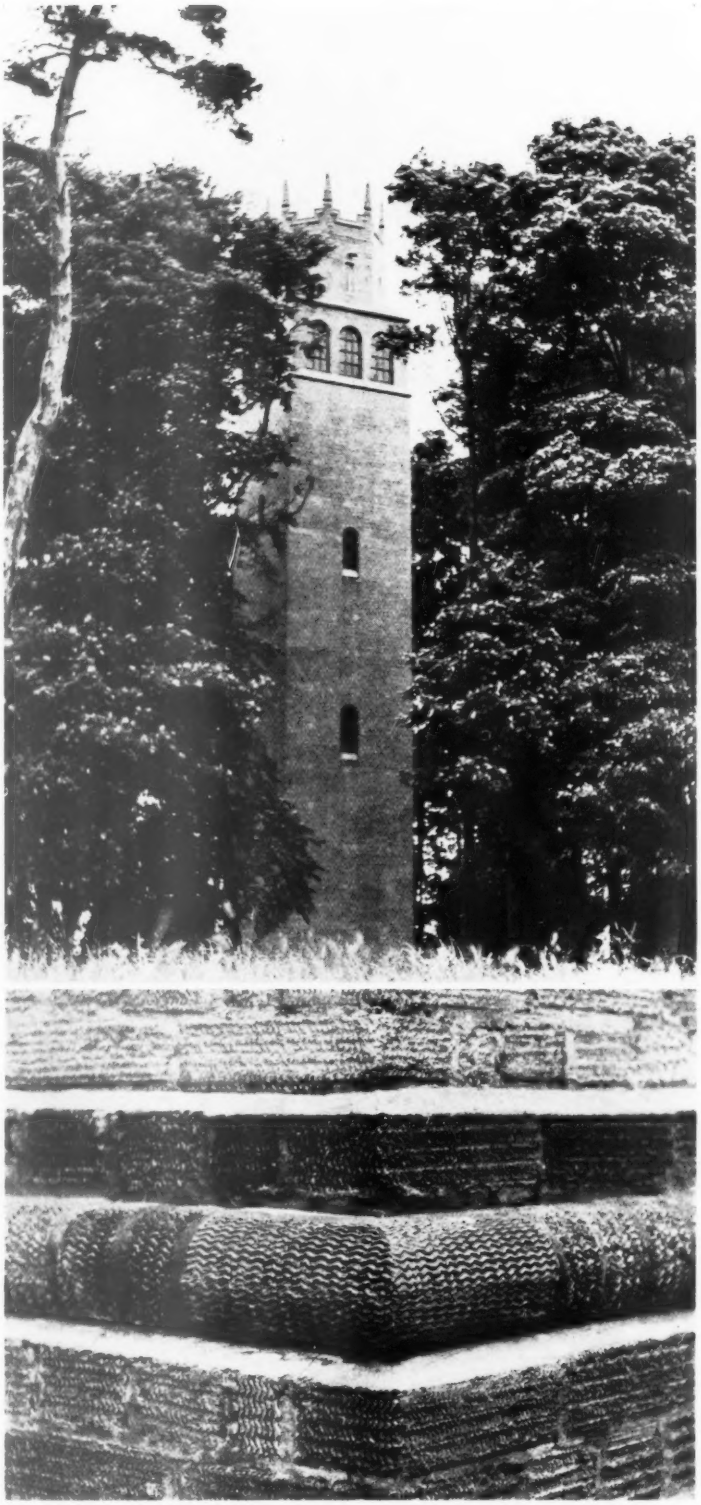
FARINGDON'S FOLLY



The Tower

Architect: Lord Gerald Wellesley, F.R.I.B.A.

The "Folly" refers to the clump of firs planted by Henry James Pye, poet laureate from 1790 to 1813. Not to the tower built in 1934 for Lord Berners, the distinguished musician and artist, as a point of vantage to admirers of the view from the hill and an improvement to the landscape. For the tower is faced with Phorpres Rustic Facing Bricks —a tower of strength and wiseness.

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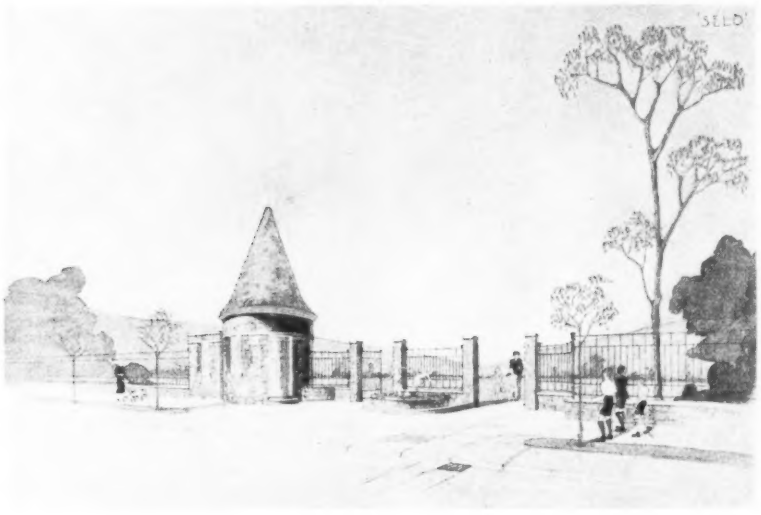
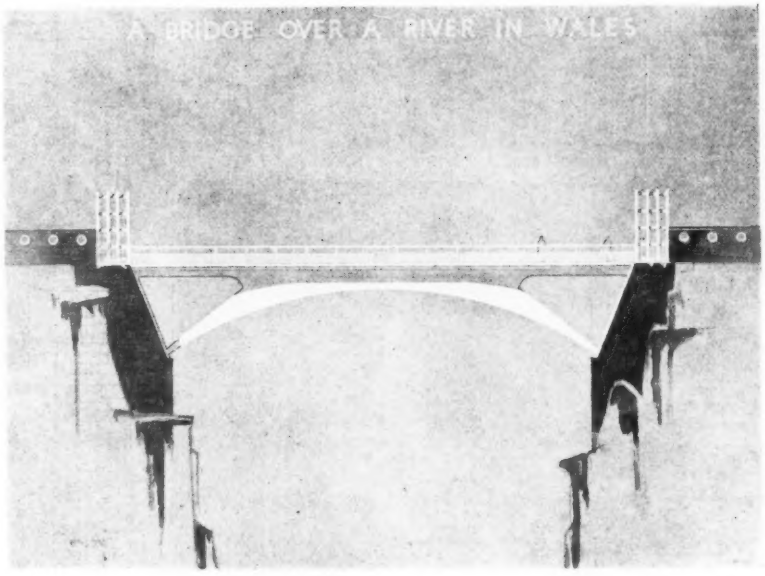
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, December 23, 1937. NUMBER 2240 : VOLUME 86

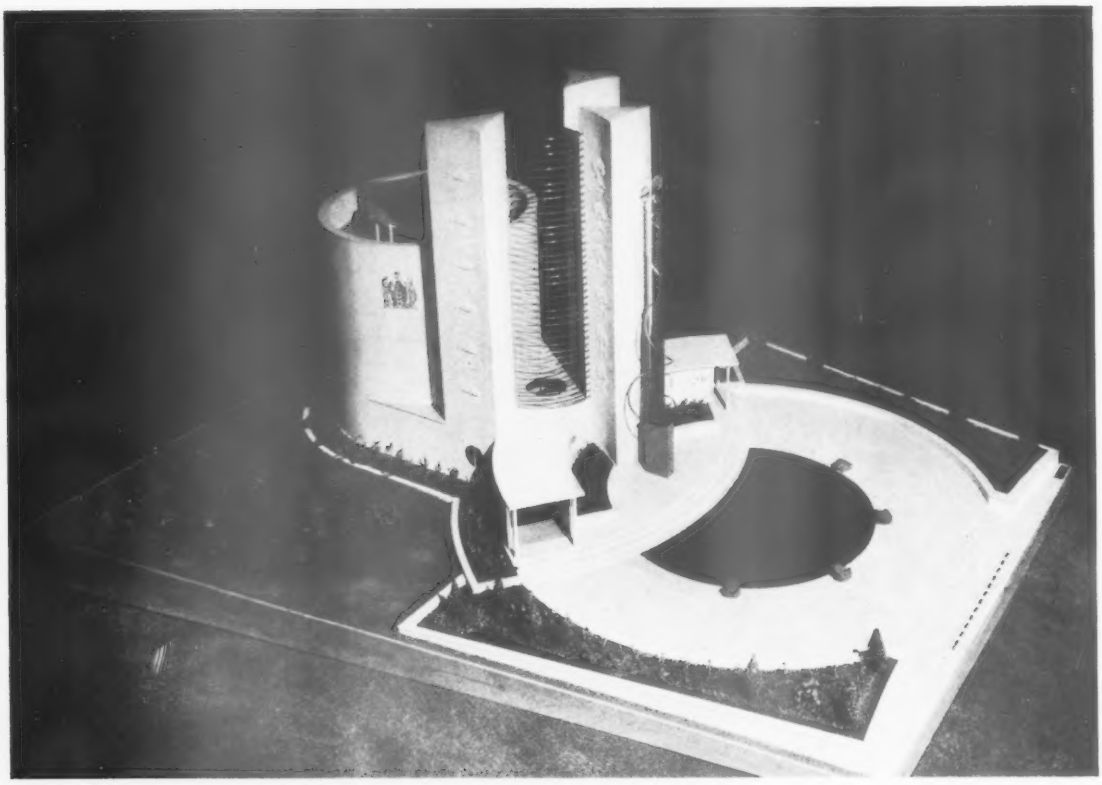
PRINCIPAL CONTENTS

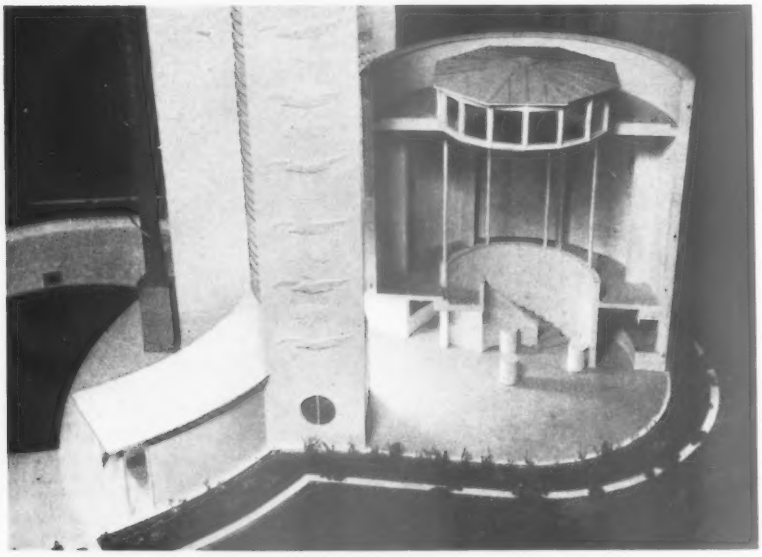
EISTEDDFOD COMPETITION





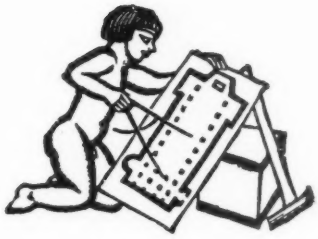
IN the architectural section of the Welsh Eisteddfod Competition two students of the School of Architecture, Manchester College of Art, were awarded first prizes and their designs are reproduced here. Top, entrance to a children's playground, by J. Wilkinson; bottom, bridge over a river in Wales, by K. E. Bradley.





The first private building to be erected in Bellahouston Park, Glasgow, for the Empire Exhibition is the I.C.I. Pavilion, now nearing completion. On this page are two views of a model of the building. Above, a view showing the ornamental pool, the rotunda and the three symbolic pylons. The fountain to be installed in front of the rotunda will play behind the non-ferrous metal bars connecting the three pylons. The whole building will be floodlit at night. On the left is a sectional view, showing the interior of the rotunda. The architect is Mr. Basil Spence.

PAVILION FOR THE EMPIRE EXHIBITION



AYES 225 — NOES 50

ARCHITECTS can feel pleased with themselves this week. Not ecstatically pleased, but just pleased with having exerted themselves to good effect and with having carried a Bill which will, eventually, mean a lot to them through its most critical stage.

The JOURNAL has made it plain that the Registration Bill which has now passed its Second Reading will not bring paradise into being for architects. It will do one thing and only one thing. It will prevent the profession being invaded by unqualified people who have not previously practised as architects. But that is a great achievement.

Once the gate is shut against adventurers it may be expected that conditions of salaries and employment, standards of practice and professional opportunities will slowly become better. The title of architect will continue to be a creditable possession ; it will also become one which it is possible to lose. The addition will be very significant.

The importance of last Friday's debate is, however, much wider than the immediate provisions of the Bill. It showed that when architects decide to act they can act very effectively indeed. It showed that their demands in the Bill were considered so reasonable, and so much in the public interest, that in a completely non-party debate they were granted by 225 votes to 50. It has been obvious for some years that public appreciation of the value of architects, and of what they can do and have done to improve the surroundings of living, was steadily increasing. But it is surprising and gratifying to find it risen as high as the vote proved.

And in feeling pleased over the vote, a very heavy vote for a professional matter, one must remember the efforts made by those in opposition to it to magnify side issues and to convince M.P.s that the profession was so divided that it would be far better to postpone the whole Bill. Of these efforts the most weirdly bewildering to laymen may have been the circular letter to M.P.s from the Institute of Registered Architects. The Institute exists to further the interests of Registered Architects, yet in a last-day letter asked M.P.s to *oppose* a Bill which one might assume had the interests of registered architects as its chief aim and purpose.

That despite such apparent chaos M.P.s had the shrewdness and the belief in the majority of architects to pass the Bill by $4\frac{1}{2}$ to 1 is an encouraging aspect of democracy. But it also is a reminder to those in favour of the Bill that it has still a long way to go.

By Friday's debate the principle of the Bill was approved by a large majority. That was the vital stage. The next stage is Committee, in which a number of Members interested in the Bill, and roughly divided between its supporters and opposers in the ratio of Friday's division, will be added to the Standing Committee which will then examine the Bill clause by clause.

As the Bill has only a half-dozen clauses it is not likely that it will emerge from that stage substantially altered. But it may be assumed that those opposing it will do all they can to introduce modifications which will damage its effectiveness.

The final stage, or at least the final obstacle, is the House of Lords, which may be reached in May or June. The Lords, who complain so often of unfortunate new buildings and of the destruction of desirable old buildings, may be expected to give their support to a Bill which aims at ensuring minimum qualifications for architects. But that support cannot be taken for granted.

The 14,000 odd architects in favour of the Bill cannot relax, however successful the first expression of their opinion, until the Bill becomes an Act. The JOURNAL will draw attention to the Bill's future stages as they occur and it hopes that architects will study them carefully and if necessary make their opinion known again.

The Act, if it comes into force, will not, as has been said, produce immediate results. Among those who will be able to register during the two years' extended period there may be architects of doubtful quality.

But we will at least know at the end of the two years that all on the register have something in the way of qualifications, that no one not on the register will from that moment on be able to call himself an architect, nor will he be able to get on the register save by showing, by examination, that he possesses reasonably good qualifications.

The advantages of these things will, the JOURNAL believes, grow steadily from the moment the Bill becomes an Act.

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NOTES & TOPICS

THE BILL

LAST Friday the House of Commons gave the Registration Bill a Second Reading by 225 votes to 50.

*

Save for twenty-five minutes in a refreshment bar of exceptionable squalor below stairs, I heard the whole of the debate.

*

Easily first among impressions was a very bad headache. The atmosphere of the House, so frequently guaranteed pure on the word of Cabinet Ministers, seems all right; but nothing will again shake my belief that in boiling, washing and distilling it something of vital consequence to me is eliminated. I feel very strongly about this.

*

Second impression was the low standard of too many speeches. I am sufficiently at one with my fellows to have no great opinion of most of the qualities of M.P.s. But I did think that an ability to speak clearly, cogently, convincingly or at any rate tolerably was a *sine qua non* of the trade.

*

I was greatly in error. Reading the speeches in Hansard I have been astonished to find that all seem literate and reasonably connected. In the House, one-third of them were neither; nor does the printed report make clear that they were partly inaudible.

*

Even my interest in the Bill did not make me remember more than a few incidents in the 70,000 words which I heard through my headache.

*

Mr. Lovat-Fraser moving the Bill, stuck to a written speech so closely that Mr. Orr-Ewing appealed to the Speaker, whose smile was particularly engaging as he replied: "The honourable Member appears to be fully provided with notes."

*

Mr. Hicks, large and benignant Trade Union leader, terrifically at his ease, welcomed interruptions and made an excellent speech. When he sat down one felt that skilled labour were behind the Bill to the last trowel, that it had already received the House's approval before Sir Robert Tasker rose to oppose.

*

Small, thin, with an air of coming round his long white moustaches, Sir Robert had a clear, precise delivery. There were no war reminiscences this time, but several wanderings from the topic. An extraordinarily sinister suggestion was made, with no details, that his clients had been informed by some persons that he was interested in specifying certain materials. The House's flesh refused to creep at this monstrous alleged outrage. Mr. Strauss pressed for names. Sir Robert suggested getting on with the Bill.

*

The House got. Sir Arnold Wilson opposed the Bill with regret, Colonel Wedgwood, in a very good speech, with animosity. Mr. Acland, Mr. Bossom and Sir John Withers (inaudible) supported it. Mr. Beverley Baxter finished the matter. Looking rather like Mr. Pickwick, Mr. Baxter dealt with Mr. Pecksniff's qualities at length and left the House no option but to pass the Bill or to create Pecksniffs at a rate which would rival the results of Mr. A. P. Herbert's remedy (for another problem) of holidays with pay at the seaside. The House decided to act on the warning.

THE MAJORITY

The vote in favour of the Bill is flattering to us all. It would seem to show that the public at last appreciates architects to the extent that the Commons are prepared to grant a measure obviously beneficial to architects even in the face of an apparent division of opinion in the profession.

*

I was myself somewhat surprised by one of the attempts to prove major disagreement. In common with other architects, I imagined that one main point of this Bill was to help Registered Architects, to protect them against unregistered competition. So, I think, did M.P.s.

*

It was therefore a shock to be shown a letter to M.P.s from the Institute of Registered Architects (a body presumably formed to further the interests of such people) which asked M.P.s—in a roundabout way—to *oppose* the Bill.

*

It is the more pleasing that M.P.s voted so substantially for the Bill in the face of a letter which might well make them think architects "mad, quite mad, my dear."

JACK AND JILL

The A.A. Pantomimes are amongst those things that mark the passing of the architectural years—not in time alone, but because they reflect the change in outlook between one generation of students and another. The audience at the last night—made up as it is of so many former pantomimists—must always make comparisons in its own mind *avec les neiges d'autan*.

*

On Friday night the comparisons must have been easy to make, especially for those who look back regretfully to the dear old 'twenties when the panto' was a glorified rag in a glorified atelier. Those may have been good days, they may even have been sincere days—I don't know—but the one thing that yesterday can never be is today, and that

any institution's annual show should in some degree reflect its point of view is obviously right and proper.

*

To introduce a serious and even bitter note into a Christmas entertainment was courageous and, dramatically, it might have been fatal if it had not been for the really brilliant " book " by Messrs. Cox, Madge and Grinling. To make the declamation concerning our sad war-torn world the *finale* was more questionable, although it was excellent in itself.

*

Inevitably there were those who thought that a " pantomime " was no place for such matters but then if you dislike polemics at all there never is a right place for them. I hope that I have not suggested that the A.A. pantomime was a solemn affair; it was easily the best for years. If Jack was all work and no play, he was by no means a dull boy—and the rest of the cast played uproariously.

*

Jill had all the charms that a heroine ought to have, the Vicar almost created his background of russet roofs and immemorial elms, the Colonel was not too Blimp to be convincing, the Vicar's wife must have modelled herself on an example I know, and we should like to have seen more of the Vamp—seen her more often I mean. These managed to pack more laughs into a couple of scenes than have sometimes been heard in a whole pantomime.

" BELLAHOUSTON TO RIVAL PARIS "

Under this headline—streamed across five columns—the *Glasgow Evening News* has taken me to task, severely, for my remarks about the sham castle on the sham loch at the forthcoming exhibition. I am fond of Scotland, and this is the second time I've put my foot in it—it was George Street versus Prince's Street last time.

*

Of course I was not writing an article on the Exhibition, as my critic suggests, and I have the greatest faith in Mr. Tait, of whose existence I am supposed to be all but ignorant. As a matter of fact, what really irritated me was that Mr. Tait should not have been allowed sufficient control to prevent such a philistine blunder as this " castle-outside-concert-hall-within " affair which I damned and still damn.

*

My remark that Scotland could not be held responsible for the sins of Glasgow has, oddly enough, been interpreted as an ignorant attack on Scottish art and letters as a whole. This I repudiate, although I suspect that Sir Walter Scott in one of his border-ballad moods might have had a sneaking affection for the sham castle.

*

Again—I am supposed to be ignorant of the fact that Scotland produces engineers—can one ever forget it? Is there not a Scotsman in charge of every liner's engine-room—even if there is a Welshman on the bridge? I owe Scotland no apology, I owe Mr. Tait no apology, but I apologize to Glasgow with all my heart, I am sure that its exhibition will be as worthy of Glasgow as the French exhibition was of Paris—and I can't say fairer than that.

D.I.A. DINNER

The D.I.A. put over a very good show at the Café Royal last week with three good documentaries (Night Mail, the Gas Company's School effort, and a Len Lye colour film for the G.P.O.) instead of the usual rather tentative dancing. A popular idea, one gathers, for many more people turned up than last year.

*

At the more serious end of the evening the new President, the Master of Sempill, put over a huge programme, suggesting lectures, exhibitions, *proper* liaison between retailers and manufacturers—not to mention a Museum of Contemporary Design. Enough anyway to keep the D.I.A. executive (or do I mean administrative ?) very busy for most of his term of office.

SCHOOLS

" If education is thought worth while in the authoritarian states today, it should be doubly worth while in our own country." Mr. Kenneth Lindsay, Parliamentary Secretary to the Board of Education, expressed nothing new in this applauded sentence at the opening of the *News Chronicle* Schools Exhibition. But it is very doubtful whether everyone has yet grasped the idea.

*

Under dictatorship, a major section of government is concerned with impressing upon youth that it is an essential part of the State, while seeing that it is taught and believes just what is wanted. Democracy's counter-move—far more difficult—is to try to make education the broadest and best possible.

*

In the last decade we have made some moves in this direction. But there is a danger that great expenditure and a great building programme on other defences may make education a secondary affair. The *News Chronicle* is trying to prevent such an occurrence and will, I think, be long remembered for doing so.

*

It has now produced a wonderful exhibition, opened with seriousness and wit by Sir John Withers and Mr. A. P. Herbert. Architects are interested in schools today, and they all should go to the Dorland Hall before January 12.

THE SCHOOL OF PLANNING AND RESEARCH FOR NATIONAL DEVELOPMENT

At the R.I.B.A. this week there is to be a conference which may be of the very first importance to the future of planning, zoning, agriculture, transport and their relationship to each other. Anyone who has really troubled to study and analyse the work of the School of Planning at 7 Bedford Square will know how broad but nevertheless realistic it is. It would be nothing less than a tragedy if the School was to close its doors for lack of support.

*

Fortunately there is hope, for when men like Sir Raymond Unwin, Lord Horder, Mr. Pick, Dr. Adams, and others as distinguished, meet as they will do on Tuesday, under the chairmanship of Mr. Goodhart-Rendel, there is a chance that words may become deeds, and that English Universities may appreciate, as certain American ones have done, the value that is beginning to emerge from the work which Mr. Rowse has been doing at the school for the last three years. If all goes well a fine vision may become more real than it can do under present conditions, and the A.A. may yet live to be proud of the baby which others have helped to wean.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

BUILDING CODE FOR LONDON

New building byelaws accepted by the L.C.C. are to come into force on January 1, and it is hoped that London will then have a building code analogous to that already working in New York and various Continental cities. The most notable feature of the byelaws is that a high degree of freedom in the choice of materials is allowed, and that changes in the byelaws can be made by the L.C.C. without recourse to Acts of Parliament.

The immediate history of these byelaws starts in 1930, when the Ebury Committee, with Mr. Maurice Webb as vice-chairman, prepared a report and submitted it to the Ministry of Health and the L.C.C. The L.C.C.'s committee was formed the following year under the chairmanship of Sir Robert Tasker with Mr. B. L. Hurst as vice-chairman, and the new byelaws put into effect the Committee's recommendations.

The byelaws are " not immutable, but will be reviewed in three years' time in the light of experience gained in working them."

EXHIBITION

The Timber Research and Utilization Exhibition was opened last week at the Science Museum, South Kensington, by Lord Kennet.

This exhibition has been organized by the Timber Development Association in conjunction with the Forest Products Research Laboratory, to illustrate the methods of investigation of the various natural properties of timber and the practical application of the knowledge thus gained. The exhibition will run until February 6.

QUANTITY SURVEYORS AT DINNER

That great activity in the building industry would continue for many years to come was foreshadowed by Mr. E. C. Harris, when he presided on Wednesday, December 15, at the annual dinner of the Chartered Quantity Surveyors at the Savoy Hotel, London.

Mr. Harris, who was responding to the toast of " The Chartered Quantity Surveyor," said : " Last year when I presided at this event I referred to the fact that the building industry was enjoying a period of great activity. I am pleased to say that that activity shows no signs of abatement. If we examine the quarterly survey of the Building Industries' National Council and refer to the figures of employment, we find that they show a steady improvement. I maintain that for every great basic industry the employment figures are the best criterion of its prosperity.

" I believe that for every capable worker in the industry, whether he be practical or professional, there will be reasonably full employment for many years ahead. Let us pledge ourselves that in spite of the pressure of work which we are called upon to do, there shall be no falling off in the quality of that work."

The speaker went on to say that the past year had not been, for the Quantity Surveyors' Committee, a year of spectacular achievement, but the routine work had been so diverse in its nature that interest in it had remained very keen. One of the problems had been the question of publicity and propaganda. Discussions had taken place regarding the extent to which it was desirable that the work of the quantity surveyor should be made known to the general public. Many members of the Committee felt that it was immaterial whether the man in the street was informed of the duties of a quantity surveyor, so long as architects and engineers were alive to the advantages of their employment.

Mr. R. P. Croom-Johnson, K.C., M.P., who submitted the toast, said it was a long time before the British public realized the value of a quantity surveyor. When he had said in the courts, " I am going to call a quantity surveyor," he had been asked, " What sort of a surveyor is that ? " But people were now finding that the quantity surveyor had a very definite duty to perform.

In the course of 30 years in the courts, during which time the speaker had had opportunities of looking after building, engineering and electrical cases, he had ever had occasion to recognize and appreciate the rise in professional position of the work of a quantity surveyor.

Mr. J. M. Theobald proposed the toast of " The Guests."

Mr. T. A. Darcy Braddell, F.R.I.B.A., vice-president of the R.I.B.A., who responded, said he liked to think of architects and surveyors as partners. They saw the start of a job, they saw the end of a job ; they saw a job before a spade had been put into the ground, and they saw the job when the bills began to come in.

THE ARCHITECTS' DIARY

Thursday, December 23

HOUSING CENTRE, 13 *Suffolk Street, S.W.1. Exhibition : " Rural Housing." Until the end of January.*

" NEWS-CHRONICLE " SCHOOLS EXHIBITION. *At Dorland Hall, Lower Regent Street, S.W.1. Until January 12.*

BUILDING CENTRE, *New Bond Street, W.1. Exhibition of Interior Design by students of the L.C.C. Central School of Arts and Crafts. Until January 8, 10 a.m. to 6 p.m.*

Thursday, January 6

LONDON SOCIETY. *The Children's New Year Party. Lancaster House, St. James's, S.W.1. 4.15 p.m. to 6 p.m.*

A bust, by Mr. Romeo Ratman, of the new President of the I.A.A.S., Sir Edwin Cooper, R.A.

ANOTHER HAMPSTEAD CASE

The honorary secretary of the Hampstead Heath and Old Hampstead Protection Society, Mr. Henry Brooke, has protested to the L.C.C. and written to the Press against the erection on the site of four cottages, Nos. 1–4 Willow Road, round the corner from Downshire Hill, of three houses designed by Mr. Ernö Goldfinger and Mr. Gerald Flower. The Hampstead Town Planning Sub-committee has made observations on the houses to the L.C.C., which has also invited observations from neighbouring property owners.

Mr. Brooke, in the *Hampstead and Highgate Express*, writing a letter which has since had publicity in the *Evening Standard* and the *Daily Telegraph*, urged " most strongly that the Council should exercise its powers to prevent any building in the neighbourhood so disastrously out of keeping with its present character as a " modern " angular house in reinforced concrete would be. The erection of a building of this kind, even if faced with brick in the upper storeys as this is proposed to be, would (it is submitted) damage irretrievably the " atmosphere " of the approach from the Heath to Downshire Hill, one of the most beautiful roads in Hampstead.

What support the protest has had is not yet evident, although it is known that the opposition has been active. But on the " pro " side many architects have already ranged themselves, and among other supporters are Miss Flora Robson, the actress, whose house is in the immediate neighbourhood, and Mr. Roland Penrose, the artist.

The houses are described by Mr. Goldfinger as being designed " in a modern adaptation of the eighteenth-century style and far more in keeping with the Downshire Hill houses than are the houses in Willow Road."

The opposition, in objecting to an allegedly " angular " building, appears to have overlooked the varied collection of Victorian and Edwardian frontages that continue up Willow Road, and not to have noticed that in their rectangular shape the proposed houses would be an admirable counterpart to the rectangular Queen Anne and Regency houses of the ends of Downshire Hill and of South End Road. There is also, it may be mentioned, a concrete house (belonging to an architect) half-way up Downshire Hill itself, to which no æsthetic objection has been taken. Concrete, and brick-faced concrete, houses have been permitted by the L.C.C. elsewhere in Hampstead.

SIR BRUMWELL THOMAS v. HAMMERSMITH B.C.

In the King's Bench Division, on Tuesday, Mr. Justice Porter delivered his reserved judgment in the action by Sir Alfred Brumwell Thomas against the Hammersmith Borough Council for damages for breach of contract and/or a *quantum meruit* in respect of plans and drawings for the Council's new Municipal Buildings.

His lordship said the plaintiff was a well-known architect, and his claim was for damages for breach of contract and remuneration for work done. The plaintiff was instructed to go forward and make drawings. Eventually plaintiff was appointed architect for the proposed building, and he was to be paid on the R.I.B.A. scale. Upon that, the plaintiff made working drawings for a building to cost £200,000. Certain suggestions were made in regard to the building, and the plans were revised as required.

Later, objections were raised to the plans. Ultimately the defendants abandoned their scheme. Plaintiff was appointed architect under the seal of the Council, and speaking broadly was entitled to his fees, and the question was what the parties intended and meant by their agreement. Here the architect was employed to do the work, and defendants were not entitled to let plaintiff prepare plans and drawings and then say: "We have abandoned the scheme and you get nothing." Plaintiff was entitled to loss occasioned by the abandonment.

In his lordship's view, the questions of heating, lighting and ventilation were minor matters, when compared with the more important matter of accommodation. The plans were considered by a full committee and considered satisfactory, and approved. Then the matter came before the Council, and criticisms were made and the committee withdrew its approval. Plaintiff then revised the accommodation. His lordship found that plaintiff provided the accommodation put upon him. His lordship found that the site was suitable and adequate for the accommodation originally put forward. The question was, were the plans reasonably sufficient for a quantity surveyor. The plans were only provisional, but the steelwork was quite incomplete and other matters needed amending. It was true there were errors and omissions on the plans, but these were partly due to changes in the plans.

He found that the plaintiff was entitled to damages for breach of contract, and he awarded plaintiff £7,000.

Judgment accordingly for plaintiff for £7,000 with costs. The £7,000 included the £3,000 the plaintiff had already received.

A stay was granted on the payment of £1,500 to the plaintiff.

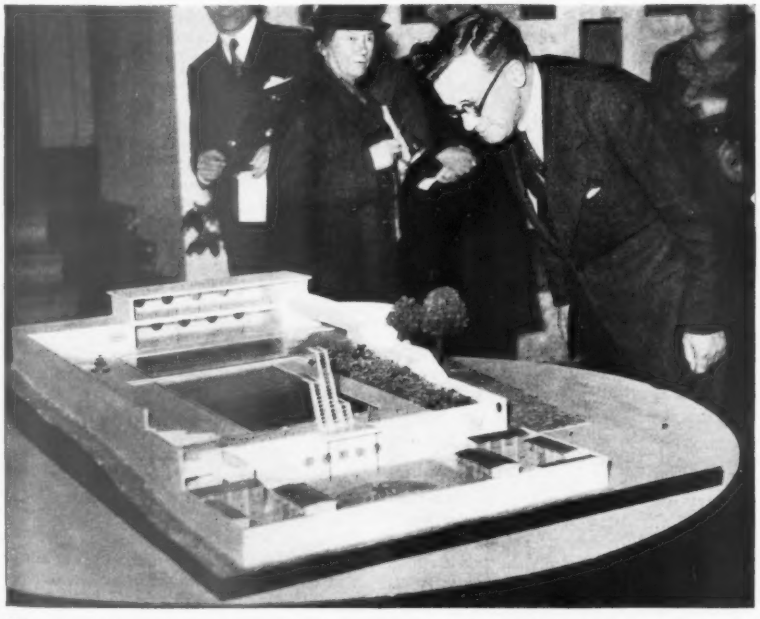
R.I.B.A. NEWS BULLETIN

Christmas Holiday Lectures.—Mr. G. A. Jellicoe's lectures for children are at 3.30 p.m., on Wednesday, December 29, Friday, December 31, Monday, January 3. All available tickets have long ago been allocated.

R.I.B.A. Prizes and Studentships.—Mr. Fernand Billerey is to give the criticism of prizes and studentships at the General Meeting on January 10 in place of Mr. Howard Robertson, who will be abroad. Mr. Billerey is a graduate of the Ecole des Beaux Arts, who has practised in London for many years. He was architect for the Playhouse Theatre and also ran a very successful evening atelier of design, in which many present-day leading architects were students. The drawings submitted for the R.I.B.A. prizes and studentships will be on exhibition from Tuesday, January 11, to Monday, January 31, inclusive.

Portrait of Sir Robert Lorimer.—Under the will of the late Mr. J. H. Lorimer, two portraits which he painted of his brother, the late Sir Robert Lorimer, have been bequeathed to the R.I.B.A. One of these is to be hung at 66, Portland Place; the other has been presented by the R.I.B.A. Council to the National Gallery of Scotland.

R.I.B.A. Exhibitions.—"Modern Schools" is at Dorland Hall, Regent Street, until January 12. "Airports and Airways" closes at Hull on December 30 and opens at the Museum and Art Gallery, Leicester, on January 15. "Civic Centres" closes at Huddersfield on January 8 and opens at Blackpool Art Gallery on January 15.



The exhibition of interior design by students of the L.C.C. School of Arts and Crafts is now being held at the Building Centre. The above photograph shows Mr. Herbert Morrison, M.P., who opened the exhibition last week, looking at a model of a house designed by students.

Professor Reilly Speaking

WELL, well! I knew I should get into trouble with Berry-Webber if I ventured to suggest the methods of the Competitions Committee were not above reproach. Indeed I should have been disappointed if I had not. This Committee is his child, the thing nearest his heart so he tells me. That its methods have not altered for so many years, that it still conducts competitions today as it did during the dark ages, does not, as he so innocently suggests, show that it is a perfect creature, boy or girl whichever he prefers to consider it, but merely that it suffers from arrested development. That methods of assessing competitions which suited the slowly moving non-scientific era of our grandparents should be exactly suited to the requirements of our own day should be *prima facie* evidence that something was wrong with them, not the reverse.

But to clear the air first of my friend's arguments, if such they can be called. He says I made many misstatements, but in fact he fails to specify them save one. He denies that the competitors, who naturally objected to an assessor in a recent competition breaking his own compulsory condition, were "hauled up" before the Competitions Committee "Hauled up" is a metaphorical phrase. The Committee wanted them to be made to express their regret at their indiscretion but the Council wisely refused to endorse this. That seems to me quite sufficient to cover "hauled up." Anyhow it is a small and unimportant point. His statements about me and my past work were good enough thrusts in themselves but equally unimportant to the argument. That he leaves untouched. The constructional proposals I made for adapting our competition system to the transitional state of architectural design today, by adopting the jury method of assessing and including younger men on the juries, and my further proposal of how to make this system work more easily and inexpensively by establishing professional draftsmen who would draw up the conditions of competitions and schedules of accommodation, and so relieve the jury of all the drudgery and leave them the only exciting work to do, he does not even mention. When anyone just abuses his opponent's attorney or even his opponent himself it is generally assumed he has a bad case. Now I do not much mind abuse and I can enjoy very much a scrap (on paper, at least

now that I have strained my heart and may not make a speech) with a good-natured opponent such as Berry-Webber really is, (his letter did not do him justice in this respect but thank you all the same, my dear Crabtree) so that this reluctance of his to answer my real points is very disappointing. I really think he agrees with them. I think he has no inherent objection to juries instead of the single assessor—even when on such a representative of the promoting body, properly outnumbered of course, sat or rather walked about, for one generally walks miles backwards and forwards during an assessment. I know this because he has kindly told me so which was very sweet of him.

What Berry-Webber really objects to in my proposal, or I think does so at first sight, is my panel of expert draftsmen. He rightly says it is a large part of the assessor's business to carry the promoters with him and to get the competition properly going. He must keep them convinced that the proposed competition is the best way of getting what they want. They have presumably agreed on having a competition or he would not be there at all. All this means that the assessor must be for this part of his job a man of tact. Now the heads of schools I admit are not generally men of tact. Heaven forbid that they should be! They would never properly enthuse their schools nor carry on their missionary work if they were. Therefore, I think, in spite of their experience in drawing up programmes they may not be the ideal men for this job. To that extent Berry-Webber is possibly right. When the properly tactful architect or architects have been found for the drafting job they will clearly gain by each experience. After a few experiences of promoting committees they should be able to manage them like a class of infants whereas the assessor, as appointed today, may be a ghastly failure at it. I suggest one such architect to begin with might be found already on the R.I.B.A. staff, and be paid a hundred or so more for the new work. Then think of the encouragement of being able to offer a seat on the jury to the promoters! That surely would go a long way to making competitions more popular with such folk.

This brings me to Messrs. Silcock and Thearle's letter. They are two old students of mine who have been very successful lately in competitions in spite of their basement full of old competition drawings. They do excellent work, too, as good as any of the competition crowd. It makes me sad, therefore, to see them putting forward that old retail tradesman's cry that one must give the public what it wants.

No decent man, not even the best sort of tradesman, for he has his art of salesmanship, ever merely tried to give the public what it wants, no decent theatre, no decent newspaper, no decent institution of any kind. It is the business of all such to teach the public what it should want and to go on teaching it all through life even if that way leads in the case of the individual artist to poverty and obscurity. The other may well lead to riches and the Royal Academy, but also to a living death. It is better to live in hope and to die in distress than to be content all through life with consciously accepting the second best. Think again, my dear Silcock and Thearle. Your work is so much better than what you write. Like Berry-Webber's, your letter does not do justice to your real natures.

I was very pleased to see Drysdale's letter for he, as the head of a great and growing school at Birmingham full of lively work, is in close touch with the young idea and knows what it is like today and what it wants and what it needs. I have only just seen Mr. MacKenzie Skues's kind letter. I had no idea I was so popular and with the older generation too! It really looks as if the Competitions Committee must now wake up and begin to do something.

I had meant to write about official architects this time. I have a suggestion to make. It is that the Presidency of the Institute after Mr. Goodhart-Rendel has run his full and successful course, as I feel it still will be, should be offered either to Mr. Wheeler, the broadminded architect of the L.C.C., or to Mr. Keay, who has done such fine work at Liverpool. That will be an excellent subject, though, for next time, as will be the real reason why so few official architects get elected to the Council and what is to be done about it. Being an armchair politician is a very pleasant occupation for one's old age. One can sit still and yet put both one's feet into so many delicate situations one after the other.

EXHIBITIONS

[By D. COSENS]

IN the revolt against realism the importance of subject in painting declined, until the final abstraction was reached where pictorial subject, or any possibility of subjective interpretation, ceased to exist. The completely abstract three dimensional conception was in direct sequence. Add actual movement to the balance and interrelation of solid forms in space, and an immense new field for experiment appears. Mr. Calder's mobiles at the Mayor Gallery give some idea of the possibilities of this experiment. Instead of the static object or group, there is the rhythmic interplay of various shapes, so subtly arranged that the movement of the different elements changes the balance of the composition, and gives it continuity, but never breaks it. These mobiles are enchanting to watch, idly as toys, or more critically for the mathematical precision of their balance, and for their almost unlimited possibilities as an art form. And may not this preoccupation with the abstract movements of a mechanical ballet, or something very like it, together with Moholy-Nagy's theories of light, and Auden's experiments with sound, one day revolutionize the cinema and raise it to its place as one of the arts?

*

Mr. Sickert is probably our greatest living painter, and the direct descendant of a long tradition. His painting has those qualities that will survive changes in fashion; the completely detached yet passionate interest in his subject that gives drama without sentiment; the restraint that obliterates, or reduces to a symbol, the irrelevant (even the features of a face) when by doing so he can, in understating, epitomize a type or a *milieu;* and a technical mastery of colour and the effect of indirect light. His pictures are never isolated compositions in a prescribed space, the rest is inevitably there beyond the limit of the frame. In his dim stuffy bedrooms one is conscious of the whole house, and of the children screaming endlessly in the street outside. And this is not an exaggeration for he realizes his characters so completely that in painting them he paints their whole environment, the whole of their life, and usually the measure of their disillusion. Never with the meticulous care of the pre-Raphaelites, but by the consistent under-statement of blurred outlines and low tones. From Degas he gets his method of using the canvas as part of the design and his habit of painting at leisure from drawings or from memory, and from Vuillard the indirect light of his interiors. At the Redfern Gallery the four outstanding works are "Granby Street" (8), "The Visitor" (30), "Evening Primrose" (4), and "The Stove" (48)—this last is perhaps the finest and it is relentless in its observation of a hopeless poverty. None of the paintings at this exhibition are recent, but they are typical of some of Mr. Sickert's best work.

*

Calder, Mobiles and Stabiles. Mayor Gallery, 19 Cork Street. Until December 24.
Sickert, Early Paintings. Redfern Gallery, 20 Cork Street. Until December 24.

CHANGES OF ADDRESS

The Cable Makers Association has removed its offices to High Holborn, 52–54 High Holborn, W.C.1. Telephone No.: Holborn 7633.

Mr. Edward D. Mills, A.R.I.B.A., has moved his office to 112–113 Chandos House, Palmer Street, S.W.1. Telephone: Victoria 9241, where he would be pleased to receive trade catalogues, etc.

Mr. T. W. V. May, F.R.I.B.A., M.I.STRUC.E., has opened an office at Manor Office, Turf Street, Bodmin, where he will be glad to receive trade circulars.

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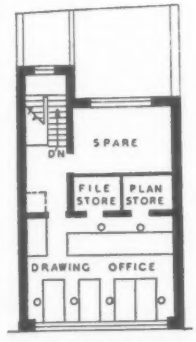
R.A. Lectures

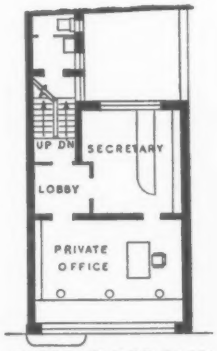
The Royal Academy has arranged a series of official lectures in connection with the forthcoming Exhibition of Seventeenth Century Art in Europe, which opens on January 3. The lectures will be delivered on successive Fridays, in the Meeting Room of the Royal Society, Burlington House. The list of lecturers includes Mr. Sacheverell Sitwell, who will open the series on Friday, January 7, Messrs. A. M. Hind, C. C. Oman, Anthony Blunt, E. K. Waterhouse, Lord Gerald Wellesley, Professor Emile Cammaerts, C.B.E., Professor Tancred Borenius, Mrs. Esdaile, and Professor Geoffrey Webb. In addition, the Royal Academy has prepared a panel of lecturers who are prepared to speak on the various aspects of the exhibition at societies, clubs and educational establishments. Application for a copy of the panel should be sent to the Secretary of the Royal Academy.

OFFICES IN BRUTON PLACE, W.1.

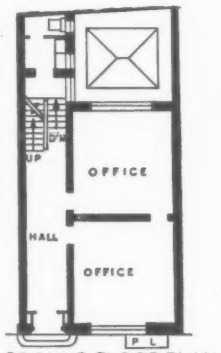
DESIGNED BY MITCHELL AND BRIDGWATER



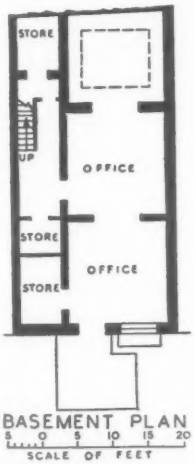
SECOND FLOOR PLAN



FIRST FLOOR PLAN

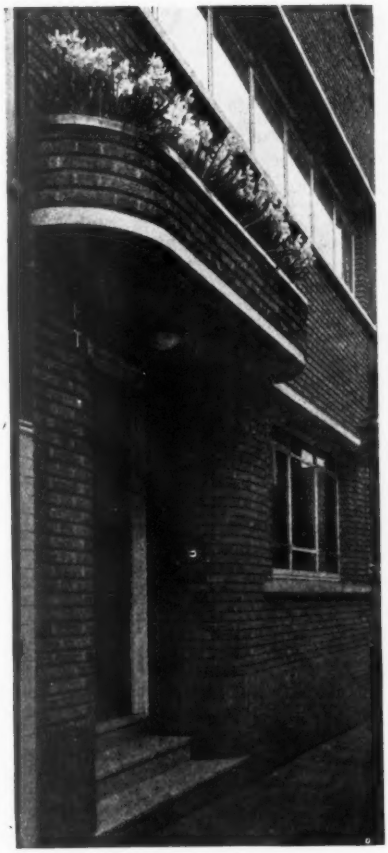


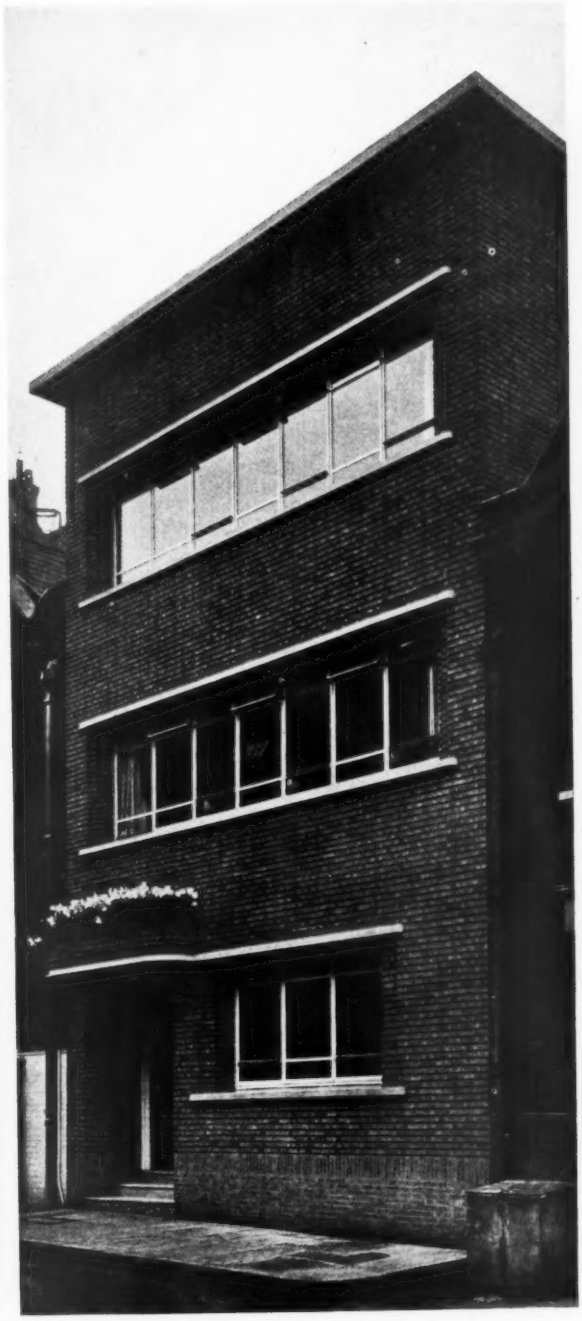
GROUND FLOOR PLAN



BASEMENT PLAN

SCALE OF FEET





GENERAL PROBLEM—*Offices for the Architects' own occupation. The owners occupy the first and second floors, the ground floor and basement being sub-let.*

SITE—*Facing South in a closely built-up street, off Berkeley Square, W.1*

CONSTRUCTION—*The floors and roof are of precast reinforced concrete beams. Fillets are attached to the bottom edge of the arches and support 2-inch cork slabs covered with patent board on which are fixed electric heating panels. Over these panels is another layer of board and a lining paper providing a good radiating surface. The roof is similar to the floors and is covered in asphalte. The stairs are of reinforced concrete finished with cork. The balustrade is solid with a marble handrail. The flower-box balcony is of reinforced concrete.*

EXTERNAL FINISHES—*The walls are of brick (flettons) faced with a veneer of 1⅞-inch bricks built seven courses to 18 inches. The veneer is tied into the structural wall with expanded metal bonding. The horizontal brick courses are recessed ½ inch except in the plinth courses, the verticals being flush. The facing bricks are golden brown and rough textured. The steel windows have projecting reinforced concrete heads and cills.*

The photographs show two views of the street front.

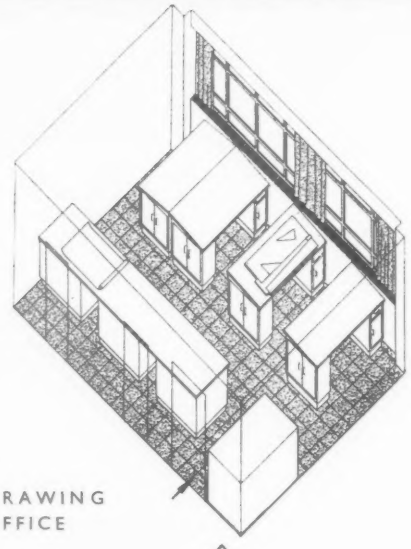
OFFICES IN BRUTON PLACE, W.1:

INTERNAL FINISHES—*The joinery is of plywood painted in bright colours or veneered in Australian walnut. The skirtings are ebonized and the window cills of black glazed tiles.*

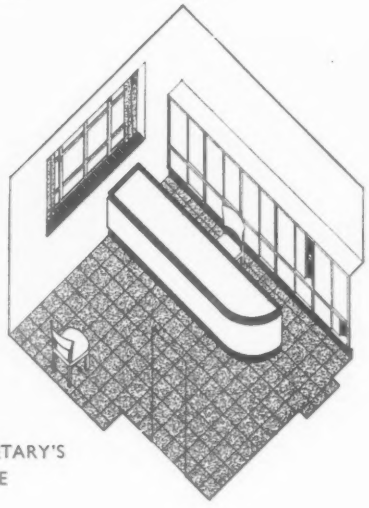
HEATING—*Heating is by low temperature electric panels in the ceiling. These are backed with 2 inches of cork for insulation, and the outside wall similarly treated. The system is thermostatically controlled.*

The illustrations show: above, the entrance hall; top right, the waiting lobby: the joinery is Australian walnut and the chairs black leather and chromium plate; below, the secretary's office, showing the long fitted counter desk and the door leading to the private office; right, axonometrics of the drawing office and secretary's office.

For list of general and sub-contractors, see page 1067.

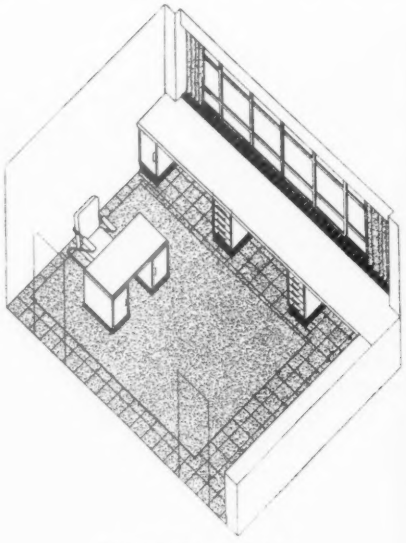


DRAWING OFFICE



SECRETARY'S OFFICE

BY MITCHELL AND BRIDGWATER



PRIVATE OFFICE

The photographs show : Right, the private office, which has a long drawing desk under the window supported on pedestals of drawers and cupboards. The writing desk has panels of Australian walnut and elsewhere the joinery is ebonized or painted in bright colours. Below, the drawing office, which has unit desks with a fitting of plan chests and catalogue cupboards on the left. The furniture is black and the floor dark brown cork tiles.

Mr. Pecksniff. From "the Book of Knowledge" (Waverley Book Co.). See Mr. Beverley Baxter's Speech on page 1043.

REGISTRATION

The JOURNAL had intended to publish a verbatim report of the debate on the Second Reading of the Architects' Registration Bill in the House of Commons. The report, however, runs to a length of 70,000 words—about an average novel—and for this reason the principal speeches only are printed in full on the following pages. The report is from "Hansard," by permission of the Comptroller, H.M.S.O.—Editor, A.J.

MR. LOVAT-FRASER. I beg to move, "That the Bill be now read a Second time."

This Bill is entitled :

"A Bill to restrict the use of the name Architect to Registered Architects and to extend the time within which practising architects may apply for registration."

Last Session, when the Bill came down to the House of Commons from another place, having passed through all its stages there without amendment and without a division, it was talked out. The object of the Bill is to ensure that a person shall not call himself an architect unless he is a registered architect. In 1931 the Architects (Registration) Act was passed, and I would call the attention of hon. Members to Section 10 of that Act which states that :

"Any registered person shall be entitled to take and use the name or title of 'Registered Architect', but a person shall not practise under any name, title or style containing the words 'Registered Architect', unless he is a registered person, and any unregistered person who so practises or wilfully pretends to be a registered person, or takes or uses the name or title of a 'Registered Architect', or any name, title, style or description implying that he is a registered person, shall on summary conviction be liable to a fine not exceeding fifty pounds for the first offence and one hundred pounds for every subsequent offence."

It will be seen, therefore, that the Act of 1931 provided for the voluntary registration of architects. From that Act good results have accrued. No fewer than 12,000 architects came within its purview, and an organisation was called into being which, broadly speaking, represents the whole of the profession. The Bill now before the House completes the work which was started in 1931. Clause 1 of the Bill provides that :

"A person, not being a registered person within the meaning of the principal Act, who after the expiration of two years from the commencement of this Act, shall take or use the name, style or title of 'Architect' or any name, style, or title containing the word 'Architect' shall be deemed to have committed an offence under section ten of the principal Act and the provisions of the said section including the provisos thereto shall apply accordingly : Provided that nothing in this section shall affect the use of the designation 'Naval architect', 'Landscape architect' or 'Golf-course architect'."

By Clause 2 the objects of the Act of 1931 are further advanced so as to provide a complete safeguard for those whose livelihood will be affected by the passing of the Bill. Clause 2 is as follows :

"Notwithstanding anything in the principal Act, a person shall, on application made to the Council in the prescribed manner and on payment of the prescribed fee, be entitled to be registered under the principal Act, if the Council are satisfied on a report of the Admission Committee that his application for registration was made within two years after the commencement of this Act and that at the commencement of this Act he was, or had been, practising as an architect in the United Kingdom :

Provided that any person aggrieved by the refusal or failure of the Council to cause his name to be entered on the Register on an application made by him under this section shall be entitled to appeal to a Tribunal to be constituted for the purpose of this Act consisting of three persons, not being members of the Council, to be appointed from time to time as follows :—

one person to be appointed by the Lord Chancellor ;

one person to be appointed by the Minister of Health ;

one person to be appointed by the President of the Law Society ;

and the decision of the Tribunal on any such appeal shall be final."

MR. ROBERT GIBSON. Is it intended that this Bill should apply to Scotland? If so, would it not be wise that there should be some representative from Scotland on this tribunal?

MR. THORNE. Do those who want to register have to show any qualification before registering?

MR. LOVAT-FRASER. No ; anybody can register. With regard to the question of the hon. and learned Member for Greenock (Mr. Gibson), we are willing to meet those who object to there not being a Scottish representative.

Those who are earning their living as architects are safeguarded by the proposal that any bona fide practising architect shall be entitled to admission to the register for two years after the passing of the Bill. The promoters, since the Bill was presented by me, have endeavoured to allay the fears of those who feel that persons holding architectural appointments under the Crown or under a local authority may be adversely affected. There is nothing in the Bill to prevent anyone such as a borough engineer or surveyor from carrying on architectural work, but, unless he is a registered architect, he will not be able to call himself an architect. It is only a question of nomenclature. To safeguard the position of those who are at present in the employment of the Crown or a local authority, I am prepared to accept in Committee an Amendment with an accompanying schedule to provide that a person who holds an office the title of which is "architect," or contains the word "architect," at the commencement of the Act, shall for a period of two years be entitled to be registered under the principal Act. It is suggested that the schedule should include chartered civil engineers, chartered structural engineers, chartered surveyors, and members of the Institution of Municipal and County Engineers.

The reason for the Bill is the protection of the public. The public do not appreciate the distinction between an architect and a registered architect. The important poin t is that, as the law stands today, there is nothing to prevent anyone, no matter who he is, from calling himself an architect. This is a fraud on the public which we ought not to allow to continue. The Bill is supported by architectural organisations comprising a total membership of some 14,000. These bodies are the Royal Institute of British Architects, representing 6,992 architect members ; the 67 provincial associations allied to the Royal Institute of British Architects, with 1,386 architect members ; the Faculty of Architects and Surveyors, with 582 architect members ; the Architectural Association, with 1,705 ; the Association of Architects, Surveyors and Technical Assistants, with 387 architect members ; and the Association of Representatives of "Unattached" Architects, which has 2,933 members.

SIR ARNOLD WILSON. Can the hon. Member give the address of that last society? Does it exist? I do not think it does.

MR. LOVAT-FRASER. I wish to impress on the House the importance of this matter, and in doing so I will read an extract from the circular which hon. Members have received——

MR. ORR-EWING. On a point of Order. Is it in order for an hon. Member to read every word of his speech?

MR. SPEAKER. The hon. Member appears to be fully provided with notes.

MR. LOVAT-FRASER. I am not an architect, and I know nothing of the technicalities of the architect's profession. I am here trying to put their case, I hope fairly, in the presence of a large number of technical Members, and I am very surprised that my hon. Friend should get up and take exception to my using the notes which are always necessary on a Bill of this kind. I wish to impress on the House one important fact, and, in doing so, I am going to read an extract from a circular which has been received by all Members of this House:

"The actual promoters of the Bill are not the Architects' Registration Council (which has no power under the 1931 Act to promote legislation), but a self-seeking body of persons connected with the Royal Institute of British Architects who are supremely anxious to obtain for that body a paramount position which it has been unable to obtain in an open field by fair competition with other bodies devoted to the welfare of the architectural profession. In actuality it is the Royal Institute of British Architects, and not the Registration Council, which seeks, via the Bill, monopolistic control of the profession."

The true facts about that are these. The Architects Registration Council have no power under the Act to spend money in promoting this legislation. They, therefore, appointed a Parliamentary Committee, composed of representatives of all the constituent architectural bodies on the council with the exception of the opposing association, which is supported by the hon. Member for Holborn (Sir R. Tasker). The committee consists of representatives of the Royal Institute of British Architects; the Architectural Association, London, the Faculty of Architects and Surveyors, the Association of Architects, Surveyors and Technical Assistants; and the Association of Representatives of Unattached Architects. These bodies have subscribed, in proportion to their numbers, the necessary funds for expert advice in drafting this Bill for presentation to Parliament. The Bill was before the Registration Council in 1937, and its introduction was approved by them by 22 votes to four, the only dissentients being the three representatives of the association of which the hon. Member for Holborn is the leading member, and one other member who represents the views of the Institution of Municipal and County Engineers.

MR. HICKS. I beg to second the Motion.

I have had some correspondence upon this Bill. I think it would be an exaggeration to say that that correspondence was non-controversial. Let us hope that the House at the end of the discussion today will have a clearer understanding than the parties, perhaps, have been able to impart. Their correspondence has been conducted with an incisiveness that makes a plumbers' and hot-water engineers' trade dispute fade into insignificance. I have certainly had more correspondence on this than I should have had had I been conducting a campaign for an increase in wages for a million building trade workers; but I am certain everyone has been charged with a general desire to inform the minds of Members on this matter, in order that they can give their views with knowledge and correct impartiality.

What is it all about? It is proposed that those people who qualify as architects should be registered, in order that the community, when desirous of employing their services, will feel that those who have the title have submitted their capacity to the test of examination, and that, so far as human practice has been able to evolve a test of capacity, they have proved themselves to be qualified. Is there anything wrong with that idea? I know that when builders are enlisting a bricklayer they want to be satisfied that they have a first-class commodity. They are entitled to ask that others whom they may desire to employ should also have capacity. We want to give a minimum guarantee that the individual who poses as an architect shall know something about the job, about the soil, the sub-soil, the structure, the stresses and strains, the locality, something about all the necessities for building, and, provided that he subscribes to this very modest examination paper which has been prepared, and is approved in such a way, the clients may accept him as an individual worthy to be employed. Does anybody doubt the necessity for having a qualified architect when one looks at some of the higgledy-piggledy messes——

SIR A. WILSON. Will the hon. Member describe the difference between an architect and an engineer?

MR. HICKS. I will try to do that for the hon. Member. I am trying to engineer this Bill through.

The building industry today is a very busy one. The personnel of the industry is well over 1,000,000. I think it is the largest male-employing industry in this country. We require something like £400,000,000 worth of work each year in order to give employment to the personnel of the building industry. It is important, in my opinion, that an industry which employs such a personnel, and is so important in the economy of our national life, should not be allowed to develop haphazardly. Everyone on my side is constantly asking for national planning. I believe we ought to plan. We cannot get the planning we require if we allow things to pursue a haphazard and an uncontrolled development. Our past history in this is a very mixed one. We have many beautiful buildings, and many ugly ones. Some of my hon. Friends are concerned about this qualification of the architects and the examination. I would ask them, Who designed our working-class houses in the East End of London, in Battersea, Kennington, and other places, and in our big cities? Who designed our slums? Somebody did. Those people whose mind, mentality and expression are reduced to such an abominable level ought to be struck off any list of people competent to design houses. These buildings are an eyesore to everyone of us today. Someone has designed them, producing a dreadful environment for the health, morality and mentality of our people. I get more votes as a result of new housing schemes than I do out of the slums. Someone designed our ugly factories. Our modern architects have shown us today that factories and workshops need not necessarily be ugly. It is a pity that those who designed our old workshops had not had an examination paper before them. Many of these workshops are ill-ventilated, dark and damp, and many of them verminous and insanitary. These are the places in which our people have to get their livelihood.

I have been through most of the towns and cities in the country, as have also, I presume, many hon. Members. I have been to many of our mining villages, and I have seen the attempted housing of our people there. I used to wonder why these men sing, but when I look at their houses, I know why they do. It is to prevent themselves from crying. I have seen the contour of the land, with the houses all built up the side of the hill, and the roofs taking exactly the same line as the contour of the land. A fortnight ago I was privileged to be present at a housing and town-planning conference at Harrogate, and to attend a lantern lecture given by Mr. Morgan, who is the borough and housing architect for the Swansea Town Council. He showed us the development of hillsides. He is a great architect. One would imagine, according to the opinion of some people, that architects are reactionary people. Many of them are in the Labour party, and we hope to get more of them in, and some of them sit on the benches opposite. I would refer to the layout schemes of Mr. Edwin Unwin, who has shown us how to develop the hillside. Instead of having the houses face to face with their backs showing down on to the lower level, he has planned whole schemes, so that when you look at the front elevation, you see the houses standing one above the other, and they present a nice sight. There is a change of as much as 8 ft. in the floor levels in the space of four houses, and unless you had a trained eye you would not be able to see the changes in the buildings and roofs and gables, and so on, forming the structure, the whole making a particularly pleasing block of buildings.

It is a fallacy to imagine that, because an architect designs a building, it will be more expensive than if it were designed by an engineer. That is not true, and cannot be supported by facts. The competent architect can save money provided the quantity surveyor will see that he puts in his bill quite properly. We are particularly interested in the need for good building. We do not want the ugly kind of buildings we see going up today. I am certain that none of us like to see them. When the late Lord Balfour went to America he was taken around to see the buildings there. The chief thing that they could do was to show him their buildings. We in this country are more important than would appear from the way we express ourselves, because we leave our work to speak for itself. They were showing him their buildings, and telling him how many hundreds of thousands of dollars they cost, and that they were so many floors high, and they said, "You know, they are fireproof," and the late Lord Balfour said, "What a pity!"

MR. THORNE. There is a moral behind that.

MR. HICKS. Yes, there is. We are town-planning now very largely in this country. We are urging the fresh location and the decentralization of industry, and we are building many towns and habitations for our people around our industries. A number of these schemes are not housing schemes in the ordinary sense at all. They are new towns, and in building new towns we ought to try to avoid the mistakes of the past to the maximum of our ability. In building these new townships we should build the picturesque and not perpetuate the grotesque, as is the case in many places now. I am surprised at the opposition of my hon. Friend the Member for West Walthamstow (Mr. McEntee). We are excellent friends and I hope that when the Debate on this Bill is over, we shall still be friends. There is also my hon. Friend the Member for West Willesden (Mr. Viant). We are proud of our craft. I am an officer of a craft union, and I am anxious to preserve our craft. I am President of the National Federation of Building Trade Operatives, and we have many craftsmen in that organization who are particularly jealous of their craft and skill and of their fine tradition for excellent workmanship. I believe in craftsmanship and I am sure that every hon. Member does. We should encourage it to the maximum of our ability. The idea of robots, and belts, and soulless machinery was dealt with by Adam Smith many years ago in his "Wealth of Nations." Realizing how soul-destroying the whole thing is, and the effect it has upon the character of the individual, we desire to cultivate craftsmanship in every walk of life.

The Royal Institute of British Architects have been associated with the Architects' Registration Council in circularizing some information in support of this Bill. I am a member of the Council having been appointed by the National Federation of Building Trade Operatives, of which I am president. My secretary, Mr. Coppock, is also a member of the council, and he has reported to our executive council. It was only this year that my nomination was put forward and I was elected by the council to represent them upon this particular body. We did not go round and consult every man in every union, but our organization is represented. My hon. Friend the Member for West Walthamstow, the president of his own union, has been a member of this council for several years, and, as far as I know, there has never been any objection raised by the representative of the executive council, or by any branch of his organization. It was only when he resigned from the Presidency of the National Federation of Building Trade Operatives and I became president that there came a change of representation. There is no attempt to make that particular side the guiding and controlling factor. The fact is that we are represented on the council, and I, as one of its representatives, am desirous of seeing this Bill go through, because I genuinely and seriously believe that it would benefit the community at large.

There may be instances of men who, through lack of qualifications, are not able to stand the test of examination. I am sorry for the individual who is not able to stand that test, but it is much better that he should not be successful in getting through than that the community should suffer the effects of his incompetence.

MR. ORR-EWING. Does the hon. Member mean that he is not able to pay the very heavy expenses of qualification?

MR. HICKS. I will deal with that matter later, and there are other hon. Members who can also explain it. The relationship between architects, builders and operatives used to be of a very stilted character. The architect was regarded as the aristocrat, the man who had great authority, and when we used to see him marching on to the job we had a sort of fear and trembling. We used to talk to each other on work days, but on Sundays it was never possible to recognize each other on the pavement or in the park. I am thankful to say that we have grown out of that. There has grown up in the building industry a recognition among architects, employers, material manufacturers, merchants and operatives that we need to pool our experiences and ideas so that the industry may be better able to deal with the rapid changes and innovations which the community is constantly demanding, and be able to deal with them in a more efficient way. Is there anything wrong in that? The Royal Institute of British Architects is an institution of over 100 years old. Is there anything wrong in pooling experiences of such organizations and seeing what can be done? It is surely a good thing that our joint contributions should be put to greater service for our people and for the community in general.

A man must have considerable qualifications if he is to become an architect. It requires years of training. It is not the same as in politics, when one night one may be a trade unionist official and next day a Member of Parliament. I have on previous occasions tried to enlist the support of hon. Members opposite on these questions, and although I have had their sympathy I have not had their votes. When we have gone from this House we have continued our efforts in order to raise the standard of quality in the building of houses. I have here the copy of a certificate of the National House Builders' Registration Council, which shows that, in the first place, the house has been architecturally planned, and that it has been built under conditions of labour that are nationally negotiated between the representatives of the building trade operatives and the representatives of the employers. There is an examination as to the location and nature of the site, the stresses and strains and what foundation must be put in for carrying the superstructure. There is also examination as to general amenities and sanitation. The house is inspected six times during the process of construction, and if at the end of the period any fracture takes place within two years, it is repaired free of cost. It has been worth while to bring that about, and I quote it as an illustration of what we have been attempting to do by joint consultations of architects, employers, operatives and clients. We have brought them together for the purpose of discussing these things, and our desire is that good results should flow generally from these steps.

We see people indulging in sharp practices, calling themselves architects, drawing out plans, taking advantage of shady finance, getting the plans through, employing people of shady character and then outraging all our conditions. What discipline have the architects over such people at the present time? They can call themselves architects and go on with their sharp practices, but if they were registered and such malpractices were being pursued, they would be reported to their association, and their conduct would have to be amended or they would be removed. It is, therefore, a surprise to me that any trade unionists should object to the qualifications which we are seeking to establish. I shall be willing to listen to the points of view that they put, and to do my best to meet the difficulties which they bring forward. I have given an outline of the sort of work that we have been trying to do from which the community will benefit. The poor people who buy or rent a house under the present system are hedged round with liabilities and find very often that they are spending whatever bit of money they can afford in maintenance charges, let alone capital charges. We want to be able to help these people and to give to the general community such safeguards as would be provided if a standard qualification such as we advocate were established.

With regard to the final examinations and the position of the Architects' Registration Council, the question is asked, why do they not conduct the examination themselves? The answer is that there are a number of institutions which they accept as being authorities who can examine. I will read the names: The School of Architecture, the Schools of Architecture of Birmingham, Edinburgh, Glasgow, Leeds, the Welsh School of Architecture, the Liverpool School of Architecture, the School of Architecture for the universities of Manchester and Sheffield, and the Armstrong College in the County of Durham. There is a long list of institutions which are prepared to conduct the examinations. I do not know whether the association with which the hon. Member for Holborn (Sir R. Tasker) is associated has held any examinations lately. I have seen their syllabus, a very nice syllabus, for 1936 and 1937, but I have not seen their syllabus for 1935-36.

The facts which have been supplied to me show that in the examinations of the Royal Institute of British Architects, out of 215 successful candidates in 1936, 128 trained themselves by attending evening schools, while the remainder, 87, studied at home or through correspondence classes. What foundation is there for the suggestion that there is any monopoly on the part of the Board?

There is also the Regent Street Polytechnic, which has recently made a formal application. I know one of its distinguished members, Mr. Bennett, who has run the school of architecture there for many years. I was not a student there, but I have been invited on many occasions to attend technical schools, and their prize distribution, and got the usual cup of coffee and vote of thanks at the end of the proceedings. The Regent Street Polytechnic has made a formal application, and at the present time is compiling particulars to submit to the board. I am a member of that board, which I hope will be some guarantee to hon. Members. The board will decide whether the minimum examination is right. We have a right to ask the people who know to lay down the qualifications necessary, so that the community shall be properly and effectively protected. The Ministry of Health is represented, and so are the Office of Works and the Board of Education, in order to give a guarantee that they are going to do the things that are right.

My own borough council of Woolwich have sent me a letter asking me definite questions about this. They have, it seems, apprehensions in the matter. I am rather surprised, because they are a very intelligent borough council. There is a Labour majority on the Council, and has been for many years, and they have a borough architect, a registered architect, but at the moment they are wondering what is going to happen in the event of his leaving or dying. The last time I saw him he was in an excellent state of health. Those who have had the privilege of going through my constituency, and also that of the Minister of Health, will agree that the borough council has put up first-class houses. I think they have put up better houses in my hon. Friend's constituency than they have in mine, for which I am a little sorry, but glad the occupants have such fine accommodation. In their communication the borough council say:—

"Architectural work of a special character should be carried out by their own qualified officers who have a more intimate knowledge of the particular requirements than is possessed by the majority of private practitioners."

I expect that is true. There are a large number of private practitioners who do not possess the necessary qualifications who are masquerading as architects. We propose to remedy that at the earliest opportunity with the aid of the hon. Member for West Walthamstow and the hon. Member for Holborn. They go on to say:

"The borough council has its own engineer as a registered architect."

There is nothing to prevent them if they are so inclined having a borough engineer and a borough surveyor. There is nothing to prevent them, if they are satisfied with the qualifications, having a borough surveyor and engineer to do their planning. We say that if a man poses as an architect he should accept the minimum standard of examination in order that his work should be appreciated. Then there is the question of how the money has been spent. The hon. Member who moved the Bill referred to the generous efforts made to have an Amendment of the Bill and a Schedule to the Bill, which should include people who are now under the heading, chartered civil Engineers, chartered structural Engineers, chartered Surveyors and members of the Institute of Municipal and County Engineers. I will not read the proposed Amendment, but I think it is necessary to deal with the question of finance. There has been a good deal of innuendo—at least it has been whispered in my ear and I have had post cards and circulars on the matter—that during the first five years while the reserve is being built up the whole of each year's income cannot be paid in grants. An extended series of scholarships has been arranged.

Most hon. Members will remember that after 1931, when the Bill was passed, it took a couple of years before there was an opportunity to utilize any money for the purpose of scholarships. It will be understood that as there were 13,000 architects throughout the country, having no general registration, an enormous amount of work was involved in getting them registered. Hon. Members who know anything about registration in the dental profession and so on will understand that a large amount of money had to be spent in setting up a council and in carrying on the necessary work of registration. It is in this case that they have attempted to get Parliament to agree to postpone the operation of the second half of the registration fee for a period of two years.

The scholarship awards in 1935 amounted to £156: in 1936, £514: in 1937, £806; and next year the amount available will be £1,156 and in 1939, £1,500. It is estimated that the reserve at the end of 1939 will be £3,500. Consequently, out of a revenue of £10,000 during that period, £7,700 will either have been distributed in grants or set aside as a reserve for future grants. A balance-sheet has been presented every year, and at every quarterly meeting a financial statement has been given. To imagine that there has been some hiding of finance or that someone has been dipping his fingers into the pool and that no one has watched him is an unworthy innuendo. The financial statement has been made at the quarterly meetings, the balance-sheet has been presented every year, the constituent parties are entitled to have a copy of the balance-sheet, the Press has been represented at each of the meetings and has had available a copy of the balance-sheet. Therefore, to say that there has been underhand work is not right, and it creates unworthy prejudice and bad feeling. I say that such statements are completely unfounded. I do not think I ought to say more now. Unfortunately I shall not be able to reply to the Debate, as I can at my trade union meetings, and I shall have to hear many things said which I shall not be able to correct.

MR. ORR-EWING. Will the hon. Member deal with the point which I put to him before about the cost of training?

MR. HICKS. The hon. Member can get some advice on that from his Front Bench which will be better than the advice I can give him. I would like to say that the reasonableness of the Registration Council in meeting all the parties is beyond any possibility of doubt, provided there is a willingness of approach, and a willingness to adapt existing circumstances to the future, with a view to building up a general standard of which everyone in the House and in the country may be proud. The inside of a building belongs to the individual, but the outside of a building belongs to the public. The

public has the right to ask that a client, whoever he may be, shall employ a competent man. Not only ought he to know everything about the building, but he ought to be in a position to advise the client, even sometimes against the client's wish, as to the nature and character of the monstrosity which the client would erect if he had an opportunity of doing so. I regard the face of Britain as something to protect and not as something to despoil, and I hope the House will give the Bill a Second Reading.

SIR ROBERT TASKER. I beg to move, to leave out the word "now," and at the end of the Question, to add the words "upon this day six months."

I would like to answer some of the questions which have been put to me either directly or indirectly by the hon. Members who moved and seconded the Motion for the Second Reading of the Bill. The hon. Member for Lichfield (Mr. Lovat-Fraser) asked a question as to what qualifications a man must possess to be a registered architect. I would draw his attention to Section 10 of the 1931 Act; and Section 6, which sets out very fully the qualifications for architects' registration. Section 6, Sub-section 1*a*, *b*, *c* and *d*, and Sub-sections 2, 3 and 4, fully cover that matter, and if the hon. Member will look at that Act, he will find all the particulars about the standard of qualifications. The hon. Member for East Woolwich (Mr. Hicks) asked me a direct question which I will answer. He wanted to know whether the Incorporated Association of Architects and Surveyors hold examinations. The answer is in the affirmative. They have held examinations regularly for the last seven years, the last examination being in November of this year. The syllabus to which the hon. Member referred, and which I gather receives his commendation, has been in operation for the last four years.

MR. MANDER. How many candidates went in for the examination?

SIR R. TASKER. I am afraid I cannot answer that question, because I am not very intimately connected with the detailed work of that body.

MR. MANDER. Is it not rather important?

SIR R. TASKER. I am not a member of the examining body, and although I am an *ex officio* member of the committee, I never attend the meetings. If the hon. Member attaches any importance to the matter, I will endeavour to get the information for him before the end of the Debate. This is a highly controversial Bill. It is a Bill which seeks to violate the undertaking which was given in 1931. It seeks to impose the condition that the word "architect" of itself shall not be employed. The first duty of the Standing Committee which considered the 1931 Bill was to find a definition, and ultimately it provided that people who were registered under the 1931 Bill should be known as "registered architects." Therefore, primarily this Bill is an attempt to get the House to reverse its decision of 1931.

The hon. Member for East Woolwich is a practical man. He attaches great value to examinations, as I do. The hon. Member compared present-day architects with architects of days gone by. When I asked one of these new-fashioned architects "Why do you put a frog in a brick?" I received the unexpected answer "You cannot pull my leg." I might just as well have been talking to him in Latin or reciting the Iliad in ancient Greek. He knew nothing at all about it. My next question was "Do you know the difference between a hand-saw and a half rip saw?" and his reply was "I think you are trying to be facetious." I attach the greatest importance to the practical side of building. As a matter of interest and of history, I may tell the House that my father before me, I and my sons were compelled to work in mine, quarry, brickfield and shop before we were allowed to go into the office to make those pretty drawings many of which are fit only for Christmas cards. I was a little disturbed about the hon. Member's reference to a modest examination paper. May I ask my hon. Friend to what examination paper he was referring?

MR. HICKS. The final examination in 1937 of the Royal Institute of British Architects.

SIR R. TASKER. It seems a rather left-handed compliment to the Royal Institute of British Architects to suggest that the paper for their final examination is to be regarded as modest. I should have thought if they considered that the passing of the examination conferred the hall-mark of knowledge, ability and understanding of the complicated business of building, they would not set a modest paper. I can assure the hon. Member that I would not describe either the preliminary intermediate or final examination papers of the Incorporated Association of Architects and Surveyors as modest.

MR. HICKS. I do not want to make any play upon words. The reason why I said it was modest was because I believe that it represented the minimum qualifications which any individual posing as an architect should possess.

SIR R. TASKER. That is a matter of opinion. I suppose we shall never agree on the subject of examinations. One will think of the academic side and another of the practical side and we can never agree on that subject any more than on art. But my own view is that a man ought to know something about material, construction, design, proportion and the like. My hon. Friend opposite said that he had obtained his information from his friend Mr. Coppock. I think I can describe Mr. Coppock as our mutual friend because he and I have been colleagues for many years on the London County Council. He is a very busy man and as I have found myself, in relation to the association of which I am vice-president, that it is almost impossible to attend regularly. I am not surprised that the information which Mr. Coppock has been able to give is based upon the minutes which he has received. I entirely agree that technical training is invaluable, and one of the complaints against the Architects' Registration Council is that, through the Board, they refuse to recognize any technical school or college or any body uncontrolled by them. It may be news to the Seconder of the Motion that the schools in the list with which he dealt with are entirely dominated by the Royal Institute of British Architects—every one of them. That is one of the complaints against this Bill—that it is an insidious attempt to get something which will lead to something else. I shall deal with that point in greater detail later.

With regard to the point which was made about the outside of a building belonging to the general public, I suppose the inside of a building belongs to the man who pays for it. May I point out that under the Town and Country Planning Act local authorities now have some voice in the design of the outsides of buildings? The hon. Member referred to certain buildings and asked who designed such buildings. Presumably architects designed them, and it is to be remembered that many buildings which today are slums were in their time very good buildings. In my own constituency, New North Street, Harper Street, Devonshire Street and Gloucester Street were residences of the aristocracy 100 years ago, but they are little better than slums today. But for the resistance of the London County Council the Holborn Borough Council would have rebuilt in certain areas in order to re-house our brothers and sisters who today have to live three and four, and sometimes five, in a room. But land is so expensive that there was a difficulty with the central authority and we have had to abandon scheme after scheme.

Would this Bill make any alteration as regards badly designed buildings? I suppose there are not fewer than 100 Members of this House who have served on municipal authorities. Not one of them will deny that a very large percentage of the plans submitted to an authority bear no designation to show that they are the work of architect, engineer, surveyor or anybody else. As long as those plans conform to the Building Act of that town or city, if there is a Building Act applicable to it, or to the relevant byelaws, the local authority has no power to refuse them. There is nothing in this Bill to prevent a man doing in the future what is done now. As long as plans conform to the byelaws, the local authorities pass them. Then, what has happened in the past with regard to mass production? An architect designs houses for a speculative builder. The speculative builder considers the design too expensive; he alters it here and there; the architect has no control over it, just as he has had no control in the past, and he will have no control in the future under this Bill.

I think I have now dealt with the points raised by the hon. Member opposite in his very delightful speech, and I now turn to the Bill itself. It is a Bill of misrepresentation. It is a boycotting Bill. May I call special attention to that word "misrepresentation?" Any lawyer can tell you and any architect ought to be able to tell you, that misrepresentation by a professional man acting as an architect is fraud. If an architect misrepresents something to his client, he can recover no fees, and can be made to refund any fees which he has received under that commission. Clause 1 is an attempt to deny to certain people the right to use the name "architect." I cannot understand the inconsistency of those who say that they want to improve this art, and who at the same time want to reopen the door which was closed in 1931. Why do they want to let in people, all and sundry, under precisely the same terms and conditions as under the 1931 Act?

MR. R. ACLAND. What would the hon Member have said if we had left out of the Bill a Clause allowing men to register as architects in the next two years? He would have been very much more fierce.

SIR R. TASKER. I have no doubt that the hon. Member for Barnstaple (Mr. Acland) knows all about it. He has been a student for three or four years. I, unfortunately, have been practising for 44 years, and I would not pretend to know as much about the Architects Registration Council as he does, because he became a member about two years ago. I have been a member ever since its inception.

MR. ACLAND. Will the hon. Member——

SIR R. TASKER. I think I might be allowed to go on without interruption. I have already pointed out that this Bill is a violation of the undertaking given in 1931. It was because of that undertaking that it was given a Second Reading, as hon. Members will see if they look at the minutes of evidence before the Select Committee. I have brought a pile of evidence here, because I am going to rely on documentary evidence and on documentary evidence alone. A great deal of literature has been issued to Members of Parliament in connection with this matter, and I do not know whether other hon. Members feel as I do, but I feel extremely annoyed about it. I think it is a waste of time and energy. If hon. Members will look at the beginning of the evidence given before the Select Committee, they will see that the undertaking given in this House was made good before the Select Committee, and that was their first business. That Bill was, without dispute, promoted, paid for, and engineered by the Royal Institute of British Architects. There is no question of anybody else in it. Nobody has called in question their good faith, and I may say, with regard to the Royal Institute of British Architects, I want to make my position clear, that it is the oldest architectural institution in this country, that it has a very fine past, and that it has on its rolls the names of many eminent men and brilliant architects.

I say at once that if the Royal Institute of British Architects had only carried out the conditions of its charter, there would have been no need for the Bill of 1931, the Bill of 1934, or this Bill, there would never have been any opposition to the Institute, there would have been no Society of Architects, there would have been no Incorporated Association of Architects and Surveyors, there would have been no Institute of Registered Architects and there would have been no Faculty of Architects. While I

do not want to blame individual members of the Institute, I think it is a pity that more eminent men could not find the time to devote their attention to the affairs of the Institute or from among all those members who have passed an examination—and there must be 50 per cent. of them who have passed an examination. After all, however, I have to face facts as I find them, I recognize that it is the business of the members of that Institute whether they intervene or not and whether they let a small body—and it is only a very small body—within that Institute engineer this Bill. The general body of members must be responsible for the acts of the smaller body within the Institute.

I beg the House not to regard anything that I say which may sound derogatory to the Royal Institute of British Architects as meaning that I am pointing the finger of scorn. The great majority of the members of that Institute conduct an honourable profession in an honourable way, but I do take the very gravest exception to the actions and the attitude of a small group within the Institute and to their methods of attempting to secure this Bill. Their attitude or that of their friends is outrageous. Let me give an example. Members of this House have been attacked by them. Their honour has been attacked. I myself am a victim of their spleen. It has been circulated, not only in this House, but among my clients, that I am interested in people supplying building materials. That is the sort of weapon that is being employed. I am now being asked whether it is a fact that I am interested in this way. It so happens that one of the conditions of a partnership in my firm, made before I became a partner, is to the effect that no principal or partner in the firm shall ever secure, purchase, or acquire any share or interest in any firm supplying any building materials, and if he does, his partnership automatically ends. That is my answer to my traducers. You cannot find out who this scoundrel is who traduces your good name. I have endeavoured to do so, but my efforts have been in vain, and there I will leave it.

MR. FLEMING. Can the hon. Member tell us, on that important point, how it has come to his ears that he is being traduced in this way? Are there any documents?

SIR R. TASKER. No, Sir, but anyone practising as an architect, or surveyor, or civil engineer knows what goes on. It is said, "Is it true that you are interested in So-and-so? I am told that you are constantly specifying this firm, that firm, or the other firm." That sort of thing is inevitable. You have to exercise your own judgment. You have to rely upon your experience and on what you consider are the right firms to employ. I assure the hon. and learned Member who interrupted me that I have left no stone unturned to try and find out who is the author of these outrageous suggestions.

MR. AMMON. Is it the suggestion of the hon. Member that that is being used to influence Members of this House?

SIR R. TASKER. I think the hon. Member might ask other Members of the House whether any pressure has been brought to bear upon them. He might find it profitable, because he may find that other men have been approached and that there have been methods of intimidation. I would ask the hon. Gentleman to be patient and to leave it to other Members to relate their experiences if they so wish.

MR. H. STRAUSS. Will my hon. Friend make it clear that he has no reason to believe that this has anything to do with the Royal Institute of British Architects?

SIR R. TASKER. I have already said that I regard the majority of the members of the Institute as honourable men. I have said there is a small group of people whom I regard as unscrupulous who do not hesitate to make use of any weapon in order that they may belittle people who are opposed to this Bill.

MR. STRAUSS. Will my hon. Friend say whether he has any reason to believe that any member of the Royal Institute of British Architects is responsible for this slander?

SIR R. TASKER. I am not charging the council, but I am assuming that the authors of this charge belong to the Royal Institute of British Architects.

MR. STRAUSS. On what ground?

SIR R. TASKER. The hon. Gentleman seems to imagine that he is a kind of Old Bailey cross-examiner. I suggest that I might be allowed to proceed without any further interruptions.

MR. BOSSOM. This is a very serious charge which is being made against a perfectly reputable body. I think that my hon. Friend ought to justify his statement or withdraw.

SIR R. TASKER. I am much obliged for my hon. Friend's advice, but this seems such a personal matter that I suggest we get on with the business. The object of the Bill is to restrict the use of the word "architect." I have here a document which was referred to by the mover and the seconder, and which is supposed to represent the views of something like 14,000 men. There is a reference here to the Association of Representatives of Unattached Architects and to 2,933 members. I do not know from where they get the 2,933 members. It is pure imagination that there is any such body in existence. Then it says that the Royal Institute of British Architects represents 6,992 architect members. In 1936 there were 7,731. Where have the 800 members gone? Are they dead and is there nobody to replace them? As to the allegation of the Seconder about examinations, it appears that of the 7,731 members of the Institute, only 4,469 have passed any examination. That is their concern and not my business, but if we are going to insist on examinations, let everybody be examined. I frankly say that I would not like to go through an examination today because I should be hopelessly ploughed, but I do not think that it would affect my practice.

There is no definition of architects in the Bill. What does it mean? It means today a registered architect. It is to mean tomorrow a member of the Royal Institute of British Architects. When the 1931 Act came into force the first thing the Royal Institute of British Architects did was to seize control of the council. They next seized control of the Board of Architectural Education. They predominated on the council, and it became known as "the gramophone." If something was brought up by a member of the Institute there was a chorus of "Agreed." You might just as well have had a gramophone. If anybody from my Association made a suggestion it was either shelved or hopelessly defeated. This was a body supposed to represent all parties. When the council was formed, it became a hotbed of intrigue, and instead of concerning itself with architects it concerned itself with the glorification and predominance of the Royal Institute of British Architects. If it had carried out its job there would have been no objection. I suggest that this Bill is an attempt to deride the decision of Parliament in 1931. It also derides Parliament in regard to the Bill presented in 1927.

Is there any truth in the statement, so freely circulated in the House with a view to getting the Bill through, that the Home Office had signified their approval and that the Home Secretary would give it his blessing? I cannot imagine either a Minister, or his Under-Secretary, or an official being so indiscreet as to indicate either approval or disapproval of a private Member's Bill of so highly controversial a nature as this one. Those who are opposing the Bill believe that there should be no barriers except those imposed by a man's ability and industry—that if a man has the ability and the industry, there is no reason in the world why he should not practice as an architect and be successful. But I will resist, and continue to resist, this scheme, which shuts out all technical schools and all technical training, because I assert here and now that the R.I.B.A., through the Board, have only approved schools, which are dominated by the R.I.B.A.—the Universities alone excepted. Of course, it would be very difficult to say that a man who had obtained the degree of Bachelor of Architecture or Master of Architecture at a University is not fit to be qualified. If the House were to pass a Bill like this, what would happen to architects who have been practising for 20 or 30 years and who are distinguished in the profession but who say, "I do not want to be registered. I will not be registered"?

MR. GRANT-FERRIS. Cannot they be registered within two years on supplying sufficient evidence that they have been practising?

SIR R. TASKER. If the hon. Member will read the Act of 1931 he will find that this Bill is only extending the time. If a man objected to be registered between 1931 and 1933, and has the same objection today, it is no answer to say to him, "You have become registered within two years." It is no argument to say to a man, "You ought to be registered because midwives and people who sell firearms are registered." Why should architects be compelled to be registered? This Bill is an attempt to compel a man to do something. At present it is optional, if this Bill be passed it will be obligatory. Barristers, solicitors and accountants do not have to register. [HON. MEMBERS: "Oh!" Doctors do not have to register. [*Interruption.*] We do not interfere with the osteopath, except to say "You cannot call yourself a doctor."

MR. BOSSOM. Will the hon. Member say where he finds in the Bill anything which compels any architect to register?

SIR R. TASKER. I never said so. A man will be permitted to practice as an architect after the Bill passes, but unless he is registered he cannot call himself an architect. A man who has been calling himself an architect for 20 or 30 years will be put out of practice. Does my hon. Friend suggest that a man who is a gold medallist of the Royal Institute of British Architects should be put out of practice because he is not registered and refuses to register, because that is the effect of this Bill? If he wants the name of a gold medallist I will supply him. We are told that this Bill has received universal support, but that is not true. A document issued, presumably, by the Royal Institute of British Architects, though there is no name on it, includes apparently the whole of the architects who are members of it, but I will beg leave to read a letter from one who is a Fellow of the Royal Institute of British Architects:

"As an associate by examination since 1906 and a member after the necessary qualifying period of private practice since 1917, I feel strongly that the Royal Institute of British Architects have broken faith with me in supporting this Bill. In 1906 we were informed that all future fellows would have to qualify. However, after the War, fellowships were given away. When the amalgamation of the societies took place we were told that this was the final stage in the degradation of the qualifications. Then came the first Registration Act, under which any house agent who copies plans for a builder can claim to be practising as an architect and become a registered architect. That Act, however, still left to those like myself the option of refusing to class themselves in that category. Now, however, that right is to be taken away and we are to be compelled to enter into the fold, and will have, without doubt, to describe ourselves as registered if we are to obtain any work. We are forced to couple our names with the type described above. You can make any use of this letter you like."

That is from a Fellow of the Royal Institute of British Architects. I admit that I have had far more letters from members of the Institute in my constituency who have asked me to support this Bill than from members who oppose it, but I have replied to each one that I am unable to support the Bill. I think that I understand it, and I think that they do not. Another man writes:

"The Bill gives a sense of false security, since all matters on which the public will require to be protected have to be overhauled by the engineering profession."

Now I come to the 1934 Act. My hon. Friend the Member for East Woolwich has called attention to the finances; it is in connection with the finances that feelings of resentment and

opposition have been aroused. That Bill was introduced in a very short speech of about half-a-dozen lines. The mover assured his brother Members of Parliament that it was agreed to by all concerned in architectural education, though actually it was not. Hon. Members know that there has been opposition from more than one quarter. What was the pretext for depriving the boy or girl of something which had been earmarked for them? I quote the actual wording of a statement on the subject:

"I fear there was an oversight in that the finance for running the council and the committee was not provided during the first few months of its operation. This Bill, by universal consent of all those concerned in educational registration, makes that omission good." I call the attention of the House to the pronouncement that the finances were not provided for during the first few months. That is perfectly true; when members of the council endeavoured to ease the situation a deaf ear was turned to them. The chairman of the Finance Committee let a couple of attics to the Registration council, but the Council were offered offices for nothing, and no expense need have been incurred. The council indulged in shorthand notes of the whole of their proceedings and had them transcribed. That was quite unnecessary: thus money was dissipated and disappeared. I ask the House to take note of the date when this declaration was made. It was 7th June, 1934. It was not a case of "the first few months," because two years and five months had elapsed, and the very moment that declaration was made there was over £3,000 in the coffers of the Architects Registration Council. There was the sum of £1,400 which had been earmarked. There was another £1,900, making over £3,300 in hand.

That body came to this House. The Bill, having been promoted in another place, came before us. The House passed it, because no hon. Member could think that any one would make such a gross misrepresentation. What happened then? Three months afterwards at the next council meeting, when the House had relieved the Registration Council of their obligation to the poor boys and girls, involving thousands of pounds, we were told that we owed the Royal Institute of British Architects £1,500 and that we had better get rid of the debt at 4½ per cent. interest. That we proceeded to do. I hope that the Member who introduced this Bill in another place realises how he was deceived, how he was duped, and what he has done for the poor boys and girls. If that money were in hand and we owed £1,500 to the Royal Institute of British Architects, why could the money not have been borrowed from the scholarship fund? At the same meeting they were able to borrow money from the scholarship fund in order to give a gratuity to one of the architects. This they borrowed at 4 per cent.

The Bill is an attempt to get something through which is undisclosed, and I cannot support it. The ex-Prime Minister talked about going into the shadows; he and I are about the same age, and if I knew that, when I sat down, I was going to be gathered in by the Great Reaper, my last words would be: Do not encourage people to do something wrong, something which would be dishonouring to a noble profession.

MR. McENTEE. I beg to second the Amendment.

I do not propose to speak very long, but I hope I can induce hon. Members to give more consideration to the Bill than they appear to have given up to now. I oppose the Bill because I am a working man, and because it proposes to close another profession to working-class people. That is how its proposals must work out, and I hope to give evidence to prove what I say. If the Bill becomes law, the position will remain in many respects what it is at present, that is, the Royal Institute of British Architects will dominate, as they do now, the council under which examinations are held, the nature of the examinations, the fees paid for them, the tuition in connection with examinations and every possible move that was made in the original Bill. We have been told that the council consists of 75 members, of whom 46 are members of the Royal Institute of British Architects. The examinations are set by them and they will lay down the examination fees. In every way, a close corporation will be created, under the dominance of the Royal Institute of British Architects, to prevent working-class boys and girls—I do not see why girls should not come into it—entering the profession as freely as heretofore. I am not interested in any dispute that has taken place between the differing or opposing organizations within the profession, and I am not opposed to an examination. Registration may be necessary; possibly a good case can be made out for it, and I have an open mind on the point, with an inclination towards it. I will not go any further than that.

MR. FLEMING. Will the hon. Member explain how it will become difficult for working-class boys to enter the profession?

MR. McENTEE. I am going on to explain. Please let me conduct my own case. When registration and examination are to be dominated by one organization, the principle is wrong, and ought not to be approved by the British House of Commons. The creation of vested interests in the profession will make it more difficult for ordinary working-class boys and girls to get into the profession in future. If registration is adopted, the fee should be purely nominal, but will it be so? The R.I.B.A. can fix what fee they like. I am very suspicious, because of my experience in the past of professional organizations generally, and particularly in regard to this professional organization because of its conduct, that the fee will be made prohibitive and the examinations conducted, and entrants for it selected, in such a way as to make it almost impossible for working-class boys and girls to get in. After all, why are there selected organizations for the examinations if it is not the intention of the promoters of the Bill to keep the profession select and only to admit into it those whom they want in it? There are technical colleges, such as the Regent Street Polytechnic, whose examination is not accepted. Why?

MR. BOSSOM. Two A.R.A.s, both great architects who have been recently elected by the Royal Academy, are FF.R.I.B.A., and got into it through studying at the Regent Street Polytechnic.

MR. McENTEE. That proves nothing. There is always an exception which proves the rule. The rule is that in future architects have to be trained by selected organizations, and not one of those organizations is a technical college. Further, grants for scholarships are given only to those who enter by that door.

MR. GRANT-FERRIS. Out of 250 successful candidates for the R.I.B.A. in 1936, 108 trained themselves by attending evening schools.

MR. McENTEE. I am well aware of that. The figures have already been given, and if the hon. Member had been here he would have heard them, and would not have found it necessary to waste the time of the House. The fact that they were admitted through a technical college has nothing to do with the case. They had to enter by the examination of the selected bodies to which I have made reference. Grants are made only from the Fund that is created under Parliamentary grants, and are made only to those who submit to the examination of 13 bodies, every one of which is controlled by the R.I.B.A. Will any hon. Member tell me whether there is one of these 13 bodies which is not under the control of the R.I.B.A.? And can he tell me of anybody who has got in except through those examinations?

The fact that this Bill is being introduced today is a proof that the Bill of 1931 was not a success. It has failed in many respects. One respect in which it has failed is finance. When it was introduced this House was misled by the promoters. Hon. Members who voted for it voted under a promise given that 50 per cent. of the fees collected would be paid out of the fund for giving scholarships to poor boys. Was that done? No. If it had been, why was it necessary in 1934 to promote another Bill asking Parliament to waive the conditions of the 1931 Bill and to allow the money to be used—for what? Not for scholarships, but for the purpose of paying exorbitant expenses to the people conducting the examinations under the Act. In regard to finance, it is as well we should know something about what was done in the succeeding years after Parliament had permitted them to use the money between 1931 and 1934 in a way that was not contemplated in the Act of 1931. In 1934 the fund was charged with £308 for administrative expenses and £156 10s. for scholarships. Did the House contemplate that in 1931? I venture to say it did not. In 1936, £514 was awarded in scholarships, and £550 was charged to administrative expenses. If that is the kind of finance that this House desires to support, I, at any rate, want to make my protest against it; it was never the intention of the House in 1931 that the money should be spent in that way.

The other point I want to make is in reply to my hon. Friend the Member for East Woolwich (Mr. Hicks), who has had to go away. He told us a very harrowing story with regard to the conditions prevailing in slum houses and slum factories. Incidentally he told me a story that I hope to be able to use on another occasion. I agree with him, and I think most Members will agree with him, in all that he said about the bad architecture in those houses. But will this Bill prevent these bad architects from still practising? Cannot any man still register, regardless of qualifications, who is today practising as an architect, or even who comes in between now and the time when the Bill comes into operation? My hon. Friend's reply was, "According to the Act, yes, he can register." So that if we have incompetents now, we shall have incompetents in the future. The Bill will not exclude them. The supporters of the Bill argue, quite legitimately, that after an interval of two years the Bill will commence to prevent incompetents from coming in in future. With that I entirely agree, but in the meantime every incompetent now practising has only to go and register and pay the registration fee, whatever it may be. The main argument that I have heard, and the one that has most influence with me, is that the Bill, if passed, will prevent a person who is not a qualified architect from passing in future. But under the Bill all he has to do is to apply to the Registration Council at any time within the next two years and he is admitted.

MR. BOSSOM. He has to submit his credentials, and if the council are not satisfied, and do not admit him, his case has to be submitted to an independent tribunal.

MR. McENTEE. No. I ask the hon. Member to read his own Bill. It does not say any such thing. Clause 2 says:

"Notwithstanding anything in the principal Act a person shall, on application made to the Council in the prescribed manner and on payment of the prescribed fee"—

Mind you, no particular amount of the fee is mentioned there—

"be entitled to be registered under the principal Act, if the Council are satisfied on a report of the Admission Committee that his application for registration was made within two years after the commencement of this Act and that at the commencement of this Act he was, or had been, practising as an architect in the United Kingdom."

That is the part that is operative, and nothing can undo it. [*Interruption.*] I will read on if hon. Members desire it. It goes on to say:

"Provided that any person aggrieved by the refusal or failure of the Council to cause his name to be entered on the Register on an application made by him under this section shall be entitled to appeal to a Tribunal . . ."

It says that he shall be registered if he applies within two years and has practised in the past. There is no mistaking the meaning of that provision. No other meaning can be attached to it than the meaning which I am attaching to it now. My hon. Friend the Member for East Woolwich has no authority, nor have the people who have sent out literature on behalf of the R.I.B.A., nor the R.I.B.A. themselves, to speak for the Building Trades Federation. The Building Trades Federation has never been

consulted. If it were consulted, I am as certain as that I am standing here that it would not agree. I do not believe that any of the workpeople's organizations, if they considered this matter, would give their consent to a Measure to make it more difficult for their sons and daughters to enter one of the professions whose doors it is now sought practically to close against them. It is worth noting that only eight scholarships were granted last year. The hon. Member for Maidstone (Mr. Bossom) told me about the number of entrants to the examinations who passed. I think he said it was 215. Of all that number, only eight got scholarships. Did anyone in 1931 contemplate that that was going to be the state of affairs? I am sure nobody did. The House was deliberately misled by the people who promoted the Bill at that time, and an attempt is being made deliberately to mislead the House by those who are promoting the Bill at this time.

I would put this point to the House, and particularly to those who are associated with me in the movement with which I have been for a long time connected. Does anybody on this side of the House imagine, if a Bill were introduced to register carpenters and joiners, or members of the Union of Post Office Workers, and to give them permission to charge fees for registration and to register bricklayers or members of any trade union, and the right to hold an examination before members were admitted into the trade, that the House would give such a proposal the support which it is being asked to give to this Bill? I am not opposed to examinations; I have already said so; but that is not the point. The question is, would they be given the right to charge a registration fee and to prevent anybody else from calling themselves carpenters and joiners, bricklayers, Post Office workers, miners, or any other of the trades or callings in or out of the building industry today? I am amazed that working-class representatives should permit themselves to be associated with a Bill which can have only one object, namely, to close the profession and make it as limited as possible so far as entrants are concerned—to make it difficult for poor boys or girls to get in, and in every way to make it a close corporation such as some other professions are at the present time. The hon. Member who moved the Amendment said, I think wrongly, that the legal profession is one in which registration is not necessary. Everybody knows perfectly well that no one can practise as a lawyer unless he has the consent of the organisation which dominates that profession, that nobody can practise as a doctor to-day unless he has the consent——

SIR FRANCIS FREMANTLE. Oh, yes, he can.

MR. McENTEE. He cannot call himself a doctor——

MR. DAVID GRENFELL. My hon. Friend has made reference to some of us who are his associates in this House. Does he realize that I, for instance, who am as competent in my trade as he is in his, would not be allowed to work with him on his job, because I should not be deemed qualified to do so?

MR. McENTEE. I do not realize any such thing. The person who decides whether my hon. Friend or anyone else shall work in my trade is not the organization, but the employer.

MR. GRENFELL. My hon. Friend knows that the trade unions in the building industry are actively protesting against dilution in all trades.

MR. McENTEE. Of course, we are protesting against incompetents coming in, but my point is this: If we, or my hon. Friend's organization, came to this House and asked the House to give us legal power to extract fees for registration, does he suggest that the House would give us that power? [*Interruption.*] These interruptions are really unfair. I am trying to keep within reasonable limits of time, but, if I am interrupted as I have been continuously, I shall go on as long as I like, and I think I am justified in doing so. Everyone, including my hon. Friend the Member for Gower (Mr. Grenfell) knows that, if his union or mine desired to set up a registration council, to impose an entrance examination and to extract fees from members of the union, we should never get power to do so from this House. I suggest to my hon. Friend and other Members that it is just as important that there should be skilled miners, skilled carpenters and joiners, skilled bricklayers, and so on, as that there should be skilled architects. A skilled architect may do a lot of harm. He may endanger life; he may endanger the beauty of the landscape; he may do all kinds of things to which I and a great many others would object; but an unskilled miner may endanger hundreds of thousands of lives because of his lack of skill, and so may an unskilled building trades labourer.

Three or four weeks ago I was at the job which is now going on at the town hall, Walthamstow, and the general foreman was pointing out to me the foundations, some of which are 12 or 14 feet deep. He said, "I must have skilled timbermen down there. If one man that is not skilled goes down into that pit, he may endanger the lives of everybody in it." But would anyone in this House suggest that such workmen as that should be registered, that the organization to which they may or may not belong should have the power to extract fees for registration and to make it difficult for them to get into the job, to put up a money bar against their getting into the job? Nobody would dare to suggest that in this House. Why do we always say that the professions must have a money ring around them? The professions must have a skill that is guaranteed by examination. They must have their members registered, so that the children of the ordinary man and woman are prevented from getting into them. If this Bill becomes law, it will be more difficult and more expensive for working-class boys and girls to get into this profession, and I hope that the House, with the fairness that it usually shows in matters of this kind, will reject the Bill for that reason.

MR. BOSSOM. I am not going to attempt to follow along the line of argument made by the hon. Member for Holborn (Sir R. Tasker). He indulged in an attitude which I do not think this House favours. Comments have been made, both by the hon. Member and by the hon. Member who seconded the Amendment for the rejection of the Bill about restrictions on poor people and about the dominating influence of the Royal Institute of British Architects. It has been said that of 75 members of the council, 46 were elected by the R.I.B.A. If you examine the proportions of members of the profession, you will find that that proportion is as nearly as correct as can be. I believe there are about 12,000 members of the profession registered, and about 7,000 who are members of the Royal Institute of British Architects. I do not think that we wish to go over a matter that was settled by the House in a 1931 situation. It was then agreed that registration was to be the rule for architects if they wished to call themselves registered architects. There was then a two-year period allowed, during which anyone might apply for registration, and I have not heard it contended that anyone was kept out by unfairness in that time. That is a very fair indication of what would happen in the future. I think if we had satisfaction during that time we are entitled to expect satisfaction the next time.

MR. McENTEE. The hon. Member has told us how many architects were registered; can he carry his figures a little further and say how many are not registered?

MR. BOSSOM. That is an impossibility. No one can say how many there are if they are not registered, but I believe there are something in the neighbourhood of 13,000 or 14,000.

The question has been raised about the Royal Institute of British Architects being the dominating body. This body has been in existence since 1884. It has had a very distinguished existence in our national life. I do not think there has ever been an architect member of the Royal Academy who has not been at one time in his life a member of the Royal Institute of British Architects; and I think that speaks fairly well for the judgment of the men who are there. It is quite right that the influence of such a group as this should be fairly widespread. But this Bill is not put forward by the Royal Institute of British Architects, but by the parliamentary committee appointed by the Registration Council, and the Registration Council, which was appointed in 1931, is separate from every one of the individual societies. The finances are kept quite separate. The question of unattached architects has been raised, and I have seen a statement in which it was contended that 2,900 unattached architects were represented by seven people. I have endeavoured to check this and I find that there are 2,900 odd architects and that they are paying a yearly subscription. I do not believe anybody wants to pay a subscription unless they need to.

MR. McENTEE. To whom do they pay it?

MR. BOSSOM. They pay it to the Registration Council. The Registration Council was formed, and an educational committee set up behind it, and that has carried on the work. Although it has been criticized, I think I am justified in saying today that it is getting into working order, and there is not the friction in the working that there might have been in the first year. The Act of 1931 permitted people to join. This Act will permit them to apply and be registered. It says they shall be entitled to "if the Council are satisfied on a report of the Admission Committee . . ."

MR. FLEMING. Does that mean that the applicant shall be entitled to be registered only after the report of the Admission Committee?

MR. BOSSOM. I would certainly assume that to be the case.

MR. FLEMING. The Bill does not say so.

MR. BOSSOM. I quite agree with the hon. Member, and I think that the Clause might be a little more clearly worded.

I would like now to deal with the question of the education of the poor boy, and the question of making this a closed profession. I wonder if anyone in the House would consider it too expensive for a boy earning his own living to be charged as much as a shilling a week—actually £2 7s. 6d. a year. That is one of the highest charges, and the lowest is 8s. a year. That is all that is needed by certain of the schools that are providing candidates for examination and are getting them through the examination. At Aberdeen, which accommodates one of the registered schools, there is a fee of £1 a year for evening classes, and men or boys who attend these classes are getting through the examination. In Birmingham the fee is 7s. 6d. and 20s. a year, according to age; Cardiff, 1 guinea; Glasgow, four guineas; Leeds from £1 10s. to £2 5s. up to the end of the five years' course, and at London University school, which is the most expensive, six guineas per year. At Sheffield it is one guinea. I have been in correspondence with the various schools all over the country, and there are as many men getting through annually from the Northern Polytechnic in London as anywhere. The fees there are, for boys under 21, 18s. per year, and for those over 21, 30s. per year.

I do not think that these are prohibitive fees which should stop anybody who works in an office during the day, or as a bricklayer, carpenter or plumber, or who works in an architects' or an engineer's office, from attending these courses during the evening. One hundred and twenty-six of those who applied last year obtained their education at these evening classes. We must not be unjust and say that it is prohibitive, when at Chelmsford the entire course is provided at a cost of from 7s. 6d. to £1 per year; at Westminster from £1 to £1 10s., and at the Central School of Arts and Crafts run by the London County Council, from 2s. 6d. to £1 10s.

MR. McENTEE. And none of them gives scholarships?

MR. BOSSOM. I thank the hon. Member very much. There are many scholarships provided in addition to those provided by the Registration Council. They are provided separately in Cardiff, Edinburgh, Glasgow, Leeds, Liverpool, London and in other places. They provide separate scholarships to enable boys to work in the day time or at night. I

have received all these documents from the different schools giving the prices charged to boys who work in the day time and get through the preparation for the examination at night. We are doing it. Out of the numbers who applied last year, practically one-quarter of those who were successful did the work at home or through correspondence schools. Approximately another quarter of them were successful at evening schools, and approximately one-half of the number did it at the various day schools and at universities.

The statement has been made this morning that the various schools which are registered and recognized are dominated by the R.I.B.A., and it has also been said that no technical knowledge is recognized. I believe that the Cardiff Technical College is one of the technical colleges putting a number of pupils through the R.I.B.A. examination. The Regent Street Polytechnic every year submits its pupils, and its courses are recognized by the R.I.B.A., and it has now applied for registration under the Registration Council. It is not correct to say that these technical schools are not providing the pupils. They are providing the pupils. Is it contended that the Royal Institute of British Architects dominates the Edinburgh College of Arts, the Glasgow School of Architecture, the University of Liverpool, the University of London and the Universities of Manchester, of Sheffield and of Durham? That is not a fair statement for an hon. Member to make.

MR. McENTEE. They are dominated by the examination board.

MR. BOSSOM. They are not dominated by the examination board in the way the hon. Member imagines. They are not dominated. I am an honorary lecturer at Leeds, and I also lecture at Liverpool and am connected with the University of London in this respect. I lecture at Cambridge in the same way, and I can assure the House that they are not dominated by any one body. The men who run the educational institutes are respected and highly qualified, and they are not dominated by anyone. They are fair and open-minded men who are trying to do their best for an honourable profession. Any boy can today obtain all the education he needs—and literally thousands are doing it—for one shilling a week while he is earning his living elsewhere, and in some cases it is only 8s. a year. No one can say that that is creating a monopoly and exclusion.

Certain statements have been made that there are exclusions of certain people, such as engineers, civil and otherwise. They really are not excluded from doing anything that they are doing to-day. They can go on doing it for anybody, and nothing in the world can stop them. But you cannot, by giving yourself a name, make yourself a different person from what you are. If they are qualified as architects, they can apply, and if they are not satisfied with the treatment they receive they can go to the tribunal on appeal. The engineer, in many instances, can be put on the register at once. There is no reason why he should not be. There are people who say that in future, if the Bill goes through, they will not be able to get a local builder to build a small garage. There is nothing to prevent that. As the hon. Member for Holborn said, at the present time plans are submitted to building authorities without the name of any architect or engineer upon them. That can go on. There is no law in the land to prevent that in any way, and this Bill in no way affects the position. The Bill is purely one to safeguard the public, so that, when they employ a man who calls himself an architect, they will know that he has a certain amount of knowledge.

This profession is one of the most complicated in the world. We all have to live in a house somewhere designed by someone, and the scientific side of this question is quite as important as the artistic side. Men should have scientific knowledge. We all know our feelings concerning the ventilation of this Chamber. We would like to see a first-class engineer get on with the work of improving it. Today architects are moving forward. There have been 3,000 new inventions since the beginning of the century in architecture and the building industry. A man today has to receive a lot of training in order to obtain the knowledge needed to enable him to provide a building which is considered to be satisfactory. There is no one at all who is excluded here. As to the importance of the building industry in this relationship, I believe that it gives direct employment to 1,100,000 people, and spends about £400,000,000 a year. In the ancilliary trades connected with it another 1,400,000 are employed and another £500,000,000 a year is spent. Approximately 2,500,000 people are employed and £900,000,000 are annually invested and handed to this great industry, directly or through the ancilliary industries.

Therefore, it is essential that we should endeavour to see that those who are to play an important part in directing this work should attain to a certain standard of education and training. There is nothing in the Bill that would prevent anyone practising, but if he puts the name "architect" on his plate it will mean that he has had the necessary education and training. For these reasons, I heartily support the Bill and hope that it will receive a Second Reading. Any helpful Amendments that are proposed in Committee will be very carefully considered.

MR. ACLAND. The hon. Member for Holborn (Sir R. Tasker) poured a little scorn on the fact that I have no experience as an architect. That would have been proper if I had ever made any such claim in this House. I have not made any such claim. I speak as an ordinary Member of Parliament, although I had two years' training at the same school as the hon. Member for Weston-super-Mare (Mr. Orr-Ewing), which training was unfortunately cut short by the decision of the electors in my constituency that I should do some other work.

May I say something about the Bill? Complaint has been made that it is not the same as the Bill of 1931—that it does something different from the Act of 1931. If the Bill had not been in any way different from the Act of 1931, there would have been no point in introducing it. There has been a suggestion of a breach of promise given in 1931 which we are now breaking. In 1931 the House decided that we should go so far in a certain direction, but there was no guarantee that at no future time the House would not propose to take a further step. In 1931 the House, on the then assumed statute of the architects' profession, was unwilling to allow the profession the right to safeguard the word "architect," and only gave them a right to safeguard the words "registered architect." After six years' experience, we find that the words "registered architect" are hardly used, because in the eyes of the public there is no distinction between "registered architect" and "architect."

With that experience behind us, we ask the House to make up its mind whether the time has not come when we should take a further step, but only a small one. I hope that the hon. Member for Weston-super-Mare does not think that the promoters of the Bill are making any extravagant claims. We do not believe that there will be no bad designs if this Bill is passed; we do not consider that it is a revolutionary or epoch-making Bill; we think it is a small Bill, but none the less one that is justified. The only thing for which we ask is that the name "architect" should be protected, and that those who use it shall be known to have passed some examination. Of course, neither the use of a name nor the passing of an examination is a guarantee of competence, but in future, if the Bill becomes an Act, when the name "architect" is engraved on a brass plate or printed at the head of stationery, those who see it will know that a certain course of training has been undergone and a certain amount of knowledge acquired.

We are not asking for the powers which the dentists have. Some hon. Members have in a way condemned architects for asking for so little, but what would they have said if we had asked for the powers which the dentists have? In the case of dentists, it is made a criminal offence for any man to put an instrument into another person's mouth with a view to undertaking dental work unless he has passed an examination and has been registered. Of course, even those powers give no guarantee that a dentist is competent but simply mean that a man who describes himself as a dentist has passed certain examinations and has undergone a certain course of training. Nevertheless, since the Act was passed in 1921 or 1922, the standard of dentistry has improved, and in the same way we believe that if this Bill becomes an Act, with its milder powers we shall not be able to bring about revolutionary changes, but we shall be able to bring about a modest improvement. If there is to be a name which is to mean something, somebody will have to conduct the examinations; and if there are any criticisms in detail about the composition of the Architects' Registration Council, they can be dealt with on the Committee stage, and put right.

I submit that the charges of domination and corruption, and of trying to make a "corner" in architectural knowledge, which have been directed against the Royal Institute of British Architects, have already been answered by the hon. Member for Maidstone (Mr. Bossom). The difference between the Royal Institute of British Architects and the Incorporated Association of Architects and Surveyors is that the examination of the former has been approved by the Board of Education, and that of the latter has not been approved, but that was not the work of the R.I.B.A., because the demand of the I.A.A.S. for the right to hold examinations was rejected by 24 votes to three, and even if all the R.I.B.A. members had not voted, it would still have been rejected by 10 votes to three, the three votes in each case being those of the representatives of the I.A.A.S. As to the question of corruption, I believe that the hon. Member for Holborn has been on all these bodies from the start, but I do not believe that he could tell us a single date on which he brought up before the Council, which was the proper place to bring it up, any charge of corruption. There have always been present representatives of Government Departments, and surely it was their duty, if they knew of any corruption or misappropriation of funds, to bring it to the notice of the competent authorities.

I maintain that the profession is entitled to ask for this small step forward, on account of what it has actually done. I submit that architects today are really doing progessive work which is worth while, and we all know the rather dreadful results which are sometimes achieved when architects are not employed. I can at second hand say a little on that matter, because my right hon. Friend the Member for North Cornwall (Sir F. Acland), who is chairman of the Rural Housing Committee in Devon, has to pass, for subsidy purposes, plans for the reconstruction of an enormous number of rural cottages, houses, barns and so on. I will tell the House what is his invariable experience. Plans are submitted, some of them marked "R.I.B.A." and some of them not so marked. It is not a matter of good taste, but a simple matter of planning, that over and over again the county architect, who is an R.I.B.A. man, can put a piece of tracing paper over the plan, and say that if they will just turn the stairs round that way or put a passage somewhere else, or make some little adjustment to the plan, they will get three decent bedrooms instead of two indifferent bedrooms. Those improvements and adjustments introduced by the county architect always come on the plans submitted by those who are not members of the R.I.B.A. Therefore, although the name does not guarantee anything, in practice it seems to work out that those who have had this training are more competent than those who have not.

In conclusion, I would like to make a brief reply to the remarks of the hon. Member for West Walthamstow (Mr. McEntee), who seemed to me to advance the only argument which we have heard against this Bill. He said that if we take this action in the case of architects, why do we not register bricklayers, miners, and so on? I think that is an argument that has to be considered, and I think I can put forward three reasons why what appears at first sight to be logical cannot be carried to the end. In

the first place, if there is to be registry and an examination, somebody has to keep the register somewhere, and the expenses of the work will have to be paid by the people who are registered. It is very likely that carpenters and bricklayers would not be too keen if they were told that they had to pay a registration fee. Secondly, as a rule, although not always, the incompetent professional man can do more harm than the incompetent trade unionist. The incompetent doctor can do me more damage than the incompetent carpenter. There are exceptions, as, for example, the case which was mentioned of an incompetent timber-man in a mine, who can do as much damage and cause as much destruction of human life as an incompetent doctor.

MR. EDE. And the signalman.

MR. ACLAND. That is another exception; but my argument holds good in general. The third consideration is that in the case of timbermen in mines, or bricklayers, the men are working under employers who should be able to recognize skill and competence, and they work alongside other men who should be able to recognize it. I support the efforts which the trade unions are making to prevent incompetent men being employed on jobs where incompetence can lead to danger. It is otherwise, however, in the professions, because the employer of a dentist, a doctor or an architect has no skill in detecting and rejecting incompetence. Therefore, in the professions, is it right that there should be the safeguard that anyone who uses the name must have the training? I hope that the Bill will receive a Second Reading.

SIR ARNOLD WILSON. I oppose this Bill with regret, not only in view of its backers, but of my many architect friends who have urged me to support it, while the number urging me to oppose it is small. But I know many who have declined to take sides. We are asked to reverse a decision taken by a Select Committee of this House in 1927, confirmed in 1931 after a strong hint by the then Parliamentary Secretary to the Home Office that the use of the term "architect" should not be restricted. This is what he said:

"By virtue of a measure of this kind we are apt to create a very close corporation, and many people in these days view that with great suspicion. We are entitled to regard the matter from a different point of view from the powers extended to the medical profession, to dentists or to the legal profession in this sense that we are here dealing with creative art."

He urged an attempt in Standing Committee to reach a general agreement. Before the Select Committee in 1927, on the first day, the spokesman of the Royal Institute of British Architects proposed to Major Harry Barnes, who agreed, although with reluctance, to abandon altogether the idea of restricting the use of the word "architect" and to substitute "registered architect." Having recited at length the various councils and societies which objected to the Bill in its then form, he announced that the Royal Institute of British Architects and certain other architectural bodies had consented, as I certainly understand finally, that they would make no attempt to restrict the use of the word "architect." This Bill comes forward 10 years later to modify the decision reached unanimously by this House in the light of the report of a Select Committee.

Accountants are not forbidden to call themselves accountants until they have passed an examination. They are encouraged to call themselves chartered accountants when they have reached a certain standard of proficiency. Chemists are not forbidden to call themselves chemists; they are encouraged to be Fellows of the Institute of Chemistry, or members of the Pharmaceutical Society respectively; qualifications which have come by long experience to be recognized in each case as a real hallmark and a certain guarantee of competence. My own belief is that, if architects exercise patience, in another 10 or 15 years' time the words "registered architect" will have reached the same point that "chartered accountants" or "Fellow of the Institute of Chemistry" have reached and will be recognized as affording a real status. The Law Society waited for 30 years before it finally obtained a uniform system of examination. It was content to wait and allow the position to consolidate itself. I feel that the Royal Institute of British Architects and others are trying to press matters forward too fast.

I do not associate myself with, and I have no knowledge of, the quasi-personal matters or matters of internal administration, which have been raised by certain hon. Members this afternoon. There was a complete redrafting of the 1931 Bill on the basis of "registered architect" instead of "architect," and I cannot myself see that it is possible merely to reverse this decision without far more careful consideration than has yet been given. There is no definition in the Bill of the word "architect." That is a real difficulty. Where is the dividing line between an engineer, a civil engineer, a surveyor and an architect? Ruskin in 1854 said:

"No person who is not a great sculptor or painter can be an architect . . . he can only be a builder."

If this Bill goes through I seriously anticipate that we shall find persons setting up, just as osteopaths have set up alongside of doctors, saying, "We are not architects, we are designers of good houses, master builders, or practitioners in architecture." There is a score of possible synonyms, and we may very well find that confusion has become worse confounded.

I am the last to under-estimate the importance of architecture to the nation, nor do I underestimate the high degree of professional competence reached by the architectural profession. I have still to hear that there has been any such deterioration in the past six years as to justify this Bill. It reflects ill upon the confidence of members of the architectural profession in each other that they should feel compelled to come to Parliament in order to restrict the use of the word "architect." I have had a good deal to do with architects, to my invariable pleasure, and I have heard a great deal more. I have been responsible, directly and indirectly, for a good deal of architectural work, and I should have said that the general level of competence in every direction of architects is steadily rising, and there is no reason whatever to fear that that small group of persons, variously estimated at 5 to 10 per cent. of the whole profession, are really doing it any harm. Architects are known by their fruits as perhaps no other profession; I find it hard to believe that the mere fact that a man calls himself an architect brings him more than his first job.

The Bill seeks to create by the sidewind of an examination a statutory monopoly of the word "architect." The outcome will be, in the first place, the growth of alternative designations, and, secondly, a certain increasing rigidity in professional standards. The medical profession have themselves sometimes revolted against the type of examinations which were being imposed upon them. They have, indeed, been doing so in the past 12 months, and they find it is exceedingly difficult to move great vested interests that grow up round certain types of examinations; I feel that freedom in architecture is not less necessary than freedom in medicine, and that we should think twice before we impose a uniform system of examinations. I do not care in the least whether the examinations are conducted by the Royal Institute of British Architects or by the State. In either case I feel that architecture, a creative art, is one which should be allowed its freedom, and that the public will not get such advantages from this Bill as will justify us in putting that great profession into shackles or into a strait-waistcoat.

One hon. Member said that £400,000,000 of money is spent every year by the building profession. Architects are responsible for spending a large proportion of that sum. The architect's primary duty today from a business point of view is to stand between the client and the contractor. It is an immensely responsible task; and no one architect knows more than a little of the innumerable crafts which he has to call into use for his great buildings. Architecture is divided into innumerable subsections, like engineering, heating and ventilating, structural steel, roofing, foundation work, piling. Each has its own separate skill; the architect is the man who combines them all into a harmonious whole. No examination can do much to secure competence, and the older a man grows the more competent he becomes, and the less does an examination matter. There is a distinction, I am sure, between the work of the civil engineer and the work of the architect. If we are to make this Bill work, surely there must be definition in the Bill. Rennie was an engineer and not an architect, but he built Waterloo Bridge. Vanbrugh called himself a builder and he built Blenheim. Wren always called himself an astronomer.

We cannot do much to raise the standard by legislation. We can do very much more outside. I venture to make this suggestion to the promoters of the Bill. We should be willing to give it a Second Reading and not to divide upon it, providing the promoters will let it go to a Select Committee for dispassionate consideration instead of before a Standing Committee. There are—and it is useless to hide it—real domestic differences within the profession. I have received representations from the Institute of Mechanical Engineers, and the Institute of Structural Engineers, and I believe that my hon. Friend the Member for Inverness (Sir M. MacDonald) desires to make representations on behalf of the civil engineers, who desire certain alterations in the Bill. Among those who have not signified their adherence, although they are named in the First Schedule to the Act of 1931, are, in addition, the Institute of Builders and the Institute of Chartered Surveyors. It is most undesirable, if we can possibly avoid it, that these professional or quasi-professional matters should go before a Standing Committee where Members of this House are compelled to take sides and put up a case for one side or the other, not from their personal knowledge or conviction, but in order to give the various interests a fair show.

If it could go before a Select Committee Members of the House would sit as judges and not as advocates. They would hear the representatives of the interested parties and the complaints and allegations put forward could be sifted, or if not in order, could be refuted finally and conclusively. They should not remain half answered. It is impossible to do more than that in the brief time at our disposal. If my hon. Friends who backed this Bill agree, and if the Government would be prepared to make the necessary Motion that it should go before a Select Committee, we would not divide against the Bill; and I am convinced that the interests of those who are behind the Bill and of those who are opposed to it would be very well served. Failing that, I can see nothing for it but a long dog fight in the Standing Committee upstairs which will be inconclusive, and do much more harm than good to architects and the other interests which are inevitably closely concerned with the Bill.

COLONEL WEDGWOOD. I am a civil engineer and a member of the Institution of Naval Architects, but I do not propose to speak from that point of view, because God help anybody who employed me in either capacity. The hon. Member for Hitchin (Sir A. Wilson), with whom I have so often found myself at difference, is opposing this Bill also. He opposes it with reluctance? I oppose it with animosity, chiefly because I see on the back of the Bill the names of all my friends in the House of Commons. That does destroy one's faith in human nature. I oppose the Bill because I do not think, to be quite candid, that this House has any right to send a man to prison who has not been guilty of a crime. I wish Members who bring forward these Bills on Friday afternoons would just look through them and see how many crimes they are manufacturing in their Bills. There is always a clause in a Friday afternoon Bill sending someone to prison. Under Clause 1 of this Bill, anyone who calls himself an architect in future without being registered will be sent to prison. He may be a perfectly innocent man. What right have you to say that people shall go to prison for calling themselves something which according to the English language they are?

I object to the Bill on that ground, and I also object to it on a further ground, which I think ought to appeal to the whole House. Every one of these Bills for closing a profession is intended to stop competitors coming into that profession. It is closing the profession. We have had enough of that. One profession after another has come to the House and has got Bills making it so expensive for anyone to get into the profession that the working classes are ruled out. You cannot become a dentist now without spending £1,000—

MR. BOSSOM. I think that my right hon. and gallant Friend was not here when I explained to the House that a boy can get all the needful education at a cost of not more than 1s. per week. He can get that at any county technical institute. In a number of cases the fees are 8s. per year, and a great many men have obtained their professional qualifications at no more expenditure than that. I am sorry that my right hon. and gallant Friend was not here when I gave that information.

COLONEL WEDGWOOD. We have all received, among the mass of circulars that has been sent to us, a list of half-a-dozen people—quite common people—who have got scholarships and have passed their examinations. One was a miner. I wonder that he was not presented at the Bar of the House as one of those people who raised themselves from the ranks. The object of closing a profession is to keep people out so as to get better terms for those inside. Is there to be no end to it? We have the architects to-day; we are threatened next year with the journalists, and the year after that with the undertakers. There is to be a close corporation of undertakers, because, for anyone outside it to call himself an undertaker and to undertake might injure England or be disastrous to the public interest. That is not all. The journalists are coming in. Is there anything to stop the writers coming in too? There are a number of blacklegs in this House who go in for writing. As far as I am concerned, what I am anxious about is the Royal Institute of Historians, who will be locking me up for writing a history of Parliament. It is all the same thing.

Every profession thinks it has a perfect right now to come to the Government and say, "We are a close trade union. We perform in the body politic a very valuable public service. You must enable us to protect ourselves by sending blacklegs to prison." I have every sympathy with the trade unions, but I never yet knew a trade union—although, mark you, they do know how to deal with blacklegs—to come to the Government and say, "Will you send blacklegs to prison for us?" and the Government to say, "Certainly; your work is in the public interest, and we had better exclude all those people who are blacklegs." I have never heard that even the strongest trade union has ever said to the Government, "Will you prevent any further people coming into our union unless they can find £1,000 to do it with?"

REAR-ADMIRAL BEAMISH. Is the hon. and gallant Gentleman aware that a few years ago co-operative interests tried to secure for themselves the word "co-operative"?

COLONEL WEDGWOOD. I am not aware of it, but I am aware that some trade unions tried in America to get powers of this kind from the Government, but they have never been able, even in America, to get the Government to enforce their demand. This is utterly un-English. It is a return to mediæval ideas. I am surprised that a Member like the hon. Member for Barnstaple (Mr. Acland), whose magnificent book on Liberalism I have just bought, should come forward with a proposal like this. I can understand the hon. Member for Maidstone (Mr. Bossom) doing so. Architecture is his job; he is regarded by the architectural profession as their spearpoint in Parliament. But I cannot understand the hon. Member for Barnstaple, who is Liberal in his veins, of Liberal blood and Liberal stock, and not an architect at all. I ask hon. Members not to let themselves be carried away by the idea that we should legislate in the interests of an extraordinarily small section—a trade union which is strong enough at the present time—to shut out that free body which has produced in the past in this country extremely good architects. Criticism has been made of the kind of architecture we are getting now. As a pure Philistine, I think the houses built since the War are infinitely better than those built before the War. I see absolutely no reason why this House should give the members of this association the right to put in gaol people who compete with them.

THE UNDER-SECRETARY OF STATE FOR THE HOME DEPARTMENT (MR. GEOFFREY LLOYD). I have very little to say, and I propose to take as little time as possible in saying it. I think I shall carry the House with me when I say that we have had an acutely controversial Debate and an unusual diversity of opinions expressed by hon. Members, without distinction of party. I think there is one subject on which hon. Members are agreed. It was expressed by what I may describe as the voice of the craftsman, by the hon. Member for East Woolwich (Mr. Hicks), and it was agreed to by the voice of the soldier and administrator, the hon. and gallant Member for Hitchin (Sir A. Wilson). That is the elimination of the architectural blots and monstrosities which we come across in the country from time to time. Apart from that, I do not think there is one subject on which everyone is agreed.

I only wish to explain the position as we see it at the Home Office in general terms. Parliament decided in 1931 that there should be a statutory scheme for registering persons who possess the proper qualifications for practising architecture. This Act made it unlawful for persons not admitted to this professional register to practise under

"any name, title, or style containing the words, 'registered architect.'"

The protection of the term "registered architect" instead of the term "architect" was a compromise agreed to by the Select Committee of 1927 appointed to consider an earlier Bill. The object of the new Bill is to provide the same protection for the term "architect" as is provided in the Act of 1931 for the term "registered architect." Everybody appreciates the importance of the profession of architecture, and there is, of course, much to be said for the argument that there ought to be some recognised standard of qualifications for the practice of the profession. It is very likely that ordinary members of the public do not fully appreciate the difference between the position of a man who calls himself a registered architect and a man who calls himself an architect, and it can be argued with some force that it is more logical to protect by law the use of the word "architect" rather than the term "registered architect."

If the architectural profession were unanimous in support of the Bill, it is unlikely that any objection to it would be raised on the part of the Home Office. It is obvious, however, to anybody who has been in the House today that far from there being agreement in the profession, it is a matter of acute controversy. This is a controversy merely of a technical and professional kind, and I am not going to enter into the controversy between the Royal Institute of British Architects and the Incorporated Association of Architects and Surveyors. Therefore, I must say to the House that the Home Office keeps an open mind on this subject. One of my predecessors remarked on a similar occasion that the concomitant of an open mind is the closed mouth, and in those circumstances the House will not expect me to enter into the arguments for and against the Bill. The House may take the view that it is better to wait until there is agreement within the profession before setting up the proposed professional register. On the other hand, if the House should decide to give the Bill a Second Reading, the Home Office will, of course, give such assistance as it can in making the Bill a workable Measure.

MR. BEVERLEY BAXTER. I feel that I can support the Second Reading of the Bill, because 3,000,000 architects cannot all be wrong. Judging by the correspondence during the last fortnight I should not be right in putting the figure smaller than that. But what has also struck me during the snowstorm of literature has been the fact that most of the architects seem to live in my division. That in itself does not surprise me, because the salubrious climate of Palmers Green, Southgate, and Wood Green, the three components of my constituency, and the many examples of interesting and beautiful architecture, together with the lively building boom that is going on, probably account for the residence of so many architects in my Division.

I crave the indulgence of the House for a few minutes, not to give it my own poor opinion, but to invoke in this matter the voice of a great reformer of the past, a man whom we may call the A. P. Herbert of his time. I refer to a man, not a Member of this House, who sat in the Press Gallery for some time, no less a person than Charles Dickens. When he planned his book "Martin Chuzzlewit," he wanted to expose the greed, rapacity, and fraud of mankind, and in looking about for his character, he did not take the crooked solicitor, the share-pusher, the company director, or the journalist. He asked himself, What type of man is the most dangerous to the community? and he chose an unregistered architect. May I, in the language of the master, describe the establishment in which Mr. Seth Pecksniff held forth?

"The brazen plate upon the door (which being Mr. Pecksniff's, could not lie) bore this inscription, 'Pecksniff, Architect,' to which Mr. Pecksniff, on his cards of business, added 'and Land Surveyor.' In one sense, and only one, he may be said to have been a land surveyor on a pretty large scale, as an extensive prospect lay stretched out before the windows of his house. Of his architectural doings, nothing was clearly known, except that he had never designed or built anything; but it was generally understood"—and this is an important point—

"that his knowledge of the science was almost awful in its profundity. Mr. Pecksniff's professional engagements, indeed, were almost, if not entirely, confined to the reception of pupils; for the collection of rents, with which pursuit he occasionally varied and relieved his graver toils, can hardly be said to be a strictly architectural employment."

So Dickens proceeds to describe how unfortunate young men, lured by the rumour of this great genius, studied under him, and created such a vast quantity of castles, Houses of Parliament, and other public buildings as was never before seen in the world. There is one more point in this question which I think we have to study as well. Dickens, having created his fraud in Pecksniff, had to create in turn a man who was most susceptible to this impostor. I am sorry to say that he seized upon a Member of the House of Commons. It will be remembered that Martin Chuzzlewit and Mark Tapley came back from America, where Martin Chuzzlewit had had a very difficult time when he had tried to practise as an architect in a swamp where there were no clients. On their return, they found in a town through which they were travelling, great excitement, with bands playing and so on. It was the laying of the corner stone of the new grammar school. Interested in the excitement, Martin Chuzzlewti asked the innkeeper what it was all about.

"'Our member has come down express,' returned the landlord. 'No scrubs would do for no such a purpose. Nothing less would satisfy our Directors than our member in the House of Commons, who is returned upon the Gentlemanly Interest.'

'Which interest is that?' asked Martin.

'What, don't you know?' returned the landlord.

It was quite clear the landlord didn't."

So we come to the final victimization of the elected representative of the people:

"He said that since he had sat in Parliament to represent the Gentlemanly Interest of that town; and he might add, the Lady Interest he hoped, besides; it had been his pleasant duty to come among them, and to raise his voice on their behalf in Another Place often. But he had never come among them, and had never raised his voice, with half such pure, such deep, such unalloyed delight, as now."

That was after meeting the great, the immortal Mr. Pecksniff. If for nothing else than to protect hon. Members of this House from having to lay the corner stones of buildings designed and fabricated by men unworthy of the title of architect, I ask the House to give the Bill a Second Reading.

SIR F. FREMANTLE. I wish to put one point which I think is rather germane to this discussion. Hon. Members have referred to the protection of the medical profession, and have said that architects ought to have equal protection. Already they have the same protection as the members of the medical profession, and I want that to be clearly recognized. I will quote from the principal Act which gives this protection to the medical profession.

MR. LOVAT-FRASER *rose in his place, and claimed to move,* "That the Question be now put," *but* Mr. SPEAKER *withheld his assent, and declined then to put that Question.*

SIR F. FREMANTLE. It is the Act of 1858, which says :

"The words 'legally qualified medical practitioner' or 'duly qualified medical practitioner' —shall apply to a person registered under this Act."

The architects already have such protection, and I maintain that nothing has been brought forward in this debate to show why the State should give better protection to architects than has already been given to the medical profession.

The House divided : Ayes, 225 ; Noes, 50.

R.I.B.A.

THE CASE FOR A LEARNED SOCIETY

[*BY E. J. CARTER*]

On this and the two pages following we print the paper entitled "The Case for a Learned Society," read by Mr. E. J. Carter, Librarian and Editor, R.I.B.A., which was read at a general meeting of the Institute on Monday last.

A BODY of architects has many duties and its duties, whatever they may be, as a learned society are not fulfilled just by calling itself one or even by organizing and maintaining a magnificent system of education for entrants to the profession. On that score alone (which in most members' estimation, and rightly so, is one of the chief of the R.I.B.A.'s achievements), we can certainly claim some of the characteristic virtues of a society that puts learning first. But there is more to it than that. The regulation of standards of entry *can* be no more than a worthy professional variant of trades union activity. The Institute is indeed a trades union, and so are all similar professional societies, to protect the welfare of members and to present a united front to the world. But lest too obvious self-interest should alienate opinion we have in recent years rationalized—or should it be humanized ?—the manner of our approach to the public by the institution of a special public relations committee whose aim is to smile always : to show us as the public's genial friend whose morals are impeccable, whose fees are negligible, and whose service is altruistic and gigantic. The Cheshire Cat is perhaps the only successful public relations officer who has found the smile only enough. I hope the P.R.C. will take this flippant comment, as may appropriately be said, at its face value and no more.

But even the most expert professional smilers need the background of a profession worth smiling about. A public relations committee that existed just for fun or merely to publicise itself would be about as useful as a human larynx detached from the rest of the human organism. It exists to be the vocal organ of a whole structure of nerves, functional parts and mind. What are these in the society organism ? Unless there is a constant awareness of the purpose for which such a body as the R.I.B.A. exists there is a real danger that the profession's attention will tend increasingly to concentrate on the lesser functions and to omit either to inform itself or its public of the essential purposes for which it exists. There is the children's tale of the king who feared that his people were not enough aware of him and arranged for his heralds to announce throughout the city every detail of his daily life and movements. "His Majesty is about to blow his nose," "His Majesty is now blowing his nose," "His Majesty has just scratched his back," and so on, until, in this attempt to represent the humanity of the monarch all sense was lost of his divinity, and the people up and killed him as an impostor.

What sort of background does and should exist for a profession such as ours ? It is easy enough to be high-minded and dismiss the lesser mutual services that continually operate inside an institute and to be very glorious and pompous with talk about the high value that the society can render to humanity and all that ; but such professions can easily be debunked.

Any representative of any sectional interest will always, and particularly when he is on the defensive, identify his interests with those of the community in general. Royalty owners, armaments manufacturers, established churches, the people whose life is one long charity ball, the sectional interests of trades and professions will all make just such claims. Examples can no doubt be found from all professions (and they can be impeached less certainly than industrial interests) where sectional interest has directed action in a way that has proved ultimately to be contrary to general interest, whatever it may have seemed at the time. The opposition of the medical profession to the Insurance Acts could be named as one example. It seems clear to me, though at this stage no evidence has been produced, that behind the professions of a society there must be a general sense of obligation to fulfil some purpose that overrides the particular interests of the members collectively or individually to make money or to gain fame here or hereafter. Most people would agree with this as a generalization, but by what means this sense of obligation can be implemented few would be prepared to say offhand. My answer is that the sense itself can only originate in what I choose to call the learned or cultural nucleus of a profession.

The first and most obvious question is, "Why a society ?" In certain ways a society is so obviously less effective, less capable of being the instrument of noble thought or action than individuals. It is easier to attach ideal conceptions to individuals than to groups. The Royal Society in this is less than Newton, the R.I.B.A. than Wren. Where an individual may embrace his muse secretly and with the passionate freedom of a lover a society can only nervously present an illuminated address. The society is confined to ideals within mass comprehension, to the achievement of policies that can be brought within reach by kneeling rather than standing on tip-toe. The physicist travelling with god-like comprehension among the stars and electrons may forget his own world, the musician composing concertos for some princeling may in fact be paying allegiance to no body or thing but the nobility of his own conceptions. But a society, confined by the mass of its membership, can at the best be the lowest common denominator of their ideals and activities. The R.I.B.A. in the middle of the temperate emotions appropriate to a foster-mother of the arts is brought back to earth firmly in the way that mothers are by the call of domestic duties. Nevertheless, although it may be correct to talk in this rather disparaging way of society ideals, a society may be, and frequently is, the only medium through which the free untrammelled genius of individuals can operate. We have numberless instances in R.I.B.A. history which show this to be so. This is indeed one answer to the question, "Why a society ?" Another is the more obvious one that co-operative action is more likely to be successful than individual action. It does not matter now for what action success is hoped. Are we to assume that co-operative action is good merely because it is common and in certain works has proved its efficacy ? Certainly we can assume that there are advantages for someone, presumably for the members, else societies would not exist, but a more complete purpose is needed than that sort of self-interest to justify, even if it is enough to explain, their continued existence. The R.I.B.A. is the oldest surviving architectural society, and there are not many societies in other professions much older. If architecture survived pretty well for several hundred years at least prior to 1834 without any of the established professionalism of a society we must hesitate before we assume that an architectural society is either necessary or good. Sheep unite because they are timid, wolves because united they can better hunt their prey, though the co-operative effort of the pack in chase turns to anarchy when the victim has been hunted down ; then the individuals turn to slaying each other in their excited quarrel over the morsels.

I have referred already to the defensive instinct as an impulse ; it is perhaps significant that the two great society-forming ages were after the Napoleonic and Great wars, both periods when a general state of social nervousness put sectional interests on the defensive.* It is possible at least that all professional combination is partly a defence measure. "Truly, sir," we can say with Pompey, "I am a fellow that would live." But combination in many cases was certainly and sincerely a means of improving not the strength merely or the standing of the profession but of improving the quality of the service the profession could render to its science or art, and through its science or art to humanity. Some expression of this appears in the original professions of the R.I.B.A.'s founders—"to uphold the character and improve the attainments of architecture." The extent to which this is a true profession is the extent to which a direct answer can be given to my question, "Why a society ?"

A difference has been admitted, which though easy to express roughly is not easy to define : the difference between association in order to promote or protect the fact, on one side, and the ideal, on the other. The mundane business of architecture as a well-respected occupation, on one side, and the art-science with its idealistic nucleus, on the other. This difference, though

* In the first R.I.B.A. Annual Report of Council it is stated : "The very severe reflections, which from time to time, and more particularly of late years, have been cast against the architects of the present day, and the opinions too generally entertained by the public, that the art is but little understood, have at length aroused its professors to some exertion." An architect, J. A. Bell, in *a letter to Lord Farnborough on the expediency of having a Society for Architects*, wrote : "The architect with feelings refined by classical study, with intellect sharpened by mathematical truths, with susceptibilities tenderly alive to the beautiful both in nature and art, who with equal ease stoops to minor details or soars to general principles, finds himself jostled from his seat by men who are turning his profession into a trade and a reproach."

slight, is significant. The difficulty in definition is because the members of any association, not always consciously but very effectively, succeed in identifying their own interests and mundane concerns with the highest ideals of their art. In the same way, the larger unit, the society, identifies its self-interests with the wider interests of the community in general. When architects feel most concerned about protecting architects, then they will most surely start talking about the protection of Architecture, and I dare say that every professional move made by doctors, chemists and all other professional men has been done for the great good of Doctoring or Chemistry or what not. In fact, some identification must exist since in a certain measure the arts and sciences are in the care of the men who uphold the professions, and practitioners may be forgiven when they think that an extra 1 per cent. on their fees will make even that amount of difference to their art or science. So brokers no doubt identify themselves with some abstract conception of Broking, actuaries will fight to the last decimal point and patent agents strike heroic attitudes to preserve not the reputation merely of their professions, of the men and women engaged in the practice of Patent Agency or Actuarial Accountancy, but the essential, sublime, timeless ideas of those obscure but necessary and very learned professions. For us this useful abstraction is called the Mistress Art.

There are, too, elements of natural curiosity and goodwill, the desire to exchange ideas and good company, underlying the formation of learned societies. Such motives had much to do with the formation of the Royal Society, and they had much to do with the formation of the R.I.B.A., which, we must not forget, was born, maybe conceived, in a tavern. But it is not necessarily at its birth that a society gets the characteristics that define its interests and its usefulness: these quite likely develop as the personal elements of geniality fade and as what we know as "professionalism" develops.

I am not essentially concerned with professionalism, because a learned society need not be attached to a profession, although with us it happens to be. There is, indeed, reason enough to suggest that the professionalism or the learning will develop in inverse proportion to each other. Is it the inevitable prominence of these so-called "professional activities" that seems to make the general public and some informed advisers regard associations of men of one interest with suspicion?

Purely learned societies such as the Royal Society or the British Academy will not come under such suspicion because their proceedings have only slight contact with normal public interests. If the Royal Society could exhibit popular and marketable wares like the Royal Academy, or the British Academy become the centre of a new and better book society, the daily papers would no doubt take notice. Within their own spheres of influence these societies and any others can excite academic criticism that they are too conservative or too receptive of advanced ideas. There is some criticism of this yet undefined learned element within the R.I.B.A. that is of this nature. There will always be those who see the red hand of Communism at work, if, for example, a group of younger members shows some informed and lively interest in abstract art, and there will be others who cry "reaction" when, for example, the R.I.B.A. issues a planning report that does not plead the merits of *la Ville Radieuse*. But our real trouble is not of that nature; a certain amount of such oppositions is a sign of life. Our trouble is that for the most part there is complete misconception of what place learning can or should play in architecture. As a result of almost a century during which "learning" was prostituted to the special meaning, academic historical scholarship, a variety of misconceptions have grown up of which modern architecture is at pains to purge itself. People object with feeling to the various ideas of what is the learned society element in this place; some think it means an academic semi-ossified body of historians; some think it means endless æsthetical argument; few curiously enough think that the science and practice of architecture represent the learned society side of our profession, although in the Institute's organization now there is a large and tolerably efficient machinery of *Journal*, library, post-graduate research studentships, committees and contacts established with other bodies that, whatever they may have existed for in the past, exist now primarily to serve those ends. Rickman in his introduction to his "Gothic Architecture" could write "we are much in danger of having our public edifices debased by a consideration of what is convenient as a house rather than what is correct as an architectural design." No one could suggest that that could be written now by any architect, but such an idea of architecture is not dead by any means. An article in the *Contemporary Review* only last month contained this: "(ferro-concrete) may mean much to the engineer (although the visible results are apt to be appalling); but from an architectural standpoint, it would seem sufficient to say that one cannot expect to get A1 architecture out of C3 materials—that is, in this case, a compost of rusty rods and cement porridge, however scientifically combined. Incidentally," this author continues, "the general observation may be made that the more architecture tends to become an exact science, the less possible it is for it to exist as a free art." That such an opinion of architecture should be published in a reputable paper reflects more discredit on us architects than on the author or editor, who, we can be certain, would never think for a moment of letting a layman loose in his pages to discuss *ex cathedra* modern surgery. His last remark can be contrasted with the remark of another layman, Mr. Stanley Casson, one of our distintinguished Honorary Members and an archæologist: "The nearer man approaches mathematics the further away he moves from the animals."* This may be a hard saying, but its truth pervades the whole of contemporary architecture, little as many members of the profession seem aware of it. There is a vague sort of feeling that the *Journal* review columns or an article in the *Journal* on the development of the Ionic volute is "learning" and that the Review of Construction and Materials is not; that when Mr. Hope Bagenal writes on classic architecture he is doing his duty as a scholar and faithful disciple of "learning," but that when he writes no less brilliantly on why people sing in the bath he's just being an acoustic expert. When acoustics are discussed with a neatly-placed reference to the periods of reverberation of Greek theatres, it is, oh! so scholarly, but when the same discussion introduces the latest figures from the National Physical Laboratory, it is merely unintelligible.

There was a moment just about the time of the R.I.B.A.'s foundation when architecture very nearly crossed the Rubicon and accepted the newly developing sciences and materials of the nineteenth century as fundamental to the whole of its being. The first two papers published in the transactions were on the Nature and Properties of Concrete and on the Iron Roof of Hungerford Market.† That first number had three divisions: Construction first, Antiquity second, and Literature third, and the science of architecture was given greater prominence then in 1834 than at any time until 1934. By 1842 the nineteenth century was getting into its stride. Antiquity came first and Construction second, while Literature was left out altogether. Nevertheless in the nineteenth century more attention was paid to science than is generally acknowledged, but because the leaders of the profession were in general men who did not care science became the Cinderella and has even now scarce been raised from the kitchen.‡

During the whole of the nineteenth century historical scholarship was the safest passport to success. The man who completed his tour with a sketch book full of detail not only had a good chance of recognition as a scholar, but if he was astute enough to introduce his new-found old detail ingeniously in his buildings he was quite likely to be adopted by cultured patrons. The fallacy that historical study is the backbone of architecture certainly had this very business-like *raison d'etre;* it is commonly held even to-day not only by the ancients but by the moderns too. Some are proud to think that in historical scholarship is the essence of architecture largely because in their generation it was so; the conviction with which they hold this has so hypnotized others that, however intensely they dislike the idea they are constantly driven to pay it lip service.

I have dwelt for rather a long time on one of the misconceptions of what is or is not learning in architecture. Another class of objection comes from the back-to-nature clan. They scoff at historical scholarship and science alike, except on their own very limiting terms. The only science they admit is empirical; they are content to forgo any knowledge that has not been tested by the native experience of the elemental Balbus. They would agree with a Quarterly Reviewer of the seventies* who wrote that "the emancipated workman, gloriously impelled, is the only real hope of English architecture." Of course, anyone who thinks that cannot have much faith in any theory that architecture is an affair of the mind. The Arts and Crafts Movement, however inspiriting it may sound as an idea and however effective it may have been in purging many of the minor arts of their burden of irrelevancies, has now, and has had in the past, practically no contributions of real value to make to assist the progress of the greater art and science of architecture.

The emancipated workman unfortunately has only the haziest ideas of art, and left to himself is as likely to produce Corinthian architecture à la Moscow, half-timbered jerry built baronial residences or any other pretentious vulgarisms. There would certainly seem to be no place now for Corinthian capitalism, but, unless the emancipated workman has the benefits of a profession to help him, fully aware of its cultural obligations, and unless the workman as well as the professional is aware of these mutual obligations, the last state may be worse than the first. Our Quarterly Reviewer who wanted emancipated workmen only found "an architectural profession—a number of soft-handed gentlemen." In whom no hope is, as we would probably all agree.

A final group of objectors are those who in the highest meaning perhaps are "practitioners," men whose genius is in practice and who if they do not oppose the idea of a learned society are happy to neglect it. These men are not the same as the back-to-nature-ites, since to "be up to date" is their chief article of faith: they are content to be kept up to date by travellers and trade notes in the weekly journals. "I'm not the sort of fellow who has time to read books"—you can hear any number of them saying it in a genial sort of way; no resentment but merely surprised tolerance of the people who think it worth while studying beyond the superficialities revealed in conversation and journalism. Any one of them is perhaps the man who, when offered a book as a present, said, "Thanks awfully, old chap, but I've got a book." If you go to their homes you'll see it: somebody or other's Book of Jokes, so useful for after-dinner speaking. Of course, architecture is not book lore, scientific or historical, so these people are so far right; but it is not the individualist business that their ideas would seem to force it to be.

The fault of all these particularisations that I have tried to describe of the failings or potentialities of a learned society is that they are all derived from ideas of architecture as an affair of bits and pieces, unrelated historical or scientific studies which in their turn are unrelated to practice. We are not much better

* Stanley Casson. *Progress and Catastrophe.*

† In 1871, for instance, out of 14 sessional papers and major subjects eight were on definitely technical subjects, including the construction of the Albert Hall, the construction of breweries, the fall of the iron dome of the Brighton Athenæum, present knowledge of building materials and how to improve it.

‡ Although this is significant, it is no less significant that not one of the nineteenth-century presidents is distinguished for any serious and valuable contribution to the technology of building, unless Edward l'Anson's pioneer use of glazed tiles is considered important. Penrose was a scientist and a Fellow of the Royal Society, but he applied his mathematical abilities in archæology. The outstanding contribution by any president is Sir Raymond Unwin's town-planning work.

* *Q.R.* April, 1872. *The State of English Architecture.*

off if we surrender some piecemeal doctrine that accepts only the parts for a windy piety that tries to comprehend the whole. There is a famous definition by J. H. Newman of the cultured man which contains all the force of its relevance in its first phrase—" a man who to the accuracy and research of a profession has found a fine and excursive acquaintance with various learning and caught from it the spirit of genial observation." Newman extends this definition of a scholar as " a man who being a child of learning has been taught to see things as they are, to go right to the point, to disentangle a skein of thought, to detect what is sophistical and to discard what is irrelevant."*

At this point may I recapitulate? I asked, " Why a society? " and since then I have tried to show that the first reasons for association are generally " professional " ; sheep for defence, wolves for attack, but I dismissed these reasons not because they do not matter, each group of workmen must have its union and the R.I.B.A. is ours, but because they are not *essentially* related to the learning of the society, do not essentially promote and may even be contrary to the interests of the community. My interest I suggested was solely in those elements of society that promote a general sense of obligation to fulfil some purpose that overrides particular interests. Then I turned to the academic side and tried to represent various oppositions from anti-historians, anti-scientists, and the anti-learning-in-whatever-form-ites.

But to lead on from this ; knowledge, a thirst for knowledge, like patriotism or any other 'ism detached from reality, is not enough, not even for the most remote and ineffectual dons, if only because research must start from hypothesis and hypothesis must originate in the accumulation of fears and desires of the researcher, and must be related in origin to very material psychological contacts. Professor Whitehead expresses the same thing in saying that " foresight based upon theory and theory based upon understanding of the nature of things are essential to a profession," and " pure mentality easily becomes trivial in its grasp of fact."† Knowledge unrelated to contemporary problems of knowledge unapplied is an unfertilized egg. It is the exhilarating privilege of professional men to dwell with Athene not idle in dalliance, but so that their understanding and her wisdom may give birth in a variety of services.

The application of knowledge is fundamental to the idea of a professional learned society. Application cannot be detached from the accumulation of ideas that makes the world as it is now and is making the world of tomorrow. Knowledge is not just to know how to apply rules of conduct as our static moralists would have us believe, or, in architecture, as the classicists believe and try vainly to practice. There is and can be no dogma of conduct or design.

The force of intellectual operation within the affairs of a profession such as ours is not just a praiseworthy extra, a decorative finial on a spire, but is absolutely essential, an urgent living force. There is nothing eternal in architecture but the idea itself ; no rule or feature of it is more than a temporary expression of some convolution in the moving pool of materials and consciousnesses. It has been said that man is conditioned but not determined by social structure and the stage of economic development ; " freedom is the knowledge of necessity —the measure of knowledge determines the measure and quality of control." We must be as strenuously opposed to " drift " as we should be to dogmatically controlled belief or action. All this as far as architecture is concerned is our charge, but architecture cannot be separated from the convolutions of life round the architectural nucleus. There would seem to be a constant accumulation of knowledge, in the amount that is known of historical and scientific fact, but alas ! the application of this knowledge is inevitably in the hands of a small section of society representative neither of the mass of the users nor of the creative intellectual forces. It seems that control of the forces of modern civilization has been lost—whether control can be regained is very largely a matter for the experts in the various walks of contemporary life whose services must be used. Whether or not they will be used certainly depends on the acceptance by the public of the fact that these services are worth using, but it depends as fundamentally on the extent to which the experts, professional men, through their societies, show themselves alive to the requirements of the contemporary scene not by being narrowly " progressive " only within the confines of their practice but by their ability to relate their sciences to the totality of affairs. Professor Carr-Saunders and P. A. Wilson, discussing the unprogressiveness of many professions, say that serious thoughts tend to be " confined to a narrow range of facts and experiences, and there is no concrete contemplation of the complete facts . . . the remainder of life is treated superficially . . . the dangers arising from this aspect of professionalism are great, particularly in our democratic societies. The directive force of reason is weakened. The leading intellects lack balance. They see this set of circumstances or that set, but not both sets together." Later they say : " The professional man might be the mediator between the world of pure study and the world of everyday life . . . more than that he is an interpreter . . . the professional man knows what is acceptable to the world as it is, and therefore how much out of the theoretical possibilities can be put into effect and in what manner."* All of which is perhaps just that the professional man's job is to apply knowledge. Inevitably essential to a profession are its intellectual characteristics, or, to quote Carr-Saunders again : " The professions are distinguished by the fact that they are built up round intellectual techniques," or A. N. Whitehead : " The term profession means an avocation whose activities are subjected to theoretical analysis and are modified by theoretical conclusions derived from that analysis." The antithesis to a profession is a craft or " an avocation based upon customary activities and modified by the trial and error of individual practice."†

But to return to this matter of progress. Carr-Saunders writes (these constant references to his work are inevitable) : " At the present day many professions are based on sciences ; and nothing short of the onset of a glacial age in the history of human mental activity could now check the onward march of these sciences. The scientific professions are obviously borne along by the progress of the knowledge upon which they are based, no one has in fact suggested that chemists, engineers, physicists, actuaries, or even architects and others whose technique is only in part scientific, cling to antiquated methods of outworn formulæ and exhibit repugnance to new ideas. But the same is not always true of those professions whose technique is institutional." His generous though qualified inclusion of architects is really a sardonic joke, though I am sure he did not intend it as such. Indeed it is not quite so simple. An " exhibition of repugnance to new ideas " is not the only nor the commonest original sin of people whose technique is only half scientific : such people too often are what can be described as intellectual or technical hypochondriacs who swallow bright shiny new ideas as uncritically as the hypochondriac swallows his pills—for all the fuss he makes about their imagined effect on his stomach. So the half technical architect allows himself to be so subject to the suggestions of advertisers and marketing efficiency that he is deprived of freedom of choice, made so impotent by the knowledge such and such a material can be " found on rail " from Land's End to John o' Groats that it is automatically accepted as the best. The scabrous relics of the early chromium age testify to the hypnotic effects of glitter on half-scientific people who must at all costs be up to date.

All members of a vast practical profession cannot be scientists. To expect them to be is absurd. Inevitably much of the profession's scientific work must be delegated. It is always within the capacity of a mass to assimilate the philosophies and sciences of experts in other and related fields, and chief of all in their own, and at any rate to possess enough common sense to use even where they cannot fully understand.

Why is the work of the Building Research Station only known to half the profession and only made use of by a hundredth part of it? Why is there no reflection of scientific method in three-quarters of the building in England and why in the one-quarter in which scientific method can be seen is there so little reflection of it in the visible outward form? Why in the infinitesimal part of English building in which there seems to be some visible reflection of contemporary ideas is there so little real science in the essentials, so that in despair at the tragic structural failures of much superficially vigorous modern building the critic can only lament over many modern architects as Isabella to Angelo :—

> " Drest in a little brief authority,
> Most ignorant of what he's most assur'd,
> His glassy essence, like an angry ape,
> Plays such fantastic tricks before high heaven
> As make the angels weep . . . " (and lets the water in)?

I have talked too long on any account and I am sure too long to an audience here without saying a word on architecture as an Art. I am indebted to my friend Dr. Siegfried Giedion, one of our Honorary Corresponding Members, for putting into one short phrase what has long seemed evident to me in other form : It is easier to think than to feel. How often do we hear architects grousing that the public won't appreciate good design, but we cannot expect them to react emotionally to art forms until they have assimilated the rationale of the underlying forces. A simple contemporary example is the opposition, the bewildered acceptance and finally sympathetic emotional response to shop façades " standing on plate-glass windows," cantilever forms, the characteristic forms of reinforced concrete construction, and in its day every element of design has had to pass through stages of appreciation representing the intellectual assimilation of the forms by the public. This does not mean that a few rare persons, the true artists, cannot jump intuitively to an emotional conclusion which corresponds exactly and often forecasts the intellectual conclusions. So, for instance, constructivist sculptors seem able to approach the validity of pure mathematics and Renaissance artists could penetrate intuitively as deep into the humanist argument as the philosophers, but in general even the pioneer artists such as the great figures of the Early Renaissance, Inigo Jones, Pugin, Morris, Philip Webb, Le Corbusier and Gropius, however much they may have *felt*, have backed their feeling with highly developed rationalization. For some of them the rationalization may have come after the feeling, but for most people it must precede the intuitive understanding, or perhaps it would be more right to say coincide with it. This is our old partnership Wisdom and Understanding in another form. It is useless to talk about the neglect of modern architecture until the intellectual background, the science of it, the functionalism, has become as well understood, as completely assimilated into life, as it has been already in car or ship design and in the eighteenth century was in all functional matters, and particularly in the design of houses and furniture, and has been in all times in the elemental design of " folk " buildings.

When this assimilation is complete there will be no need to talk about Art because all works will show the complete co-ordination of mind and eye that is the essential quality of art. They will be works in which the functional and emotional contents have undergone complete mutual assimilation. Rickman's and our Contemporary Reviewer's sentimental separation of a limited field for " art " will be shown to be the meaningless fantasy that it is.

Whether we think of ourselves as artists or as providers of the material benefits of good planning and building, it is our duty to tighten up the whole intellectual process. To realize that the artistry as well as the competence of architecture are equally dependent on the mind.

* The Idea of a University.

† *Adventures of Ideas.* A. N. Whitehead.

* *The Professions.* By A. M. Carr-Saunders and P. A. Wilson. O.U.P. 1933. p. 498.

† *Adventures of Ideas.* A. N. Whitehead. p. 72.

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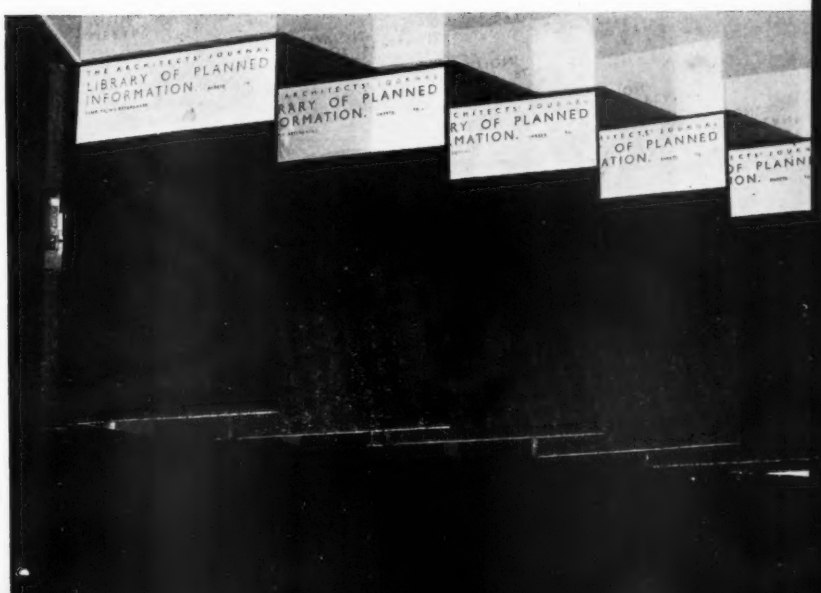

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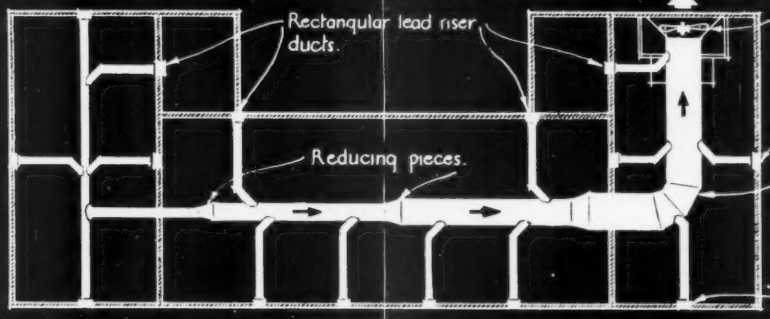
LEAD DUCTING USED TO CONVEY FOUL AIR, FUMES OR GASSES, FROM CHEMICAL OR OTHER ESTABLISHMENTS.

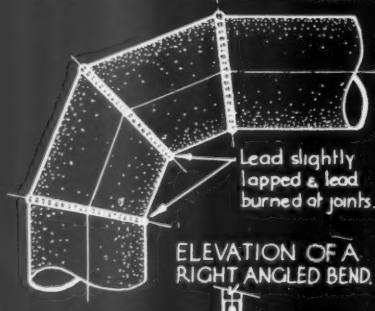
The risers are usually built into partition walls and are temporarily supported before walls are erected by metal straps hung from roof structure.

The horizontal ducting is circular and permanently supported by metal bands encircling the duct & hung from roof.

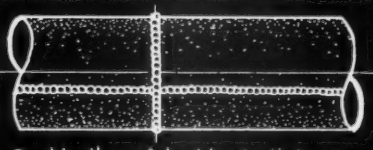


TYPICAL LAYOUT PLAN SHOWING METHOD OF INCREASING THE DIMENSIONS OF THE DUCTING. (Not to scale.)

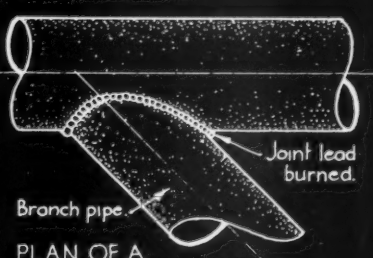
DETAILS OF TYPICAL CONNECTIONS, FITTINGS AND FIXINGS: CIRCULAR HORIZONTAL DUCTS.



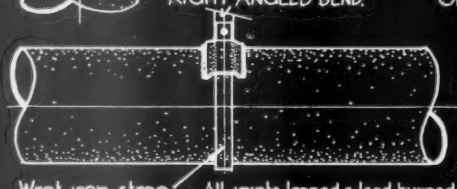
ELEVATION OF A RIGHT ANGLED BEND.



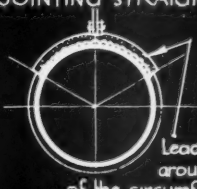
ELEVATION SHOWING METHOD OF JOINTING STRAIGHT RUNS.



PLAN OF A BRANCH CONNECTION.

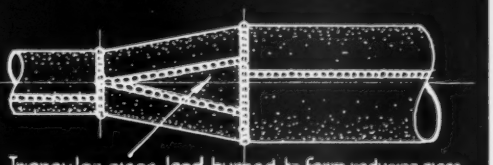


SIDE ELEVATION.



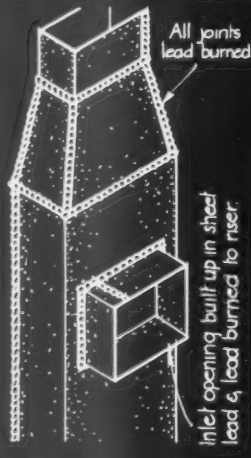
CROSS SECTION.

DETAILS SHOWING METHOD OF SUPPORTING CIRCULAR DUCTS.

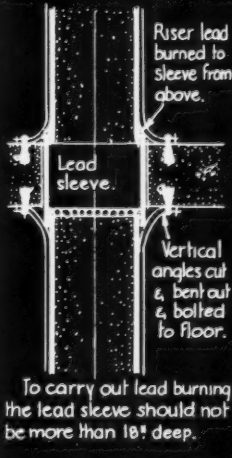


ELEVATION OF REDUCING PIECE.

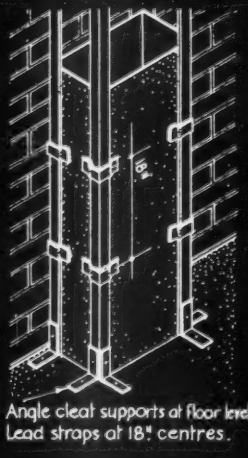
DETAILS OF TYPICAL CONNECTIONS, FITTINGS AND FIXINGS: RECTANGULAR RISER DUCTS.



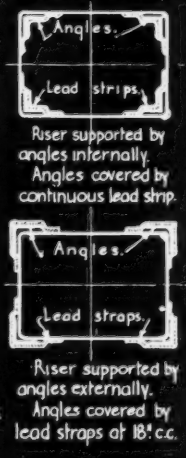
ISOMETRIC VIEW OF REDUCING PIECE & INLET.



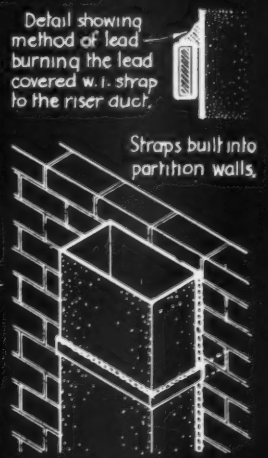
DETAIL OF METHOD OF JOINING RISERS AT FLOOR LEVEL.



ISOMETRIC OF RISER SUPPORTED BY EXTERNAL ANGLES.



PLANS OF TWO METHODS OF SUPPORTING RISERS.



ISOMETRIC OF RISER SUPPORTED BY HORIZONTAL STRAPS.

Information from the Lead Industries Development Council.

INFORMATION SHEET: LEAD DUCTS FOR VENTILATING SYSTEMS: No 43.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Oscar & Boyne.

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET • 585 • LEADWORK

Subject : Lead Ventilating Ducts

General :

This Sheet deals with lead ducts which are used for the removal of corrosive fumes in laboratories and factories, and for special ventilation ducts where the life of normal galvanized iron ducting is insufficient, or where lack of access renders replacement impossible.

Lead is unlikely to corrode with any normal laboratory gas except acetic acid in quantity, and is second only to glazed stoneware in its resistance to chemical attack.

The overall sizes of lead ducts are considerably less than those of stoneware pipe ducts of equal effective area ; the comparative weights per foot run of these ducts are given in the following table :

Circular Ducts :

Diameter in inches	Weight per ft. run of duct		Effective area of duct in sq. inches
	Lead at 6 lbs. per sq. ft.	Stoneware	
	Lbs.	Lbs.	
3	4·71	6½ to 7	7·07
4	6·28	8 ,, 11	12·56
6	9·42	13 ,, 16	28·27
9	14·13	25 ,, 28	63·61
12	18·85	42 ,, 45	113·1
15	23·61	62 ,, 70	176·71
18	28·27	93 ,, 97	254·47
21	33	124 ,, 130	346·36
24	37·7	186 ,, 193	452·39

Size and Shape :

There are no standard shapes or sizes of lead ducting manufactured, therefore all runs and fittings are built up to suit the requirements of any installation. Offset and bends can be produced to any radius of curvature, and junctions and branch connections may be formed at any desired angle.

Sections :

The sections chosen for the duct work of any ventilating installation will depend upon conditions such as space available, structure, air-flow velocity, etc. From an air-flow point of view, circular ducts are always the best, and this type should be used wherever possible, but in cases where the ducting has to be built into walls or floors their section should be rectangular and the ratio of width to depth should be kept as low as possible and should never exceed about 8 to 1.

Lead :

The lead used for this type of work should be milled sheet weighing 5 or 6 lbs. per square foot.

Normally in America an antimonial alloy, which is harder and stiffer than pure lead, is used. This reduces the weight of sheet required and is for normal conditions equally corrosion resistant.

It is impossible, however, to generalize as to weights of metal, types of alloy and such matters, and each installation must be considered separately, taking into consideration the nature of the fumes and temperatures of operation. A great deal of information is now available on the behaviour of lead under certain conditions of exposure to chemical fumes, and advice on the subject can be obtained from the Technical Information Bureau established by the Council.

Joints :

All seams and joints in the leadwork should be made by lead burning, care being taken to see that the faces of the lead are properly cleaned and lapped.

Supports to Horizontal Ducts :

Circular horizontal runs of ducting may be hung from the main structure by means of straps bolted to a wrought-iron strap encircling the duct.

The spacing of these straps varies in accordance with the weight of the ducting. The width of the strap may be 1 in. for every foot depth of ducting.

To prevent the top arc of the duct from sagging, the upper portion of these wrought-iron straps is covered with strips of lead and lead burned to the surface of the ducting.

Supports to Vertical Ducts :

Vertical rectangular risers may be strengthened and supported either by horizontal straps or by angle sections running up the full height of the duct.

Horizontal Straps :

Horizontal strap fixings are suitable for all sizes of ducts, and particularly those whose width exceeds 21 ins. ; they are usually placed not more than 30 ins. centre to centre. The wrought-iron strap is covered with sheet lead and fitted round the riser ; the top edge of this support is then lead burned to the riser duct as shown in the detail. The ends of the straps are built into the wall or partition.

Vertical Stiffeners—Outside :

Where the angle stiffeners are placed outside the duct, the lead strap fixings at the corners are usually (but not necessarily) lead burned in situ after the work has been erected. The lead duct should be fixed to prevent creep, and with this method of stiffening it can be done either by grub screwing as described below, or by tinning the angle stiffener around the fixing strap and lead burning the strap to it.

Joints at Floor Level :

For convenience in erection it is usual to provide a separate lead sleeve to pass through the floor. This can be joined to the length below by lead burning inside from above, provided the joint is not more than 18 ins. from the open end.

The unit above when in position can be lead burned to the sleeve as shown in the detail on the Sheet.

Joints :

Joints can be made if required at any level, but when the duct is being fixed with the horizontal band method, it should be arranged so that they occur from 4 ins. to 6 ins. above a band.

Vertical Stiffeners—Inside :

When vertical stiffening is used to support the duct, angle sections are usually used; they may be placed either inside or outside the duct as shown in the details on this Sheet.

If the angles are placed inside they are placed in each corner of the duct and are protected with a continuous strip of lead, which is lead burned on each side to the lead of the duct itself.

By this means each length of duct (usually 9 or 10 ft.) can be formed complete on the bench, the angles being put in position and lead covered before the seam along the length of the duct is made.

The end of the angle stiffeners are usually turned out through the wall of the duct to provide lugs, for fixing to floors or ceilings.

The lead duct is fixed to the angle stiffeners at intervals of approximately 18 in. to prevent creep. This is usually carried out by drilling the angles and screwing through the lead with a broad-headed grub screw.

Building-in and Protection :

Ducting of this kind is usually built-in after erection, and it is important to note that where ducts are to be placed against walls they must be erected before the wall to allow adequate space on all sides for lead burning the horizontal joints.

If ducts are not built-in they should be protected with light steel or wood casings wherever they are liable to physical damage by traffic, etc.

Vents :

Intake vents may be formed of sheet lead and then lead burned to the riser stack at a desirable position above floor level.

Jointing Riser and Circular Ducting :

Where a rectangular riser has to be jointed to a circular horizontal duct, a lead junction piece is built up, changing the shape from a rectangular section to a circular section.

Care must be taken to see that the cross-sectional area of the rectangular riser is equivalent to the cross-sectional area of the circular riser.

Protection of Metal :

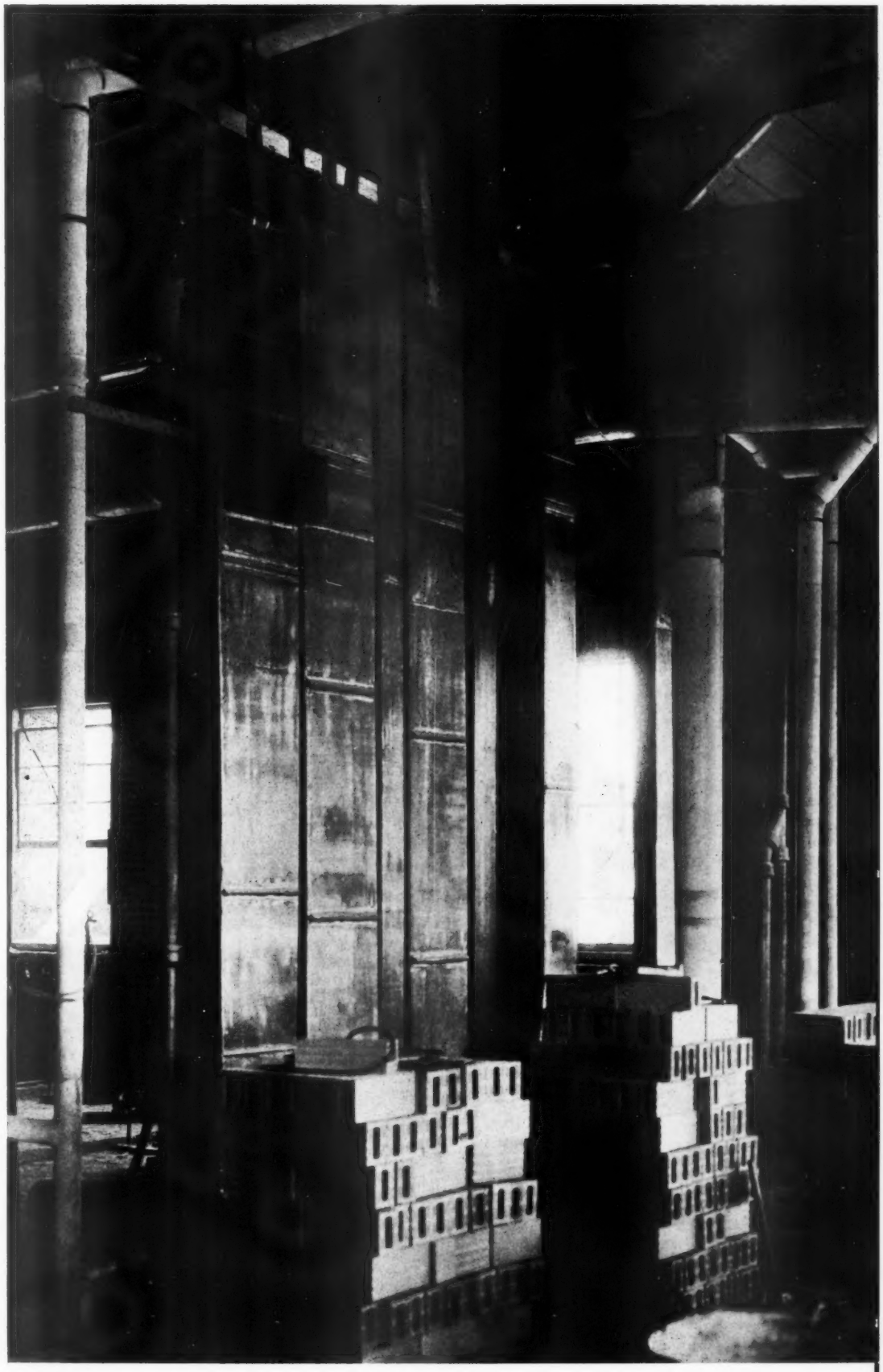
All metal faces other than lead (blades of fan blowers, etc., where exposed to any gases or fumes), should be protected from corrosion by being either sprayed with lead or lead-covered.

Information from : The Lead Industries Development Council

Address : Rex House, 38 King William Street, London, E.C.4.

Telephone : Mansion House 2855

LEAD DUCTS



The photograph shows the vertical ducts before partition work has been built in. The lead straps which act as temporary, or if necessary permanent, supports can be seen at the top. The main horizontal cylindrical trunk supported by steel bands can be seen above.

LEAD DUCTS

Above. Jointing up the cylindrical duct showing leadburning to joints in the sheet, and also method of supporting the upper side of the duct by lead strips burned to the ducting on top of the steel bands.

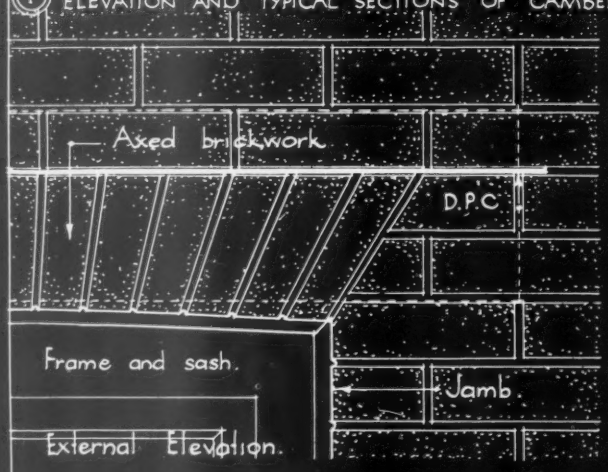
Below. A general view before the false ceiling is erected, showing the main cylindrical duct with the junctions supported by straps from the roof steelwork.

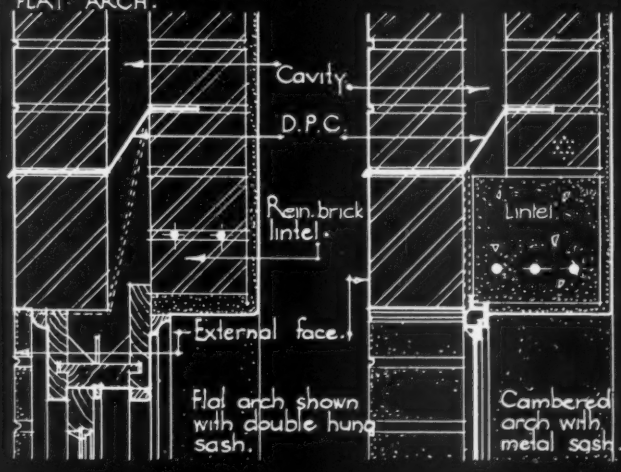
454. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

FORMS OF 9" SINGLE BRICK ARCHES IN CAVITY WALL CONSTRUCTION.

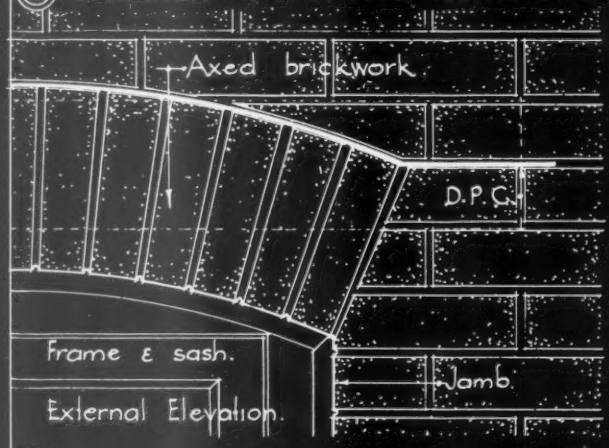
NOTE: For setting out and typical construction of arches see material on reverse side of this sheet.

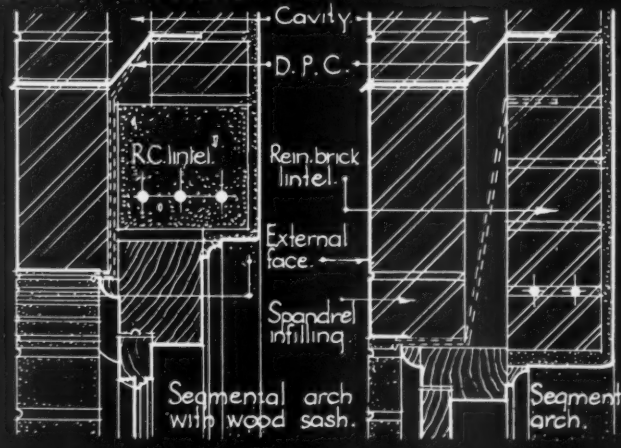
(1) ELEVATION AND TYPICAL SECTIONS OF CAMBER OR FLAT ARCH.



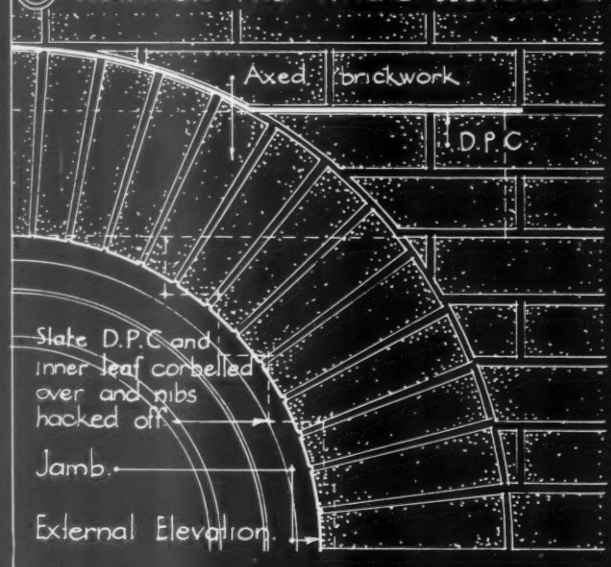


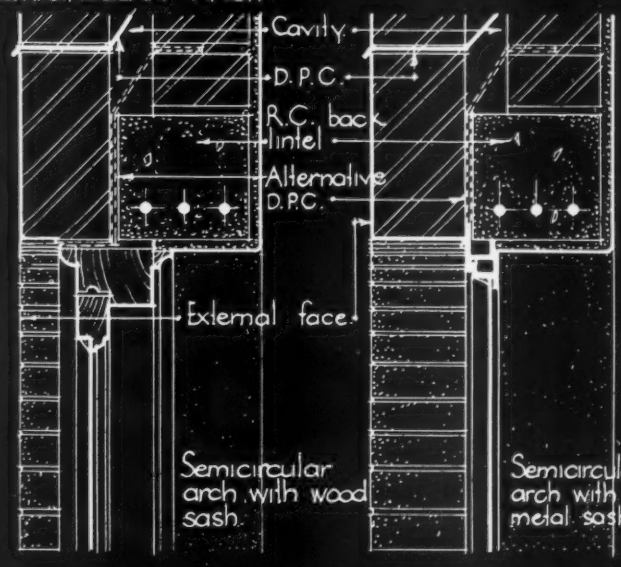
(2) ELEVATION AND TYPICAL SECTIONS OF A SEGMENTAL ARCH.





(3) ELEVATION AND TYPICAL SECTIONS OF A SEMICIRCULAR ARCH





Information from Clay Products Technical Bureau of Great Britain.

INFORMATION SHEET: CAVITY WALL CONSTRUCTION · 6 · ARCHED LINTELS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS. ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Wm A Payne.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 586 •

BRICKWORK

Subject : Cavity Wall Construction Heads of Openings.

This Sheet, the sixth of the series devoted to the details of cavity wall construction, shows various methods of constructing heads of openings in cavity walls faced with gauged or axed brickwork. In the details axed work is shown throughout, but the general principles of construction are equally applicable to gauged brickwork.

General Principles Governing Design :

In addition to its appearance, any such head treatment must be satisfactory as regards the adequacy of :—

(1) The support afforded to the brickwork of the outer leaf above the head of the opening, and

(2) The methods taken to waterproof the head.

(1) *Brickwork support.*

As shown in the various sections, the load at the head of the opening is carried—

(*a*) In the case of the outer leaf, on an arch of axed or gauged brickwork.

(*b*) In the case of the inner leaf, on a reinforced brick or concrete lintel.

Gauged brickwork arches may vary in their shape according to design. Less variation of shape is, however, possible in the case of axed brick arches owing to the original rectangular shape of the brick. In general, such arches are, in themselves, constructionally strong enough to carry the outer leaf of brickwork, except in the case of the flat arch where no camber is given. Flat arches should be strengthened either by an arch bar or by a steel reinforcing rod through the brick. When arch bars are used they should be of adequate section and, unless of incorrodible metal, should be given a good protective coat of priming since the thickness of the external rendering is usually not enough to prevent corrosion. If steel reinforcing rods through the bricks are used, they must be well grouted-in throughout their length and carried at least 6 ins. into a bed joint of the jamb. In addition to forming a bond between the brickwork and the reinforcement, such grouting acts as a protective coating for the steel.

The practice of supporting the brickwork of the outer leaf above the head of the opening on the wood door or window frame is not recommended.

In the case of gauged brickwork, the joints should be even and narrow and the jointing materials used are lime putty mixed to a creamy consistency, or white lead and shellac or other special compositions. The joints of axed arches are adjusted in thickness to give a radial appearance and are best made of a cement mortar or grout lightly gauged with slaked lime (e.g. 5 cement : 1 lime : 15 sand).

2. *Waterproofing the brickfaced head of an opening.*

Since the construction of most of the types of heads shown involves contact between the outer and inner leaves, it is essential that an adequate D.P.C. be interposed between the two leaves at this junction. For this purpose a D.P.C. of flexible material (such as lead, or lead cored bituminous felt) is most suitable. It should, however, be noted that, where hardwood frames are used in conjunction with lead D.P.C.s, direct contact between lead and the wood must be avoided, since lead tends to corrode in contact with most hardwoods. A strip of bitumen-coated paper or tinfoil placed between the D.P.C. and the frame suffices to prevent such corrosion.

Alternative D.P.C. materials are sheet copper (which, being springy, is however, somewhat difficult to place) and bituminous felts with or without a lead core. Bituminous D.P.C.s, are only satisfactory if of the best quality and, even then, should not be placed in direct contact with woodwork owing to the tendency of the bitumen to " bleed " through the timber and possibly mar the decoration. Here again a layer of tin foil will check " bleeding."

For normal exposures the water-proofing should be placed so that it protects the bricks as well as the opening. Where the openings are extremely exposed the alternative position of the weather-proofing, shown by the dotted lines, is advisable.

Rise :

The method of determining the rise for an arch varies with the type. The rise for a cambered or flat arch may be anything up to 1 in. In the case of segmental arches over windows, doors, etc., a good rule which gives a pleasing proportion is to make the radius equal to the width of the opening. An alternative method of calculating the rise is to allow one inch rise for every foot of span.

Springing :

The springing line of the first two of the three types of arches, i.e. the cambered (or flat), and the segmental arches, may be either at a bed-joint or, as shown, between joints, though generally the springing line is along a bed joint. Since in practice, however, it is found that the greatest stresses centre about the internal angle of the skewback, then in order to obtain the greatest strength in such an arch, the skewback should commence near the centre of a brick course as detailed overleaf. This practice also serves to eliminate the occurrence at the intersection of the arch with the face of the jamb of both a sharp edged piece of brick and a bed joint.

Type 1 :

The elevation given is that of a cambered brickwork arch supporting the outer leaf of a cavity wall over the opening into which is built a double-hung wooden sash. A variation of this type is the flat arch in which there is no rise, so that the inclusion of a support (bar or reinforcing rod) is advisable.

The associated sections show two methods of treating this type of head in general use.

The first section is that of a flat brickwork arch, housing a double hung box frame window built on the outer leaf of the cavity wall. The joints radiate from a point on the centre line of the window, usually situated at a distance below the arch equivalent to the span : this distance may, however, be varied.

The second shows a cambered brick arch over an opening into which is built a steel frame sash, secured to the lintel supporting the inner leaf. The general construction and setting out of joints are similar to those of the previous section.

In both cases the weather-proofing is shown protecting the brick arch as well as the head of the opening, but in exposed positions all weather-proofing should be placed as shown by dotted lines, to deal with any seepage through the bricks of the arch.

Type 2 :

The elevation shows a segmental arch of gauged brickwork.

In the first associated section a solid frame and casement sash is shown fixed to the inner leaf of the cavity wall.

The second section is of a similar arch having a spandrel infilling of bricks, and the frame of the casement sash secured to the outside leaf of brickwork.

See above for position of D.P.C. on normal and severely exposed sites.

Type 3 :

The elevation shows the exterior of a semi-circular arch of gauged brickwork.

The first of the sections accompanying this elevation shows a method of constructing the arch with a semi-circular casement or fan-light secured to the outer leaf of the brickwork.

The second section shows a similar arch with a steel frame sash secured to the inner leaf.

In both details the slate D.P.C. in the jambs and the brickwork of the inner leaf are carried up and corbelled out to the underside of the lintel, slates and bricks then being cut to follow the line of the arch. The horizontal D.P.C. shown in the elevation and sections is carried over the slates to make the head waterproof.

In both cases the weather-proofing protects the arch as much as possible by being placed over the gauged brickwork, but here again the weather-proofing should be placed between arch bricks and the lintel as shown dotted, when the opening is in an exposed position.

Setting and Pointing of Frames :

The frames of windows, doors, etc., if in wood, should be secured to jambs of opening by means of hoop iron straps built into the brickwork, and, to make joint between the brickwork and the frame absolutely weather-proof, this joint should be pointed up with some form of plastic stopping.

Previous Sheets :

The following Sheets dealing with bricks and brickwork have already been issued by this Bureau :—

No. 331 British Standard Sizes of Bricks.
No. 334 Cost of Building.
No. 343 Cost of Retaining Walls.
No. 359 Cavity Wall Construction No. 1.
No. 361 " " No. 2.
No. 367 " " No. 3.
No. 377 " " No. 4
No. 383 " " No. 5.

Information from : The Clay Products Technical Bureau of Great Britain
Address : 19 Hobart Place, Eaton Square, S.W.1
Telephone : Sloane 7805

SCHOOLS

The Architects' Journal Library of Planning

The Junior School

THE PRESENT POSITION

THE Junior School is the second of the three educational stages through which all children pass in the national educational system. Children enter a Junior School (or the Junior Department of a combined school) at 7 years of age and leave it at 11+.

The Hadow Report (*The Primary School*, 1931) emphasizes that the Junior School must not be regarded as a mere interlude between Infant and Senior Schools, nor must its quality be judged by its success in preparing able scholars for later schools. It is stated that the years between 7 and 11 have been less studied than later phases of education and therefore conclusions are still tentative, but that the broader aims of Junior School policy are now generally agreed upon.

Aims

The principal objectives of the Junior School are: to build up the general health of the children to meet the later strain of adolescence; to cater for wide differences in intelligence by careful grouping; to promote all-round mental development while avoiding a narrow book-learnt training; and to encourage imagination and the social spirit by games, dancing, singing, simple craftwork and other active pursuits.

The Children

By the time they enter a Junior School children are active and inquisitive, enjoying tasks within their powers, intensely interested in the form and colours of their surroundings but lacking powers of prolonged concentration on any one subject. Since the children are learning very rapidly all the time at this age, the Junior School should not be a place of set tasks so much as a scene of interesting and varied co-operative experiment.

Although even at 5 years of age there are wide differences in the intelligence of different children, it is not considered that in Junior Schools a lack of "grading" pupils will have any general adverse effect. It is, however, suggested that in large schools a 2- or 3-stream* system of parallel classes for bright, average and backward children may be well worth while.

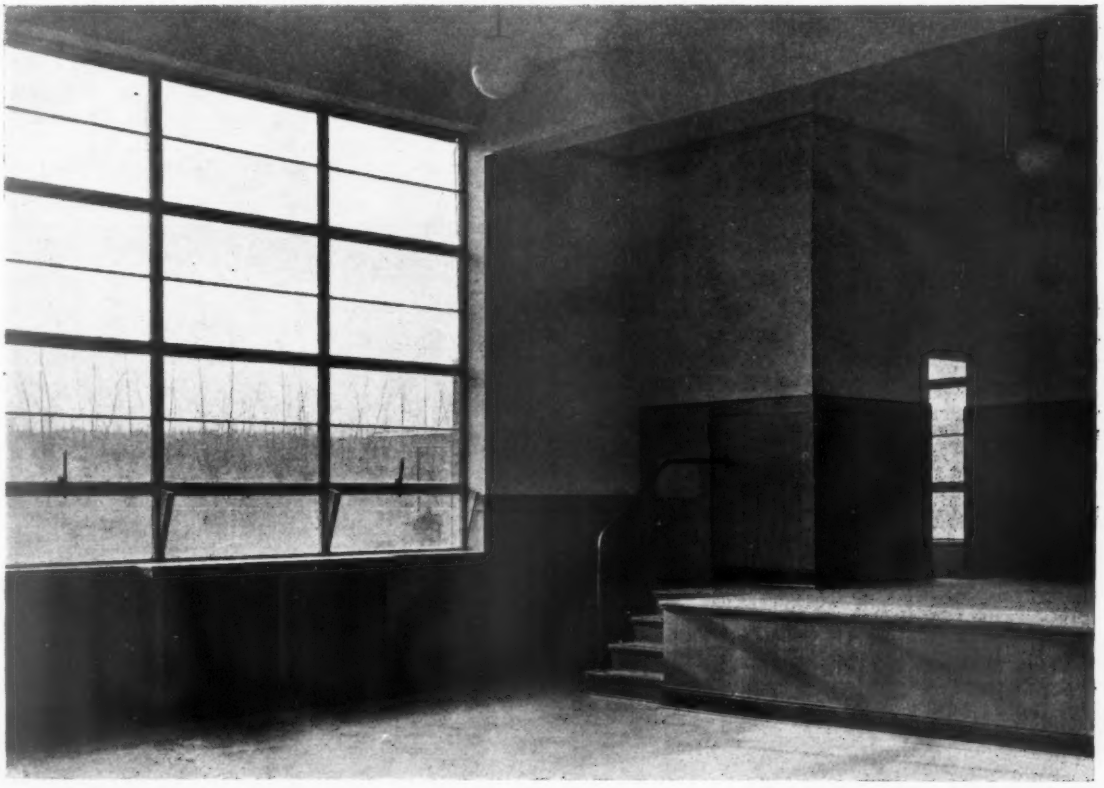
In general, the Junior School child is at an important stage of transition. His surroundings should be healthy and unoppressive, his education stimulated by short creative tasks, gentle doses of the "three R's" and communal activities in not too large groups.

Co-Education

There is no final verdict as to co-education in Junior Schools. The majority of Junior Schools are mixed, and provided that attention is paid

* 1-*stream*, 2-*stream*, 3-*stream* are official B. of E. terms for schools which have an annual "intake" (or "output" at the other end) of 1, 2 or 3 full forms. The terms 1, 2, 3-*form entry* are also used, but they will be avoided in this survey in order to escape confusion.

A simple and efficient hall at an Infant and Junior School at Willesden, by F. Wilkinson; G. F. Rowe, assistant architect.



Before and after. Interior of a junior school at Fen Ditton, Cambridgeshire, which has risen on the site of the old. Only visible link with tradition is the paraffin lamp. Architect, S. E. Urwin.

to sex differences in the matter of games and in craft work for the older children they appear to work well.

In large cities separate boys' and girls' Junior Schools have been found satisfactory, but they constitute so small a proportion of the total that mixed Junior Schools may be considered universal.

Training

Like the rest of the national education system, the Junior School is now in a period of reorganization. The "all age" elementary schools, in which children were grouped in huge classes (often exceeding 50), are being divided into three distinct schools, all equally important: Nursery-Infant, Junior and Senior. The aims of the Junior School have not been formulated in detail, and the many education authorities have infinitely varying curricula from "no change" to very progressive.

Four aspects of Junior School education, however, are agreed to be specially important:

Physical Training and Activity:

It is considered that playing fields, playgrounds and a garden are indispensable for Junior children. Such training should include not only organized games—which are not essential—but careful encouragement in movement, good carriage and rhythmic exercises. This means plenty of space.

"Classroom" Education:

Since Junior children learn more by activity and experience than by reasoning, the storing of facts is not very important. Speech training, helped by short recitations, is a large part of this section of the curriculum, and the teaching of the three R's is varied by practical work.

Practical Work:

The children's interest in practical work is now being catered for on a large scale. Simple crafts—drawing, modelling, etc.—are considered at least as important as the three R's.

Communal Activities:

Communal activities such as music and exercises, singing, dancing, small dramatic shows and exhibitions of slides or short films are a very important element in the Junior School and make an Assembly Hall essential. The hall is also useful for developing a social sense by assembly and for interesting the parents in school affairs.

Sites:

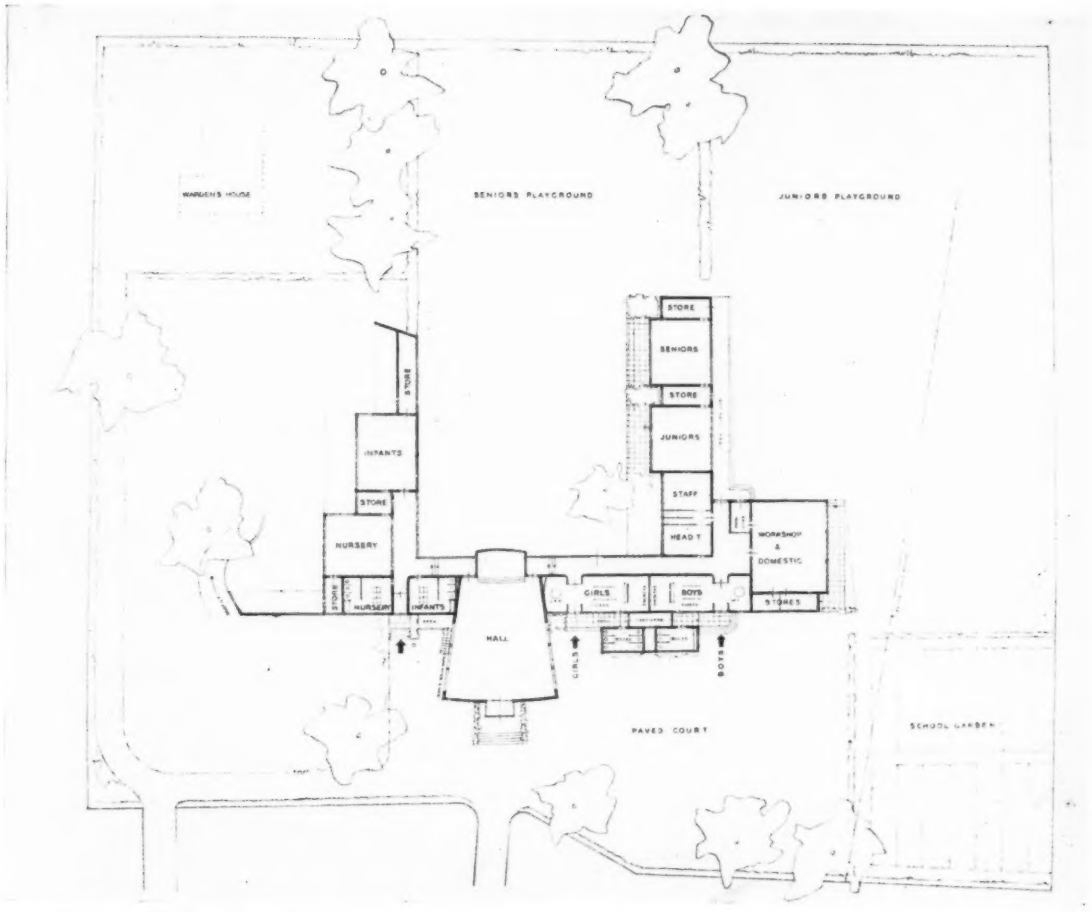
Like Nursery-Infant Schools, Junior Schools should be sited within the boundaries of main and secondary traffic roads.

Walking distances from the furthest home should not exceed ¾ mile. A maximum of ½ mile should be set whenever possible.

The Board of Education lays down no definite areas for schools, but recommends not less than 2 acres for a "Department." This should be taken as the minimum for a 1-stream school. If playing fields are provided, at least 3 acres will be necessary, 4–5 acres for a 2-stream school. It is important for Junior children to have at least a small playing field attached to their school. When playing fields are near but not adjacent to the school, care should be taken

Advantages of natural surroundings. Open air teaching in German school.

SCHOOLS



Village college, Cambridgeshire. By Gropius and Fry. In dispersed areas the grouping together of children of all ages is necessary to form a school large enough to function as cultural nucleus. An axonometric of this school was illustrated on page 7 (Nov. 4).

to see that traffic crossings between school and playing field are avoided.

The site should be of good soil, level or with a slope averaging not more than 6 per cent., rectangular in shape, and if possible with some groups of trees. It should be chosen with a view to giving the school the necessary south to south-east orientation for its classrooms.

In new housing schemes, an internal site is suitable, provided it is not irregular residual land. Where back gardens of houses adjoin a school site a screen of trees is advisable to improve the appearance from the school and to lessen the noise for occupants of the houses. The presence of a school does not lessen house property values except in the more luxurious residential developments. Houses next to school sites have, in fact, been found popular.

The Hadow Report is in favour of separate Junior Schools, making a distinct change of environment after the Infant stage. Combined Junior and Infant Schools are unfortunately still common, and in such schools the two departments should be placed in separate buildings on different parts of the site, or if this proves impossible, approaches to the two departments should be made entirely independent. (A good example of separation in one building is the Jules Ferry School, Paris. Page 1009.)

Fuller notes on the siting of all schools in relation to Town Planning will be given under "Senior Schools."

Sizes and Groups:

Junior Schools should be kept as small as possible. A 2-stream school of 320 children should be the absolute maximum. A single-stream school (140–160) has the disadvantage that children cannot be graded in parallel classes, but grading is not particularly important in the case of Junior children as very marked differences in ability are not often noticeable before the age of 11. Consequently many authorities claim that the advantage of intimacy in a single-stream school far outweighs the advantage of grading in a 2-stream school, where the desirable quality of intimacy is difficult to obtain.

The recommended size of a class is 35, though unfortunately classes of 40, 45 and even 50 children are still common.

In a single-stream school some of the older children may be divided into forward and backward groups and a few smaller classrooms may have to be provided.

Garden approach. Junior school at Witikon.

PLAN UNITS*

Circulation

General :

THERE should be a good flow of circulation between indoor and outdoor units. Access to every part of the building, every part of the garden and play spaces, should be unrestricted. Railings and fences should only appear on the perimeter of the site, if then.

Entrances :

1. *Children's entrance.* Boys and girls may enter the school grounds by the same entrance, preferably not from a main road, but entrances to the building are better separated, except in small schools where coatrooms are shared. It should be possible for the children to go direct to the coatrooms from which both lavatories and classroom corridors should be immediately accessible.

2. *Staff entrance* should be independent of children's entrances, though staff rooms should be planned for long distance supervision. If a separate entrance to the Assembly Hall is provided, it may be combined with the staff entrance.

3. *Service entrance* should be separated from all other entrances and made inaccessible to the children.

Corridors :

These should be designed to make easy circulation between classrooms, lavatories and outdoor play spaces. Though primarily for circulation, they can be made useful for children's book lockers and for displays of work if their width is increased. Minimum width for clear circulation should be 7 feet, 9 feet when more than six classrooms are served.

On the Continent corridors are used as coatrooms. If really efficient extract ventilators are provided this system is possible, though it does not make the corridor attractive and has the disadvantage of shutting out views of the garden or play space.

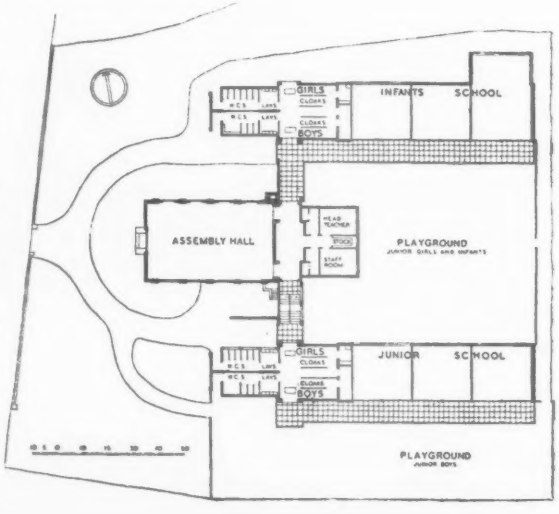
When lockers are used they can with advantage be arranged so that they are accessible from both corridor and classrooms. This relieves congestion in the corridor. Or they may be arranged in recesses so that circulation remains free.

Notes on windows, lighting, heating, ventilation and surface finishes will be given under Senior School plan units.

Stairs and Ramps :

It is almost as important for the Junior School as for the Nursery-Infant School that all children's accommodation should be on the ground floor.

Stairs and ramps will be fully discussed under Senior School plan units.



Clean planning, but symmetry somewhat forced. Junior School at Dudley, Worcestershire, by Butler, Jackson and Edmonds.

* Some of the plan units for Junior Schools have similar requirements to those for Senior Schools and will therefore be dealt with in the Senior Schools section.

SCHOOLS

OUTDOORS

Playgrounds

The placing of a Junior School playground is greatly determined by shape of site and size of school. Though it should be readily accessible from the classrooms it is best not to place it immediately in front of them, partly because a playground is not inspiring to look at, partly because it should be near the lavatories and w.c.s. If the assembly hall is also used as a gymnasium it is useful for the playground to adjoin it so that changes from open-air to indoor physical training do not make confusion.

Junior playgrounds need not be divided for boys and girls, but w.c.s should be equally near for both.

It is an advantage if the staff rooms overlook the playground, but they should not do so at too close range.

Size. — The normal playground areas recommended for Junior Schools are :—

	With Playing Fields	Without Playing Fields
1-stream school (140–180 children)	1 pitch	1 court, 1 pitch
2-stream school (280–360 children)	1 court, 1 pitch	2 pitches

One Court = 110 × 60 ft. = 6,600 sq. ft.
One Pitch = 160 × 100 ft. = 16,000 sq. ft.

It is questionable whether children from 7 to 11 should be grouped in schools much larger than 180, but since in large towns it is at present impossible to avoid doing so the necessity for adequate playgrounds is made even greater.

The playground should be rectangular, never less than 50 feet wide, and for efficiency the paved area should be continuous, though a bay to one side, reserved for the younger children, is useful. Well arranged drinking-fountains, seats, flower borders and games-equipment shed can do much to avoid a desolate appearance.

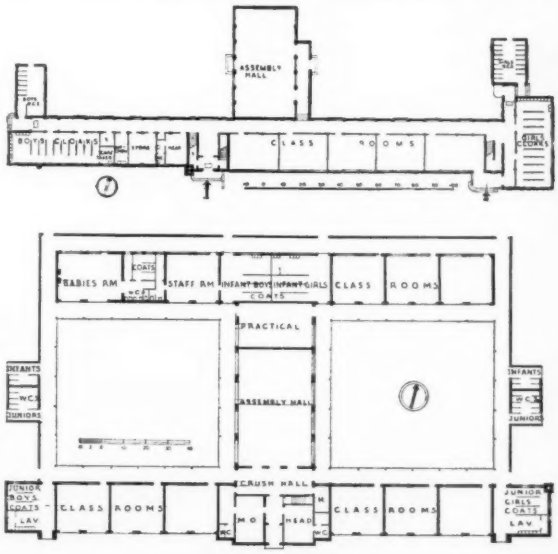
The surface of the playground should be hard, dry and even, of asphalt or concrete, and should be laid to a slight fall in large areas and not broken by drainage gullies. Asphalt, which can now be given not unattractive colouring, is the safest and most satisfactory, but expensive.

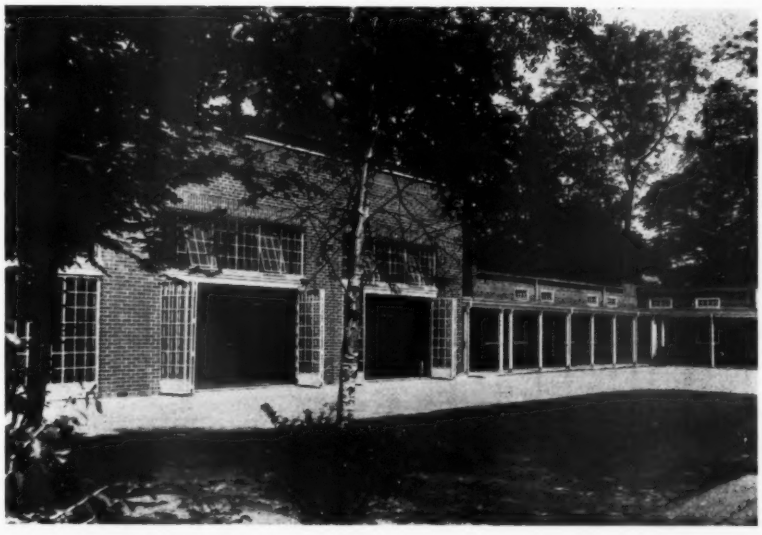
The children use the w.c.s and to a lesser extent the lavatories very heavily after games, and whether these are detached or incorporated in the building they should be near the playground. Drinking water should be available by means of well-distributed drinking fountains, never by means of cups-on-chains.

A covered play-space adjoining the playground is an asset, even if not large enough for more than 40 children. It can be used as a shelter during " breaks " in wet weather and also for open-air physical training.

Gardens

The Board of Education now makes the provision of a garden an extremely important point in every school. In Junior Schools practical instruction in gardening is not aimed at so much





Top : Ground floor plan of two-storey Middlesex Junior School, by W. T. Curtis ; H. W. Burchett, Assistant for Schools. Type of Junior School on two floors, being built in the thickly-populated outer ring of London. The chief difficulty with such schools is to obtain large enough sites. Middle : Junior School at Wyken, Coventry, by A. H. Gardner. Symmetrical plan with open access and screened courts. W.C. blocks so detached are questionable necessities today.
On the right : Well-studied brick elevation in an attractive setting. Open-air school at Welwyn, by Louis de Soissons.

as general interest and pleasure. Not less than half an acre should be available for this purpose in large towns, an acre or more in the country.

Part of this area may be used for pets, part for easily grown vegetables, but mainly it is intended to be an attractive place in which children can enjoy learning about flowers and trees. The layout should be reasonably informal, with railings and circles of geraniums noticeably absent. It should be as full of interest as possible and natural slopes and hollows might be used to make rock gardens and pools. A small greenhouse, potting and tool shed should be provided.

Playing Fields

The difficulty of providing playing fields for Senior Schools has led to the idea that unorganized games on hard playgrounds are good enough for Junior Schools. It is true that Senior Schools are more urgently in need of good playing fields, but they are certainly necessary for Junior children also. With the present campaign for physical fitness it is likely that more will be provided.

"Playing fields" is an indefinite term. Up to about 10 years of age it is doubtful whether children appreciate playing football or cricket according to the full rules. What they want is some grass space where they can play simplified versions of these or other games without interruption from bigger children.

The Board of Education and the National Playing Fields Association have listed games requiring fairly small space which are very suitable for younger children, and develop the skill which is needed in better-known games. For a one-stream Junior School the following provision for games would be adequate :—

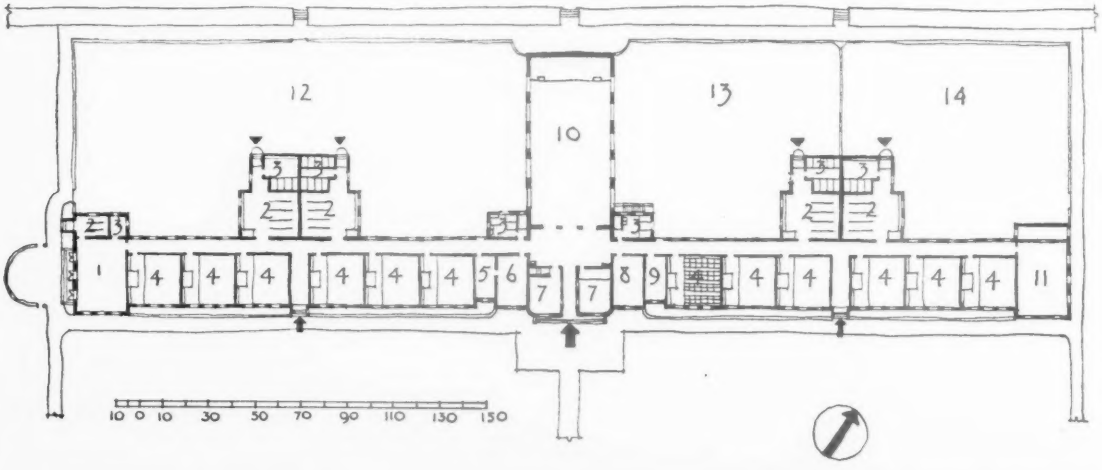
Two small pitches for rugby touch, shinty and handball, each 50 by 35 yds.; one netball pitch, 100 by 50 ft.; and (for the training of older pupils before they go to a Senior School) : one small football pitch, 65 by 40 yds.; one cricket table, 20 yds. long (radius of play about 50–70 yds.); a track for running, if possible.

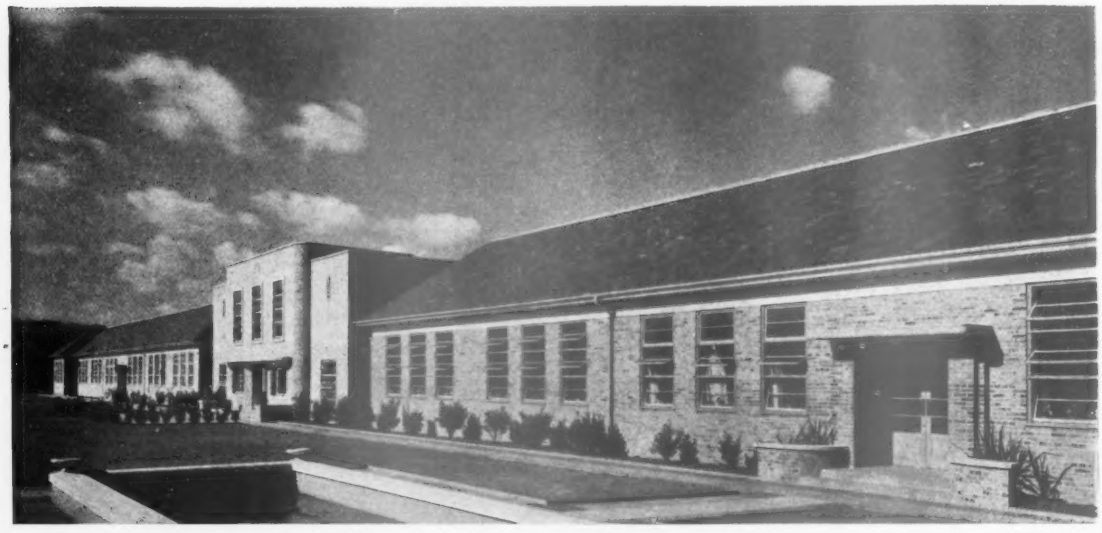
Details of playing fields will be dealt with in more detail under Senior Schools.

Clean, symmetrical plan, simple "transitional" elevations. Infant and Junior School at Scarborough by Overfield and Alderson.

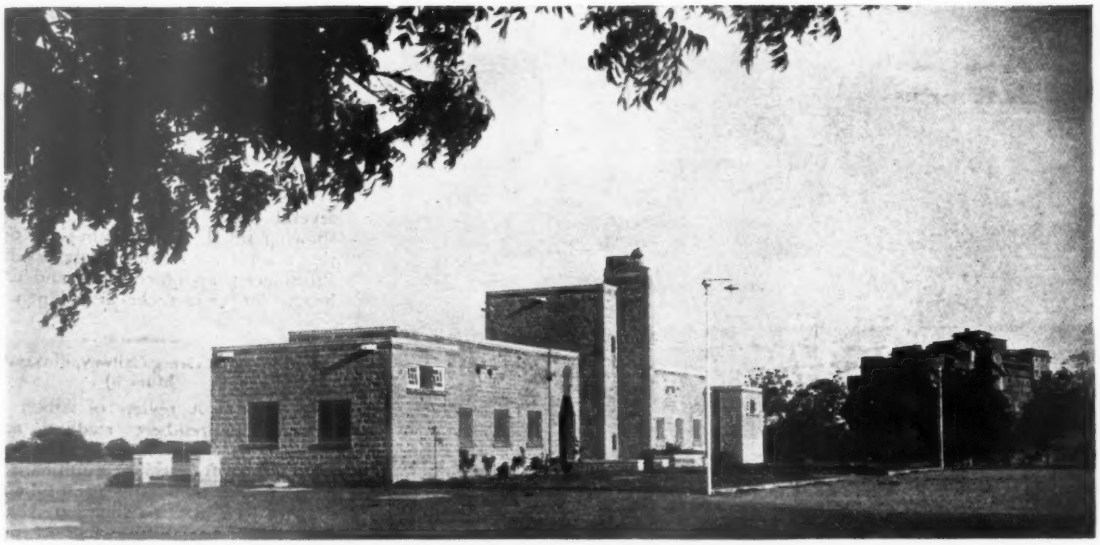
KEY

1 : Babies' Room
2 : Coats
3 : Lavatory
4 : Classrooms
5 : Waiting Room
6 : Medical Room
7 : Head's Room
8 : Staff Room
9 : Store
10 : Assembly Hall
11 : Practical Room
12 : Infants' Playground
13 : Junior Girls' Playground
14 : Junior Boys' Playground



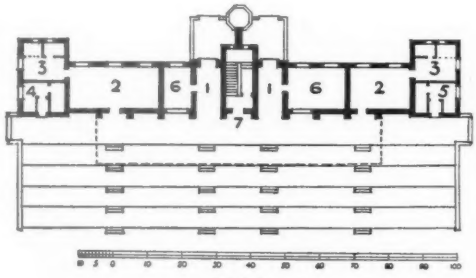


POLO PAVILION AT JODHPUR



DESIGNED BY

G. A. GOLDSTRAW



PLAN

KEY

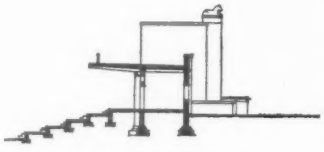
1 : Entrances
2 : Dressing rooms
3 : Lavatories
4 : Men's lavatories
5 : Ladies' lavatories
6 : Refreshments
7 : Stairs to roof

GENERAL—*The pavilion provides dressing rooms for players and seating terraces for spectators. There are two small rooms from which hot and cold drinks are served. The staircase in the centre gives access to the flat roof, also for spectators. The seating terraces face east so that the afternoon sun is behind the spectators.*

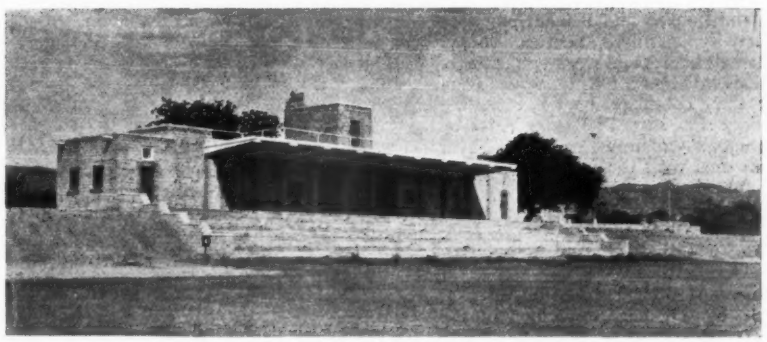
CONSTRUCTION AND FINISHES—*The walls are of a local buff-coloured sandstone with cills, bands and pierced panels of a local red sandstone. The doors and windows are painted light green. The winged horse on top of the pier at the entrance was carved by a local mason from a small model by Mr. L. F. Roslyn, of London.*

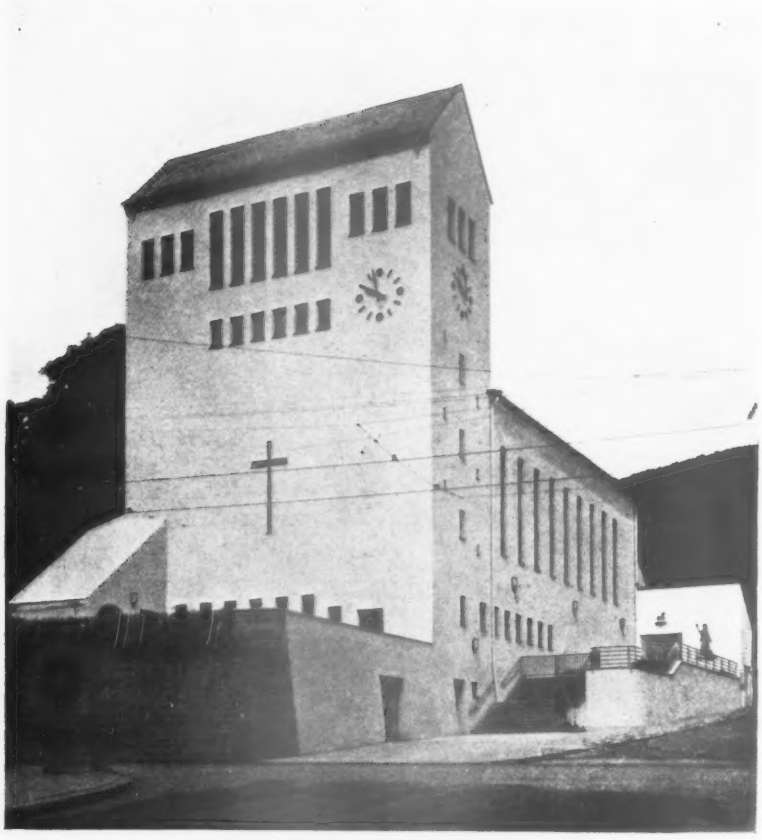
The hood is constructed of pre-cast reinforced concrete beams of inverted tee section, carrying stone slabs 9 ft. long by 1 ft. wide on the table of the tee. 6 ins. of lime concrete covers the stone slabs. The ends of the beams are tied down to the foundation by small R.C.C. columns. The reinforced concrete work was designed by F. F. Fergusson of the Jodhpur Public Works Department.

The photographs show : top, the entrance front ; below, the terrace front.



SECTION





A church near Stuttgart, by Rudolph Behr and Karl Oelkrug.
[*From "Deutsche Bauzeitung."*]

PERIODICALS

NOVEMBER ANTHOLOGY

AMERICA

American Architect

(Monthly, $1.00. 572 Madison Avenue, New York)

NOVEMBER. An article on the competition system, by O. D. Wearin, a member of Congress who seems to be wholly in favour of competitions, on the grounds that privately-designed buildings, at any rate in Washington, are inferior to the competition designs. Paris, 1937, an article by Talbot Hamlin, who refers to the "magnificent opening" between the English and Belgian pavilions but otherwise mentions neither. Some pages of small houses and week-end cottages by various designers; photographs of Peking; some commercial work, including an excellent shoe shop in Buenos Aires by Daniel Duggan—no drawings. Time-Saver Standards deal with the planning of hotel bedroom and bathroom units.

Architectural Record

(Monthly, 50 cents. 115 West 40th Street, New York)

November. Housing Progress in America, an article by Thomas S. Holden on the Wagner-Steagall Housing Act, followed by an article on Housing Methods in Great Britain by John W. Laing. The Design Trends section deals with the planning of newspaper buildings and illustrates two recent examples (see illustration, page 1063). Building Types covers houses of $20,000 and over, the amount of these built having risen gradually since 1934, now reaching the figure of about 2,000 houses a year. Costs vary from 50 to about 70 cents a cubic foot.

Pencil Points

(Monthly, 50 cents. 330 West 42nd Street, New York)

November. The work of Otto R. Eggers, a magnificent draughtsman who has worked in the office of John Russell Pope since 1909. A brief consideration of the smaller airport by Elizabeth Coit, whose remarks seem to be based on a good deal of flying experience.

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FRANCE

L'Architecture

(Monthly, 8 frs. 51 Rue des Ecoles, Paris 5e)

October. Bits and pieces from Paris, the centre régional (see illustration, page 1064), two bridges, the radio tower and some gardens.

November. The French pavilions from Paris, yachting, health, mercantile marine, aeronautics, etc.

La Technique des Travaux

(Monthly, 10 frs. 54 Rue de Clichy, Paris 9e)

November. The Coty factory at Suresnes; the Earl's Court exhibition building; a villa at Middelkerke by D. François; the French pavilion at the Zagreb exhibition by R. Camelot and the brothers Lafaille; an article by A. Ferrari on the influence of steel-concrete adhesion on beam strengths.

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GERMANY

Baukunst und Städtebau

(Monthly, 1m. 90. Bauwelt Verlag, Berlin, S.W.68)

November. The work of Fritz Schopohl, several pages of photographs and plans showing small and medium-sized domestic jobs; a private house in Salzburg by Otto Prossinger; an office block and assembly hangar for the Henschel aeroplane works.

Baumeister

(Monthly, 3m. Georg Callwey, Finkenstrasse 2, Munich)

November. A review of Albert Speer's complete Nuremberg stadium scheme; the work of Sepp Plenk, several examples, including a very pleasant traditional private house in the mountains near Oberstdorf; the modern art pavilion at the Paris Exhibition; detail drawings of the jobs illustrated.

Bauwelt

(Weekly, 90 pf. Ullstein Verlag, Berlin, S.W.68)

October 28. Result of a competition for a working-class housing estate in Mecklenburg, won by Friedrich Tamms; recent buildings in Finland, an article by Carl Meissner on the work of Bryggmann, Huttunen, Paatela and Taucher.

November 4. Result of a competition for a school in Königsberg Speichersdorf, won by Wolf Irion; a continuation of Carl Meissner's article, illustrated with work by Professor J. S. Sirén.

November 11. Small houses by Fritz Schopohl.

November 18. New buildings for the German Embassy at Ankara, a competition won by Konstanty Gutschow; the first three designs are fully illustrated.

November 25. Hans Geber's house for himself, and another smaller house by the same designer.

Deutsche Bauzeitung

(Weekly, 3m. 40 per month. Beuthstrasse 6-8, Berlin, S.W.19)

November 3. Decorations in Munich for the reception of Mussolini; thatch as a roofing material.

November 10. Mecklenburg housing competition result.

November 17. Result of a competition for a vocational school in Peine, won by Professor Fiederling; the Ankara competition result.

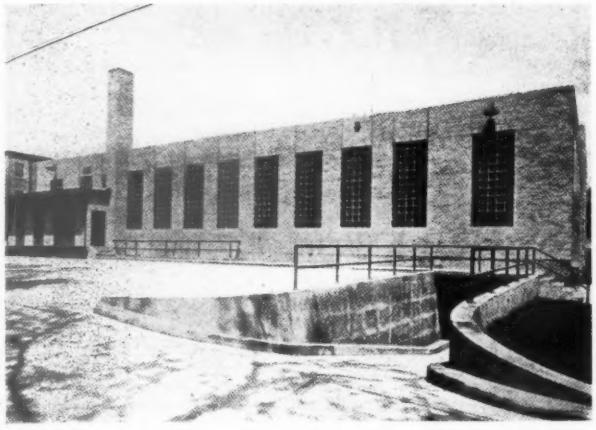
November 24. The central Berlin exhibition building, photographs and a lay-out plan.

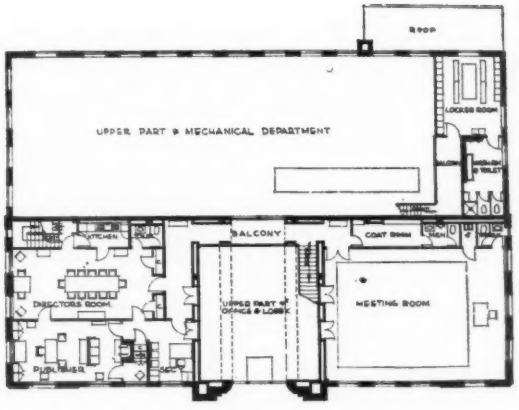
Buildings Supplement. A church in Stuttgart by Karl Oelkrug; single-family houses in Stuttgart Wilmersdorf by Aldinger, Weippert and Dürr; country houses by Karl Schneider, and recent Italian flat blocks.

Innen Dekoration

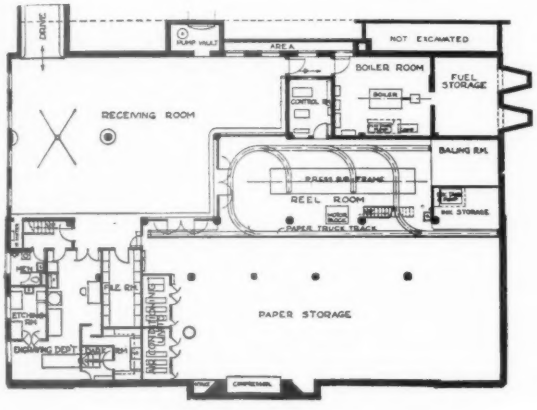
(Monthly, 2m. 50. Alexander Koch, Neckarstrasse 121, Stuttgart)

November. New interior designs from the "Creative People" Exhibition at Düsseldorf; a glass display by Bernard

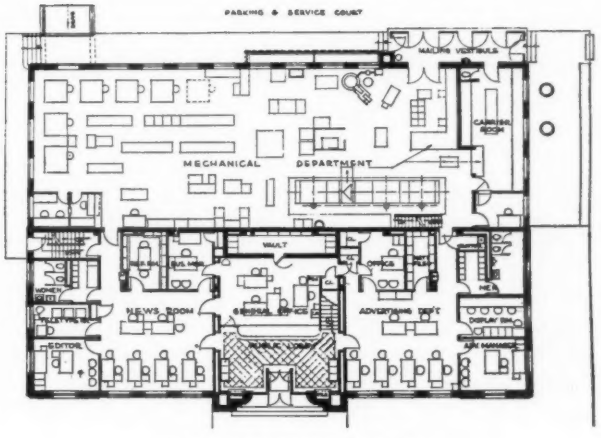




FIRST FLOOR PLAN



BASEMENT PLAN



GROUND FLOOR PLAN

Elevation and plans of a newspaper building in Iowa, designed by Kruse and Kleinn. [*From the "Architectural Record."*]

Pfau; the work of Paolo Buffa—furniture and interiors, mostly very good.

Moderne Bauformen

(Monthly, 3m. Julius Hoffmann, Paulinenstrasse 44, Stuttgart)

November. A new arcade for pedestrian traffic in Cologne, well arranged and properly lit; a restaurant and flat block in Cologne by Heinz Luttgen—a surprising scheme for an expensive site; three traditional Hamburg houses by Baedeker and Hermann; the remodelling of a large country mansion in Bohemia by Elly and Oskar Oehler; furniture and interiors by Hermann Maier, a Stuttgart cabinet maker who acts as his own designer.

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HOLLAND

Bouwkundig Weekblad Architectura

(Weekly, 15 florins per annum. Weteringshans 102, Amsterdam)

October 30. *Piet Hein*, the motor yacht presented by the people of Holland to Prince Bernhard and Princess Juliana—interiors slightly fruity.

November 6. A new sanatorium at Egmond-aan-Zee.

November 13. Plans for the Delft Market Square.

November 20. The new crematorium at Haarlem by G. Friedhoff.

November 29. A new dress shop at the Hague, by Jan Wils.

de 8 en opbouw

(Fortnightly, 30 cents. Amstel 22, Amsterdam, C.)

October 27. Furniture designs for mass production.

November 6. A country house at Haltem by A. Komter; the Japanese pavilion at Paris; both jobs well illustrated with photographs, plans and some constructional details.

November 20. A small house by G. Rietveld, plans, photographs and an extremely interesting cost analysis; a small timber house at Bergen by H. Elte.

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ITALY

Architettura

(Monthly, 18 lire. Via Palermo 10, Milan 1)

September. The Paris Exhibition both from the town-planning and the architectural point of view—a good article by Plinio Marconi; new buildings at the University of Bari by Concezio Petrucci; notes on London planning by Giovanni Florio.

October. The memorial to the fallen at Syracuse by the brothers Rapisaroli; a flat block in Rome by Vittorio Morpurgo; a small house in Rome by V. Travaglio; two jobs in Biella by Nicola Mosso; notes on the lay-out of working-class housing estates.

Rassegna di Architettura

(Monthly, 15 lire. Via Podgora 9, Milan 105)

October. A special issue devoted entirely to libraries, by Raimondo Campanini. A very thorough survey which starts with a little history, analyses plan requirements, discusses cataloguing and stacking methods and has plenty of illustrations and plans of libraries from all over the world.

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SWEDEN

Boet

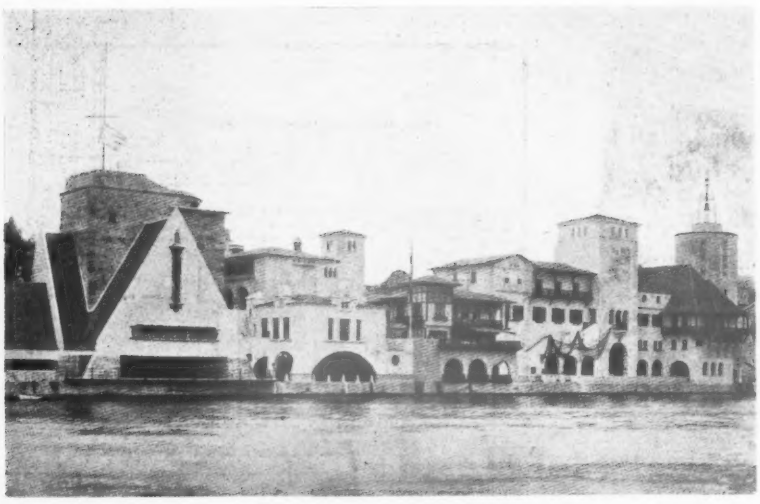
(Monthly, 1 kr. 75. Kristinelundsgatan 11 Gothenburg)

October. Chairs and sofas—an illustrated article by K. G. Ekman—a few good examples, others rather poor. Danish, Norwegian and Finnish pottery and glass from the Paris Exhibition.

Byggmästaren

(Weekly, 20 kr. per annum. Kungsgatan 32, Stockholm)

No. 32. Exhibition technique from Paris—photographs of the Swedish pavilion interspersed with newspaper criticism.



Part of the Centre Régional of the Paris Exhibition. The buildings are: (left to right) Brittany, Poitou, Guyenne, Gascony, the Pyrenees, the Atlantic Coast and Provence. [From "L'Architecture."]

No. 33. A number devoted mainly to small house design in America.

No. 34. The same continued.

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SWITZERLAND

Schweizerische Bauzeitung

(Weekly, 1 fr. Dianastrasse 5, Zürich)

October 30. Two houses near Zürich by A. H. Steiner.

November 6. The Kappeli school at Zürich by A. and H. Deschger—a good job well illustrated with plans and plenty of photographs.

November 13. Notes by G. Schneider on the loads imposed on towers by swinging bells: competition for a combined concert hall and theatre for Zürich—won by Steiner and Landolt.

November 20. A grain silo in Tunis; notes on foundation calculations by A. Sarrasin.

Werk

(Monthly, 3 m. 50. Muhlebachstrasse 59 Zürich)

November. The Paris Exhibition, a general review.

IN THAT CONTINGENCY

The following are abstracts of inquiries recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry and are not necessarily suitable for general application to all similar problems. [Crown Copyright reserved.]

Dampness in Buildings

¶ *IT was explained in the last issue that in view of the number of inquiries received during the winter months, on dampness in external walls, it was proposed to issue a series of notes on the subject. In the last bulletin damp entering from ground or roofs was discussed. Below, the problem presented by general damp penetration through walls is considered.*

(*ii*) *General Damp Penetration through Walls.*

The penetration of moisture through solid walls is perhaps the most frequent cause of dampness in buildings. The effects may vary in extent from general *dampness* of severely exposed walls and a tendency for condensation on all internal surfaces to penetration so severe that the building becomes virtually uninhabitable. Sometimes there is uncertainty as to whether dampness on the inner surface of external walls is due to penetration or condensation. The cause can generally be identified. Dampness due to condensation may occur before rain or after very slight rain and most often when a spell of warm humid weather succeeds a cold, frosty period. Dampness due to penetration generally only occurs after severe rains and will usually be more pronounced in the upper parts of the building, but not where the wall is shielded by eaves, cornices or similar features. It usually takes a considerable time to dissipate by internal heating, as distinct from dampness due to condensation which may be disposed of in an hour or so, being purely superficial.

The general penetration of unprotected solid masonry of normal construction may occur, as the result of capillary action, either through the building unit and mortar if they are porous, or through fine cracks between the units and the mortar. (Cases resulting from faulty design and construction are considered later.)

It is only on rare occasions, actually, that the porosity of building units or of mortar is wholly responsible for extensive penetration. Usually, the occurrence of fine cracks between the units and the mortar, formed as a result of poor adhesion of the mortar or shrinkage when it dries, is by far the more important factor. Indeed, up to a point a porous surface is an advantage, for rain, instead of running down the wall and being drawn into cracks, is absorbed and subsequently dried out by evaporation. One of the worst conditions may in fact arise when the wall is faced with impervious units and the joints are defective. Rain water flowing over the impervious surface of the wall may be drawn in considerable quantities through shrinkage cracks between the mortar and the building units. Where the backing is composed of more porous materials these may become saturated and, as drying is prevented by the impervious facing, may remain wet for long periods.

Gross penetration often occurs immediately below impervious external surfaces such as tile hanging, rendering or large windows. This is due to the large flow of water from such surfaces.

It is not possible to suggest methods of building solid walls which will, under all conditions of exposure, be completely immune from damp penetration; but a correct choice of mortar helps considerably. The characteristics of the mortar should be adjusted to suit the masonry or brickwork; dense, non-absorptive units such as granite or engineering bricks should have a dense but plastic (easy working) mortar; joints should be properly filled and the surface of the joint carefully finished. Weaker stones or bricks, of more open texture, should have softer mortars with some degree of porosity, as may be obtained by blending lime and cement. The pointing of walls composed of porous units with dense mortar is ill-advised. This may result in increased penetration and damage to the walling material by the deposit of salts.

It will be realized that these present remarks refer solely to damp penetration through *solid* walls. A cavity wall, if properly constructed, eliminates all risk of damp penetration from the above-mentioned causes, as will be pointed out in a later section.

Every case of general penetration must necessarily be considered individually. It is impossible to suggest a remedy which will be satisfactory and equally economical in all cases.

The remedies usually adopted are :—

(1) Repointing.
(2) Treatment by waterproofers or paints.
(3) Rendering.
(4) The provision of a "watershed" such as tile hanging.
(5) Internal treatments.

These methods are briefly considered :—

(1) *Repointing*

Pointing can be regarded as a suitable remedy only when it is certain that moisture does not pass through the building units, either through defects in the units or through the pores of the material of which they are composed. In some cases, however, a combination of pointing and surface treatment may be effective, e.g. when the units are sound but too permeable and the mortar joints are either defective or permeable.

To be effective, pointing must be carefully executed and due consideration must be given to the composition of the mortar and the quality of its various ingredients. In

particular the sand must be of a suitable quality, giving a workable mortar.

There are many reasons why the set mortar should not be denser than the building unit. Similar considerations apply to the choice of mortars for pointing and for bedding. It is considered by practical men that the most suitable joint for pointing is one with a slightly hollowed shape, the mortar being pressed back and well consolidated by a rounded pointing tool. This method of pointing prevents the formation of feather edges against the external surface, which may curl and permit the entry of moisture, and the consolidation prevents the formation of large shrinkage cracks.

The need for care in the choice of a sand was mentioned earlier. Dirty and fine uniform sands accentuate the tendency of mortars to shrink.

(2) *Treatment by waterproofers or paints*

The surface treatment of walls may consist of applications of colourless waterproofers, oil paints, bitumen paints or proprietary paints, described as " stone paints." Surface treatments of brick and masonry walls must, like the painting of timber, be regarded as processes requiring renewal after a period, but this period will be very different according to the type of material used. Colourless waterproofers may require renewal after a year or so. The probable life of really suitable " stone paints " cannot yet be estimated with any certainty, but they may certainly be expected to remain in good condition for five years and their useful life may quite likely be very much longer than this. The colourless waterproofers are chiefly useful when penetration is due to the blocks or bricks being rather too permeable for the situation.

Decayed walls or masonry built of units in which cracks and crevices occur or with defective pointing or badly cracked joints are not suitable subjects for surface treatments and the wall must first be brought to a good surface by appropriate methods. The application of paints should be made when the wall is thoroughly dry and all structural defects should be made good before treatment. It is, however, claimed for some waterproofers that they may be effectively used on wet walls. It is most important that when colourless waterproofers are used all defects be made good previously, as materials of this class cannot be expected to bridge cracks or fill fissures.

A Smoky Chimney

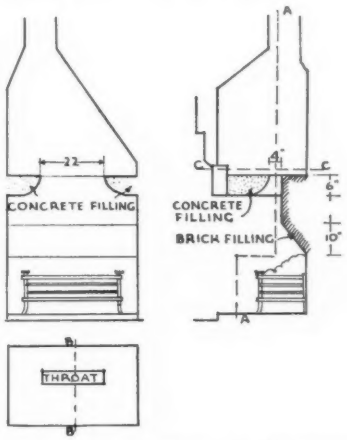
¶ *THE owner of a sixteenth century house was troubled with lack of draught in the flue of a large open fireplace containing a dog grate. He was already aware of the methods which have been successfully applied by the Station in dealing with modern fireplaces, but he wished to know whether these principles could be used in this case without affecting the character of the fireplace. The methods in question were derived from an essay on Chimney Fireplaces published by Count Rumford in 1796 and of which an abridgment appeared in the issue of the " Builder " dated July 23, 1937. The inquirer forwarded a diagram of the existing construction.*

Large open fires are often troublesome because a large amount of cold air may be drawn into the flue, which may cool the flue gases and thus reduce their tendency to rise. The provision of a correctly dimensioned " throat " to the fireplace, placed directly above the fire, would ensure that the flue would not be overloaded and would only admit flue gases and air previously warmed by the fire. Further, if a flat " smoke-shelf " were built around the " throat " any down-draught or convection currents would be turned upwards and join the normal upward current instead of diverting the flue gases and smoke into the room.

A difficulty often experienced in dealing with large fireplaces is the fact that the chimney opening is frequently sloped off very gradually to join the flue, thus forming an abnormally large smoke chamber. Until the air in this chamber is evenly warmed by the flue gases, convection currents occur which may cause puffs of smoke to emerge from the fireplace. The cost of remedying this defect may be almost prohibitive.

Rumford advocated sloping the sides of large fireplaces to prevent the formation of air eddies, but in the case now under discussion the fire almost filled the fireplace and was set well back. It was therefore considered that this part of the construction would be superfluous. In any event, if it were found to be necessary it could be carried out after the effect of the " throat " and " smoke-shelf " had been ascertained.

The sketch of a suggested reconstruction shows the new work " cross-hatched."



A cowl had been fixed on the chimney and it was recommended that this should be removed before testing the alterations as it was of smaller diameter than the flue and therefore tended to restrict the draught.

Care was advised in forming the " throat " so that the sizes on the diagram were adhered to, which ensures that the area of the " throat " is equal to the effective cross-sectional area of the flue. Thus, the flue is 10 ins. square and its effective area is equal to that of a circle of 10 ins. diameter, i.e. 79 sq. ins. The most efficient width for a " throat " has been found to be 4 ins., and its length has therefore been made $\frac{79}{4}$ ins., or approximately 20 ins.

It was subsequently learned that these suggestions had been adopted and had proved successful.

Galvanized Iron in Concrete

¶ IN a recent note on the cracking of cement by embedded aluminium plates the statement was made that aluminium, zinc and galvanized iron cannot safely be embedded in concrete unless completely protected by an application of bituminous paint or other suitable material. The Station is indebted to a correspondent whose letter has served to call attention to the fact that the inclusion of galvanized iron with aluminium and zinc in this statement, as though it applied with equal emphasis in all three cases, is misleading. The case of galvanized iron does, in fact, merit special consideration. With galvanized iron and steel embedded in concrete the corrosion will not progress beyond the coating itself, for dense concrete is protective of iron and steel and there is unlikely to be any injury to the concrete owing to the thinness of the coating. Where trouble may arise is at the point of emergence of the galvanized iron from the concrete, for there the removal of the zinc coating may be followed by progressive corrosion of the iron. It is at this point that a coating of paint is useful. Even so, it is only with structures from which a long life is expected that the matter is of first importance, for the Station would not dissent from the view that no general modification of current practice in the matter of embedding galvanized iron or steel in concrete is needed.

Efflorescence on Roof Tiles

¶ *SAMPLES of partly disintegrated roofing tiles were submitted to the Station by a firm of builders who reported that the whole of the tiles on a roof were showing signs of efflorescence at the nibs. The nibs and the tile around the nibs shelled and broke away, and the tiles fell at the slightest vibration.*

The inquirers wished to know the cause as well as to have suggestions for effecting a remedy.

An examination of the tiles showed that the efflorescence consisted of magnesium sulphate (Epsom salts). This salt must have been present in the tiles at the time the tiles were new. When rain falls on the exposed portion of a tile, it is absorbed and drawn by capillary forces to the upper end of the tile, where it evaporates. The magnesium sulphate present in the tiles would be dissolved by the water in its passage through the tile and, as the water evaporated, the salt would be deposited at the nibs, which were disintegrated by the crystallization of the salt.

Unfortunately, no cure can be suggested for trouble of this kind, except a replacement of the defective tiles by others which, being properly fired, are free from magnesium sulphate. It was pointed out that any tiles which upon close examination were found to be in good order, need not be replaced ; if, however, the whole of the tiles were, in fact, found to be affected in the manner described above, then it would be necessary to retile the roof completely.

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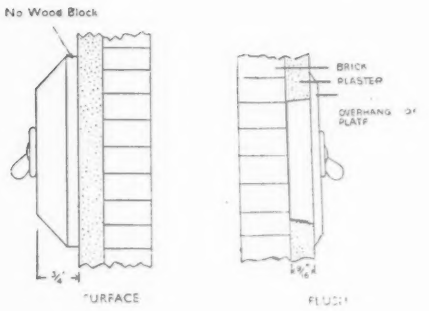
Rehousing Progress

The latest available figures are those for October. At the end of that month there were 71,620 houses under construction as compared with 71,554 at the end of September, and 68,121 at the end of August. 7,347 houses were completed during October, as compared with 6,908 during September and 5,925 during August. The great majority of these houses are being provided for rehousing persons displaced in connection with slum clearance schemes. New houses approved during November numbered 7,065 as compared with 4,876 in October and 5,745 in September.



TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

Economical Wiring

A NOTE which appeared in these columns two or three weeks ago may have done less than justice to Bowkers, who did a great deal of pioneer work for shallow switches, and have now been making Tenbyluxe switches for plaster depth erection for nearly five years. The two sketches at the head of these notes show types of flush and surface mounting, and while I personally prefer the appearance of the former, there are many people who like the surface type, though both are very easy to fix.

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One of the reasons why Bowkers can get such a small depth is that they employ a semi-rotary quick make-and-break action, the whole arrangement of which can be seen quite easily in the illustration below. This method makes it unnecessary to allow depth for the swing of the ordinary tumbler and has certain other advantages in that it reduces arcing.

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Most people realize nowadays that the only way to reduce building costs is to make both installation and assembly easier, and, apart from the saving produced by the ease with which their switches can be fixed in the plaster, Messrs. Bowker have done their best to make the rest of the job as easy as possible. The terminals are of special design, being constructed with two grooves in which the cable strands are placed without twisting, and are then clamped by a captive washer on the screw, there being no need for that tiresome fiddling entailed in twisting the cable ends round the screws.

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At the designer's end of the argument the whole of the Tenbyluxe range seems to be sensibly thought out. For whatever type of surface or flush cover plate you fancy, you can get a full range of switches up to 4-gang. There is a variety of colours and finishes and there are both two- and three-pin sockets and bell-pushes in the same patterns, the result being that the entire switch installation can be laid out as a whole, and there need be no afterthoughts or any subsidiary units in different patterns.

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Bowkers also make cast-iron boxes which are still shallow enough for fitting without cutting away brickwork, though a small amount of excavation will still have to be done to accommodate the conduit. The blame for this, however, cannot be laid at the door of the switch manufacturer; rather blame the builders, whose plaster seems to get thinner every day.—(*S. O. Bowker, Ltd., Regent Row, Birmingham, 1.*)

Propaganda for Coal

A new booklet* issued by the Coal Utilisation Council and the Combustion Appliance Makers' Association has a lot of useful data bearing on the question of central heating and hot water supply. Starting with the obvious question of costs and operating efficiency there is a useful graph from which can be found the heating cost in pence per therm for a fuel of known cost and calorific value, and some consumption figures for a fairly large and rather straggling house where automatic stoking reduced the annual fuel bill from £36 16s. 8d. to £27 19s., with oil fuel up at £45 10s. The figure for oil one would naturally expect to be high, for no fuel can possibly stand an arbitrary tax which adds, roughly, one-fifth to its selling cost, and nearly every manufacturer of solid fuel stokers is prepared to guarantee a fairly considerable saving over oil fuel, while people like Hope's, who make both types, will nearly always recommend solid fuel, though they were, I think, one of the first firms in the country to produce an oil burner.

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The figures for hand and automatic stoking are, however, quite interesting, for the automatic stoker used 4 cwt. more coal during the year (17·2 as against 17 tons) and the saving is due to the use of coal at 32s. 6d. as against 43s. 4d. a ton. Strictly speaking, the cost of current should of course be added to the fuel cost, but the sum involved would not be large and could not materially affect the result. No figures for the calorific values of the two fuels used are given, and there is thus no means of calculating the relative efficiencies of the two methods of firing, but it may be assumed that hand firing is always inefficient. In eighteen months I once found at least a dozen factories where the firemen could show an easy 5 to 6 per cent. saving by taking that little bit of extra trouble, and in the average domestic job the efficiency must be a derision. There may also be a saving in labour costs with the automatic stoker, though in the private house with a staff of servants, or in the small flat block where there is an odd job man to do everything, this will make no difference to the annual outgoings.

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The chapter on installation costs gives £7 to £15 per radiator "for the average-sized dwelling-house" and £8 to £10 for a flat block, excluding "such incidental work as cutting away and making good, building pipe-trenches, electric wiring and painting." So it would seem to be impossible to arrive at a rule-of-thumb figure when the total depends so much on the type of radiators and other fittings used: better probably to look through the various tables (reproduced from Faber and Kell) and hope to find a comparable figure on an executed job. The next chapter—capacity of apparatus required—is on far firmer ground because the number of variables is less, and there are some very useful average figures, i.e. capacity of heating boiler should be 3 B.T.U.s per cubic foot heated for private houses, 2½-3 for offices and flats, and 1½-2 for factories and works: or, again, after giving simple rules to find the size of hot water storage tank necessary in a flat block or a private house, based on the number of baths, basins and sinks installed, the result is, storage capacity in gallons multiplied by 1,000 = boiler rating in B.T.U.s per hour. Simple rules such as these are just the sort of thing the architect needs when he is roughing out preliminary designs, for the final accurate calculations should not produce any substantial changes and there should be none of those tangles where the heating engineer suddenly demands twice the floor space for the boiler house.

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Notes on various methods of fuel storage, air changes, recommended temperatures, suitable areas and heights for flues, air leaks through windows and the transmission factors of different materials will all probably come in useful one day. This little booklet is naturally written to make the most of coal, but it does so in a reasonable way and provides plenty of useful information as well.

Welding and Riveting Aluminium

The technique of welding and riveting aluminium is not of particular importance to the architect except in so far as it has an influence on design, but a recent booklet by Northern Aluminium gives a lot of information in a comparatively small space, and there are some interesting notes on the welding of extruded sections, pointing out, amongst other things, the difficulty of getting a uniform anodised finish over the weld. A week or two ago there was a note in these

* *Central Heating with Solid Fuel.* Technical Bulletin No. 10. Obtainable from the C.U.C. at British Industries House, Marble Arch, W.1, or the C.A.M.A., 54 Victoria Street, S.W.1.

The semi-rotary movement of the Tenbyluxe switch simplifies plaster-depth erection.

columns announcing that Northern Aluminium had started an aluminium information bureau, and I suggested then that information was more important than pretty pictures. This booklet was presumably written before the bureau was officially started, but it might well be taken as an example of what the bureau ought to do. Information presented soberly does a lot more good, I suspect, than pages of beating about the bush and clashing cymbals.—(*The Northern Aluminium Company, Bush House, Aldwych, London, W.C.2.*)

Manufacturers' Items

Messrs. Durasteel Roofs Co., Ltd., have sent us a copy of their latest brochure which is devoted to their roofing and fire protection panels. In the foreword to the brochure the following six advantages of Durasteel roofing are set forth :—

1 : Owing to its exceptional strength, Durasteel sheeting eliminates the danger of fracture and buckling, so often the cause of accidents and injury to workmen. 2 : Durasteel roofing sheets are entirely unaffected by any climatic conditions, being equally suitable for tropical or polar temperatures. The sheets successfully resist the corrosive forces of salt-laden air. 3 : The careful manufacture of the sheets, and the nature of the substances compressed, ensure a permanence which reduces maintenance costs to a minimum and dispenses with heavy painting expenditure. 4 : The asbestos external covering is fireproof, and this ensures that no roof covered with Durasteel can catch alight from brands or sparks. The Fire Offices Committee has passed Durasteel roofing sheets for standard V construction after official test under their latest apparatus at Boreham Wood fire-testing station. 5: The composition of the under-surface of the Durasteel sheet is different from that of the top layer, and a special absorbent finish is imparted, which prevents the tendency to drip under moist atmospheric conditions. 6 : The layers of different substances bonded with the steel retard the conduction of both heat and cold, helping to maintain an even temperature. Sound-proof qualities are excellent —such disturbing effects as the drumming of rain on the old style corrugated iron roof are entirely eliminated."

Copies of the brochure are obtainable from the firm at Oldfield Lane, Greenford, Middlesex.

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The directors of E. Pollard & Co., Ltd., have recommended the payment of the final dividend for the year ending December 31, 1937, less income tax, on all 7 per cent. cumulative preference shares issued and registered in the company's books on or before December 13, 1937. The dividend warrants to be posted on January 1, 1938.

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Messrs. Bostwick Gate and Shutter Co., Ltd., inform us that they have drawn up a scheme which provides for holidays with pay for the workers in their factory. Details have been discussed with the operatives, and the scheme has been established under accepted governing rules.

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Messrs. Sharp Bros. and Knight, Ltd., joinery manufacturers, of Burton-on-Trent, have notified a change of address in their London offices. The new offices, which practically adjoin Earl's Court Tube Station, are at 254-260 Earl's Court Road, S.W.5. Mr. F. C. Phelps will be the London manager, and Mr. R. Braybrook, the surveyor and London representative.

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Messrs. Riley Stoker Co., Ltd., have opened a new office in Newcastle and the address is: Emerson Chambers, Blackett Street, Newcastle-on-Tyne.

Messrs. G. A. Harvey & Co. (London), Ltd., have sent us a copy of their brochure devoted to various types of copper work they have recently completed. In the text the firm explains the advantages of copper roofing and show examples of work on which this material has been used. The illustrations include : Turret at Sheffield Schools, Essex (architects, Holman and Goodrham) ; turret and weather vane, Lloyds Bank, Oxford ; clock turret at the Council offices, Welwyn (architects, C. H. Elsom and H. Stone) ; turret at the offices of the A.A., Guildford (architect, Andrew Mather). Copies of the brochure are obtainable from the firm at their offices in Woolwich Road, London, S.E.7.

THE BUILDINGS ILLUSTRATED

ARCHITECS'T OFFICES, 42 BRUTON PLACE. (Pages 1031-1033.) Architects : Mitchell and Bridgwater. General contractors : George Smith (of Avery Row), Ltd. The principal sub-contractors and suppliers included : London Demolition Co., demolition ; Lawford Asphalte Co., asphalt ; Trussed Concrete Steel Co., Ltd., reinforced concrete (precast) ; Yorkshire Brick Co., bricks ; Moreland and Hayne, Ltd., structural steel ; John Bolding and Sons, Ltd., wall tiling and window cills and sanitary fittings ; Moler Products, Ltd., Fosalsil Moler partitions ; Pilkington Bros., Ltd., glass ; Crittall Manufacturing Co., Ltd., patent glazing, casements, window furniture ; Cork Insulation Co., Ltd., "Eldorado" Cork Tile flooring and staircase finishing ; Structures Waterproofing, Ltd., waterproofing materials ; Grierson, Ltd., electric wiring, bells ; Troughton and Young, Ltd., Best and Lloyd, Ltd., and Typerlite Co., electric light fixtures ; Richard Crittall & Co., Ltd., dulrae panels ; Ellis (of Kensington), Ltd., plumbing ; Wing and Webb, Ltd., door furniture and hardware ; General Signal and Time Systems, Ltd., telephones ; James Walker, decorative plaster ; James Gibbons, Ltd., metalwork ; Buss and Elston, Ltd., joinery and office fittings ; Chubb and Son's Lock and Safe Co., Ltd., safe ; J. Whitehead and Sons, Ltd., marble ; Birmingham Guild, Ltd., Eric Munday, William Pickford, Ltd., Daymonds, Ltd., internal and external lettering ; Gordon Russell, Ltd., textiles ; Heal and Son, Ltd., carpets ; William Housood, polishing ; Pel, Ltd., furniture ; Ripolin, Ltd., oil paint ; Stic B. Paint Sales, Ltd., concrete paint ; Landscape, Ltd., upkeep flower-box ; Venesta, Ltd., doors ; H. H. Martyn & Co., Ltd., desk fitting : Avery Ironmonger, cloakroom fittings ; Synchronome, Ltd., clocks.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICT (15 MILES RADIUS)

BATTERSEA. *Rehousing.* The L.C.C. is to clear an area in the Hibberd Street district of Battersea and provide rehousing at a cost of £197,000.

BETHNAL GREEN. *Rehousing.* The L.C.C. is to undertake a clearance and rehousing scheme in the vicinity of Globe Road, Bethnal Green, at a cost of £75,000.

ILFORD. *Aerodrome.* The Lands Committee, City of London Corporation, is acquiring land for the establishment of the City of London airport at Fairlop, near Ilford, Essex, at an estimated cost of £600,000.

WANSTEAD. *Houses, etc.* Plans passed by the Wanstead Corporation : 15 houses, Ellesmere Close ; seven shops, Frithman's Estate, George Lane ; six houses, 5–15 Bereford Drive ; block of 11 flats, 38 Cambridge Park.

SOUTHERN COUNTIES

BEDDINGTON. *School.* The Surrey Education Committee is to erect a central school at Bandom Hill, Beddington, at a cost of £24,000.

BRIGHTON. *Club House.* The Brighton Corporation has approved plans for a new club house at the Hollingbury Park golf course, at a cost of £11,800.

BRIGHTON. *Houses.* The Brighton Corporation s to erect 164 houses at Carden Avenue Estate, at a cost of £65,850.

BIRDHAM. *School.* The West Sussex Education Committee is to erect a new school at Birdham, at a cost of £10,810.

CARSHALTON. *Enlargement to School.* The Surrey Education Committee is to enlarge the Stanley Park Road, School, Carshalton, at a cost of £10,832.

CHERTSEY. *School alterations.* The Surrey Education Committee is to convert the Stepgates Council School, Chertsey, to a central school at a cost of £15,640.

LANCING. *Health Centre.* The West Sussex Education Committee is to erect a health centre at Lancing, at a cost of £4,480.

HEATHFIELD. *School.* The East Sussex Education Committee is to erect a senior school at Heathfield at a cost of £30,279.

LITTLEHAMPTON. *School extensions.* The West Sussex Education Committee is to enlarge the Connaught Road Boys' School, Littlehampton, at an estimated cost of £19,858.

NORTHERN COUNTIES

MORECAMBE. *Houses, etc.* Plans passed by the Morecambe Corporation : 20 houses, Stuart Avenue and Burlington Grove, Mr. J. Westwell ; 12 houses, Beaufort Road, Mr. Wm. Quayle ; 10 houses, Kirkstone Drive, Bell and Isaacs ; eight houses, Needham Avenue, Rigg and Teasdale; flats, Bailey Lane, Mr. J. Mortimer; 56 houses, Clevelands Estate, Mr. F. Armistead; six houses, Torrisholme Moss Lane, Mr. H. L. Moody.

NEWCASTLE. *School.* The Newcastle Education Committee is to erect a senior school at Whickham View, at a cost of £103,406.

RAWTENSTALL. *Houses.* Plans passed by the Rawtenstall Corporation : Eight houses, Bury Road, Ashworth and Hobson : 18 houses, Clayton Avenue, Townsendfold, G. Clayton and Sons, Ltd.

ROTHERHAM. *Houses.* Plans passed by the Rotherham Corporation : 18 houses, East Bawtry Road, Saville & Co. ; house, Herringthorpe Avenue, Mr. F. Moncaster ; 45 houses, off Broom Lane, G. Bilton and Son.

SCARBOROUGH. *Bungalows.* The Scarborough Corporation is to erect 24 bungalows at North Bay Promenade, at a cost of £3,400.

SHEFFIELD. *Houses.* Plans passed by the Sheffield Corporation : Nine houses, Derbyshire Lane, Mr. F. C. Parkin ; 12 houses and shops, Halifax Road, Mr. D. Hurrell ; six houses, Hemper Lane, Mr. S. L. Clark ; factory, Broad Lane, Kent Bros. Ltd. ; 14 houses, Mona Road, J. H. S. Randall, Ltd. six houses.; Westwick Crescent, Mr. E. Handley ; six houses, Foxwood Estate, Hallewell Estates, Ltd. ; 26 houses, Brooklands Avenue, T. W. Knowles, Ltd. ; house and factory, Mappin Street, Cooke and Stevenson, Ltd. ; six houses, Old Retford Lane, Mr. E. A. Birtles ; six houses, Westwick Crescent, Mr. S. L. Clark ; 33 houses, Bessingby Road, Simpson Bros. ; 20 houses, Sheffield Road, Mr. H. Seymour ; 18 houses, Bannerdale Road, Mr. W. Wright ; 24 houses, Woodthorpe Road, J. H. Judge & Co. (Builders), Ltd.

SHIPLEY. *Houses.* Plans passed by the Shipley U.D.C. : 44 houses, Lindisfarne Road, Mr. H. Chippindale ; 41 houses, Nab Wood Crescent and Southway, Mr. J. Chippindale.

SOUTHPORT. *Cinema.* The Southport Corporation has approved amended plans submitted on behalf of Associated British Cinemas, Ltd., for the erection of a cinema at the corner of Wellington Road and Lord Street.

SOUTH SHIELDS. *Hospital Extension.* The South Shields Corporation is to enlarge the General Hospital, at a cost of £7,500.

WALES

WHITCHURCH. *School.* The Glamorgan E.C. is to erect an elementary school at Whitchurch at a cost of £30,558.

RATES OF WAGES

The initial letter opposite every 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.

			I. s. d.	II. s. d.
A	Aberdare	S. Wales & M.	1 7	1 2½
A	Aberdeen	Scotland	1 7	1 2½
A_1	Abergavenny	S. Wales & M.	1 6½	1 2
A_1	Abingdon	S. Counties	1 5½	1 1½
A	Accrington	N.W. Counties	1 7	1 2½
A_2	Addlestone	S. Counties	1 6	1 1½
A	Adlington	N.W. Counties	1 7	1 2½
A	Airdrie	Scotland	1 7	1 2½
	Aldeburgh	E. Counties	1 6	1 1½
A	Altrincham	N.W. Counties	1 7	1 2½
B_2	Appleby	N.W. Counties	1 5½	1 1½
A	Ashton-under-Lyne	N.W. Counties	1 7	1 2½
B	Aylesbury	S. Counties	1 5	1 1¼
B	Banbury	S. Counties	1 5	1 0½
B_1	Bangor	N.W. Counties	1 6½	1 0½
A_4	Barnard Castle	N.E. Coast	1 5½	1 1½
A	Barnsley	Yorkshire	1 7	1 2½
B	Barnstaple	S.W. Counties	1 5	1 0½
A	Barrow	N.W. Counties	1 7	1 2½
A	Barry	S. Wales & M.	1 7	1 2½
B	Basingstoke	S.W. Counties	1 5	1 0½
A_2	Bath	S.W. Counties	1 6	1 1½
A	Batley	Yorkshire	1 7	1 2½
A_2	Bedford	E. Counties	1 6	1 1½
A_2	Berwick-on-Tweed	N.E. Coast	1 6	1 1½
A_1	Bewdley	Mid. Counties	1 6	1 1½
B	Bicester	S. Counties	1 5	1 0½
	Birkenhead	N.W. Counties	*1 8	1 3
A	Birmingham	Mid. Counties	1 7	1 2½
A_1	Bishop Auckland	N.E. Coast	1 6½	1 2
A	Blackburn	N.W. Counties	1 7	1 2½
A	Blackpool	N.W. Counties	1 7	1 2½
A	Blyth	N.E. Coast	1 7	1 2½
B	Bognor	S. Counties	1 5	1 0½
A	Bolton	N.W. Counties	1 7	1 2½
A_2	Boston	Mid. Counties	1 5½	1 1½
A_2	Bournemouth	S. Counties	1 6	1 1½
B_2	Bovey Tracey	S.W. Counties	1 4	1 0
A	Bradford	Yorkshire	1 7	1 2½
A_1	Brentwood	E. Counties	1 6½	1 2
A	Bridgend	S. Wales & M.	1 7	1 2½
B	Bridgwater	S.W. Counties	1 5	1 0½
A_1	Bridlington	Yorkshire	1 6½	1 2
A	Brighouse	Yorkshire	1 7	1 2½
A	Brighton	S. Counties	1 6	1 1½
A	Bristol	S.W. Counties	1 7	1 2½
B	Brixham	S.W. Counties	1 5	1 0½
A	Bromsgrove	Mid. Counties	1 7	1 2½
B	Bromyard	Mid. Counties	1 5	1 0½
A	Burnley	N.W. Counties	1 7	1 2½
A	Bursledm	Mid. Counties	1 7	1 2½
A	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury	N.W. Counties	1 7	1 2½
A_1	Buxton	N.W. Counties	1 6½	1 2
A_1	Cambridge	E. Counties	1 6½	1 2
B_4	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff	S. Wales & M.	1 7	1 2½
A	Carlisle	N.W. Counties	1 7	1 2½
B	Carmarthen	S. Wales & M.	1 5	1 0½
B	Carnarvon	N.W. Counties	1 5	1 0½
A_1	Carnforth	N.W. Counties	1 7	1 2½
A	Castleford	Yorkshire	1 7	1 2½
A_2	Chatham	S. Counties	1 5½	1 1½
A_2	Chelmsford	E. Counties	1 5½	1 1½
A_2	Cheltenham	S.W. Counties	1 5½	1 1½
A	Chester	N.W. Counties	1 7	1 2½
A	Chesterfield	Mid. Counties	1 7	1 2½
B	Chichester	S. Counties	1 5	1 0½
A	Chorley	N.W. Counties	1 7	1 2½
B_1	Cirencester	S. Counties	1 4½	1 0½
A	Clitheroe	N.W. Counties	1 7	1 2½
A	Clydebank	Scotland	1 7	1 2½
A	Coalville	Mid. Counties	1 7	1 2½
A_2	Colchester	E. Counties	1 6	1 1½
A_1	Colne	N.W. Counties	1 6½	1 2
A_2	Colwyn Bay	N.W. Counties	1 6	1 1½
A_1	Consett	N.E. Coast	1 6½	1 2
A_2	Conway	N.W. Counties	1 6	1 1½
A	Coventry	Mid. Counties	1 7	1 2½
A_2	Crewe	N.W. Counties	1 6	1 1½
A_1	Cumberland	N.W. Counties	1 5½	1 1½
A	Darlington	N.E. Coast	1 7	1 2½
A	Darwen	N.W. Counties	1 7	1 2½
B_1	Deal	S. Counties	1 4½	1 0½
A_2	Denbigh	N.W. Counties	1 5½	1 1½
A	Derby	Mid. Counties	1 7	1 2½
A	Dewsbury	Yorkshire	1 7	1 2½
B	Didcot	S. Counties	1 5	1 0½
A	Doncaster	Yorkshire	1 7	1 2½
B_1	Dorchester	S.W. Counties	1 4½	1 0½
A_2	Driffield	Yorkshire	1 5½	1 1½
A_2	Droitwich	Mid. Counties	1 6	1 1½
A	Dudley	Mid. Counties	1 7	1 2½
A_2	Dumfries	Scotland	1 6	1 1½
A	Dundee	Scotland	1 7	1 2½
A	Durham	N.E. Coast	1 7	1 2½
A_2	Eastbourne	S. Counties	1 6	1 1½
A_1	Ebbw Vale	S. Wales & M.	1 6½	1 2
A	Edinburgh	Scotland	1 7	1 2½
A_2	Exeter	S.W. Counties	*1 6	1 1½
B	Exmouth	S.W. Counties	1 5	1 0½
A_2	Felixstowe	E. Counties	1 5½	1 1½
A_2	Flint	Yorkshire	1 6½	1 1½
A	Fleetwood	N.W. Counties	1 7	1 2½
B_1	Folkestone	S. Counties	1 6½	1 0½
A	Frodsham	N.W. Counties	1 7	1 2½
B_2	Frome	S.W. Counties	1 4	1 0
A	Gateshead	N.E. Coast	1 7	1 2½
B	Gillingham	S. Counties	1 5	1 0½
A_1	Glamorganshire, Rhondda Valley District	S. Wales & M.	1 6½	1 2
A	Glasgow	Scotland	1 7	1 2½
A_2	Gloucester	S.W. Counties	1 6	1 1½
A_2	Goole	Yorkshire	1 6	1 1½
A_2	Gosport	S. Counties	1 6	1 1½
A_3	Grantham	Mid. Counties	1 5½	1 1½
A_1	Gravesend	S. Counties	1 6½	1 2
A	Greenock	Scotland	*1 7	1 2½
A	Grimsby	Mid. Counties	1 7	1 2½
B	Guildford	S. Counties	1 5	1 0½
A	Halifax	Yorkshire	1 7	1 2½
A	Hanley	Mid. Counties	1 7	1 2½
A	Harrogate	Yorkshire	1 7	1 2½
A	Hartlepools	N.E. Coast	1 7	1 2½
B	Harwich	E. Counties	1 5	1 0½
B	Hastings	S. Counties	1 5	1 0½
A_2	Hatfield	S. Counties	1 6	1 1½
B	Hereford	S.W. Counties	1 5	1 0½
A_2	Hertford	E. Counties	1 6	1 1½
A	Heysham	N.W. Counties	1 7	1 2½
A	Howden	N.E. Coast	1 7	1 2½
A	Huddersfield	Yorkshire	1 7	1 2½
A	Hull	Yorkshire	1 7	1 2½
A	Ilkley	Yorkshire	1 7	1 2½
A	Immingham	Mid. Counties	1 7	1 2½
A_2	Ipswich	E. Counties	1 6	1 1½
B_2	Isle of Wight	S. Counties	1 4	1 0
A	Jarrow	N.E. Coast	1 7	1 2½
A	Keighley	Yorkshire	1 7	1 2½
A_2	Kendal	N.W. Counties	1 5½	1 1½
A_2	Keswick	N.W. Counties	1 5½	1 1½
A_1	Kettering	Mid. Counties	1 6½	1 2
A_2	Kidderminster	Mid. Counties	1 6	1 1½
B_1	King's Lynn	E. Counties	1 4½	1 0½
A	Lancaster	N.W. Counties	1 7	1 2½
A_1	Leamington	Mid. Counties	1 6½	1 2
A	Leeds	Yorkshire	1 7	1 2½
A	Leek	Mid. Counties	1 7	1 2½
A	Leicester	Mid. Counties	1 7	1 2½
A	Leigh	N.W. Counties	1 7	1 2½
B	Lewes	S. Counties	1 5	1 0½
A_2	Lichfield	Mid. Counties	1 6	1 1½
A	Lincoln	Mid. Counties	1 7	1 2½
	Liverpool	N.W. Counties	*1 8½	1 3½
A_2	Llandudno	N.W. Counties	1 6	1 1½
A	Llanelly	S. Wales & M.	1 7	1 2½
	London (12-miles radius)		1 8½	1 3½
	Do. (12-15 miles radius)		1 8	1 3
A	Long Eaton	Mid. Counties	1 7	1 2½
A	Loughborough	Mid. Counties	1 7	1 2½
A_1	Luton	E. Counties	1 6½	1 2
A	Lytham	N.W. Counties	1 7	1 2½
A_1	Macclesfield	N.W. Counties	1 6½	1 2
A_3	Maidstone	S. Counties	1 5½	1 1½
A_3	Malvern	Mid. Counties	1 5½	1 1½
A	Manchester	N.W. Counties	1 7	1 2½
A	Mansfield	Mid. Counties	1 7	1 2½
B_1	Margate	S. Counties	1 4½	1 0½
A_3	Matlock	Mid. Counties	1 5½	1 1½
A_1	Merthyr	S. Wales & M.	1 6½	1 2
A	Middlesbrough	N.E. Coast	1 7	1 2½
A_2	Middlewich	N.W. Counties	1 6	1 1½
B_2	Minehead	S.W. Counties	1 4	1 0
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 4	1 0
A	Morecambe	N.W. Counties	1 7	1 2½
A_2	Nantwich	N.W. Counties	1 6	1 1½
A	Neath	S. Wales & M.	1 7	1 2½
A	Nelson	N.W. Counties	1 7	1 2½
A	Newcastle	N.E. Coast	1 7	1 2½
A	Newport	S. Wales & M.	1 7	1 2½
A	Normanton	Yorkshire	1 7	1 2½
A	Northampton	Mid. Counties	1 7	1 2½
A	North Shields	N.E. Coast	1 7	1 2½
A	North Staffs	Mid Counties	1 7	1 2½
A_1	Norwich	E. Counties	1 6½	1 2
A	Nottingham	Mid. Counties	1 7	1 2½
A	Nuneaton	Mid. Counties	1 7	1 2½
A_2	Oakham	Mid. Counties	1 6½	1 1½
A	Oldham	N.W. Counties	1 7	1 2½
A_3	Oswestry	N.W. Counties	1 5½	1 1½
A_1	Oxford	S. Counties	1 6½	1 2
A	Paisley	Scotland	*1 7	1 2½
B_2	Pembroke	S. Wales & M.	1 3½	0 11½
A	Perth	Scotland	*1 7	1 2½
A	Peterborough	E. Counties	1 6½	1 2
A	Plymouth	S.W. Counties	*1 7	1 2½
A	Pontefract	Yorkshire	1 7	1 2½
A_1	Pontypridd	S. Wales & M.	1 6½	1 2
A_2	Portsmouth	S. Counties	1 6	1 1½
A	Preston	N.W. Counties	1 7	1 2½
A	Queensferry	N.W. Counties	1 7	1 2½
A_2	Reading	S. Counties	1 6½	1 2
B	Reigate	S. Counties	1 5½	1 1½
A_3	Retford	Mid. Counties	1 5½	1 1½
A_1	Rhondda Valley	S. Wales & M.	1 6½	1 2
A_3	Ripon	Yorkshire	1 5½	1 1½
A	Rochdale	N.W. Counties	1 7	1 2½
B	Rochester	S. Counties	1 5	1 0½
A_1	Ruabon	N.W. Counties	1 6½	1 2
A	Rugby	Mid. Counties	1 7	1 2½
A_2	Rugeley	Mid. Counties	1 6	1 1½
A	Runcorn	N.W. Counties	1 7	1 2½
A_1	St. Albans	E. Counties	1 6½	1 2
A	St. Helens	N.W. Counties	1 7	1 2½
B_2	Salisbury	S.W. Counties	1 3½	0 11½
A_1	Scarborough	Yorkshire	1 6½	1 2
A	Scunthorpe	Mid. Counties	1 7	1 2½
A	Sheffield	Yorkshire	1 7	1 2½
A	Shipley	Yorkshire	1 7	1 2½
A_2	Shrewsbury	Mid. Counties	1 6	1 1½
A	Skipton	Yorkshire	1 6	1 1½
A_2	Slough	S. Counties	1 6	1 1½
A_1	Solihull	Mid. Counties	1 6½	1 2
A_2	Southampton	S. Counties	1 6	1 1½
A_1	Southend-on-Sea	E. Counties	1 6½	1 2
A	Southport	N.W. Counties	1 7	1 2½
A	S. Shields	N.E. Coast	1 7	1 2½
A_1	Stafford	Mid. Counties	1 6½	1 2
A	Stirling	Scotland	1 7½	1 2½
A	Stockport	N.W. Counties	1 7	1 2½
A	Stockton-on-Tees	N.E. Coast	1 7	1 2½
A	Stoke-on-Trent	Mid. Counties	1 7	1 2½
B	Stroud	S.W. Counties	1 5	1 0½
A	Sunderland	N.E. Coast	1 7	1 2½
A	Swansea	S. Wales & M.	1 7	1 2½
A_3	Swindon	S.W. Counties	1 5½	1 1½
A_1	Tamworth	N.W. Counties	1 6½	1 2
B	Taunton	S.W. Counties	1 5	1 0½
A	Teeside Dist.	N.E. Coast	1 7	1 2½
A_2	Teignmouth	S.W. Counties	1 6	1 1½
A	Todmorden	Yorkshire	1 7	1 2½
A_1	Torquay	S.W. Counties	1 6½	1 2
B_2	Truro	S.W. Counties	1 4	1 0
A_2	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall	Mid. Counties	1 7	1 2½
A	Tyne District	N.E. Coast	1 7	1 2½
A	Wakefield	Yorkshire	1 7	1 2½
A	Walsall	Mid. Counties	1 7	1 2½
A	Warrington	N.W. Counties	1 7	1 2½
A_1	Warwick	Mid. Counties	1 6½	1 2
A_1	Wellingborough	Mid. Counties	1 6½	1 2
A	West Bromwich	Mid. Counties	1 7	1 2½
A_2	Weston-s.-Mare	S.W. Counties	1 6	1 1½
A	Whitby	Yorkshire	1 6	1 1½
A	Widnes	N.W. Counties	1 7	1 2½
A	Wigan	N.W. Counties	1 7	1 2½
B	Winchester	S. Counties	1 5	1 0½
A_2	Windsor	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 7	1 2½
A_2	Worcester	Mid. Counties	1 6	1 1½
A	Worksop	Yorkshire	1 7	1 2½
A_3	Wrexham	N.W. Counties	1 5½	1 1½
A_1	Wycombe	S. Counties	1 6½	1 2
B	Yarmouth	E. Counties	1 5	1 0½
B	Yeovil	S.W. Counties	1 5	1 0½
A	York	Yorkshire	1 7	1 2½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request. The rates of wages have been revised consequent upon the increase in wages which came into operation on February 1, together with all revisions following authorised annual regradings.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. 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. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 8½
Carpenter . . . . ,,	1 8½
Joiner . . . . ,,	1 8½
Machinist . . . . ,,	1 9½
Mason (Banker) . . . . ,,	1 8½
,, (Fixer) . . . . ,,	1 9½
Plumber . . . . ,,	1 8½
Painter . . . . ,,	1 7½
Paperhanger . . . . ,,	1 7½
Glazier . . . . ,,	1 8½
Slater . . . . ,,	1 8½
Scaffolder . . . . ,,	1 4½
Timberman . . . . ,,	1 4½
Navvy . . . . ,,	1 3½
General Labourer . . . . ,,	1 3½
Lorryman . . . . ,,	1 6½
Crane Driver . . . . ,,	1 7½
Watchman . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 18 6
Hydrated Lime . . . . ,,	2 6 0
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . . ,,	2 2 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 8 0
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 6
¾" Crushed Ballast . . . . ,,	7 0
Building Sand . . . . ,,	7 6
Washed Sand . . . . ,,	8 6
2" Broken Brick . . . . ,,	8 0
½" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single Junctions . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . per F.R.	1 6	2 6
½" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . per F.R.	2 3	3 8
Bends . . . each	6 4	13 1
Inspection bends . ,,	11 5	14 4
Single junctions . ,,	11 2	22 10
Double junctions . ,,	17 2	30 9
Lead Wool . . . lb.	6	—
Gaskin . . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 12 0
Grooved do. . . . ,,	2 14 0
Phorpres bricks . . ,,	2 15 0
,, Cellular bricks . ,,	2 15 0
Stocks, 1st quality . . ,,	4 11 0
,, 2nd ,, . . ,,	4 2 6
Blue Bricks, Pressed . ,,	8 14 0
,, Wirecuts . ,,	7 12 6
,, Brindles . ,,	7 0 0
,, Bullnose . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
,, Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	4 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . F.C.	4 4½
,, Basebed . . ,,	4 7½
Bath stone . . . ,,	2 10
York stone . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station:

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey . per 1,000 (actual)	21 11 6
,, ,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,, ,,	4 5 0
Best hand-made do. . . ,, ,,	4 17 6
Hips and valleys . . each	9
,, hand-made . . ,,	9½
Nails, compo . . . . per lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	£ s. d.
Good carcassing timber . . F.C.	2s. 7d.-2 10
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, plain Japanese . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ⅝" . . Sq.	18 6
,, ¾" . . ,,	1 1 6
,, 1" . . ,,	1 2 0
,, 1¼" . . ,,	1 5 0
,, 1½" . . ,,	1 10 0
Deal matchings, ⅝" . . ,,	14 0
,, ¾" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding, ¾" . ,,	16 0
,, 1" . . ,,	18 0
,, 1½" . . ,,	1 6 0

Plywood per ft. sup.:

Thickness / Qualities	⅜" A	B	BB	½" A	B	BB	⅝" A	B	BB	¾" A	B	BB
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch 60 × 48	4	2½	2	5	3	2⅜	7	5	4	8	6	5
Cheap Alder	–	2	1½	–	3½	2	–	–	–	–	–	–
Oregon Pine	–	2½	–	3	2¾	–	4	3½	–	5	4½	–
Gaboon Mahogany	4	3½	–	5	4½	–	7	6½	–	8	7	–
Figured Oak	6½	5	–	7½	5¾	–	10	8	–	1/-	9	–

	£ s. d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes 2'-14' long per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23" long . each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long . ,,	7	9	1/3	1/8	3/-
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3" M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/-	3/-	5/6	6/9	10/-
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/-	1/3	1/10	2/6	5/1
Crosses . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/-	2/-
Flanges . . . ,,	9	1/-	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/-	2/-
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, with brass plugs ,,	—	4/-	7/6	10/-	21/-

Discounts	Per cent.		Per cent.
TUBES			
Gas . . .	66⅔	Galvanised gas .	56⅔
Water . . .	61⅔	,, water	51⅔
Steam . . .	58⅔	,, steam	46⅔
FITTINGS			
Gas . . .	57½	Galvanised gas .	48½
Water . . .	53½	,, water	46½
Steam . . .	48½	,, steam	41½

	s. d.
Rolled steel joists cut to length . . cwt.	15 6
Mild steel reinforcing rods, ⅜" . . . ,,	18 0
,, ,, ,, ½" . . . ,,	17 9
,, ,, ,, ⅝" . . . ,,	17 6

SMITH AND FOUNDER—*continued*

	s. d.
Mild steel reinforcing rods, ¾" . . . cwt.	17 6
,, ,, ,, ⅞" . . . ,,	17 6
,, ,, ,, 1" . . . ,,	17 6
,, ,, ,, 1¼" . . . ,,	17 6
,, ,, ,, 1½" . . . ,,	17 6

	½" s. d.	¾" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . F.R.	1 0	1 1	1 3½
Shoes . . . . each	2 0	3 0	
Anti-splash shoes . . ,,	4 6	8 0	
Boots . . . . ,,	3 0	4 0	
Bends . . . . ,,	2 7	3 9	
,, with access door . ,,	—	6 3	
Heads . . . . ,,	4 0	5 0	
Swan-necks up to 9" offsets ,,	3 9	6 0	
Plinth bends, 4½" to 6" . ,,	3 9	5 3	
Half-round rain-water gutters of ordinary thickness metal . F.R.	5		6
Stop ends . . . each	6		6
Angles . . . . ,,	1 7	1 11	
Obtuse angles . . ,,	2 0	2 6	
Outlets . . . . ,,	1 9	2 3	

PLUMBER

	£ s. d.
Lead, milled sheets . . Cwt.	1 7 3
,, drawn pipes . . ,,	1 6 9
,, soil pipes . . ,,	1 9 9
,, scrap . . . ,,	18 0
Solder, plumbers' . . lb.	1 1½
,, fine do. . . ,,	1 4
Copper, sheet . . ,,	1 0½
,, tubes. . . ,,	1 2¾

L.C.C. soil and waste pipes:	3" F.R.	4"	6"
Plain cast . . .	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 0 0
Plaster, coarse . . ,,	2 15 0
,, fine . . ,,	4 7 6
Hydrated lime . . ,,	3 0 9
Sirapite . . . ,,	3 6 9
Keene's cement . . ,,	5 0 0
Gothite plaster . . ,,	3 6 0
Pioneer plaster . . ,,	3 6 9
Thistle plaster . . ,,	3 6 0
Sand, washed. . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3

GLAZIER

	s. d.	s. d.
Sheet glass, 24 oz., squares n/e 2 ft. s. F.S.		2¾
,, ,, 26 oz. ,, ,, ,,		3¼
Flemish, Arctic, Figures (white)* ,,		7½
Blazoned glasses . . ,,		2 6
Reeded: Cross Reeded . . ,,		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite ,,		6½
Crown sheet glass (n/e 12" × 10") ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and	2 0
¼" rough cast; rolled plate . ,,		6
¼" wired cast; wired rolled . ,,		10½
¼" Georgian wired cast . . ,,		11¼
¼" Polished plate, n/e 1 ft. . ,,	†1 0 to	‡1 3
,, ,, 2 . . ,,	†1 4 ,,	‡1 6
,, ,, 4 . . ,,	†2 6 ,,	‡2 9
,, ,, 8 . . ,,	†2 11 ,,	‡3 4
,, ,, 20 . . ,,	†3 1 ,,	‡3 9
,, ,, 45 . . ,,	†3 3 ,,	‡4 0
,, ,, 100 . . ,,	†4 0 ,,	‡4 10
Vita glass, sheet, n/e 1 ft. . ,,		1 6
,, ,, 2 ft. . ,,		1 3
,, ,, over 2 ft. . ,,		1 9
,, ,, plate, n/e 1 ft. . ,,		1 6
,, ,, 2 ft. . ,,		3 0
,, ,, 5 ft. . ,,		4 0
,, ,, 7 ft. . ,,		5 0
,, ,, 15 ft. . ,,		6 0
,, ,, over 15 ft. ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
rough cast ¼" and ¼" ,,	8½ ,,	1 0
Putty, linseed oil . . . lb.		3

* *Colours, 1d. F.S. extra.*

† *Ordinary glazing quality.* ‡ *Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1-cwt. casks . cwt.	2 17 9
Linseed oil . . . gall.	3 8
Boiled oil . . . ,,	3 5
Turpentine . . . ,,	3 9
Patent knotting . . ,,	14 0
Distemper, washable . cwt.	2 6 0
,, ordinary . ,,	2 0 0
Whitening . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	8
" " to trenches	"	8
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6–1)	"	1 6 0
" " (4–2–1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, space face	Y.S.	7

DRAINLAYER

		1" s. d.	2" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	5 9	8 3
Extra, only for bends (cast iron)	Each	12 3	18 4

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	26 10 0
" " in cement	"	27 12 6
" Stocks in cement	"	34 0 0
" Blues in cement	"	50 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" rising on old walls	"	2 0 0
" underpinning	"	8 10 0
Fair Face and pointing internally	F.S.	1¼
Extra over fletton brickwork for picked stock facings and pointing	"	8
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7½
Weather pointing in cement	"	3
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 9
½" Vertical dampcourse	"	7 9
¼" paving or flat	"	0 3
1" paving or flat	"	7 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2½
Rounded angle	"	2½
Cesspools	Each	5 6

MASON

		£ s. d.
Portland stone, including all labour, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		s. d.
Slating, Bangor or equal to a 3" lap, and fixing with composition nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	2 16 0
" " " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 2 6
Shuttering to sides and soffits of beams	F.S.	7
" to stanchions	"	7
" to staircases	"	1 6
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
⅜" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " "	"	1 17 6
1¼" " " " " "	"	2 3 0
⅜" × 2" fir battening for Countess slating	"	9 6
Do., for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1¼" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting fixed on, and including grounds plugged to wall	F.S.	1 6
1½" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " " "	"	1 11½
1½" deal cased frames, double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	"	2 0
1¼" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
1" × 3" deal, rebated and moulded frames	F.R.	1 0
1¼" × 3½" " " " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1¼" " " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 6
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	9 0
Do., pendants	"	9 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	18 6
Riveted plate or compound girders, and hoisting and fixing in position	"	1 0 6
Do. stanchions with riveted caps and bases and do.	"	1 2 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	1 4 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and Labour in flats	cwt.	1 18 0
Do. in flashings	"	2 1 6
Do. in covering to turrets	"	2 7 0
Do. in soakers	"	1 12 9
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	1 2	1 4	1 8½	2 7	3 6	—
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	7 3
Extra, only to bends	Each	—	—	—	—	2 3	7 6
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	5 0	—	—
Lead traps	"	—	—	—	5 0	11 6	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—
4" cast-iron ½-rd. gutter and fixing	F.R.						1 0
Extra, only stop ends	Each						1 6
Do. angles	"						1 6
Do. outlets	"						2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.						1 7
Extra, only for shoes	Each						1 3
Do. for plain heads	"						5 9

PLASTERER AND TILING

		£ s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand or tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough under on walls	"	1 2½
Render, refloat and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 9
1½" " " " "	"	4 0
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 9
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	6½
26 oz. do. and do.	"	7½
Flemish, Arctic Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beds	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	9
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 9
Do. on steelwork	"	3 9
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax polish woodwork	"	4 9
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9