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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, NOVEMBER 21, 1940. NUMBER 2392 : VOLUME 92

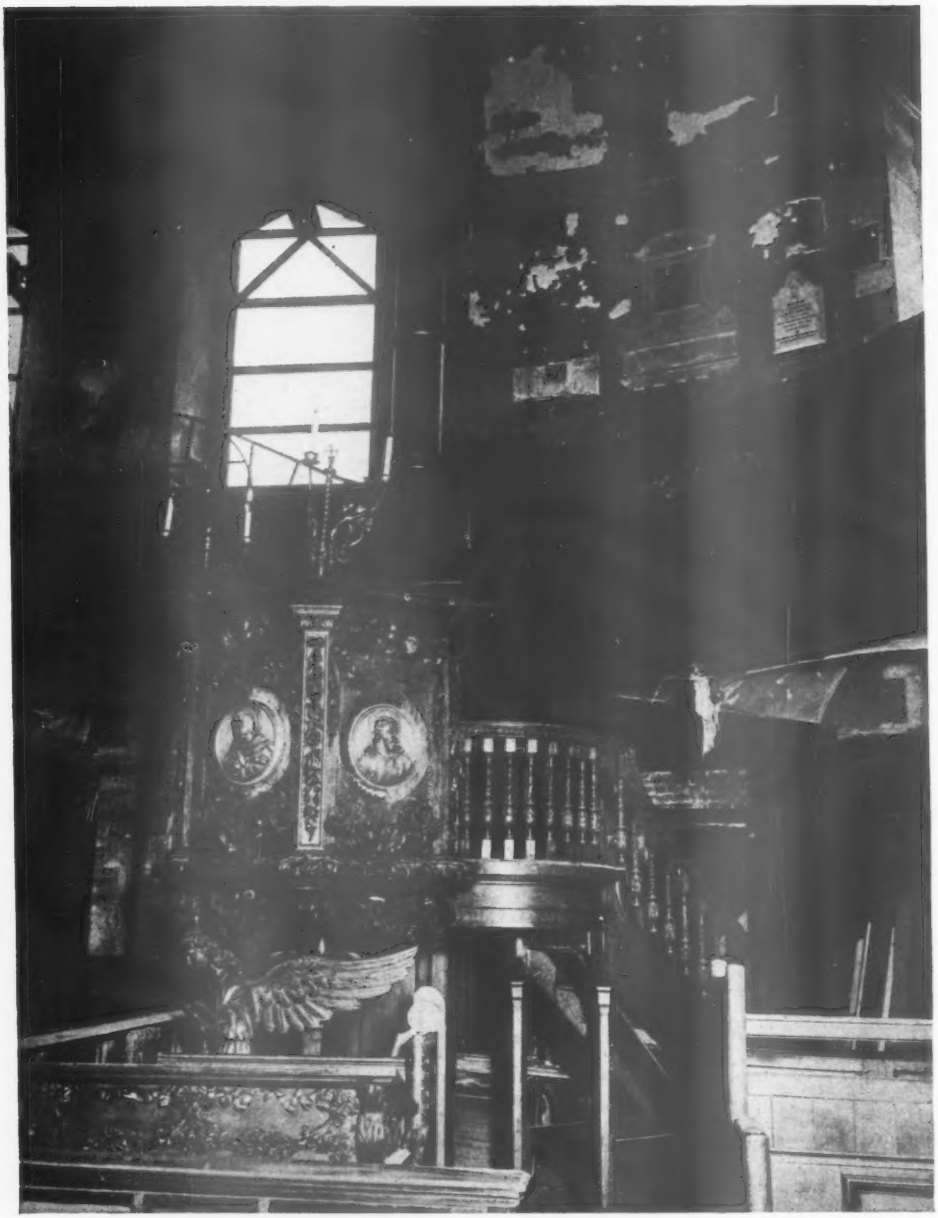
PRINCIPAL CONTENTS

Owing to the paper shortage 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.*

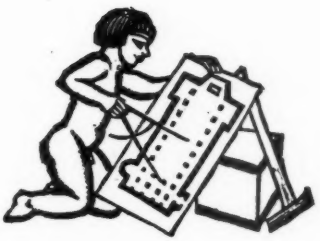
TOWER OF LONDON

Part of the Tower of London which was hit by a bomb during a recent air-raid.



LONDON CHURCH BOMBED

St. Clement Danes, in the Strand, was severely damaged during a recent air-raid. A bomb struck a side gate, demolishing the windows and the greater part of the interior. The above photograph shows the Grinling Gibbons pulpit, which escaped damage. On the left is the exterior facing the Law Courts.



REPLANNING LONDON

IT is very necessary for architects to keep clear heads over the replanning of London—which has been the subject of correspondence in *The Times* during the past three weeks. London has been severely damaged by air raids since September 7 and is likely to be damaged a great deal more before the end of the war. It is natural and inspiring to want to turn this evil to good account, to outweigh the loss of a few buildings of great merit by much better buildings in place of the vast majority of those which have been damaged. It is heartening to believe that bombing has given us, in addition, the opportunity to arrange the new buildings better and to provide finer communications between them.

Architects feel the inspiration of this opportunity to a very special degree, but they are also aware that it is an opportunity which can be used only if very full preparations to do so are made before the end of the war and if a general determination that it must be used can be aroused at the end of the war. Parallels between the present condition of London and that after the Great Fire can only lead to a gross under-estimate of the difficulty of fulfilling these two conditions. London then covered not much more than a square mile and destruction was in one piece. London now covers several hundred square miles, destruction is in relatively minute and widely separated fragments, and under all main streets there now runs a system of services of great complexity and vast cost. Thus only a public determination comparable to that with which we entered this war, preceded by most skilful preparations, can make the great dream of a replanned London come true in any real sense. It is well that all architects should realize this. There will be no disagreement that if London is to be replanned in this way preparations must begin now. The next step is a definition of terms. What is London and what do we mean by replanning?

One can assume that in these days of telephone, motor car and fast rail transport no one will try to restrict London to the West End and the City or even to the L.C.C. Area. But it must be decided whether London means Greater London or a circle of a radius of forty miles round Charing Cross. One can assume also that replanning means more than rebuilding of bombed buildings and trifling adjustments to streets around them. But directly it is allowed to mean more, it expands mightily and goes on expanding till it embraces the problems dealt with in the Report on the Location of Industrial Populations.

These questions must be decided before replanners can begin. But for the moment we can profitably leave them undecided and go on to wonder who the replanners should be. If this question were put to an average member of the public he might make two suggestions: the L.C.C. town-planning department, or some specially appointed individual or body. The average architect, however, would favour the second alternative. He would do so because he believes that the L.C.C., like every other town-planning authority, has ceased to possess either the attitude of mind or the organization which are needed for large-scale creative planning. The opposition to large-scale planning schemes, and particularly to *replanning* schemes, has always been so overwhelming that official town-planning departments have become wholly defensive bodies: they regulate the heights of buildings and spaces about them, they struggle desperately to put through minor improvements and save the fragile remnant of some once tolerable local development scheme. By their efforts they have prevented Britain becoming even a worse mess than it is, but the cost has been that their whole attitude of mind and organization have become preventive—and to replan London an entirely different attitude is needed.

Whether or not that attitude can be attained in London will decide whether it can be attained anywhere else—it will decide the future of town-planning for a generation. London is enormous and far worse battered than any other British city. If great and inspiring decisions cannot be taken in the replanning of London they will be taken nowhere.

Up to last week, the Ministry of Works and Building was presumed to be the Ministry of Reconstruction. In the official words—

> It is clear that the reconstruction of town and country after the war raises great problems and gives a great opportunity. The Minister of Works and Buildings has therefore been charged by the Government with the responsibility of consulting the departments and organizations concerned with a view to reporting to the Cabinet the appropriate methods and machinery for dealing with the issues involved.

But last week Lord Reith made it clear that this did not mean that his Ministry had been charged with replanning, or with rebuilding: its duty was for the present confined to talking to interested departments about these problems.

Reconstruction implies building preceded by planning. The Ministry of Building might well be charged with the building part of reconstruction; but no comparable authority, unless it be the Town-planning section of the Ministry of Health, exists for the planning part of the programme. The first stage of preparations for the replanning of London must therefore be to decide whether the Minister of Building or the Minister of Health is to be responsible for the brainwork of reconstruction.

The Architects' Journal
45 The Avenue, Cheam, Surrey
Telephone: Vigilant 0087-9.

NOTES & TOPICS

REPLANNING LONDON

ABOUT a year before war began, I was asked to decide how a school could best be altered to stand up to a new road through the middle of its playground. The work involved finding out the price of some adjoining houses, and in doing this I interviewed an elderly and shrewd local estate agent.

*

Naturally, we touched on the new road, and I was a little surprised to see my companion's eyes light up at the mention of it. " . . . A fine piece of work," he said, " a fine piece of work ! "

*

I was just about to pass on to other matters in the belief, I must confess, that the agent's enthusiasm had a rather sordid cause, when he added : " . . . Man and boy, I've known this district for fifty years, and I couldn't have picked a cheaper route for this two-mile stretch if my life had been at stake. You must give it to them—they're clever fellows ! "

*

There, it seems to me, we have it. That is the rock on which all replanning schemes were wrecked up to the beginning of this war. Town planning officials had gradually come to accept that it simply was not worth wasting time in deciding how a district should be replanned. They knew that unless conditions became immediately dangerous to human life no replanning scheme would be carried out. These conditions were only fulfilled at a few street junctions and in small areas of housing. In consequence, the town planner's job, in so far as it was creative, boiled down to suggesting the shortest possible by-pass for a traffic jam, and subsequently to altering it and re-altering it at the command of the local authority's valuer. Finally, the Council looked at the valuer's estimates of cost of purchase and, unless they were remarkably low or substantial grants were available, did not bother to look further.

*

The same attitude on a larger scale has caused the rejection of all larger schemes for reconstruction in London —Charing Cross bridges, South Bank and the Bressey Scheme. It will defeat the replanning of London after this war with equal ease unless, as I wrote last week, a plan with great aims and, in outline, easy to understand can be put before the average Londoner in a way that arouses his enthusiasm and determination. A plan which lacks this simplicity is certainly doomed in advance.

*

It is easy to see why. A plan which is not simple and inspiring in its main aims and the main changes it will make in London's existing layout will be understood by few, and will not mean much to the general public. On the other hand, it will mean a great deal to those whose property is concerned. For instance, such a small thing, as regards London generally, as a hundred-foot road parallel to and on the south side of Oxford Street from Hyde Park to Kingsway would make property values in the neighbourhood rise and fall to the tune of millions, probably hundreds of millions. The owners of this property know where they stand at the moment—or did. They do not know where they would stand if the road was built. So no one can doubt that the potent influence of Oxford Street property owners would be thrown against any such proposal.

*

Similar influence will be brought to bear against every part of any worthwhile replanning scheme for London. The only force which can outweigh it is that of a public which both understands the scheme and has made up its mind to have it.

. . . AND THE REST OF BRITAIN

It was these obstacles to any replanning which Lord Reith no doubt had in mind when he said, last Wednesday, that " no longer to tolerate the intolerable " would be the best text for any Minister who had to deal with reconstruction.

*

But, Lord Reith added, however dire and urgent the need, no one should exaggerate or misunderstand the duties of the Ministry of Building. He had not been told to plan the reconstruction of the country or London or any part of it. He had been told to consult with others and report to the Cabinet on appropriate methods and machinery.

*

Until Lord Reith has so reported, until a Minister has been made responsible for all replanning, preparations for replanning London cannot be begun. One, therefore, hopes that both events will take place very soon.

*

One possible outcome of these events is that Lord Reith will be made the responsible Minister and that a Directorate of Replanning will be set up to work in close conjunction with the Ministry of Building. Another possibility is that the Minister of Health will be made responsible and that Ministry's town planning section, suitably expanded, will be the executive body.

*

Architects will probably favour the first solution. Rightly or wrongly, the Ministry of Health is connected in architects' minds with the details of purely restrictive town-planning schemes which never achieve their purpose. To them the Ministry has become a machine for rendering slightly more tolerable the wholly intolerable. Some of

the Ministry's officials have remained town-planners in the fullest sense despite all that public apathy has done to their job. Such men should be fully used and will be badly needed. But to expect the town-planning section as a whole to change, after twenty years of scheduling road widths, into being an efficient directorate for a replanning which is really going to do something, is to expect too much of human nature.

THE MYSTERIOUS BASEMENT

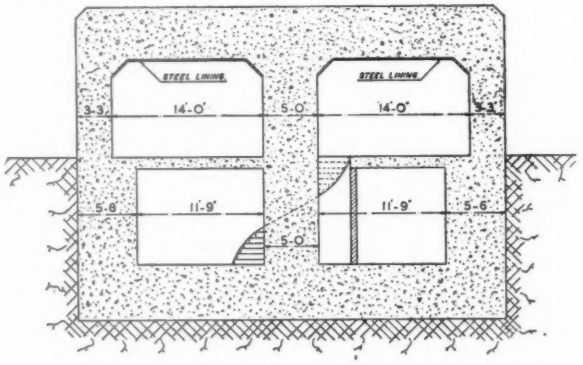
Some interesting points have been raised by a civil engineer, Mr. H. G. Cousins, in a letter to the *Manchester Guardian*, about the Bomb Resisting shelters described and illustrated in A.R.P. Handbook No. 5A.

*

The shelters were designed by a committee of engineers of exceptional eminence to give protection against direct hits by bombs : Type 3 gives protection against a 500-lb. bomb at maximum velocity if it has a medium weight case and Type 4 gives protection against a similar bomb with a heavier case.

*

The engineers state, under *Standard of Lateral Protection* (i.e. walls), that if the explosion occurs at or above ground level the explosion is untamped and therefore the effect is considerably less than if the explosion occurs below ground or after penetration of the wall. They therefore recommend that walls of Type 3 Shelters should be of reinforced concrete of special quality, 3 ft. 3 in. thick where *above ground* and 6 ft. 6 in. thick where *below ground*, with 5 ft. 6 in. in special cases. I reproduce a section through a Type 3 shelter.



TYPICAL CROSS SECTION
ON A-A.

From A.R.P. Memorandum No. 5a. Reproduced by permission of the Comptroller, H.M. Stationery Office.

This pronouncement tempts one to repeat Mr. Cousins' remark that to put any portion of the accommodation of such a shelter below ground is merely to waste space, material and labour.* But it opens up bigger questions as well.

*

The motives of going to a basement in an air raid seem to be three : one feels safer, one is out of the way of direct blast and splinters and one has a hope that if a bomb does hit the house it will burst before reaching the basement. So far, so good. But the great height from which, even at night, bombs are released on London, in combination with the low average height of buildings and spaces between them in London, seem to make it more likely that bombs will land near buildings rather than on them, even in the central districts.

*

If this is so, and the Government ought to know by this time, several questions become important. For instance, what is the physical effect on people in a basement when a bomb bursts 10 ft. deep in the street outside ; what is the effect of earth-borne shock from such an explosion on average basement strutting ; and, where a house collapses in such circumstances, is its collapse caused more by earth-borne shock on its basement walls than by blast pressure on its superstructure ?

*

The Government's pronouncement that the first and second floors of framed buildings are safer than their basements would lead one to suppose that if an unframed house does not collapse, you are safer in the middle of the first floor, but that if it does it doesn't much matter where you are. It would seem desirable that these questions should be cleared up by official statements as fully as they can be cleared up.

DOOK AND BOTTLE

My title has nothing to do with the Dook of Glahster, the villain who outdrank his brother in Malmsey wine in the Hollywood epic *The Tower of London*. I have merely been compelled during the last week to examine a bill of quantities from North of the Border.

*

It was hard going and made me realize how little one half of the building world knows how the other lives. A stoothed partition presented no difficulties—I once built a house in Northumberland. But nosey brick sills dismayed me and a bricklayer who, after cutting 3-in. raggles, formed opes 5 ft. 6 in. wide by 2 ft. high daylight put me to flight.

*

I hurried on to the Joiner, who insisted on furnishing top and bottom runners of a partition with one row of dwangs, dooking redpine frames to walls, and planting a bottle at the edge of flooring to doorways. At this point I stopped. And on the way home I remembered that a brick manufacturer in the Midlands once asked me to explain an unfamiliar technical phrase in a letter of mine. The phrase was " headers and stretchers."

THE WOOD AND THE TREES

A village lying about forty miles to the south of London contains about sixty houses and one public-house. In the bar of that pub, last Saturday evening, conversation happened to die away for a moment or two, and during the pause two small thuds were heard.

*

They might have been caused by guns ; they might have been bombs ; or again, as the landlord suggested, they might have been Flossie moving the lamps upstairs. Local opinion gravely examined these alternative possibilities and reached no decision. There was another little pause, this time broken by a member of the Home Guard who looked like something small, retired.

*

" Ye-es," he announced, *à propos* of nothing very much, " I've noticed before—whenever we get a pasting down here, they get let off lightly up in London."

ASTRAGAL

* The eminent engineers do not of course suggest that this should be done. The sketch merely illustrates principles of construction.

NEWS

CONFERENCE

At a conference held at the R.I.B.A. on Monday last a small sub-committee was appointed to draw up the details of a scheme for the compilation of full graphic, photographic, and other records of buildings of merit, whatever their date, which have been damaged or are in great danger by warfare. When the scheme has been finally approved by the societies interested in the undertaking it will be submitted to Lord Reith, Minister of Works and Buildings, who has promised in advance to give it the fullest and most sympathetic consideration.

The sub-committee consists of Mr. W. H. Ansell, President of the R.I.B.A.; Sir Kenneth Clark, Ministry of Information; Mr. Walter H. Godfrey, F.R.I.B.A., chairman of the Architectural Graphic Records Committee; and Mr. J. E. M. Macgregor, F.R.I.B.A., acting secretary of the Society for the Protection of Ancient Buildings.

Mr. Ansell, who presided, explained that it was in no way intended that the scheme should interfere with the work of the voluntary societies, which had already achieved valuable results. It was certainly hoped, however, that all records that had already been made would be more readily accessible, and that knowledge of them would be placed in a central register. Further, it was desired to record war damage throughout the country, and, more important, to record buildings before they were bombed or injured. The word "building" would be given its widest possible interpretation and would include bridges and other structures.

R.I.B.A.

At a meeting held on Tuesday, November 12, 1940, the following were elected members of the R.I.B.A. :—

As Hon. Associates: Barry, G. R. (Sutton Pulborough, Sussex); Johnston, H. J. C. (London).

As Fellows: Cooper, J. B. (Birmingham); Concannon, T. A. L. (Lagos, Nigeria).

As Associates: Almrott, A. F. (London); Altham, G. B., DIP.ARCH. (Distinction), (Liverpool), University of Liverpool (Newcastle-under-Lyme, Staffs); Annand, G. (Glasgow); Auckland, N. J., DIP.ARCH. (Welsh School of Architecture) (Cardiff); Bancroft, C. N. (Victoria University, Manchester) (Hyde, Cheshire); Barragan, J. E., B.A. (ARCH.) (Bartlett School of Architecture) (London); Benson, Miss B. C. (University of Sheffield) (Croft-on-Tees, near Darlington); Bidmead, G. R. (Sparkhill, Birmingham); Braddock, P. H. (Architectural Association) (London); Bryant, P. A. E. (Leeds School of Architecture) (Marston Magna, Somerset); Bullimore, G. (London); Byford, Miss J. T., B.ARCH. (HONS.) (University of Liverpool) (Liverpool); Causon, A. H. (Birmingham); Channing, L. T. (Twickenham); Cochrane, F. A. A. (Architectural Association) (London); Cooke-Yarborough, M. H. (Architectural Association) (Henley-on-Thames, Oxon); Cox, A. W. (Architectural Association) (Teddington, Middlesex); Cubitt, J. W. A., B.A. (Architectural Association) (Camberley, Surrey); Davies, J. S. (Welsh School of Architecture) (Cardiff); Davis, D. I. S. (Claygate, Surrey); Deardeu, G. B. (Victoria University, Manchester) (Salford); Donald, J. H. (Robert Gordon's Technical College, Aberdeen School of Architecture) (Montrose); Dunford, F. W. (Ilford); Edwards, E. J., P.A.S.I. (Petts Wood, Kent); Elder, A. J. (Hessle, E. Yorks); Ferguson, R. P. (Architectural Association) (Runwell, Essex); Goalen, G. T. (University of Liverpool) (Birkenhead, Cheshire); Godfrey, W. E., B.A. (OXON) (London); Griffin, J. O. (London); Hall, V. (King's College (University of Durham), Newcastle-upon-Tyne) (Sunderland); Hannam, R. J. (Architectural Association) (Sidcup, Kent); Hardman, C. N. (Leeds School of Architecture) (Barnsley, Yorks); Hobson, L. J. (Farnham, Surrey); Hodgson, C. W. (London); Hogley, C. H., DIP.ARCH. (Leeds), (Leeds School of Architecture) (Holmfirth, near Huddersfield); Holbrook, L. C. (Croydon, Surrey); Horsfield, A. J. (West Finchley); Huggins, F. R. (Trowbridge, Wilts); Jenkinson, J. M. M. (University of Sheffield) (Sheffield); Lane, E. A. J. (Cheam, Surrey); Leah, E. A. (Gloucester); Levie, W. E. (Edinburgh College of Art) (Edinburgh); Levy, A. P. (London); Little, J. (University of Liverpool) (Liverpool); Mabley, P. J. (Maidenhead, Berks); MacFarlane, R. A. (Wrexham, Denbighshire); McGeoch, R. V., B.ARCH. (University of Liverpool) (Liverpool); Mochrie, H. A. (Leicester); Parsons, R. W. B. (London); Rexilius, P. H. G. (London); Richardson, D. W. (Plymouth); Rodham, K. L. (King's College (University of Durham), Newcastle-upon-Tyne) (Gosforth, Newcastle-on-Tyne); Ross, H. (Glasgow School of Architecture) (Motherwell, Lanarkshire); Royce, N. A. (Beckenham, Kent); Sands, D. O. (London); Sargison, V. J. (London); Selby, L. J. (Leigh-on-Sea); Slingsby, A. (Northern Polytechnic, London) (London); Strang, A. (Glasgow School of Architecture) (Randyford, Falkirk); Taylor, P. (University of Liverpool) (Liverpool); Temperley, Miss E., DIP.ARCH. (University of Liverpool) (Patterdale, Westmorland); Thomson, G. (Fife); Thorp, C. H. (Huddersfield); Titherley, P. (University of Liverpool) (Liverpool); Turner, N. G. E. (Coventry); Twigg, L. H., DIP.ARCH. (Glas.) (Glasgow School of Architecture) (Alloa, Clackmannanshire); Viney, T. L. (Morden, Surrey); Vosper, N. L. A. (University of Liverpool) (Ruthin, N. Wales); Waterhouse, Miss B. C. (Victoria University, Manchester) (Bramhall, Cheshire); Watson, J. F. (London); White, Miss J. E. (University of Liverpool) (London); Wilson, W. G. (London). *(Overseas):* Boddie, C. W. (Gibraltar); Hough, P. W. (Port Elizabeth, South Africa); Manickam, T. J., B.SC. (University of Liverpool) (Bangalore City, India); O'Connor, N. B. (East Melbourne, Victoria, Australia).

As Licentiates: Anders, T. (Ilford); Brown, E. E. (Southampton); Clifford, L. (Nottingham); Colin, W. H., O.B.E. (Berkhamsted, Herts); Dacombe, H. J. (Bournemouth); Dalton, G. S. R. (Liverpool); Davis, F. C. (Lincoln); Galpin, C. (Hinton St. Mary, Dorset); Gibson, B. G. (London); Hardouin, M. E. (Puddletown Farm, Dorset); Hill, E. D. (Cirencester, Glos.); Hyett, F. L. (London); Kaufmann, E. C. (London); Litherland, R. S. (Burton-on-Trent); Potts, W. E. N. (London); Rose, J. (Hyde); Simms, A. E. H. (West Bromwich); Stainton-James, L. C. (London); Voce, W. J. (Manchester); West, J. C. P. (Esher, Surrey); Whatmough, B. G. (London).

RECONSTRUCTION

The 1940 Council, which was formed to promote the planning of social environment, has forwarded to the Prime Minister and Lord Reith, Minister of Works and Buildings, a memorandum on reconstruction. Extracts from the memorandum are printed below :—

The Royal Commission on the Distribution of the Industrial Population reached the unanimous conclusion that the circumstances of modern industrial and urban life are such as to require the setting up of a national body for broad purposes which may be comprehensively described as planning, and were agreed as to the broad principles of a national town and country planning policy. Further, the commissioners were unanimous that the patchwork of local planning now in hand, even if made to cover the whole country, could never give birth to anything in the nature of a really national plan. An opportunity undreamed of at the time the Royal Commission was appointed now lies before us. If this opportunity is to be used to the full, the machinery for the development of a national scheme must be set up now.

The Council submits that it is of the highest importance that plans for reconstruction should be based on a survey of the national resources in the fields not only of industry but also of agriculture and of amenities, and the relation of all these resources to the proper distribution of the population.

In conclusion, the 1940 Council urges on the Prime Minister and the Minister of Works that the scheme now in course of preparation must provide for full powers of constructive execution.

SHELTERS AND BUNKS

At a Council meeting of the L.C.C., held on November 19, the Civil Defence and General Purposes Committee reported that air raid shelter accommodation was being provided at some 150 to 200 premises used, or earmarked for use, as rest centres, at an estimated cost of £250,000. The committee also reported that the provision of bunks in the air raid shelters at the Council's housing estates was going rapidly ahead at an estimated cost of £40,000.

R.I.A.I.

The following resolution has been passed by the Council of the Royal Institute of the Architects of Ireland at a meeting in Dublin :—

That, in view of the increasing unemployment in the architectural profession, and bearing in mind that the funds of the hospital sweepstake have been in existence for many years and so far have not provided an opportunity for the design by competition of hospital buildings, the Minister for Local Government and Public Health be requested to expedite the promotion of the architectural competitions for the design of hospitals already under consideration by the Department.

ANNOUNCEMENT

Messrs. Victor Cullen and Sons, surveyors, announce that owing to their offices at 10A Great Portland Street, being demolished by enemy action, they have moved to 44 Berners Street, London, W.1 Telephone No. Museum 1650.

OBITUARY

We regret to record the deaths of Mr. William Stewart, M.B.E., F.R.I.B.A., Mr. T. E. Marshall and Mr. G. C. Widdowson.

Mr. William Stewart, of 90 Fenchurch Street, E.C., who was in partnership with Mr. H. D. Hendry, F.R.I.B.A., specialized in the design of public houses.

Mr. Thomas Edward Marshall, of Harrogate, senior partner of Messrs. Marshall and Storey, was trained as an architect, and commenced practice at Harrogate in 1890. He was (in association with his father) responsible for the design of many principal buildings in the town.

Mr. George Clifford Widdowson, O.B.E., was Chief Quantity Surveyor to H.M. Office of Works.

DIARY

Thursday, November 21. Architectural Association, 36Bedford Square, W.1. Annual exhibition of photographs by members. Until December 13.—Warburg Institute, Imperial Institute Buildings, S.W.1. Exhibition of Indian Art. Open until end of December.—Housing Centre Exhibition of the Scalby Reception Centre. Co-operative project undertaken by students of the Hull School of Architecture. The exhibition will remain open until December 12.

Tuesday, December 3.—Housing Centre, 13 Suffolk Street, S.W.1. Luncheon : "The Casualties of Environment." By R. M. Titmuss. 1 p.m.

Wednesday, December 4.—Royal Society of Arts, John Street, Adelphi, W.C.2. "Problems of Building Construction." By D. E. E. Gibson. 1.45 p.m.

A.E.A.I. AND THE R.A.F.

Following letter has been received from the President of the Auctioneers' and Estate Agents' Institute :

SIR,—The Council of the Auctioneers' and Estate Agents' Institute are sure that your readers would like to give practical expression to the admiration and gratitude which we all feel for the magnificent men of the Royal Air Force who in the last few months have been winning the battle over Britain. The Royal Air Force is the youngest of the three fighting services and has not the same endowments as the older services have for helping those of its members who have suffered in their country's cause. The Royal Air Force Benevolent Fund is doing magnificent work, but its resources are inadequate to meet all the claims made upon them, and the Council of that Fund have stated that they would be very glad to see a special fund raised for the exclusive benefit of those "few" whom we all have in mind, the pilots and crews of our aircraft.

After consultation with the Air Council and Council of the Royal Air Force Benevolent Fund it has been decided that the most urgent need is to help these pilots and crews to re-establish themselves in civil life when their Air Force service comes to an end, and to help in educating the children of those who fall. It will probably be decided to use part of the monies to provide a hostel near an educational centre in the provinces, where the children who need it can find a good home while receiving their education, and part to maintain the hostel or to give educational grants to the children. The remainder would be used to help the officers and airmen themselves in getting re-established in civil life.

The Royal Air Force Benevolent Fund will probably take over the hostel in due course and the Institute will be actively associated with the administration of the hostel and the grants. Part of the capital as well as the interest on the monies raised will be used for grants, because the need will be greatest in the years immediately after the war and the Council believe that it would be the wish of the subscribers that as much as possible of the fund should go to those who are now fighting for us and to their children.

The Auctioneers' and Estate Agents' Institute is opening the appeal with a subscription of five hundred guineas. If your readers wish to show their gratitude to the Royal Air Force by supporting the appeal they can do so by sending a donation or by making a gift of real or personal property which can be sold by members of the Auctioneers' and Estate Agents' Institute for the benefit of the appeal fund. The Branches of the Institute, which cover the whole

of England and Wales and Northern Ireland, are organizing gift auction sales for this purpose.

Major-General the Rt. Hon. Lord Mottistone has been good enough to consent to act as Honorary Treasurer. Subscriptions may be sent to the "R.A.F. Pilots and Crews Fund," Knole, Sevenoaks, Kent, or to any branch of the National Provincial Bank, Ltd., for the credit of the fund at their Lincoln's Inn Branch, Carey Street, W.C.2. Anyone who wishes to make a gift of real or personal property is earnestly requested to write immediately to the Honorary Treasurer or myself.

I am, Sir, Yours faithfully,

J. F. LINNEY, PRESIDENT,
AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE

SOCIETY OF ANTIQUARIES

A meeting of the Society of Antiquaries will be held on Thursday, November 28, at 2.30 p.m., at Burlington House, W.1, when Mr. W. J. Varley and Mr. B. H. St. J. O'Neil will read a paper on "Excavations at Old Oswestry, Shropshire, 1939-1940."

THE ALUMINIUM AGE

A warning that engineers would have to be ready to face big changes in industry after the war was given recently by Mr. W. A. Woodeson in his presidential address to the North-East Institution of Engineers and Shipbuilders in Newcastle-on-Tyne.

"Whatever may be the fruits of this War," said Mr. Woodeson, "at the close we shall face a new world and, unless our methods are elastic enough to include its new factors, we shall fail to make our best contribution.

"With reference to materials, I should like to suggest consideration of materials with which we work today and to ask ourselves whether an indication of future developments can be induced. The Stone Age, which was of immense duration, we are told, was succeeded by an age in which bronze was the most important material for the tool making of man. It was centuries after the introducing of bronze before iron displaced it as the principal engineering metal, and then came steel, and now so quickly do the conditions change that already other metals demand consideration. There are indications that aluminium will seriously challenge iron as the basic metal of the future.

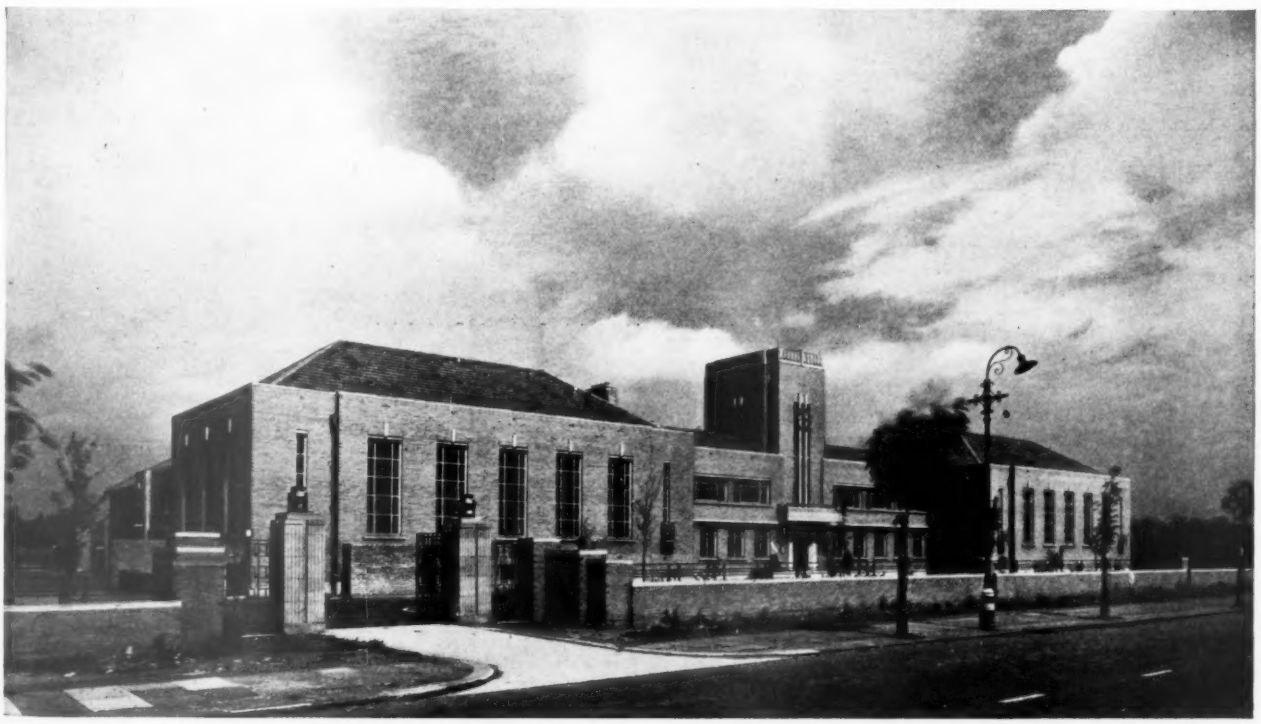
"A substantial proportion of the earth's crust is clay, and this clay contains large quantities of aluminium," continued Mr. Woodeson. "If aluminium could be cheaply extracted from clay, then every country in the world would have adequate supplies and one of the root causes of war would probably be eliminated."

Mr. Woodeson also said that a great advantage of the alloys of aluminium and magnesium was the ease with which they could be protected from corrosion.

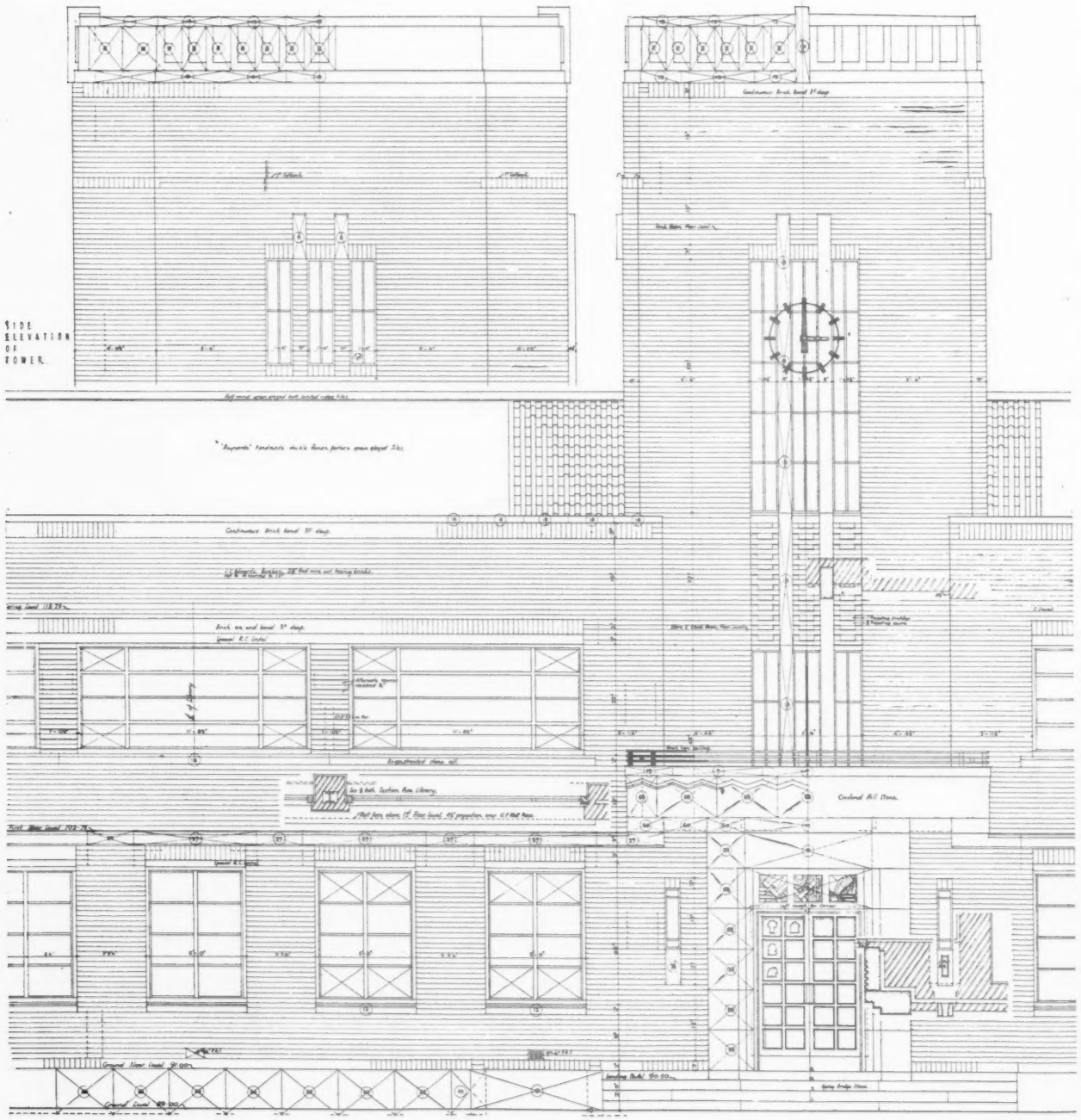
STRETFORD TECHNICAL COLLEGE

DESIGNED BY STEPHEN WILKINSON

SOUTH WEST ELEVATION



Main (south-east) front



DETAIL OF MAIN ENTRANCE AND TOWER

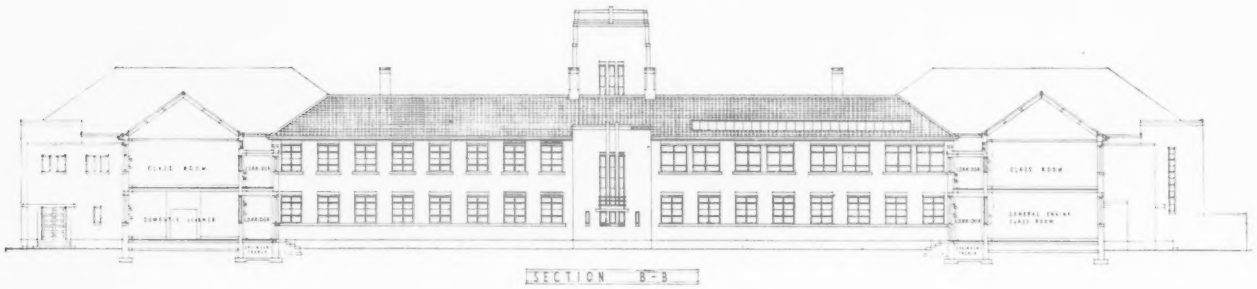
GENERAL AND SITE—The college, which has been built by the Lancashire County Council, occupies a prominent position close to the Town Hall, and faces on to a busy thoroughfare, for which reason it is set well back from the road.

CONSTRUCTION AND EXTERNAL FINISHES—Brick construction, the external walls being 16-in. cavity with stone dressings. The floors and flats are of reinforced concrete except for the assembly hall and gymnasium. The facing bricks are Ruabon and the roof is finished with green pantiles.

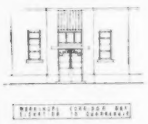
STRETFORD TECHNICAL COLLEGE

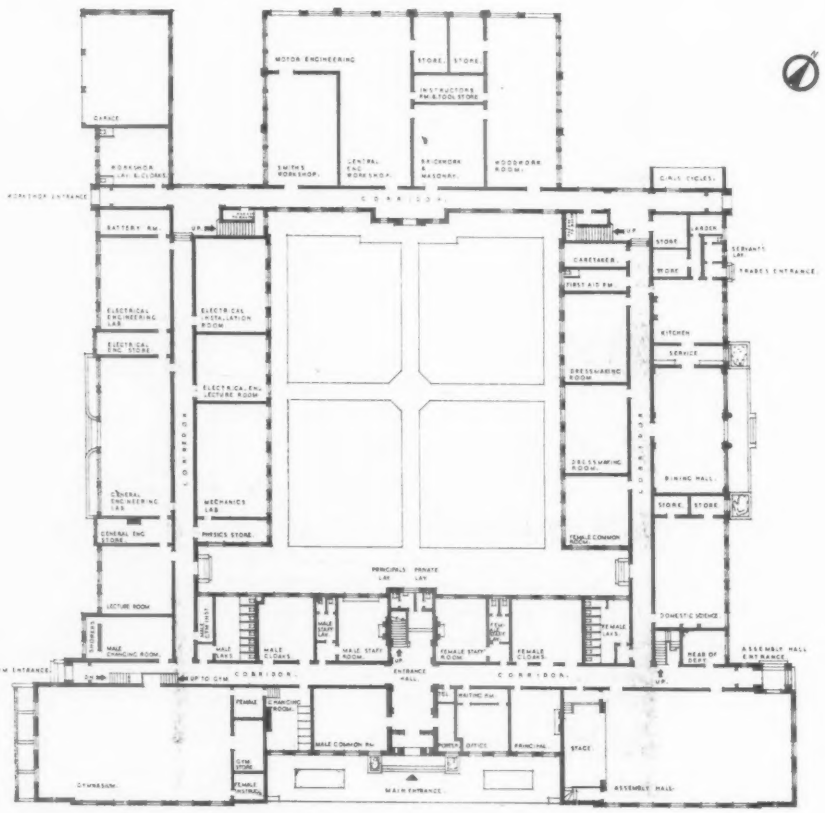
DESIGNED BY STEPHEN WILKINSON

NORTH EAST ELEVATION



SECTION B-B





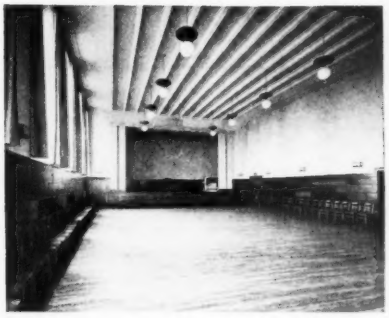
GROUND FLOOR PLAN

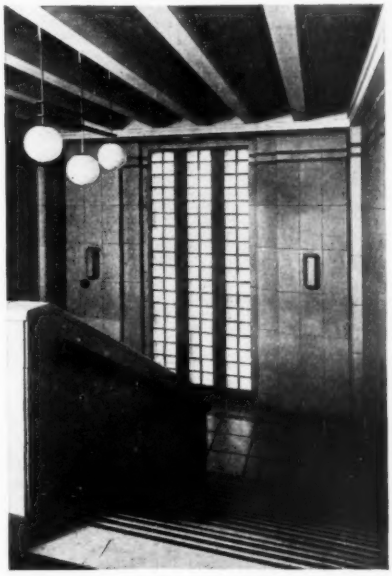
INTERNAL FINISHES—The entrance hall, staircases and corridors are of glazed faience slabs. The assembly hall, library, principal's room and dining room are panelled in walnut to a height of 7 ft. 3 in.; elsewhere the wall finish is composed of a 3 ft. 6 in. cement dado with plaster above. Most of the lights in the library are concealed. The typewriting room has been sound-proofed. The floors of the corridors, domestic science room, kitchen and cloakrooms are finished with Granwood composition blocks. Elsewhere, except for the workshops, which have a cement finish, the rooms are laid with British White Borneo flooring and the assembly hall and gymnasium with oak.

SERVICES—Heating is on the low pressure hot water system operated from thermostatically controlled gas boilers in the basement.

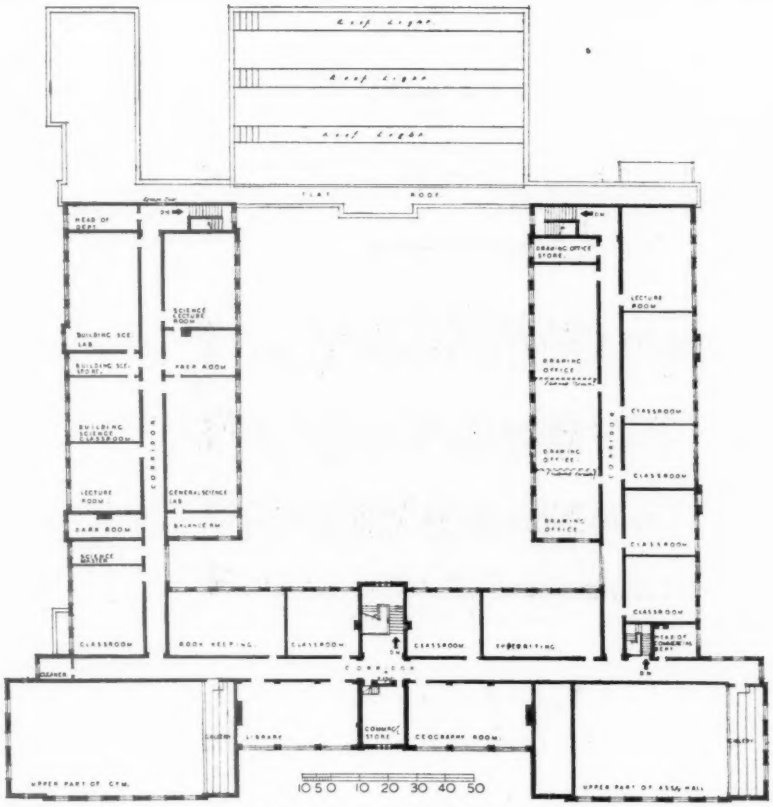
The general contractors were J. Cocker, Ltd.; for list of sub-contractors and suppliers see page xx.

STRETFORD TECHNICAL COLLEGE





Above, the library; right, from top to bottom: typical laboratory, assembly hall, entrance hall, main staircase.



FIRST FLOOR PLAN

DESIGNED BY STEPHEN WILKINSON

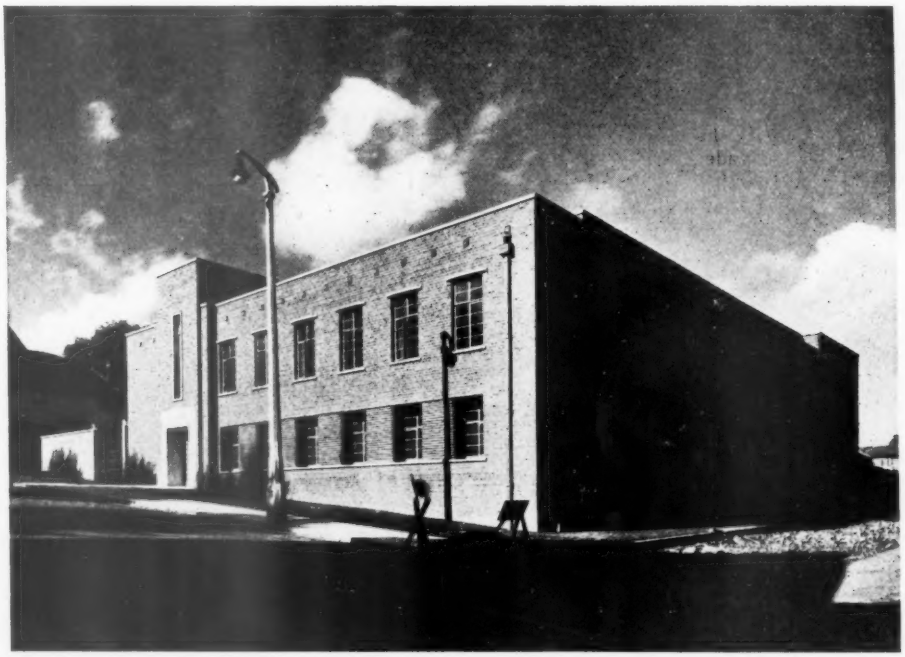
Entrance gates

POLICE BUILDINGS, BISHOP'S

DESIGNED BY VINE AND VINE

GENERAL—This building is the outcome of a limited competition held in 1936. The police station has been arranged on the ground floor with the police court, juvenile and matrimonial court, magistrates' and officers' rooms, together with the public waiting rooms on the first floor of the main block.

SITE—The site is an inverted L in shape with the leg running north to south and the arm from east to west. The position is on a steep



Left, two views of the main front. Below, view from High Street and the constables' houses.

STORTFORD

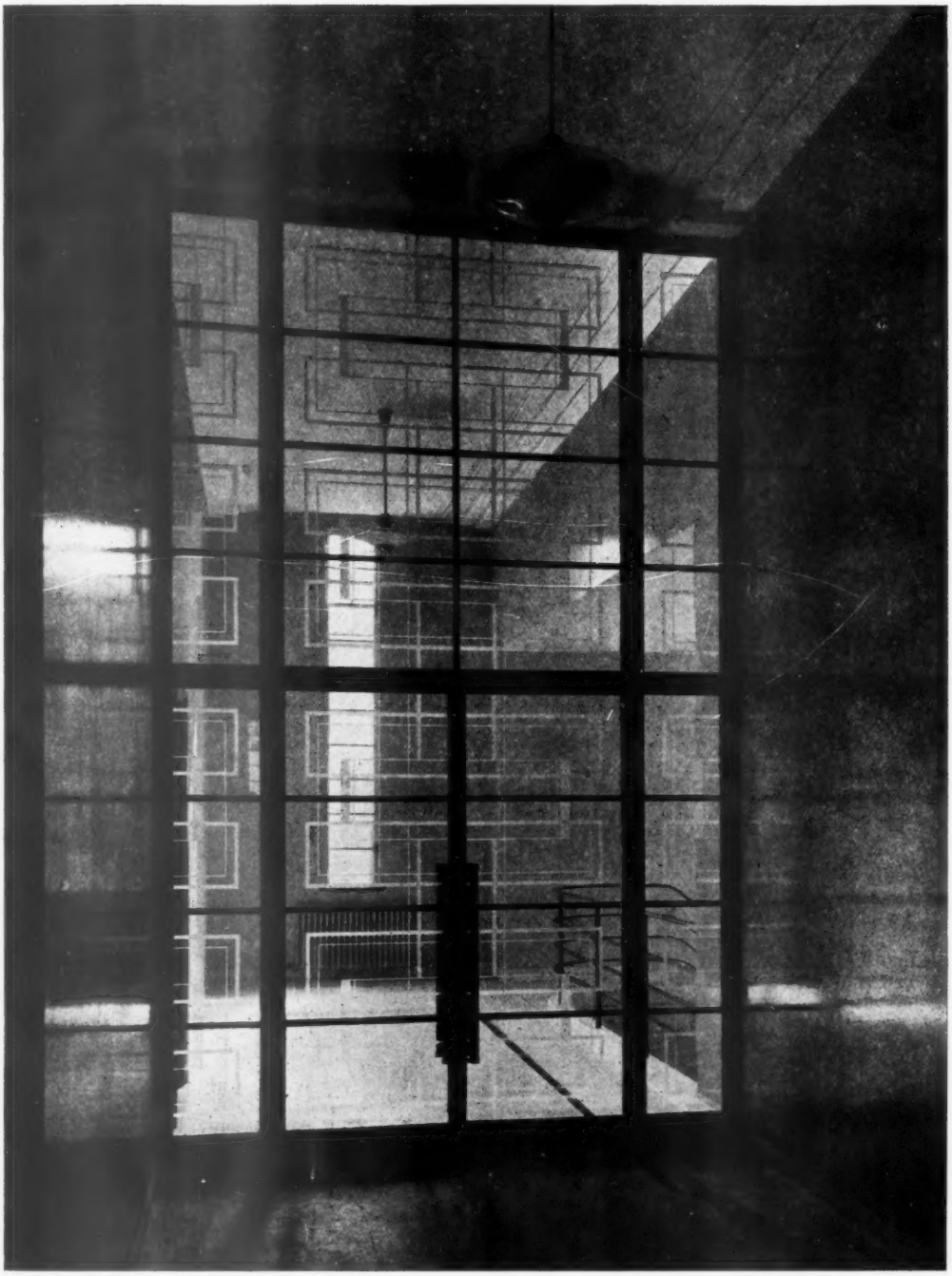
hill. New building lines had to be maintained for the future widening of High Street and Basbow Lane. An unusual amount of site clearance had to be performed.

PLAN—The main block housing the police station and courts has been arranged against High Street and Basbow Lane for easy access to the various sections. The police garage and houses have been planned in the east to west arm of the site. Police station entrance is in Basbow Lane. The entrance hall leads to the charge room and cells along the south and west sides and to the administrative offices and parade room along the east and north sides. The cell unit has direct communication to the dock in the police court on the first floor. The parade room delivers direct on to the drill yard to the north of the main unit. The main entrance to the courts is in High Street and the stair leads into the court ante room. The juvenile and matrimonial court has a separate approach stair leading to the court ante.

CONSTRUCTION AND EXTERNAL FINISHES—Walls of main unit are minimum thickness 13½-in. in lime mortar, weight bearing. Steel beams and R.C. floors and roofs with special shock-proof construction to certain parts. Elevations are in hand-made sand-faced bricks, with red dressings to first floor windows. Portland stone entrance doorway to courts ; Portland stone canopies to first floor windows to High Street.

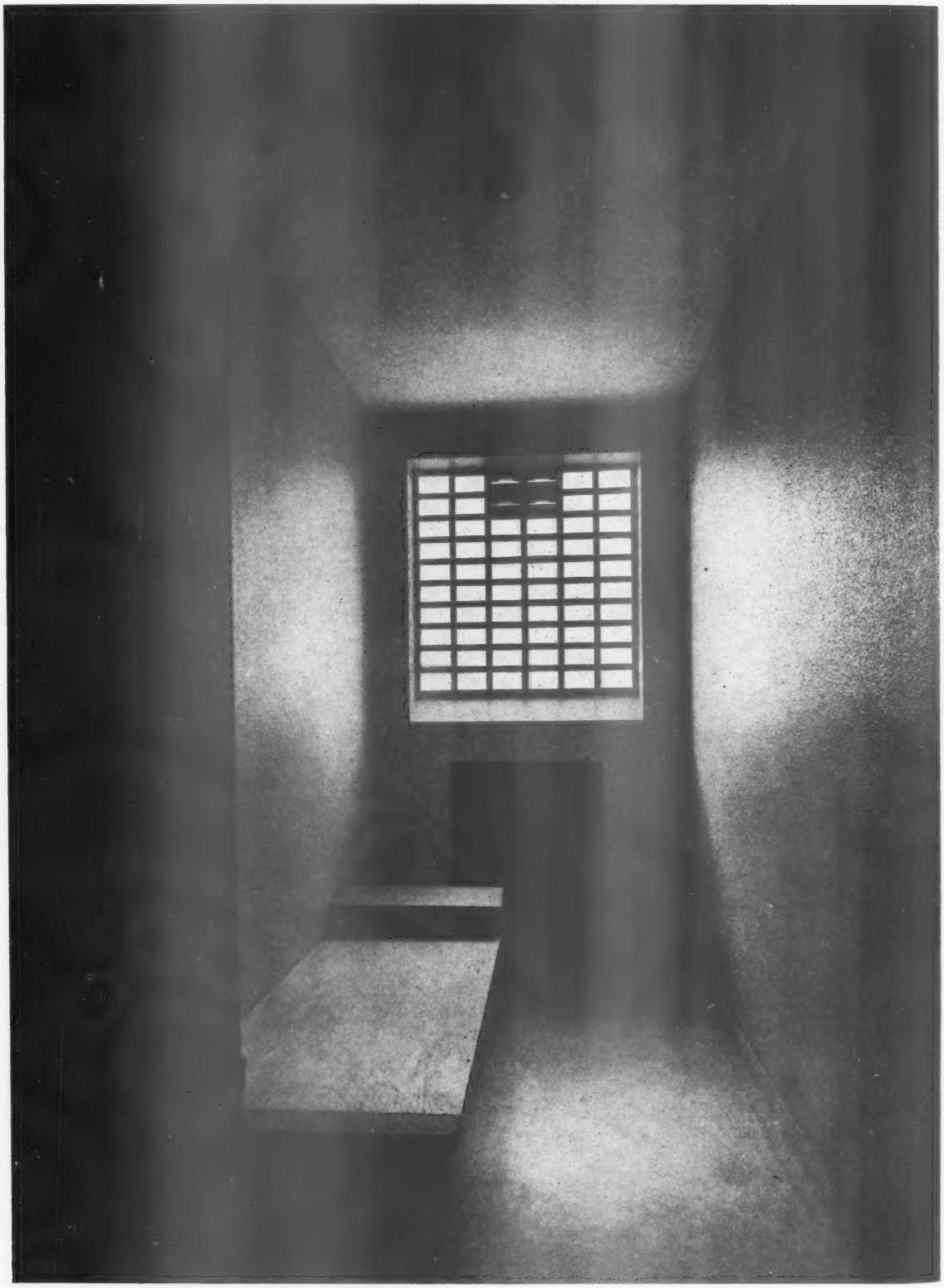
Entrance hall leading to the courts. Left, entrance to police court and corridor on the first floor leading to main staircase landing.

POLICE STATION, BISHOP'S



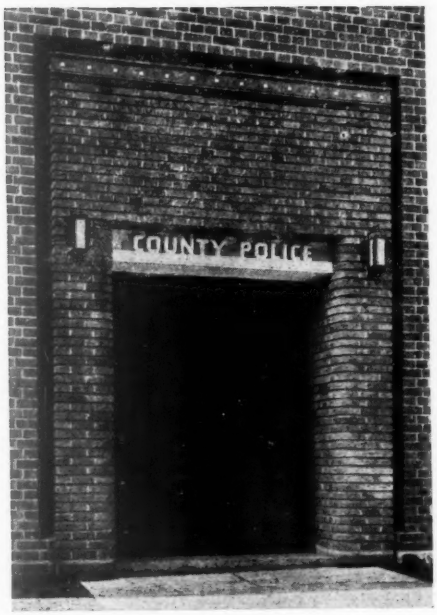
Looking from main corridor through the doors leading to the courts' staircase landing.

STORTFORD • BY VINE AND VINE



A typical cell

POLICE STATION, BISHOP'S STORTFORD



Above, court room; right, entrance to police court.

INTERNAL FINISHES—Cork floor to police court, fittings in oak and Australian walnut banding. Oak floor to juvenile and matrimonial court, all police offices, corridors and parade room. Terrazzo with bronze dividers to court ante room, landings and stairs. Walls finished in washable distemper except in police court and court ante room, which are finished in special stippled sprayed paint. Terrazzo floors and tiled walls to lavatories.

General contractors were H. C. Janes, Ltd.; for list of sub-contractors and suppliers see page xx.

BY VINE AND VINE

IRON AND STEEL

Following notes on the national survey of fixed and demolition scrap iron and steel have just been issued by the Ministry of Supply (Iron and Steel Control) :

The National Survey for the recording of fixed and demolition scrap iron and steel launched on September 24 is proving completely successful. It will obviously exceed even the expectations of its organisers both in the tonnage of material located and in the loyal and indefatigable work of the Local Government officials.

Surveyors and sanitary inspectors throughout Great Britain are giving their enthusiastic support to the formation of this gigantic Doomsday Book of the country's scrap resources, and every day their reports are pouring in to the control, revealing old buildings, mines, bridges, machinery, railway track, and a host of derelict structures containing thousands upon thousands of tons of much needed scrap metal.

From the moors, surveyors are reporting long-forgotten steel towers and overhead wires ; old sections of track leading into old workings and covered with undergrowth are being uncovered and assessed. Derelict buildings of every type are being reported and their metal tonnage assessed. Railways which were originally laid by German prisoners during the last war and which have for many years been idle have now appeared in our records. Buildings which have been destroyed by enemy action will shortly contribute their twisted girders and ironwork to our furnaces and may soon be despatched in quite another form to " the Stationmaster at Hamm."

We are learning of ancient tin and other mines which have been covered and grass-grown for many years, but which may now contribute their quota of old rails and similar scrap metal. Old pumps, beam engines, windmills, water-wheels and a host of similar items are also being revealed, but discretion will be exercised so as to avoid the destruction of any such objects which have a rare historical value.

In the counties of Somerset and Glamorgan, which were chosen to commence the survey, practically all available material has now been recorded. The Ministry of Mines have also given their whole-hearted collaboration, and their inspectors throughout the country are surveying abandoned mines and derelict collieries.

All this work has resulted in a total of well over 20,000 tons being recorded during the first four weeks of the test survey, and while it is too early to assess the probable total resources which will be discovered throughout Great Britain, the officials responsible are confident that it will eventually total at least half a million tons—sufficient steel to build a fleet of over 300 destroyers for H.M. Navy or a gigantic force of 7,000 heavy army tanks !

Now that the tests have proved the efficiency of the survey method, and the probable tonnage and type of material which it will reveal is known, it is planned to press forward with the survey in other areas.

The survey is now being extended to the whole of Scotland and the counties of London and Middlesex ; other areas will follow as rapidly as the work can be organized.

It will be appreciated that the order in which these areas are chosen is dependent upon many factors, not the least of these being scrap dismantling and transport facilities, plus the needs of the steel works in the immediate vicinity.

Demolition and clearance of the survey material has already commenced in several areas. The material is being selected according to the type of metal which is most urgently required by the steel works and where it is of such a nature that it can be collected and recovered most easily and economically.

SOME QUESTIONS ANSWERED THIS WEEK

★ *WITH reference to the R.I.B.A. request for assistants willing to go at short notice to deal with raid damage, can you tell me what is the position of an assistant of military age registered but not yet called up?* - - Q593

★ *WE shall be glad if you could give us any information on official publications dealing with the camouflage of buildings* - - - Q595

★ *WE have an enquiry relative to the use of netting in camouflage where it is not desirable to use paint or distemper on an ornamental elevation. Can you please give us the names of firms who specialize in this—either wire netting with strips or coir or fish netting?* - Q598

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

Q592 ARCHITECT, LONDON.—*I believe that in an answer to a query published some time ago, it was stated that FEES FOR ASSESSING WAR DAMAGE could not be included in the claim for compensation. In view of the fact that the Government Compensation Scheme (final report of the Committee on the principles of assessment of damage) states in paragraph 10 that "professional fees properly incurred" can be included in the cost of reinstatement, would you kindly let me know if the answer published was correct?*

The answer to the question referred to was correct inasmuch as professional fees for advice or the assessment of war damage may not be included in the claim. The District Valuer will assess the damage and if the owner wishes to appoint someone to look after his interests, he must do so at his own expense. In cases of reinstatement, however, the claim may include the full cost of reinstatement, including such fees as would properly be incurred, i.e. if a large building was partially destroyed, it would probably be necessary for the owner to employ an architect, and possibly also a quantity surveyor when rebuilding. In such a case, the architect's fees and surveyor's fees

would form a normal part of the cost of reinstatement and, therefore, may be included in the claim. Assuming that a large building was practically destroyed, and it was agreed that the cost of reinstatement should form the basis of the claim, the claim might be based simply on a cube or on records of the original cost, and the architect or surveyor appointed to negotiate with the District Valuer might only *charge his client* a comparatively small fee. In the claim for compensation, however, they would still be entitled *to include* full architect's and surveyor's fees in connection with the rebuilding, as this would form part of the normal cost of reinstatement. The attitude of the War Executive Committee of the R.I.B.A. on this matter is described in a note on p. 268 of the *R.I.B.A. Journal* for October 21.

Q593 ARCHITECT, WILTS.—*With reference to the R.I.B.A. REQUEST FOR ASSISTANTS willing to go at short notice TO DEAL WITH RAID DAMAGES, can you tell me what is the position of an assistant of military age registered but not yet called up?*

An individual of military age, registered, but not yet called upon for military duties, may apply for any vacant job. If, of course, he is at present engaged upon work of National importance it will be necessary to have the sanction of his present employer before accepting a new appointment. There is no special exemption from military service for architects engaged upon war damage work, but architects so engaged should inform the local office of the Ministry of Labour and National Service where registration was first made under the Armed Forces Service Act. In addition, if an architect so engaged is later called up, the authority employing him is at liberty to apply on his behalf for a postponement.

Q594 ENQUIRER, MIDDLESEX.—*I am constructing an air raid SHELTER in pre-cast concrete units IN HEAVY CLAY SOIL. Do you recommend covering the exterior before filling in with puddled clay, and is there any special way of working the latter? Also, are there any other precautions to be taken so as to ensure that the shelter is damp-proof?*

The precautions to be taken in damp-proofing the shelter will depend largely on the design of the shelter and on the level of the shelter base in relation to the permanent water level of the surrounding ground. Infiltration of surface water no doubt could be avoided by forming channel runways at any point surrounding the shelter where ponding of surface water is likely to take place. Precautions against infiltration of water caused by pressure set up by a ground water level higher than the shelter base will be dependent upon the head of pressure. Even for fairly severe conditions it should be sufficient to coat both walls and floor with, say, ½-in. thickness of waterproofed cement rendering. Alternatively, on the exterior a hessian or jute treatment in conjunction with cold applied bitumen could be used. In this, the walls are coated exterally with a bitumen solution and into this the jute cloth is embedded. Two further coatings of the bitumen should be applied over the embedded jute. With all waterproofing against pressure it will be necessary to treat the floor in the same way as the walls and to carry the treatment through the walls at floor level. The extent of water pressure might make it advisable also to superimpose a further layer of concrete over the floor waterproofing layer. As alternatives to the jute layer a bituminous felt could be used or the coatings could consist of mastic asphalt. The efficiency of puddled clay lies largely in the continuity of the layer, and in maintaining all parts of the clay in a permanently damp state, so as to avoid drying and consequent shrinkage.

Q595 ARCHITECTS, NOTTS.—*We shall be glad if you could give us any information on official publications dealing with the CAMOUFLAGE OF BUILDINGS.*

A.R.P. Handbook No. 11, entitled "Camouflage of Large Installations," is published by His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, price 3d. net. If, however, all the information desired is not contained in this publication, it is usually possible to enlist the aid of the Civil Defence Camouflage Establishment, Ministry of Home Security, Leamington Spa.

Q596 ARCHITECT, GLOUCESTER.—*In connection with general building work, on which I am engaged at the present, a CONTRACT has been entered into by my clients AND the builder. This is the 1939 amended form of contract, containing clause 25 (e), referring to damage to the works and the payment of contractors. In one scheme there is certain SPECIALIST'S WORK which forms an entirely separate contract and for which the R.I.B.A. Form of Contract could not be used. The tender for this work was accepted by a formal letter of acceptance. I should be obliged if you would inform me what the position of this specialist is in connection with any work he has executed, and whether clause 25(e) would be held to apply in his case, although no contract has been signed.*

The question seems to centre on a legal point, and the Information Centre cannot undertake the duties or responsibilities of a solicitor; in any case, the information given in the question is not sufficient for a complete answer to be given. As the work was not carried out under the R.I.B.A. Contract, the provisions of the contract cannot apply. It is usual, however, for an estimate to state conditions of sale (these are often printed on the back of the estimate) and both parties would be bound by these conditions. Normally, if an article is purchased, ownership passes to the purchaser on delivery, and after the delivery the manufacturer is free from liability. Also, in the case of alterations to an existing building, the work is normally considered to belong to the employer, as it is difficult to differentiate between new and old work, and the builder's work by itself would be valueless. If a firm has contracted to deliver and erect an installation on the site, and to leave it in perfect running order, or has contracted to erect and hand over to the owner some building complete, and payment is not required until the installation or building is complete, it is possible that the ownership until completion would belong to the contractor. A great deal depends, however, on the conditions of sale, when the damage occurred, and whether any payments on account have been made.

Q597 ARCHITECT, ESSEX.—*I should be glad if you could give me the names of any firms who are in a position to make SLATE SILLS. Messrs. The Slate Slab Products and their successors have both ceased production, and I am anxious to find a firm who is able to produce sills and copings in this material.*

We have no knowledge of any firms producing standard forms of slate sills, as did the Slate Slab Products Co., but the firms given below* are

* *The Oakeley Slate Quarries Co., Ltd., 332 Abbey House, Victoria Street, S.W.1; Messrs. John Fletcher and Dixons, Slate Works, Caernarvon; Messrs. John Williams & Co. (Rotherhithe), Ltd., Rotherhithe Street, London, S.E.16.*

prepared to make up slate sills and copings to order.

Q598 DECORATORS, YORKS.—*We have an enquiry relative to the use of NETTING IN CAMOUFLAGE where it is not desirable to use paint or distemper on an ornamental elevation. Can you please give us the names of firms who specialize in this—either wire netting with strips or coir or fish netting?*

Fish netting suitable for use in camouflage work is obtainable from the firms given below.*

Q599 ARCHITECT, BIRMINGHAM.—*We should be very grateful if you could supply us with the names of firms who make cast iron or STEEL FLOORING TILES or any information which your experience can give us. We believe that these metal tiles are made triangular in shape, and about 9 in. in size, with chequered face, and that they can be bedded in cement or other material.*

The metal tiles to which we think you are referring are made by Stelcon Industrial Floors, Ltd., whose address is Clifford's Inn, London, E.C.4. The tiles can be bedded in cement, and the manufacturers would no doubt give you any further information you require.

* *Messrs. Savage & Co., 171 Uxbridge Road, Hanwell, W.7. Messrs. Reed and Savage, 596 Harrow Road, W.10. Messrs. L. O. Trivett, Ltd., 118/9 Fore Street, E.C.2. Messrs. Gassons, Ltd., Rye, Sussex. Messrs. J. Jarrett, Rye, Sussex.*

REFERENCE BACK

[*This section deals with previous questions and answers.*]

Q549 *October* 17, 1940

Camouflage for car park. It has been pointed out that Freeman's Cementitious Camouflage Paint (made by Joseph Freeman, Sons & Co., Ltd., Cementone Works, Wandsworth, London, S.W.18) is suitable for this work, and has successfully stood up to heavy traffic on the Kingston By-Pass for over ten months.

Q557. *October* 17, 1940.

Condensation-free linings for Anderson steel shelters: In the reply recommending the use of fibre insulating boards for this purpose the Centre omitted to include Insulwood board, manufactured in this country by The Patent Impermeable Millboard Co., Ltd., of Sunbury-on-Thames. This board, in addition to preventing condensation, possesses good insulating properties against heat and cold.

Q562. *October* 17, 1940.

Light-tight air bricks for use in shelters: Messrs. Proctor and Lavender, brick manufacturers. of Solihull, Birmingham, have informed the Centre that they are producing both light-tight and gasproof ventilators for shelters.

SHELTER INSULATION

From a Correspondent

THE likelihood of air raid shelters being used for long periods as the nights get longer and colder makes it very necessary to do all that can be done to improve conditions in shelters. Provision of sleeping bunks is now in hand, and consideration is being given to keeping shelters warm enough and dry enough on winter nights.

The installation of heating plant and the subsequent provision of a fuel supply for all shelters—particularly some of the "surface" shelters recently constructed, is a task which can hardly be achieved without interfering with war production, and it is worth while to consider other ways of solving or simplifying the problem. A properly insulated structure will always need very much less in the way of heating plant than one which is not insulated, and the effect of even a minimal amount of insulation on the amount of heat required to maintain a given temperature within a structure can be illustrated by a simple example.

A surface shelter for 50 persons has a floor area of 300 sq. ft., the same ceiling area, and an internal wall area of about 900 sq. ft. The roof is a 4½-in. concrete slab having a thermal transmittance ("U") of 0·865 B.Th.U. per sq. ft., per hour, per °F. temperature difference between the air inside and the air outside, and the walls are of 14-in. hard brick with a thermal transmittance of 0·435. The floor is of concrete laid direct on the ground, transmitting approximately 1 B.Th.U. per sq. ft., per hour, per °F. temperature difference between the air in the shelter and the soil below. It is desired to maintain a temperature of 60° F. inside the shelter when the temperature of the air outside falls to 30°F. (i.e. a 30°F. temperature difference) whilst allowing ventilation at the rate of at least 150 cu. ft. per person per hour, i.e. 4,500 cu. ft.

Assuming a soil temperature of 50°F., the hourly heat loss for which we must make provision will be :—*

		B.Th.U.
Roof :	300 × 0·865 × 30 =	7,785
Walls :	900 × 0·435 × 30 =	11,745
Floor :	300 × 1·000 × 10 =	3,000
Ventilation :	4,500 × 0·019 × 30 =	2,565
	Total	25,095

Now, suppose the roof and walls to be lined with ½-in. insulating fibre board (e.g. Tentest) fixed to 2-in. by ¾-in. battens so as to provide an air space. This will reduce the thermal transmittance of the roof to 0·296 and of the walls to 0·221, and the hourly heat loss for the same conditions will now be :—

		B.Th.U.
Roof :	300 × 0·296 × 30 =	2,664
Walls :	900 × 0·221 × 30 =	5,967
Floor :	300 × 1·000 × 10 =	3,000
Ventilation :	4,500 × 0·019 × 30 =	2,565
	Total	14,196

There is no need for the shelter to be heated except when it is occupied, and when it is occupied the heat output from the bodies of the occupants must be allowed for. The heat given out by a human body at rest is variously taken as from 300 to 400 B.Th.U. per hour, so that this natural source of heat provides, when the shelter is filled, from 15,000 to 20,000 B.Th.U. per hour—enough to maintain the desired temperature in the insulated shelter *without* artificial heating.*

Owing to the thermal resistance and low specific heat of the insulating lining, the shelter will now warm up much more quickly than when the brick walls and concrete roof were exposed, as they must themselves be warmed considerably before a satisfactory increase in air temperature could be felt. The lining will also overcome the uncontrolled infiltration of air through the brickwork which can become very considerable, especially in a high wind.

Not only the *air* temperature, but also the temperature of surrounding *surfaces* has a great effect on bodily comfort. A low wall or ceiling surface

* In the example we ignore, for the sake of simplicity, variations due to exposure, differences in air temperature between floor and ceiling levels, etc.

* Obviously where the outside temperature is much above 30°F. and the shelter is fully occupied, the inside temperature will tend to rise above 60°F., but any undue rise can be checked by increasing ventilation over the minimum stated.

temperature conduces to greater heat loss from the body by radiation, and also a greater air movement due to a more rapid chilling of air adjacent to the cold surface and a consequent feeling of draughts, even though no air be penetrating from outside.

The temperature of the containing surfaces of a structure, for given internal and external air temperatures, varies inversely with the thermal transmittance. In the shelter under examination, with the internal and external air temperatures of 60°F. and 30°F. prolonged until stability is reached, the temperature of the ceiling surface, without insulation, would be 44°F. The ½-in. fibre board lining will bring this up to 54½°F.

The higher surface temperature of the insulating lining compared with that of the surfaces which it covers up has another and possibly even more important effect as regards the comfort of the occupants, namely, the elimination of condensation from walls and roof under all normally attainable conditions. Reference to the graph on ARCHITECTS' JOURNAL Information Sheet No. 580 shows that, with the temperature conditions stated, condensation will commence on the uninsulated ceiling as soon as the relative humidity of the air in the shelter rises above 55 per cent., whereas, after insulation, relative humidity must reach 81 per cent. before ceiling condensation will occur. While reasonable ventilation is maintained, it is practically impossible for relative humidity ever to reach this figure, especially as the uninsulated concrete floor provides a colder surface on which condensation will take place preferentially. If conditions necessitate the deposit of condensation somewhere, it is obviously preferable that it should occur underfoot rather than overhead, but the provision of duck-boards and a drainage sump is recommended.

THE BUILDINGS ILLUSTRATED

STRETFORD NEW TECHNICAL COLLEGE (pages 411-415). Architect: Stephen Wilkinson, F.R.I.B.A. General contractors were: J. Cocker, Ltd. Sub-contractors and suppliers included: Bolton Stone Co., Ltd., mason; W. Altham, slater and tiler; J. Jaffrey & Co., plumber and glazier; W. Pickup, plasterer; A. Sharrocks, painter; C. Seward & Co., Ltd., heating and hot water; R. N. Tinniswood, electrical installation; Bolton and Hayes, Ltd., concrete floors; Monks Patent Glazing Co., roof glazing; Shaws Glazed Brick Co., Ltd., faience wall tiling; Stefanutti Terrazzo, Ltd., terrazzo paving; Granwood Flooring Co., Ltd., composition block flooring; Cork Insulation Co., Ltd., cork composition flooring; A. Francis, wall tiling; W. Higgin, Ltd., wood panelling; Hills Patent Glazing Co., Ltd., railings and gates and ironwork; Musgraves (Liverpool), Ltd., sanitary fittings; Bethell and Sons, Ltd., road crossings; E. Wood & Co., Ltd., steelwork and roof principals; Humphries Jackson and Ambler, Ltd., steel windows; H. H. Martyn & Co., Ltd., entrance doors and bronzework; Christie Patent Stone Co., Ltd., reconstructed stone; W. and R. Leggott, Ltd., ironmongery; Lenscrete, Ltd., dome lights; Venesta, Ltd., doors; J. E. Hargreaves & Co., partitions; J. Faulkener and Sons, Ltd., lightning conductor.

NEW POLICE STATION AND COURTS, BISHOP'S STORTFORD (pages 416-421). Architects: Vine and Vine, A.A.R.I.B.A. General contractors were H. C. Janes, Ltd. Sub-contractors and suppliers included: W. J. Reeve, demolition; Salter Edwards & Co., Ltd., asphalt; British Reinforced Concrete Co., Ltd., reinforced concrete; Finnis and Ruault, facing bricks; London Brick Co., Ltd., structural bricks; Bath and Portland Stone Firms, Ltd., stone; Redpath Brown & Co., Ltd., structural steel; W. T. Lamb and Son, tiles; J. H. Sankey and Son, Ltd., Cranham partitions; J. A. King & Co., Ltd., concrete rooflights; Matthew Hall & Co., cast lead; Hollis Bros. & Co., Ltd., woodblock flooring; Sika-Francois, Ltd., waterproofing materials; Sulzer Bros., central heating and ventilation; Ideal Boilers, Ltd., Ideal boiler; Northern Electrical Service Co., electric wiring; Troughton and Young, Ltd., Walsall Conduits, Ltd., electric light fixtures; John Bolding & Co., Ltd., sanitary fittings; James Gibbons, Ltd., door furniture; Crittall Manufacturing Co., Ltd., casements and window furniture; Potter Rax Gate Co., Ltd., folding gates and metalwork; J. Sullivan, plaster; W. A. Telling, Ltd., decorative plaster; J. Starkie Gardner, Ltd., metalwork; Geo. M. Hammer & Co., joinery (court); Diespeker & Co., Ltd., terrazzo; Art Pavements and Decorations, Ltd., tiling; Bishop's Stortford Urban District Council, water supply.