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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.

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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.*

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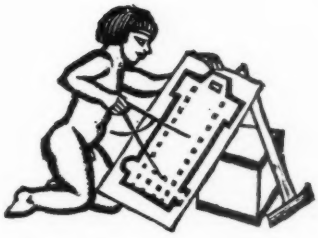
ALL-TIMBER BUILDING AT NETLEY

The all-timber recreation building which the Timber Trade Federation of Great Britain has built for the wounded soldiers at the Royal Victoria Hospital, Netley, was handed over to the care of the Y.M.C.A. on September 20. Mr. Leonard Arnott, President of the Federation, in handing over the building to the Y.M.C.A., pointed out that it was a building of a hundred beams. Western Red Cedar had been used for the walls and the shingle roof, and in one of the rooms was a dado of 115 different woods from every part of the world. He hoped that the building would bring comfort, rest and recreation to those whom the fortunes of war brought to Netley Hospital. Mr. Arnott finished by suggesting that the example set by the timber industry might be followed by other industries, thereby helping the Y.M.C.A. in their great work.

The architect for the building, which cost £12,000, was Mr. Kenneth Lindy.

Z Ü R I C H

The Cathedral at Zürich contains one of the earliest examples of groined vaulting of the Romanesque period. It was built in the eleventh to the thirteenth centuries on the site of an older church destroyed by fire. The upper parts of the towers, shown above, were later additions.



TELLING THE ORDINARY MAN

IT was announced last Thursday that Sir John Reith had been appointed Minister of Works and Building, and that a statement defining the scope and functions of the new Ministry would be made in the near future.

At the time of writing that statement has not appeared, but every member of the building industry should think about one or two points regarding the announcement and its immediate results. First, Sir John Reith is to be something more than First Commissioner of Works ; second, Sir John is supposed to be an expert in putting new organizations into running order : both these factors point to the new Ministry being intended to do a new job.

But far and away more important than these is the fact that last Friday's morning newspapers were completely unable to understand the appointment or to suggest what the probable scope of the new Ministry would be.

Some facetiously supposed that Sir John was to ponder over the rebuilding of a better London in the House of Lords : the majority could think of no explanation at all. After a year and a month of war the Press showed that it still had no understanding of what a Ministry of Building could do and should be doing.

The building industry should take careful notice of this revelation. But it should not be unduly disheartened by it. The ordinary man can see very plainly that the repair of damaged houses, pitted roads, interrupted transport and other services is tied up with the building industry. What he does not see yet is the connection between these essential repairs and a Ministry of Building.

The building industry can soon tell him. Long before the war the industry maintained that it would be in the Front Line in a modern war : by which it meant that a thoroughly organized, efficiently operated building industry would become of first-rate military importance. At that time the Government agreed with the industry's opinion in so far as they reserved the great majority of its members. But they went no further : the question " Reserved for What ? " fell on deaf ears.

Soon after war began the industry and its allied professions repeated their contention, with the addition that the efficient operation of a huge industry demanded that a single, powerful authority should be put in charge of it—to allocate existing resources, forecast future demands and prepare resources to meet those demands. This appeal—restated from November on with increasing insistence—was ignored. No bombs were falling then.

Let us recall what did happen instead—in order that the industry can explain to the ordinary man just what the link is between an efficient Ministry of building, damaged houses and the war.

When war broke out each Service Department had been accustomed to be cock of its own walk in all building matters, and all of them, together with the Ministry of Supply, were faced with the need for carrying out a huge building programme very rapidly. It was therefore easy and tempting for each Department to hold —since no bombs fell—that there was no necessity for a Ministry of Building. Private building was bound to slump, they maintained, and if each of them was given a portion of the freed building resources all would be well.

Unfortunately, all was not well. Despite the most vigorous efforts of Service Departments to handle, by peacetime methods, works twenty times peacetime size at four times peacetime speed, they could not use more than a fraction of the building industry's existing resources. In consequence, the industry suffered from grievous unemployment, contracting firms became skeleton organizations and manufacturers closed down.

Eventually an uneasy stability was reached. The bulk of the industry's resources were being shared by Government Departments for purposes of *expansion*. The *maintenance* question—particularly maintenance of both the general social mechanism and war industries under bombardment—sank into the background.

Then the blows began to fall. First, Scandinavian soft woods were cut off and an extra strain on shipping space was caused by the invasion of Denmark and Holland. Then a heavy run on basic materials took place for fortification. Finally, most important of all, aerial bombardment began.

By the middle of last month it became plain that a most dangerous situation would arise if the bulk of the resources of the building industry was to continue to be allocated by a Committee of Service and Supply Departments each of which was solely interested in satisfying its own demands and no one of which was charged with looking after the building industry. What is more, it was obvious that merely adding a number of *maintenance* raiders of the building store cupboard to the number of *expansion* raiders already in possession would not get us any nearer seeing that the store cupboard was well looked after and kept stocked to meet future demands.

It was to look after the store cupboard that the industry has asked repeatedly for a Ministry of Building, and it is for this duty that it hopes Sir John has been appointed. To learn how every existing resource of the building industry is being used, to list all existing materials, to demand a programme for a year ahead from all users of building products and labour, to standardize and simplify all types of building and building equipment capable of being so treated, to see that labour and materials are ready in time for future work and to allocate them with the greatest skill—these are the duties which builders and architects hope the new Ministry will be asked, and empowered, to undertake.

They should lose no time in telling the ordinary man of these things by every means in their power.

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

NOTES & TOPICS

BUILDING IN THE FRONT LINE

IT is probable that on September 6 Britain's main war strategy for the following six months could have been summarized in two slogans: *Hold Fast* and *Grow Stronger Quickly*.

*

A week later the slogans had undergone an all-important change. They had become—*Hold Fast Despite Bombs* and *Grow Stronger Despite Bombs*. To the man in the street in the first week of the Blitz, the changed conditions did not seem to call for any great changes in civil organization. They needed, in his first view, courage, more shelters and perhaps strengthened A.R.P.—that was all.

*

The Government and its advisers were under no such illusion. Every day the new phase of war raised a new problem which required immediate solution—first aid and temporary or permanent accommodation for the homeless, evacuation, sleeping shelters, communal feeding, repairs to essential buildings, services and communications. To cope with the immediate aspects of these problems three "dictators" were appointed in London—for the homeless, for shelters, for repairs.

*

But it was clear that makeshift solutions for immediate needs were not enough, that the possible developments of each problem and their connection with each other must be thoroughly studied and provided for. And it was plain—the building industry may be tempted to say it was *at last* plain—that the basic and common aspect of all these problems was the demands they would make on the building industry and building resources. It was plain that no reliable plans could be prepared for their solution unless it was certain that the required building resources would be forthcoming.

*

Builders and building resources thus became of first-rate strategic importance. The industry had to be made ready to carry out two jobs under all possible conditions: (1) Expanding military resources; and (2) maintaining the rate of that expansion and the ordinary mechanism of civil life under aerial bombardment, as well as providing such special apparatus as is needed to offset the results of bombs.

*

One may presume that the Government has decided that preparation of the industry for these paramount duties requires a review of all existing resources and that, in the future, the building and allied industries and professions must be supervised by a single authority whose sole duties will be to allocate building resources and build them up for future demands.

*

Up to last Thursday no Department was charged with looking after the industry itself and the allocation of its resources was largely decided by a Committee of *Expansion* Departments who, very rightly, were each solely concerned with obtaining the maximum quota of existing labour and materials for new dockyards, aerodromes, huttings, munition factories or what not.

*

The continuance of this procedure under the Blitz was manifestly a short cut to civil breakdown, and the rather mysterious sequence of announcements during the past week indicates that a change is taking place.

*

The appointment of Sir John Reith—Britain's New Ministry-Maker No. 1—as Minister of Works and Buildings is an excellent first step. At the moment the second and all the other steps are wrapped in mystery. A wireless broadcast has asked for young architects and here and there a man of experience in building hints that he may be changing his job. That is all.

*

The heads of the industry and its professions may be already in consultation with Authority. It is probable that they are, and the rank and file must be content to wait for details for a little while.

*

But there is no necessity for them to wait before expressing their greatest fear—that the new Ministry may become a wartime home for a score of senior Civil Servants whom the war has deprived of their usual jobs. It has happened before in other new Ministries, and it will happen again unless the building industry sets its jaw with unprecedented firmness. Everyone knows the sequence—the Ministry of Economic Warfare wants a Secretary for its Phosphates Contraband Committee: the job is reckoned equal to that of Assistant Permanent Secretary, Grade I: the Establishment looks around London for an A.P.S., Grade I, who is unemployed, and finds one: he is installed and turns out to be the Assistant Keeper of Chinese Calligraphy from the British Museum. Does that matter in the eyes of Civil Service Establishment?—Not a bit. "Why," (as the most famous story ends), "the first meeting of the Committee does not take place for a week."

*

If this happens in the new Ministry of Building, the building industry should remember that it is always easier to have a row at once rather than later on.

MR. WILLINK'S JOB

Mr. Henry Willink, M.P., new commissioner for rehousing London's homeless, completed last week a three days' tour of preliminary inspection and enquiry in badly damaged

areas, and the first reforms of existing methods may be expected to be announced any day now.

*

Mr. Willink has been asked to solve the hardest problem which this war has yet raised—a job in which the psychological problems far outweigh those of transport, accommodation and organization.

*

It is obvious that the number of people whose homes would be made temporarily or permanently uninhabitable was gravely underestimated up to September 7. It is obvious that the problem of temporary and permanent rehousing cannot possibly be solved by individual local authorities, but only by a Regional, and probably inter-Regional, organization.

*

But these aspects of Mr. Willink's problem are superficial and easy to remedy compared with its hard core—the extent to which the maintenance of the family unit, either in or away from usual surroundings, is compatible with a continued Battle of London. It is on the ordinary man and woman's feelings upon this question, and on the success with which those feelings can be changed or allowed for, that victory in the Battle of London may greatly depend. No skill, effort or organization should be grudged which will ensure complete confidence and understanding between Mr. Willink's organization and those whom it is setting out to help.

*

It is clear, at present, that such confidence and understanding will be desperately hard to secure if the breaking up of the family unit, *without special remedies for the consequences of that break-up*, becomes the usual sequel to the home of a poor family being damaged by a bomb. Such a sequel has been inevitable in many cases already : circumstances may arise in which it is inevitable in more. But it should never be forgotten how dismaying separation is for those who have never used a telephone, have no aptitude for letter writing, and have little money for train fares and none for "separate establishments."

*

At first, it was reported that families from crowded districts preferred evacuation to the country rather than removal to a strange district of London. This seems understandable : in the West End the family knows no one, food costs more, the bombs are still there, and the husband has to make long and costly daily journeys to work. In the country there is peace if equal loneliness, the children have somewhere to play, and the husband—saved the time and money of daily travel—had a chance of 'bus-ing and lorry-hopping to see the family at weekends and of lodging with a neighbour.

*

As damage increased these chances became smaller, but the first choice seems to suggest that evacuation, both before and after damage to houses, could be made much more successful if three requirements could be satisfied.

*

First, that all evacuees from a given London district should always be sent to the same reception area. Second, that communal living arrangements can be made for those who remain. Third, that cheap trips should be arranged regularly at weekends between the evacuation and reception areas.

*

None of these suggestions are new. Here and there each has been adopted or improvised on occasions. What is needed now is less occasional improvization and more large-scale organization. The civil population either is or is not an army in the front line. If it is, and we are told it is, then the amenities and organization provided for the army must also be provided for that section of the civilian population which cannot supply them for itself.

KILLING THE GOOSE

I have received the following letter from an architect who has just been exiled on Government business to a famous Midlands spa :

*

This town, whose streets once echoed to the sound of creaking bathchairs, is now enjoying a boom besides which a Yukon gambling town during the gold rush would appear as restful as a remote country village. Troops, civil servants, moneyed refugees and the less fortunate evacuees crowd the streets and fight their way into the shops and cinemas. Cafés have almost given up serving anything but fried fish, and the problem of where to have dinner, always difficult in a provincial town, has become insoluble.

*

Every evening a thousand bed-sitting rooms disgorge their occupants, who can be nightly seen huddled round the knee-cracking tables of "Pansie's Parlour" or the gold wickerwork of the local cinema café. In one thronged and clamorous tea room an elderly lady (evidently a pre-war inhabitant), after waiting some time for her order, was heard to say to the waitress, "As there are so many people here today I'll come back tomorrow." The decision was apparently made and accepted without surprise.

*

The problem of accommodation is as difficult as that of sustenance. Hotels are charging prices reminiscent of the Riviera at the height of the season, and without the trouble of installing "confort moderne." Flats are almost unprocurable, though there has been a universal outbreak of "letting-off-those-attic-rooms." This is done to avoid compulsory billeting of evacuees, and is simply managed. The superfluous oddments of the remaining rooms are added to the basis of junk already stored in the attics. A gas ring is installed, a couple of Margaret Tarrant pictures (from the old nursery), and (to make it look homey) there is thrown in a green china rabbit with very large ears. Having accomplished this transformation and let it with ease at £3 3s. a week, the owners trot off to tea with each other and discuss the horrors of their war service.

*

Wrinkled throats jerk and tremble within their circlets of black velvet as the invasion (of refugees, not Germans) is discussed in horrified whispers. Fellow "regulars" are greeted with whimsical smiles, eyebrow raisings, and grimaces full of mutual sympathy. The atmosphere of the town is as if the Athenæum had been forced to give shelter to members of the R.A.C. and could endure the experience only by putting up prices all round, and seeing that nobody got a decent chair to sit in.

*

It seems a short-sighted policy for a town to adopt, for it will be remembered when the war is over by many of those wealthy persons who used to be regular patrons and are now being plundered as remorselessly as temporary Civil servants—and far more lucratively.

SELF-SUFFICIENCY

"The weakness of democratic governments," an ardent supporter of deep shelters said to me last week, "is that they never have the courage to pursue measures to their logical conclusion."

*

"The ingenuity of the idea of supplying the population with deep ear plugs instead of deep shelters is considerable—but it clearly offsets only one of many distresses of bombing. Now, if every person were to be equipped, in addition, with a pair of blinkers, some iron rations, a cushion in front and behind and a motor-bicycle, I would almost be won over."

ASTRAGAL

NEWS

REPAIR OF WAR DAMAGE

Following is the text of Circular 2144 (Repair of War Damage) which the Ministry of Health has sent to housing authorities in England and Wales.

I am directed by the Minister of Health to refer to Circular 1810 of August 18, 1939, and to state that he has had under review the arrangements for the repair of war damage to houses in the light of the experience gained since the outbreak of war, and more particularly since the recent intensification of enemy air attacks. He has observed with great satisfaction that the arrangements of all but a few local authorities have enabled them to proceed at once with the carrying out of first-aid repairs, and it is clear that this prompt action has had a pronounced effect in maintaining public morale.

Where air attacks are sporadic with damage on a relatively small scale, it is frequently possible for local authorities to use methods of immediate repair (such as restoration of tiling and glazing) which under less favourable conditions cannot be adopted without seriously delaying work on other houses awaiting repair. With air attacks on a wider scale and the possibility of bad weather in the autumn and winter, the most important aspect of first-aid repairs is their completion *with the utmost possible speed*, so that the occupants may be spared the necessity of removing to other accommodation and that further damage to the house and contents by exposure to the weather may be avoided. Speedy action will result not only in a saving in expense to the owner in the long run, but will reduce the work falling on local authorities and their staffs in connection with billeting, requisitioning, etc., for temporary accommodation.

The continued occupation of a house depends above all on the roof and windows being weatherproof, and the aim of the authority should be to see that, before work less immediately urgent is undertaken on any houses, no damaged house is left with roof and windows uncovered. The simplest and quickest method of repair should be adopted. This will be more than ever necessary when the days are shorter.

Where damage is extensive, time will not permit of the retiling of roofs, and the use of tarpauling (where obtainable) roofing felt, waterproof building paper, asbestos sheeting, etc., should be regarded as the normal method of repair.

As regards windows, complete reglazing, as a measure of first-aid repair, will in many cases be impracticable; the possibility of further damage may, indeed, render this inexpedient even as part of permanent repairs. The local authority should, therefore, be ready to employ alternative materials when urgency and expediency demand.

In view of the desirability of economy in the use of glass, the practice of those authorities whose areas have been raided on several occasions of reglazing only one-quarter or one-third of the window surface is commended. Timber will not be available for the boarding up of windows, but cardboard—or building-board painted on the outside—roofing felt, waterproof building paper, butter muslin, can all be used as circumstances direct. Where nothing but an opaque material is used, light can only be obtained by opening the window, and it is therefore better where possible that translucent material such as butter muslin (which admits both light and air), cellulosed cotton fabric or one of the glass substitutes on the market, should be used over part of the window.

Much valuable material for repairs will, of course, be obtainable from houses and other buildings which have to be demolished. Some local authorities have been able to use salvaged glass from damaged shop windows for the reglazing of houses, and local authorities are reminded that the Government reserve of materials for first-aid repairs is available to be drawn upon when other sources of supply run short.

Local authorities requiring timber for first-aid repairs can obtain a licence immediately (without a certificate to purchase) on application to the Area Officer of the Timber Control. Private owners doing their own repairs may in some cases ask for the local authority's assistance in obtaining timber, and it will be of great help to the Timber Control if such applications from private owners are scrutinized, and a recommendation to the Area Officer given only in cases of obvious necessity.

On the occurrence of widespread damage a local authority have to ascertain the extent and incidence of the damage and to decide where repairs are required. Neither this task nor the supervision of the repairs can be carried out with the speed which is all-important without an adequate technical staff. Many authorities, by arrangement with local panels of architects, have made certain of obtaining the additional technical services required. Authorities who, for local reasons, would find it difficult to make such arrangements, are advised to get into touch in an emergency with the local Society of Architects. It is also strongly recommended that arrangements should be made between neighbouring local authorities for mutual help in the shape of both labour and materials.

As regards labour, it is contemplated that it will often be necessary to arrange for men to be taken temporarily off other and less urgent work in order to carry out first-aid repairs which are of the highest degree of priority. Where the local authority cannot obtain necessary labour they should at once get into touch with the Local Employment Exchange.

The Minister is aware of the doubts felt by some local authorities as to the legality of the action taken by them in the best interests of the inhabitants of their areas—owners as well as occupiers. He is glad to know that the authorities have not allowed such doubts to deter them from taking immediate action, and he hopes shortly to introduce into Parliament an amending Bill designed to regularize past action and to enable future work to be carried out with the same promptness as hitherto.

As local authorities are aware, the repair of factories working for the Supply Departments is being co-ordinated by Local Reconstruction Panels which have been set up in various areas and these panels will be responsible for making repairs and for securing the release of the necessary materials. There will, however, be factories, warehouses and other commercial buildings for which the panels will be unable to vouch, and it has been decided that materials will be released in such cases either from the Government Reserve Stores or by the Timber Controller or Steel Controller or, in the case of cement, by the suppliers on the recommendation of the surveyor or other authorized officer of the local authority who is in charge of the organization for the first-aid repair of houses. It is not expected that this officer should check the demands in detail but that he should indicate that the amount asked for is prima facie reasonable. The Minister would accordingly be glad if the local authority would make arrangements for dealing with such requests as speedily as possible.

H. H. GEORGE

ARCHITECTURAL ASSISTANTS

It has been suggested by a Government Department that it would be useful if the R.I.B.A. prepared a list of architectural assistants who would be prepared to go at very short notice to any part of the country which might be the subject of very intensive bombing and where the services of the local authority's staff and the local professional men were quite inadequate to cope with the work of assessing the damage and the necessary first-aid repairs.

Any architectural assistants who would be prepared to have their names included in such a list are requested to communicate with the Secretary, R.I.B.A.

TIMBERLESS BUILDING ADOPTED IN U.S.

Houses built on similar lines to those now being erected in some parts of Britain will soon be available for the habitation of 600 families in North Long Beach, California. They are designed for a life of sixty years. As in this country, concrete is being used more extensively for floors, joists, window frames and stairs, but the reasons for doing so are slightly different from ours.

Whereas we have to conserve supplies of imported wood by reason of war, the Americans have found that battalions of termites are destroying thousands of their houses each year. Concrete defies the termite in the U.S.A. and reduces the risk of fire wherever the houses may be.

MINISTRY OF BUILDING

On Thursday last it was announced that the Government had decided to form a Ministry of Works and Building. Sir John Reith has been appointed Minister of Works and Buildings and First Commissioner of Works. The formation of this new body was the subject of a letter, over the signature of Mr. W. H. Ansell, P.R.I.B.A., which appeared in *The Times* for October 7. It is printed below.

SIR,—On December 29 last you published a letter from the then president of the R.I.B.A. suggesting that one remedy for many of the ills of the Government's wartime building programme would be the creation of a Ministry of Building. The successive reports of the Select Committee on National Expenditure have emphasized the need for some controlling and co-ordinating authority, and yesterday's announcement as to the formation of such a Ministry completes the first stage of an interesting journey.

Sir John Reith will have the good will and can be assured of the cordial co-operation of the architectural profession with him in his new task. Although the position as to the fuller use of the training and experience of the profession in the Government building programme is far better than it was nine months ago there is still a great deal of unfinished work to be done for various Departments. The new Ministry of Building will bring a welcome detachment from some old and bad methods and a power of organization that together will have beneficial effects.

It is, however, in the possibilities of the Ministry in the future that the imagination is most stimulated, and in this connection I plead for the early and complete recognition of the function of the trained designer and planner in the reconstruction that will follow our final victory in the war. The opportunity must be taken of clearing many areas of inferior houses which have been badly shattered and of providing layouts and new dwellings which shall give the fullest possibilities of healthy lives for our people. Unless there is vision and trained skill in planning from the outset there will be the same dreary failures as in the past. The nation should, even for its smallest houses, have the highest available architectural skill.

Everyone has felt the responsive uplift of spirit, that link of the beholder with the perhaps far-distant designer, that comes of a finely resolved solution of a human problem in building. This is seen in the L.C.C. housing estate at Downham just as truly as in the Orangery in Kensington Gardens or the group on the Acropolis itself, in different degree. It is not present in the stuccoed dullness of much of Belgravia nor the mean streets of the outskirts of many of our towns.

It is for the national good, therefore, that this appeal is made, not in the narrow interests of one profession, however deserving. The tragedy of past years has too often been that the nation has trained its architects and then declined to use them.

I am, Sir, your obedient servant,

W. H. ANSELL,

President, Royal Institute of British Architects.

66 Portland Place, W.1.

October 4.

ANNOUNCEMENT

Institution of Heating and Ventilating Engineers informs us that owing to enemy action, it has been necessary to vacate the premises at 22 Russell Square, W.C.1. New address (21 Tothill Street, S.W.1) and telephone number (Whitehall 9609) should now be used for all future communications.

INSTITUTION OF STRUCTURAL ENGINEERS

Below are the names of the successful candidates in the recent examination of the Institution :

Graduateship Examination : Baptie, J.; Boucher, C. T. G.; Brown, C. E.; Clarke, P. D. R.; Conner, J.; Cook, H. J.; Hodgson, G. F.; Howkins, P.; Hughes, D. A.; Lucas, F. P.; Lucas, H.; Martin, J. W.; Maynard, D. G. G.; Moore, R. C.; Rees, W. H.; Saddington, J.; Taylor, W.; Waddell, A. V.; Walters, R. T.; Ward, L. E.; Wright, B. N.

Associate-Membership Examination : Arnold, A. L.; Back, N. E.; Bartlett, W. H.; Baxter, V.; Bott, F. B.; Brown, D.; Bryce, M. K.; Carrack, D. H.; Cook, R. T.; D'Aintree, K. P.; Dancer, J. K.; Dash, K. G.; Durkin, D.; Fairey, S.; Fairhurst, W. A.; Francis, A. J.; Geddes, W. G. N.; Gerard, F. A.; Godman, R. F.; Gray, J.; Gray, J. C.; Green, F. M.; Hale, H. G.; Harker, A.; Higgins, J. H.; Hill, A. G. R.; Hodgson, E.; Hodson, H. A.; Howitz, C. H. D.; Jones, B. D.; Kilburn, J. C.; Knight, S. F. J.; Macfarlane, P. B.; Mason, A. F.; Melson, H. K.; Milliken, D.; Neil, J. B.; Parsons, W. E.; Pells, S. J.; Pickering, W.; Robson, J. J.; Rutter, J. W.; Sidwell, N. C.; Simpson, F.; Stagg, J. W.; Taylor, W.; Tembe, N. R.; Thrower, M. W.; Tilbrook, W. A.; Veryard, J. G.; Waddell, A. V.; Westbrook, R. C.; Wright, B. N.; Yates, W. S.

OBITUARY

We regret to record the deaths of Mr. Bernard George Triggs, F.R.I.B.A., Major, R.E. (Retired), formerly of Rutlam, Central India, and late of 40 Dover Street, W.1 ; Mr. William Frederick Foster, F.R.I.B.A., Chairman of the National Building Society ; and Mr. Lawrence George Summers, A.R.I.B.A., of Nottingham.

STEEL

When the first edition of the Steel Distribution Scheme was introduced five months ago, it was stated that there would necessarily be a trial period and the experience gained during that time would enable adjustments to be made for the more practical working of the scheme. These, together with provisions to deal with certain developments that have taken place, have been incorporated in a revised simplified edition. The revised schedule is described in a booklet entitled "Distribution of Steel Supplies." Application should be made to the Registry, Iron and Steel Control, Tothill Street, London, S.W.1.

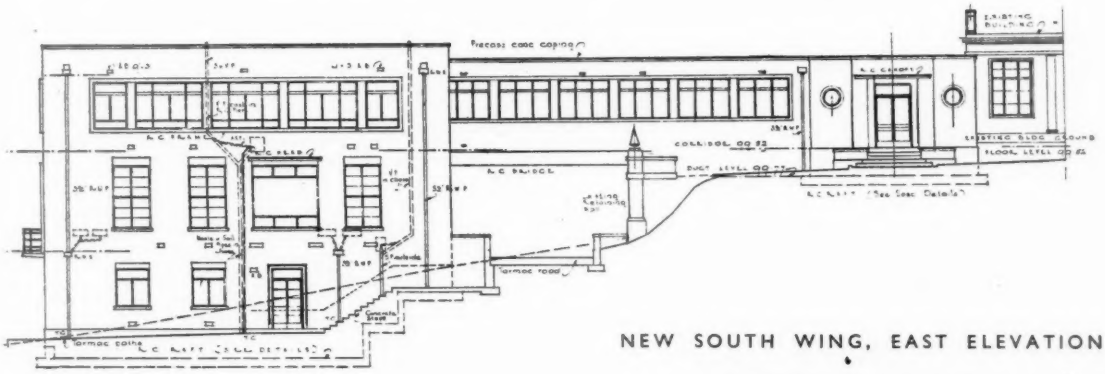
Above and below, two views of the new south wing

GENERAL AND SITE—Existing hospital accommodation, maintained by voluntary contribution, has been inadequate for many years. The scheme only slightly increases the bed accommodation, as the main object was to provide more adequate working space to each department, particularly out-patients. The site is irregular, bounded on three sides by roads from which the ground rises steeply, forming what is virtually a mound with the top levelled to form a site for the existing building. Advantage was taken of the slopes to give direct access from ground level to each department. A lower terrace gives road access to the casualty and out-patients' departments and frees the hospital proper from considerable traffic. The scheme comprises several buildings and extensions arranged on four floor levels. All the main wards, kitchen and operating theatre occur on the same level.

The buildings are as follows :—

Existing Hospital—Formerly accommodated all departments excepting children. The main alterations are : (*a*) the extension of the kitchen ; (*b*) provision of a nurses' dining hall ; (*c*) complete remodelling of the Theatre Block to provide twin theatres with ancillary rooms common to both.

Existing West Block—Formerly children's hospital and now providing rooms for sisters, nurses and maids.

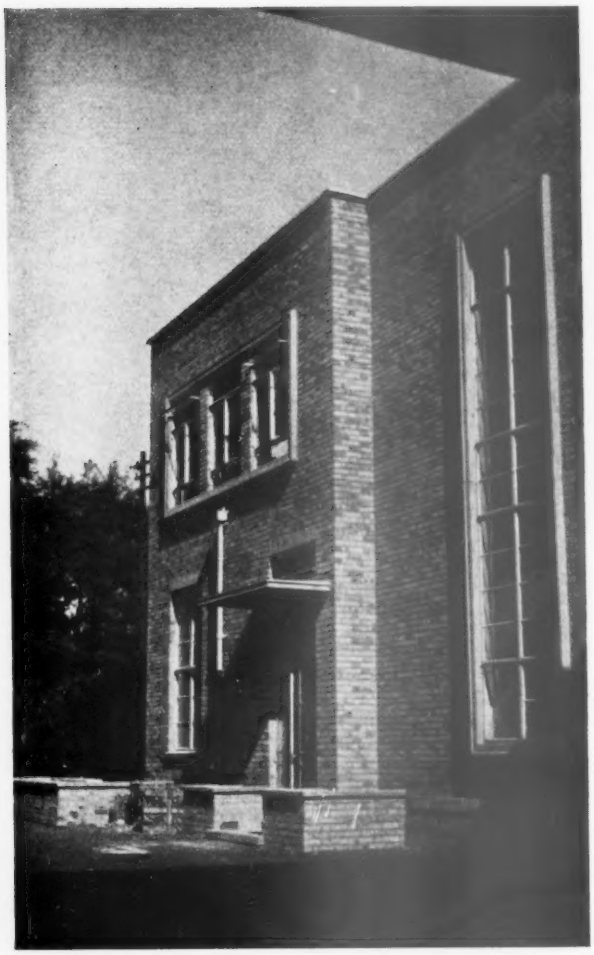


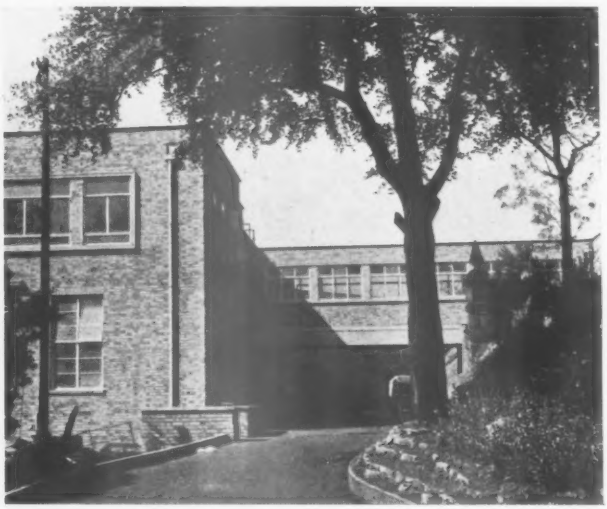
NEW SOUTH WING, EAST ELEVATION

DURHAM COUNTY HOSPITAL EXTENSIONS

DESIGNED BY

CORDINGLEY AND McINTYRE



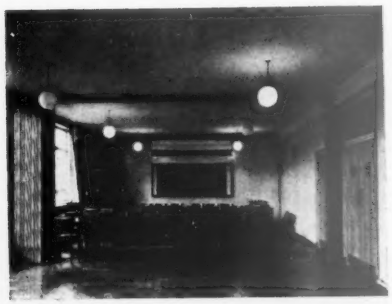


Left, detail of the main entrance to the new south wing; above, the bridge connecting the new south wing with the existing hospital.

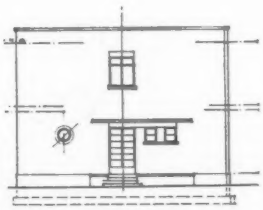
GENERAL *(continued)*—*New South Wing*—The first floor, at the same level as the ground floor of the existing building, comprises: children's medical, surgical, special and isolation wards, private patients' single-bed wards and adult special wards. It is connected to the old building by a corridor bridge over the lower terrace. The ground floor, with direct access from the lower terrace, includes: outpatients, casualties and minor operations room, X-ray, massage and electrical departments. The basement also has direct access from the ground to the porters' quarters, pathological laboratory, cloak rooms, stores, switch room and heating chamber and fuel store. A bed lift serves all three floors.

West Block Extension—Includes sisters' room, nurses' sitting-room, sewing and linen rooms. In the basement are the lecture and demonstration rooms with a folding partition between.

CONSTRUCTION AND EXTERNAL FINISHES—Trial holes showed varying conditions and it was decided to adopt a raft form for the foundations. Walls are of weight-bearing brick and floors of hollow tile construction. Facings are $2\frac{5}{8}$-in. buff hand-made sand-faced bricks with flush pointed perpends and "hollowed" horizontal pointing. The surrounds to the window cills, balconies and canopies are in reinforced concrete with mason-tooled finish and in all cases are continuous with floors and roofs. Metal windows are fixed direct to the surrounds and to

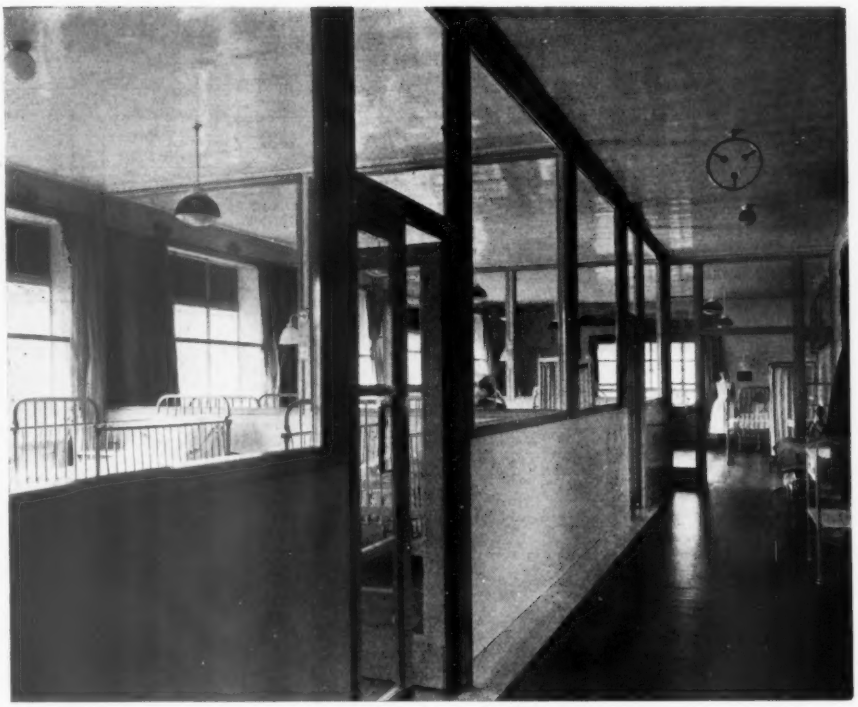


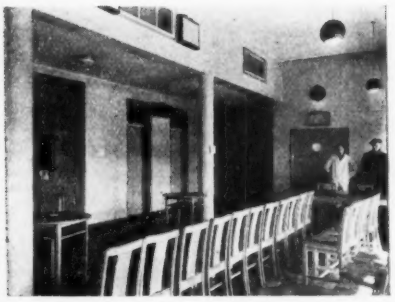
Lecture and demonstration rooms in basement are divided by oak flush sliding partition.



NURSES' HOME EXTENSION
EAST ELEVATION

DURHAM COUNTY HOSPITAL EXTENSIONS





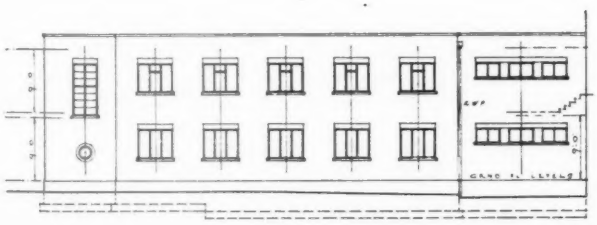
Children's surgical ward (floors, wood blocks in wards, cork tiles in corridor with terrazzo margins and skirtings : walls and ceilings, broken white gloss : screen, pale green). Right : top, consulting room No. 2 (walls, pale pastel green : doors, French grey : furniture, chromium, oak and black leather). Centre, outpatients' waiting hall (floor, wood blocks : walls, Portland stone : doors, French grey). Bottom : minor operations room, shown in use as a temporary main theatre (floors and walls, green terrazzo : doors, polished mahogany).

brickwork, the internal reveals being rendered with waterproofed cement. Partitions are of 4½-in. brick and hollow blocks. The roof is covered with three layers of felt and finished with asbestos tiles.

INTERNAL FINISHES—Floors to wards are wood blocks and the corridors serving them are of cork with terrazzo margins and skirtings. Wood blocks are used in most of the other rooms, except the electrical department and basement which have fibre blocks. Theatres, bathrooms, sluice rooms, etc., all have terrazzo floors and dadoes. Walls in all cases are of hard plaster with high gloss finish. Joinery generally is painted deal. Fittings in the pathological laboratory, dispensary, etc., are teak. External doors are of oak and metal.

SERVICES—The new boiler house in the south wing serves the entire hospital, except the laundry, which has an independent steam boiler. Heating is by an accelerated hot water system and hot water is supplied from calorifiers. Automatic stokers are fitted to the three heating boilers and are fed by an overhead conveyor from the fuel store. Heating and air-conditioning in the theatre are thermostatically controlled. Automatic telephones are installed throughout and operate in conjunction with a three-lamp luminous call system. All clocks are electric.

General contractors were George Gradon and Son ; for list of sub-contractors, see page xviii.

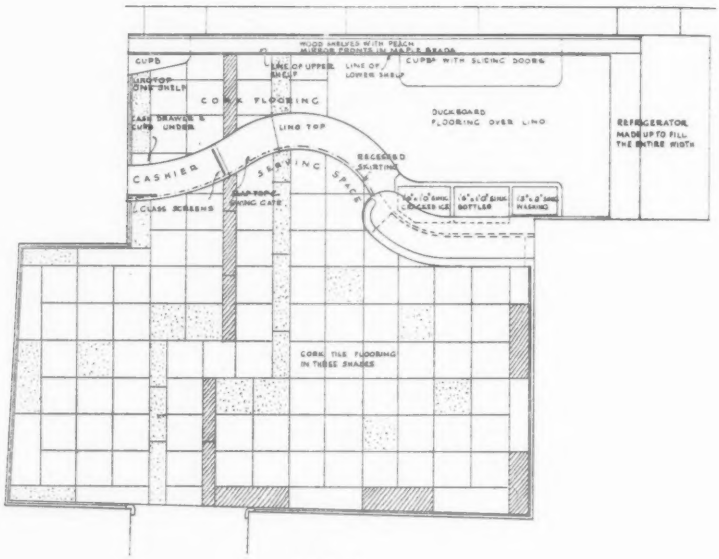


NURSES' HOME EXTENSION. NORTH ELEVATION

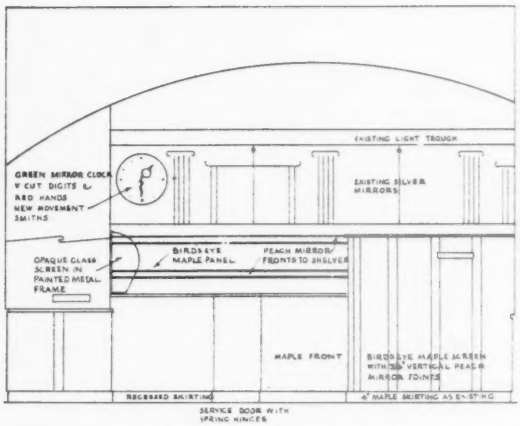
DESIGNED BY CORDINGLEY AND McINTYRE

SERVICE BAR, BERKELEY

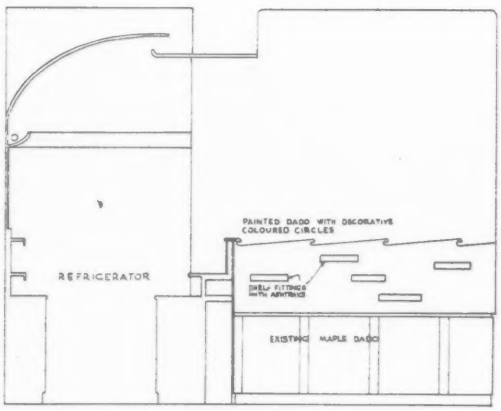
DESIGNED BY STANLEY HALL AND EASTON AND ROBERTSON



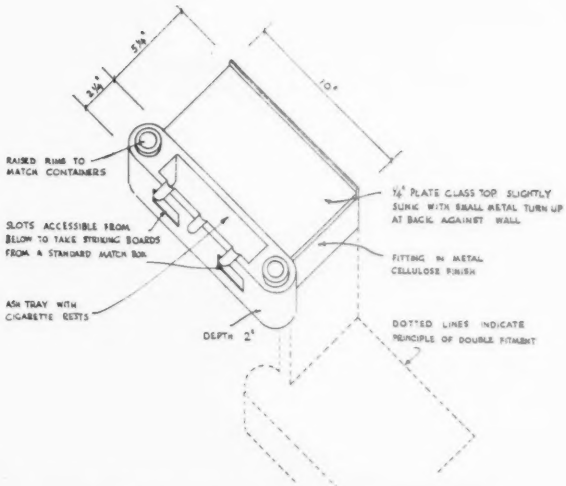
PLAN



ELEVATION OF BAR



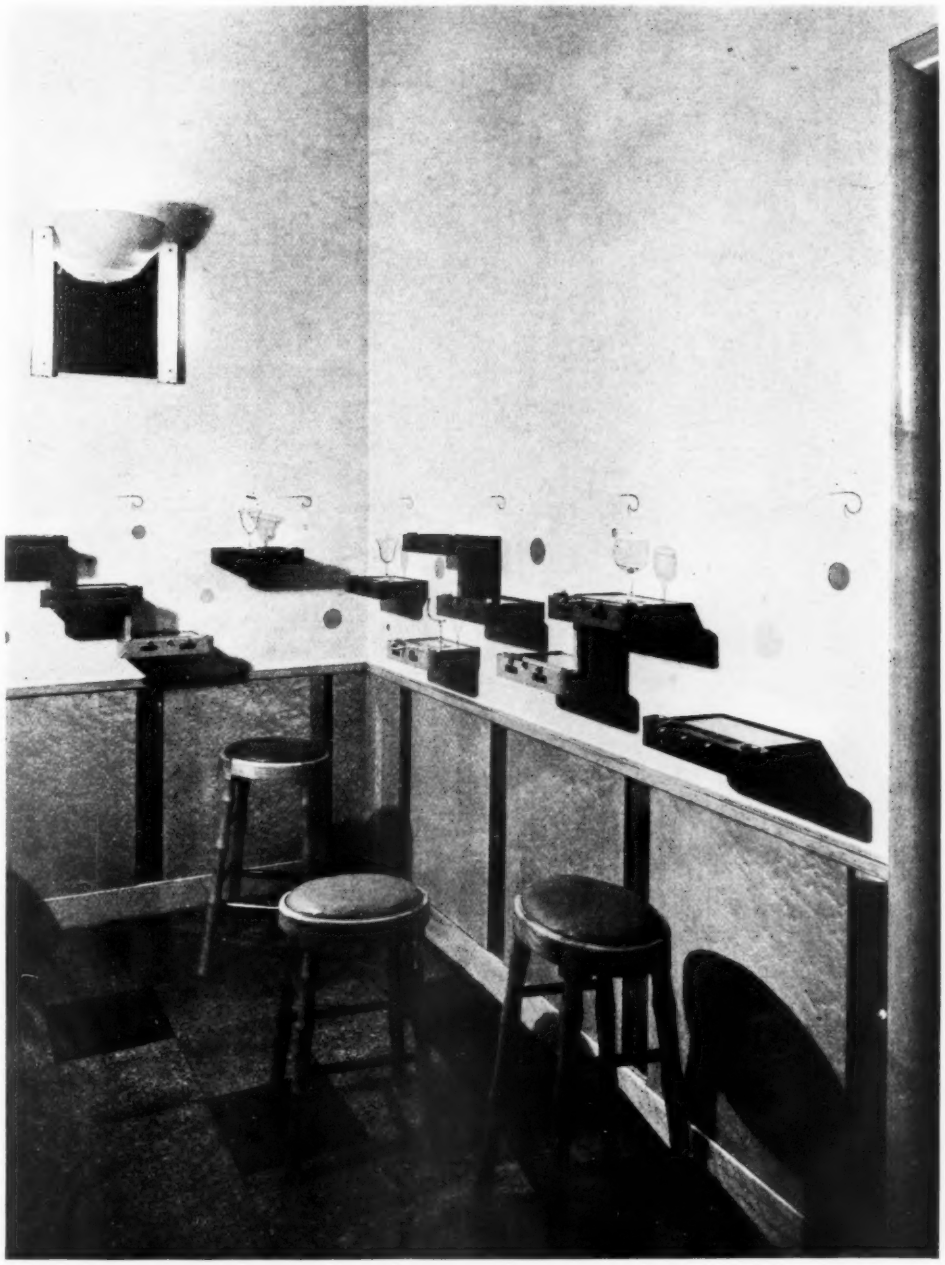
SECTION THROUGH BAR



DETAIL OF SHELF FOR GLASSES

GENERAL—New service bar at the Berkeley Hotel, W., is known as "Le Perroquet," which derives its name from a large wooden parrot in a glass cage which is fixed to the wall of the vestibule just opposite the room. Originally, this space was a lounge decorated by the architects some years ago. The reason for the change is that it has been desired by the management to concentrate service to the lounges and foyers in one place, to which all waiters can apply, and this has been effected by the provision of storage for bottles, large refrigerator, sinks, and other usual fittings, which are all concealed behind the counter. The space left over was sufficient to make a tiny cocktail lounge which

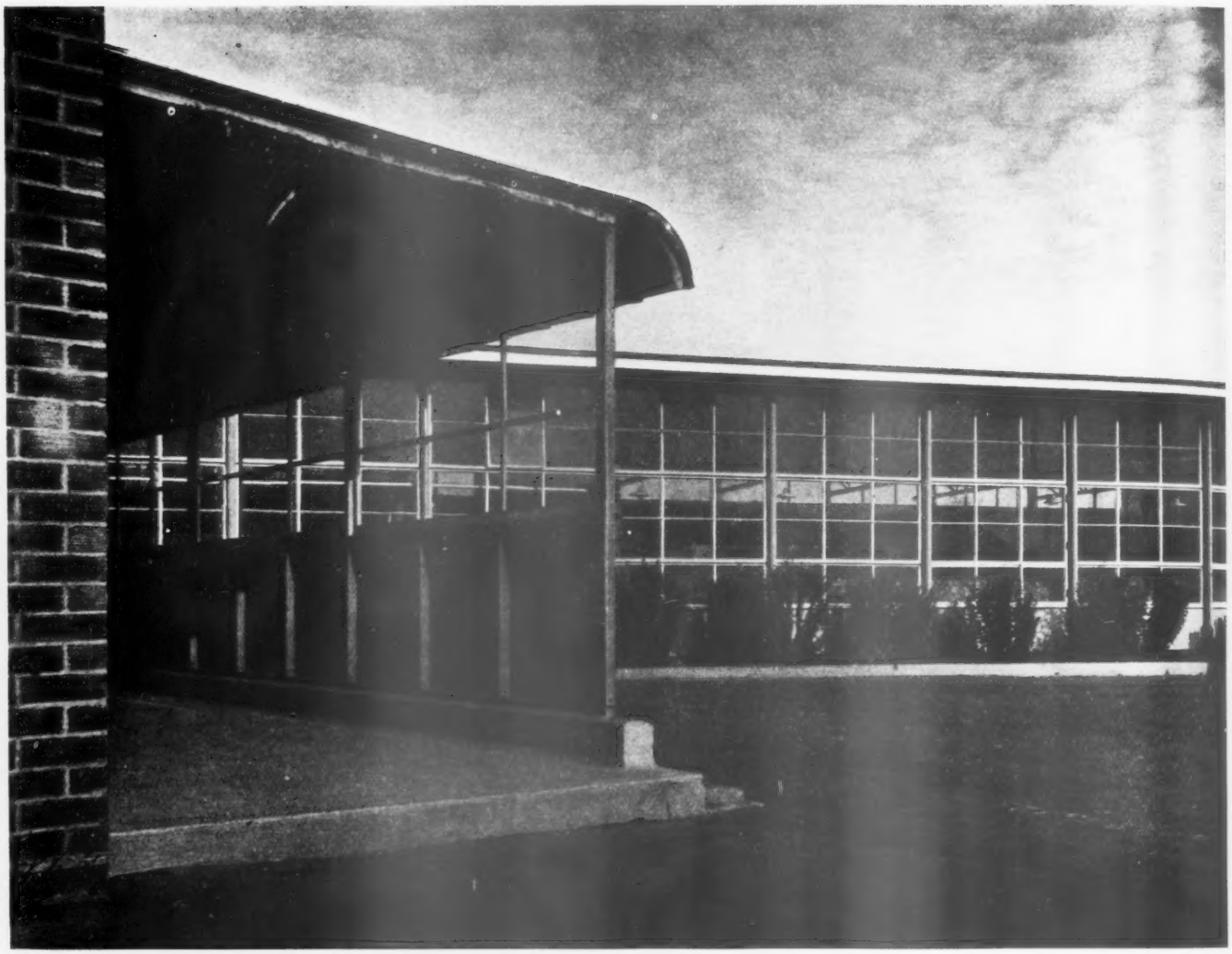
HOTEL



is served by waiters in the same way as the rest of the refreshments in the foyers. There is no service over the bar counter. Restrictions of space led to the provision of small metal wall shelves. Each provides two match receptacles and striking plates, and a central ash tray which is removable for cleaning. The tops are of glass.

FINISHES—The existing dado of the room in figured birch and peach mirror controlled the rest of the joinery, which is in the same material, and a certain amount of Macassar has also been introduced. The stools were specially designed of birch with leather tops, and are at varying heights, with an occasional wide rung for greater comfort. The wall trays are also of varying heights so that customers can sit as they please. The floor is in two shades of cork to a design based on the circulation of the waiters to the counter. The clock is in green glass and the light fittings include a pair of tubular lights and a bowl and background of Vitroflex. The walls are of pink in two shades.

SERVICES—The room is air conditioned from the central plant of the hotel. Attention has been paid to economy and the re-use of all material which could be adapted to the new purpose.

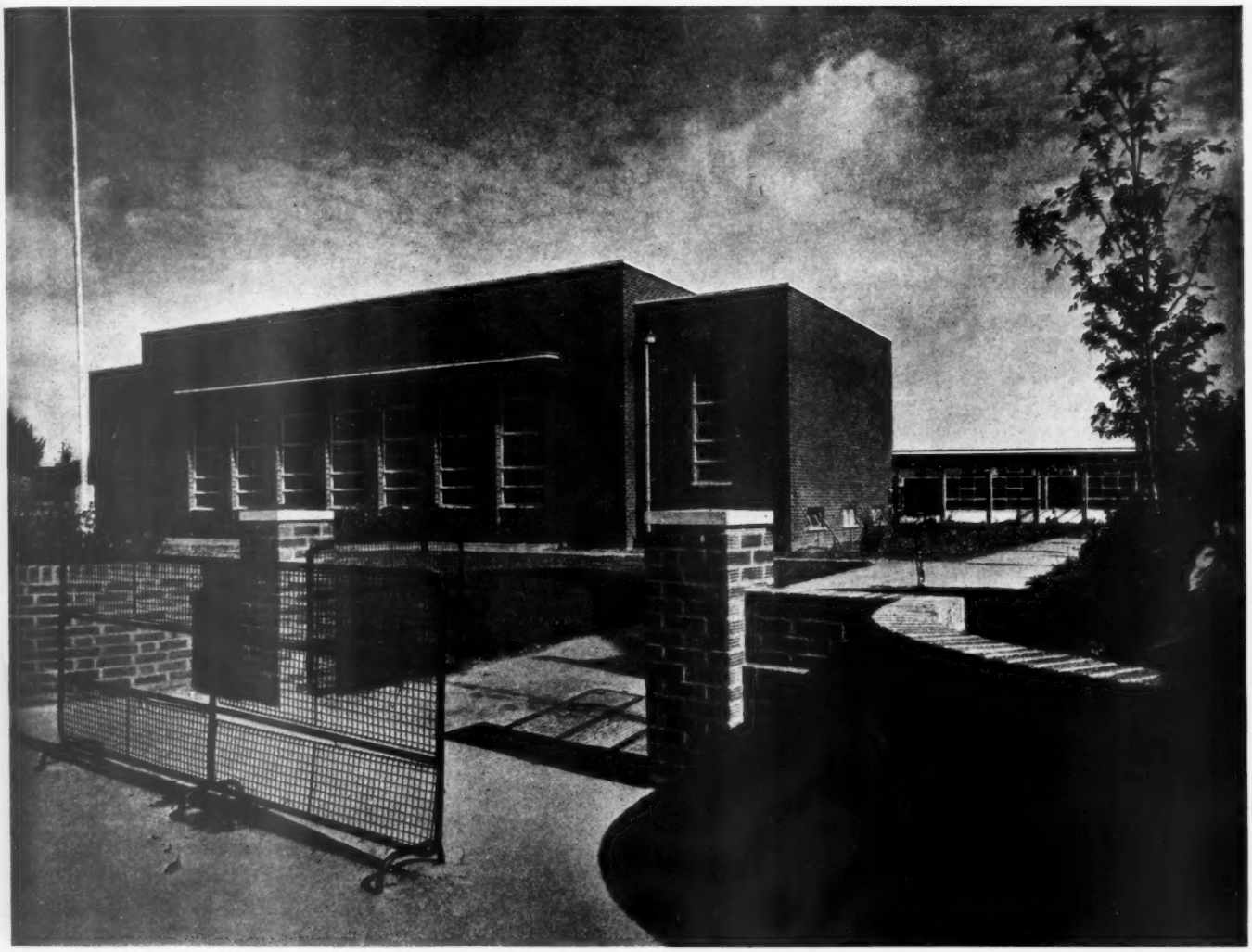


The rear classroom wing, containing the handicraft and science room with, in the foreground, the open end of the main classroom corridor.

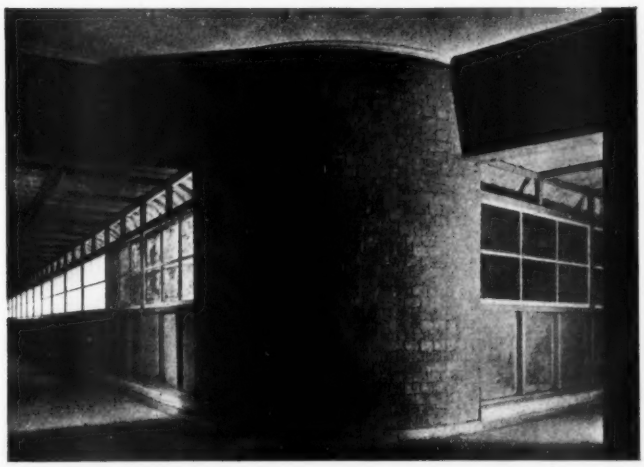
SCHOOL AT SELSEY, SUSSEX

DESIGNED BY C. G. STILLMAN (COUNTY ARCHITECT)

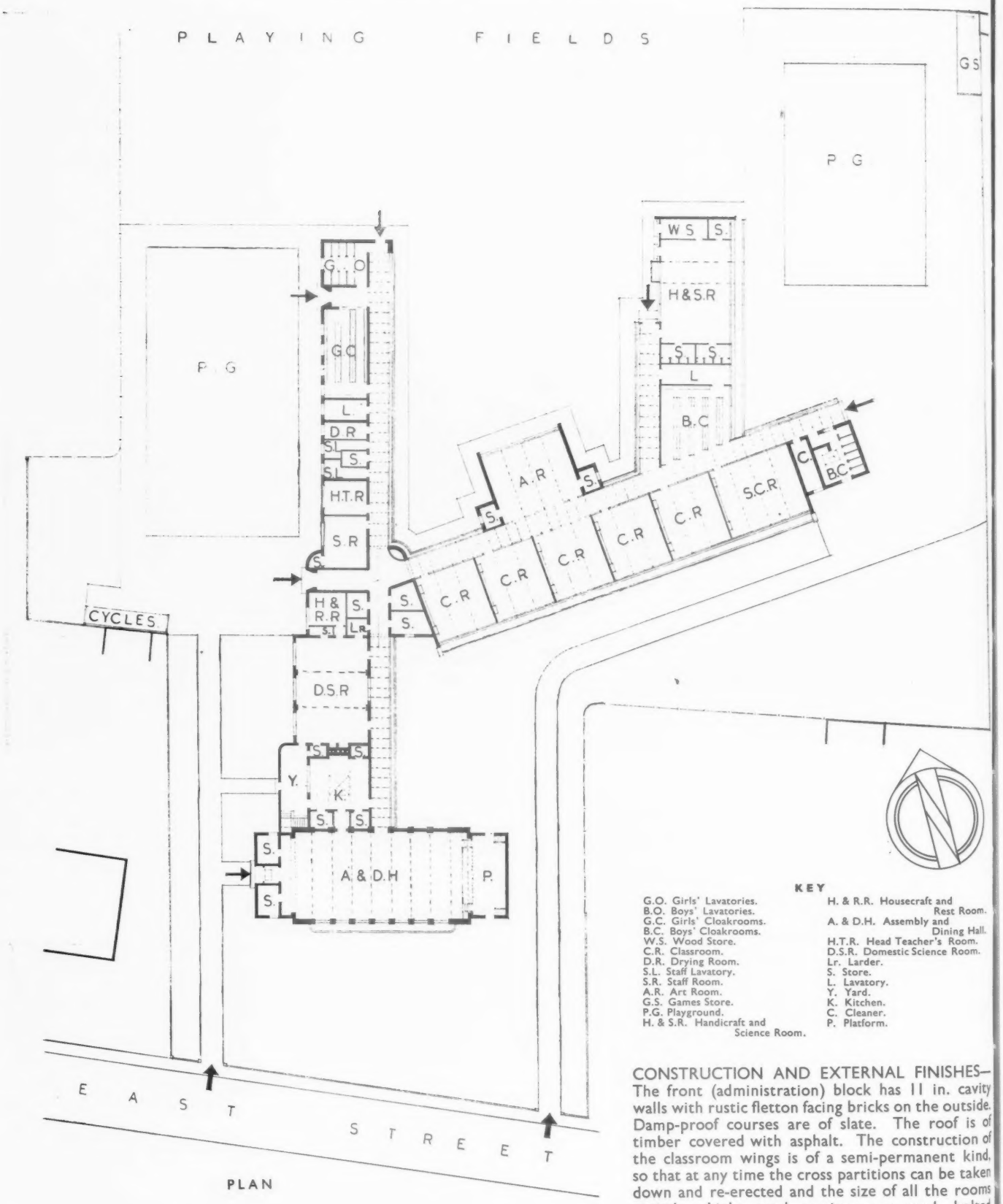
GENERAL AND SITE—Mixed Senior Elementary School. The site, of 6 acres, had a bottle neck on the south side. This, being unsuitable for playing fields, was used to accommodate the assembly and dining hall and the main entrances to the school buildings, the classrooms, etc., occupying wings running back at an angle into the open part of the site. By this arrangement the administration section was kept close to the road, being set back 70 ft. behind a garden forecourt, and the assembly hall kept available for use after school hours by the public and by physical training classes without involving the opening up of the whole school. The space



Above, view from the road showing the administration and assembly hall block and, on the extreme right, the classroom wing. Left, the west side of the administration block. Below, the junction of the two main corridors.



in between the two wings running back to the north (which comprise cloakrooms, staff rooms and handicraft and science room) has been laid out by the head teacher of the school to form enclosures for domestic pets and poultry, which the children are themselves encouraged to look after. In the centre is a fish pond.



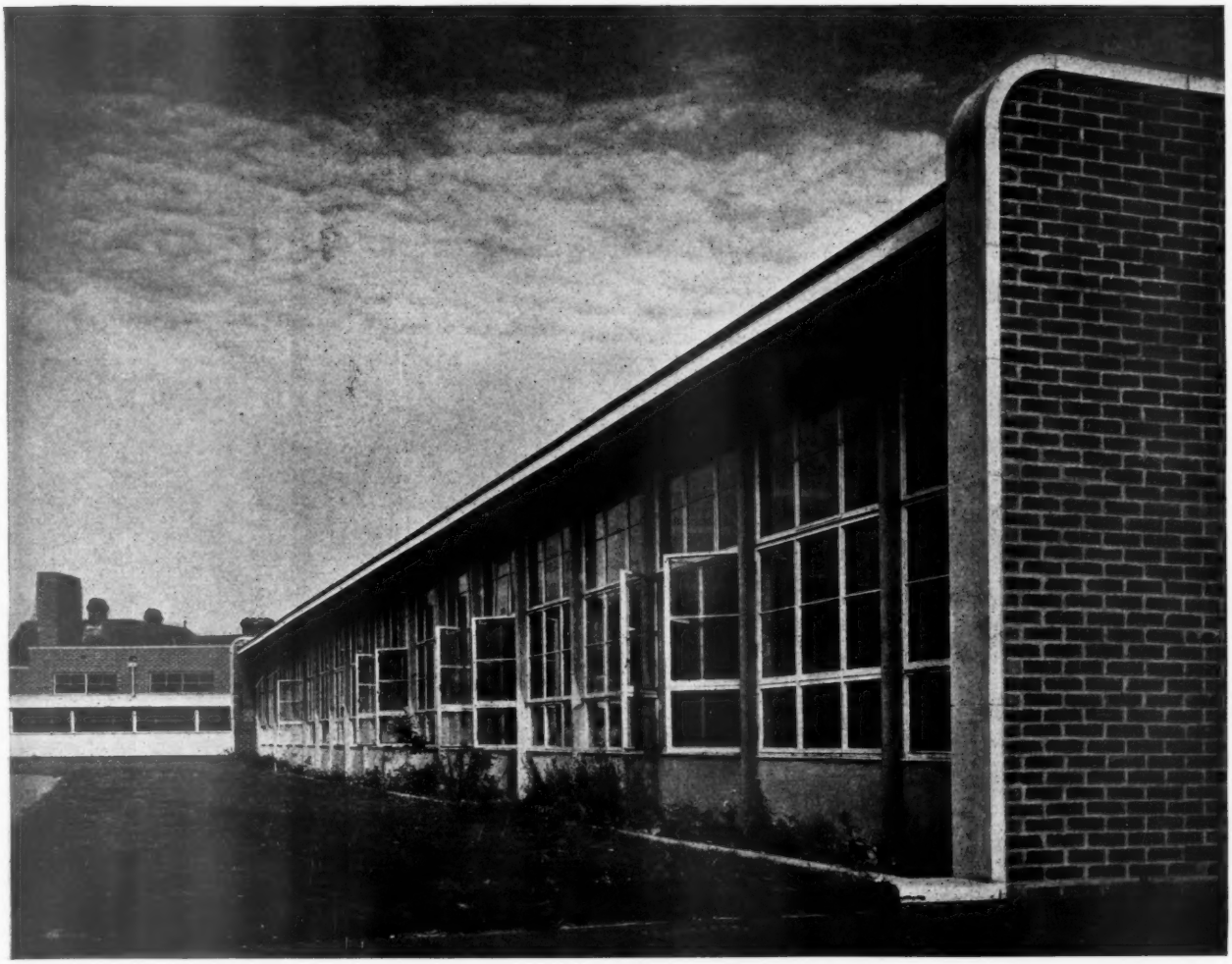
PLAN

KEY

G.O. Girls' Lavatories.
B.O. Boys' Lavatories.
G.C. Girls' Cloakrooms.
B.C. Boys' Cloakrooms.
W.S. Wood Store.
C.R. Classroom.
D.R. Drying Room.
S.L. Staff Lavatory.
S.R. Staff Room.
A.R. Art Room.
G.S. Games Store.
P.G. Playground.
H. & S.R. Handicraft and Science Room.
H. & R.R. Housecraft and Rest Room.
A. & D.H. Assembly and Dining Hall.
H.T.R. Head Teacher's Room.
D.S.R. Domestic Science Room.
Lr. Larder.
S. Store.
L. Lavatory.
Y. Yard.
K. Kitchen.
C. Cleaner.
P. Platform.

CONSTRUCTION AND EXTERNAL FINISHES—The front (administration) block has 11 in. cavity walls with rustic fletton facing bricks on the outside. Damp-proof courses are of slate. The roof is of timber covered with asphalt. The construction of the classroom wings is of a semi-permanent kind, so that at any time the cross partitions can be taken down and re-erected and the size of all the rooms varied. Light steel sections are used, bolted

SCHOOL AT SELSEY, SUSSEX



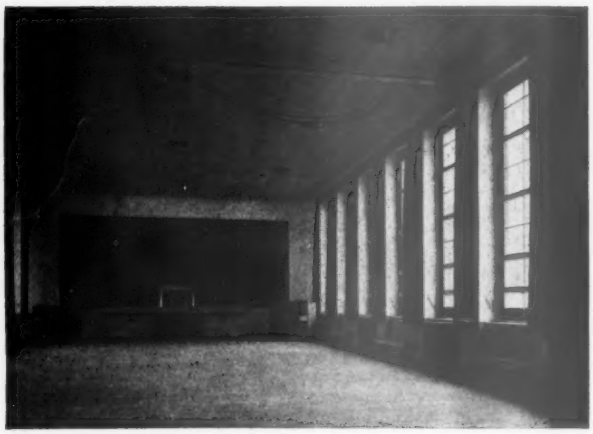
Above, the south front of the classroom wing, with, in the background, the corridor linking the assembly hall block with the rest of the school. Right, one of the long corridors that serve the two rear wings.

together and covered with water-proof rendered asbestos sheeting. The roof trusses over the classrooms are built up of steel angles and flats. On top of these trusses are wooden joists laid at 18 in. centres, covered with boarding and natural rock asphalt. On the south side a canopy is cantilevered out on steel T-irons, the bridging between being carried on the wood joists. The soffit of this canopy is finished with asbestos sheeting, coloured cream. Flat roofs are covered with bitumen sheeting and asphalt; flashings are copper. All windows are metal.

INTERNAL FINISHES—For acoustic reasons, classroom ceilings and walls are lined with V-jointed fibre board, and below dado level with an asbestos wallboard. Classroom floors are of natural rock asphalt. The corridor floors are granolithic; elsewhere they are teak block or maple strip. Doors are of wood, solid or half glazed.

DESIGNED BY C. G. STILLMAN

Left, a typical classroom. Below, left, the assembly hall looking towards the stage; right, a typical cloakroom.



SERVICES—Heating is by low pressure hot water radiators and pipes. The hot water supply is provided by an independent boiler.

General contractors were Anglo-Scottish Construction Co., Ltd.; for list of sub-contractors and suppliers, see page xviii.

SCHOOL AT SELSEY • BY C. G. STILLMAN

SOME QUESTIONS ANSWERED THIS WEEK:

★ *CAN you give me the names of suppliers of barium plaster and also any information on the use of the material for X-ray rooms?* - - Q535

★ *I SHALL be glad if you will let me know the name and address of any firms who supply rot-proofed sandbags and the cost of same* - Q537

★ *WE have been instructed to use corrugated asbestos sheeting as temporary formwork for concrete. Can you suggest a suitable medium which can be applied to the sheeting to permit of it being easily removed?* - - - - Q545

THE ARCHITECTS' JOURNAL

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R E G E N T 6 8 8 8

Q534 ARCHITECTS, HUDDERSFIELD.— *New licensed premises are nearing completion in a moorland district, where no electricity or gas is available at present. But for the war electricity would have been installed and it will be necessary for us to provide some form of IMPROVIZED LIGHTING until such time as the electricity cable is available. Can you recommend a suitable type of lamp which could be used in these licensed premises?*

There seem to be three possible alternatives: paraffin lamps, electric lighting with current generated on the premises, and "bottled" gas. Details of the latest types of paraffin lamp and their cost can be obtained from the firms given below.* The possibilities of home-generated electric lighting and the extent to which wiring and equipment can be later adapted to mains supply can be discussed with Messrs. R. A. Lister & Co., Ltd., Imperial House, 15 Kingsway, London, W.C.2; or Messrs. Petters, Ltd., Terminal House, 52 Grosvenor Gardens, S.W.1. Bottled gas and equipment can be

* *Messrs. Aladdin Industries, Ltd., Aladdin Buildings, Greenford, Middlesex; The Tilley Lamp Co., Brent Works, Brent Street, London, N.W.4; Messrs. Falk, Stadelmann & Co., Ltd., 91 Farringdon Road, London, E.C.1; Messrs. Condrup, Ltd., 78 Fore Street, London, E.C.2.*

obtained from The Calor Gas (Distributing) Co., Ltd., Belgrave House, Belgrave Street, W.C.1; or Messrs. Spencers (London), Ltd., 6 London Street, London, W.2, but the use of this system would involve appreciable expenditure on tubing, etc., for what may prove a short period of use.

Q535 CITY ENGINEER'S OFFICE, N.E. ENGLAND.—*Can you give me the names of suppliers of BARIUM PLASTER and also any information on the use of the material FOR X-RAY ROOMS?*

Barium plaster in a ready-mixed form is not available. The material has to be made up using Portland cement and a suitable grade of barium sulphate as the aggregate. Barium sulphate for this work is obtainable from the firms given below.* Useful information on the use of barium sulphate plaster coatings was given in the Building Research Station "Notes from the Information Bureau" (3rd Series, No. 4, February 1936) from which we reprint the following excerpts by permission of the Comptroller, H.M. Stationery Office:

The Building Research Station frequently receives requests for information on and specifications for barium sulphate plasters. In rooms where X-ray apparatus is installed, these plasters are used to afford protection against the passage of the rays through the walls.

In rooms adjacent to an X-ray installation, the staff may be exposed to radiation leaking through the walls, unless the protection of the walls, floor and ceiling is adequate, and it is known that prolonged exposure to radiation, even in minute amounts, can cause severe illness, such as injuries to the superficial tissues of the body, changes in the state of the blood and derangement of internal organs. The importance of proper protection is therefore obvious.

The question of the protection of occupants of rooms adjacent to X-ray rooms is dealt with both in the "International Recommendations for X-ray and Radium Protection" and the "Fourth Revised Report of the British X-ray and Radium Protection Committee." Copies of these publications may be had, free of charge, from the Director, National Physical Laboratory, Teddington, Middlesex. In general, X-ray rooms for diagnostic work need no protection other than that afforded by the walls, but the walls, floors and ceilings of rooms intended for X-ray treatment should afford protection equivalent to not less than 2 mm. thickness of lead. This degree of protection may be obtained by lining the walls, etc., with lead sheet, by using a plaster containing barium sulphate, or by using blocks of barium concrete in the construction.

The Table adjoining, taken from a paper by Dr. G. W. C. Kaye,† gives the protection values against X-rays of various building materials, compared in each case with the protective value of lead, which is taken as the basis of comparison.

It will be noted that when a wall having a protective value equivalent to 2 mm. of lead is required, and using an X-ray tube excited by a voltage of 200 KV. then equivalent protection with 4½ in. stock brickwork would be secured by plastering both sides with ½ in. of barium sulphate plaster of the composition shown. If, however, a greater degree of protection is required, the coating of plaster required may become inconveniently thick. Furthermore, it should be noted that with X-ray tubes of 100 KV. and over the protective value of barium plaster in comparison with lead falls off with increasing voltage. It may then cease to be practicable to obtain the necessary protection with plaster and recourse must be had either to barium sulphate blocks or to lead.

It is apparent from the general tenor of some inquiries with respect to barium sulphate plasters that consideration of the question of isolation of the appliances has been left far too late. *The design of the rooms in which X-ray apparatus is to be used must, from the outset, take account of the degree of protection necessary in order that proper provision may economically and conveniently be made.* It should not be left until the work is nearing completion to decide what thickness of barium plaster or other protective material should be used.

In any case it must be realized that the protective value of a plaster cannot be taken for granted. The Table below shows the protective value of a particular mix tested, but the stopping-power of any mix which it is proposed to use should be checked by an actual test, which may be made at the National Physical Laboratory at a fee of half a guinea per specimen for each test voltage.

In this connection reference should be made to the "Recommendations of the British X-Ray and Radium Protection Committee" (Fourth Revised Report, 1934), which details the general requirements in such work. One point which it is particularly desired to emphasize is referred to in the above "Recommendations":—

"The Protection Committee further draw attention to the facilities which are provided by the National Physical Laboratory, Teddington, for the inspection of X-ray, radium, electromedical and ultra-violet light departments, the testing of protective materials and equipment, the calibration of dose-meters and the testing of radium and radioactive substances. In particular, when new departments are being planned, the Committee suggest that it will normally be found specially advantageous to call on the services of the Laboratory prior to or

X-RAY PROTECTIVE MATERIALS

Material	*Mean Density*	*Lead Equivalent*	*Equivalent thickness of material in mm.*			
			50 *KV.*	100 *KV.*	150 *KV.*	200 *KV.*
	gm/cc.	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*
Aluminium	2·7	1	96	60	65	70
		2	—	120	130	140
		3	—	180	195	210
Brass	8·4	1	6·5	4·5	6·0	6·5
		2	—	9	13·5	16
		3	—	14	21·5	27
		4	—	19	30	40
Steel	7·8	1	11·5	6·5	9·5	11·5
		2	—	15	21·5	25
		3	—	23·5	34	39
		4	—	32	47	53
Lead Glass	4·6 to 3·4	1		4 to 7·5		
		2		8 to 15		
		3		12 to 22·5		
		4		16 to 30		
Lead Rubber	5·8 to 3·3	1		2 to 5		
		2		4 to 10		
		3		6 to 15		
		4		8 to 20		
Barium Plaster— 2 parts coarse $BaSO_4$, 2 parts fine $BaSO_4$, 1 part Portland cement	3·5	1	10	4	7·5	9
		2	—	9	18	25
		3	—	14·5	29	43
		4	—	20	41	65
Concrete— 4 parts Stone chippings, 2 parts Sand, 1 part Cement	2·1	1	100	70	75	80
		2	—	130	145	150
		3	—	190	215	220
Concrete— 4 parts Clinker, 1 part Cement	1·5	1	135	100	105	110
		2	—	200	210	220
Concrete— 4 parts Granite, 1 part Cement	2·1	1	110	70	80	85
		2	—	145	160	170
		3	—	215	240	260
Coke Breeze	1·2	1	200	110	—	130
		2	—	220	—	270
Daneshill Brick, red ..	1·9	1	125	100	110	120
		2	—	200	220	250
Stock Brick, yellow ..	1·5	1	170	130	150	170
		2	—	280	350	450

* *Malehurst Barytes Co., Ltd., Minsterley, Shrewsbury, Shropshire; Imperial Smelting Corporation, Ltd., 95 Gresham Street, London, E.C.2; James Miller, Son & Co., Ltd., 90 Mitchell Street, Glasgow, C.1.*

† *British Journal of Radiology, Vol. I, September, 1928.*

at an early stage in the erection of the department. The reports of the Laboratory are based on the Recommendations of the Committee, with which it works in close co-operation."

Q536 MUNICIPAL ENGINEER, EAST ANGLIA. —*I am at present just completing articles to local Borough Engineer, and being not yet eligible for military service, am desirous of obtaining a position as a junior assistant. However, as you are aware, the war has placed severe limitations on municipal engineering, and it therefore occurred to me that there might be one branch of the Services that accepts CIVILIANS AS ASSISTANTS, DRAUGHTSMEN, CARTOGRAPHERS, ETC. If such positions do exist, could you please send them together with any details.*

Civilian appointments of the nature described cannot now be advertised, a ban on such advertisement being included in the Restriction on Engagement Order (Ministry of Labour and National Service, 1940) so that application for such an appointment should be made, preferably in person, to the Local Office of the Ministry of Labour.

Q537 ARCHITECT, BIRMINGHAM.—*I shall be glad if you will let me know the name and address of any firm who supply ROT-PROOFED SANDBAGS and the cost of same.*

Rot-proofed sandbags are manufactured and supplied by The Willesden Paper and Canvas Works, Ltd., St. Leonards Works, Hancock Road, Bromley-by-Bow, London, E.3. The price for the 10 oz. rot-proofed bags is 49s. per 100, free on rail, London.

Q538 ARCHITECT, NOTTS. — *I have REASON TO BELIEVE that A CONTRACTOR who carried out some work for me DID NOT USE CEMENT mortar as SPECIFIED. I am of the opinion that lime was also included in the mixture. Could you inform me of any test that I could carry out to a sample personally, i.e. a test proving that cement and/or lime was used? Should you consider this inadvisable I should be glad if you would give me the name of a firm who would undertake such a test.*

We know of no site test or simple quantitative test by which the cement-sand or cement-lime-sand ratio of a mortar could be determined. It should be possible to obtain an approximate quantitative analysis by submitting samples of the mortar to a consultant such as R. H. Stanger, Esq., ASSOC.M.INST.C.E., A.M.I.MECH.E., F.C.S., Broadway House, Tothill Street, S.W.1. We would point out, however, that it is unlikely that an exact mortar proportion will be determinable. Portland cement on analysis gives a composition essentially that of lime and clay, so that if the sand had a clay content then a relative proportion of cement and lime in the mortar would be difficult to assess. A sample of the sand used on the job would help the consultant appreciably in determining the mortar constituents and proportions.

Q539 BUILDERS AND BUILDERS' MERCHANTS, WALES.—*Can you refer me to a Government Department where I can obtain the necessary certificate for CEMENT purchase? I understand that the Government have adopted a RATIONING scheme, and it is necessary for contractors or users to apply to the relevant Government Department for a certificate for the purchase. Then a copy of the certificate is forwarded at the same time to the Cement Makers' Federation, who will issue vouchers to the contractor, and on receipt of these vouchers manufacturers are permitted to release the cement.*

The available cement supplies have been allocated to the various Government Departments and Ministries. Contractors executing work for any of these Departments should apply to the Priority Officer of that Department for an allocation certificate. Contractors building public or private air raid shelters should make application for permits to the Local Authority who issue certificates on behalf of the Ministry of Home Security.

Q540 ARCHITECT, LONDON DISTRICT.—*I have been asked to advise on a method of PROTECTION OF a series of STAINED GLASS WINDOWS IN A CHURCH; the windows are 14 ft. by 18 in., and the glass quarries are quite small (about 4 in. by 3 in.) and well provided with saddle bars. Will any of the colourless lacquers be of assistance, and will there be any difficulty of subsequent removal of the lacquer, also will they have any permanent effect on the colouring of the stained glass?*

After blast has struck leaded glass it is usual for the glass still in the lead cames to bulge between the saddle bars. When the blast is of greater magnitude the glass panes or quarries are blown out of the cames and the cames distorted to the point of fracture. Splinters, of course, may shatter either the glass or the lead cames. No colourless lacquer treatment will provide any measurable protection. For valuable leaded glazing the alternatives are to board up the window stoutly (which will give appreciable but no certain protection) or to remove the glass and replace it temporarily with glass substitute, wired glass, or ordinary glass protected with wire netting internally.

Q541 ARCHITECT, LONDON. — *The Schedule of Prices published in a recent issue of* THE ARCHITECTS' JOURNAL *should be of great value to Architects and Surveyors in ASSESSING DAMAGE TO BUILDINGS. In the case of a building which may be entirely demolished and for the reinstatement of which a Bill of Quantities is not practicable or desirable, the value would presumably be based upon the cubic contents and a unit price per foot cube. I am wondering whether there is in existence a Schedule of PRICES PER FOOT CUBE as prevailing in March, 1939, or whether you know of any arrangements whereby such a Schedule will be compiled.*

We regret that it has not been possible to obtain a table of rates per cubic foot for buildings of different types. Nor does it seem that such a table is likely to be procurable. While such rates might be useful to a person with an intimate knowledge of the structure to which they apply, their general use would be seriously misleading. A much more exact method would be to have the quantities taken off in short from rough drawings and the cost ascertained in this way. Qualified Quantity Surveyors would always be able to indicate a cubic foot rate, but on most occasions they would no doubt prefer to check the cost so obtained by taking out rough quantities.

Q542 ARCHITECT, LONDON.—*I am building a private shelter for my family and have supplies of both LIME AND a small quantity of CIMENT FONDU. Can I use the Ciment Fondu to gauge the lime mortar? And can I add lime to the Ciment Fondu to eke it out for the necessary concrete work?*

No intermixing of lime and aluminous cement such as Ciment Fondu is practicable. If this is done,

immediately after the wet mixing of the materials a "flash" set will take place and the material is no longer workable and consequently cannot be spread or placed in position. Lime and normal or rapid hardening Portland cement can be mixed together without any such action. With the materials available, however, it might be possible to use the lime for the brickwork mortar and the Ciment Fondu for the concrete work.

Q543 BUILDING CONTRACTORS, LONDON.—*Can you suggest a suitable clause to incorporate in an acceptance of a contract so that any additional COST of the work incurred THROUGH loss of workmen's time during AIR RAID ALARMS will be chargeable to the client?*

There is a decision issued by the National Joint Council for the Building Industry regarding time lost through air-raid warnings or air raids which sets out the contractors' responsibility to the works personnel. It would be simple to add a clause to the contract agreement to the effect that any additional cost incurred in execution of the works through loss of time during air raids and based on the method of ascertainment set out in the decision mentioned above should be chargeable to the client without any addition being made by the contractor for overhead charges or profit. Copies of the Decision mentioned are obtainable from the Secretary of the National Joint Council for the Building Industry, 85 Gloucester Place, London, W.1. The Decision was printed in full in the answer to Question 520 published in THE ARCHITECTS' JOURNAL for September 26, 1940.

Q544 ESTATE SURVEYORS, LONDON.—*In a number of business and dwelling houses controlled by us the WINDOW GLASS has been DAMAGED and is to be REPLACED BY SEMI-TRANSPARENT GLASS substitutes of the oiled cotton type. What methods of fixing do you recommend in (1) wood sashes and (2) metal sashes?*

With flexible materials of the type indicated fixing in wood sashes should be done by folding about 1 in. of the material outwards against the sash or glazing bar and nailing a wood beading or a lath over this turned out edge, using small clout nails or broad-headed tacks. In metal sashes the same turn out should be adopted and the material bedded in one of the sticky bitumens or, alternatively, one of the non-setting mastics such as are used in pointing between wood and metal—such as Bostik, Selastik or Maclast.*

Q545 BUILDERS, LONDON.—*We have been instructed to use corrugated ASBESTOS SHEETING AS TEMPORARY FORMWORK for concrete. Can you suggest a suitable medium which can be applied to the sheeting to permit of it being easily removed?*

The simplest way would be to run wax-impregnated paper over the sheeting before placing the concrete. In this way the concrete will have no direct contact with the sheeting and neither will adhere readily to the waxed paper. All grades of wax-impregnated papers are obtainable from Messrs. Waxed Papers, Ltd., Nunhead Lane, London, S.E.15; or The Robinson Waxed Paper Co., Ltd., Fishponds, Bristol.

Q546 ENGINEER, MIDLANDS. — *I am at present employed as an engineer and hold a University degree in engineering. I have been reading the* JOURNAL *for several years, and it is largely due to the interest it has given me that I wish if possible to become an architect after the war. Now that architecture is a closed profession, is it possible to enter it except through an architect's office, private or public? If not, this would practically rule out anyone of mature age, like myself, who cannot afford to sacrifice a good present income to accept a junior post, even for a year or so. Can you recommend a POSTAL TUITION course which covers the full syllabus of the R.I.B.A. EXAMINATIONS? During the course of my work I have had considerable experience of building construction.*

The training of an architect and also the various classes of membership of the Royal Institute of British Architects are described in a publication by that body entitled "Membership of the Royal Institute of British Architects," price 1s. net and obtainable from the Secretary, the Royal Institute of British Architects, 66 Portland Place, London, W.1. The two classes of entrance to the Institute which will be of interest are the "Special Final" Examination—permission to sit for this is granted to approved persons over 30 years of age who have practised as architects or assistants for a certain number of years—and the Final Examination. Usually a candidate who possesses certain qualifications registers first as a Probationer, and by passing the Intermediate Examination qualifies as a Student of the Institute, and then takes the Final Examination. Postal Tuition courses for these Examinations are run by C. W. Box, Esq., F.R.I.B.A., 115 Gower Street, London, W.C.1, and L. S. Stanley, Esq., F.R.I.B.A., St. Catherine's College, Cambridge, and certain Correspondence Schools. It is necessary for a candidate to spend six months in an architect's office before becoming an A.R.I.B.A., and it is advisable for him to spend a much longer period.

* *Bostik: B.B. Chemical Co., Ltd., Ulverscroft Road, Leicester. Selastik: Expandite Products, Ltd., Cunard Road, London, N.W.10. Maclast: Macartney, Ltd., 11 Regent Street, London, S.W.1.*

REFERENCE BACK

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

Q458 *August* 15, 1940

In a Reference Back to this enquiry we gave the name of the Westminster Decorating Co. as suppliers of a solution for the shatterproofing of glass. In fact, this company neither manufactures nor sells but is a contracting organization which applies the material. The material in question is "Splinstop" and the manufacturing and marketing firm is Messrs. Interior Cleaners, Ltd., 9 St. Martin's Mews, London, W.C.2. In the answer referred to, this material was described as a transparent lacquer. The manufacturers have, however, informed the Information Centre that "transparent plastic" is the proper description.

Q501 *September* 19, 1940

Surface treatment of dusty concrete floors. In addition to the names of proprietary liquids mentioned in the reply there can be added Colemanoid No. 3 compound made by the Adamite Co., Ltd., Manfield House, Strand, London, W.C.2; and No. 5 Metallic Liquid, by Messrs. George Lillington & Co., Ltd., whose emergency address is Higher Drive, Banstead, Surrey, T.N. Ewell 1851.

THE BUILDINGS ILLUSTRATED

DURHAM COUNTY HOSPITAL (pages 293-295). Architects: Cordingley and McIntyre. General contractors were George Gradon and Son. Sub-contractors and suppliers included: Bolton and Hayes, Ltd., Viking hollow tile floor and reinforced concrete foundations; Ruberoid Co., Ltd., damp-

courses ; Chemical Building Products, Ltd., Prolapin waterproofer ; Crossley and Sons, Ltd., bricks ; Northern Asphalte and Roofing Co., Ltd., and D. Anderson and Son, Ltd., roofing and asbestos tiles ; H. R. Vaughan & Co., Ltd., Sphinx blocks ; Pilkington Bros., Ltd., glass ; A. M. McDougall and Son, woodblock flooring ; Granwood Flooring Co., Ltd., and Cork Insulation Co., Ltd., patent flooring ; Hope's Heating and Lighting, Ltd., central heating ; Ideal Boilers and Radiators, Ltd., heating and boilers ; Spencer-Hopwood, Ltd., steam boilers ; Devereux Moodie & Co., Ltd., electric wiring ; Sun Electric Co., Ltd., electric light fixtures ; W. H. Fairclough, plumbing ; J. and R. Howie, Ltd., sanitary fittings ; N. F. Ramsay & Co., Ltd., door furniture ; Henry Hope and Sons, Ltd., casements ; Siemens Bros. & Co., Ltd., telephones ; James Gibbons & Co., Ltd., wrot ironwork : Hardy and Stewart, Ltd., dark blinds ; A. Golightly, plaster ; North of England School Furnishing Co., Ltd., and J. W. Sawrey Gill, furniture ; Pickerings, Ltd., lifts.

SERVICE BAR, BERKELEY HOTEL (pages 296-297). Architects : Stanley Hall and Easton and Robertson. Sub-contractors and suppliers included : D. Burkle and Sons, Ltd., joinery and mirror work and details of counter fittings ; George Stephenson and Sons, Ltd., cork carpet ; E. H. Samouelle, Ltd., plumbing ; F. H. Pride, Ltd., light fittings and wall trays ; Furdecor, Ltd., symbolic parrot and mirror ; Works Dept. of Hotel, decorations.

MIXED ELEMENTARY SCHOOL, SELSEY (pages 298-302). Architect : C. G. Stillman. General contractors were Anglo-Scottish Construction Co., Ltd. The principal sub-contractors and suppliers were : Square Grip Reinforcement Co., Ltd., reinforced concrete ; Light Steel Sectional Construction Co., structural steelwork (light steel) ; W. Stirland, A.R.P. shelters ; Hollis Bros. & Co., Ltd., floors ; London Brick Co., Ltd., brickwork (facing) ; Blokcrete Co., Ltd., artificial stone ; Turners Asbestos Cement Co., Ltd., G. Asserati, Ltd., roofing ; North of England School Furnishing Co., Ltd., furniture ; Bunce & Co., Ltd., ironmongery, gates and railings ; G. A. Harvey & Co., Ltd., gates and railings ; G. A. Pearce, electrical installation ; G. N. Haden and Sons, Ltd., heating ; Selsey Gas Co., gas fires and gas boilers ; Crittall Manufacturing Co., Ltd., metal windows ; Granitese (Great Britain), Ltd., special plaster ; F. Jones & Co., Ltd., insulated construction—sound ; Rippers, Ltd., doors ; Wainwright Paving Co., Ltd., paving ; Parker, Winder and Achurch, Ltd., cycle racks.