THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
WITH WHICH IS INCORPORATED THE BUILDERS' JOURNAL AND THE ARCHITECTURAL ENGINEER IS PUBLISHED EVERY THURSDAY BY THE ARCHITECTURAL PRESS (PUBLISHERS OF THE ARCHITECTS' JOURNAL, THE ARCHITECTURAL REVIEW, SPECIFICATION, AND WHO'S WHO IN ARCHITECTURE) FROM 45 THE AVENUE, CHEAM, SURREY.

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THE ANNUAL SUBSCRIPTION RATES ARE AS FOLLOWS :
BY POST IN THE UNITED KINGDOM.... £1 3 10
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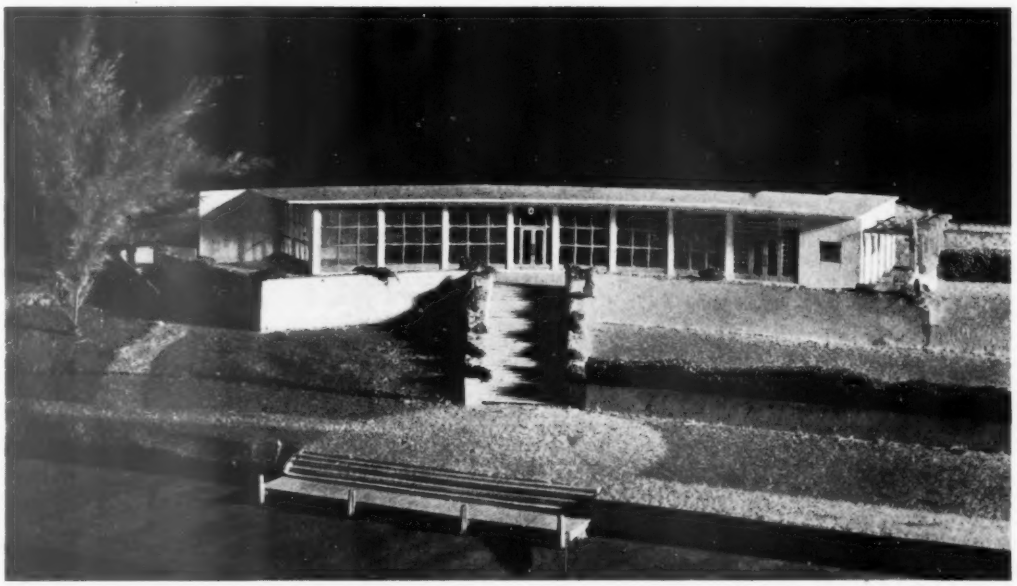
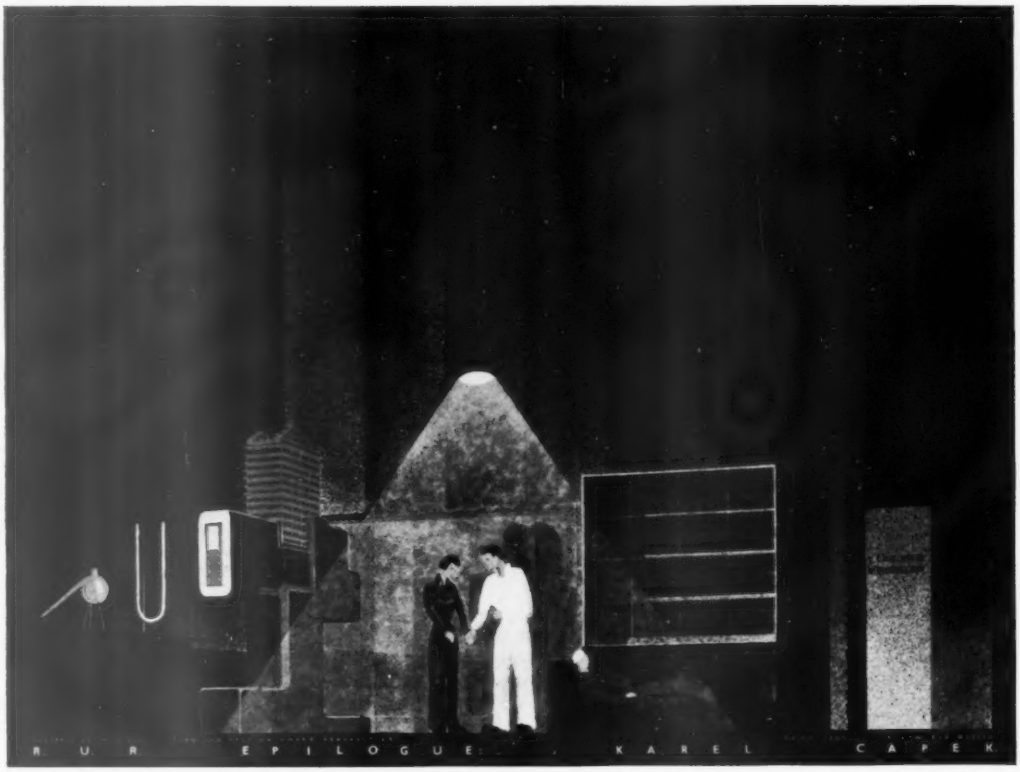
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, MAY 16, 1940. NUMBER 2365 : VOLUME 91

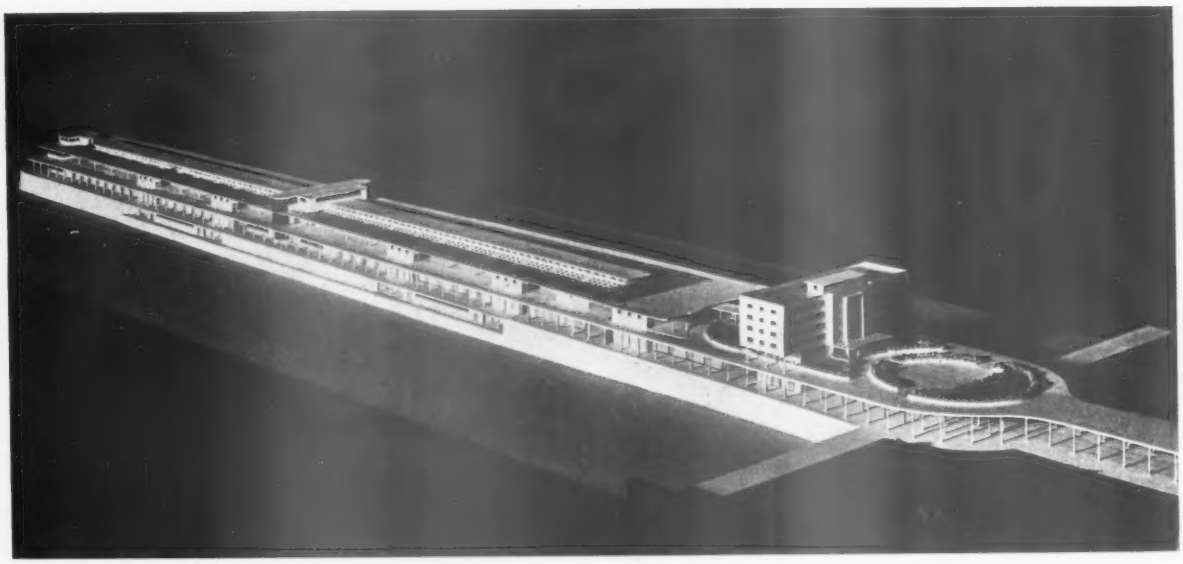
PRINCIPAL CONTENTS

LEEDS SCHOOL OF ARCHITECTURE



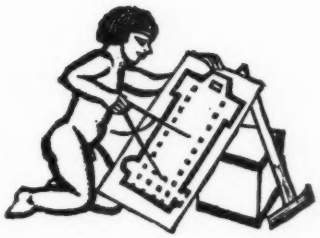


Annual exhibition of the work of students of the Leeds School of Architecture is now being held at the City Art Gallery, Leeds. This exhibition, apart from one or two special exhibits, does not attempt to be a war exhibition for a considerable amount of the work was executed before the outbreak of war. That it has been possible to hold this exhibition in spite of the loss of over 40 per cent. of last year's students, who are now serving with the forces, is due to the younger students of the school and the members of the school staff, who, in spite of the heavy load of extra war work which has been laid upon them, have been able to continue normal educational work. The two exhibits shown above are : top, second-year design, by A. N. Blackburn. Subject: "A Riverside Café." Bottom, third-year design, by L. R. Nutter. Subject : Stage set, "R.U.R."



STUDENTS' WORK, LEEDS SCHOOL OF ARCHITECTURE

Two models on view at the annual exhibition of students' work, Leeds School of Architecture, now being held at the City Art Gallery, Leeds. Top, thesis design, by C. North. Subject: "An Agricultural College in East Yorkshire." Bottom, thesis design, by E. H. Knight. Subject: "A Remodelling of a Cross-Channel Port."



CLACTON

THE circumstances in which a German aeroplane crashed and exploded at Clacton, on April 30, and the damage it caused have been given added importance by the events of the past week.

To begin with, the explosion was the first incident of the present war to cause considerable casualties and damage in this country. It was as violent an explosion as future aerial bombing is likely to cause in any one place ; and it took place among typical suburban housing of the £750-£1,500 class. The damage caused therefore represents an extreme example of what may occur during air raids among the three million post-war houses which for the most part are grouped around our large cities.

Three aspects of the explosion and its results are of special public interest.

The first of these is the efficiency with which the A.R.P. services operated. And when all allowances have been made for there being only one scene of damage, it seems that these services carried out their work with most encouraging ability.

Yet this aspect of the explosion, though first in human interest, is of far less consequence than the damage done to buildings and services and the efficiency of the shelters in the affected area. For the first aim of all A.R.P. is to avoid casualties : to attend speedily to those that are unavoidable is only the second aim.

On this point the authorities have naturally enough been reticent up to now. Until the officials concerned have made sure of all relevant facts and tested the conclusions they draw from them, there is good reason for secrecy. But when they have done so there is no reason for secrecy and every reason for publicity.

The damage which was suffered by surrounding buildings at various distances is the most obvious lesson which Clacton can teach. From the published photographs it appears, as one would expect, that two-floored suburban housing offers little resistance to blast. But this, if substantiated, is by no means a wholly gloomy conclusion.

The debris at Clacton appears to have flown in small pieces and it is therefore probable that all who had time to enter any kind of external shelter should have escaped unhurt. In addition, the photographs indicate that, save in cases of direct hits, the walls of two-floored houses tend to be effectively strutted by floor and roof timbers and thus to make falling ceilings and flying glass the chief danger to those caught within them. And this supposition is supported by several references to falling ceilings in statements made to the Press by those who had narrow escapes.

It seems very desirable that the facts concerning such structural aspects of the explosion should be soon published. On the grounds of its being damaging to public morale, officials have a passion for pigeon-holing information which might save many lives if used as a text for blunt statements of past mistakes and the ways in which they can in future be avoided.

The third lesson of Clacton is the publicity it has given to the position of property-owners whose buildings are damaged by enemy action.

As things now stand, the Government is pledged to consider all claims when the war is over and will then pay such compensation as national resources allow. In the meantime, the Housing (Emergency Powers) Act empowers local authorities, if they see fit, to repair houses whose owners are unwilling or unable to do the work. For the duration of the war the cost of such work will be borne by the Government through a loan from the Ministry of Health and will remain a charge on the property and on the compensation ultimately obtained.

These arrangements were made with large-scale air raids in mind, and they may well be the best provision which the country can afford to make against the results of such raids—which, as the past week has again impressed on us, may come at any moment. But there would certainly seem a strong case for supplementary and more equitable provision being made to cover—perhaps up to a stipulated total—the isolated and small scale cases of damage which are certain to take place as the war goes on : particularly on the east coast.

At Clacton it is reported that individuals face the prospect of renting a second house while continuing mortgage payments on one that has disappeared ; the local council has power to repair, if it chooses to use it, but not to rebuild ; while there is every likelihood—in future cases, if not at Clacton—of damage being much increased by a local authority refusing assistance and the owner being unable to pay for repairs himself.

On the other hand a single small compulsory premium levied on all buildings would enable such isolated cases of damage to be repaired promptly, would prevent a dozen shattered houses from depressing a whole town till the end of the war, and would help local builders (on whom in eastern districts the war has imposed the greatest hardships) to keep their employees and their plant ready for much bigger demands on skill which the invasion of the Netherlands may prove to be of enormous value in war.

The Architects' Journal
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NOTES & TOPICS

THE NEW PHASE

I REMEMBER an architect rallying himself from a pessimistic mood last October by exclaiming "Well, whatever happens, at least we *can't* have a war—because we've already got one." And in that period of relative calm after the endless crises of the previous two years, one saw what he meant.

*

Last week-end deprived his remark of its point abruptly. We learnt in a few hours that we could have a war; and few can have escaped repeating the emotions and many of the actions of September 3—but this time with more coolness and speed and with occasional twinges of surprise that it should all seem so familiar.

*

Until there is a pause in the Low Countries battle it is impossible to forecast the effect of the new phase of war on the building industry. General appeals for more work are clearly ended. Each suggestion made by the industry must be one aimed at supplying an immediate wartime need. But such needs have not yet emerged with clearness.

*

It is probable that there will be an expansion under the new Government of the already huge expenditure on war buildings. It is probable that before long it may become vital to organize the demolition and temporary repair side of A.R.P. much more thoroughly; and that there will be a rapid expansion in the R.E. and Pioneer Corps branches of the Army. But it cannot be clear for a few weeks how the industry can best help in these matters.

SHELTERS SO FAR

The A.A.S.T.A. has published another report on A.R.P.* which will add to their reputation for being the only architectural organization which attempts to put before the public concise, intelligent reviews of the technical aspects of matters of great public interest. And the A.A.S.T.A. not only attempts to do it: it has consistently done it.

* *What is Wrong With Official Shelter Policy?* Published by the Association of Architects, Surveyors and Technical Assistants. Price 10½d., post free.

The new report criticizes the existing shelter policy on several grounds; it maintains that there are not enough shelters, that standards vary widely, that standards of protection are too low and that no attempt has been made to lay down standards of protection for various areas according to the probability of their being attacked and the size of the bombs which would probably be used against them.

*

These are pointed criticisms. But architects will be in even more sympathy with the A.A.S.T.A. Committee's belief that it is almost impossible to be sure that a shelter constructed in an existing building conforms to a certain standard of protection.

*

It has for long been clear that if a new shelter is built outside a building, it lacks some protection that would be given by upper floors if it were inside the building. But if it *is* placed in the building it must be strong enough to carry the collapsed building before its own protective powers are considered at all; and it must also have emergency exits incorporated in its design.

*

No official statement has been made concerning the cases in which the disadvantages of either type may be expected to outweigh its advantages. In fact, precious little official information about the effects of bombs has been made available to designers of shelters. No one knows what conclusions the Government's observers brought back from Spain and, although it was stated that observers went to Finland in January after a push from the R.I.B.A., nothing more has been heard of them.

*

The A.A.S.T.A. recommend that an official standard of resistance should be prescribed for all shelters in every area—this standard to vary according to geographical position and other factors; that all shelters should be brought up to the required standard, and their placing determined by a proper survey of day and night densities of population; and that more use should be made of communal shelters.

*

Communal shelters, depending as they do on a guaranteed warning period, must remain questionable until several raids have taken place. But the first big raid will certainly be followed by a liveliness on the shelter front in which many of the A.A.S.T.A.'s suggestions may well be carried out.

COVENTRY'S LEAD

One of the few heartening events of last week was the exhibition held in Coventry's famous St. Mary's Guildhall.

*

The ten years between 1901 and 1911 saw the first serious phase of Coventry's rapid and uncontrolled development, when the new motor industries almost doubled the population. New industrial development took place during World War No. 1, and from 1919 to the present day, expansion has been almost as rapid and almost as uncontrolled, in spite of restrictive zoning.

*

Today Coventry faces another phase of unforeseen expansion. A significant incident is that it is proposed to build a wartime factory in an area "scheduled" as a rural zone, which shows once again that *negative* zoning is not enough—and that this exhibition's appeal for positive planning even now—in wartime—is fully justified.

The exhibition was organized by the local branch of the A.A.S.T.A., most of the work being done by assistants of the City Architect's department, with the co-operation of the local co-operative society's office of works. One of the models shown was a scheme for a Civic Centre, produced under the direction of Mr. Gibson, City Architect. It is a well-planned, landscaped extension of the cathedral close.

WHERE'S LADY GODIVA?

Incidentally, fearing she would be a counter-attraction, the exhibition organizers decided to curtain off the famed statue of Lady Godiva, who stands modestly in a window recess in St. Mary's Hall.

*

But late one day a sergeant-major was found peering among the montage with a puzzled look. "Can I explain anything?" an assistant asked the new recruit for positive planning. "Ay," said sergeant-major, "Where's that Lady Godiva? Ah've coom oop special to pay my respects."

MR. GEORGE LANSBURY

It has been said of Mr. George Lansbury, who died last week at the age of 81, that he had no opinions, only emotions. This may have been the reason for the fact that he had no enemies.

*

The happiest time of his life was when he was First Commissioner of Works from 1929-1931, a post which gave full scope for putting his right feeling into action. His most famous monument is, of course, the Serpentine Lido, but among his other activities were the opening of the Royal Parks as playing fields, providing play areas for children and restaurants for park users, and planning other improvements on these lines.

*

His famous kindliness did not, however, mean that he avoided unpleasantness. Kindliness in a man who had been twice in prison for actions he thought justified, who had bearded the dictators in person and shamed them at least into giving him a courteous hearing, is a positive force.

*

Politics contains few men who possess such force. George Lansbury will be greatly missed.

BREEZIER WHITEHALL

Southport, which, as you all know, is the *better* end of Blackpool, is apparently to become a great Government administrative centre. This—"one of the most closely guarded secrets of the war"—has been revealed by the *Southport Guardian*.

*

A 30-acre site near a cemetery, and consisting today of sand dunes, has been chosen, and work is soon to start on the erection of huge blocks of offices. This scheme, of course, is different from the present and temporary war measure of evacuated Government departments, which are at present in the town. The news has been received by the townsmen with more delight than by the evacuated civil servants, of whom it is estimated that only 12 out of 2,000 would prefer Southport to London.

HOLLYWOOD AND US

In America a famous architect once got himself shot over a little matter of someone else's wife. It has now been made clear to me that Hollywood has never forgotten it. Films featuring architects with a social mission may have slumped; but the demand for architects with roving eyes and hair-trigger hearts has never faltered.

*

Below I show Jean Rogers and Robert Kellard in *Stop, Look and Love*. 20th Century-Fox tells you their story below: and to prove this is no A.J. advertising stunt I give you a close-up of Louise gripping the wrong paper.

"Louise Haller is young and pretty but she hasn't any suitors. Her mother keeps on saying how strange it is. Why—she was married with two children at her age. Louise's ten-year-old movie-struck sister Dora and her lazy 18-year-old brother Willie don't give her any peace on the subject either. Dad is the only one who understands.

The truth is that mother frightens them away, by asking them if they can afford to keep a wife, the first time they come to the house.

Tired of her mother's continued taunting, Louise leaves the dinner table and goes out to the pictures alone.

During the performance she accidentally drops her bag. Dick Grant, a good-looking young architect, retrieves it for her. Coming out, Louise discovers that it is raining, so Dick asks her if she would let him escort her home."

ASTRAGAL

NEWS

ELECTION OF OFFICERS

Sheffield, South Yorkshire and District Society of Architects and Surveyors :—

At the annual general meeting Mr. H. de B. Archer, F.S.I., was elected President in succession to Mr. W. Geo. Davies, F.R.I.B.A. Mr. Stephen Welsh, M.A., B.ARCH., F.R.I.B.A., was elected Vice-President, Mr. J. Mansell Jenkinson, F.R.I.B.A., was re-elected Honorary Treasurer, and Mr. H. B. S. Gibbs, F.R.I.B.A., was re-elected Honorary Secretary.

Architects' Benevolent Society.

At the annual general meeting of subscribers and donors Council for 1940–41 was elected as follows :—

President, Mr. E. Stanley Hall, F.R.I.B.A. Vice-Presidents : Sir Harry S. E. Vanderpant, Sir Banister (Flight) Fletcher, Sir Charles A. Nicholson, Bt., Mr. H. Greville Montgomery, and Mr. H. S. Goodhart-Rendel. Ordinary Members : Messrs. W. Curtis Green, H. Austen Hall, Maxwell Ayrton, T. P. Bennett, H. Chalton Bradshaw, J. R. Leathart, Michael Waterhouse, S. Phillips Dales, G. E. Soulsby, L. Sylvester Sullivan, Charles Woodward, F. R. Yerbury, Francis Jones, C. M. Hadfield, Ernest Bird, T. Taliesin Rees, Cecil Burns, Percy Lovell, E. Hadden Parkes, and J. D. Broadbent.

Mr. H. S. Goodhart-Rendel was elected hon. treasurer. Sir Charles Nicholson was re-elected hon. secretary, and Mr. Charles Woodward and Sir Harry Vanderpant were re-elected hon. auditors.

Liverpool Architectural Society.

Mr. Harold A. Dod, F.R.I.B.A., has been elected President for the third successive year.

EISTEDDFOD COMPETITION

At the executive committee meeting of the National Eisteddfod Council, Mr. W. Evans, local organizer, reported very favourably on the prospect for the eisteddfod to be held at Mountain Ash in the first week in August. It was decided to offer a first prize of £75 and a second prize of £25 for the best design for a standardized pavilion for the eisteddfod to seat 14,000.

INSTITUTE OF FUEL

The Council of the Institute of Fuel announces a competition for a medal, together with a prize of books or instruments to the value of £5, to be awarded annually for a paper submitted by a Student Member of the Institute or by a student under 25 years of age of any University or Technical College in the United Kingdom. Full details are obtainable from the Secretary, 30 Bramham Gardens, London, S.W.5.

TIMBER CONTROL

Following note has been issued by Minister of Supply.

By the Growing Trees (Delegation of Functions) Order, 1940, the Minister of Supply has delegated to the Forestry Commissioners certain of the powers conferred on him by Regulations 51, 53, 68 and 85 of the Defence (General) Regulations, 1939. The purpose of the Order is to authorize the Forestry Commissioners to exercise these powers of the Minister and so facilitate the production of home-grown timber. Under Regulation 68 (paragraph 3) the Commissioners now have authority to identify growing trees, by marking or otherwise; and, where necessary in the national interest, to arrange for the felling of growing trees. The Commissioners may, under Regulation 53 (paragraphs 1 and 2) requisition timber which they have felled or caused to be felled. Under Regulation 51 (paragraphs 1 to 3) the Commissioners may take possession of any land, where necessary in connection with their felling operations, as for example, for the purpose of stacking or converting felled timber. They also have authority, under Regulation 85 (paragraph 1) to pass across any land, where their work demands it, as, for example, for the purpose of gaining access to woods where their felling operations are to be carried out, or removing felled timber to the roadside for transport to the points of consumption. Compensation will be payable in accordance with the provisions of the Compensation (Defence) Act, 1939. Copies of the Growing Trees (Delegation of Functions) Order, 1940, are obtainable directly, or through any bookseller, from H.M. Stationery Office at the published sale price.

WORLD'S FAIR

The New York World's Fair re-opened on May 11 and will run until October.

OBITUARY

Deaths have occurred of the following :—

MR. HUGH OWENS, senior ordinary member of the Liverpool Architectural Society. He was eighty years of age.

Mr. Owens was elected an Associate of the Society in 1886, and became a Fellow eight years later. The firm, Richard Owens and Son, was founded by his father. As surveyor to the firm of David Roberts, Son & Company, Mr. Owens was responsible for the development of a very large part of the outskirts of Everton city, and at the time of his death was still engaged in this work in the Broad Green district. He was the architect of many Nonconformist churches in North Wales and Liverpool.

MR. ROBERT SEBASTIAN PHILLIPS, formerly Gloucestershire county architect. He retired about a year ago. The son of a former Gloucestershire county surveyor, he was appointed County School architect in 1903. In 1935 he was appointed county architect.

ANNOUNCEMENTS

The practices of A. Marshall Mackenzie and Son, FF.R.I.B.A., and J. D. Hossack, F.R.I.B.A., are now being carried on at 5 Guilford Avenue, Surbiton, Surrey. Telephone No. : Elmbridge 3350. All correspondence should be sent to this address.

Messrs. Young and Hall are carrying on their practice at 17 Southampton Place, Bloomsbury, London, W.C.1. Telephone No., Holborn 3518. We are asked to make this announcement because their name and number have been inadvertently omitted from the May 1940 telephone directory.

ARCHITECTURAL ASSOCIATION

The annual reception of the Architectural Association arranged for today has been cancelled.

The President of the A.A. writes :—

In spite of its desire to maintain all its activities, the Council of the A.A. has decided that a gathering of this kind would be inappropriate at such a moment of anxiety and stress.

The exhibition of paintings by Mr. John Piper and Mr. W. L. Stevenson arranged for that occasion will, however, continue to be on view to members of the Association.

TIMBERLESS FLOORS AND FLAT ROOFS

Following note has been received from Building Research Station :—

The attention of the Station has been called to a reference in the note on timberless floors and flat roofs. Under Type 3 mention is made of a "Rapid" floor. The names given in the text are the names, or their equivalents, current in the country where the various types were seen. The floor referred to is an Austrian design of this name as is indicated in the corresponding figure (No. 16), and should be distinguished from the "Rapid" floor which has been made for many years in this country by the Rapid Floor Company, and is of different design. This company is not the firm referred to as manufacturing a floor to the Austrian design in this country.

R.I.B.A.

Following notice has been received from the R.I.B.A. Librarian on the library and wartime economies :—

Readers and the library staff can co-operate in helping the Institute to make the substantial economies which are now increasingly necessary owing to the rise in postage.

Over 100 postcards are sent from the library each week, mostly asking for the return of overdue books. In future :

No routine reminders that books are overdue will be sent. Readers are asked to return books by the proper date on their own initiative and to make certain that formal extensions of the period of loan are made when necessary.

No cards will be sent notifying the despatch of books to readers, who can assume that a book asked for has or will be sent as soon as possible, unless they are told definitely that it is not available.

Fine payments under one shilling will not be acknowledged by post.

In addition to co-operating by accepting these changes, readers can help to save a considerable sum spent on binding by handling the books carefully while they are in their possession and by making quite certain that books are securely wrapped for transit by post.

The need for economy must not be allowed to restrict the library service more than is absolutely necessary. The more the library is used the better; readers, by co-operating with the staff in making reasonable economies, can help to assure the continuance and even development of the library service even in war.

Photograph taken at the Building Centre on Friday last after the opening ceremony of the "Railings for Scrap" Exhibition, showing those responsible for the Exhibition. Standing, left to right : Norman Westwood, P. J. Stone, F. R. Yerbury, J. Henderson. Seated : Miss P. Clifford, Bryan Westwood, F. C. Keel, Miss J. Gawthorn and J. Melvin.

DIARY

Thursday, May 16.—CITY OF BIRMINGHAM COLLEGE AND SCHOOLS OF ARTS AND CRAFTS. Retrospective Exhibition of Students' Work. Until May 29. 10 a.m. to 6 p.m.

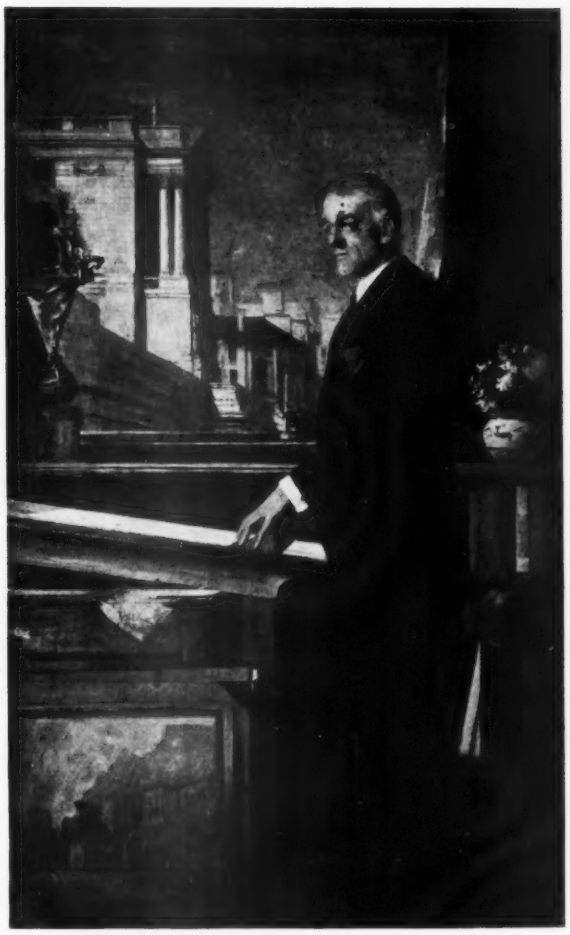
Tuesday, May 28.—HOUSING CENTRE, 13 Suffolk Street, S.W.1. "Social Services in Scandinavia." By R. B. Williams-Thompson. 1 p.m. ARCHITECTURAL ASSOCIATION. "Economics of the Buildings Industry." By J. L. Gibson. Election of Officers and Council. 8.30 p.m.

Wednesday, May 29. I.A.A.S. Discussion at the Royal Society of Arts, John Street, W.C.2. "Maintenance of the Building Industry." Chairman : Sir Alfred Hurst. Speakers: Laurence Gotch, W. P. Reynolds, P. J. Spencer, R. Coppock, J. W. Laing, J. Sadd, C. S. Marriott, F. R. Yerbury, A. T. Pike. 6.30 p.m. Tickets obtainable from secretary, I.A.A.S.

Saturday, June 1. Visit to Hertfordshire County Hall. Architects, Messrs. James and Bywaters and Rowland Pierce. Party will leave Bedford Square by coach at 2 p.m. Tickets obtainable from secretary, A.A.

Tuesday, June 4. R.I.B.A., 66 Portland Place, W.1. General meeting, when Sir Charles Bressey will read a paper on the Report which he and Sir Edwin Lutyens, R.A., prepared entitled, "Highway Development Survey, 1937 (Greater London)." 8 p.m. HOUSING CENTRE. "Housing in Czecho-Slovakia." By Dr. Klein. 1 p.m.

H. S. Goodhart-Rendel, F.R.I.B.A. Oil painting by Augustus John, R.A. (No. 60).



Right, Sir Herbert Baker, K.C.I.E., R.A. Oil painting by A. K. Lawrence, R.A. (No. 596). Copyright reserved for owner by "Royal Academy Illustrated."

ARCHITECTURE AT THE

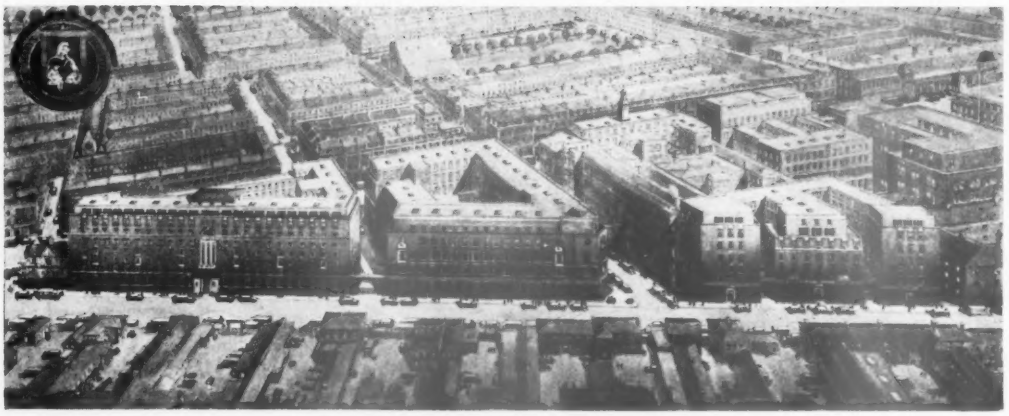
ROYAL ACADEMY EXHIBITION

[*By PROFESSOR C. H. REILLY*]

THE Royal Academy Summer Exhibition, in spite of, or perhaps because of, the war is, as a whole, and including the Architecture Room, more Royal Academy-like than ever. For members of the R.I.B.A. at least, if not for all architects, its chief interest this year is not, I suggest, to be found in their own special room, but in Augustus John's grand painting (No. 60) of their past president. The Institute will now possess at least one vivid portrait full of the vitality of the liveliest mind and personality that has occupied the chair for many years. Note the fawn-like drawing of the ears suggesting the gaiety and wit of the man who could answer impromptu the question, "What do you think of Alfred Stevens?" with the single word, "Michelangelette."

One has only to compare this grand portrait with the much bigger but really empty one (No. 596) of another architect, Sir Herbert Baker, by A. K. Lawrence, R.A., elaborate and full of detail as it is, to see how much the Institute is to gain.

In the Architectural Room things are, pleasantly perhaps for some, as they were and have been almost since the last war. There is no sign of deep calling to deep or of any great stirring anywhere. There are not even any Myerscough Walker presentations disturbing the surface of the waters, or if there are they partake today of the general calm. The gentle quarrel of the styles—the only war known here—goes on with the usual English compromises, or perhaps I ought to say the usual Academy ones. Georgian buildings shorn of their cornices and columns are everywhere to be seen, as well as those great masses we know so well of plain stone or brick with now and then an occasional pair of columns like fig-leaves to indicate their debilitated classical sex without explicitly stating it. Sir Edwin Cooper, R.A., is the great exponent of this. His vast scheme of five (or is it ten?) massive brick buildings for St. Mary's Hospital (Nos. 1436 and 1445), shown in two enormous but rather unpleasantly coloured perspectives, are each touched up here and there with such things. Unfortunately, too, he seems to have infected Sir Giles Scott, for he also shows (in Nos. 1491 and 1492) that the great broad stone stretches of the additions to the London County Hall, for which he was consultant, and

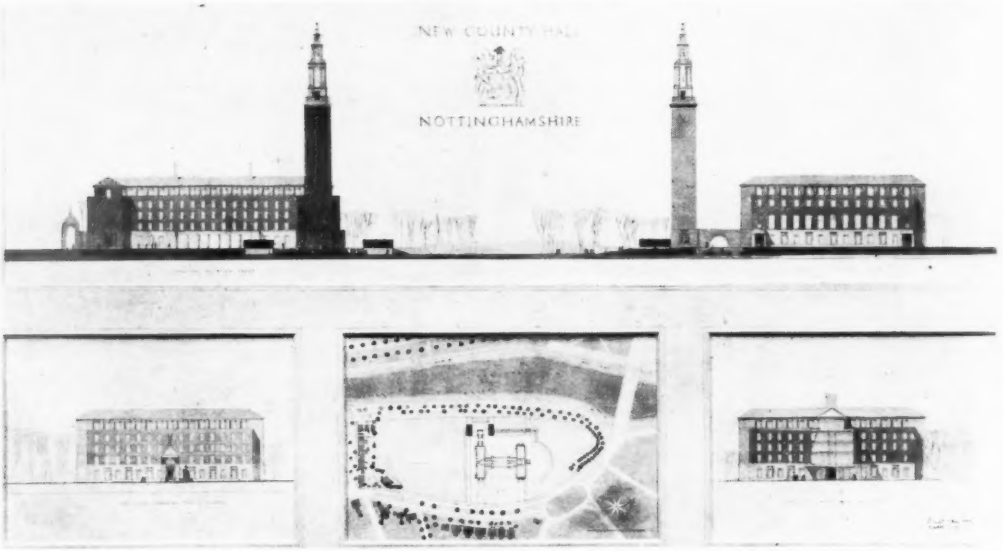


St. Mary's Hospital, W. Top, bird's-eye view from south (No. 1436); bottom, bird's-eye view from north (No. 1445). By Sir Edwin Cooper, R.A. Perspectives by the architect.

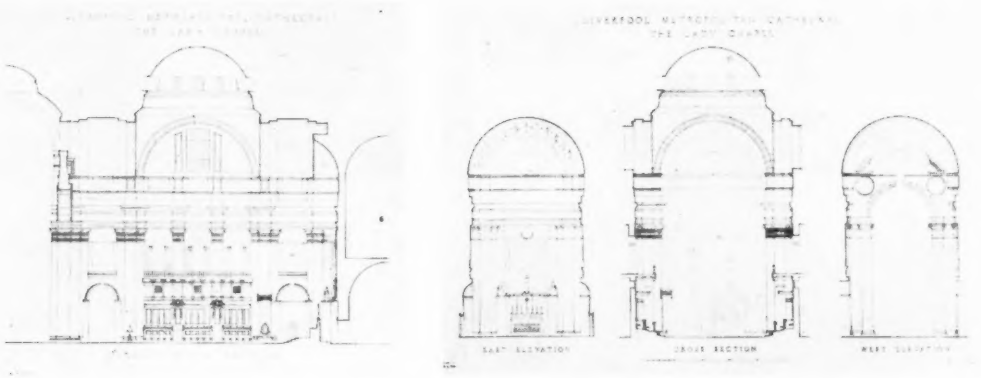
London County Hall Extension, First Portion: general view towards the south-east when eventually completed. Architects, Frederick R. Hiorns and E. P. Wheeler. Consulting architect, Sir Giles Gilbert Scott, R.A. Perspective by Stanley H. Smith (No. 1491).

which we have all admired, are now to have their classical origin marked in a similar way. Is it too late to hope these particular fig-leaves will not be carried out? Sir Giles's other contribution is a sharp perspective of the well-known view of the two transepts on one side of his Liverpool Cathedral, with part of the tower added, which looks as if it had been drawn from a photograph. The actual building has much greater breadth and quality.

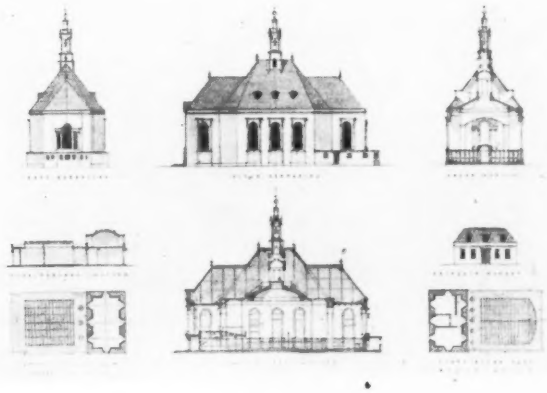
Three geometrical drawings, beautifully given in a thin line (Nos. 1410, 1413, 1417) of a chapel of the other Liverpool Cathedral are the President's contribution. This chapel, needless to say, is finely shaped in every way, and the detail is much less baroque than the early drawings suggested. The little stone Hindu bells, which so puzzled the Duke of Connaught at Delhi, are in the capitals here too, to ring perhaps this time when Hitler deposes the Pope.



County Hall, Nottinghamshire. By E. Vincent Harris. Drawing by the architect (No. 1394)



Metropolitan Cathedral of Liverpool. By Sir Edwin Lutyens, P.R.A. Left, longitudinal section to ¼-in. scale. Drawing by Hubert Wright (No. 1410). Right, details to ¼-in. scale, east and west elevations and cross-section. Drawn by F. J. Pooke (No. 1417).



Design for Chapel with Art and Music Schools, Merchant Taylors' School. By A. E. Richardson, A.R.A. Perspective by the architect (No. 1390).

Sir Edwin has set an example in allowing the draughtsman to sign these geometrical drawings, an example not followed by Mr. Vincent Harris hard by in a great frame of similar drawings (No. 1394) of his County Hall, Nottinghamshire, nor I am afraid does Professor Richardson in his fine little scheme (Nos. 1390 and 1393) for a French seventeenth-century building — no longer a modernist even in theory this professor, but an A.R.A. instead—for a chapel and music room for Merchant Taylors' School. Perhaps, however, these are his own drawings, for we all know he can draw beautifully as well as design in any style. I can hardly think though, with his vast practice, Mr. Vincent Harris has drawn his Stockholm-like tower twice over himself, two towers facing one another on the drawing as if there were two buildings about an axis instead of one. This building is much more delicately

University of London New Buildings, Bloomsbury. By Charles Holden. Model executed by John B. Thorp (No. 1520).

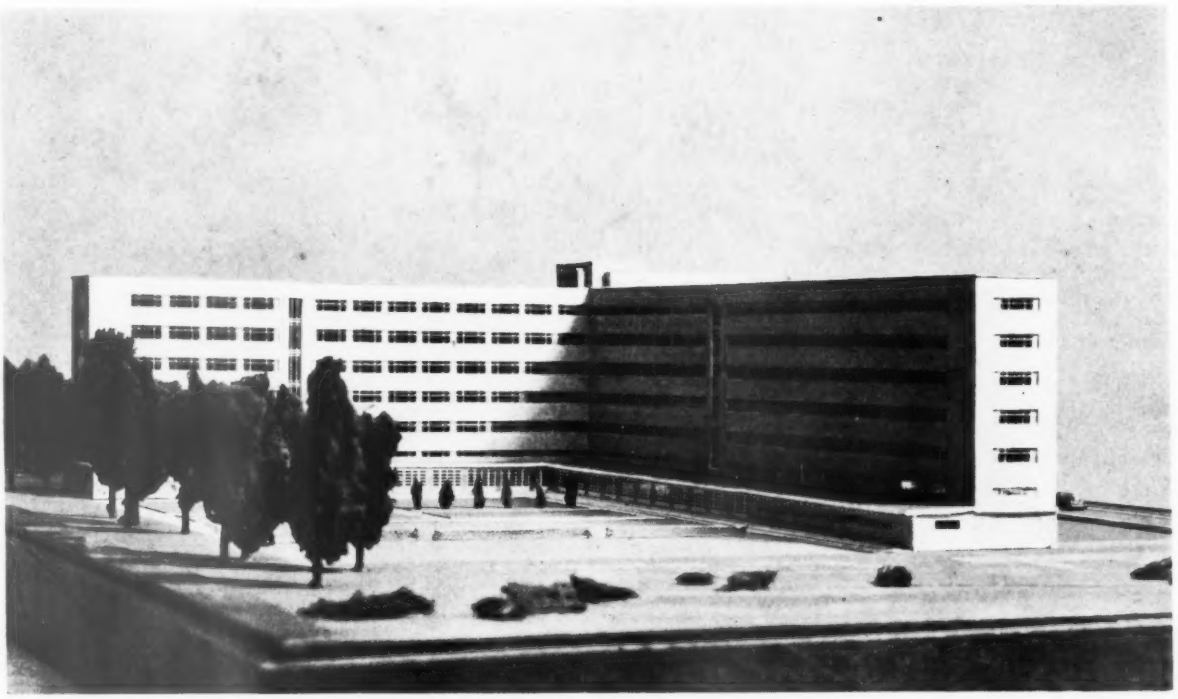
New Office Building, Albert Embankment, London. By Howard and Souster. Perspective by Birkin Haward (No. 1427).

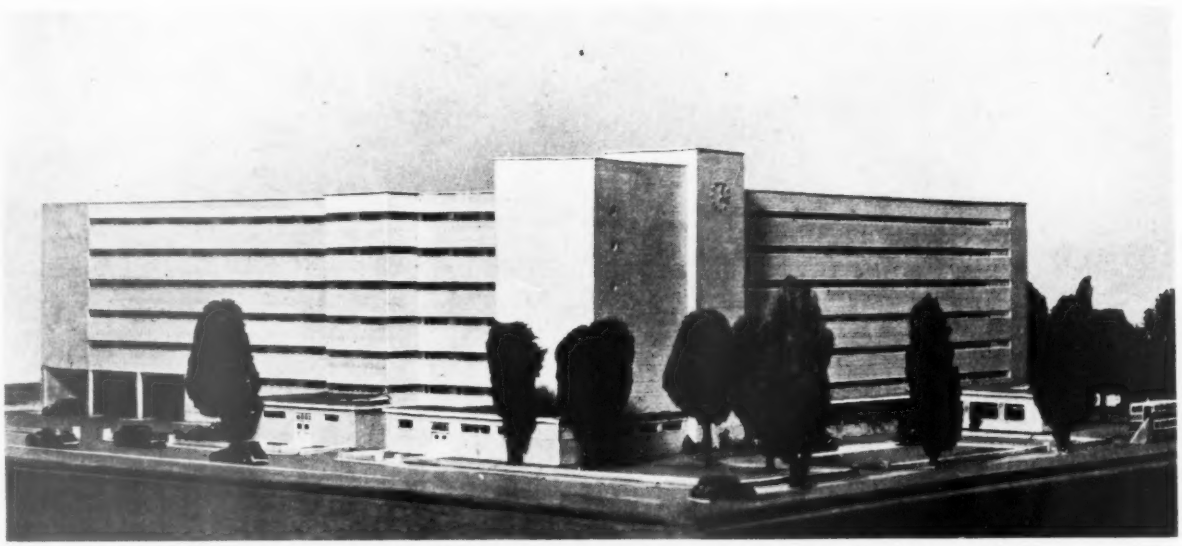
Model of proposed Wellington Barracks. By Arthur W. Kenyon (No. 1521).

detailed, if one can judge from these eighth-scale drawings, than is usual with this architect whose hand often lies rather heavily on his buildings.

This building of Mr. Harris's and a fine model (No. 1521) of the great new Wellington Barracks which Mr. Kenyon is putting up, show that the prettinesses of the Stockholm Town Hall are now beginning to have their influence in official circles just when everyone else is giving them up. Mr. Kenyon's scheme is nevertheless a fine, well-balanced one, even if it is set off with tall curvilinear diminishing windows, colonnades and small towers and a Russian flêche : all in the Swedish manner of twenty years ago. My doubt here is, apart from the advisability of picking up foreign fashions so long out of date, whether these details are not too trifling for the columns of Smirke's little Doric chapel. One hears, too, a disturbing rumour that the whole building is to be done in red brick instead of the stucco of the neighbourhood. The model, in indeterminate grey, is reticent about this.

Models always draw attention to themselves. Let us finish them off





Two views of a model of proposed Hostel. Designed and executed by Peter Kent (No. 1514).

therefore before going on with the drawings. There is a very careful one (No. 1520) showing clearly the modelling of Charles Holden's University of London building. It gives well the interest the architect has got out of his solid brick and stone construction, with its hole-in-the-wall windows rhythmically distributed because not tied to a steel skeleton within. What is highly disturbing is that the model suggests that the lofty spine of the building, containing, I believe, a continuous library, and holding together on either side a series of courtyards like a liner its boats, has already been cut out or is about to be. There is a finished end to the model after the first two courtyards and an excrescence on one side, which suggests that the great scheme of a high-backed building with a tower, oblong on plan to echo its shape—a new and highly original conception—has been abandoned. If this is so, the fine tower itself is a little meaningless now in its peculiar shape. It may, of course, internally still be a stack, perhaps like the great one to the Cambridge Library full of back numbers of *Comic Cuts* which the

Librarian told me were folklore literature; but it will no longer justify its shape by the oblong mass it was to ride so finely. If this great building has really been mutilated and changed, as has been suggested to me, by municipal interference, there should be a national protest even in wartime.

Of the other models, there is first a fine one (No. 1514) of the only clean, elegant and really modern building in the room, a hostel by P. Kent—I begin to think he must be an old Liverpool student, at any rate I hope so—and the second that of a big Senior School at Bingley by W. G. Newton and Partners (No. 1508). Now I am always prepared to like W. G. Newton's work because I like him so much and so much of it is so genuinely likeable, as for instance his science block at Marlborough. I must say, though, I cannot understand this school. There in the centre of a V-shaped layout is a tall, classically porticoed Assembly Hall with a high pitched roof, and then, round it on either side, a vast number of pairs of totally different flat-roofed temporary-looking structures but really class-rooms. They look like the wards of a war hospital, doubled for emergencies. Perhaps Yorkshire, being a forward-looking county, is expecting an annual attack of German measles on the same scale as this year's and these are isolation blocks.

The last model and the biggest in scale is a semi-circular mausoleum with tremendously thick walls and a flat relief in a panel over the entrance. However, a drawing by the side shows it is merely the base and entrance hall of a tall steel-framed office building. No: there is still one more little model hiding behind this big deceptive one. It is of an ordinary little office building, looking a trifle ashamed, perhaps, of the classical stigmata with which its respectable nudity is here and there very delicately decorated.

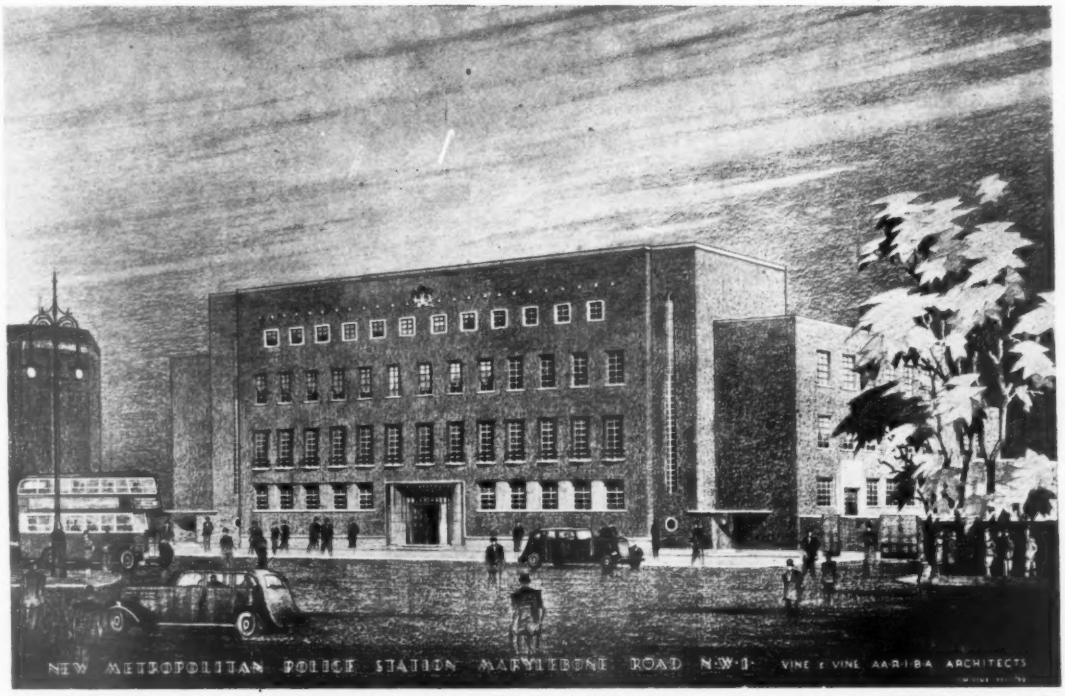
Now for the best of the remaining buildings on the walls, nearly all shown in perspectives and without plans, so that one is seeing them from a single viewpoint and generally through someone else's eyes and not the architect's. If buildings in essence are machines in which to live and work the Royal Academy is content with showing little more than the polish on their flywheels.

The one really big building being put up in the City at the present time is the great Bankers' Clearing House by Austen Hall (Nos. 1423 and 1424). This is on a site apparently running through from Lombard Street to Cornhill and immediately behind Hawksmoor's grandly sturdy St. Mary Woolnoth church. Austen Hall's building, though no doubt a steel one cloaked in stone, pays the same sort of proper respect to this church that Bush House does to St. Mary-le-Strand, that is to say, it is quiet in its expression and of a different scale of detail, if much larger in bulk, with a curved front which seems to stand as a protecting background to the church. If one swallows the use today of renaissance sugar-icing to steel frames, as most people still do, this building is as well detailed and designed as anything of its sort in the City. It is indeed excellent scenery, particularly as a back cloth, which anyone in England twenty

The Bankers' Clearing House, E.C. By Austen Hall. Perspective by J. D. M. Harvey (No. 1423).

Office, Store and Garage Building, North Circular Road, N.W. By C. H. James, A.R.A., and Bywater and S. Rowland Pierce. Perspective by S. Rowland Pierce. (No. 1449)

Goldsmiths' Hostel, Y.W.C.A., Augustus Street, N.W. By C. H. James, A.R.A., and Bywater and S. Rowland Pierce. Perspective by S. Rowland Pierce (No. 1432).



New Metropolitan Police Station, Marylebone Road, N.W. By Vine and Vine. Perspective by C. M. Vine (No. 1429).

years ago would have been proud to build.

What is the real jewel, if there is one, in this very mixed collection of imitation trinkets with an occasional modern piece thrown in? I suggest it is a small hostel building (No. 1432) by Messrs. James and Bywater and Pierce. No plan is given, and the building chiefly scores in external appearance by what it leaves out. Such is the state of Royal Academy architecture today. Negative qualities are a positive virtue. How then am I to do my two thousand words without repeating myself? No. 1429 is a view of a quiet inoffensive-looking police barracks by Messrs. Vine and Vine, one I believe of a number of

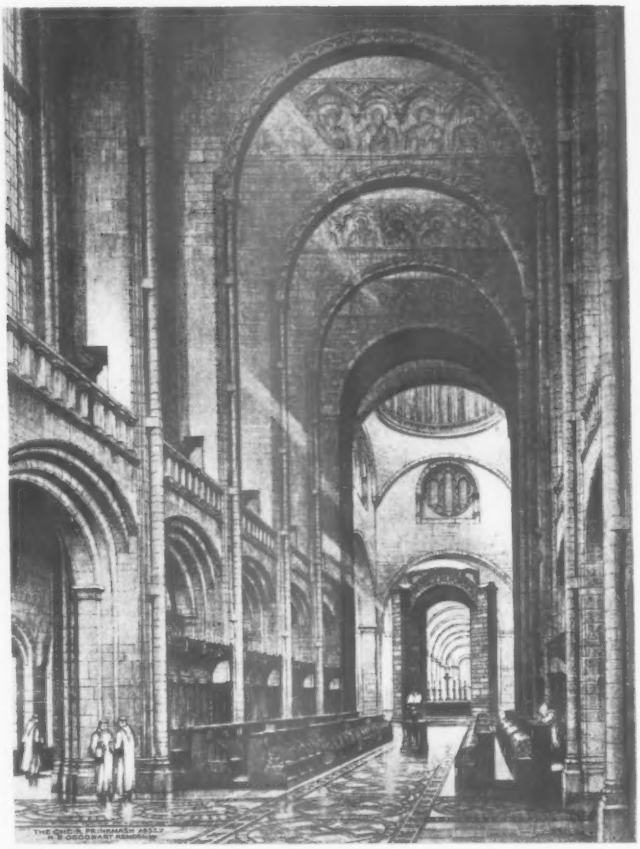
similar blocks hard by. If this is one of our new Brown Houses, as I imagine it is, it is much less frightening than the others already erected. Indeed, it is a nice, quiet, well-mannered building in the popular, simplified Georgian, where the windows have Georgian proportions and Georgian bars but where there are no added classical fig-leaves. Brian O'Rorke has a somewhat similar negative façade (No.1448), which is rather surprising for him, for an office building in Sydney, though with its top storey set back in shadow in the Burnett manner and its fine canopy and ground floor window it is a much stronger affair. For the Orient Line, however, it hardly seems up to the standard this architect has himself set them.

Close by, Horace Farquharson has a nice gentle addition (No. 1451) to a Cotswold house shown by R. H. Green in a thoroughly gentlemanly manner, but of course without anything so inquisitive and rude as a plan or section. A little boathouse and pier at Windermere (No. 1456) by Bannatyne Lewis, the Great Western architect, shows how gracefully such potentates can sometimes unbend. Louis de Soisson, whose buildings are always interesting for one reason or another, this year gives us an eighteenth—no, a seventeenth—century courtyard to some new barracks (No. 1458)*, complete with elaborate cornice, pilasters, pediments and all. I am sure the War Office is delighted with it. Has not their director of publicity, Major-General Beith (Ian Hay) explained how architecture consists of such things after the Royal Engineers have set out the building and designed everything but a cornice or two?

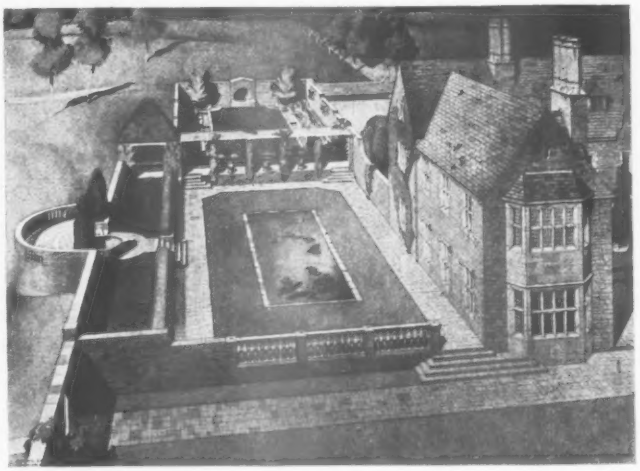
Nearby, typically and modestly hung, for it is said he hung the whole room, is a nice little Devonshire cream village church (No. 1473) by Edward Maufe, very lovable like all his work. Then continuing round the room there are three perspective drawings (Nos. 1475, 1476 and 1480), but again no plan to explain them, of the interior of H. S. Goodhart-Rendel's great Abbey at Prinknash. They all show romantic views, one of the chancel, one of the nave and one of the crypt. It is clearly to be a building full of interesting detail of Romanesque origin, and the different levels of the nave and choir provide an exciting view both into the crypt under the high altar and above the latter through the massive baldacchino to the east window. The whole thing suggests a happy escape from the twentieth century to the tenth. The thick walls shut out the world and such little wars as there were then. I wonder whether there is enough apparent space nevertheless within the main walls for the spirit to expand, whether indeed the interior is simple enough to give that half imaginary blueing of the atmosphere which was such a fine feature of Bentley's great interior at Westminster, before the mosaics were there to bring one back to earth with a thud.

Cyril Farey has a solid looking church in Middlesex (No. 1482) which sits comfortably on the earth, but he should have got someone else to draw it, for now it looks rather like anybody's building that he might himself have drawn in other years. His other church at Grange Park (No. 1485) is less conventionally designed and, although

* Illustrated on page 470 of last week's issue.

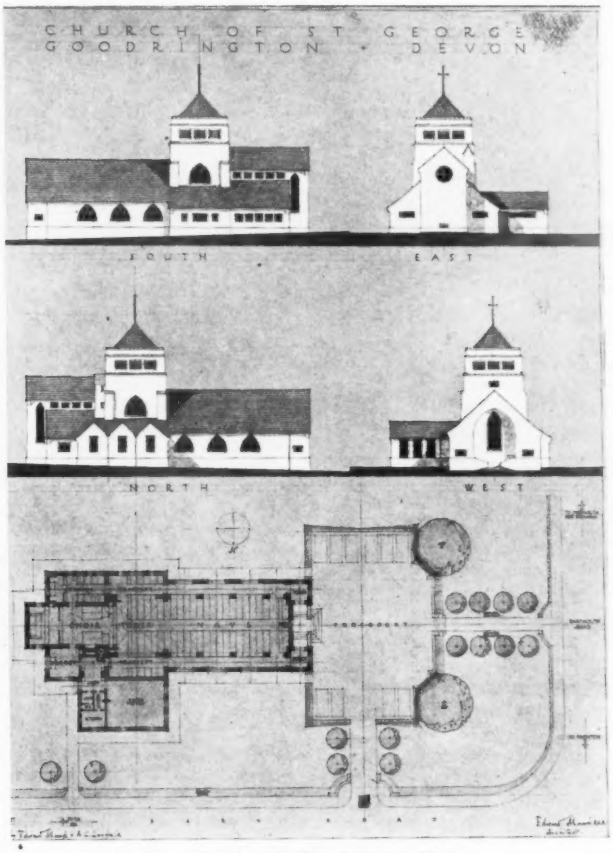


Abbey Church of Our Lady and St. Peter, Prinknash, Gloucestershire : interior of Choir looking east. By H. S. Goodhart-Rendel. Perspective by Joseph Pike (No. 1476).

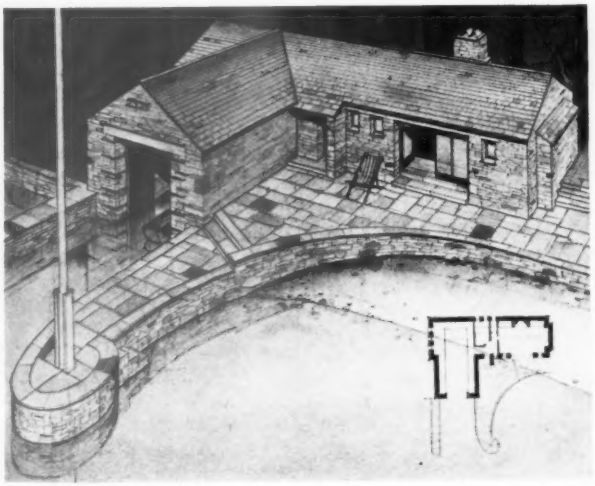


New Library Wing and Garden at Fresden, Highworth, Wiltshire. By H. Farquharson and D. H. McMorran. Perspective by F. E. Green (No. 1451).

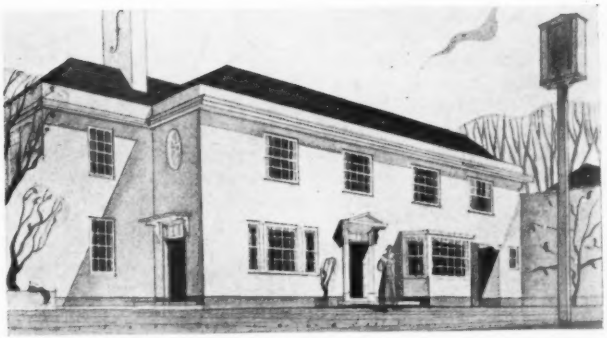
Office Building, Sydney, Australia. By Brian O'Rorke. Associated Architects: Fowell, McConnell and Mansfield (Sydney). Perspective by Brian O'Rorke (No. 1448).



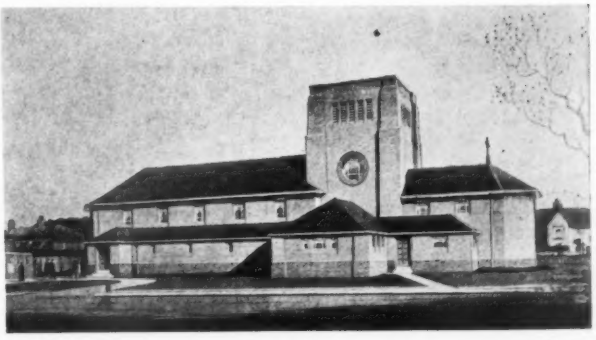
St. George's Church, Goodrington, Devon. By Edward Maufe, A.R.A. Drawing by architect and A. C. Layfield (No. 1473).



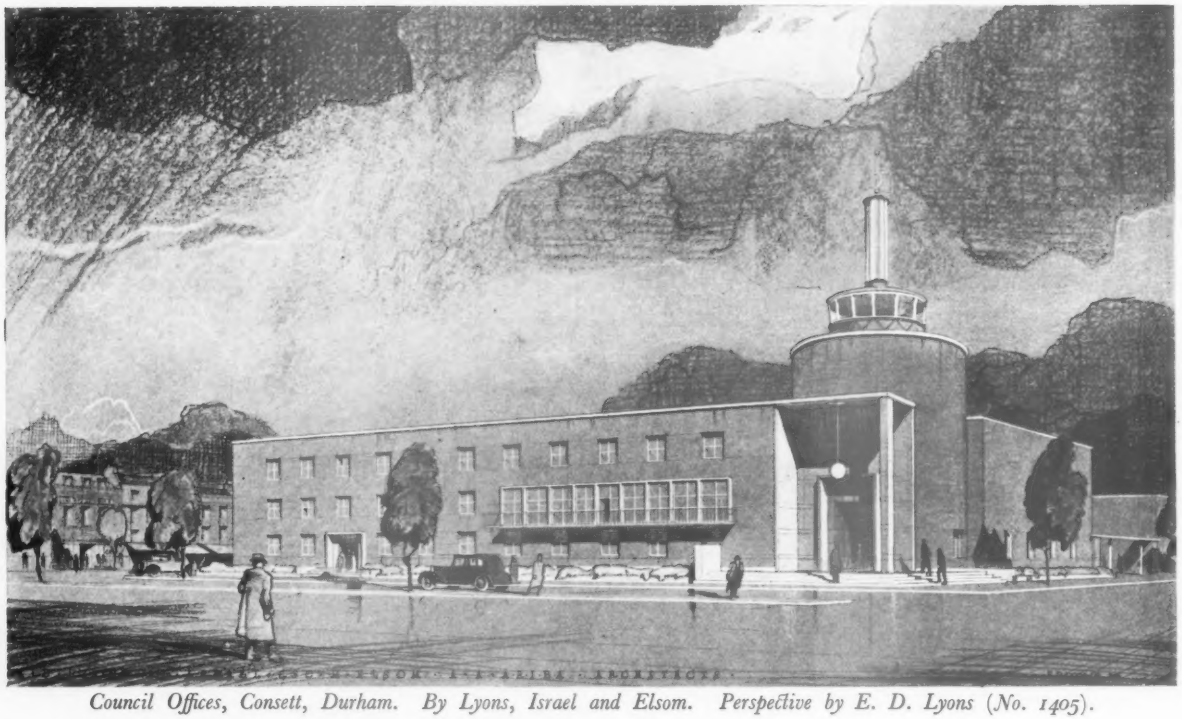
Above, Boathouse on Windermere. By H. Bannatyne Lewis. Perspective by the architect (No. 1456).



Right, top, the White Hart Inn, Dunmow, Essex. By Winston Walker and Campbell F. Cargill. Perspective by Winston Walker (No. 1503).



Right, proposed new Church, North Greenford, Middlesex. By Cyril A. Farey. Perspective by the architect (No. 1482).



Council Offices, Consett, Durham. By Lyons, Israel and Elsom. Perspective by E. D. Lyons (No. 1405).

drawn by himself, has much more individuality. It should, too, have interesting lighting inside.

In No. 1499 is shown a terrace of small modern houses at Slades Green by S. F. Everson and D. F. Searles, which should be very effective with its far over-hanging roof sloping back in one slope from the road. One wonders what the top storey of round windows contains. In Holland, where one has seen such a row of windows, there is generally a laundry and drying-room under the roof, but an English housewife would need some persuading to change her habits to that extent.

The L.C.C. architect, Mr. Hiorns, shows (No. 1501) a bird's-eye view of one of his blocks of tenements cut open to give the use of each room—a sensible method of presentation. One at least sees how the machine works or does not work.

There are, of course, lots of nice little gentlemanly Georgian houses, mostly dressed in white (and a few similar public-houses), such as 1504 by Oliver Law, 1503 by Winston Walker drawn by himself), 1502 by Messrs. Bevir and Bagnall, and 1506 by John de Segrais, Georgian with this time what appears to be a thatched roof. Near-by is a dear little first-year drawing of a gable and a chimney stack and a photograph to show it really stands up.

On looking round again I see I have of course missed a great many things which might be mentioned for one reason or another. There is Mr. Vincent Harris's house (No. 1402) in modern Tudor and not apparently for a speculative builder. It is nevertheless shown, like his other work this year, in fine line drawings. There is Messrs. Lyons, Israel and Elsom's Council Offices, Consett, Durham (No. 1405). This might be a really good modern building, and very welcome therefore among municipal structures, but for the weakness of the tall, thin portico, with its single corner column butting into the solid round oast-house tower behind it. No doubt there are lots of other things in this pre-war room that I ought to mention, but the continual compromise between old and new is not a little tiring. Compromise always is. It will lose us the brave new world we all want, as well as the war, if we dally with it much longer. The old men who love it are really too dangerous to be allowed to remain for ever at the head of affairs.

Slades Green Scheme. By S. F. Everson and D. F. Searles. Perspective by D. F. Searles (No. 1499).

THE NEXT YEARS

By

Howard Robertson

M. C., S. A. D. G.

[*VICE-PRESIDENT of the ROYAL INSTITUTE OF BRITISH ARCHITECTS*]

S Y N O P S I S

THE present war is a fight for civilization. Civilization has been well defined as a state of well-being. A preliminary to well-being is order—now in danger throughout the world. Against increasing disorder certain groups within the community are bound to fight.

One of the national groups most closely bound up with good order is the building industry. When building achievement is at its highest so is the well-being of the community. But if building is to make its own contribution to order, the organizations which produce building must themselves be in order.

The first great problem affects the function of the architect, whose job has in the past years become more and more inclusive, and thus more and more nebulous. He is forced today to supply in building many of the functions which ought in fact to be carried out by other specialists—to the detriment of his own particular contribution.

That particular contribution is design. Our realization of this is obscured by differences over how that power to design should be used. New constructional possibilities, allied with influences from abroad, have led to a school of design in which simplicity of form may be succeeded by sterility. The reduction in range of materials and design forms may also reduce range and elasticity in power to design.

To preserve his power to design, the architect must be relieved of supervision, and this needs a closer collaboration between builder and architect. Bad workmanship should no more exist in building than in a new motor-car model. To achieve such collaboration and understanding the young architect and the young builder should receive some of their training in common. And it is equally important for architectural students to have contact with painters and sculptors, so that through architecture these arts will have a place, as a matter of course, in all buildings.

There is still too great a tendency to group architectural forms narrowly within various styles: whereas in fact a few basic influences have permeated all schools of design—the traditionalism of today is not that of yesterday.

A broader and truer standard of architectural criticism is what may be called THEME—the new direction from which a designer approaches his work.

There is a hierarchy in architectural design. After the originator of a theme come all conscientious architects who examine, use or reject.

Those middlemen are still working on contemporary architecture, both traditional and modern. And it may be that progress could be quickened not only by standardization of good equipment, but also by the preparation of a Black Book of faults in design, which would never be repeated.

It is certain that future design will be influenced by the results of air raids during the present war. These results will influence both the layout of cities and the form of the individual building. It may be that the cellar will reappear in houses as combined shelter, playroom, boiler-room and fuel store.

A probable development in flat blocks is the completion in new buildings only of "service" rooms—leaving living space to be subdivided according to the needs of individual tenants.

At present there are only two certainties about the future: that building must be the main vehicle of post-war recovery, and that stylistic tenets will no longer hamper any development in design which has good reason behind it.

Perhaps a third certainty should be added—that the education of architects will continue to be of capital importance and must be related to training for other branches of the industry. Despite all difficulties, there is a strong case for all who enter the industry receiving preliminary training together. Equally great is the need for contemporary problems and structure to be studied first by students, with historical studies relegated to the final year of the course. It would be very desirable to combine with this early training both practical training in craftsmanship and experience of routine work in factories, offices and even in domestic kitchens.

The following article concludes Mr. Robertson's survey of the organization and aims of the building industry.

IN the work of post-war reconstruction it is inconceivable that the building industry should not be called upon to an extent even greater than after the last war, when, after a preliminary burst of activity, a sudden stop was put to schemes which would have had a great economic and psychological value. There is enormous work to be done, not only in building, but in operations related to reclamation of land, drainage, provision of services, road work, and buildings ancillary to all these operations. England is, and has been for years, treated like a lovely piece of house property which has been allowed to get into a state of dirty disrepair and which, through the carelessness, inertia, and growing blindness of its owners, has been studded with all sorts of makeshift contraptions put up without plan and with an almost total disregard of being in keeping with the original structure. It is certain that the war will leave

behind a further rich legacy of temporary structures and improvisations of all types, mostly of the category which will rapidly become derelict with disuse.

Many problems of distribution of industry and populations will arise, and they will be of a character to require the full employment of the best planning and technical brains in the country.

It is vitally important that in the peace effort there should not be the same failure on the part of the Government as has been apparent in the war effort to go outside its own departments and consult those members of the building industry best qualified to assist it.

To ensure this consultation it is certain that the industry must present an organized and united front, so that its requests and legitimate demands have weight. The situation where builders, operatives, trade associations, and professional men make separate approaches and negotiations must be avoided, for all these sections of the industry are interdependent, and the actions of each have reactions on the remainder.

To organize the building industry requires more funds to support its central representative body, in this case the Building Industries National Council. The "set-up" of this body is good. But until its possibilities are fully realized, and its finances are put on a much broader basis, it cannot function as it should. Architects, surveyors, and engineers should all support it closely, lending to it their particular skill in the solution of certain problems and giving it the benefit of their more detached viewpoint, which can have a constructive as well as a critical value.

Perhaps the structure of the industry will require simplification. A pooling of aims and interests, a universal adoption of formulæ to overcome certain matters in dispute, would facilitate the elimination of bodies within the industry which are redundant, and the funds which go to their support would become available to further the aims of a unified industry. There is a tendency today to create too many associations and federations, to pyramid organizations, and to create overlapping. A few interests will have to be sacrificed, a few offices may become superfluous. But place can be found for all who earn their salt in a central body which is powerful, energetic, and concerned more with building up the industry than with internal issues which should be liquidated behind the scenes in the interests of a common front.

The science side of the Building Industries National Council will no doubt be broadened and sharpened to ensure a full consideration of technical post-war problems, and herein should lie a strong appeal both to Government and to the public, something to be fully capitalized by the Public Relations Section of the Council, since the effort is directed towards public benefit and welfare.

But this in itself is not, unfortunately, sufficient to bring about the desired results. Past experience has shown that the industry requires a wide circle of sympathizers within Parliament itself, members who understand what the industry is, how it functions, and what services it can perform. There is great neglect on the part of official Britain of the importance of the arts, and of architecture and those concerned in it; and it is with the greatest difficulty that official patronage, even of the meanest order, is procured for any manifestation having architecture and building as its keynote. It is important that this situation should be changed; and it looks as if it could not, without constant and unremitting effort. Those who ask for what is reasonable and just can generally get it in the long run; but pious hopes and "educating the public" are lacking in the necessary element of pressure to secure results.

A campaign for greater recognition is nothing of which the industry, or the architects who belong to it, need feel ashamed, for it is part of the present-day effort to maintain a legitimate position. Much hard work will be entailed, but it is worth doing; and it should be schemed and organized before the rush of peacetime problems actually arises.

The industry must have its headquarters and its units throughout the length and breadth of the land, units organized each in its locality to watch the march of events and report to the central body. Lists of men able to speak and write effectively on questions affecting the industry should be prepared and maintained, and no opportunity of spreading facts and countering false statements should be missed. Action to be effective cannot be delayed, and organization at present has scarcely approached the fringe of what may and should be possible. The allied societies of the professional bodies are there to provide a nucleus; but a scheme requires to be drawn up to co-ordinate efforts. Only in this way can the industry counter the wooden and ignorant obstruction which it has met too often in the past. But, to be effective, the industry must be in the finest sense above reproach. What is recommended is not wire-pulling, still less propaganda or sales talk. It is organized effort in a good cause, and the industry must do its best to ensure that, when it preaches a crusade, it is justified in the national and not merely sectarian interest.

To create an effective future programme, the industry might well consider the formation of a small creative "brains trust" to formulate a document which would be a charter of ideas and methods to be discussed by a larger joint body representing the industry's major interests. Creative thought cannot well emerge in large committees. A small unit must provide the initial thought-provoking suggestions which can be submitted to the parent body and then developed in committee and finally transmitted for co-operation to local centres. Something on the lines of the R.I.B.A. Research Committee organization might provide the initial "set-up." But what is wanted to make this scheme, and the whole work of the B.I.N.C., a success, is a completion of the organization—bringing in a full representation for specialists and sub-contractors,* for instance, and a much larger annual contribution of members, based perhaps on turnover, but in any case really substantial. The moment is very propitious for an advance towards more complete organization, and architects cannot but be interested in this question, for within the industry lies their future, at least as far as the private practitioner is concerned. The after-war situation may see a strong impetus towards schemes of common ownership, and an increase in any case of our already preponderant bureaucracy. The private architect must not perish, for he is the goose who lays the golden egg out of which hatches the salaried architect. All of them, salaried or private, have a common interest transcending their immediate employment, in that they are architects above all. They should combine within the framework of the industry of which they are a part, for there will be room for all—*provided* that the architect as a professional man remains worthy of his salt and increases his service value to the community. This he can do only by keeping in close touch with the industry, and by becoming also the link with the ancillary arts and crafts dependent on architecture. The architect is really in the key position, but has not realized it, and weakens his position by being either too detached, letting his colleague fight for him—like a voter does with his M.P.—or else exhausting himself in the petty side issues which look important within a profession, but are of complete indifference to the people outside, on whom, after all, the architect's future is dependent.

As regards the structural and æsthetic future of the building art, it is obviously fatuous to suggest methods of realization of solutions which at present are only conjectural. Science is making strides which may confound the prophets. For example, a natural assumption might be that future buildings will present much smaller surfaces of glass. But will they? Experiment shows that glass, produced in certain ways, can be a marvellous resistant to blast. So the blastproof home or factory of the

* I understand that this is already under way.

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STANDARD SPLICES IN COLUMNS

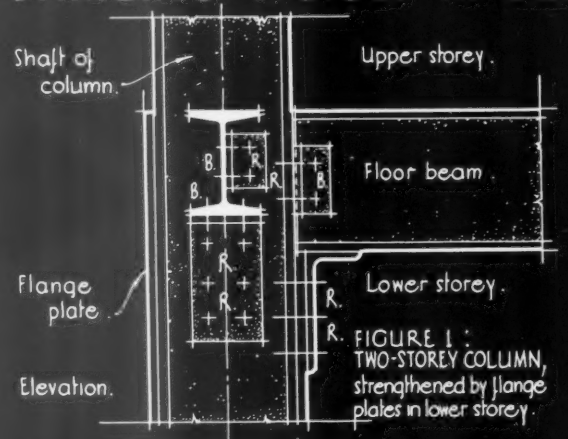


FIGURE 1: TWO-STOREY COLUMN, strengthened by flange plates in lower storey.

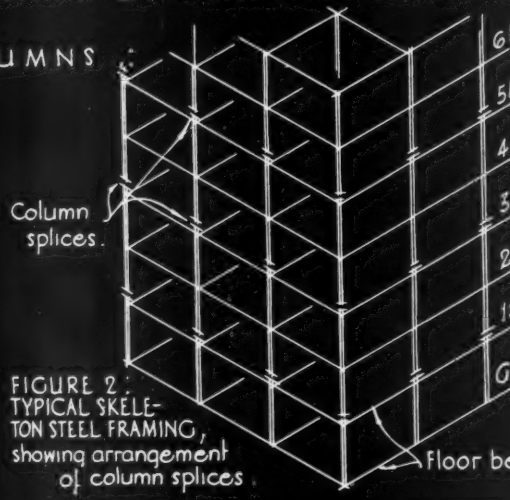
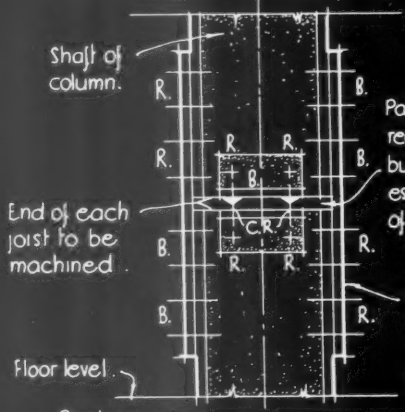
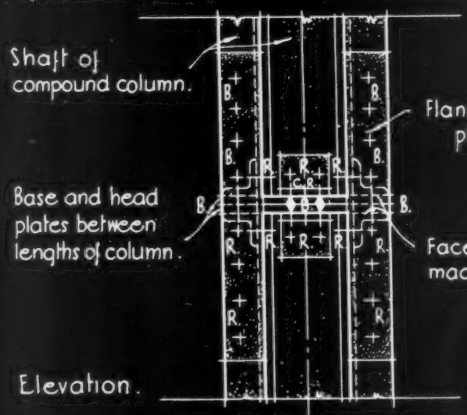


FIGURE 2: TYPICAL SKELETON STEEL FRAMING, showing arrangement of column splices.





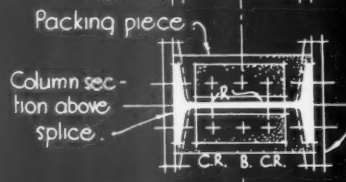


FIGURE 3: SHOWING SPLICE PLATES arranged to carry part of load in shear.

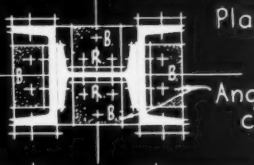


FIGURE 4: SPLICE FOR PARTICULARLY HEAVY COLUMNS.

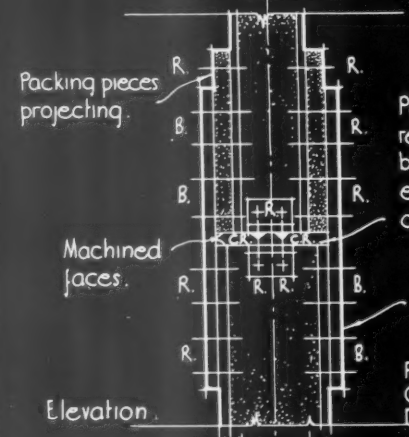


FIGURE 5: SPLICING COLUMS OF DIFFERENT WIDTH.

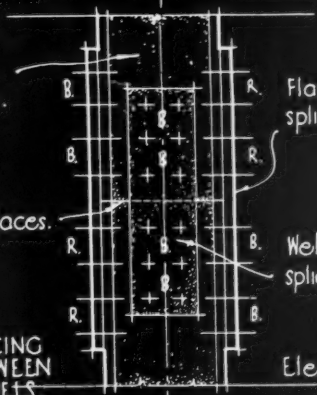
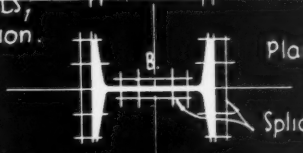


FIGURE 6: SPLICING A COLUMN BETWEEN TWO FLOOR LEVELS, or one in part tension.



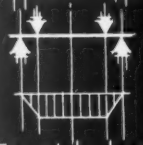


FIGURE 5a: Top plate bending moment diagram.

B = SITE BOLTS.
R = SHOP RIVETS.
CR = COUNTERSUNK SHOP RIVETS.

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Compiled by C.W. Hamann, Consulting Engineer.

INFORMATION SHEET: STEEL FRAME CONSTRUCTION: No 24.
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INFORMATION SHEET

• 790 •

STRUCTURAL STEELWORK

Subject : Standard Connections, Splices and Bases : 6, Splices to Columns

General :

This series of Sheets on steel construction is not intended to cover the whole field of engineering design in steel, but to deal with those general principles governing economical design which affect or are affected by the general planning of the building. It also deals with a number of details of steel construction which have an important effect on the design of the steelwork.

Both principles and details are considered in relation to the adjoining masonry or concrete construction, and are intended to serve in the preliminary design of a building so that a maximum economy may be obtained in the design of the steel framing.

This Sheet is the twenty-fourth of the series, and illustrates standard splices in columns. Together with the other Sheets of the present group showing standard connections, bases and splices, it will be found useful when designing minimum floor, ceiling and column finishes at these points.

Splices :

Where columns are continuous through more than two floors, they must usually have one or more erection joints. In order that such a joint should not increase the danger of buckling, it should always be arranged as close to a floor as possible and, for practical reasons, the point immediately over the floor joists is the most suitable. Where the storey height is not excessive, the unspliced column may be carried through two storeys to avoid additional labour. A column may be strengthened in the lower of the two storeys by flange plates, as shown in Figure 1.

In a skeleton, it is advisable to have splices for all columns at the same level, say at the 1st, 3rd and 5th floors, as shown in Figure 2.

Splice Plates :

While the principle of the load being carried by direct compression should be adhered to, it cannot be guaranteed that the work at the site will be sufficiently accurate and, therefore, plates must be arranged to carry a part of the load in shear. This plate must extend to the bottom and top of the splice not less than 12 in. nor less than the width of the flange, whichever is the greater (see Figure 3). The top plate of the lower column shown in this Figure between the top and bottom lengths of column is not made compulsory by the regulations, but it is definitely an advantage. The flange plates serve at the same time to take any occasional bending moments which may occur in the column.

Bending Moments :

Where calculation shows that tension may occur due to bending moments in any part of the section, the splice is to be carried out in accordance with Figure 6.

Heavy Columns :

For particularly heavy columns the arrangement of a base plate for the top column, as well as a head plate for the bottom column, is desirable, as shown in Figure 4. Although accurate fitting of the two plates against each other can be guaranteed, and direct compression can be relied upon if both ends are machined, the regulations require the arrangement of flange plates, and head and base plates have to be dimensioned so that the flange plates can be carried through. Base plate and top plate are to be connected by bolts at the site. All rivets connecting plates and angles are to be countersunk.

Splicing Unequal Sections :

Where the width of the top length of column is smaller than the bottom length, packing plates are to be arranged between flange plate and the shaft of the upper column.

These packing plates should always project over the flange plates so that at least 2 rivets can be driven through (Figure 5). A plate between the top and bottom lengths of column should be of such thickness that it can take the bending moments caused by the flanges pressing against it. (See bending moment diagram of plate Figure 5a.)

Splices between Floor Levels :

In special cases it might be necessary to provide a column joint between two floors. Such a joint (Figure 6) must be arranged so that all webs and flanges are fully replaced by splice plates and rivets. If a column consists of an " I " section, two web plates and two flange plates would be required, with sufficient rivets to make it equivalent to the total section.

Previous Sheets :

Previous Sheets of this series dealing with structural steelwork are Nos. 729, 733, 736, 737, 741, 745, 751, 755, 759, 763, 765, 769, 770, 772, 773, 774, 775, 776, 777, 780, 783, 785 and 789.

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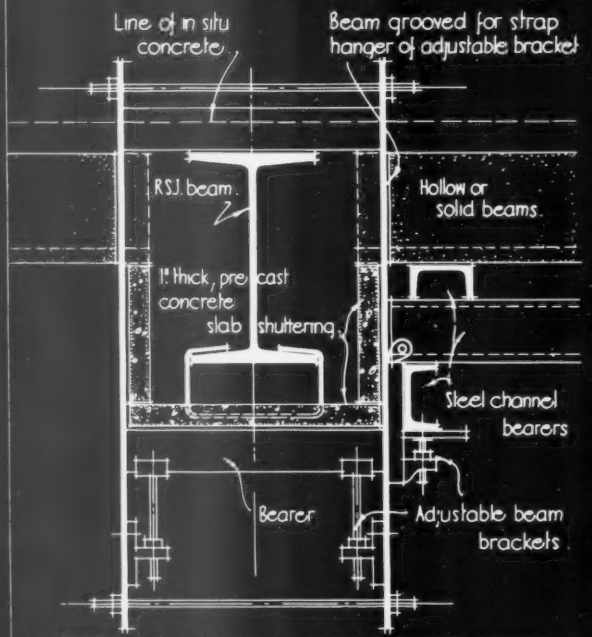
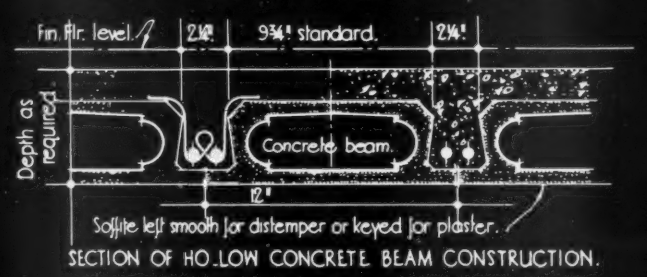
TYPICAL FLOOR & ROOF CONSTRUCTION OF HOLLOW CLAY OR CONCRETE BEAMS :

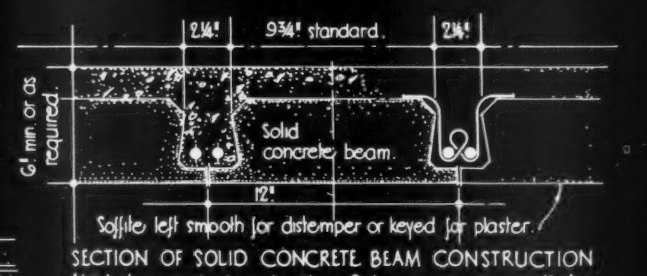


SECTION AT MAIN STEEL BEAM, SHOWING ADJUSTABLE SUSPENSION BRACKET SUPPORTING ENDS OF STEEL CHANNEL CENTERING

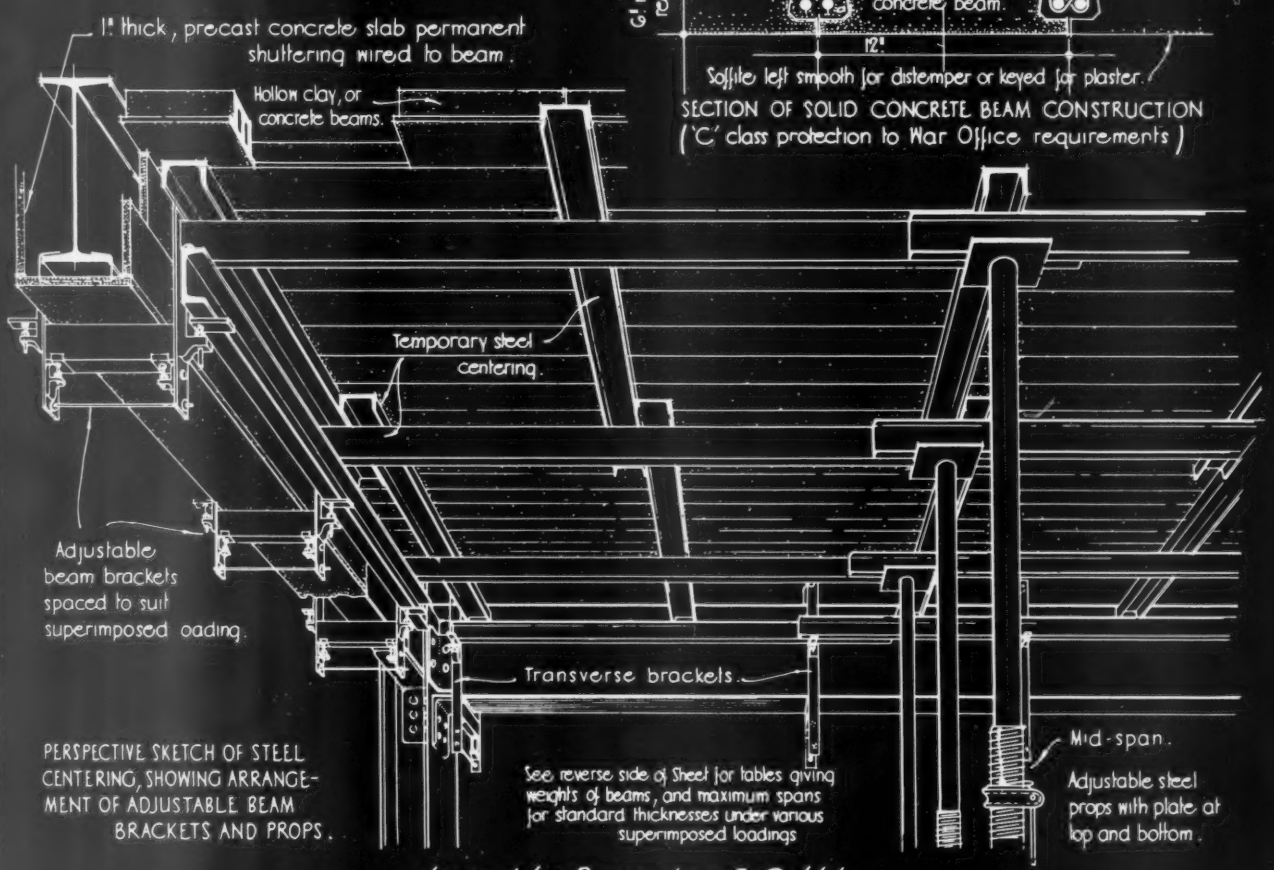
SECTION OF HOLLOW CLAY BEAM CONSTRUCTION.



SECTION OF HOLLOW CONCRETE BEAM CONSTRUCTION.



SECTION OF SOLID CONCRETE BEAM CONSTRUCTION ('C' class protection to War Office requirements)



PERSPECTIVE SKETCH OF STEEL CENTERING, SHOWING ARRANGEMENT OF ADJUSTABLE BEAM BRACKETS AND PROPS.

See reverse side of Sheet for tables giving weights of beams, and maximum spans for standard thicknesses under various superimposed loadings

Issued by Diespeker & Co Ltd.

INFORMATION SHEET: HOLLOW BEAM FLOOR CONSTRUCTION ON TIMBERLESS SHUTTERING

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INFORMATION SHEET
• 791 •
FLOORS AND ROOFS

Subject : Hollow Beam Reinforced Concrete Construction

General :

This Sheet illustrates a form of hollow beam *in situ* construction dispensing with the use of timber or other similar destructible materials as shuttering, but otherwise retaining the principles of hollow block construction.

The elimination of timber shuttering is accomplished by the adoption of beam units to suit widely spaced steel channel centering. The *in situ* rib concrete is retained between the beams by the formation of projecting butt-jointed ribs on the bottom flanges.

This system effects an appreciable saving of reinforcement compared with precast concrete beam construction, as the only steel reinforcement necessary is that designed to carry the requisite loads, no provision being required for handling or hoisting. Economy may also be further effected by the adaptability of the system to continuous panel design.

The lightness and ease of handling the units and other materials ensures speedy erection, and the principle of the system being based on *in situ* construction ensures the advantages of homogeneity, and is readily adaptable to housing pipes and electrical conduits in the top concrete, forming holes for various services and permitting structural alterations without impairing the efficiency of the construction.

Brackets :

The adjustable steel brackets are adaptable to walls as well as to intermediate steel or reinforced concrete beams, and perform the double function of supporting the ends of the temporary steel centering, and also the permanent precast reinforced concrete beam-casing slabs. For floors and roofs of brick or framed structures, they are spaced to suit the superimposed loading. Other brackets are also used to support the slab casings for steel stanchions and reinforced concrete columns.

Bearers :

The main bearers are attached to the brackets, and span the direction of the hollow beams. If necessary, they are supported at mid-span by adjustable steel props. Cross bearers are laid loose on the main bearers to support the ends of the hollow beams ; these are then laid at the previously determined level, and the concrete poured in the usual way.

Brackets and temporary steel centering are subsequently released and removed, and roof, floor and ceiling finishes applied to the level surfaces as required.

Beams :

(a) *Spans :*

The following table sets out the maximum spans of three typical thicknesses of slab for various superimposed loads. Continuity is assumed over one support, and an allowance of 20 lb. per sq. ft. has been made for finishes. The slabs referred to below are only typical and can be made in any thickness from 4" up to 14".

Full particulars will be given on application.

Super Load per sq. ft.	Thickness of slab and span		
50 lb.	5¼" up to 13' 0" span	6¼" up to 15' 0"	7¼" up to 17' 0"
80 lb.	5¼" up to 11' 6" span	6¼" up to 14' 0"	7¼" up to 16' 0"
100 lb.	5¼" up to 10' 6" span	6¼" up to 13' 0"	7¼" up to 15' 0"
150 lb.	5¼" up to 9' 6" span	6¼" up to 11' 0"	7¼" up to 13' 0"
200 lb.	5¼" up to 8' 6" span	6¼" up to 10' 6"	7¼" up to 12' 0"

(b) *Weights :*

The following table sets out the weights of the three typical slabs mentioned above :—

Typical slabs with hollow concrete beams		Typical slabs with hollow burnt clay beams	
Thickness of slab	Dead weight in lb. per sq. ft.	Thickness of slab	Dead weight in lb. per sq. ft.
5¼"	44	5¼"	41
6¼"	49	6¼"	46
7¼"	54	7¼"	51

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future may contain more and not less glass ; for it is certain that the black-out problem will be solved with comparative ease.

Social changes will exert a profound modification. How will they develop ? Will we see an England developing along the lines of Sir Richard Acland's "Unser Kampf," or will we attain a state of unselfishness and justice by means other than those which he so sincerely outlines ?

Whatever develops, the architect as a technician should be there to lend his qualified assistance. But he may fall into error if he considers himself too strongly called to be a planner in the sense of social and economic planning. Planning may become a fetish ; it can be rigid, unimaginative, sterile, and because a thing is planned it does not follow that it is good. Development wants guidance ; but vistas of arbitrary planning open up the dangers of all Utopias, in that they may become divorced from life and the realities of human nature. The architect should be a planner in his own field ; but if he attempts to organize the universe he may too late discover that someone else is doing his own professional job.

[THE END]

LETTERS

Architectural Criticism

SIR,—Really, people are amazing ! Do they never read letters, but just write them ? Mr. Kenneth Bayes joins Mr. Henry Hill as another who has obviously not done me the honour of reading my trivial notes. There is really no need for him to bother about them, but if he does why not produce criticism that has some sort of relevance to what I actually said ? He thinks I have suggested that modern architects are "hopeless idealists." If he will look at my letter he will find not the faintest suggestion of anything of the kind. He says I am "anxious that modern architects should not forget clarity of planning." I have never felt or expressed the faintest anxiety on the subject. He says I am "reacting, with the Corbusier school, against Victorian muddle" and that I "think beauty can look after itself."

As my letters have not contained the smallest expression of opinion on any of these topics, how in the world does he know what I think about them ?

If I thought my own opinions had any weight or could possibly be of interest to your readers, I might ask you to find space for them, but I don't. Consequently Mr. Bayes is putting up a cock-shy of his own manufacture and throwing stones at *it*—not at me.

ONLOOKER

Air Mistakes

SIR,—Is not the enclosed brief report of mistakes in the contracts for R.A.F. home stations a plea for the Government employment of competent private architects ?

Mistakes that have cost thousands of pounds are mentioned in the Air Services appropriation account for 1938, published with the comments of the Comptroller and Auditor-General.

The most costly item to public funds arose over the erection of buildings at three R.A.F. home stations, contracts for which were placed in 1936 and 1937 with one firm. In November, 1938, the contractor put forward claims in respect of excess costs incurred through delay by the Air Ministry to supply certain plans, drawings and other necessary particulars. Investigation of the firm's books by Air Ministry representatives established that to November, 1938, a loss of £130,300 had been sustained, in addition to a loss of profit of £55,600.

While not admitting the claims in their entirety, the Ministry recognized that the contractor's losses were due, in large measure, to the causes alleged which, states the report, were unavoidable in the special circumstances of the re-armament programme.

An independent check afterwards revealed a probable overpayment of £12,000 which the firm were informed would be deducted from future advances. They thereupon withdrew the bulk of their labour from the sites and, states the report, shortly afterwards went into liquidation.—*Daily Dispatch.*

Bradford. GODFREY L. CLARKE

Politics and Architecture

SIR,—It seems to me that, of your two correspondents, Messrs. Haward and Wilshere, it is the latter who is guilty of wishful thinking !

I would remind him that the present Government was elected a long time ago (for these days of fast-moving events), and in very different circumstances from those obtaining today.

During this period policies have varied, and decisions evidently been taken which have vitally affected the building world : yet there is no provision in our Constitution for a referendum.

Any attempt, therefore, by a professional organization to avoid politics by following Mr. Wilshere's suggestion would negative itself by amounting to support for the *status quo*.

It seems that the necessary specialization which has accompanied the development of man's productive resources has contained within it a real danger : that we divide our activities into artificial, watertight compartments which do not correspond to reality—that we say, "This is Architecture, that is Politics," and draw a 6H line where a 6B would be more accurate !

DOUGLAS SMITH, B.A., A.R.I.B.A.

Durham.
April 30, 1940

PAPER CONTROL

Owing to the paper shortage caused by the German invasion of Scandinavia, the JOURNAL, *in common with all other papers, is now only supplied to newsagents on a "firm order" basis. This means that newsagents are now unable to supply the* JOURNAL *except to a client's definite order.*

To obtain your copy of the JOURNAL *you must therefore either place a definite order with your newsagent or send a subscription order to the Publishers.*

BOOKS

SURVEY

South-Eastern Survey. By Richard Wyndham. Batsford. Price 8s. 6d.

MESSRS. BATSFORD'S "Face of Britain" books have long ago defeated reviewers, and to say that this is the latest arrival is easily the best way of describing it. Mr. Wyndham knows his country with the astonishing thoroughness peculiar to the authors of this series, and has a story—and usually a good story—for every half mile of it.

The 140 photographs are just a little below the usual Batsford standard.

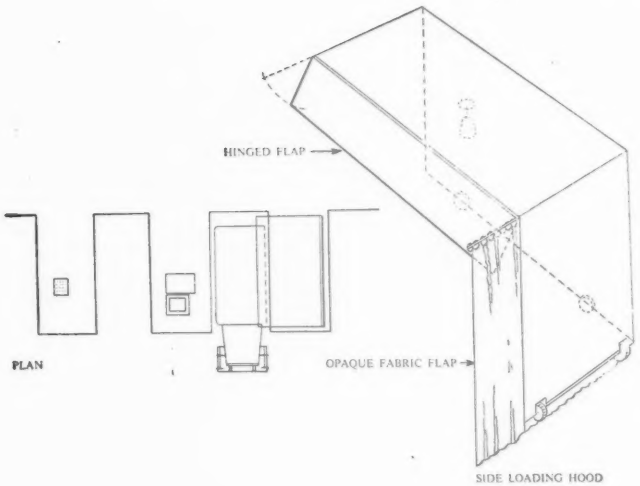
FACTORY LIGHTING

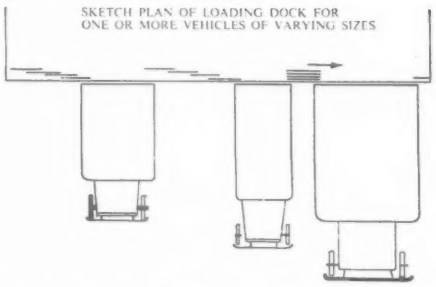
Modern Factory Lighting. Issued by the British Electrical Development Association and the E.L.M.A. Lighting Service Bureau, 2 Savoy Hill, W.C.2. Price 8s. 6d.

FACTORIES and factory extensions are likely to form a large proportion of all building in wartime. And work in many of these factories will be continuous throughout the twenty-four hours.

Next to a weatherproof roof, therefore, good lighting will be the first quality needed in wartime factories ; it is also the one which is most likely to be skimped. This is where *Modern Factory Lighting* comes in.

Designers of wartime factories, in a great hurry and anxious to keep costs low, will be very tempted to be content with a lighting installation neither as robust nor as carefully designed for the particular operations as they would recommend in peacetime. They would be quite wrong. When work is going on at night, when buildings may not be as damp-proof as in peace, when blackout regulations are in force, anything less than first-rate lighting is





Two suggestions for blacking-out loading bays. Reproduced from "Modern Factory Lighting."

going to jeopardize production far more in peacetime.

Modern Factory Lighting deals with the Factory Act, 1937, with general and special equipment, and, in a special chapter, with the effects of the blackout on factory lighting, and suggestions are given both for obscuration and ventilation. Two of the suggestions for blacking-out loading bays are reproduced above.

EXHIBITIONS

RAILINGS FOR SCRAP

Sir Giles Gilbert Scott, R.A., F.R.I.B.A., Chairman of the Building Centre, opening the Exhibition of "Railings for Scrap" at the Buildings Centre on May 10 in place of the Rt. Hon. E. Leslie Burgin, Minister of Supply, said :—

It was to be my honoured pleasure to propose a vote of thanks to the Rt. Hon. Leslie Burgin for opening this exhibition, but, unfortunately, for reasons everybody knows, he is unable to attend today, and I have therefore at short notice been called upon to open the exhibition. The Minister has sent a note which includes something that he would have said had he been able to attend and I would therefore like to read this to you :—

"In the Royal Parks the Office of Works have collected about 30 tons of surplus railings and sold them as scrap last month. Moreover, as a result of a survey the Office of Works are now making, they have already decided that a stretch of railings inside Hyde Park, between Hyde Park Corner and Stanhope Gate, can be regarded as unessential. These have been offered as a gift to the Iron and Steel Control, who have accepted it. The Office of Works are continuing their survey and they hope to find more railings which can be regarded as unessential."

I think that this is very interesting and encouraging because I do feel that unless public authorities move in this matter, the private citizen can do no more than write letters to the press. I do feel that there is room for improvement and I think the excellent photographs to be seen at this exhibition should convince many what great improvements can be made and are being made round many important buildings by the removal of useless railings.

This exhibition will travel throughout the country, to try to get the public interested in this and the need of metal for war purposes will I hope be a great inducement to the authorities to scrap a lot of these ugly railings.

LEEDS SCHOOL OF ARCHITECTURE

The many tasks which would be awaiting architects at the end of the war were emphasised by Lord Harlech, Regional Commissioner for Civil Defence for the North Eastern Region, when he opened the annual exhibition of the Leeds School of Architecture at Leeds Art Gallery on May 7.

Lord Harlech suggested that there would be many opportunities for the younger architects after the war, but they would have to adapt themselves to a greatly changed world. There would be a great deal of rebuilding to be done after the war, whether there were air raids or not. The post-war period would probably present architects with a new building problem. Lord Harlech prophesied that as a result of the financial strain of the war large mansions would disappear as dwelling-houses. They would be either converted into institutions or preserved as national monuments.

The net incomes of individuals would be more nearly equalised than ever before, and that would result in a tendency towards cheaper, more easily run from the labour point of view, and smaller dwelling-houses. Stress would be laid on communal effort in the production of schools, hospitals and other public institutions. Functional utility in architecture would become even more than hitherto the paramount consideration.

Lord Harlech said he thought a rebuilding of a large part of our production was bound to come. "Nothing," he said, "strikes one more in Yorkshire than the unfortunate fundamental basis of the factories and workshops." There was a great contrast between the old badly disguised factories and the modern machinery they housed.

GENERAL POSITION OF BUILDING INDUSTRY

"The position of the building industries continues to give rise to anxiety, not merely on account of the individual interests of those industries but because they are not given an opportunity, in free consultation with the authorities, to make their full contribution to the national effort," states the current issue of the *Building Industries Survey*. The economic wartime problem is fundamentally one of the utilization of current man-power so that the maximum war effort is exerted as speedily as possible. *Survey* continues :

Replying to the debate on man-power in the House of Commons on April 16, the Parliamentary Secretary to the Ministry of Labour made the following official declaration of policy :—

"In time of war the Government, representing the community, have the right to ask all citizens for their aid in whatever form will best help the country. As far as industry is concerned, it is the aim of the Government to achieve all that is possible on a voluntary basis."

In another passage, Mr. Assheton was even more specific, and referred to the emergence of "new problems, requiring the assistance of the building industry in dealing with them."

The paramount claim of the Government over all industrial resources in wartime is incontestable and, indeed, the building industry has urged that the Government has always a right to the best advice on its many problems. It is for that reason that the building industry as a whole, organized in the Building Industries National Council, has pressed and will continue to urge that it should be taken into full and free consultation by the Government on all matters on which it is competent to advise.

It is significant that Mr. Assheton had to admit that our enemy is making greater use of the building industry than we are. "Our Government building programme," he said, "was for £300,000,000, and the German programme was far more than that." Moreover, on this programme directly under the control of the Government with its hierarchy of priority committees and sub-committees, he had to admit that "co-ordination of the programmes of various Government departments is not perhaps as good as it might be."

Although the Parliamentary Secretary gave the Government programme as £300,000,000, he did not say over what period the work would be carried out, so that it is difficult to assess in terms of employment or to estimate the effect of its completion. He made, however, three official statements on the position of employment in the building industry : (1) "At present there are more people at work in that industry than there were at this time last year," (2) "there has been a decrease of over 30,000 in the unemployment in that industry (building) as compared with a year ago," and (3) "it would be quite wrong to say that there had been any general influx (of labour) into the building industry."

If all these statements are correct, it may be inferred that less than 30,000 building operatives have been enlisted in the Forces, including Civil Defence Services, or drawn to other industries, and that war-time building is employing more than the 900,000 men employed in full peacetime activity a year ago. If the latter is the case it would appear that the Government programme will be completed before the winter.

The question of non-military building thus assumes a more urgent importance. The unfortunate disaster at Clacton shows clearly the need to maintain the building industry in working order as the only trained body of men capable of repairing and restoring damaged property. This object can be secured while maintaining to some extent the standards of civilization we are fighting to preserve, building up our wartime tax revenues and preparing for that era of peaceful post-war reconstruction to which all look forward.

The Building Centre shop-front in New Bond Street, from which have been suspended railings from Battersea Park, used as a sign for the "Railings for Scrap" Exhibition, which opened last Friday.

SOME QUESTIONS ANSWERED THIS WEEK:

★ *IS there a firm who manufacture sash windows which use a spring instead of the usual pulleys and weights?* - - - - Q306

★ *HAS there been any recent investigation carried out as to types of concrete houses acceptable to the authorities?* - - - Q311

★ *FROM which firms may "bottled" gas be obtained?* - - - - - - Q315

★ *WHAT is the correct method of testing the bearing capacity of soil?* - - - Q319

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its services are available to any member of the industry.

Questions may be sent in writing to THE ARCHITECTS' JOURNAL, 45 The Avenue, Cheam, Surrey, or telephoned direct to the Information Centre: Regent 6888.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers by post or telephone as soon as they have been prepared.

The service is confidential; and in no case is the identity of an enquirer disclosed to a third party. Samples and descriptive literature sent to the Information Centre by manufacturers for the use of a particular enquirer are forwarded whenever the Director of the Centre considers them likely to be of use.

Finally, if an answer does not provide all the information needed, the Centre is always glad to amplify any point on which the enquirer wants fuller explanation.

Any questions about building or architecture may be sent to:

THE ARCHITECTS' JOURNAL
45 THE AVENUE, CHEAM, SURREY.
Telephone: *VIGILANT 0087*

or ring the Architects' Journal Information Centre at

REGENT 6888

Q303 ARCHITECTS, WINCHESTER.—*We have to design air raid shelters for about 100 employees of a commercial building (emporium) to comply with the Code for a new specified area. Our clients are considering the construction of a basement which, after the war, would be used for storage. This basement shelter would have accommodation for about 200 persons. The point in question is, whether the grant would apply to the 100 employees only; or to the larger number of 200 persons, which would include customers who happened to be shopping at the time.*

As the shelter is to be constructed in one of the newly specified areas, a grant will still be obtainable. But in the normal way this grant will only be made in respect of shelter accommodation provided for personnel employed in the building, i.e. for the 100 people. To construct the shelter for 200 persons when only 100 people are employed in the building will not increase the amount of grant, and may give rise to difficulties in obtaining the grant unless arrangements have been made beforehand with the local authorities or other body in control of such matters. Another line of approach might be to interest the local A.R.P. authorities in the

possibility of using part of the 200 person shelter as a public shelter after erection, and with its adoption as such, further compensation would be payable.

Q304 ARCHITECT, LONDON.—*I have been checking through some TIMBER COSTS paid by a contractor, and I find considerable difference between these costs and the ones listed in the Material Prices Supplement of* THE ARCHITECTS' JOURNAL *dated April 4. On further comparison, too, I find that the prices listed in the* JOURNAL *are not greatly in excess of those ruling pre-war, whereas I understand from various conversations I have had during the war months that timber costs have risen somewhere around 40 per cent. What is the explanation of these apparent discrepancies?*

It was because such apparent discrepancies were likely to arise that readers of the Prices Supplement had their attention especially drawn to the paragraph immediately preceding the prices listed. The prices given in the Supplement were those in force in the previous month, but there are many ways in which an extra cost is incurred. Unless the order to the supplying merchant is for £15 worth of timber from one group (i.e., scantlings, boards, floorings, etc.) then right away there is an extra cost of 20 per cent. above list price. If the scantling desired is not obtainable, and has to be sawn from a bigger size, there is an extra charge; if it is not in stock, and has to be obtained, there are transport charges; if sized lengths are specified, there is an extra charge. It can, therefore, be appreciated that divergence from list price is likely on a great number of occasions, and it is quite possible that the prices paid for small lots of timber today are 40 per cent. above pre-war prices.

Q305 ARCHITECT, BIRMINGHAM.—*In regard to the matter of camouflage of buildings, I wonder if you could tell me if any of the manufacturers of facing BRICKS, apart from the shiny surfaced bricks, have considered the question of the application AND subsequent removal of CAMOUFLAGE from their bricks. I feel the point is an important one, as there is some factory work going forward, and it seems rather a pity to throw up the sponge in regard to the design of elevations on account of present camouflage when one hopes the building will have a life after the war.*

It has been suggested that various paints and other preparations for camouflage purposes allow of satisfactory removal from brickwork after the war; but these claims do not seem to have been proved. At the moment, the best way to be sure that brick walls are not permanently disfigured is for the horizontal pointing to be cut out at intervals, wood laths inserted into the brick joints, and a cheap roofing or under-slating felt to be fixed direct to the wood laths with the camouflage carried out on the under-slating felt.

Q306 INQUIRER, YORKS.—*I have been informed that there is a firm who manufacture sash windows which use a SPRING INSTEAD OF the usual PULLEYS AND WEIGHTS. Can you tell me if this is correct, and if so, the name and address of the firm?*

Sash spring balances for use in place of pulleys and cords and weights in double-hung or sash and case windows are available from the firms mentioned below.*

Q307 TERRAZZO CONTRACTORS, LIVERPOOL.—*Is there a source of supply of BRITISH WHITE MARBLE CHIPPINGS suitable for terrazzo pavings?*

Yes, a near-white marble is being quarried in the Island of Skye, and supplies in block and chippings are available through Whiterock Quarry Co., Ltd., Queenslie Quarry, Stepps, Glasgow.

Q308 CONTRACTORS, CORNWALL.—*For our job CORTICENE FLOOR covering has been specified. Which firm makes this and can it be laid direct over solid concrete floors in contact with the ground?*

It appears that the interests of the firm once trading under the name of The Corticene Floor Covering, Ltd., were taken over by Barry and Staines, Ltd., 6 Old Bailey, London, E.C.4, and similar materials are available from this firm. Since the material is of linoleum type, to lay it over a solid concrete floor in contact with the ground will require the services of very experienced workmen and the use of a waterproofing adhesive. Ordinarily, the firm mentioned, where linoleums are to be laid on concrete which is in contact with the ground, advocate a screeding of asphalt or other impervious substance before the floor covering is laid.

Q309 ARCHITECTS, LONDON.—*Owing to the dearth of timber we have suggested to the contractor the use of ASBESTOS CEMENT sheeting as temporary FORMWORK for* in situ *concrete. Can you suggest a liquid for application to the sheeting, which will make it readily removable?*

In the normal way concrete mould oil is used on shuttering, particularly steel shuttering. But the absorption of asbestos cement may make such a procedure exorbitant in cost and there may also be a problem of softening or deterioration of the sheeting through association with the oil. It would be simpler and more trouble-free were waxed paper (Waxed Papers, Ltd., Nunhead Lane, S.E.15) used to line the asbestos cement forms. This will definitely prevent adhesion of the forms to the concrete, and should be reasonable in cost.

Q310 SHOPFITTERS, LONDON.—*Some clients of ours have approached us as to the chemical to use to REMOVE WATERGLASS (silicate of soda) FROM WINDOW GLASS. Apparently shortly after the outbreak of war they fastened broad tapes to the windows by means of waterglass. The tapes, having come away in parts, have been removed and unsuccessful attempts have been made to scrape off the waterglass adhesive, the lines of which still show on the glass.*

Several similar inquiries have been received by the Information Centre and, as was found out in the course of our inquiries, by almost every other likely source of information. Despite exhaustive and careful inquiry on our part it would seem that there are no chemicals by which the waterglass may be removed. The position would seem to be that the only chemical or solution likely to have any effect has a similar solvent effect on the actual glass. To attempt to remove the waterglass by mechanical means is disastrous and the scratched effect resulting is even more unsightly than when the waterglass is allowed to remain. It appears that the original recommendation of waterglass as an adhesive for taping over glass was contained in an early Home Office A.R.P. publication entitled *The Protection of the Home*. In later publications from the same department,

* *Robert Adams (Victor), Ltd., 1 Orchard Street, London, S.W.1. Parker, Winder and Achurch, Ltd., 7 Gt. Marlborough Street, London, W.1. A. J. Binns, Ltd., 53 Gt. Marlborough Street, London, W.1.*

particularly in Memorandum No. 12, there is a warning against the use of waterglass (sodium silicate) in this way, which runs—"should not be used as an adhesive as it is liable to damage the surface of the glass."

The Information Centre must make clear that, while it gives general opinions on problems involving legal matters, such advice must in no case be taken as a legal opinion on the facts of a particular case. It must also be made clear that the Centre, in helping to solve inquirers' problems, can accept no responsibility for any action taken as a result of its advice.

Q311 ARCHITECTS, LONDON. — *Has there been any recent investigation carried out as to types of CONCRETE HOUSES acceptable to local authorities?*

Yes, quite comprehensive investigations on possible systems of construction for houses have been carried out by Cement and Concrete Association, 52 Grosvenor Gardens, London, S.W.1, to whom application should be made for details.

Q312 CONTRACTORS, LONDON.—*What is the address of the TIMBER CONTROL for the Cambridge area?*

Timber Control, 35 Goodwins Road King's Lynn, Norfolk.

Q313 H.M.O.W., LONDON.—*What are the WEIGHTS OF coarse and fine FOAMED SLAG aggregate?*

In the literature of one marketing company, Messrs. Fredk. McNeill & Co., Pixham Firs, Pixham Lane, Dorking, Surrey, these weights are given as follows: Coarse, 27-32 lb. per cubic foot, and fine, 38-43 lb. per cubic foot.

Q314 CONSULTING ARCHITECTS, LIVERPOOL. —*What information is available concerning GAS or other INCINERATORS to replace sanitary bins in lavatories?*

A wide range of models of gas incinerators is made by Wm. Sugg & Co., Ltd., Ranelagh Works, Chapter Street, London, S.W.1. Another firm, Fletcher Russell & Co., Ltd., 4 Berners Street, London, W.1, list a small size standard gas incinerator, but have had wide experience of making up larger sizes. One of the leading firms for the manufacture of gas incinerators for the destruction of hospital dressings is James Slater & Co. (Engineers), Ltd., 50 Wells Street, London, W.1. Electrical incinerators in a small size are made by Bratt Colbran & Co., Ltd., 10 Mortimer Street, London, W.1. Ordinary incinerators in sizes from small to large are available from the firms given below.*

Q315 ARCHITECT, LONDON.—*From which firms may "BOTTLED" GAS be obtained?*

Two firms† supply gas in easily transportable containers.

Q316 PROPERTY OWNER, STOCKPORT.—*Where can I obtain BELL PUSHES illuminated WITH NEON LIGHT for outside doors?*

These are available from Messrs. W. and E. Friedland, 156 Fairfax Road, London, N.8.

Q317 ARCHITECT, OXFORD.—*I should be very grateful if you could let me have some information on the present position with regard to supply of CAST-IRON RAINWATER GOODS.*

From enquiries made of three of the leading London firms it would seem that, while their deliveries for stock are severely rationed, they have no difficulty in coping with the orders received. This applies only to stock patterns; where "specials" are wanted, a three months' forward delivery is about the best obtainable. For Government building work the order is accompanied by a licence, so that no undue delays take place. The foregoing remarks, however, apply only to London districts, and possibly the position is not quite the same as elsewhere. The "ration" for a merchant's stock is based on sale figures of previous years. Until a short time before the war builders in London were extremely busy, now they are the reverse. Hence, cast-iron goods for such private building work as there is can be lifted from a merchant's stock. But in districts where building activity of a private nature is equal to or greater than the months or year immediately preceding the war, delays in delivery are likely. It would seem, therefore, that it is not possible to give a general statement on the position as to supply of cast-iron rainwater goods, and enquiries would have to be made in the district where it is intended to build.

Q318 ENQUIRER, LONDON. — *Is there any provision made under the Civil Defence Act which makes it possible to break through a PARTY WALL for purposes of a secondary EXIT FROM a basement SHELTER in a commercial building?*

No provision of the Civil Defence Act gives such power. The power of an occupier or owner to execute works is contained in Section 15 of the Act, wherein it is provided that such owner of any commercial building may execute works *in the premises*. Thus a secondary exit from a shelter through a party wall could only be made by agreement with the adjoining owner.

Q319 SURVEYOR, ABERGELE.—*What is the correct method of TESTING the BEARING CAPACITY OF SOIL?*

Reference to standard building textbooks will yield descriptions of empirical site methods which can be adopted in ascertaining bearing capacities of soils. Probably the most commonly advocated method would be the loading up of a small area of the undisturbed soil with a load equivalent to that contemplated for use in calculations, and noting the settlement or subsequent behaviour of the area under test. But investigations have been undertaken within recent years by the Building Research Station, Bucknalls Lane, Garston, near Watford, Herts, on the subject of soil mechanics, and apparently the best method of ascertaining the bearing capacity of soil is for samples

* *The Incinerator Co., 22 Buckingham Gate, London, S.W.1. Meldrums, Ltd., 108 Victoria Street, London, S.W.1. New Destructor Co., Ltd., 49 Queen Victoria Street, London, E.C.4.*

† *CALOR GAS, by Messrs. Calor Gas (Distributing) Co., Ltd., Belgrove House, Belgrove Street, London, W.C.1.*
BOTTO GAS, by Messrs. Spensers (London), Ltd., 6 London Street, London, W.2.

of undisturbed soil to be taken in a manner approved by the B.R.S., and for this soil to be submitted to them for report. The investigations carried out may include tests on any or all of the physical characteristics of the soil sample, such as water content, particle size, shear resistance and permeability. At the time of submission of the sample the load intended for use as a basis of calculation should be given, and, with this knowledge, and from their investigations, it will be possible to indicate the settlement, if any, likely to be experienced.

TRADE NOTES

[*By PHILIP SCHOLBERG*]

Developments in Lift Gear

Current practice in factory planning generally means a simple floor layout on a suburban site, and any heavy lifting is done by travelling cranes, and the ordinary passenger lift is relegated to the office block. But there are plenty of factories on urban sites where space is limited; hence any necessary expansion is vertical, and both finished goods and raw materials need suitable hoists. In many factories the normal load is comparatively small, but it may occasionally be necessary to handle heavier loads, if, for example, new machinery is being installed. It is obviously uneconomic to install, say, two-ton lifting gear when the load seldom exceeds half a ton, and the Express Lift Company have therefore developed a special form of worm reduction which incorporates a double reduction back gearing to allow heavier loads to be lifted with a corresponding decrease in lifting speed. The usual ratio of the spur gearing is 4 to 1, so that a lift which raises its normal load at 120 feet a minute will work with the trebled or quadrupled load at 30 feet a minute. The cage, safety gear, lifting ropes and guides would be designed to take the heaviest loads to be lifted.

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In normal operation the back gear is disconnected, and the motor drives the reduction gear direct, but when the heavier load is required the cage is taken to the top floor, and an additional counterweight, which is permanently in position in the pit between the counterweight guides, is attached to the bottom of the normal counterweight, so as to balance the increased load in the lift cage.

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Lift gear of this type will obviously have only a limited range of possible applications, but for factories, warehouses, and possibly service lifts in hotels it should considerably reduce running costs when only an occasional heavy load is needed.—(*The Express Lift Co., Ltd., Abbey Works, Northampton.*)

House Painting

Now that spring has officially arrived there is the usual crop of propaganda about house painting: so far I have received three circular letters apart altogether from the ones *via* this JOURNAL. But why paint in the spring? It may be something to do with the well-established habit of internal spring cleaning, and by suggestion the outside of the house ought to be smartened up as well. But logically it would seem that painting should be done in the autumn when the woodwork has had a chance to dry out, and when the paint will be at its newest for the rains of the winter. Can the paint manufacturers provide a reasonable explanation, please?

Shelters for Key Men

As a general rule the Ministry of Home Security suggests that shelters for key men and fire watchers should be built of brick against an existing wall, and this method is satisfactory in a small works, but on the larger job there is the difficulty of long machinery runs and big floor areas. Here any shelter must be of the island type, for electricians have a habit of plastering essential switchgear over stanchion bases: brick shelters would take up a lot of space, and it is also impossible to move them. Hence the conical (and portable) steel shelter which several firms were making long before the war started. Most of the designs which I have seen so far have walls not more than ¼ to ½ in. thick, enough to give protection from falling masonry, but nowhere near the standard figure for splinter protection. The obvious idea of piling sandbags round the whole affair is no good, for the door is unprotected, and many firms have discovered that sand is much to be discouraged in any machine shop. Besides, sandbags are by now pretty well blown upon for any purpose but the most temporary protection.

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A steel shelter evolved by Messrs. Cooke and Ferguson seems worthy of notice, since it is low in first cost and at the same time provides a high degree of protection. This shelter is made of two skins separated by a space of 14 in. The inner shell is ⅛-in. boiler plate and the outer is ⅛ in., and the space between them can be filled with rubble, sand, gravel or any of the other usual materials; the door is also in two thicknesses, 1 in. and ½ in., with a 3-in. space for the filling. The shelter, therefore, may fairly be said to be splinter-proof, and the prices are £54, £62 and £69 for the 2, 3 and 4 person shelters, only a pound or two more than some of the single-skin types. They have, incidentally, been approved for use by Air Ministry contractors, and at the moment delivery is quite good.

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Each shelter has the usual viewing slots and removable door arrangements, and trap doors are provided for removing the filling if it should be necessary to move the shelter to a different site.—(*Cooke and Ferguson, Ltd., Victoria Street, Openshaw, Manchester.*)

MANUFACTURERS' ITEMS

The Plomien Fuel Economizer Co., Ltd., of 104 Victoria Street, London, S.W.1, have just issued a six-page leaflet describing their new fuel economizer. The firm state that "it is applicable to practically every type of central heating, industrial and domestic boiler consuming coal, coke or anthracite, and is based on a new application of an old discovery. The Plomien is screwed to the inside of a boiler door and air is conducted through an intake pipe into the device, passes through a series of lateral channels, and is emitted into the furnace at a temperature of about 400° C. It ignites gases which otherwise pass out of the chimney in smoke and it must therefore save fuel consumption."

The Plomien has been fitted to over 1,500 boilers in this country during the past twelve months. The size of the furnace door settles the size of Plomien required. The inside of the door should be fitted with the largest size it will accommodate. Costs are as follows: No. 0 (small domestic boilers), size 5 9/16 in. by 3½ in., £7; No. 1, size 8 in. by 4½ in., £10; No. 2, size 11½ in. by 5 in., £15; No. 3, size 13½ in. by 7 in., £17; No. 4, size 16¼ in. by 9 in., £20.

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We have received from MK Electric, Ltd., of Wakefield Street, Edmonton, London, N.18, a copy of Leaflet 196 announcing a new series of Watertight plugs and sockets. These plugs and sockets are available in 5 and 15 ampere capacity and are manufactured to B.S.S. 546 in so far as it is relevant. The socket is of the anti-flash pattern, housed in a cast-iron box which has a long spout for conduit entry with the inner ends well radiused to prevent chafing of the cable. The Handshield plug is of cast iron, rubber packed gland to accommodate either C.T.S. or workshop flex. The Watertight plug and socket can be supplied in standard aluminium or black enamel if specified.

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J. H. Sankey and Son, Ltd.'s new Refractories catalogue, just published, contains 30 pages of practical information for heat users. The size of the catalogue is 11 in. by 9 in. It is printed in many colours on art paper and is bound in metallic spiral binding to facilitate quick and flat opening. It is obtainable, free of charge, on application to the firm at their offices at works, Ilford, Essex.

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Four-page leaflet just issued by Hills Patent Glazing Co., Ltd., of Albion Road, West Bromwich, Staffs, is devoted to their steel obscuration shutters for continuous vertical patent glazing or windows. These shutters, it is stated, are designed to give for all practical purposes 100 per cent. natural light combined with complete obscuration at night, and a weatherproof protection should glass be broken by concussion or blast. The system is fully approved by the Air Ministry and Ministry of Supply, for whom large contracts are in hand and have been completed by the firm. Shutters are constructed of 20 gauge galvanized corrugated sheets with mild steel brackets, running angles and link arms. Gear unit is centrally situated, thus compensating stresses, and is actuated by means of a hand chain. A back gutter is formed over the top angle, either in lead or steel as suitable, and is drained off at intervals of 30 ft. by inserting a 14-gauge galvanized sheet instead of a glass pane. The corrugated sheets give one complete overlap.

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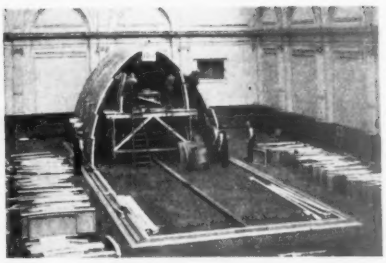
The Research Department of the Northern Aluminium Co., Ltd., has now been amalgamated with that company's Sales Engineering and Development Department. The new department will be known as the Research



Left, the Tarran hut in course of erection; right, completed. See note on this page.

and Development Department, and Mr. Gordon H. Field, who this year completes 25 years' association with the aluminium industry, will be Research and Development Manager, and Mr. F. R. C. Smith, Assistant Manager. The new Department will be stationed at Banbury.

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The illustrations on this page show the hut designed by Tarran Industries, Ltd., which was recently erected in the old Horticultural Hall, S.W., in one day between the hours of 10 a.m. and 4 p.m. This hut, 62 ft. long by 19 ft. wide, is composed of precast concrete units and conforms to War Office requirements. Only ½ cwt. of steel and a small quantity of timber are used in addition to the concrete.

Constructional details are given below.

The structural element consists of a parabolic arched rib comprising a series of curved sections placed end to end. Each section consists of two light timber ribs having a Lignacrete, concrete, or any other panel cast between or attached to them. In the case of the Lignacrete panel, nails are driven through the wood ribs prior to casting, in order to provide a key, and a series of wire ties are stretched across the mould and spot welded to opposite nails. Wire ties are also laid as required transversely, the complete spot-welded mat forming an adequate tie through the panel to the ribs. The elliptical arched rib is divided into a number of segments placed end to end with butt joints; the joints in adjacent ribs are placed in staggered relationship or broken bond. The joint of one rib is therefore placed approximately in the centre of the adjoining ribs, the two being screwed together, thus maintaining the continuity of section. The window frames are cast in vibrated concrete, and a window unit is merely erected in place of a standard unit, the full strength of the arch being maintained. The springings of the arched ribs are set in a channel in the concrete floor which can be laid after stripping the sod. The floor is carried just beyond the outside of the structure and a half-round gulley is run longitudinally down both sides of the hut at ground level, and round the ends if necessary. The outside of the structure is suitably waterproofed by roofing felt or other means and the rainwater drains directly to the channels at ground level. The insides of the timber ribs form the base for attaching a wallboard or plaster lining if needed, thus further effecting a substantially hollow construction and increasing the high insulation properties.

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Pilkington Brothers, Ltd., inform us that the prices for glass given in the April 4 issue were not altogether correct; the items in question should be as follows:

Sheet glass—squares cut to size:

	In squares not exceeding			Over
	2 ft.	4 ft.	6 ft.	6 ft.
18 oz.	2⅜d.	2⅝d.	3⅛d.	3⅜d.
24 oz.	3d.	4d.	4¼d.	4⅝d.
26 oz.	3⅜d.	4⅝d.	5d.	5½d.
32 oz.	4½d.	6d.	7d.	8d.

Thick drawn sheet glass—cut to size: ¼ in. thick to 2 ft. super—should be 1s. 2d. instead of 1s. 1d.

The extra for selected glazing quality is 10 per cent.

Plate glass—cut to size: To 6 ft. super, silvering quality—should be 3s. 11d. instead of 3s. 4d.

Wired glass—cut to size: The paragraph regarding "lining up" should read "Add 4d. per ft. *each way*."

PITHEAD BATHS

The Miners' Welfare Commission announce that during the month of March new pithead bath installations were completed or commenced at the following collieries:

Buildings completed.

Burnmoor "D" (Durham), for 1,296 men.

Radstock (Somerset), for 396 men.

Buildings commenced. £

Penrikyber (South Wales), by Messrs. Haymills (Contractors), Ltd., Hanger Green, Western Avenue, London, W.5 22,751

Grayshill (Lanarkshire), by Mr. W. Fyfe, Kirkhill Goods Station, Cambuslang 15,225

£37,976