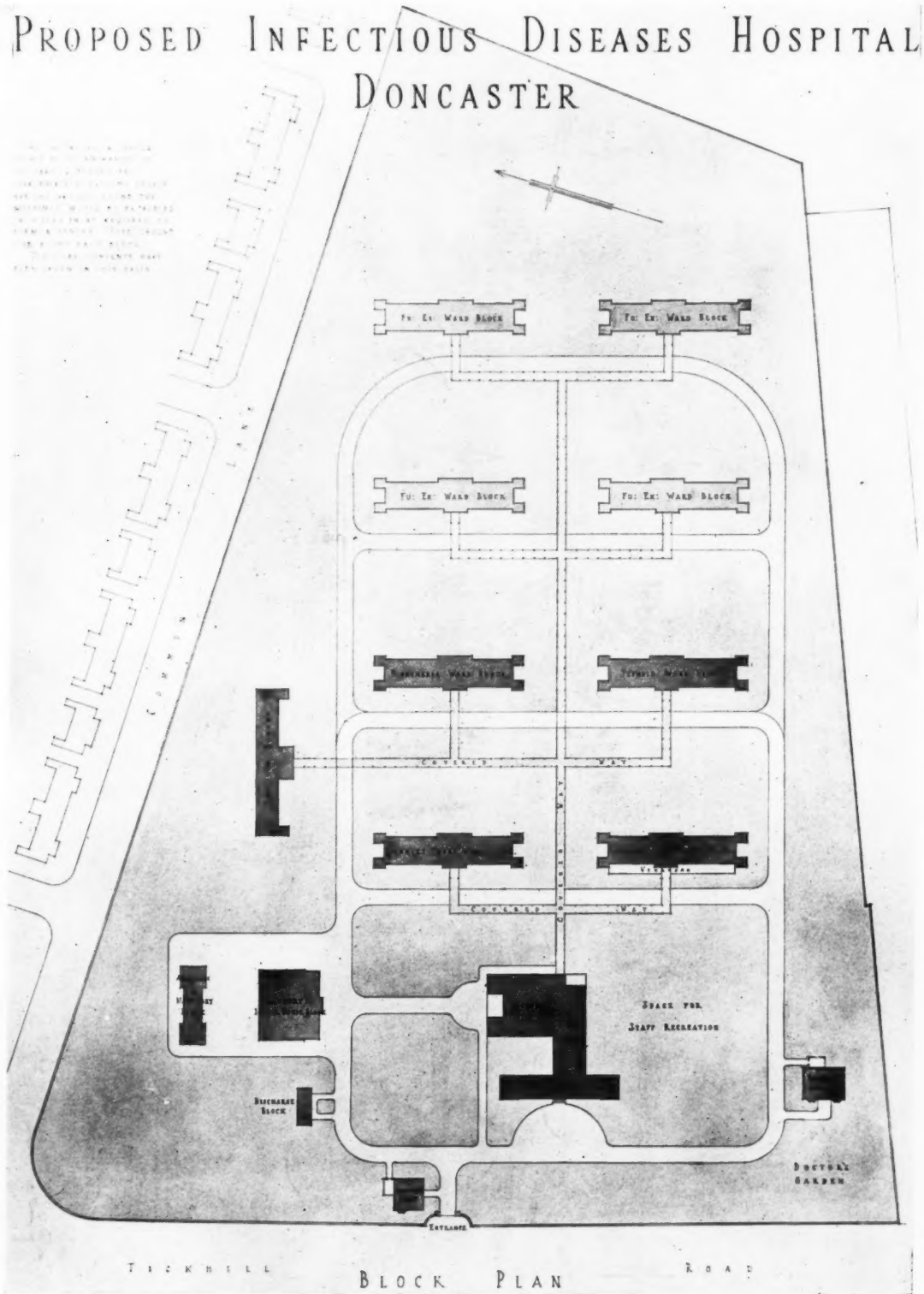
"Kelmscot," St. Albans, Herts. By John C. Rogers. Above, the entrance front. Below, the ground-floor plan.



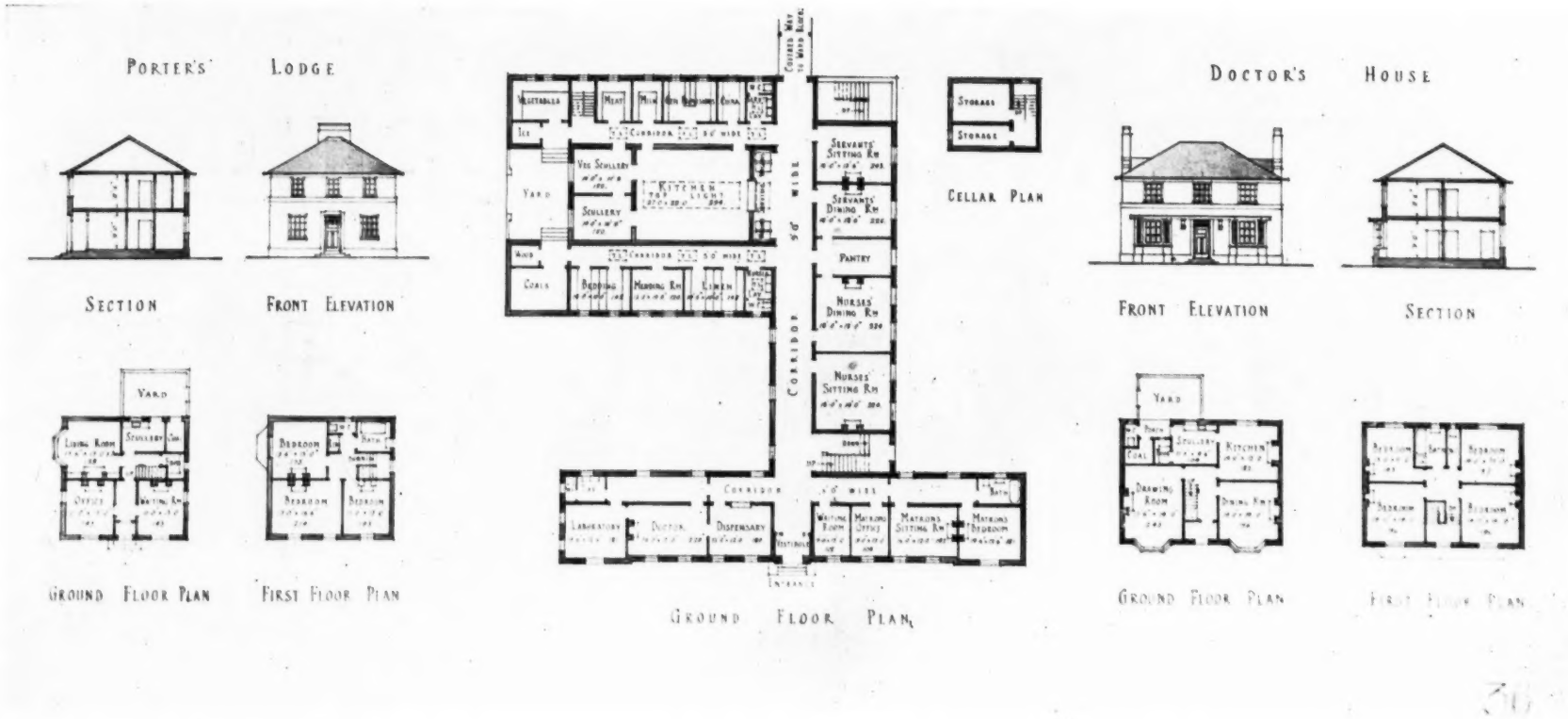
"Kelmscot," St. Albans, Herts. By John C. Rogers.
Above, the garden side. Below, the living-room.



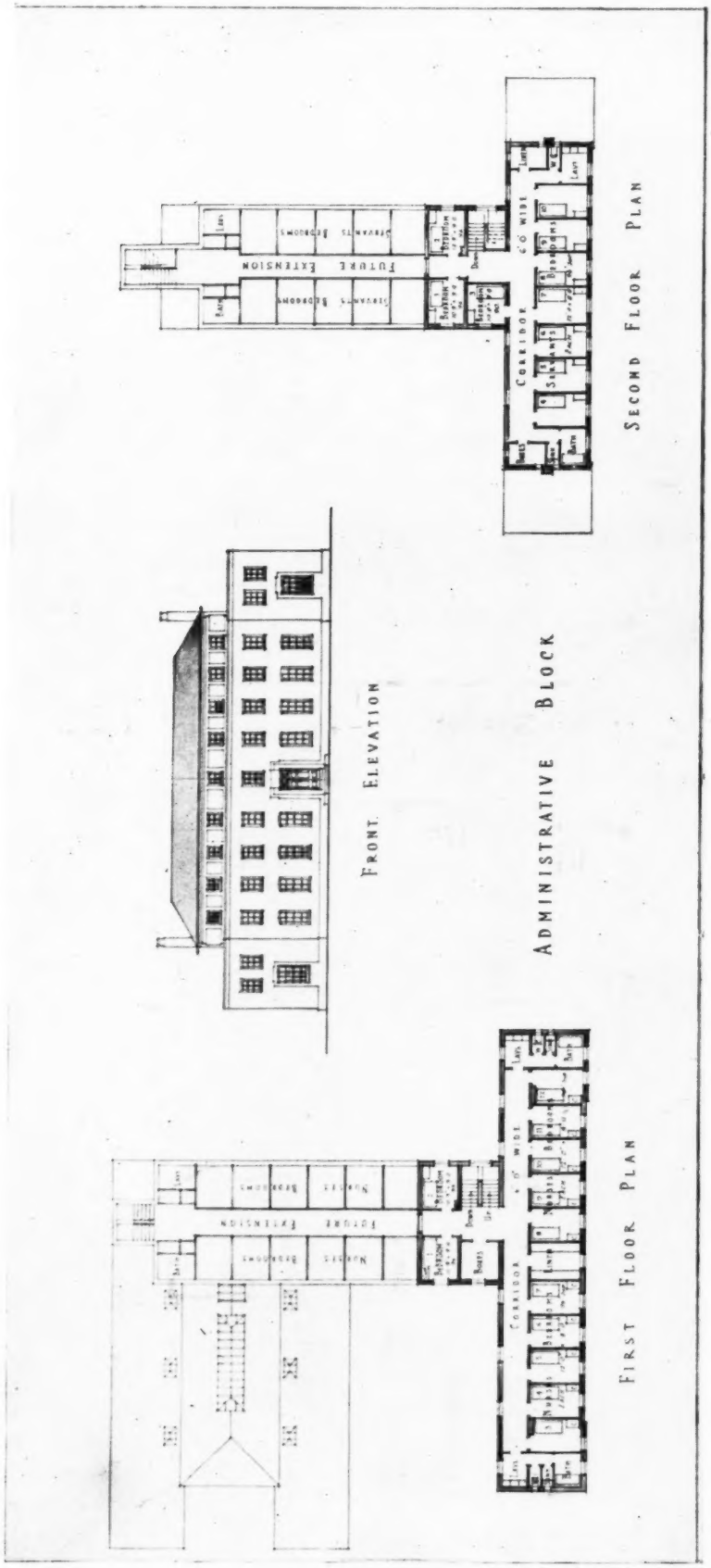
House at Sutton, Surrey. By Paul Badcock. Above, the entrance front. Centre, the ground-floor plan. Below, the garden side.



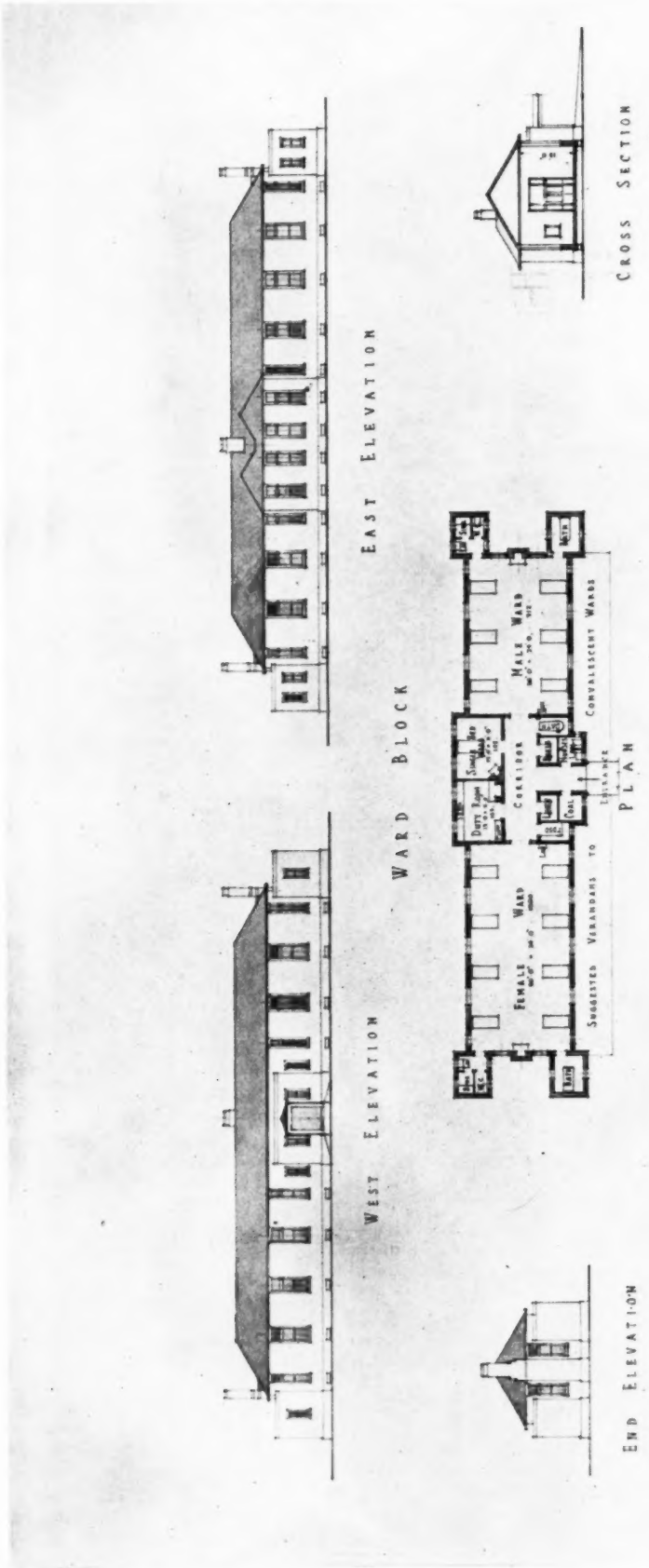
Infectious Diseases Hospital, Doncaster. Assessor, T. R. Milburn. The first premiated design. By Adshead, Topham, and Adshead. Block plan.



Infectious Diseases Hospital, Doncaster. Assessor, T. R. Milburn. The first premiated design. By Adshead, Topham, and Adshead. Ground floor plan of administrative block and plans, elevations and sections of doctor's house and porter's lodge.



Infectious Diseases Hospital, Doncaster. Assessor, T. R. Milburn. The first premiated design. By Adshead, Topham, and Adshead. First and second floor plans and front elevation of administrative block.



Infectious Diseases Hospital, Doncaster. Assessor, T. R. Milburn. The first premiated design. By Adshead, Topham, and Adshead. Plan, elevations, and sections of ward block.

TRIBULATIONS OF EARLY PRACTICE

[BY KARSHISH]

VI: THE PRELIMINARY ESTIMATE

HAVING displaced his client's cherished ideas of the plan of the house by a well-considered scheme of his own devising, without impairing enthusiasm, but rather adding fuel to its fires, our architect next approaches the more awkward task of extirpating from that client's mind its equally cherished idea of cost, and substituting therefor the gritty and unappetizing ascertained fact. The operation is comparable to that of pithing a frog and—though I have never pithed one—probably demands even greater skill and wariness if fatal results are to be avoided. The sensation of having "brought home the bacon" can hardly live more vividly in any human breast than it does in that of the architect who has prepared his estimate, who has presented the dose, and who has seen it swallowed. To be brutal only to be frank, I will say that the client's emphasis rests on the first and last of the words "architect's approximate estimate"; the architect's, devotedly, on the second. Both men deserve our sympathy. We will consider the predicament in which they are placed methodically, and unravel the intricate considerations which operate, and react, and transform what would seem a simple matter into a question involving subtleties and complexities of an exhausting kind.

The actual calculation of the approximate cost from sketch plans is no very serious matter to an architect of any experience. Recent fluctuation in values has made accurate estimating more difficult than it formerly was, but before the war the cost of the building could be judged, by the help of the rough-and-ready method of cubing contents, with remarkable accuracy. It may seem astonishing that while the tenders of a group of competing builders based on minutely detailed bills of quantities usually vary within a range of 30 per cent., the architect, by his cubing method and the exercise of experienced judgment, should be able to get within 10 per cent. of the contract price, and feel dissatisfied if his figure does not fall well within that margin. The experienced architect can generally arrive at a closer estimate of the value of his own work by the cubing method than his quantity surveyor can do, because the former knows thoroughly the kind of work involved in the design; but our particular architect, in his initial adventures, ought, after forming his own opinion, to revise it under the advice of his quantity surveyor. He should, however, not fail on all occasions to make his own independent and carefully-considered estimates, for it is only by testing his judgment against the proved facts that ability to form sound opinions of the value of the building work he conceives, can be attained. If our friend begins by relying upon his quantity surveyor for estimates, he will form the habit of shying at all questions of cost whenever they confront him. He should remember, however, that he is responsible to the client for such preliminary estimates, and he ought to shoulder the obligation. The preparation of such estimates depending, as they do, on personal judgment, is, in fact, exhilarating; a man naturally takes pleasure in his skill in exact prophecy. Such experiments are always interesting, and are generally the source of satisfaction; for accuracy is not to be expected in a matter which is little more than a well-informed guess, yet surprising accuracy is commonly attained. Our architect, however, must be prepared to find that ability to arrive at such estimates is not a matter of cold reasoning; the figure he decides on will not be the result of measurements priced at a figure derived from precedent, but will depend upon the existence of a superior discretion. This kind of inner knowledge which challenges the careful analysis of facts will develop only with experience: it is not to be regarded as obstructive, but to be welcomed as a guide, for it is rooted in the subconscious mind which knows much more than it is aware that it knows. A butcher knows what an ox weighs by looking at it; but he does not know how he knows, and his estimate would be far less accurate if he tried to justify his opinion by successive steps of conscious reasoning. So it is with an architect and his rough estimates. Our architect must avoid boggling over precedents, and puzzling himself with doubts; guided by the ascertained figures he must concentrate on the problem and accept the sum which, without doing violence to the figures, satisfies his instinctive —or intuitive—sense of what is appropriate.

We may suppose, therefore, that our architect, after conferring with his quantity surveyor, has made up his mind to a figure which, as events will prove, is within 10 per cent. of the lowest offer to be made by a builder of the right qualifications. He now has to represent the indigestible facts to his client. This may seem a simple matter; but it is very far from being so, as our adventurer will discover the first time he has to perform that duty—if, that is, he is possessed of a lively imagination and a sense of gumption; if he is *not* endowed with those useful qualities he will be aware of the fact only on the *second* occasion, when he will have unhappy experiences to warn him of the delicate ground he is on.

In the first place, it is necessary for him to be clear in his own mind what work is actually included for in his estimate, and to make sure that his employer is under no misapprehensions on the point. Want of exactness in this matter leads often to serious trouble, and attention to it is doubly important in the case of a man on the threshold of his career; for his client will readily take alarm, and most reasonably so, at any sign in his young protégé of sloppiness in the matter of expenditure. If the amount of the lowest tender is greatly in excess of our architect's estimate, he will not regain the owner's confidence by explaining: "Oh! but I thought you understood my estimate did not include for the terrace and forecourt." This kind of thing must on no account happen. The amount of the estimate must be conveyed in writing, or if communicated orally, confirmed in writing. The writing should not only describe what work is included, but more particularly call attention to what is not included. It should define the limits of the work, and roughly specify its character—materials, finishings, fittings, and so on. There is no excuse for showing cupboards, dressers, and fireplaces, mantelpieces, and so forth in sketch plans and not making clear whether they are, or are not, covered by the estimate. The most exact precision is necessary. The owner will appreciate the clarity of the statement, and the record so established will protect our architect from being held accountable for inflated tenders due to elaborations subsequently introduced into the contract drawings by the owner's direction.

This, then, is the manner in which the estimate should be presented, and we have seen that our architect has already made up his mind what the probable cost of the work will be. He is, however, now faced with the difficulty of familiarizing his client with the true facts of the case. It may seem that he has nothing to do but boldly communicate the figure he has arrived at. If, however, he does so as a matter of course, and not in exercise of a discretion applicable to a particular case, he will make a great mistake.

We are here confronted by one of those dilemmas which harass the practising architect every day of his life, but of which nothing is ever learned from text-books. It has to be remembered that the estimated figure is sure to be a good deal higher than the figure the owner has contemplated. He has flattered himself with an image of the house he is going to build, and he has no less richly flattered himself with the idea of the sum it will cost him. If he had not been able to so flatter himself he might very probably never have yielded to the impulse to build. The case is very much the same whether the house is to be a rich mansion or a simple dwelling, for everyone desires to get good value for his money, and our ambitions colour our hopes. It will, therefore, be a

considerable disappointment to the owner, if not an actual shock, when he learns that his projected house will cost him a great deal more than he ever contemplated spending. The fact is, however, that, although he may be unaware of it, he is not only willing to spend more, but is willing, when he realizes the true relations of cost to attainment, to simplify his requirements. His preconceived ideas on both matters have been the colour of his desires, and he will modify those ideas considerably before he will forgo those desires. It is, accordingly, to his interests that the architect should encourage his client to readjust his mind to the actual facts which are now for the first time presented to it. The architect has to help his client over the awkward ground which lies between his original intentions and those which are capable of practical realization.

In order to bring this about our architect must sympathize with certain very reasonable anxieties present in his client's mind. He must remember first of all that his client will certainly have been warned that architects' estimates are always below the mark of the prices tendered by builders; and that every contract with a builder is inflated at final settlement with long bills of extras. If, therefore, our architect gives him the blank unadorned news that his projected house will cost 30 per cent. more than he expected, the client reminds himself that the contract will be probably 20 per cent. higher again; that bills of extras will perhaps run to 10 per cent. on top of that with proportional additions in increased fees, and he will be likely to be so disheartened and discouraged as to give up the idea of building and proceed no further with a project which, if carried to completion, would in the end be a source of deep satisfaction to him.

It would be unfair to say that as the client assumes that his architect's estimate will be below the mark, our architect is, therefore, entitled to make an allowance for that apprehension and give such an estimate as will cause his client to visualize the true figure of a likely tender; but, in the circumstances, and in sympathy with his client's secret ambition, he will not go wrong in holding out hopes for the best. He must remember that the actual amount of the lowest tender is to a large extent an open question; it will depend often upon extraneous and adventitious circumstances; upon the standing of that particular builder; upon his familiarity with the district; upon his wanting work to keep his staff employed; and sometimes, unfortunately, upon misapprehension of the value of the work involved. When the client is assuming that the contract price will be something more than his architect encourages him to hope, it would be a catastrophe if he were discouraged from his project by his architect estimating to him a figure which might, in fact, prove *higher* than the most favourable tender. The architect must also remember that his client is not committed by the acceptance of the estimated figure to any obligation except fees for the preparation of the contract particulars, and these he is entitled to repudiate if the tendered prices prove negligence or incompetence in his architect.

Our architect then must, while adopting an optimistic view of the possibilities, identify himself in the closest possible way with the ambitions of his client; he must take him entirely into his confidence; lay down the pros and cons of the case; suggest modifications or postponements of part of the building work by which the immediate cost may be reduced; and, in particular, indicate how and where the money is being spent. At this point in the negotiations it is quite possible that the whole proposal for the building will be approached from a new angle, and that new projects or extensively modified versions of the original project will be developed in a fresh series of sketches.

Whether drastic revisions are, however, seriously contemplated, or whether modifications extend only to curtailment of the original scheme, the final result will probably be the same, namely: that the first scheme, in its almost complete entirety, will gradually re-establish itself in favour, and the client be reconciled to meeting the increased cost when he becomes aware that that increase is not due to any extravagance in the proposals, but to the inadequacy of his own original conceptions of building costs.

[*To be continued*]

EASEMENTS OF LIGHT: ii

MODERN METHODS OF COMPUTING COMPENSATION

[BY JOHN SWARBRICK]

Daylight Ratios.—Illumination is measured in foot-candles. One foot-candle being the illumination obtained from one standard candle at a distance of 1 ft. The illumination to be obtained at any given distance from an artificial light source of given candle-power is a more or less fixed quantity. It can be measured readily with illumination meters or photometers, and can be predetermined with considerable accuracy merely from complete drawings. Daylight illumination, however, is by no means a fixed quantity. It is constantly changing, and by large amounts which the eye cannot appreciate, although the photographic camera regularly records them, as every photographer knows.

The daylight received at any point in an interior at any time, when the sun is not shining into any window, is made up of:

1. Light received directly from sky visible from the windows.
2. Light received by reflection from outside walls and other obstructions.
3. Light received by diffuse reflection from the walls, ceiling, furniture, etc., of the room.

All these vary with the brightness of the outside sky, and the light at any position can, therefore, be expressed only as a ratio of that outside brightness. The first attempts to express internal illumination consisted of balancing the illumination of a standard white card reflecting some 83 per cent. of the incident light against the brightness of the same card illuminated by a small and accurately measured portion of the zenith sky, the ratio of the two brightnesses being termed the zenith ratio of the point under consideration. This was the only method possible with the only portable illumination then available, the Trotter instrument, but it sufficed to enable Mr. Waldram to establish the fundamentally important fact that the light at any point whatever its amount at any given time was always a constant ratio of the light from a sky of uniform brightness. Mr. Waldram has informed me that he was undoubtedly anticipated in this discovery by Mr. Trotter, who had deduced it on theoretical grounds some years before Mr. Waldram ascertained it by practical experiment.

Upon this discovery the whole science of daylight measurement is based. It should be noted that on account of the operation of the well-known "Cosine Law," light from the zenith has twice the illuminating effect on a horizontal card as the average light from all parts of a hemisphere of sky of uniform brightness. (Footnote 2.) For this reason the National Physical Laboratory, when collating data for the Departmental Committee of the Home Office on the daylight lighting of factories, balanced the measured illumination at different interior positions against the light simultaneously falling upon a card placed upon a flat, unobstructed roof.

The "roof ratio" thus obtained was twice the "zenith ratio." Measurements on a flat, unobstructed roof are not always obtainable, and they are always open to the objection that the observer himself must necessarily obstruct a considerable area of sky. For this reason it has been found more desirable to balance internal measurements against simultaneous readings on a card placed on an unobstructed sill, i.e. against the light from the quarter-sphere of sky instead of that from the complete hemisphere which can throw light on a roof. The ratios which were used by the observers of the Illuminating Engineering Society, in the investigation of the light of public elementary schools, are twice as high as the corresponding roof ratios, and four times as large as the zenith ratios of the same interior position; although they all represent the same light from a sky of the same brightness.

For example: under a sky having an average apparent bright-

ness of 600 foot-candles a white card reflecting 83 per cent. of the incident light would have an apparent brightness measured with a photometer of about 500 foot-candles on a flat, unobstructed roof on which it would be exposed to a complete hemisphere of sky. If placed vertically on such a roof, or if laid horizontally on an unobstructed window-sill, or in any other position in which it could only receive light from a quartersphere of sky, its apparent brightness would be 250 foot-candles. If illuminated by, say, a small aperture subtending in area of say $\frac{1}{1000}$ of a complete hemisphere at the zenith, it would indicate 1 foot-candle, or apparently 1,000 foot-candles for the complete hemisphere. An interior position at which an illumination of 1 foot-candle is found would, therefore, have a "zenith ratio" of $\frac{1}{1000}$, or 0·001, or 0·1 per cent., a "roof ratio" of $\frac{1}{500}$ or 0·002, or 0·2 per cent., and a sill ratio of $\frac{1}{250}$, or 0·004, or 0·4 per cent. Yet all these represent a reading of 1 foot-candle at the interior position.

Before it is possible to begin to consider the daylight illumination of any interior and to compare it with that of any other interior, it is obviously necessary to fix upon some definite condition of weather and time for comparison.

Records of daylight are systematically kept at the National Physical Laboratory, Teddington, and figures eight and nine represent two of these records which have been reproduced in Government reports and in other works, including the *Principles of Lighting and Photometry* (Messrs. Methuen & Co., Ltd.), by J. W. T. Walsh, M.A., M.SC., a member of the staff at the National Physical Laboratory. Mr. Waldram suggested that the adequacy or inadequacy of daylight illumination should be tested in relation to a sky having an average brightness of 600 foot-candles measured direct, giving 500 foot-candles on a horizontal unobstructed white card having a reflection coefficient of 83 per cent. This has been selected as a value of sky brightness, which represents moderately dull, but not abnormally dull, weather, in the opinion of ordinary reasonable people. It is stated to obtain in towns over the greater part of the winter, for considerable periods in autumn and spring, and on wet days in summer.

Mr. A. P. Trotter, in his book *Illumination: Its Distribution and Measurement*, a classic work which should be studied by all who are interested in illumination, thus described his first conception of daylight ratios:

"The illumination of a room by ordinary daylight depends on three conditions. First, the external character of the source of illumination, viz. the time of day, the time of year, the kind of weather or sky; second, the area and aspect of the windows; and, third, the colour or reflecting power of the walls, ceiling, floor, and contents of the room. The first of these conditions is so variable that it must be eliminated. The second and third, being practically constant in any room, may be measured together and expressed as a coefficient.

"I have succeeded in eliminating the first of these conditions by adopting a unit, of which this coefficient is a fraction, the illumination which would be produced at the spot in question, if all buildings in the neighbourhood were demolished and the illumination were produced by light in a uniformly grey sky."

In this theoretical deduction Mr. Trotter apparently visualized a system of roof ratios.

Mr. Waldram, in view of the obvious difficulty of waiting for uniformly grey days, and in order to enable records to be made in sunny weather, devised and adapted the zenith record method. Regarding this, Mr. A. P. Trotter wrote:

"As a matter of fact the sky at the zenith is generally a little brighter than the average of a grey sky, but it would be tedious to make a number of measurements at different angles and take the mean, and a view of the sky at different angles cannot always be obtained. The simple zenith measurement gives a good and perfectly definite basis for comparison, even if it be arbitrary.

"When I first devised this (the daylight ratio) system of measurement of daylight illumination in 1895, I suggested that it would be useful to know the coefficient of various well-known buildings. I made a few experiments, but no practical work was done until P. J. Waldram took it up twelve years later. He has made much practical use of this method and has published the following results:

British Museum, reading-room	0·007
" " entrance hall	0·0017
Patent Office library, centre of reading-room	0·005
" " " reading alcoves and galleries	0·0007 to 0·008
Royal Courts of Justice—middle of central hall	0·0012
" " " courts-judges' seats, counsel, solicitors, jury, and witnesses	0·0007 to 0·0022
House of Commons, clerk's table	0·0008
Speaker's chair	0·0009
Behind Speaker's chair	0·0002
Members' seats	0·0003 to 0·0007
House of Lords, Woolsack	0·0006
Members' seats	0·0004 to 0·0006
Commons lobby	0·001
Lords' lobby	0·0004
Central hall	0·0015
Committee-rooms (centre)	0·004 to 0·005
Westminster Hall (centre)	0·0012
Charing Cross Station, booking hall	0·0001 to 0·0003

This table was published in the *Journal of the Society of Architects* of January 13, 1910. These, it must be remembered, are all zenith ratios, and must be multiplied by 4 to give the equivalent sill ratio.

Grumble Point.—Studying these and similar data of zenith ratios and comparing them with the general impression of users, Mr. Waldram formed an early opinion that the daylight illumination of a room at which reasonable people might be expected to grumble was somewhere in the neighbourhood of a zenith ratio of $\frac{1}{1000}$ or equivalent to a sill ratio of 0·4 per cent. When subsequently authoritative data of the diurnal variations of sky brightnesses over different periods of the year became available, it was found that $\frac{1}{1000}$ zenith ratio represented the well-known minimum illumination of 1 foot-candle in moderately dull weather. This led to the conclusion that reasonable people grumble more or less instinctively at conditions which could not give them a minimum working light for ordinary purposes in moderately dull weather. It may be said that this value of the "grumble point" of reasonable people using a room over long periods and not being mere casual observers has never seriously been questioned, although Mr. Waldram, in a paper read before the Royal Institute of British Architects in 1925, suggested that it was based upon data which was very inadequate and might require modification in the light of further information on medical grounds. People will often put up with less than is good for the health of their eyes.

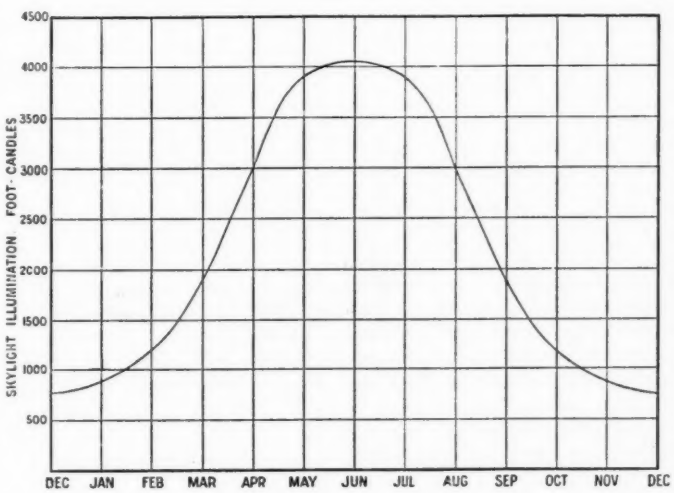


Figure eight. Yearly variation of skylight at noon (Teddington). Home Office Report on Factory Lighting, 1914.

School Classroom Minimum.—The standard of 0·4 per cent. sill ratio as a minimum for ordinary work has received considerable confirmation in the extensive records of the daylight lighting conditions of factories and workshops devoted to various trades as recorded by the National Physical Laboratory for the Home Office, and published *in extenso* by H.M. Stationery Office. It would also appear to be reasonably in accord with the ascertained value of the minimum illumination of the desks of new public elementary schools in this country and with the structural codes of educational authorities throughout the world. These are practically unanimous in either adopting or enforcing in some way or another a minimum of 1 per cent. sill ratio, or 2½ foot-candles with a 500 foot-candle sky (card measurement).

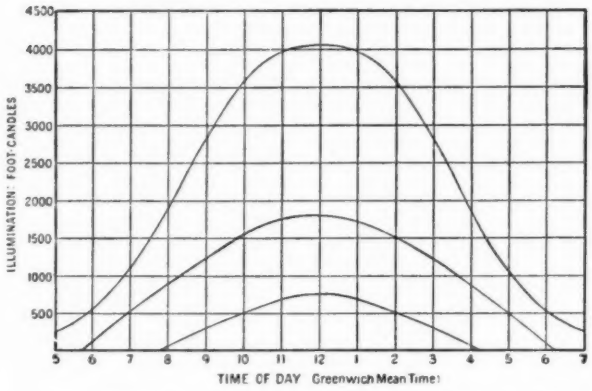


Figure nine. Daily variation of illumination at Midsummer, Equinox, and Midwinter. Home Office Report on Factory Lighting, 1914.

Sky Brightness Method of Measuring Daylight Ratios.—The actual measurement of roof or sill ratios involves the practical difficulty of finding a suitably unobstructed flat roof or unobstructed sill, both somewhat rare in towns, sufficiently near the point to be measured to enable comparative readings to be taken and repeated as nearly as possible simultaneously, or the employment of two observers with calibrated instruments and some method of signalling the precise time of observations in varying light.

These difficulties led to the evolution of the method of taking direct readings from any inside point under consideration of the average apparent brightness of the patch of sky visible from and illuminating the point in question. In addition to enabling comparative readings on the card and the sky to be taken quickly after each other, and as quickly repeated, this method greatly reduced any error due to uneven brightness in the sky. It is, however, necessary to bear in mind that sky brightness measured direct differs from sky brightness deduced from the apparent brightness of a card on a roof or sill by the absorption of the card (about 17 per cent.); and, as all our conceptions of illumination in foot-candles are deduced from measurements of the apparent brightness of standard cards, allowance must be made for this. Measuring a sky of 600 foot-candles through the photometer appears to register on the card 600 foot-candles by 0·83, or, say, 500 foot-candles.

Diffusely Reflected Light.—If scientific accuracy is to be obtained in the measurement of daylight ratios, the effect of light diffusely reflected from walls, ceilings, etc., within the room cannot be ignored. For a long time this was regarded as an insuperable bar to accurate predetermination by deduction of the effect of visible sky or of the effect of visible obstructions seen through the window. The difficulty proved, however, to be amenable to a very simple solution. If from any interior position under consideration, lit by one or more windows, the view of such window or windows and nothing else to be screened off, then obviously the light left represents the sum of diffuse reflections from all sources. Mr. Waldram has shown (*R.I.B.A. Journal*, 1925, vol. xxxii, No. 13, p. 30) that the contribution made by light diffusely reflected internally is very small, quite insufficient under ordinary circumstances to amount to more than 0·2 per cent. sill ratio, and therefore insufficient to give a reasonably adequate light to any position deprived of all visible sky. The method of measuring it for any given position is interesting. A lath about 3 ft. long is fixed horizontally, pointing towards the window, as in figures ten and eleven. At the end distant from the window a small peep-sight is fixed, and an observer looking through this moves along the lath a vertical black card or screen of the same proportions as the window, until it appears exactly to cover the window opening. The peep-sight is then removed, and the test card placed at the end of the lath with its centre exactly over the position previously occupied by the peep-sight. The card is then only illuminated by the light reflected from the walls and ceiling. Upon removing the black card, the total incident light can be measured, and, if sky readings be taken immediately before and after the other two, the factors can be calculated, enabling the total factor to be divided into two constituents, viz., the diffused light factor and the direct light factor.

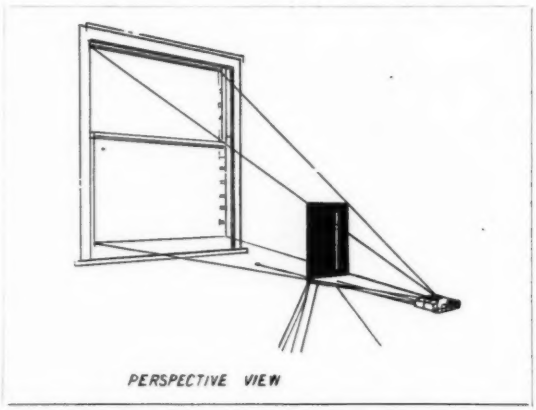


Figure ten. General view of apparatus for measuring diffusely reflected light. [*Reproduced by courtesy of Mr. P. J. Waldram.*]

Mr. Walsh, in his book already mentioned, referring to daylight factors, wrote: "On account of the extreme variability of the daylight illumination, it will be obvious that any measurement, on an isolated occasion, of the illumination at a point inside a building is of no value whatever as a criterion of the efficiency of the daylight scheme, unless it be related to the simultaneous value of the outdoor illumination in the neighbourhood of the building.

"For this reason the ratio of the indoor and outdoor illuminations measured simultaneously, is called the 'window efficiency' or 'daylight factor' of a point inside a building, and is taken as the criterion of the efficiency of natural lighting at that point. It is generally expressed as a percentage, and may vary from 0·1 to 10 per cent., or even more, according to the kind of window scheme provided and the depth of the room. It will be noticed that this method of evaluation assumes that the ratio of indoor to outdoor illumination remains constant, whatever the meteorological conditions or the times of day. Actually, of course, this is not strictly true, and the orientation of the windows providing the daylight at any point in a room will have a considerable effect on the value of window efficiency assigned to that point from measurements made at any particular time of day. For instance, on a sunny day, a point receiving most of its light from east or south-east windows will have a higher efficiency in the morning than in the afternoon. . . ." It is scarcely necessary to point out that Mr. Walsh's qualification of the value of daylight ratios does not operate so long as they are considered only in relation to dull weather conditions.

Low Angle Obstructions Immaterial.—"It may be shown," Mr. Walsh stated, "that if the test

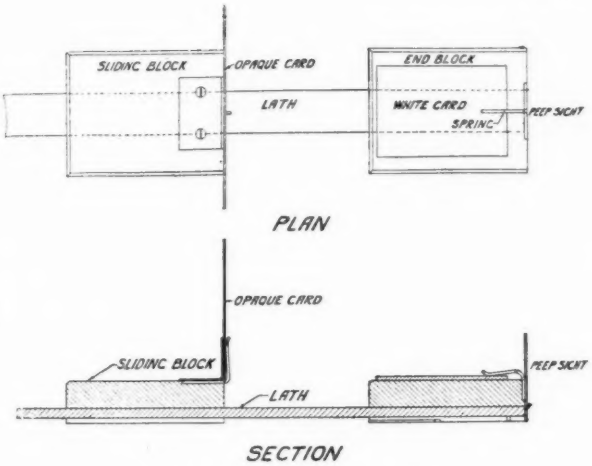


Figure eleven. Apparatus for measuring diffusely reflected light. [Reproduced by courtesy of Mr. P. J. Waldram.]

surface be entirely surrounded by buildings whose roof line has an angle of elevation of θ from the observation point, the percentage reduction of illumination on the card is less than $100 \sin^2\theta$. For $\theta = 20$ deg., this is 11·7 per cent., and for $\theta = 10$ deg. it is only 3 per cent."

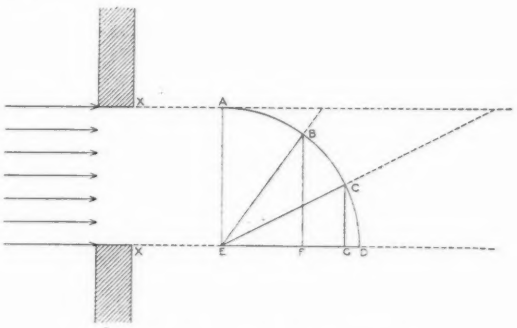


Figure twelve. Diagram to illustrate the operation of the cosine law.

Footnote 2

[*The Cosine Law of Illumination.* The cosine law was first observed by Lambert and referred to in his *Photometria*, published in 1770. Owing to this circumstance, it is sometimes described as Lambert's law. His observation was that the illumination of a plane surface varies as the cosine of the angle which its normal makes with the rays of light. Let us imagine rays of light passing at right angles through the aperture XX and impinging normally on the plane AE. Then let the plane be rotated about E to EB, EC, and ED. Erect the perpendiculars BF and CG, parallel to AE. The lines AE, BF, and CG are then proportional to the cosines of the respective angles, through which the plane has been turned, and indicate the illumination of the plane at the respective angles by the same beam of light. The cosine varies from unity at 0 deg. (i.e. at AE) to zero at 90 deg., which occurs when the plane has rotated to ED.]

[*To be continued*]

CORRESPONDENCE

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—My attention has been called to the recent correspondence in the professional papers relating to the activities of the Incorporated Association of Architects and Surveyors, a society formed, apparently, by certain gentlemen who seem to be greatly concerned with the interests of our profession and desire to create a new society for the protection of unattached architects.

It is difficult to see how such a society can be of the smallest value to those who are already members of the Royal Institute of British Architects, or any of its allied societies, or the Surveyors' Institution.

It can give them no standing in their profession or any advantages that they do not already possess.

No Registration Bill which in any way threatens the interests of the unattached architects who are in bona-fide practice could possibly become law, and the Bill now being prepared by the Royal Institute of British Architects specially safeguards them.

I would like to caution all architects not to confuse the situation and possibly endanger the other interests they have at heart by joining entirely superfluous and misleading organizations.

Yours faithfully,

E. GUY DAWBER

President of the Royal Institute of British Architects.

THE TRIBULATIONS OF EARLY PRACTICE

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—In his interesting articles on the Tribulations of Early Practice, "Karshish" has drawn attention to a question that has never received the attention it deserves: Why so many architects of energy, enthusiasm, and aptitude, which in their student days set them apart from their fellows, do not make good; why they are beaten in the battle of life by others with not a fraction of their ability; or, to use his own words, why so many architects who would make a devoted success of any work of architecture entrusted to them, yet have little or nothing to do.

The explanation that "Karshish" offers is entirely personal. He assumes that they fail owing to personal defects. But I submit such an explanation is inadequate. It is inadequate because it fails to explain why some architects with the same attainments, of the same temperament, and same shortcomings rise to the top of the profession while others gravitate towards the bottom.

A common explanation is that the profession is a lottery in which some of its members draw winners and others draw blanks. And, indeed, there is much that can be said for this point of view. The chance meeting of a man when he is contemplating building, the location of a job, who happens to see it, who are the friends of one's client, whether they are prosperous or not, are all factors outside of the individual's control that may exercise a determining influence on his future. They will decide whether an architect gets into the swim or whether he finds himself in a backwater, and they are all outside the individual architect's control. Accidents of fortune of this kind affect every member of the profession. When they turn in an architect's favour and promote his success we are apt to ascribe to him some personal superiority. When they turn against an architect we are critical of him, and discover all kinds of weaknesses in his character which we should never have noticed had he been successful. And, indeed, differences of fortune react upon character. A run of good luck will give a man assurance and self-confidence; a run of bad luck will tend to undermine such qualities—a fact which often leads superficial persons to suppose that every man gets his deserts.

Though there is some truth in regarding the profession as a lottery, it is not entirely true; for it eliminates the personal factor entirely. A better comparison would be that of a game of cards. An inferior player will win when he is dealt the high cards, and a very skilled one inevitably loses when he has nothing but low cards. The artistic member of the profession who fails here often shares a common fate with others less gifted; only his conspicuous ability attracts attention and invites criticism.

While these things are true of all, the architect of exceptional attainments finds himself up against obstacles which the average member of the profession does not meet. It is more difficult for him to climb because the average client looks at him askance. He thinks of architecture as being something added, and he

assumes, therefore, that the inartistic architect will be cheap and the artistic one expensive. This is, of course, a pure illusion; for there is no necessary relation between design and cost. Nevertheless, the notion is very generally accepted by the public, and it reacts to prevent many gifted architects from rising in the profession by depriving them of the ordinary work that would enable them to lay the foundations of a practice. Unable to take the first step, they cannot take the second. In the higher branches of architecture this obstacle does not exist, for clients who are well-off do not count the halfpennies in the way those do who are lower down.

Perhaps now we are in a position to understand why architects of conspicuous ability so often fail to establish themselves as successful practitioners. They are the victims of circumstances. If the gifted architect is sufficiently well placed that he is in the way of meeting socially the people who build the more expensive buildings, then he will get opportunities as a matter of course. But if he has no such valuable social connections, if his friends are poor, the chances are that he falls between two stools. The people near him will not give him work because they fear he may prove to be expensive, while the better-off people who would be quite ready to give him work will never learn of his existence. He can't find them, and they can't find him. The only exceptions to this rule are a few who strike lucky. They may be taken in partnership by some architect who appreciates their talents; they may come into the possession of a practice through the decease of a principal; or they may through a sheer fluke be given work by some wealthy client who is always building, and provides them with a stream of jobs for a sufficient length of time to establish themselves. Luck of this kind comes to many such architects, but it does not come to all, for even in competition work, which is open to all, luck enters. The truth is the architect of exceptional ability without valuable social connections is practically dependent upon luck to bring him good fortune, for the artist to-day has to function in a hostile environment, and he is generally beaten unless he has some luck or a " pull " as the Americans call it. Push may enable the average member of the profession to succeed. But the artist wants pull.

PONDERIVO

IN PARLIAMENT

[BY OUR PARLIAMENTARY CORRESPONDENT]

Before Parliament rose for the summer recess Mr. Chamberlain, the Minister of Health, obtained, by 213 votes to 71, the second reading of his Housing (Rural Workers) Bill, in spite of bitter opposition from the Labour members, who described the measure as one which would put public money in the pockets of the landlords.

In an interesting speech, Mr. Chamberlain explained that he was not under the impression that there was no shortage of houses in the country districts. As a matter of fact there was quite a considerable amount of overcrowding in the villages. That overcrowding had arisen partly from the fact that a large number of houses had gone out of repair and were uninhabitable and partly from the invasion of the country by the town-dwellers. The present Bill did not attempt to deal with the question of new building: that was dealt with by Mr. Wheatley's Act of 1924. It was important to remember that our country villages contained a great deal that was characteristic of old England in style and material and in the architecture of their cottages. To look at cottages in the Cotswolds and in East Kent was a constant pleasure, and it would be something like an act of vandalism if Parliament were to destroy those reminders of an older and more picturesque world in order to replace them with buildings which, though they might be sensible, were of a different style and could not be said to harmonize with their surroundings. It was not only an æsthetic question. The existence of an environment of that kind must do a great deal to preserve the genius of the place in the minds of the inhabitants and it must encourage a pride in their place in the minds of the parishioners. There was a strong case for the underlying idea of the proposals in the Bill, namely, that the Ministry should devote themselves to an attempt to make it possible to remodel the old houses in the country and to bring them up to modern standards of comfort and of sanitation where they were substantially built. The measure provided that the local authority, in this case the county council, would be empowered to make grants or loans to impoverished landlords for the execution of really important and ameliorative repairs, up to two-thirds of the cost, on condition that all the benefit from such a subsidy should go to the tenant, and that the tenant was a *bona fide* agricultural worker. Mr. Chamberlain concluded: " I do not put this Bill forward as a startling or revolutionary proposal, but I do think that it is a practicable and serviceable proposition, which will do, in a short time, more than has hitherto been done to provide better accommodation for the agricultural worker, and will enable him to remain on the land without subjecting him to conditions which injure his own self-respect and the health of himself and his family."

The rejection of the measure was moved on behalf of the Labour Party by Mr. Greenwood, who declared that the Bill gave a subsidy from public funds to private owners, and it was a plan for bolstering up neglected rural cottages. It was a " dole " to the landlords.

Despite these and other somewhat stronger criticisms, the Government had no difficulty in securing the comfortable majority of 142 for the Bill.

Speaking on the Scottish estimates, Major Elliot, Under-Secretary for Scotland, dealt with housing matters in Scotland, and claimed that, although the difficulties were still great, progress was being made. The monthly delivery of houses had gone up very greatly in the last three years. In 1924 the delivery of houses in May was 429; in 1925 it was 865; and in 1926 it was 1,175. In June, 1924, the deliveries were 380; in June, 1925, 940; and in June, 1926, the delivery was 1,342—the greatest number of houses ever built in a month. There was no question of the abolition of the subsidy for Scotland at present in the mind of the Government.

A useful hint was given to education authorities by Sir John Gilmour, the Secretary for Scotland, who said he believed that considerable progress might be made in the provision of new school buildings, particularly where the authorities were wise enough to adopt a system of building which cut out a great deal of the question of external appearance, and concentrated their efforts on producing a building which would give light and air and plenty of space. In the past much of the ratepayers' money had been sunk owing to extravagance in external matters.

At question-time Major Ainsworth asked the Minister of Health if he would state the average price throughout the country of the parlour and non-parlour house respectively, built by local councils with the aid of the subsidy now and at the beginning of 1925.

Mr. Chamberlain said that the average price of parlour-type houses in contracts let by local authorities during the month of June, 1926 (excluding the cost of land and development) was £501, and of non-parlour type, £435. The corresponding prices for the month of January, 1925, were £501 and £438.

In the House of Lords in answer to an inquiry by Lord Clanwilliam, Lord Peel, the First Commissioner of Works, said that with regard to the developing the Montagu House site, there was not even the shadow of truth in the suggestion that plans were in course of preparation or completion by architects of the Office of Works. It was equally untrue that the Air Ministry had been bringing pressure to bear on the Office of Works in this matter. It was uneconomic, however, to leave this site in its present undeveloped condition.

On the last day of the session the announcement was made on behalf of the Government that houses completed in England before October 1, 1927, would be eligible for the present rate of subsidy. Houses in Scotland completed before October 1, 1928, would rank for the payment of the existing subsidy.

LITERATURE

ANCIENT BUILDINGS

THE annual report of the Society for the Protection of Ancient Buildings, which has just been issued, is of more than usual interest, for it not only reveals the activities of that excellent body during the last twelve months, but incorporates a list of the various buildings which Mr. William Weir, its consulting architect, has repaired in the course of the past twenty-five years; as well as the admirable address delivered by Lord Burnham, on "The Protection of Ancient Buildings by Law," at the annual meeting of the Society on May 4.

In these days the want of such a body as this is daily seen to be more and more necessary. Not that we are more careless of our ancient possessions than our ancestors were, but because so much activity in the erection of new structures is abroad that the claims of the old are in danger of being forgotten, and even flouted.

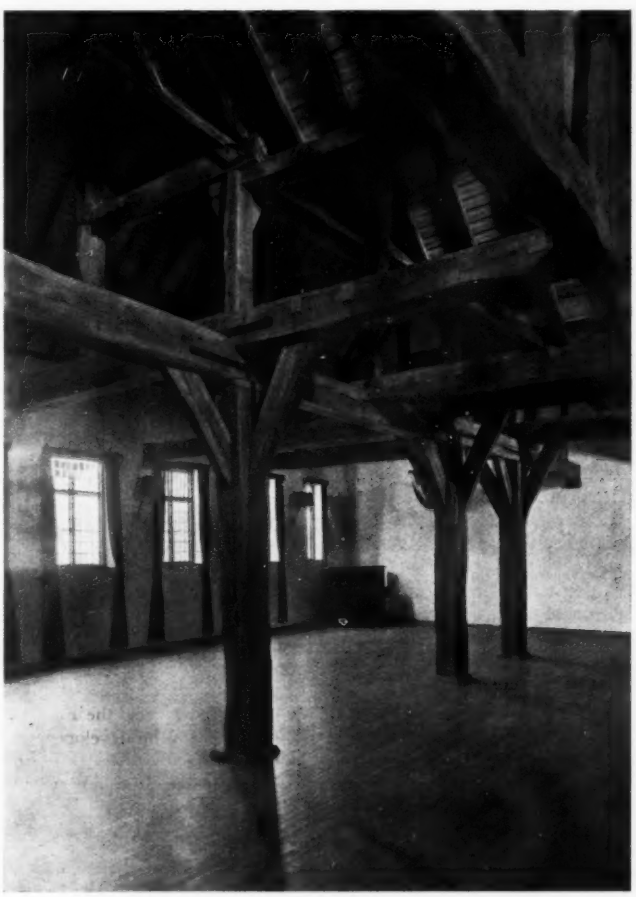
As we all know there is what may, I think, be termed a megalomaniacal spirit abroad which aims at the destruction of old landmarks in favour of vast buildings. In many cases this is inevitable. The requirements of commerce, the increase in population (already far too large for our restricted boundaries), the necessity for housing machines and so forth, causes great structures to arise on the sites of those smaller ones which were adequate for less strenuous and progressive generations; and anyone who would wish to preserve everything simply because it was old could hardly expect his views to be endorsed by the present spirit of rampant modernism.

But there are cases in which it is as much our duty to posterity to preserve, as it is our duty to the present to replace, and the Society stands as the chief discriminating body in such contingencies. In the country its activities are chiefly, of course, pursued in the reparation of ancient buildings, of which time alone is the relentless enemy; and in the report before us we can see, not only by descriptive accounts, but by a series of beautiful collotype reproductions how widespread has been its efforts and, incidentally, what numbers of beautiful relics (often known but locally, or to a handful of enthusiasts) are scattered about the land which, but for the fostering care of such a body as this, would be in danger of crumbling into irretrievable ruin.

It is not among such remains as these that active iconoclasm is rampant; here the danger to be feared is either neglect or an overzealous system of untrained restoration—often the worst enemy of ancient structures. But in London and other large cities the case is otherwise. As I have said, the need for ampler buildings causes wholesale destruction of the older ones to take place; and here and there historic landmarks which no self-respecting city should allow to be demolished are ruthlessly destroyed in common with many old, but not necessarily, outstandingly important ones. Here and there, as in the case of Waterloo Bridge (of which an excellent reproduction of Mr. Ernest Herbert's water-colour is given), public opinion has been aroused, and heaven and earth has been moved to preserve it; a laudable movement in which the Society has counted for much.

But, unfortunately, other less prominent objects in London have in a relatively short time been permitted to be destroyed without, apparently, the possibility of saving them; and in this connection we would instance the collocation of beautiful seventeenth-century homes in Chelsea, known as Paradise Row; the house in Green Street, Leicester Square, once the residence of Sir Isaac Newton and, later, that of Fanny Burney; facts marked on one of the Society of Arts' tablets while the little place was still standing; and, lastly, Baltimore House, in Russell Square, whose Georgian characteristics are now almost obliterated by the pickaxe of utilitarianism.

It is only necessary to wander among the London streets and squares to realize how needed such a Society as this for the preservation of ancient buildings is. With eighteenth and early nineteenth-century work falling about us; with churches threatened and with great iron skeletons rising on all sides; those who, while not regardless of the claims of the present, care for the relics of the past, may be forgiven if they view the building mania with something like apprehension, and turn to such bodies as the Society for the Preservation of Ancient Buildings as a last hope against what threatens to be a veritable holocaust.



Inside of the Old Malt House, Atcham, Shropshire, made into a parish hall and thus preserved. From the Annual Report of the Society for the Protection of Ancient Buildings. [*Photograph by Major Lord.*]

The Society for the Protection of Ancient Buildings. Forty-ninth Annual Report.

ARCHITECTURAL DRAWING

Formal architectural rendering, so thoroughly expounded within the 144 pages of Mr. Magonigle's book, may be said to possess two undeniable advantages. Which of the two is the greater will be decided differently by different minds. To many, that of the discipline it demands must take precedence over the advantage which comprehensiveness, lucidity, and order in presentation—the quintessence of such rendering—yield. In other words, it is in what the

process implies more than in what it actually gives that its greatest value resides. The *type* is, of course, the successful Beaux-Arts "rendu," about which Mr. Magonigle writes at length and with considerable knowledge. The system has been much abused and much praised. Properly looked at, it can be both, for, if on the one hand a drawing carried out under the rules of the Beaux-Arts method must set in motion a hierarchy of qualities wholly admirable, on the other hand it shows, by its lifeless perfection, by its lack of freedom, too great a liking for the encompassed aim, too much rigidity, and involves too many conventions.

Leaving out of account practical considerations, we may lay down as axiomatic that an architectural design on a large scale —the proper subject matter for the kind of rendering under review—embodies a central idea, various relationships of volumes and a sequence of rhythms, either spatial or ornamental, or both. It is these that must be brought out, that must be made manifest to the mind, and the artist able to bring out the purpose, the skill and the artistry of the architect, by giving them full pictorial values, has obviously drawn upon a hierarchy of qualities not dissimilar to that of the original creator. Consequently, he has drawn upon qualities of order, lucidity and comprehensiveness, all cardinal supports of good art, be it so-called classical or otherwise.

But, in fact, the art this method is mostly called upon to illustrate is the so-called classical one, than which none is so dependent on the use of symbols. These symbols, even wisely chosen, are liable to vicarious interpretations; badly chosen, lead a life of apostasy. What concerns us is that in proportion to the frailty or elusiveness of the spirit from which they spring, there rises, to enforce its survival, a discipline as rigorous as it is universal, and one open to abuses. Now, it looks as though there is some kind of connection between the formality and finite inevitableness of so-called classical formulæ and the formulæ upon which formal rendering bases its effect. Hence, the weaknesses of the one are likely to be the weaknesses of the other. The marshalling of facts into their respective and expected sequence: primary, secondary facts; the almost invariable order, the obvious rhythm, the mutations of a limited freedom, (all things to be detected in those grandiose conceptions, beautifully balanced, so dear to the trained French mind,) are not only duplicated in the presentation of a classical composition, but emphasized by the realistic character given to such presentation. Nothing is left to the imagination; no risks that anything might be interpreted in any way other than intended are run. In time, such autocracy becomes tiresome. It explains why the Swedes and Danes, to go no farther, have come back to the later method of presentation practised by post-Renaissance architects, up to the Percier and Fontaine period. A line drawing does leave a little unsaid, yet manages, in the case of a classical building, to keep unimpaired the beauty of its geometrical relationship. It has eloquence and purity. In truth, no more is needed. To put in more is to place a premium on mind's indolence. We are not all infants that our mental food should be so over-masticated for us. Yet this is what the finished "rendu" is inclined to do.

Mr. Magonigle, after a careful setting out of preliminary steps, points out the difficulties of elevational rendering, warns the reader of pitfalls and shows him how the value of surface-tones, of lights—and therefore of shadows also—can be obtained. All the orthodox "aids to beauty" are passed under review. After three short parts on "Quarter, Half, and Three Quarter Colour," "Detail Renderings," and "The Rendering of Plans," the author winds up with "Properties of Pigments," a valuable chapter, "Full Colours," and "Free Sketching." What has been done has been well done, but what has been left out leaves the subject to walk on one leg only. Nothing whatever is said outside orthodox sketching and the Beaux-Arts method. The excellent wash drawings made in northern and central Europe are absolutely ignored. Yet, so great is their influence becoming, so inescapable, that the best French minds of our own times are forsaking these worn-out traditional methods for others more direct, more economical, more honest to the ever-changing spirit, in short, more conceptional and less derivative.

Mr. Jasper Salwey, in his book, proves that he is a capable draughtsman, that he has many rivals working on the same lines, equally capable and that all of them rely for effect on the efficiency of their own optical lenses and obedient hands rather than on any æsthetic awareness within themselves. The fifty-seven plates reproduce drawings photographic and accurate, statements and records of facts. The letterpress does not greatly help, unless it lets us see from what peculiar angle the author approaches this subject of "sketching for architects and others." "Though the quality we propose to seek is rare in comparison to the vast bulk of building which stands to-day, the field of exploration is wide in England alone, and the explorer should be content to confine himself to a direction, even to an area. For instance, taking London as a starting point and the old road to Oxford as the route to travel, once clear of the tentacles of the suburbs, we may train the eye with early results (*sic*) to 'spot' a building which diverts attention from any enveloping results of modern enterprise." You see the idea? None of your contemporary stuff; it is all dubious; give me an "old bit," something "quaint," "different," a "voice of the past," "a little bit of sixteenth century." To be sure, the author adds: "but this is not all, there is more in it than this; and if he would himself do as well, the architect must go deep into the matter." Unfortunately, no help is afforded us to go deep into the matter.

More useful, in this age of direct methods is Mr. George Ellis's book on "Modern Technical Drawing." The illustrations suffer from heaviness of line, from slovenliness in the use of symbols, but this blemish apart, this treatise does set about to explain orthographic, isometric and oblique projections, and practical geometry in a terse, straightforward manner likely to be of more service to the student and architectural assistant than the pretty, picturesque sketches of "bits" so dear to the last generation. Facts and data are always useful and the book does give both. It lays down the law, it states in precise terms, it shows in precise diagrams what is meant and how what is meant should be secured, and for those reasons the book is to be commended to young students and juvenile assistants. Later, we hope, they will learn how to do an identical job in a more graceful way. This handbook has reached its second edition.

G. HOLT

Architectural Rendering in Wash. By H. Van Buren Magonigle. London: B. T. Batsford, Ltd. 15s. net.
Sketching in Lead Pencil for Architects and Others. By Jasper Salwey, A.R.I.B.A. London: B. T. Batsford, Ltd. 7s. 6d. net.
Modern Technical Drawing. By George Ellis. London: B. T. Batsford Ltd. 10s. 6d. net.

PERSONAL

Mr. Stanley G. Soper, A.R.I.B.A., has removed to No. 7 John Street, Adelphi, W.C.2.

Mr. T. Sumner Smith, quantity surveyor, has moved to Clifton Lodge, The Crescent, Victoria Park, Manchester. Telephone: Rusholme 2349.

Royal West of England Academy, Bristol

Mr. G. D. Gordon Hake, F.R.I.B.A., headmaster of the School of Architecture, Royal West of England Academy, Bristol, has been elected a Royal West of England Academician.

Building Students' Presentation to Mr. J. W. Riley

Members of the Rochdale Building Students' Association, along with old students of the technical school building construction classes, made a presentation of an upholstered easy chair to Mr. J. W. Riley on his retirement from the teaching staff of the school. Mr. Riley has been in charge of the building construction classes for the past thirty-five years.

SOCIETIES AND INSTITUTIONS

The Victory Scholarship and the Tite Prize

Final Competitions

As the result of the Preliminary Competitions for the Victory Scholarship and the Tite Prize, the following have been selected to take part in the Final Competitions:—

Victory Scholarship

Mr. M. G. C. Spencely, School of Architecture, Liverpool University; Mr. D. H. Beaty-Pownall, School of Architecture, Architectural Association; Mr. L. R. Hiscock, School of Architecture, Architectural Association; Mr. R. P. Cummings, School of Architecture, Architectural Association; Mr. J. B. Wride, The Technical College, Cardiff; Mr. J. A. Coia, Glasgow School of Architecture.

Tite Prize

Mr. T. C. Haynes, School of Architecture, Liverpool University; Mr. H. H. Powell, School of Architecture, Liverpool University; Mr. K. J. R. Peacock, School of Architecture, Architectural Association; Mr. E. B. O'Rorke, School of Architecture, Architectural Association; Mr. E. B. Cumine, School of Architecture, Architectural Association; Miss C. W. Preston, School of Architecture, Architectural Association; Mr. H. H. Goldsmith, School of Architecture, Architectural Association; Mr. A. B. Grayson, School of Architecture, Architectural Association; Miss B. Scott, School of Architecture, Architectural Association; Mr. George Ford, School of Architecture, Northern Polytechnic; Mr. Donald G. Walton, School of Architecture, Birmingham; Mr. P. G. Budgen, The Technical College, Cardiff; Mr. H. A. Barton, The Technical College, Cardiff; Mr. Edward Holman; Mr. D. H. McMorran.

R.I.B.A. Maintenance Scholarships in Architecture

The Maintenance Scholarships Committee of the R.I.B.A. announce that the York and East Yorkshire Architectural Society have promised a contribution to the Maintenance Scholarships Fund of £35 per annum.

R.I.B.A. Special Examination Qualifying for Candidature as Associate R.I.B.A.

The Council of the R.I.B.A., on the recommendation of the Board of Architectural Education, have approved a revised scheme for the special examination qualifying for candidature as Associate R.I.B.A., to come into operation for the examination to be held in December, 1926. This special examination will be open to architects in practice over thirty years of age, and to assistants over thirty years of age whose applications are approved by the Board. In support of their applications for admission to the examination candidates must submit as evidence of their general architectural knowledge and capabilities: *a:* Examples of their work, accompanied by a detailed report, or reports, *and b:* a written report, thesis, review, or article on some architectural town planning, or similar matter as an indication of their ability to study or analyse a subject, and to write clearly upon it. The examination will be held on December 1, 2, 3, 4, 5, and 7, and the closing date for applications is October 30. Forms of application may be obtained on application to the R.I.B.A.

R.I.B.A. Final Examination

Attention is called to the fact that the subject of "The Outline of the History and Practice of Town Planning" will be included as an alternative to the subject of Advanced Steel Construction (B.2) or Hygiene (C) in the R.I.B.A. final examination from January 1, 1927, onwards. The following has been approved as the syllabus for the subject: 1: History of town planning as illustrated by Ancient, Medieval, Renaissance, and modern town plans; 2: The influences dictating the growth and development of cities; 3: Economic, hygienic, and social considerations, and the varying character of towns due to the domination of one or more of these considerations; 4: Requirements for administration, commerce, industries, and housing; 5: Traffic and transport by road, rail, water, and air, and provisions for dealing with them; 6: Parks, recreation grounds, playing fields, gardens, and other open spaces and their disposition; 7: Architectural elements, grouping of buildings, bridges, monuments, statuary, and other decorative features; their scale and proportions; 8: The preservation of historic buildings and sites; 9: The influence of engineering requirements, such as roads, sewers, and other municipal services upon town-planning schemes; 10: The conduct of procedure under the Town Planning Acts and other Acts and regulations affecting the development and improvement of towns.

Examinations Recognized for Probationership, R.I.B.A.

Attention is called to the fact that the Council of the R.I.B.A. on the recommendation of the Board of Architectural Education, have decided not to accept the day school (higher) examination of the Scottish Education Department in support of an application for registration as probationer.

DONCASTER HOSPITAL COMPETITION

Mr. T. R. Milburn, F.R.I.B.A., the assessor appointed by the Town Council to adjudicate on the designs submitted in the proposed Infectious Diseases Hospital competition, has now issued his award, of which the following are particulars:

First Premium (£200)

Messrs. Adshead, Topham, and Adshead, 14 St. Ann's Square, Manchester.

Second Premium (£100)

Messrs. J. H. Morton and Son, N.E. Bank Chambers, South Shields.

Third Premium (£75)

Mr. Charles A. Broadhead, Moorgate, Rotherham.

Specially Commended

Messrs. Harrison and Ash, 22 Ellison Place, Newcastle-upon-Tyne.

Commended

Messrs. Kenyon and Livock, 22 Surrey Street, Strand, London, W.C.2.; Messrs. Horth and Andrew, Whitefriargate, Hull; Messrs. Gibson, Gordon, and Wilson, 5 Old Bond Street, London, W.1.; Messrs. Lanchester, Lucas, and Lodge, 19 Bedford Square, London, W.C.1.; Messrs. Channon and Sons, Malton, Yorks; Messrs. Hall and Clark, Market Street, Huddersfield; Mr. Laurence Kennard, 31 John Street, Bedford Row, London, W.C.1.

The whole of the designs sent in have been placed on exhibition at the Mansion House, Doncaster. Sixty sets of designs were submitted.

COMPETITION CALENDAR

The conditions of the following competition have been received by the R.I.B.A.

September 30. Cenotaph for Liverpool. Assessor, Professor C. H. Reilly, O.B.E., M.A., F.R.I.B.A. Premiums, first, £200; second, £150, provided he is an ex-Service man; third, £100; fourth, £50. The author of the selected design will be paid a commission of 500 guineas, which will include the premium of £200 above-mentioned, and, in addition to preparing all the necessary working drawings and superintending the erection of the work, he will be required to superintend the erection of a full-size wood and plaster model of his design on the site. Particulars from the Town Clerk.

The conditions of the following competitions have not as yet been brought to the notice of the R.I.B.A.

No date. Conference Hall, for League of Nations, Geneva. 100,000 Swiss francs to be divided among architects submitting best plans. Sir John Burnet, R.A., British representative on jury of assessors.

No date. Manchester Town Hall Extension. Assessors, Mr. T. R. Milburn, F.R.I.B.A., Mr. Robert Atkinson, F.R.I.B.A., and Mr. Ralph Knott, F.R.I.B.A.

READERS' QUERIES

DAMP IN A HOUSE

G. H. S. writes : " A house built (on clay) of brick, has a dampcourse, an abundance of ventilation under the floors, and the site is concreted. The area under the floors is, with one exception, perfectly dry. The walls under the floors are quite dry in all cases. There have been indications of dry-rot in different parts of the building. The building was erected shortly after the conclusion of the war in 1919, and the indications are that the timber was affected by tainted timber. The exception referred to applies to a portion of the building which was excavated for a cellar. This idea was abandoned when the cellar was half excavated, and the area was concreted over. It is in this portion that there is occasionally standing water which varies under climatic conditions. I am not particularly concerned with the dry-rot which I presume to be caused by the tainted timber, but in the remainder of the house are apparent effects of damp, in practically every position : in the cupboard at the side of the chimney-breast in the kitchen ; in the cupboard of a washstand which is clear of the wall and on castors ; in wardrobes, and even on materials left on the floors and uncovered. The walls do not show any signs of damp, and the distempering is in good condition. There are no signs of damp at floor level, and in no case is the outside earth above dampcourse. The effect, which is primarily shown by a mould deposit, is apparent at all seasons of the year, and becomes effective within three weeks or a month of the deposit having been removed. The owners have an abundance of fires, and on all suitable occasions have the windows open. I cannot suggest any possible cause, but I should appreciate advice on : (1) Any particular symptoms to look for in order to locate any particular defect ; (2) whether the effect of an underground watercourse would be similar to that described above ; (3) whether the fact that dry-rot is in evidence in the building would be a sufficient cause for the present trouble ; (4) any advice on this point which would arise in an investigation."

1. The whole circumstances of the house point to the fact that the dampness in the furniture is caused by moisture attracted up from the cold and damp clay in the form of an imperceptible, or barely perceptible, vapour by the warmth of the rooms above. If the brick walls are not cavity walls they may possibly contribute something to the internal moisture without being themselves wet enough to spoil the distemper, but the presence of water in the subsoil is a sufficient cause of trouble.

2. The effects of an underground watercourse would be similar to those described. If one exists it must be diverted away from under the house.

3. Dry-rot in the building is an effect, rather than a cause of the dampness, for the dry-rot fungus thrives best in damp, warm, and dark places. The mould on and in the furniture and cupboards is a growth of similar character and demands similar conditions for its successful cultivation.

However the dry-rot has originated it is important to eradicate it at the earliest possible moment, for it is a source of infection to other timbers in the house and even to those in the neighbourhood. The decayed timbers should be removed on a warm, dry, sunny day when the light and heat may have a chance to kill the spores before they are scattered by the wind to set up mischief elsewhere. All infected material, including the dust and dirt from below the floor, should be burned forthwith, and the sound old timbers and new timbers should be liberally coated with creosote to prevent a recurrence of the attack. The danger of infection of other timber is a real one, and the prompt burning of dry-rotted wood is a duty to the public which will not be neglected by good citizens. The spread of decay in building materials was recognized in the East as long ago as 1490 B.C., and the removal of rotting building materials to the city dump heap where the rot would be sterilized by exposure to the heat and light of the sun figures in ancient by-laws. That we have no law on the subject is one of the anomalies of our so-called civilization. The movable furniture should be taken out of the house and scrubbed with hot water and soda and dried in the open air. Cupboards should be given means of through ventilation by the provision of air-inlets near the top and bottom. In the case of washstands and wardrobes a few holes bored in their back boards will suffice. The holes may be covered with wire gauze to keep out moths.

4. The cure for dampness and the prevention of dry-rot both demand ample provision of light and vigorous ventilation. The statement that there is an abundance of ventilation under the floors can only be accepted as correct relative to the ordinary amount of ventilation given to this place in other houses. The dampness and dry-rot indicate that the ventilation is far from sufficient to meet the special and exceptional needs of this particular house. The mention of " abundance of fire " also raises a point in connection with the airing of a damp building. Warmth permits the air to contain and to attract to itself moisture, and the effect of a fire in a damp building is to draw damp from any available source, such as the wet subsoil, into the air of the room in which the fire is lit. Unless the ventilation of the house is so vigorous as to carry away the moisture-saturated air and replace it with drier air from outside the building, the fire is actually doing harm and creating ideal conditions for the growth of moulds and dry-rot. The humidity sucked up from the damp concrete and wet subsoil is deposited in the form of a dew, or condensation, on the furniture as soon as the fire is allowed to die down. It is not sufficient to have windows open only on " suitable occasions " for the change of air must be more rapid than the moisture absorption, or no progress is made. In this particular case the supplies of moisture would appear to be so plentiful and so continually renewed that to deal with them by airing alone would condemn the householder to live in a perpetual draught.

The trouble should be attacked at the source by preventing access of water to the subsoil under the space covered by the building. If the " lay " of the ground permits, trenches should be cut around the house and agricultural drain-pipes laid to carry away subsoil water from beneath and within the walls, and to stop fresh supplies coming in from outside. The pipes must be laid to fall to some point at which the collected water can be dealt with and emptied into a stream or drain. The trenches should be filled with broken bricks or clinker and finished at the top as paths around the house.

If these measures cannot be undertaken, or are rendered only partially successful through the saturation of the whole bed of clay forming the site of the house, the quality of the concrete over the site should be improved and rendered as nearly impervious as may be by means of a liberal screeding of granolithic executed with waterproofed cement. The half-dug cellar must be sealed with the rest, either by lining it with waterproof concrete walls and floor, or by bridging it over with an impervious slab. Large openings in the outer walls below damp-course level will assist in the drying of the concrete, since the ordinary air-bricks can hardly be expected to deal with so much moisture.

W. H.

STRAW THATCH

H. G. writes : " Is there a process by which straw thatch may be treated to render it fireproof or fire-resisting? Does any firm specialize in the treatment? "

It is doubtful whether a thatch can be rendered absolutely fireproof or even fire-resisting for a long period, for the rain to which it is exposed will cause soluble protecting chemicals to leak out of it and drip off the eaves. Periodical renewals of the chemicals would seem to be advisable, and, in the first place, the straw or reeds of which the thatch is composed should be thoroughly saturated by steeping them in tubs filled with the solution. Later applications may be sprayed on to the upper and under surfaces of the thatch with syringes or spraying machines. The spray should be directed against the ends of the straws, not merely allowed to trickle down them. Repairs must be executed with material saturated with fire-resisting solution. Further experiment is desirable in respect to the effective duration of the treatment. The following solutions have been recommended : *a :* 4 lb. of sodium silicate dissolved in 1 gal. of water mixed with another solution of 1 lb. of gum arabic in 1 gal. of hot water; *b :* 28 lb. of ammonium sulphate, 14 lb. ammonium carbonate, 7 lb. of lump borax, 7 lb. of boracic acid, 14 lb. of lump alum, dissolve in 50 gals. of water; *c :* a saturated solution of alum in water.

THE WEEK'S BUILDING NEWS

An Improvement Scheme at Torquay

At Torquay a scheme for improving the sea-front at an estimated cost of £120,000 is under consideration.

Street Improvements at Wandsworth

The Wandsworth Borough Council propose to spend £10,190 on street improvements.

Progress at Lytham

There are 195 houses in course of erection at Lytham St. Anne's, and plans have been submitted for twenty-five more.

Housing at Luton

The Luton Town Council has passed plans for the erection of forty-nine houses in various parts of the town.

Tenements at Battersea Approved

The Battersea Council's scheme for a fourth block of tenements in Britannia Place has been approved by the Ministry of Health.

Plans at Chelmsford

Plans have been passed at Chelmsford for the erection of seventeen houses in various parts of the town, besides several alterations and additions.

Housing at Eton

The Eton Urban District Council has decided to erect forty houses at an estimated cost of £29,137, subject to the sanction of the Ministry of Health and the Ministry of Agriculture.

200,000 *Bricks a Week*

It is estimated that at Thorne Colliery's new brick works 200,000 bricks are made a week. When the whole of the kilns are completed the output will be a quarter of a million.

Housing at Penrith

The Housing Committee of the Penrith Urban District Council has recommended the Council to proceed with the erection of thirty-two new houses on the Fair Hill site, at a cost of £16,073.

Completion of Henstead Housing Scheme

When the forty-three houses included in the present programme are built the Henstead Rural District Council will have provided 101 houses and completed their scheme to meet the shortage.

An Ouse Drainage Scheme

The Ouse Drainage Board has accepted the offer of a grant of 50 per cent. of the cost of a comprehensive scheme of drainage work in the South Level District, made by the Ministry of Agriculture. The total cost of the work is estimated at £140,000.

Another Large Cinema for London

As the result of negotiations which have been proceeding since 1924, contracts have just been signed whereby the Empire Theatre and vacant property adjoining will shortly be sold for the purpose of erecting a large cinema on the whole site.

Housing at Salford

The Salford City Council has under consideration a proposal for the erection, on the Weaste housing estate, of forty-two houses, comprising fourteen self-contained houses and twenty-eight flats, at a cost of £20,244.

Improvements at Carlisle

The Cumberland County Council has ratified the sale of half the site of Carlisle Prison to the Carlisle Corporation, which will result in an improvement scheme being carried out in the centre of Carlisle at a cost of £60,000.

New Buildings for a Scottish School

The Edinburgh Merchant Company has voted a sum of £10,000 as a subscription towards the fund for the new buildings for George Watson's Boys' College. The Education Board anticipates that the cost of the new school, including the site, will be about £200,000.

A Horsham Scheme Extended

The Horsham Rural District Council has received the sanction of the Ministry of Health for the erection of a further twenty houses as an extension of the Council's scheme for assisting private house-building enterprise. This makes the total number of houses now approved 100.

Direct Labour at Bristol

Direct labour has proved so satisfactory on the Speedwell housing estate that the Bristol Housing Committee desire the development of the Rodney Road site to be carried out in the same manner. The site will provide for 144 houses, and arrangements have been made for the first fifty.

Housing Plans at Tottenham

The Housing Committee of the Tottenham District Council has recommended that a No. 4 scheme, providing for a further 110 houses, be carried out by direct labour, under the same conditions as at Edmonton; and that the scheme be submitted to the Ministry of Health for approval.

A Development Scheme at Skegness

The Ministry of Health has sanctioned an ambitious development project at Skegness. The sum involved is about £35,000, and the scheme includes an orchestral piazza facing the Grand Parade, with a dancing surface, shelters, and shops, and at the rear, on the foreshore, a large open-air bathing pool, a model yacht pond, a paddling pool, and day bungalows which can be hired by families staying at the resort.

The Stability of Waterloo Bridge

Sir Percy Simmonds (chairman of the Improvements Committee) stated at a recent meeting of the London County Council that only one pier of Waterloo Bridge had not subsided during the past fifteen months. Subject to the risk of serious collision or fire destroying the timber supports under the two crippled arches, the stability of the bridge was assured for the present.

Improvement Schemes at St. Albans

At a recent meeting of the St. Albans City Council a suggested improvement scheme to take place in the city was discussed. The areas affected are in Christopher Yard, Dog Yard, Half Moon Yard, Day's Yard, Cross Street North, Catherine Street, and Fishpool Street, and it is estimated that forty-one houses will be required for the rehousing of displaced tenants. The estimated cost of the whole scheme is £23,070.

Education Proposals at Lindsey

The Lindsey County Council has agreed to the following proposals of the Education Committee: £2,852 for sites for elementary schools at Sandsfield Lane, Gainsborough, Brigg, and Broughton; £3,300 for a new elementary school at Willoughton; £15,500 for a new elementary school at Cemetery Road, Brumby; £6,500 for extensions to the elementary school, Mablethorpe; £15,000 for the extension of Reynolds Street, School, Cleethorpes.

Housing Schemes at Barnsley

The Barnsley Town Council has received the sanction of the Ministry of Health to the borrowing of £31,510 for the erection of sixty-eight houses (Carlton Lane No. 3 scheme) together with construction of roads and sewers, and £10,995 for thirty two-bedroom houses on the Ardsley (Hunningley Lane) site. A proposal has been put forward by the Health Committee for the erection of 140 dwellings for the accommodation of 689 persons of the working classes.

The Edinburgh Cenotaph

A deputation of the Edinburgh Cenotaph Committee and a joint sub-committee of the Lord Provost's and Public Parks Committees of the Edinburgh Town Council met recently to discuss the site proposed for the Cenotaph. The suggested site in East Princes Street Gardens was disapproved of, and as an alternative the Public Parks Committee suggested the site in the valley of West Princes Street Gardens, west of the bandstand. A further suggestion was that the Cenotaph be erected on the vacant piece of ground adjoining the Burns Monument in Regent Road. These proposals are to be placed before the Cenotaph Committee.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 8	1 3½
A₁	Abergavenny	Do.	1 7½	1 2½
B	Abingdon ..	S. Counties	1 6	1 1½
A	Accrington	N.W.Counties	1 8	1 3½
A₂	Addlestone	S. Counties	1 6½	1 2
A	Adlington ..	N.W.Counties	1 8	1 3½
A	Airdrie ..	Scotland	*1 8	1 3½
C₁	Aldeburgh	E. Counties	1 4	1 0½
A	Altrincham	N.W.Counties	1 8	1 3½
B₂	Appleby ..	N.W. Counties	1 4½	1 0½
A	Ashton-under-Lyne	N.W.Counties	1 8	1 3½
A₂	Atherstone	Mid. Counties	1 6½	1 2
B₂	Aylesbury ..	S. Counties	1 4½	1 0½
B	BATH ..	S.W.Counties	1 6	1 1½
B₂	Banbury ..	S. Counties	1 4½	1 0½
B₂	Bangor ..	N.W. Counties	1 5	1 1
A	BarnardCastle	N.E. Coast	1 8	1 3½
A	Barnsley ..	Yorkshire	1 8	1 3½
B₁	Barnstaple	S.W. Counties	1 5½	1 1½
A	Barrow ..	N.W.Counties	1 8	1 3½
A	Barry ..	S. Wales & M.	1 8	1 3½
B₂	Basingstoke	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 8	1 3½
B	Bedford ..	E. Counties	1 6	1 1½
A₂	Berwick-on-Tweed	N.E. Coast	1 7	1 2½
A₂	Bewdley ..	Mid. Counties	1 6½	1 2
B₂	Bicester ..	Mid. Counties	1 4½	1 0½
A	Birkenhead	N.W.Counties	†1 9	1 3½
A	Birmingham	Mid. Counties	1 8	1 3½
A	Bishop Auckland	N.E. Coast	1 8	1 3½
A	Blackburn	N.W.Counties	1 8	1 3½
A	Blackpool	N.W.Counties	1 8	1 3½
A	Blyth ..	N E. Coast	1 8	1 3½
B₂	Bognor ..	S. Counties	1 4½	1 0½
A	Bolton ..	N.W.Counties	1 8	1 3½
A₂	Boston ..	Mid. Counties	1 6½	1 2
B₁	Bournemouth	S Counties	1 6	1 1½
A	Bradford ..	Yorkshire	1 8	1 3½
A₂	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 8	1 3½
B₂	Bridgwater	S.W. Counties	1 5	1 1
A₁	Bridlington	Yorkshire	1 7½	1 2½
A	Brighouse ..	Yorkshire	1 8	1 3½
B₁	Brighton ..	S. Counties	1 6	1 1½
A	Bristol ..	S.W. Counties	1 8	1 3½
B₂	Brixham ..	S.W. Counties	1 4½	1 0½
A₂	Bromsgrove	Mid. Counties	1 6½	1 2
C	Bromyard ..	Mid. Counties	1 4	1 0½
A	Burn'ley ..	N.W.Counties	1 8	1 3½
A	Burslem ..	Mid. Counties	1 8	1 3½
A₂	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury ..	N.W.Counties	1 8	1 3½
A₂	Buxton ..	N.W.Counties	1 6½	1 2
B	CAMBRIDGE	E. Counties	1 6	1 1½
B₂	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 8	1 3½
A	Carlisle ..	N.W.Counties	1 8	1 3½
B	Carmarthen	S. Wales & M.	1 6	1 1½
B₂	Carnarvon..	N.W.Counties	1 5	1 1
A₁	Carnforth ..	N.W. Counties	1 7½	1 2½
A	Castleford ..	Yorkshire	1 8	1 3½
B₁	Chatham ..	S. Counties	1 5½	1 1½
B₁	Chelmsford	E Counties	1 5½	1 1½
B	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W.Counties	1 8	1 3½
A	Chesterfield	Mid. Counties	‡1 8	1 3½
B₂	Chichester..	S. Counties	1 4½	1 0½
A	Chorley ..	N.W.Counties	1 8	1 3½
B₂	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W.Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B₁	Colchester..	E. Counties	1 5½	1 1½
A	Colne ..	N.W.Counties	1 8	1 3½
B₁	Colwyn Bay	N.W.Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B₁	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A₂	Crewe ..	N.W.Counties	1 6½	1 2
A₂	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W.Counties	1 8	1 3½
B₂	Deal ..	S. Counties	1 4½	1 0½
B₁	Denbigh ..	N.W.Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury ..	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster ..	Yorkshire	1 8	1 3½
C₁	Dorchester	S.W.Counties	1 4	1 0½
A₂	Driffield ..	Yorks	1 6½	1 2
A₂	Droitwich..	Mid. Counties	1 6½	1 2
A₂	Dudley ..	Mid. Counties	1 7	1 2½
A	Dundee ..	Scotland	1 8	1 3½
A	Durham ..	N.E. Coast	1 8	1 3½
B₁	EAST-BOURNE	S. Counties	1 6	1 1½
A	Ebbw Vale	S. Wales & M.	1 8	1 3½
A	Edinburgh	Scotland	1 8	1 3½
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 8	1 3½
B	Exeter ..	S.W. Counties	§1 7	1 2½
B₂	Exmouth ..	S.W. Counties	1 5	1 1
B	FELIXSTOWE	E. Counties	1 6	1 1½
A₂	Filey ..	Yorks	1 6½	1 2
A	Fleetwood ..	N.W.Counties	1 8	1 3½
B₂	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham ..	N.W.Counties	1 8	1 3½
B₂	Frome ..	S.W.Counties	1 4½	1 0½
A	GATESHEAD	N.E. Coast	1 8	1 3½
B₁	Gillingham	S. Counties	1 5½	1 1½
B	Gloucester..	S.W.Counties	1 6	1 1½
A	Goole ..	Yorkshire	1 7	1 2½
B₁	Gosport ..	S. Counties	1 5½	1 1½
A₂	Grantham..	Mid. Counties	1 6½	1 2
A₂	Gravesend..	S. Counties	1 7	1 2½
A	Greenock ..	Scotland	*1 8	1 3½
A	Grimsby ..	Yorkshire	1 8	1 3½
B₁	Guildford ..	S. Counties	1 5½	1 1½
A	HALIFAX..	Yorkshire	1 8	1 3½
A₁	Hanley ..	Mid. Counties	1 7½	1 2½
A	Harrogate ..	Yorkshire	1 8	1 3½
A	Hartlepools	N.E. Coast	1 8	1 3½
B₂	Harwich ..	E. Counties	1 5	1 1
B₂	Hastings ..	S. Counties	1 4½	1 0½
B₁	Hatfield ..	S. Counties	1 5½	1 1½
B	Hereford ..	S.W.Counties	1 6	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A₁	Heysham ..	N.W.Counties	1 7½	1 2½
A	Howden ..	N.E. Coast	1 8	1 3½
A	Huddersfield	Yorkshire	1 8	1 3½
A	Hull ..	Yorkshire	1 8	1 3½
A	ILKLEY ..	Yorkshire	1 8	1 3½
A	Immingham	Mid. Counties	1 8	1 3½
B	Ipswich ..	E. Counties	1 6	1 1½
C₁	Isle of Wight	S. Counties	1 4	1 0½
A	JARROW ..	N.E. Coast	1 8	1 3½
A	KEIGHLEY	Yorkshire	1 8	1 3½
B₂	Kendal ..	N.W. Counties	1 5	1 1
B₂	Keswick ..	N.W.Counties	1 5	1 1
B	Kettering ..	Mid. Counties	1 6	1 1½
A₃	Kidderminster	Mid. Counties	1 6½	1 2
B₂	King's Lynn	E. Counties	1 5	1 1
A₁	LANCASTER	N.W.Counties	1 7½	1 2
A₃	Leamington	Mid. Counties	1 6½	1 2½
A	Leeds ..	Yorkshire	1 8	1 3½
A	Leek ..	Mid. Counties	1 8	1 3½
A	Leicester ..	Mid. Counties	1 8	1 3½
A	Leigh ..	N.W. Counties	1 8	1 3½
B₂	Lewes ..	S. Counties	1 4½	1 0½
A₃	Lichfield ..	Mid. Counties	1 6½	1 2
A	Lincoln ..	Mid. Counties	1 8	1 3½
A	Liverpool ..	N.W.Counties	‖1 9	1 3½
B	Llandudno	N.W.Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 8	1 3½
	London (12 miles radius)		1 9½	1 4½
	Do. (12–15 miles radius)		1 9	1 4
A	Long Eaton	Mid. Counties	1 8	1 3½
A	Loughborough	Mid. Counties	1 8	1 3½
B	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 8	1 3½
A₁	MACCLESFIELD	N.W.Counties	1 7½	1 2½
B	Maidstone ..	S. Counties	1 5½	1 1½
A₃	Malvern ..	Mid. Counties	1 6½	1 2
A	Manchester	N.W.Counties	1 8	1 3½
A	Mansfield ..	Mid. Counties	1 8	1 3½
B₂	Margate ..	S. Counties	1 4½	1 0½
A₃	Matlock ..	Mid. Counties	1 6½	1 2
A	Merthyr ..	S. Wales & M.	1 8	1 3½
A	Middlesbrough	N.E. Coast	1 8	1 3½
A₃	Middlewich	N.W. Counties	1 6½	1 2
A	Monmouth	S. Wales & M.	1 8	1 3½
	S. and E. Glamorganshire			
A₁	Morecambe	N.W. Counties	1 7½	1 2½
A₂	NANTWICH	N.W.Counties	1 6½	1 2
A	Neath ..	S. Wales & M.	1 8	1 3½
A	Nelson ..	N.W. Counties	1 8	1 3½
A	Newcastle ..	N.E.Coast	1 8	1 3½
A	Newport ..	S. Wales & M.	1 8	1 3½
A	Normanton	Yorkshire	1 8	1 3½
A₂	Northampton	Mid. Counties	1 7	1 2½
A	North Staffs.	Mid. Counties	1 8	1 3½
A	North Shields	N.E. Coast	1 8	1 3½
B	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 8	1 3½
A	Nuneaton ..	Mid. Counties	1 8	1 3½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W.Counties	1 8	1 3½
A₃	Oswestry ..	Mid. Counties	1 6½	1 2
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 8	1 3½
C	Pembroke	S. Wales & M.	1 4½	1 0½
A	Perth ..	Scotland	*1 8	1 3
A₃	Peterborough	Mid. Counties	1 6½	1 2
A	Plymouth	S.W. Counties	¶1 8	1 3½
A	Pontefract..	Yorkshire	1 8	1 3½
A	Pontypridd	S. Wales & M.	1 8	1 3½
B	Portsmouth	S. Counties	1 6	1 1½
A	Preston ..	N.W.Counties	1 8	1 3½
A	QUEENSFERRY	N.W.Counties	1 8	1 3½
B	READING..	S. Counties	1 6	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A₃	Retford ..	Mid. Counties	1 6½	1 2
A	Rhondda Valley	S. Wales & M.	1 8	1 3½
A₃	Ripon ..	Yorkshire	1 6½	1 2
A	Rochdale ..	N.W.Counties	1 8	1 3½
B	Rochester ..	S. Counties	1 5½	1 1½
A₁	Ruabon ..	N.W.Counties	1 7½	1 2½
A₂	Rugby ..	Mid. Counties	1 8	1 3½
A₃	Rugeley ..	Mid. Counties	1 6½	1 2
A	Runcorn ..	N.W. Counties	1 8	1 3½
A₃	ST. ALBANS	E. Counties	1 6½	1 2
A	St. Helens..	N.W.Counties	1 8	1 3½
A₁	Scarborough	Yorkshire	1 7½	1 2½
A	Scunthorpe	Mid. Counties	1 8	1 3½
A	Sheffield ..	Yorkshire	1 8	1 3½
A	Shipley ..	Yorkshire	1 8	1 3½
A₃	Shrewsbury	Mid. Counties	1 6½	1 2
A₂	Skipton ..	Yorkshire	1 7	1 2½
B	Slough ..	S. Counties	1 5½	1 1½
A₂	Solihull ..	Mid. Counties	1 7	1 2½
B	South'pton	S. Counties	1 6	1 1½
B₁	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport ..	N.W.Counties	1 8	1 3½
A	S. Shields ..	N.E. Coast	1 8	1 3½
A₂	Stafford ..	Mid. Counties	1 7	1 2½
A₂	Stockport ..	N.W.Counties	1 8	1 3½
A	Stockton-on-Tees	N.E. Coast	1 8	1 3½
A	Stoke-on-Trent	Mid. Counties	1 8	1 3½
B	Stroud ..	S.W.Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 8	1 3½
A	Swansea ..	S. Wales & M.	1 8	1 3½
B	Swindon ..	S.W. Counties	1 6	1 1½
A₁	TAMWORTH	N.W.Counties	1 7½	1 2½
B₁	Taunton ..	S.W. Counties	1 5½	1 1½
A	Teeside Dist.	N.E. Counties	1 8	1 3½
A	Todmorden	Yorkshire	1 8	1 3½
A₂	Torquay ..	S.W.Counties	1 7	1 2½
B₁	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall ..	Mid. Counties	1 8	1 3½
A	Tyne District	N.E. Coast	1 8	1 3½
A	WAKEFIELD	Yorkshire	1 8	1 3½
A₂	Walsall ..	Mid. Counties	1 7	1 2½
A	Warrington	N.W.Counties	1 8	1 3½
A₃	Warwick ..	Mid. Counties	1 6½	1 2
B	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 8	1 3½
B	Weston-s-Mare	S.W. Counties	1 6	1 1½
A₃	Whitby ..	Yorkshire	1 6½	1 2
A	Widnes ..	N.W.Counties	1 8	1 3½
A	Wigan ..	N.W.Counties	1 8	1 3½
B₂	Winchester	S. Counties	1 5	1 1
B	Windsor ..	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 8	1 3½
A₃	Worcester ..	Mid. Counties	1 6½	1 2
A	Worksop ..	Yorkshire	1 8	1 3½
A₁	Wrexham ..	N.W. Counties	1 7½	1 2½
B	Wycombe ..	S. Counties	1 6	1 1½
B₁	YARMOUTH	E. Counties	1 5½	1 1½
B₂	Yeovil ..	S.W. Counties	1 5	1 1
A	York ..	Yorkshire	1 8	1 3½

§ The initial letter opposite each entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; column II for labourers; the rate for craftsmen working at trades in which a separate rate maintains, is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing. §

* Plasterers, 1s. 9d.

† Carpenters and Painters, 1s. 8½d.

‡ Plumbers, 1s. 9d.

§ Painters, 1s. 6d.

‖ Carpenters and Plasterers, 1s. 8½d.

¶ Painters, 1s. 7d.

PRICES CURRENT

EXCAVATOR AND CONCRETOR

EXCAVATOR, 1s. 4½d. *per hour*; LABOURER, 1s. 4½d. *per hour*; NAVVY, 1s. 4½d. *per hour*; TIMBERMAN, 1s. 6d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

	£	s.	d.
Broken brick or stone, 2 in., per yd.	0	11	6
Thames ballast, per yd.	0	13	0
Pit gravel, per yd.	0	18	0
Pit sand, per yd.	0	14	6
Washed sand	0	15	6
Screened ballast or gravel, add 10 per cent. per yd.			
Clinker, breeze, etc., prices according to locality.			
Portland cement, per ton	£2	19	0
Lias lime, per ton	2	10	0
Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.			
Transport hire per day:			
Cart and horse £1 3 0 *Trailer*	£0	15	0
3-ton motor lorry 3 15 0 *Steam roller*	4	5	0
Steam lorry, 5-ton 4 0 0 *Water cart*	1	5	0

EXCAVATING and throwing out in ordinary earth not exceeding 6 ft. deep, basis price, per yd. cube . 0 3 0
Exceeding 6 ft., but under 12 ft., add 30 per cent.
In stiff clay, add 30 per cent.
In underpinning, add 100 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.

RETURN, fill, and ram, ordinary earth, per yd.	£0	2	4
SPREAD and level, including wheeling, per yd.	0	2	4
PLANKING, per ft. sup.	0	0	5
DO. over 10 ft. deep, add for each 5 ft. depth 30 per cent.			
HARDCORE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup.	£0	2	1
DO. 6 in. thick, per yd. sup.	0	2	10
PUDDLING, per yd. cube	1	10	0
CEMENT CONCRETE, 4-2-1, per yd. cube	2	3	0
DO. 6-2-1, per yd. cube	1	18	0
DO. in upper floors, add 15 per cent.			
DO. in reinforced-concrete work, add 20 per cent.			
DO. in underpinning, add 60 per cent.			
LIAS LIME CONCRETE, per yd. cube	£1	16	0
BREEZE CONCRETE, per yd. cube	1	7	0
DO. in lintols, etc., per ft. cube	0	1	6

DRAINER

LABOURER, 1s. 4½d. *per hour*; TIMBERMAN, 1s. 6d. *per hour*; BRICKLAYER, 1s. 9½d. *per hour*; PLUMBER, 1s. 9½d. *per hour*; WATCHMAN, 7s. 6d. *per shift.*

	£	s.	d.
Stoneware pipes, tested quality, 4 in., per yd.	£0	1	3
DO. *6 in., per yd.*	0	2	8
DO. *9 in., per yd.*	0	3	6
Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.	0	6	9
DO. *6 in., per yd.*	0	9	2
Portland cement and sand, see "Excavator" above.			
Lead for caulking, per cwt.	£2	5	6
Gaskin, per lb.	0	0	5½
STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft.	0	4	3
DO. 6 in., per ft.	0	5	0
DO. 9 in., per ft.	0	7	9
CAST-IRON DRAINS, jointed in lead, 4 in., per ft.	0	9	0
DO. 6 in., per ft.	0	11	0

Note.—These prices include digging and filling for normal depths, and are average prices.
Fittings in Stoneware and Iron according to type. *See* Trade Lists.

BRICKLAYER

BRICKLAYER, 1s. 9½d. *per hour*; LABOURER, 1s. 4½d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour.*

	£	s.	d.
London stocks, per M.	£4	15	0
Flettons, per M.	2	18	0
Staffordshire blue, per M.	9	10	0
Firebricks, 2½ in., per M.	11	3	0
Glazed salt, white, and ivory stretchers, per M.	21	10	0
DO. *headers, per M.*	21	0	0
Colours, extra, per M.	£5	10	0
Seconds, less, per M.	1	0	0
Cement and sand, see "Excavator" above.			
Lime, grey stone, per ton	£2	12	0
Mixed lime mortar, per yd.	1	6	0
Damp course, in rolls of 4½ in., per roll	0	2	6
DO. *9 in. per roll*	0	4	9
DO. *14 in. per roll*	0	7	6
DO. *18 in. per roll*	0	9	6
BRICKWORK in stone lime mortar, Flettons or equal, per rod	33	0	0
DO. in cement do., per rod	36	0	0
DO. in stocks, add 25 per cent. per rod.			
DO. in blues, add 100 per cent. per rod.			
DO. circular on plan, add 12½ per cent. per rod.			
FACINGS, FAIR, per ft. sup. extra	£0	0	2
DO. Red Rubbers, gauged and set in putty, per ft. extra	0	4	6
DO. salt, white or ivory glazed, per ft. sup. extra	0	5	6
TUCK POINTING, per ft. sup. extra	0	0	10
WEATHER POINTING, per ft. sup. extra	0	0	3
GRANOLITHIC PAVING, 1 in., per yd. sup.	0	5	0
DO. 1½ in., per yd. sup.	0	6	0
DO. 2 in., per yd. sup.	0	7	0
BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.	0	0	7
ASPHALT (MASTIC) DAMP COURSE, ½ in., per yd. sup.	0	8	0
DO. vertical, per yd. sup.	0	11	0
SLATE DAMP COURSE, per ft. sup.	0	0	10
ASPHALT ROOFING (MASTIC) in two thicknesses, ¾ in., per yd	0	8	6
DO. SKIRTING, 6 in.	0	0	11
BREEZE PARTITION BLOCKS, set in Cement, 1½ in. per yd. sup.	0	5	3
DO. DO. 3 in.	0	6	6

THE wages are the Union rates current in London at the time of publication. The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary, but will vary according to quality and quantity. The measured prices are based upon the foregoing, and include usual builders' profits. Though every care has been taken in its compilation it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry.

MASON

MASON, 1s. 9½d. *per hour*; DO. *fixer*, 1s. 10½d. *per hour*; LABOURER, 1s. 4½d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour.*

	£	s.	d.
Portland Stone:			
Whitbed, per ft. cube	£0	4	7
Basebed, per ft. cube	0	4	8
Bath stone, per ft. cube	0	3	9
Usual trade extras for large blocks.			
York paving, av. 2½ in., per yd. super.	0	6	6
York templates sawn, per ft. cube	0	6	9
Slate shelves, rubbed, 1 in., per ft. sup.	0	2	6
Cement and sand, see "Excavator," etc., above.			
HOISTING and setting stone, per ft. cube	£0	2	2
DO. for every 10 ft. above 30 ft., add 15 per cent.			
PLAIN face Portland basis, per ft. sup.	£0	2	8
DO. circular, per ft. sup.	0	4	0
SUNK FACE, per ft. sup.	0	3	9
DO. circular, per ft. sup.	0	4	10
JOINTS, arch, per ft. sup.	0	2	6
DO. sunk, per ft. sup.	0	2	7
DO. DO. circular, per ft. sup.	0	4	6
CIRCULAR-CIRCULAR work, per ft. sup.	1	2	0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0	1	1
DO. circular, do. per ft. run	0	1	4
HALF SAWING, per ft. sup.	£0	1	0

Add to the foregoing prices if in York stone 35 per cent.
DO. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
DO. for Chilmark, 5 per cent.

SETTING 1 in. slate shelving in cement, per ft. sup.	£0	0	6
RUBBED round nosing to do., per ft. lin.	0	0	6
YORK STEPS, rubbed T. & R., ft. cub. fixed	1	9	0
YORK SILLS, W. & T., ft. cub. fixed	1	13	0

SLATER AND TILER

SLATER, 1s. 9½d. *per hour*; TILER, 1s. 9½d. *per hour*; SCAFFOLDER, 1s. 5½d. *per hour*; LABOURER, 1s. 4½d. *per hour.*

N.B.—Tiling is often executed as piecework.

	£	s.	d.
Slates, 1st quality, per M:			
Portmadoc Ladies	£14	0	0
Countess	27	0	0
Duchess	32	0	0
Clips, lead, per lb.	0	0	4
Clips, copper, per lb.	0	2	0
Nails, compo, per cwt.	1	6	0
Nails, copper, per lb.	0	1	10
Cement and sand, see "Excavator," etc., above.			
Hand-made tiles, per M.	£5	18	0
Machine-made tiles, per M.	5	8	0
Westmorland slates, large, per ton	9	0	0
DO. *Peggies, per ton*	7	5	0
SLATING, 3 in. gauge, compo nails, Portmadoc or equal:			
Ladies, per square	£4	0	0
Countess, per square	4	5	0
Duchess, per square	4	10	0
WESTMORLAND, in diminishing courses, per square	6	5	0
CORNISH DO., per square	6	3	0
Add, if vertical, per square approx.	0	13	0
Add, if with copper nails, per square approx.	0	2	6
Double course at eaves, per ft. approx.	0	1	0
TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square	5	6	0
DO., machine-made DO., per square	4	17	0
Vertical Tiling, including pointing, add 18*s.* 0*d.* per square.			
FIXING lead soakers, per dozen	£0	0	10
STRIPPING old slates and stacking for re-use, and clearing away surplus and rubbish, per square	0	10	0
LABOUR only in laying slates, but including nails, per square	1	0	0

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

CARPENTER, 1s 9½d. *per hour*; JOINER, 1s. 9½d. *per hour*; LABOURER, 1s. 4½d. *per hour.*

	£	s.	d.
Timber, average prices at Docks, London Standard, Scandinavian, etc. (equal to 2nds):			
7×3, per std.	£21	0	0
11×4, per std.	31	0	0
Memel or Equal. Slightly less than foregoing.			
Flooring, P.E., 1 in., per sq.	£1	5	0
DO. *T. and G., 1 in., per sq.*	1	5	0
Planed Boards, 1 in.×11 in., per std.	30	0	0
Wainscot oak, per ft. sup. of 1 in.	0	2	0
Mahogany, per ft. sup. of 1 in.	0	2	0
DO. *Cuba, per ft. sup. of 1 in.*	0	3	0
Teak, per ft. sup. of 1 in.	0	3	0
DO., *ft. cube*	0	15	0
FIR fixed in wall plates, lintels, sleepers, etc., per ft. cube	0	5	9
DO. framed in floors, roofs, etc., per ft. cube	0	6	3
DO., framed in trusses, etc., including ironwork, per ft. cube	0	7	3
PITCH PINE, add 33⅓ per cent.			
FIXING only boarding in floors, roofs, etc., per sq.	0	13	6
SARKING FELT laid, 1-ply, per yd.	0	1	6
DO., 3-ply, per yd.	0	1	9
CENTERING for concrete, etc., including horsing and striking, per sq.	3	10	0
SLATE BATTENING, per sq.	0	18	6

PRICES CURRENT; *continued.*

CARPENTER AND JOINER; *continued.*

DEAL GUTTER BOARD, 1 in., on firring, per sq.	£3	5	0
MOULDED CASEMENTS, 1¼ in., in 4 sqs., glazing beads and hung, per ft. sup.	0	3	0
DO., DO., 2 in., per ft. sup.	0	3	3
DEAL cased frames, oak sills, 2 in. d.h. sashes, brass-faced pulleys, etc., per ft. sup.	0	4	0
DOORS, 4 pan. sq. b.s., 2 in., per ft. sup.	0	3	6
DO., DO., DO., 1¼ in., per ft. sup.	0	3	0
DO., DO., moulded b.s., 2 in., per ft. sup.	0	3	9
DO., DO., DO., 1¼ in., per ft. sup.	0	3	3
If in oak multiply 3 times.			
If in mahogany multiply 3 times.			
If in teak multiply 3 times.			
WOOD BLOCK FLOORING, standard blocks, laid in mastic herringbone:			
Deal, 1 in., per yd. sup., average	0	10	0
DO., 1¼ in., per yd., sup., average	0	12	0
DO., DO., 1¼ in. maple blocks	0	15	0
STAIRCASE WORK, DEAL:			
1 in. riser, 1¼ in. tread, fixed, per ft. sup.	0	3	6
2 in. deal strings, fixed, per ft. sup.	0	3	9

PLUMBER

PLUMBER, 1*s.* 9½*d. per hour;* MATE OR LABOURER 1*s.* 4½*d. per hour.*

Lead, milled sheet, per cwt.	£2	3	0
DO. *drawn pipes, per cwt.*	2	4	6
DO. *soil pipe, per cwt.*	2	6	6
DO. *scrap, per cwt.*	1	9	6
Copper, sheet per lb.	0	1	0
Solder, plumber's, per lb.	0	1	2
DO. *fine, per lb.*	0	1	5
Cast-iron pipes, etc.:			
L.C.C. soil, 3 in., per yd.	0	4	1
DO. *4 in. per yd.*	0	5	0
R.W.P., 2½ in., per yd.	0	2	0
DO. *3 in., per yd.*	0	2	5
DO. *4 in., per yd.*	0	3	3
Gutter, 4 in. H.R., per yd.	0	1	5
DO. *4 in. O.G., per yd.*	0	1	9
MILLED LEAD and labour in gutters, flashings, etc.	3	10	6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0	2	1
DO. ¾ in., per ft.	0	2	5
DO. 1 in., per ft.	0	3	3
DO. 1¼ in., per ft.	0	4	6
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0	6	0
DO. 3 in., per ft.	0	7	0
DO. 4 in., per ft.	0	9	9
CAST-IRON R.W. PIPE, at 24 lb. per length, jointed in red lead, 2½ in., per ft.	0	2	5
DO. 3 in., per ft.	0	2	10
DO. 4 in., per ft.	0	3	3
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0	2	7
DO. O.G. 4 in., per ft.	0	2	10
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0	7	0
DO 3 in., per ft.	0	6	0
Fixing only:			
W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each	2	5	0
BATHS only, with all joints	1	18	0
LAVATORY BASINS only, with all joints, on brackets, each	1	10	0

PLASTERER

PLASTERER, 1*s.* 9½*d. per hour (plus allowances in London only);* LABOURER, 1*s.* 4½*d. per hour.*

Chalk lime, per ton	£2	11	0
Hair, per cwt.	0	18	0
Sand and cement see "Excavator," etc., above.			
Lime putty, per cwt.	£0	2	8
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	0	2	9
Keene's cement, per ton	5	15	0
Sirapite, per ton	3	10	0
DO. *fine, per ton*	3	18	0
Plaster, per ton	3	0	0
DO. *per ton*	3	12	6
DO. *fine, per ton*	5	12	0
Thistle plaster, per ton	£3	9	0
Lath nails per lb.	0	0	4
LATHING with sawn laths, per yd.	0	1	7
METAL LATHING, per yd.	0	2	3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, ½ in., per yd.	0	2	4
DO. vertical, per yd.	0	2	7
RENDER, on brickwork, 1 to 3, per yd.	0	2	7
RENDER in Portland and set in fine stuff, per yd.	0	3	3
RENDER, float, and set, trowelled, per yd.	0	2	9
RENDER and set in Sirapite, per yd.	0	2	5
DO. in Thistle plaster, per yd.	0	2	5
EXTRA, if on but not including lathing, any of foregoing, per yd.	0	0	5
EXTRA, if on ceilings, per yd.	0	0	5
ANGLES, rounded Keene's on Portland, per ft. lin.	0	0	6
PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin.	0	0	5
WHITE glazed tiling set in Portland and jointed in Parian, per yd., from	1	11	6
FIBROUS PLASTER SLABS, per yd.	0	1	10

GLAZIER

GLAZIER, 1*s.* 8½*d. per hour.*

Glass: 4ths in crates:			
Clear, 21 oz.	£0	0	6
DO. *26 oz.*	0	0	7½
Cathedral white, per ft.	0	0	6½
Polished plate, British ¼ in., up to 2 ft. sup.	0	2	0
DO. *3 ft. sup.*	0	2	6
DO. *7 ft. sup.*	0	3	6
DO. *25 ft. sup.*	0	4	0
DO. *100 ft. sup.*	0	4	6
Rough plate, ⅛ in.	0	0	6
DO. *¼ in., per ft.*	0	0	6½
Linseed oil putty, per cwt.	0	16	0
GLAZING in putty, clear sheet, 21 oz.	0	0	11
DO. 26 oz.	0	1	0
GLAZING in beads, 21 oz., per ft.	0	1	1
DO. 26 oz., per ft.	0	1	4
Small sizes slightly less (under 3 ft. sup.).			
Patent glazing in rough plate, normal span 1*s.* 6*d.* to 2*s.* per ft.			
LEAD LIGHTS, plain, med. sqs. 21 oz., usual domestic sizes, fixed, per ft. sup. and up	£0	3	6
Glazing only, polished plate, 6½*d.* to 8*d.* per ft. according to size.			

DECORATOR

PAINTER, 1*s.* 8½*d. per hour;* LABOURER, 1*s.* 4½*d. per hour;* FRENCH POLISHER, 1*s.* 9*d. per hour;* PAPERHANGER, 1*s.* 8½*d. per hour.*

Genuine white lead, per cwt.	£3	11	0
Linseed oil, raw, per gall.	0	3	7
DO., *boiled, per gall.*	0	3	10
Turpentine, per gall.	0	6	2
Liquid driers, per gall.	0	9	6
Knotting, per gall.	1	4	0
Distemper, washable, in ordinary colours, per cwt., and up	2	0	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4
Single gold leaf (transferable), per book	0	1	11
Varnish copal, per gall. and up	0	18	0
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	1	0	0
French polish, per gall.	0	19	0
Ready mixed paints, per gall. and up	0	10	6
LIME WHITING, per yd. sup.	0	0	3
WASH, stop, and whiten, per yd. sup.	0	0	6
DO., and 2 coats distemper with proprietary distemper, per yd. sup.	0	0	9
KNOT, stop, and prime, per yd. sup.	0	0	7
PLAIN PAINTING, including mouldings, and on plaster or joinery, 1st coat, per yd. sup.	0	0	10
DO., subsequent coats, per yd. sup.	0	0	9
DO., enamel coat, per yd. sup.	0	1	2½
BRUSH-GRAIN, and 2 coats varnish, per yd. sup.	0	3	8
FIGURED DO., DO., per yd. sup.	£0	5	6
FRENCH POLISHING, per ft. sup.	0	1	2
STRIPPING old paper and preparing, per piece	0	1	7
HANGING PAPER, ordinary, per piece	0	1	10
DO., fine, per piece, and upwards	0	2	4
VARNISHING PAPER, 1 coat, per piece	0	9	0
CANVAS, strained and fixed, per yd. sup.	0	3	0
VARNISHING, hard oak, 1st coat, yd. sup.	0	1	2
DO., each subsequent coat, per yd. sup.	0	0	11

SMITH

SMITH *weekly rate equals* 1*s.* 9½*d. per hour;* MATE, *do.* 1*s.* 4*d. per hour;* ERECTOR, 1*s.* 9½*d. per hour;* FITTER, 1*s.* 9½*d. per hour;* LABOURER, 1*s.* 4*d. per hour.*

Mild steel in British standard sections, per ton	£12	10	0
Sheet steel:			
Flat sheets, black, per ton	19	0	0
Do., Galvd., per ton	23	0	0
Corrugated sheets, galvd., per ton	23	0	0
Driving screws, galvd., per grs.	0	1	10
Washers, galvd., per grs.	0	1	1
Bolts and nuts, per cwt. and up	1	18	0
MILD STEEL in trusses, etc., erected, per ton	25	10	0
DO., in small sections as reinforcement, per ton	16	10	0
DO., in compounds, per ton	17	0	0
DO., in bar or rod reinforcement, per ton	20	0	0
WROT. IRON in chimney bars etc., including building in, per cwt.	2	0	0
DO., in light railings and balusters, per cwt.	2	5	0
FIXING only corrugated sheeting, including washers and driving screws, per yd.	0	2	0

SUNDRIES

Fibre or wood pulp boardings, according to quality and quantity. The measured work price is on the same basis per ft. sup.	£0	0	2½
FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds, per ft. sup. from 3d. to	0	0	6
Plaster board, per yd. sup. from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. from	0	2	8
Asbestos sheeting, ⅛ in., grey flat, per yd. sup.	0	2	3
DO., *corrugated, per yd. sup.*	0	3	3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0	4	0
DO., corrugated, per yd. sup.	0	5	0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2	15	0
DO., red	3	0	0
Asbestos cement slates or tiles, ⅛ in. punched per M., grey	17	0	0
DO., *red*	19	0	0
ASBESTOS COMPOSITION FLOORING: Laid in two coats, average ½ in. thick, in plain colour, per yd. sup.	0	7	0
DO., ¼ in. thick, suitable for domestic work, unpolished, per yd.	0	6	6
Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	6
DO., *in metal frames, per ft. sup.*	0	1	9
HANGING only metal casement in, but not including wood frames, each	0	2	10
BUILDING in metal casement frames, per ft. sup.	0	0	7
Waterproofing compounds for cement. Add about 75 per cent. to 100 per cent. to the cost of cement used.			
Plywood			
3 m/m alder, per ft. sup.	0	0	2
4½ m/m amer. while, per ft. sup.	0	0	3½
¼ m/m figured ash, per ft. sup.	0	0	5
4½ m/m 3rd quality, composite birch, per ft. sup.	0	0	1½