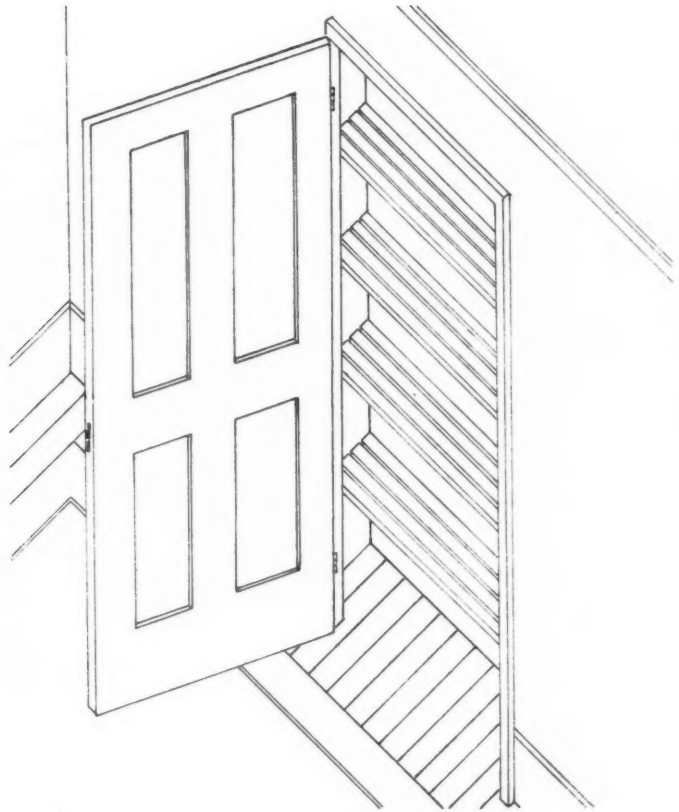


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or dry, teak
'stays put'



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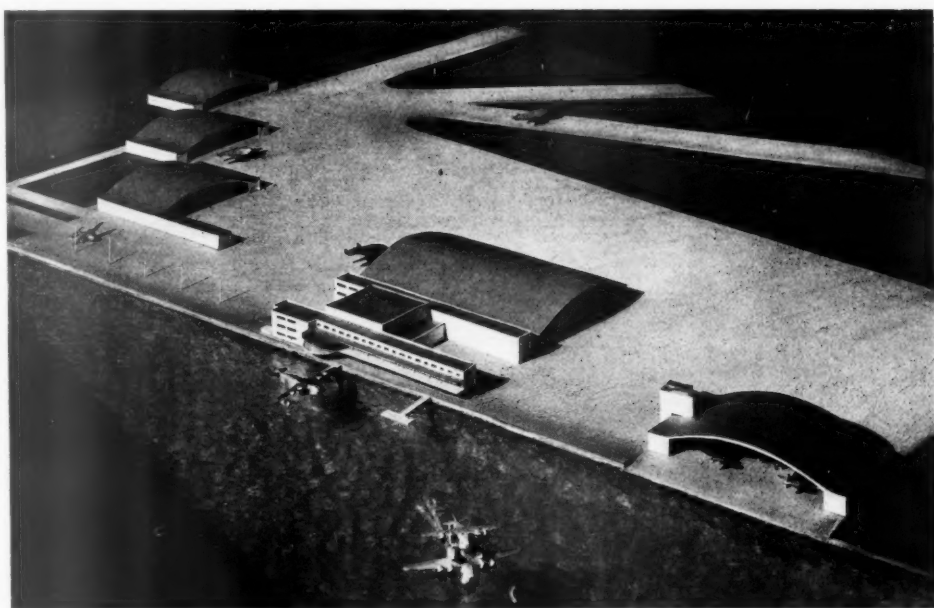
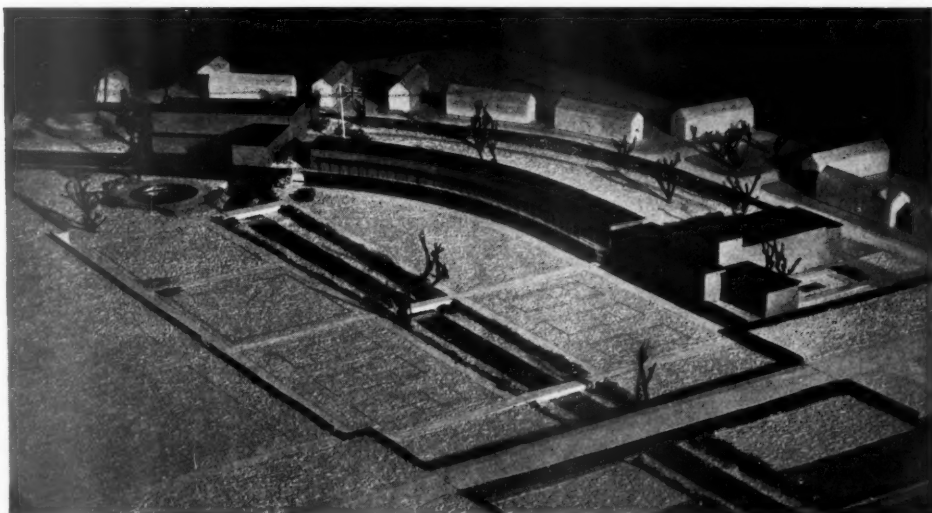
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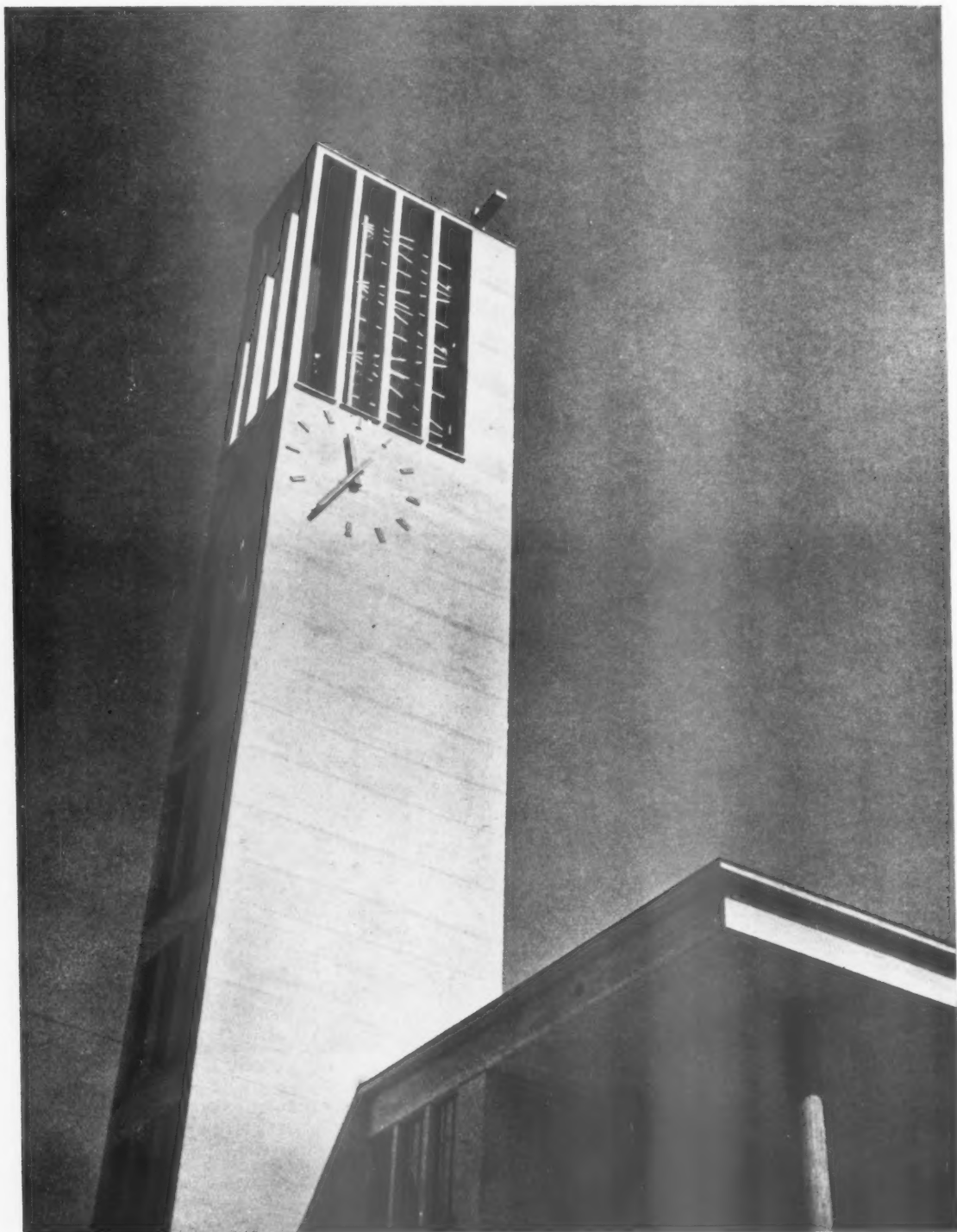
LIVERPOOL SCHOOL OF ARCHITECTURE



The annual exhibition of work of students of the Liverpool School of Architecture will not be held this year owing to war conditions. The School authorities came to this decision with reluctance as there was more than enough material to make a fine exhibition—despite the fact that the number of their students had fallen from 220 to 150 at

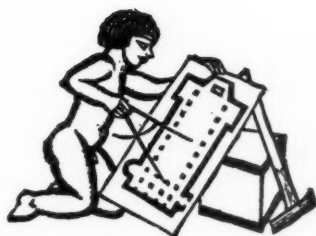
the end of the session. Above are reproduced models of two Fifth-Year Thesis Designs by two students at the School.

Top, Community Centre for the Knowsley Housing Estate, Liverpool. By Miss J. T. Byford. Bottom, Atlantic Airport, Londonderry, Northern Ireland. By W. H. McCormick.



L U C E R N E

*The reinforced concrete belfry tower of
the St. Karli Catholic Church in Lucerne.*



SPARKLING AND SPACE

ON the night of November 30, 1936, a red glare over Sydenham roused the burghers all over London to witness the burning of the Crystal Palace. It was Brock's Last Benefit, the conflagration of a century, of which until recently the twin water-towers remained the only monuments. Now, by a recent decision of the Trustees, these two lonely sentinels are also to be thrown into the flames, to provide material for the war effort, and with their passing the last relics of that dramatic silhouette will be wiped from a suburban skyline.

It is, perhaps, as well that they should go. Their purpose no longer existed, the dominant feature of their composition had vanished, and their continued existence could only savour of anti-climax. Nevertheless, it is sad to lose a link, however frail and useless, with that stupendous structure, so remarkable not only for its size and methods of construction, but also as a symbol of its age as significant as the Pont du Gard, Ely Cathedral and Seaton Delaval are of theirs. The Crystal Palace was a landmark in the evolution of our architecture, whose importance has only been really appreciated since its disappearance.

Its name has defied translation in four languages. It was designed by Joseph Paxton, the gardener's boy of Chatsworth who made good and won a knighthood, after 250 architects had submitted 250 designs which were rejected. Its object was "for the exhibition of monuments in art in unbroken symmetry and the productions of nature in unthwarted growth." It was completed and opened in Hyde Park in May, 1851, amidst scenes of great and understandable excitement, and three years later it was moved to Sydenham. During the Great War it was taken over by the Admiralty and was called H.M.S. Victory VI.

Such was its life, no more eventful perhaps than that of the Alexandra Palace, but how very much more important. For it was the first large-scale attempt at ferro-vitreous construction, which made full use of the advantages of mass-production. Indeed, the use of standard and interchangeable units throughout was the fact that made possible the transfer to Sydenham. It was a remarkable achievement in the best tradition of that age of fine engineers. The contrast between the clean logical structure and the objects it so snugly housed was amusing and curious. Ouida, the Victorian novelist, writing in her childhood diary, described one of these objects—a silver inkstand. "Nothing," she wrote, "was like what it was supposed to be. It was *beautiful*!" In describing the Palace itself, she was unenthusiastic. Not so, Ruskin. "Our taste," he wrote caustically, "is dazzled by the lustre of a few panes of glass . . . the first principles of architectural sub-

limity, so far sought, are found all the while to have consisted in sparkling and in space." Not for the first time was his ill-judgment matched by the magic aptness of a phrase—"Sparkling and space." It is for this, among other qualities, that the Crystal Palace has been for years a place of pilgrimage for modern architects from all over the world, if not from the country in which it stood.

Equally interesting as the life of the Palace were the reactions of the British public to its death, as displayed by the public's so-called mouthpiece, the Press. For Londoners especially, no other building has probably been such a storehouse of personal associations. It was, like Westminster Abbey or the Tower, one of the well-known sights. But people felt at home at the Crystal Palace, as they do at the Zoo and on Hampstead Heath, but as they do not in Parliament Square or St. James's Park. It was associated with such childhood delights as fireworks, and such simple adult pleasures as choral and brass band competitions or caged birds' contests. As befitted its age, it was essentially a place of family entertainment, of clean and dignified fun. This quality remained long after the first glories of the Palace had rusted and dimmed, and the antediluvian animals in the grounds had begun to spill upon the ground their ersatz entrails.

And yet in their obituaries after the fire, the Press seemed as ignorant of the affection in which the Palace was held as they were of its architectural qualities. There was much talk of "white elephants." *The Times* said it was "historical," and the *Daily Express* offered in vain half-guinea prizes for suggestions as to what could replace it. The *Star* said it would be impossible to build a worse building, and the *Daily Sketch* pointed out that the site was now clear for a National War Memorial.

The *Architectural Review*, however, made amends by publishing a black-bordered appreciation on the title page, a detailed analysis of its construction, and a note of personal grief from M. le Corbusier himself. The final comment was the deadly silence which greeted Lord Justice Maugham at the R.I.B.A. banquet when he referred to the Palace in terms of derision, and caused an effect far from what he expected.

The Crystal Palace, then, did not vanish unnoticed, though its loss, in these times, may seem unimportant beside that which may have to be endured at any moment or has already been endured in Europe. Yet architects will agree with le Corbusier's estimation of the Crystal Palace as "one of the great monuments of history" and that its loss was a tragedy only slightly relieved by the blazing glory in which it was accomplished.



The Architects' Journal

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NOTES & TOPICS

WEST WYCOMBE

ONE of this country's most abrupt changes from filth to pleasantness in landscape must be that which takes place at the Obelisk at West Wycombe.

To the east of the Obelisk, beginning at once and climbing up on both sides of the London road, is the sprawling mess of High Wycombe and its up-to-1939 offshoots. To the west, around and in the angle of the Aylesbury and Oxford roads, is West Wycombe and its church, mausoleum, hall, two or three farms and much woodland—all as yet unaffected by the twentieth century.

The tower of West Wycombe church, whose gilt ball is one of the landmarks of the Oxford Road, is a place where all town planners should be sent to meditate for a whole summer afternoon. The frightfulness of High, and the pleasantness of West, Wycombe are from there spread out in bird's-eye perspective. And everyone who looks at them must, I think, be thankful that West Wycombe is now largely protected by the National Trust.

Yet surely any town planner, or architect, of spirit ought to resent this "protection" as he resents nothing else. And to rejoice that in future we will be prevented from adjusting—or trying to adjust—old surroundings to present needs displays a defeatism far worse than any Quisling activity. Yet look at High Wycombe . . .

There is nothing special about West Wycombe—a straggle of a hundred-odd buildings along the Oxford Road. Its merits are a general homogeneity of materials and colouring, a splendid background of trees and an absence of twopenny-halfpenny modern vulgarity—tin signs, petrol stations *à la* mining camp and jazz-lettered shopfronts.

Its merits are *not* those which can only be obtained by having a very few people in a large amount of space.

Looking down on it from Sir Francis Dashwood's gilt ball, it is obvious that housing for two or three times the population could be added to West Wycombe without lessening its charms. To do so, there would be needed a little skilled thought and ordinary good taste : that is all.

It is the simplicity of these requirements which causes despair. What chance have they of being met where a village is "unprotected" and the chairman of the local Planning Committee cannot think it possible that semi-detached Tudor is not the summit of gentility?

Only a cultured, omnipotent and ruthless bureaucracy would seem to offer a hope of saving the rest of Britain after the war : and we don't like such things. A generation of first-class education would achieve the same end in a better way. But it would take twenty-five years too long.

THE FIRST SIR FRANCIS

I did not forget, at West Wycombe, to examine its three shrines : the church on the hill, the Mausoleum (see below) and the caves. All are tied up, through the person of Sir Francis Dashwood, first Lord Le Despenser and Chancellor of the Exchequer, with the fascinating mid-eighteenth century mixture of unbelievable political corruption and considerable culture.

Even Sir Francis, "as poor a creature as ever held high office, with nothing to recommend him except the reputation for cleverness which usually attaches to a libertine," had time for other recreations besides the sensational and by now over-advertised goings on of the Hell Fire Club. The ceiling paintings and low relief plaster of the church, which he rebuilt, go gracefully as far towards Baroque as the English climate can stand, and the Mausoleum and the entrance to the caves show Sir Francis did not lag behind in the contemporary passion for creating grotts, groves, ruins, sepulchres and general creepiness.

The caves, which he greatly extended, must indeed have enabled him to score over all rivals in costume pieces with flickering tapers and nightmare shadows. I explored their several hundred yards of slippery dimness unaccompanied by the custodian.

"Goin' in," said that gentleman, handing us both a candle at the entrance, "you're goin' down. Coming out, you're coming up. If you never go down coming up



you can't go wrong." And with that he settled himself in the sunshine and lit his pipe.

THE NEIGHBOURHOOD

Last week I paid a visit to "The Neighbourhood," a new theatre-music-ballet club which has opened near the National Theatre site in South Kensington. It is contained within a rather grim set of high brick mansions, whose stained glass and sooty cracked ironwork once sheltered a music academy.

Within these unpromising exteriors, a set of pleasant, shapely rooms are gradually taking shape, which are to house not only the usual club amenities such as restaurant and bar, but also art and theatre schools. These activities will not be in full swing until September, but the theatre, concert hall, ballet school and art gallery have been open for some weeks. Drama is in the hands of Mr. Herbert Marshall (no, not that one, the other one), who was trained in Moscow by Eisenstein and Meyhold, Art in those of Mr. Ewan Williams, while the well-designed publicity is the work of S. John Woods.

Perhaps, like many of us, you have a faint dislike of intimate theatres, of the relentless tedium of many of their productions and the chill air of amateurism which hangs over their creaking stages and hard cramped seats. There is little of that here, for the people concerned are experienced professionals, and their work, as the success of "Thunder Rock" shows, is sincere and unpretentious. Perhaps, on the other hand, you dread still more to encounter again those familiar figures, the typical art-club members, the bedizened old ladies in search of uncensored dialogue, the furred and flowered socialites, or the jumpers, sandals and high humourless chatter of Charlotte Street. They will not worry you here excessively.

It would be easy of course to dismiss the whole project as just another half-baked highbrow organization, doomed to die within six months. The Neighbourhood desires a less superficial and more generous judgment than this. Annual membership fee for each activity is 2s. 6d., and further particulars can be obtained from 38 Harrington Road, S.W.7.

Perhaps I ought to record for the susceptible that displayed on the board in the entrance hall was a letter asking for membership from Mr. Godfrey Winn.

REDISTRIBUTION

It has been reported that Italy is demanding from France the return of Leonardo da Vinci's Mona Lisa. The claim is apparently based not so much on conqueror's rights as on the fact that the artist was Italian.

If the story is true, it is to be hoped that the action will not be widely imitated. The museums and art galleries of many countries would be poor places indeed if their contents were confined to strictly national works, while Mr. Hearst's palace in California would be stripped completely bare.

The present whereabouts of the Mona Lisa are not known. She, with the Venus de Milo, is "somewhere in France." Both these ladies have had eventful lives. The former has smilingly survived the rough hands of thieves,

while the latter is enduring with stony calm her fourth experience of war.

When, 120 years ago, she was discovered on Melos, she became the subject of a spirited scrap between the French and Greeks, a skirmish which doubtless increased her mutilation. (Her armless state, I need hardly remind you, is not, as Sir Edwin Lutyens once suggested, the result of nail-biting.) She spent the Franco-Prussian war beneath a dust sheet in a cellar. During the Great War she was an exile in Toulouse.

It will not be long, I expect, before some Teuton scholar reveals the hitherto undiscovered (but quite irrefutable) fact that the sculptor concerned was of Aryan blood, and therefore that her rightful home is Munich. If she ever arrives there, it will be interesting to see whether her arms are restored to an officially correct attitude of respect.

SIGNPOSTS

"The man in the moon
Came down too soon
And asked his way to Norwich."

The precautions now being taken against a large-scale repetition of this incident have one rather pleasant effect. The removal from the settlements of our tribe of all marks of identity adds another degree to that fluidity of topographical concepts, already encouraged by the streaming of population and incipient destruction of their homes. The effect I find pleasant is that, in their anonymity, these clusters of shelters sink back a little into their common landscape ground, soften the rugged edges of their personalities and seem to be one stage readier for reasonable rearrangement.

The places which have most completely and usefully lost such individuality as they ever had are, of course, the suburbs. I know of a lady who spent four hours driving over a route in Greater London she had been doing for years in half-an-hour. The trouble was the roundabouts. They all looked alike, and all their arms looked alike.

HOTELS AND HOTELS

One more architect in exile with a Government Department has confided in me. Here are some extracts from his letter:—

Travelling around from town to town is part of one's work, and for me at least is a new experience. At times one feels quite Commercial, although unaccompanied by door furniture samples. One's cargo is governmental files, all safe under lock and key and exceedingly heavy, but despite the (more or less) secret nature of their contents, no instructions have yet been issued for their internal consumption in an emergency.

These trips up and down the country bring one into more intimate acquaintance with the English hotel, which is a very interesting thing when studied from all sides. There is, for example, that result of weird rites in its kitchen—the spherical poached egg, which emits a jet of cold water when prodded with a fork; and the waiter who passes you a requested teaspoon out of his waistcoat pocket.

On arrival upstairs, slipping into a conveniently unlocked bathroom and letting physical and mental strain dissolve in steam is the work of a moment, but hearing a queer rustle from the direction of the door and seeing a mysterious piece of paper slowly pushed underneath is a surprise. With thoughts flying to beautiful Secret Agents and the files hidden in one's bedroom one opens the note: "Please leave bathroom door unlocked and knock on Room 323."

We are an undefeatable race.

ASTRAGAL

NEWS

REPAIR OF WAR DAMAGE

A circular (2101) dealing with repair of war damage has been sent by the Ministry of Health to housing authorities and councils in England and Wales. It is printed on this page.*

"CHILDREN TOMORROW"

An exhibition of evacuation and holiday camp schemes entitled "Children Tomorrow," is now being held in the Mortimer Gallery, Hull. It has been prepared under the auspices of the Northern Architectural Students' Association, and will remain open until August 31.

The exhibition is concerned chiefly with the Scalby Reception Centre, a scheme for an evacuation camp which was worked out within the limits of existing legislation and conditions by students of the School of Architecture. Research was started while the school was billeted in Scarborough, and the scheme was designed for an actual site in Scalby, a nearby village. The numbers of evacuees in that area were taken and provision made for them in a reception centre consisting of a school camp, a nursery school and a community centre. All these buildings were also carefully considered from the point of view of their continued use for purposes of education and recreation in peacetime.

Other exhibits include projects for the accommodation of mothers with children under five, based on the research and proposals of the Association of Architects, Surveyors and Technical Assistants, as well as the first local authority camp for working-class ratepayers on holidays-with-pay designed for the Lambeth Borough Council by Max Leck and Judith Ledebor, and part of the Housing Centre camps exhibition.

CHATTER BOX

It is suggested by the Architects' Benevolent Society that "chatter-boxes," to collect fines for careless talk and rumour spreading, might be placed in architectural offices,



CHATTER BOX

and the proceeds given to the Society. The label reproduced above has been designed by Mr. L. D. Morrison for pasting on to any suitable box, and is obtainable from the A.B.S., 66 Portland Place, London, W.1.

MINISTRY OF BUILDING

Plans for a Ministry of Building are under consideration. This statement was made by

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.

Mr. J. Marchbank, General Secretary of the National Union of Railwaymen, at the annual conference of Trades Councils held in London last Saturday. He said that at the end of the war the rebuilding of the country would be undertaken by the Government of the day. The jerry-builder and the potential creator of slums must be eliminated.

LIGHTING IN FACTORIES

Departmental Committee on Lighting in Factories has just issued its fifth Report.

The Report deals particularly with lighting problems arising from black-out conditions and the increased employment of workers at night due to the need for greater output of munitions of war. The main recommendation made by the Committee is that over interior parts of factories in which persons are regularly employed the minimum standard of lighting should be one of 6 foot candles three feet from the floor.

ARCHITECT'S WILL

Mr. Henry Marcus Brown, L.R.I.B.A., head of the firm of J. H. Marcus Brown and V. Lewis, of Codsall, left £4,552 4s. (net personalty £1,174 4s.)

HOLIDAYS AND THE BUILDING INDUSTRY

Following statement has been issued by the National Joint Council of the Building Industry.

On the question of holidays during the present emergency period, the recent pronouncements of the Minister of Labour left some doubt as to the position in the building industry, in which (i) men are engaged by the hour; but (ii) works are closed down on certain days agreed upon locally (not always the usual statutory holidays); and (iii) if some men work on those days they are paid at overtime rates. In ordinary times this latter arrangement is extended in certain districts to the local Race Week, Wakes Week, Goose Fair or similar local holidays.

The Government's request that urgent work should not be interrupted at this time has made it desirable that the National Joint Council for the Building Industry should issue some guidance in the direction of securing greater uniformity as between the many local arrangements. The Council has therefore made a pronouncement which states principles briefly summarized as follows:—

(1) The Building Industry Working Rules do not themselves impose any obligation on any employer to open his job or works on any holiday.

(2) On jobs to which the Uniformity Agreement of the Building and Civil Engineering Industries applies, overtime rates are payable if time is worked on "statutory holidays."

(3) In respect of August 5, 1940, the Government has issued an Order in Council that, while that day shall not be a bank holiday or a public holiday, it is to be deemed a bank holiday for purposes of any agreement relating to wage-payments for work done on a bank holiday. Thus, wherever any agreement exists to pay overtime rates on August Bank Holiday (or on bank holidays in general), overtime rates are payable if time is worked on August 5, 1940 (which under the Order, though not a public holiday, is a statutory holiday for wage purposes).

(4) The National Joint Council takes the view that the

same principle should apply to other "statutory" holidays which the Government may postpone or cancel.

(5) The National Council has approved Regional endeavours to secure greater uniformity by prescribing payment at ordinary rates if time is worked on such local holidays as Race Weeks and Wakes Weeks, etc.

TIMBER CONTROL

In order to ensure the prompt supply to Government Departments of timber for Home Defence purposes, Timber Control has appointed Liaison Officers to the various Army Commands. Arrangements have been made for urgent requirements for this purpose to be placed through the Timber Control Area Officers.

Any stockholder who meets with any difficulty in this connection should communicate at once with the Timber Control Area Officer for his district.

MEETING

Wednesday, August 7. FEDERATION OF TENANTS AND RESIDENTS' ASSOCIATIONS. At the Housing Centre, 13 Suffolk Street, S.W.1. Informal meeting of the Panel of Architects and Surveyors, 6.30 p.m.

ANNOUNCEMENT

Mr. J. Howard Wales, A.R.I.B.A., of Suddards and Wales, has been called up for service in H.M. Forces and his practice will be carried on for the duration of the war by his wife, Mrs. Mary Dorrien Wales, A.R.I.B.A., at 47 Otley Street, Skipton. Telephone 12.

A.R.P.

A deputation of the A.R.P. Co-ordinating Committee recently presented to the Minister of Home Security the following memorandum:

As the dangers from air raids increase, the need for the fullest possible protection becomes more and more urgent. At this late hour, it is still possible to construct blast and splinter proof shelters which can be subsequently strengthened.

Despite the statement in the House of Commons, on June 12, by the Minister for Home Security, that such shelters constructed by Local Authorities would earn the full Government grant, no steps have been taken to build such shelters, although since that date a considerable number of communal shelters have been put under construction. In few, if any, of the shelters now under construction is it economically practicable to strengthen the shelters.

It is a matter for grave concern that the opportunity to build convertible shelters is not being used, for it is clearly evident that with the potentialities today possessed by air raids, we should be satisfied with nothing short of bomb resisting shelters.

It is regrettable that it should have been necessary on the same date for Mr. Mabane to state on behalf of the Government that plans for these shelters were not yet available for circulation to local authorities, for general plans were submitted to the Minister for Home Security by the A.R.P. Co-ordinating Committee in December last, together with a verbal offer by the Secretary of the Committee to provide working drawings for the erection of these shelters. This offer is now repeated by the committee, in view of the extreme urgency of the situation.

If plans are prepared and circulated to local authorities with appropriate directive drawing their attention to the advantages of this type of shelter, the future development of the shelter programme can be on greatly improved lines.

It is necessary to point out that communal shelters are capable of being provided with essential amenities, including ventilation, lighting, lavatory accommodation and seating. The recent survey carried out by the committee disclosed that in very many shelters these important features are lacking. It is of the greatest importance, not only for the comfort, but also for the morale, of the users of shelters that these things should be provided in all shelters, whether of the convertible type or not. It is a very bad state of affairs that people should be asked to stand in complete darkness, in hot, ill-ventilated shelters, while raids are in progress, and to run the gauntlet of the raids to get to a lavatory or a water supply.

The provision of labour and materials is of the greatest

* In Circular 1848 addressed to you on September 4, 1939, you were informed that the Government were acquiring through H.M. Office of Works stocks of materials suitable for first-aid repairs. These materials have been allocated to a number of depots throughout the country, and are available in the circumstances explained in Circular 1848. Normally, the private owner of a factory or other building unable to obtain materials for temporary repairs from the usual suppliers would apply to the Housing Authority, who, if satisfied of the reasonableness of the request, would pass it on to the local representative of H.M. Office of Works.

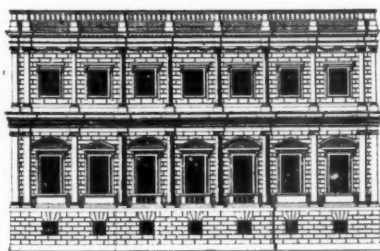
The Minister is glad to know from reports of his inspectors that, as suggested in Circular 1848 dealing with repairs to houses, many local authorities have provided themselves with some reserves of similar materials, primarily for first-aid repairs to housing accommodation. Experience of air-raid damage to date shows that the arrangements of practically every local authority have worked satisfactorily, and first-aid repairs to housing have usually been put in hand on the day on which the damage has occurred. The Minister attaches great importance to this speedy repair of damage, which assists materially in keeping people in good heart, and is confident that the present level of efficiency will be maintained.

It has been represented to the Minister that cases may occasionally arise in which ordinary supplies are temporarily exhausted and there is likely to be delay in obtaining material from a Government depot which would lead to serious loss or a serious impeding of the war effort. For example, food stores might require immediate protection from the weather, or certain repair materials might be necessary to prevent a stoppage at a factory engaged on vital war work. The Minister feels sure that, if such a case occurs in the area of a housing authority who themselves possess the material required, they will be prepared to meet any reasonable request to release such material as a matter of urgent necessity. Where they do so they will of course replenish their stocks as far as may be necessary at the earliest opportunity.

importance. There is still a large amount of labour available in the building trade. As far as materials are concerned, the provision of concrete should present no problems. As for reinforcement, it should be possible for the Minister of Supply to set aside material for this most important purpose.

Finally, the committee's survey brought to light the duplication of shelters that results from the provision of shelters from different sources for one and the same person according to whether he is at home, in the street, or at work. By proper planning of shelters this duplication can be avoided and the available accommodation increased immediately. At present, a person might be caught in the street without shelter being available, although there are domestic or factory shelters close at hand which he is not entitled to use. There are, in addition, very considerable numbers of persons likely to be in places where no shelter is provided, e.g. shops, restaurants, places of entertainment, factories or commercial buildings in which less than fifty persons are employed. It is essential, if the best and most comprehensive provision of shelter is to be made, that there be a single planning authority responsible for the provision of shelter for all persons in a given area, and that shelters be immediately planned and their numbers increased under the direction of this authority.

These proposals are put forward with the single desire that, by implementing them, the best possible protection from air raids may be provided for the people of this country.



"B.V."

A STORY

By Hugh Casson

R. I. B. A.



The Secretary of the R.I.B.A. has received the following cable from Mr. Edwin Bergstrom, President of the American Institute of Architects:—

"On behalf of architects United States I send understanding sympathy to Royal Institute and its members in the passing of their President, E. Stanley Hall.

EDWIN BERGSTROM."

INTERMEDIATE EXAMINATION

R.I.B.A. Intermediate Examination was held in London, Hull, Manchester, Newcastle and Plymouth from May 17 to 23. Of the 129 candidates examined, 61 passed and 68 were relegated. The successful candidates are as follows:

Abbott, Henry; Allen, Robert Charles; Alton, Jack Preston; Brandreth, George; Anthony Wilson; Brown, Henry Faulkner; Butterfield, Lawrence Albert; Butters, John Charles; Chapman, Dennis Edward; Chapman, Ronald Frederick; Cramp, (Miss) Irene Mabel; Crosland, Brian; Davies, David Charles; Denyer, John Henry; Dowell, Norman Charles; Fogarty, Oswald Joseph; Garland, Robert; Goorney, Jack Louis; Gould, George David; Harris, Derrick Nigel Osborne; Hubbard, Philip Peter; Husain, Saiyed Mohammed; Hyne, Henry Reginald; Judd, George William; Kennedy, Charles Victor; Kitchener, Kirk, Arthur George; McLavy, William Victor; Matthews, Vernon Reginald; Mein, Henry Jameson; Mitchell, Cyril John; Morgan, Meiron Rees; Murrell, Harry Charles; Neill, Albert; Owen, Stanley George; Parry, Mervyn Henry; Phillips, Leonard William Charles; Price, Thomas Gerald; Quickenden, Anthony Maurice; Radford, John; Riegler, John Sidney; Riley, Eric William; Robinson, Harold; Rossi, Anthony; Sherwood, Arthur Denis; Sidwell, Norman; Simpson, John Edwin; Sloan, Thomas Francis; Smith, Haydn William; Snowden, William; Southwood, Robert Charles; Steele, Stuart; Stone, Reginald Leslie; Thicke, Rodney Charles Ellison; Thompson, David Arthur; Webb, Charles Herbert; Willcox, John Thomas; Williamson, Eric; Wills, Francis Braim; Wilson, Alan Herbert; Wilson, James Alison; Wyler, Derreck Roy; and Yard, Gilbert Harry.

BOYES VOYCES passed his hand briskly over his greying hair. "You realize, of course," he said, "that I cannot run my office as a School. I am naturally glad that you young men still feel that you can learn something from the work done here"—he paused as if awaiting some comment—"but it takes time to train you into my ways—expensive time. I am accustomed therefore to pay my new assistants only a nominal wage—say 25s. a week—to start with. I hope this seems fair to you?" He bared his teeth momentarily in what he imagined to be a frank and disarming smile.

The young man who stood before him began miserably to shuffle together his roll of drawings. "Of course, sir," he said, "I see what you mean, but I had hoped . . ."

"Naturally," interrupted Boyes Voyces, rising from his chair. "We all hope—But if you think it over, I'm sure you'll agree with me. Can you start at once? Good. And now if you'll see my secretary, Miss Pleasure, she will show you around the office." With a damp but friendly hand he steered the young man towards the door. "Come and see me anytime. I'm always available. And by the way, don't call me sir. I like my friends, and I count my staff among them, to call me B.V." He bared his teeth again for a moment in farewell.

The door closed, and B.V. was alone. These interviews were really very trying at times. He hadn't managed this one at all well. The young man was actually on the verge of arguing over his salary. Usually they were willing to work for nothing, though not so much lately, he'd noticed. That new 5th year instructor at the A.A. must be giving them wrong ideas. He must speak to him about it. Of course he could leave the engaging of staff, like most men of his position, to his chief assistant, but he had always prided himself on being accessible. He had read somewhere it was a quality which all first-rate men possessed. It was a nuisance, but it was necessary.

It was very gratifying that these young men continued to flock to his office. It showed he was still in touch with youth,

and youth, he reflected, tapping his excellent false teeth with a boxwood scale, was a very sound investment. Of course, he could hardly understand their drawings these days. Their conventions changed so often, and this new lettering, which was so fashionable, was really very difficult to read.

He took off his glasses and regarded them. He had designed their frames himself during his purist stage several years back, and they had proved excellent publicity. . . . "Among those present was Mr. Boyes Voyces, B.V. to his many friends, who was wearing those ingenious spectacles of his own design." . . . No. He could not discard them, though at times their elaborate weight seemed to stiffen his smooth fleshy face into a mask of discomfort. He replaced them, and glanced around the room. Nothing wrong here anyway. He had pinched the ideas for it out of a S. American Arch. magazine, but it was still one of the most modern rooms in London. The floor was of scorched planks, the chairs of rough-hewn logs and plaited leather, the desk of glass and engineering bricks, the curtains of white fur, the drawing bench of random-rubble topped with cork. It looked like the Knightsbridge version of a trapper's hut in the Yukon, but the *Architectural Review* had devoted to it a special number, with the photographs printed in reverse and the text written in red on blue sugar-bag paper. The room was now going the rounds of the women's monthlies, so there was plenty of life in it still. That young man's eyes had lit up upon entering it as though he had seen the Holy Grail.

Reassured B.V. returned to his desk, first removing from the arm of his chair with only momentary irritation a vicious splinter which had been overlooked by the adze.

He glanced down his list of engagements for the day. Lunch at the Athenæum with the Secretary of Consolidated Properties, Inc., an afternoon meeting of the Young Architects at the R.I.B.A. over which he was to preside, sherry with General Charters of the War Office Contracts Dept. (in case there was anything in this war scare), and after dinner he was to address a Federal Union meeting on what young architects were thinking. He rang for Miss Pleasure. While he waited he absent-mindedly drew a free shape on the blotting pad, realized with horror what he had done, and hurriedly erased it. Free shapes, he remembered, hadn't been seen since 1938. It was lucky Miss Pleasure hadn't seen it, or the news would have been all round the office in a moment.

Preceded by a whiff of Chanel No. 5, Miss Pleasure entered. She perched herself with some distaste on the least misshapen tree trunk, crossed her shapely legs, and waited, pad on knee, B.V.'s instructions. There was a silence while his thoughts seemed to wander.

Miss Pleasure pulled her skirt down farther over her knees. "Yes?" she said coolly. B.V. started. "Are you ready?" he asked. Miss Pleasure, who was sourly inspecting a ladder in her stocking, started by a protuberant piece of bark, nodded assent.

He dictated briskly for an hour, finishing with a short message of support and encouragement for *Hocus* the new student magazine. He noted with some uneasiness that here Miss Pleasure wrote faster than he dictated, almost as if she knew what he was going to say next. This disturbed him, but not so much as the discovery a moment later that, while speaking, he had perpetrated some more doodles of a highly reactionary character. This was getting serious. He decided to put in an hour in the drawing office in order to recover his self-possession.

The familiar awed deference of his staff acted like a tonic. Their admiration engulfed him like a warm wave. It was not undeserved, for his grasp of the modern idioms was remarkable, his sense for the current clichés unerring. He left for lunch in a good humour, which would perhaps have been less intense had he realized what tell-tale scribbles his absent-minded pencil had left on backing sheets and margins. One young man even discovered on his board the full-size section of a bolection mould. Luckily he had no idea what it was, and it escaped the buzz of comment which more familiar subjects aroused among the staff.

As though he were conscious of the sensation he had caused, B.V. felt his elation leave him, as he sprang youthfully up the steps of the Athenæum. He had to pause longer than usual in the privacy of the lavatory to regain his breath, and he greeted his host with only an imitation of his normal breeziness. Throughout lunch he was restless and distraught, and caught himself more than once removing his glasses to gaze with respect and even admiration at Burton's classical detail. This would never do. He was getting quite morbid. He decided after lunch to walk to the R.I.B.A. for his meeting. He swung briskly off up Lower Regent Street, but by the time he had reached Oxford Circus he was panting slightly, his feet ached, and his eyes were a trifle glazed. He persevered, however, and managed to reach 66 Portland Place, which he entered by a side door in case anyone should notice his distress.

The meeting was not a success. The high eager chatter wearied him, and even when young Fallace, the secretary, referred to him as "the one stronghold of sanity among the older guard," he could only raise the faintest of deprecatory smiles.

As he listened, he doodled vaguely. He wasn't surprised to see that he had done sketches for a font and a summer house in the Italian style. He could not

even be bothered to disguise them. Boredom developed into irritation, until at one point he could not restrain a petulant exclamation at some harmless suggestion for world-reform. There was a pained silence. B.V. realized his mistake, apologized, remarked jokingly that he was getting as bad as old —, and asked the speaker to continue.

But the damage was done. The cord of trust between them and him seemed to have snapped. As soon as he could, he excused himself and left. As he passed the door, somebody said "Goodnight, sir—I mean B.V." A chill gripped him. He hurried to a telephone and instructed Miss Pleasure to cancel his remaining appointments. He noted wearily that she, too, called him sir.

He returned to the penthouse he had built for himself out of undressed granite, stretched canvas and plaited straw on the roof of his latest block of flats. The building was almost empty, and the lift hummed derisively as it passed floor after floor, unoccupied and echoing.

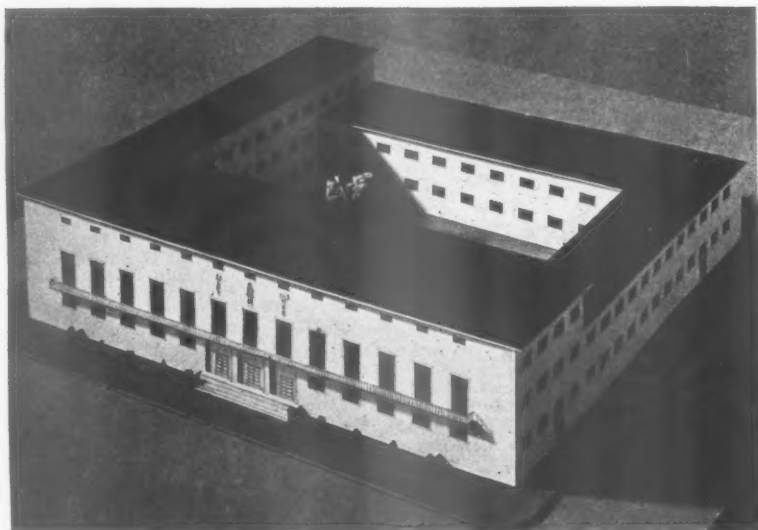
He dined thoughtfully and alone, drinking more claret than was good for him. Afterwards he sat comfortably in the old-fashioned armchair which he had never been brave enough to get rid of, and faced up to the question which had all day been nagging at him. Was the game up at last? It certainly looked like it. Those doodles, that outburst at the R.I.B.A., were symbols of a transformation, caused by he knew not what, but against which he could find no heart to struggle. He could put the act over for another few months perhaps, but gradually his minor indiscretions would multiply and combine until they overwhelmed him. He sat on in a haze of self-pity. Better to end it now, he thought, with dignity and candour. Tomorrow he would clear all that stuff out of the office: the fur smelt dreadful

anyway. He would resign from the Young Architects' Committee, from the Contemporary Architecture Group, from the Advisory Editorial Board of *Hocus*. He would sack Miss Pleasure. On second thoughts he would perhaps not sack Miss Pleasure, she was a competent girl. His thoughts drifted again for a moment. As he planned and plotted, his enthusiasm mounted. Had he forgotten anything? Yes, there was one thing more.

For the last time he removed his spectacles, went to the window and dropped them over the edge. They struck the pavement eight storeys below with a faint dry tinkle. B.V. smiled, and after a few minutes' reflection, turned back to his chair.

Before he had reached it, the front door bell buzzed. It was the porter, and he held out something in his hand. "Your glasses, sir," he said. "I heard them fall and recognized them at once as being yours. They're not broken, just a bit scratched."

B.V. managed a weak smile of thanks and closed the door. Slowly he replaced them on his nose, and with their familiar weight his depression returned, and with it indecision. Perhaps, after all, nobody had noticed anything. Perhaps he could carry on for a bit. If his glasses could stand a knock like that, surely he could! Still, it would have been fun to relax a bit! He paused irresolute by his chair. No, that was weakness. His duty lay at the side of youth. The claret fumes were lightening. He sat down and picked up a letter which lay unopened on the table beside him. It was written, he noticed, in that unreadable script. "We, the undersigned," it began, "being the war babies of the war 1939-1942, feel that the time has come to create a new order in Architecture." . . . Boyes Voyces sighed a little, and read on.



Liverpool School of Architecture: Fourth Year Work. Subject: A Technical Department for a School of Architecture. By A. W. Jackson.

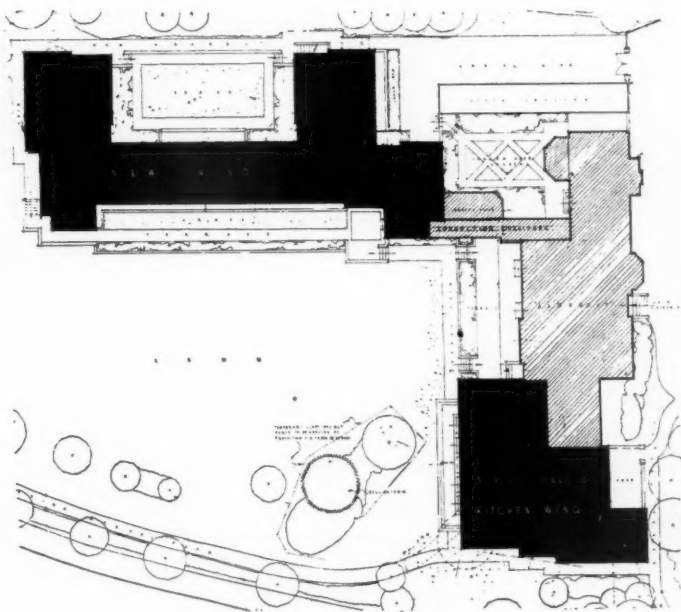
*Dining hall block*

NEW WING, ST. GEORGE'S HALL, UNIVERSITY OF READING

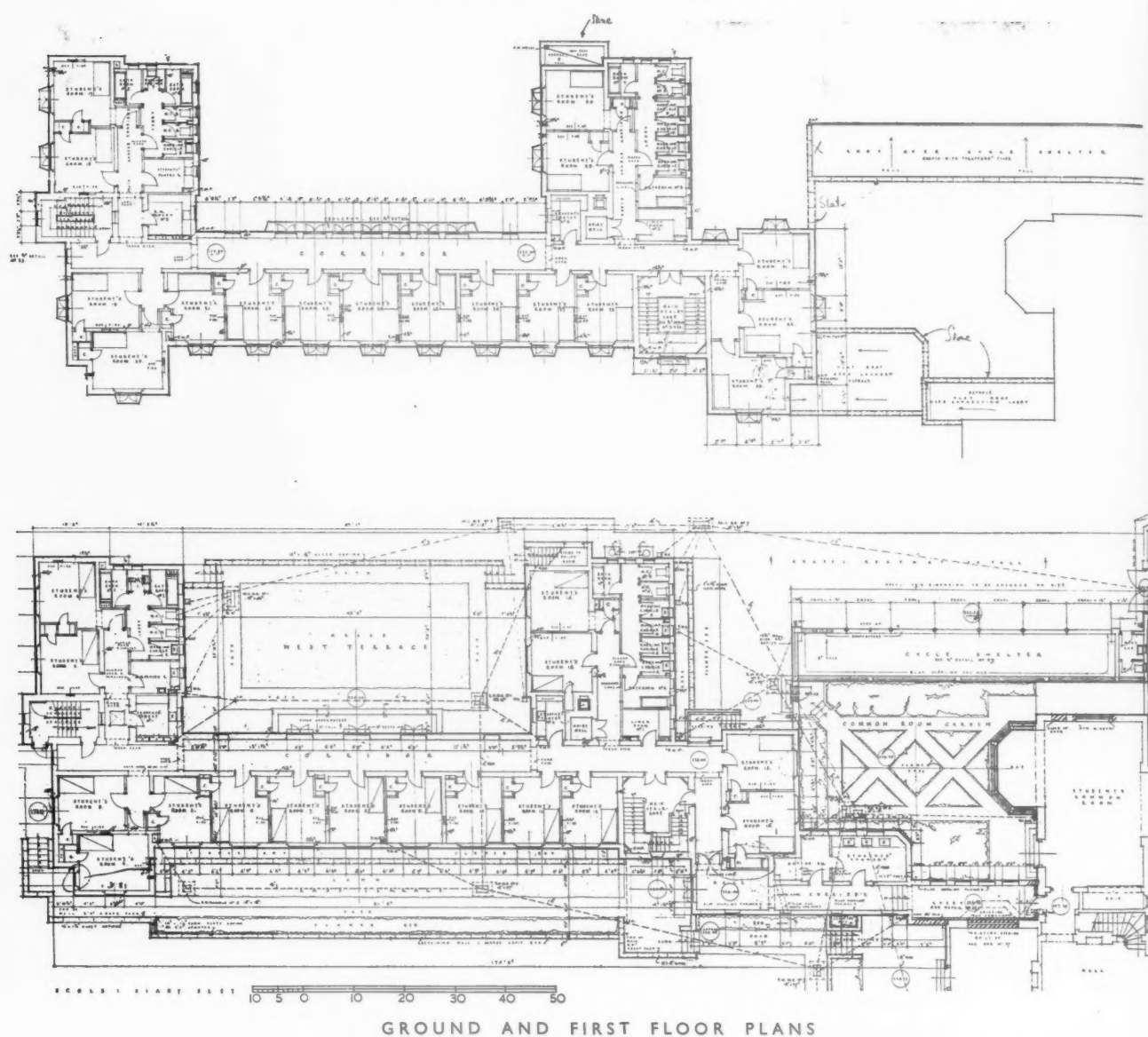
DESIGNED BY VERNER O. REES

GENERAL — Housing of 50 women students, 12 maids, warden and sub-warden. The scheme as executed resulted from the cutting down of an earlier scheme, with accommodation for 100 students, and new dining hall, common rooms, library, and domestic quarters on the site of "Elmhurst," a Victorian building in white brick. As funds were insufficient for the larger scheme it was decided to retain and re-adapt "Elmhurst" for use as common rooms, library, etc., and to build on to it new kitchen quarters and dining hall. A separate wing for students has been built on the south-west corner of the site.

SITE—The site, approximately 3 acres, is on the south side of Reading and overlooks the University sports ground.



SITE PLAN



PLAN—The kitchen and dining hall wing was placed in the north-east corner of the site for easy access for tradesmen, and convenient approach from the old building, in which the servants have sitting-rooms and bedrooms. The new students' wing is well detached from the old building so that it may link up easily with other building to the north of the site when the old building is demolished. Sanitary annexes are on the north sides of the the two westerly wings.

CONSTRUCTION AND EXTERNAL FINISHES—Solid brick walls with solid concrete floors; internal walls, of 9 in. or 3½ in. brick. Roof, solid concrete, with ¾ in. expansion joints where bearing on walls, covered with 1 in. cork board and 1½ in. patent tiles for insulation. Brickwork, light pink bricks; plinth, browns and purple-greys; bottom courses, brown Southwaters. The whole of the dining hall block is in broken white facings.



Main entrance, east front

NEW WING, ST. GEORGE'S HALL, UNIVERSITY OF LONDON



Part of west front, showing entrances to the central corridor

INTERNAL FINISHES—Generally, plastered distempered. All corridors and staircases, white Keene's cement, wood float finish; floors, cork. Internal joinery (except in sanitary annexes), natural wood; frames and solid woodwork, Columbian pine, sand-papered to a slight polish. Sanitary annexes are tiled 5 ft. high throughout and have tile floors; all joinery is enamel painted.

SERVICES—Panel heating in all rooms and corridors, with, in addition, small gas fires in the rooms. After the contract was let it was decided to incorporate air-raid

shelter accommodation by taking down the main walls further into the ground under the main corridor between the two staircases for a length of about 70 ft. There are 18 in. solid concrete walls on either side with an 8½ in. reinforced concrete slab over. Seating is provided for 80 persons.

COST—New wing, £19,787 (price per ft. cube, 1s. 8d.). Old building and dining-hall wing, £8,240. External work and drainage, £1,777.

General contractors were Collier and Catley, Ltd.; for list of sub-contractors, see page xviii.



View from south-east



South front

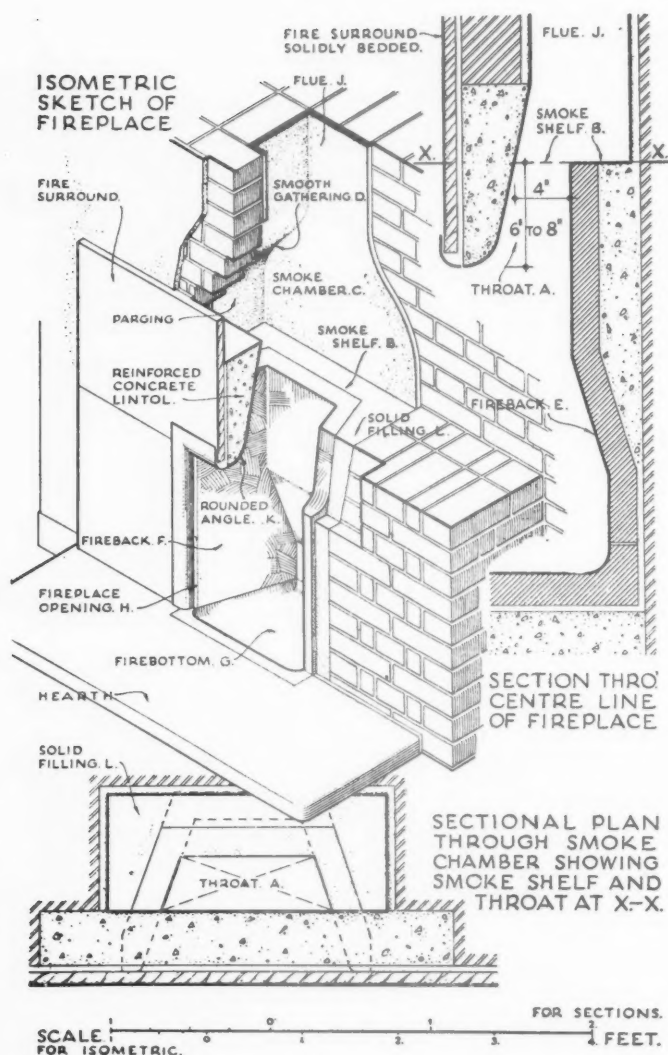


Fig. 1. Fireplace construction.

WARTIME BULLETIN No. 7.*

HOUSING CONSTRUCTION

Shortage of timber practically prohibits its use today for house building. As a result, some form of construction that uses steel reinforcement must be employed. This bulletin sets out certain standards by which to judge proposals for wartime houses, and economy of steel is the first consideration.

To obtain figures with which to make comparisons, two typical designs for small houses have been examined, and their constructional details worked out. Tables are given to show how much steel would be needed to erect these houses, using either "precast" or "in situ" construction. Although methods of construction "in situ" require considerably less steel, they need more shuttering than the "precast" systems. To obtain these data a hollow tile and concrete construction was chosen.

* Issued by the Department of Scientific and Industrial Research, H.M. Stationery Office. Price 1s. (Illustration on this page is reproduced by permission of the Comptroller H.M. Stationery Office.)

But it is emphasized that many other forms of construction might give equally good or better results, and that the results obtained are intended to set only a maximum limit to the steel which can be permitted. Tables are given showing the possibilities of this hollow tile type of construction both in "precast" and "in situ" forms.

Considerable stress is laid on the importance of proper planning for wartime conditions. Spans must be kept small and cross walls used for load carrying whenever possible. Flat roofs are stated to be more economical in steel than pitched roofs and must therefore be used even if at some later date it is felt necessary to alter them.

Heat insulation is more important with flat roofs than with pitched roofs, and a section on this subject is included, with a table showing comparative values of different forms of roof. A section deals with the possibility of trouble from smoky

chimneys on flat roofs. Extracts from this section are printed below:—

It is often stated that smoky chimneys occur more frequently in flat roofed buildings than where there are pitched roofs.

In many cases of smoky chimneys which have been examined it has been found possible to effect cures without any alteration to the stacks, the trouble often being due to faulty design of the chimney immediately above the fireplace. A note on this subject has already been issued by the Building Research Station,* together with details of a fireplace opening based on the principles advocated by Rumford. Fig. 1 shows the general form of construction advocated. The main points in this design are as follows:—

- (1) A throat (A) perpendicularly over the fire 4 in. wide.
- (2) Splayed sides to the fireplace. (Rumford suggested that in most cases the width of the back of the fireplace should be about one-third of that of the opening.)
- (3) Sufficient depth from the wall face to the back of the fireplace to prevent smoking caused, for example, by draughts across the fireplace opening.

- (4) A horizontal smoke shelf (B) at the level of the top of the throat, which should be a few inches higher than the top of the fireplace opening.

- (5) Smooth internal surfaces to all smoke passages (C, D and J), and a rounded internal angle to the top of the fireplace opening (K).

Rumford stated, too, that a sloped back (E) improved the efficiency of the fireplace, but that in order not to impede the rise of the smoke into the flue the slope should be gradual and should start immediately above the fire, and terminate 8 or 10 in. higher. Rumford also referred to other causes, of which one only need be mentioned here, namely, lack of sufficient ventilation. When a room is not provided with special means of ventilation, and doors and windows are practically airtight, the draught of a flue may be reduced sufficiently to cause smoking. In such cases, construction along the above lines may be sufficient, but, if not, ventilation from the outside should be provided. Rumford was dealing with old-fashioned fireplaces, but it is possible to construct present-day fireplaces on the same principles, as shown in Fig. 1.

The effectiveness of these suggestions has been tested, in several hundreds of troublesome cases brought to the notice of the Station, by making alterations on the lines of Fig. 1. In these instances it was necessary to cut and build up existing firebacks to some extent, but firebacks are now manufactured which conform to Rumford's recommendations.

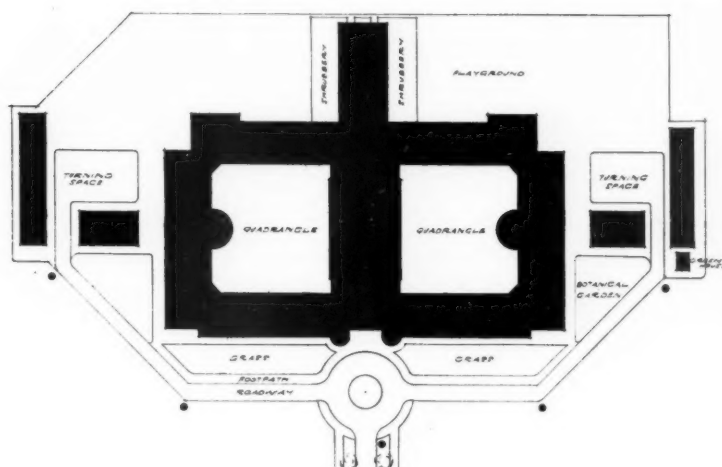
Whilst the design of the fireplace opening and flue immediately above this is of primary importance, the length and type of chimney must also be considered. No precise data are available on this aspect of the problem, but it is suggested that some improvement over normal results could be obtained by using a smooth-faced circular flue instead of the usual square brick flue finished with rendering. A 9-in. circular stoneware pipe would be very suitable.

No exact recommendations as to flue heights are possible but experience suggests that, provided the other precautions are taken, a chimney height of 6 ft. above the flat roof should give satisfactory results in most cases.

Air raid precautions are mentioned, and it is shown that practically no increase in steel is required to make the flat roofs resistant to light incendiary bombs. There is also a suggestion that in houses having a small room such as a bathroom on the ground floor, air raid shelters might be constructed within the house with only small alterations in structure.

Sound insulation between houses is considered, and it is pointed out that by adopting proper methods very good results can be obtained at comparatively little additional expense.

* Notes from the Information Bureau of the Building Research Station (4th Series, No. 3).



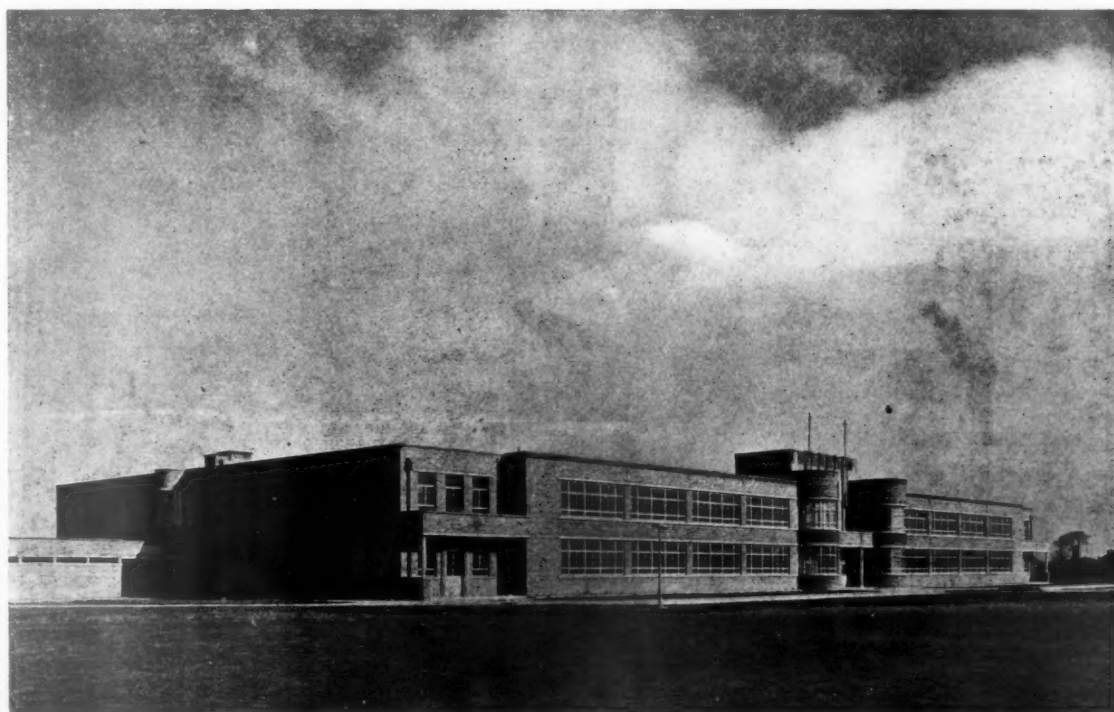
SCHOOL AT HULL

DESIGNED BY ANDREW RANKINE

SITE—On the north side of a private road adjoining an existing elementary school.

CONSTRUCTION AND EXTERNAL FINISHES—Partly steel framed with external walls and most internal walls of brick. Roofs and floors are pre-cast beams. Facing bricks are a local multi-coloured rustic, and window cills and heads are finished with artificial stone.

Below, a general view from the south. The main entrance is on this side of the building but there are separate entrances for boys and girls on the north side.

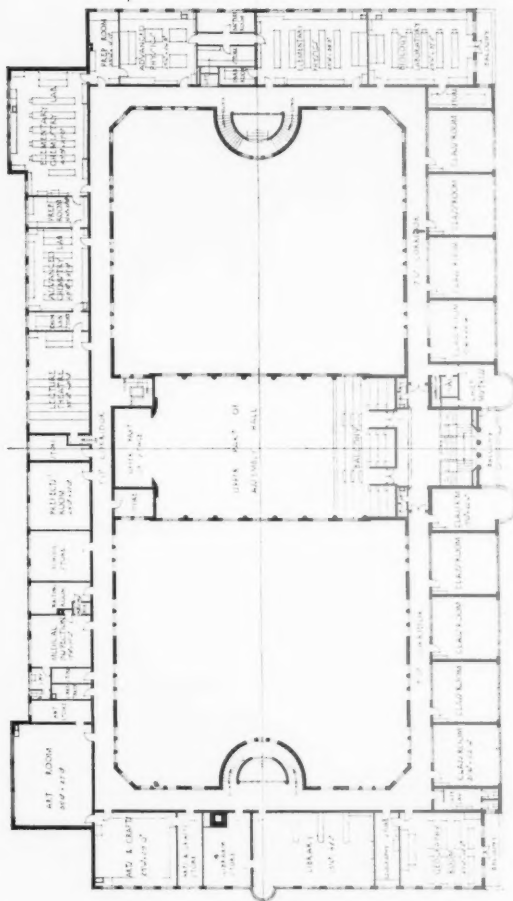


PLAN—The assembly hall forms the axis of a symmetrical plan with accommodation for boys and girls on either side, each enclosing a quadrangle. Classrooms are planned on the south side and workrooms on the north side, with the communal gymnasium in the centre on the north side.

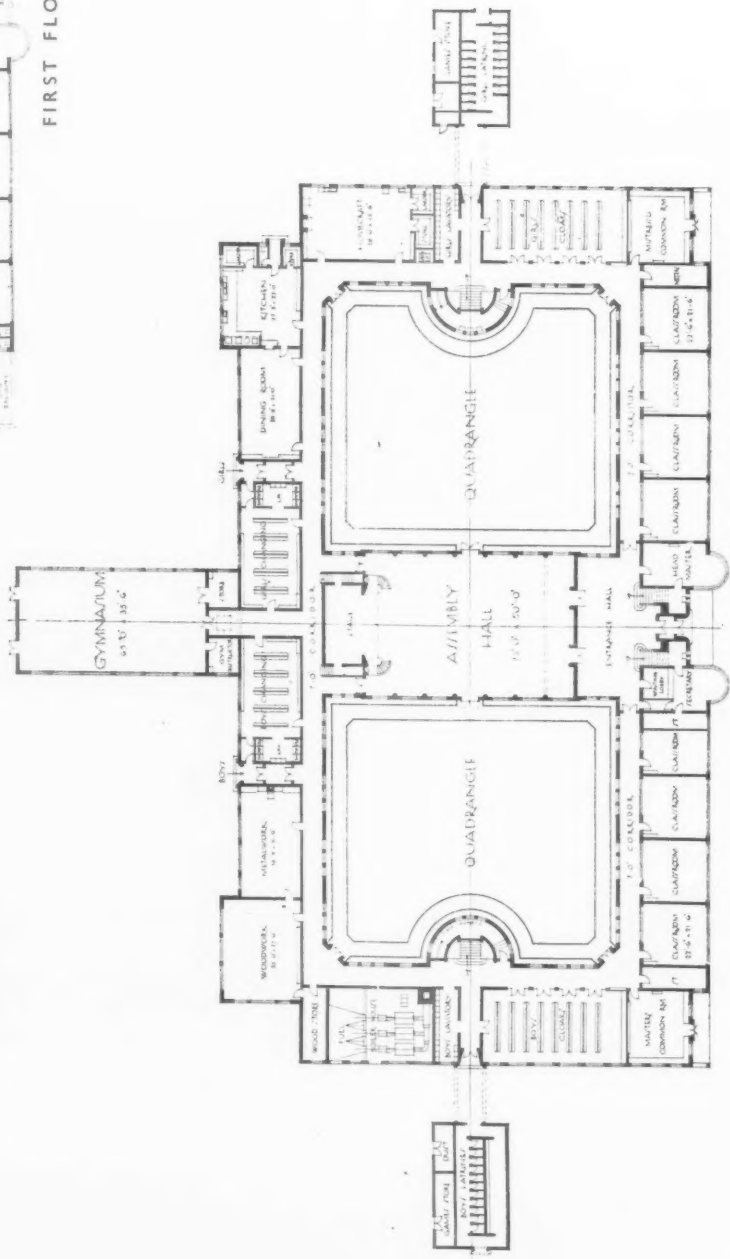
INTERNAL FINISHES—Walls of the entrance hall are faced with a grey-green faience with a black skirting; floor covering is rubber. Walls and ceiling finishes generally are plaster, painted. Assembly hall has a dado of oak veneer and strip maple flooring. Burma teak blocks are used for the library floor; finishings are in oak. Floors to the classrooms are beech blocks; and in the laboratories and ground floor corridors, jarrah strip. The semi-circular staircases on the east and west sides are finished with cream-coloured terrazzo. All doors are flush with glazed panels of Georgian wired glass.

SERVICES—Heating is by low-pressure hot-water system and water heating by local electric heaters. A small goods lift serves the laboratories on the first floor.

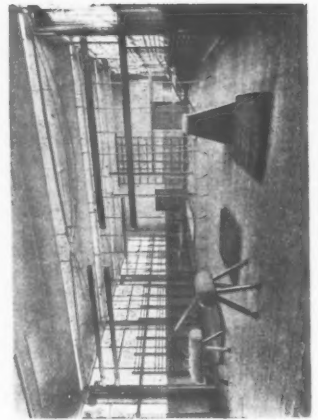
General contractors were Tarran Industries, Ltd.; for list of sub-contractors and suppliers, see page xviii.



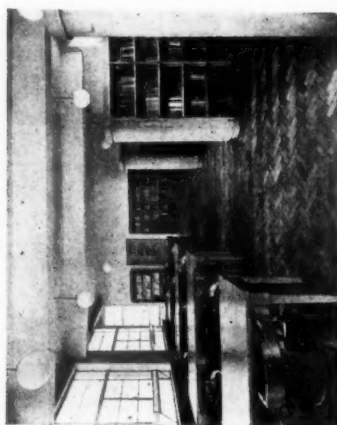
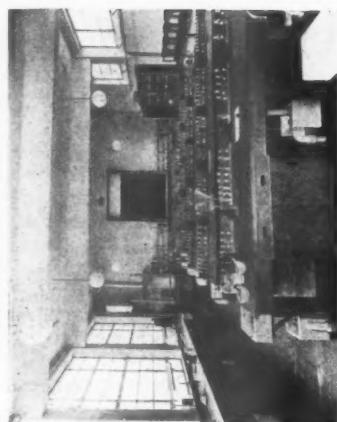
FIRST FLOOR PLAN



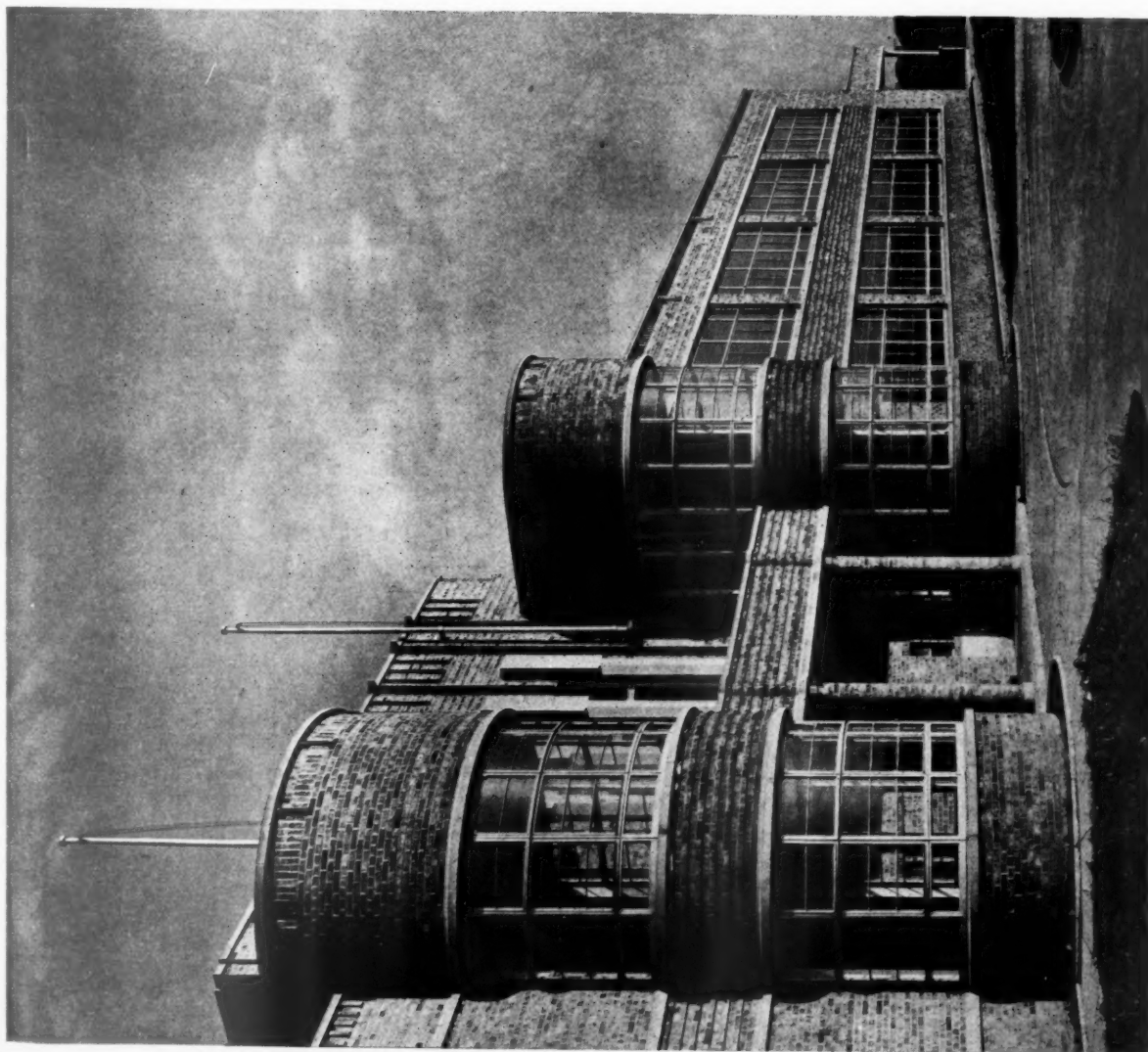
GROUND FLOOR PLAN



Entrance hall and gymnasium



Top, typical laboratory; centre, assembly hall; bottom, the library; left, the main entrance

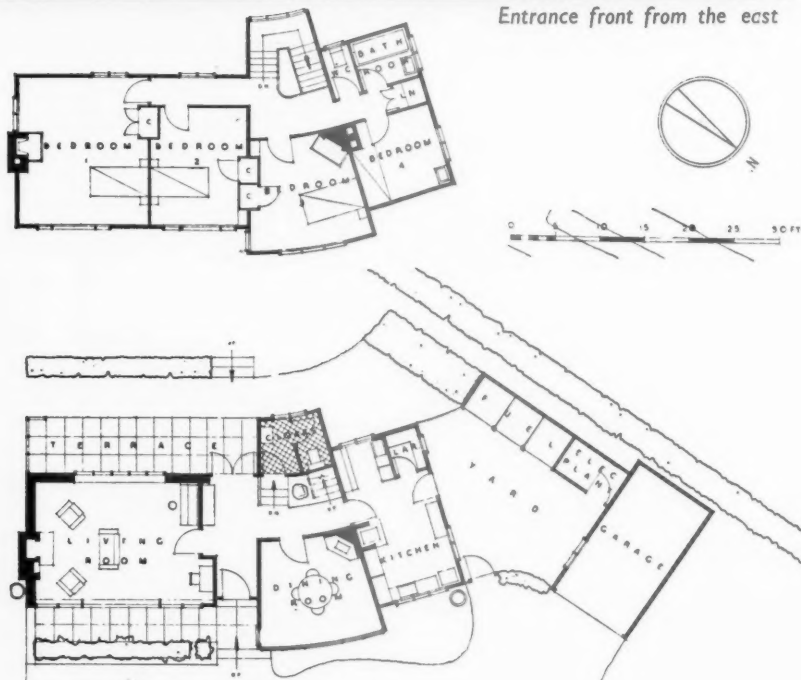


SECONDARY SCHOOL, HULL • DESIGNED BY ANDREW RANKINE

HOUSE AT LLANGROVE

DESIGNED BY P. J.
WESTWOOD AND SONS

Entrance front from the east



GENERAL AND SITE—The house is on the top of a hill about 300 ft. above sea level, with a particularly good view to the north-east over the Wye Valley. A water supply which was liable to fail in dry weather was the only service available.

PLAN—Site is surrounded with hedges and rises to the south, where two of the hedges meet, forming an acute angle. The house was slightly curved on plan to fit this angle. It was requested by the client that the principal rooms should have large windows to the north, so as to take advantage of the view.

CONSTRUCTION AND EXTERNAL FINISHES—External walls are of 4 in. \times 2 in. studding, covered externally with $\frac{3}{4}$ -in. diagonal rough boarding, building paper and 1-in. Western red cedar weatherboarding, and internally with $\frac{1}{2}$ -in. plaster-board and skim coat of plaster. The chimney stacks, two living-room walls and foundations for timber walls are of local stone. The weatherboard round the front door and living-room window is treated with a proprietary stain which gives it a rich brown colour. The roof is covered with Western red cedar shingles, and the projecting flats over the staircase and bedroom with bitumen. Internal walls are constructed of studding and plasterboard. All the window frames are of wood, including the sliding folding window in the living-room.

SERVICES—Radiators in the living-room and hall are worked off the boiler and cooker. Electric light is made by the plant next to the garage, and one emergency lighting point and a Calor gas stove are supplied. Reserve rain water tanks are in the roof and under the yard; drainage is taken to a septic tank.

COST—Approx. £1,900, including drive and entrance gate.

General Contractors were W. A. and E. W. Symonds; for list of sub-contractors see page xviii.



Main front, view from north



Garden front, view from south

SOME QUESTIONS ANSWERED THIS WEEK:

- ★ *CAN you refer me to any recently published work on the principles of camouflage?* - - Q₄₃₈
- ★ *HAVE you the addresses of Messrs. Rolls, Ltd. and Messrs. Cullacorts, Ltd., suppliers of translucent varnish and coloured sand?* - - Q₄₄₀
- ★ *WILL you kindly give us particulars of paint and other materials for sealing and rendering gas-proof brick walls, concrete floors and wood doors of a decontamination centre and making them easy to clean?* - - - - Q₄₄₂
- ★ *ARE engineering draughtsmen still included in the schedule of reserved occupations?* - - Q₄₄₈

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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

R E G E N T 6 8 8 8

Q₄₃₇ ARCHITECTS, LONDON.—We have been asked by a client who owns a BLOCK OF FLATS to advise him regarding his liability under Section 30 of the Civil Defence Act, 1939. The question is—can our client be held liable to provide an air raid shelter under Section 30 in the event of more than 50 per cent. of his TENANTS deciding at this late date, or in the future, to request him to provide one? Did not the Act specify a time limit for such applications? What is the position if the property consists of three separate blocks of flats comprising AND known as a single property—will 50 per cent. of the total number of tenants applying from one particular block mean that SHELTER must be provided for this block, or must applications be received from 50 per cent. of the total of all blocks before our client is liable to provide a shelter for any?

The liability of the landlord is a continuing one; there is no date specified in the Civil Defence Act, 1939, after which tenants' requests for shelter accommodation cannot be considered. Also, flats erected in three blocks but known as a single property would in the event of any appeal almost certainly be regarded, for purposes of shelter accommodation, as constituting a single property.

The position is that if the tenants of half or more of the flats make a joint request for the provision of shelter accommodation, the landlord must take steps to have plans and costs, etc., prepared and present these to the tenants, together with a statement of charges payable by each and every tenant. The scheme if adopted by the tenants must then be executed and the landlord reimburse himself for the portion of the cost agreed to be paid by the tenants. It should be noted that request for shelter accommodation must be from tenants occupying 50 per cent. or more of the flats; the landlord retains voting power for flats untenanted.

Q438 ARCHITECT, MIDDLESEX.—*Can you refer me to any recently published work on the PRINCIPLES OF CAMOUFLAGE?*

The official publication is A.R.P. Handbook No. 11, entitled "Camouflage of Large Installations" (His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, price 3d. net). In addition, there was a series of informative articles contained in the *Builder* of September 15, 22 and 29, and October 6, 1939, by R. Myerscough Walker, A.R.I.B.A. There is also a booklet issued by the Silicate Paint Co., Ltd., Charlton, London, S.E.7.

Q439 ARCHITECT, AYRSHIRE.—*In what widths is the CELLULOSE FILM mentioned in the Government pamphlet, "Your Home as an Air Raid Shelter" made and who are the manufacturers? Is it suitable FOR WINDOWS where a large amount of transparency is necessary, and how does it compare with paper strips for strength? Do you consider that shutters formed of a board such as $\frac{3}{16}$ in. Masonite tempered hardboard and fixed on the outside face of the wall would give much protection to the glass of a window 3 ft. 6 in. wide?*

Messrs. British Cellophane, Ltd., 17 Stratford Place, London, W.1, market their cellulose film in rolls of 4 in. width. Cellulose films in widths of 1 in., $1\frac{1}{2}$ in. and 2 in. are produced by Messrs. Cellon, Ltd., Richmond Road, Kingston. The latter firm also produces sealing lacquer and anti-shatter coatings which it recommends for use in conjunction with the film or taping. It is difficult to compare the strength of such films with paper strips, since much will depend upon the type of paper, but it can be said with safety that such films will exceed in strength and elasticity all

forms of taping with the possible exception of those of surgical adhesive plaster type. It is difficult to see how lightweight external shutters such as could be made up from thin wall-board will prevent the shattering of underlying glass. Blast pressure on the glass is not likely to be reduced by the provision of non-rigid shutters of this type. The use of shutters would be in the infilling of the openings after damage to the glass. In any case such shutters would be placed to better advantage on the inside of the glass, in the way recommended in the pamphlet, "Your Home as an Air Raid Shelter." They would thus assist in preventing the shattered glass from flying inwards.

Q440 BUILDERS, LONDON.—*In building work I am pricing at the moment it is specified that the ROOFLIGHTS are to be treated with TRANSLUCENT VARNISH and COLOURED SAND, the materials supplied by the firms Messrs. Rolls, Ltd., and Messrs. Cullacorts, Ltd., respectively. Have you the addresses of these firms?*

The address of Cullacorts is Messrs. Cullacorts (1936), Ltd., Sterte Avenue, Poole, Dorset. The only firm of varnish manufacturers we can trace under the name of Rolls is Messrs. Rolls & Co., 134 North Street, Glasgow, C.3.

Q441 ARCHITECT, BOURNEMOUTH.—*There are many architects who have practised as ARCHITECTS AND SURVEYORS but who are QUALIFIED AS ARCHITECTS AND NOT AS SURVEYORS, i.e. they are not members of a professional body of surveyors. What is their position regarding RESERVATION? What would establish an architect as a surveyor as well, apart from the use of this description on his letter-paper or nameplate? The clarification of many who would, I feel, be welcomed by this point are at the moment uncertain as to their position in this matter.*

This point is dealt with in the Explanatory Notes of Part I of the Schedule of Reserved Occupations Revised, May, 1940 (His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, price 1s. net) which states:

The Schedule is compiled on an occupational basis and is applicable to any person, irrespective of the industry in which he is engaged, who follows as his primary occupation an occupation named in the Schedule whether he is an employer, a director or an employee, or is working on his own account.

Reservation thus depends on what is the normal occupation of indi-

viduals. In some firms of architects and surveyors one or more members of the firm are almost wholly engaged on building measurement, valuation, repairs, estimating, taking off quantities and the other normal work of building and quantity surveyors. Persons habitually doing such work would appear to qualify for reservation.

Q442 ARCHITECTS, NEAR LIVERPOOL.—*Will you kindly give us particulars of paint and other materials for SEALING AND RENDERING GASPROOF BRICK WALLS, concrete floors and wood doors of a decontamination centre, and making them easy to clean?*

For the woodwork, gas-resisting paints would be necessary and these are available now from most paint manufacturing firms, made up to a Government specification. These paints could be used on the brick walls, but the more usual treatment for this work is a liberal application of waterglass or sodium silicate solution. Sodium silicate in concentrated form is available from Messrs. Imperial Chemical Industries, Ltd., Ship Canal House, King Street, Manchester 2, or proprietary preparations on this base are to be had from Messrs. Joseph Freeman, Sons & Co., Ltd., Cementone Works, Wandsworth, London, S.W.18, and Messrs. Watco, Ltd., Portland Works, 236 Blackfriars Road, London, S.E.1. Sodium silicate treatment over red brickwork is often unsightly but is efficient. An alternative procedure would be to use a cold glaze cement surfacing such as Glazement* or Granitese.† The use of sodium silicate is advocated for cement renderings, so that in theory it would also be as efficient on concrete floors. But in decontamination centre work the heavy traffic on the floors might break down the surface film formed by the silicate treatment, and quarry tile pavings are the more usual finish for floors.

Q443 ARCHITECTS, LEICESTER.—*We have obtained a licence for 104 squares of HARDWOOD FLOORING, but are not allowed FILLETS FOR FIXING to the sub-floor. Wood blocks are not suitable for fixing machines and this amount of maple is not obtainable, so we have to have 1-in. oak boards. The floor is suspended and of concrete reinforced with B.R.C. fabric and bars and it is proposed to lay the boards in hot tar bitumen. We shall be pleased*

* Messrs. Hoyle, Robson, Barnett & Co., Ltd., Regis House, King William Street, London, E.C.4.

† Messrs. Granitese (Great Britain), Ltd., Bond Street, Vauxhall, London, S.W.8.

if you will kindly give us your opinion as to whether this is suitable and if there is a risk of the boards lifting at a later date, and if you can give us a specification for the mastic (or otherwise) we shall be grateful.

No details are given of the machinery to be fixed, but floor boards fixed to a sub-floor by means of mastic adhesive are not likely to prove a satisfactory base for machinery fixings. With mastics which remain plastic, vibration set up by the machinery is likely to cause the boards to loosen or pull away from the sub-floor. Mastics which set hard are not likely to be any more advantageous, since with hardness there will be a brittleness, and machinery vibration is likely to cause fracture between either the boards or the sub-floor and the mastic. From the particulars given it would seem that the only solution likely to prove satisfactory would be to perforate the floor at the minimum thickness between the ribs and fix the machines by means of plates or angle irons on the underside of the floor bolted through to the machine bases. Alternatively, if the machine fixings can be spaced directly over the concrete ribs of the floor, Rawlbolts (The Rawlplug Co., Ltd., Rawlplug House, Cromwell Road, S.W.7) or similar fixings could be used in which case the ribs would be holed and the bolt sockets grouted into the concrete.

Q444 SURVEYOR, SUNDERLAND. — With reference to your reply to Question No. 398, where you state that under the new Schedule of Reserved Occupations **QUANTITY SURVEYORS** are **RESERVED** at 18 years of AGE. Will you be good enough to quote your authority for this statement, as the local Labour Exchange informs me that the reservation age of quantity surveyors is 23 and of pupil quantity surveyors 25?

The information given in Q. 398 was abstracted from the Schedule of Reserved Occupations Revised, May, 1940 (His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, price 1s. net). On page 72 of that publication it is stated that Surveyors (Building, Quantity, Estimating, Measuring) are reserved from General Service from the age of 18 and reserved from Service in a Trade Capacity from the age of 23.

Q445 ARCHITECTS, LONDON. — In a specification I stipulated that all the **STONEWARE DRAIN PIPES** were to comply with the latest **BRITISH**

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

STANDARD SPECIFICATION, and on visiting the work I find unmarked drain pipes being used. My contractor assures me that this is in order, whereas I expected to see the "Tested" marking on the pipes. What actually is the position? Do unmarked pipes comply with the specification?

There are two grades of stoneware drain pipes included in the British Standard Specification No. 65, 1937, for Salt Glazed Ware Pipes (British Standards Institute, 28 Victoria Street, London, S.W.1, price 2s. net). There is (1) the British Standard Salt Glazed Ware Pipes and (2) British Standard Tested Salt Glazed Ware Pipes, of which every pipe will be marked "Tested." In both classes the trade mark of the manufacturer shall be impressed upon the pipe before fixing. The essential difference in the two grades of pipe is set out in Section 14 of the Specification, which reads as follows:

"British Standard Salt Glazed Ware Pipes.—Should the Purchaser (or his Representative) so desire, 5 per cent. of the pipes ordered may be selected for testing under the hydraulic test at the manufacturer's works. If four-fifths of the pipes so selected for testing comply with the hydraulic test, the whole of the pipes represented (other than those which have failed) shall be accepted. If less than four-fifths of the pipes first selected comply with the test, a further 5 per cent. of the whole of the pipes represented shall be selected, and so on, until the total number of pipes which stand the test amounts to four-fifths of the total number of pipes tested, when the whole of the pipes represented (other than those which have failed) shall be accepted, or, failing this, until the whole of the pipes have been tested, when only such as comply with the test shall be accepted.

British Standard Tested Salt Glazed Ware Pipes.—Every British Standard tested salt glazed ware pipe shall have been subjected to and have withstood the hydraulic test specified in Clause 13."

It would seem, therefore, that the contractors' materials would comply with the specification, and that if tested pipes were desired this should have been specifically mentioned.

Q446 ARCHITECT, SOMEWHERE IN ENGLAND. — A number of windows have been broken in this district and rather than replace them with glass I propose to use a kind of **OILED SILK** OR some **SUCH LIKE** substitute for **REAL GLASS**. We used similar material in the last war. Can you let me know the

names of firms who manufacture such materials and their addresses?

Supplies of oiled silk are available from the firms given at the foot of this column.* It should be mentioned however, that this material normally is imported and we have reason to believe that import quantities are restricted. For the past months experiments have been carried out on the oiling of home-produced silk, and supplies of this material are becoming increasingly available. Other possibilities will be the use of the Windolite† and Sunralite‡ materials. These are forms of fine wire mesh embedded in a thin plastic sheeting. Then there are the clear plastic sheetings such as Cellophane§ and Bexoid||, available in thicknesses of 3/1,000 in. and upward. If these proprietary materials are not available it should be possible to purchase fine wire mesh of about ten meshes to the inch and to tack this in the frames. The mesh could be varnished over and will be weather resistant, and still allow of a fair amount of light. Or grease could be rubbed over the mesh; this practice is adopted widely in the tropics and the result, whilst excluding rain, allows ventilation and light.

Q447 BUILDERS, SOMERSET. — I was interested to see in the ARCHITECTS' JOURNAL for July 4, page 4, certain notes on the devices possible to prevent splintering of glass. We have a large factory, probably with 40/50,000 square feet of glass, principally wall windows, but a good deal of north light roof as well. We are anxious to render all this glass **SPLINTER-PROOF** so as to enable work to proceed without danger to our employees from flying **GLASS**. Is there any literature bearing on this that is authoritative?

The protection of glass is the subject of a publication by the A.R.P. Department of the Ministry of Home Security and entitled Memorandum

* Messrs. Abbott, Anderson and Abbott, Ltd., Heathfield Works, Harpenden, Herts; Messrs. Robert Atkinson & Co., Ltd., 3 Featherstone Buildings, High Holborn, London, W.C.1; Messrs. C. T. Kent, Ltd., Cornwall Works, 356a Kennington Road, London, S.E.11.

† Messrs. Windolite, Ltd., Harlow, Essex.

‡ Messrs. Sunralite Glass Substitute, 84 Chestnut Road, London, N.17.

§ Messrs. B.X. Plastics, Ltd., Hale End, London, E.4.

|| Messrs. British Cellophane, Ltd., 17 Stratford Place, London, W.1.

No. 12: "The Protection of Windows in Commercial and Industrial Buildings." Copies are obtainable from His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, price 4d. net.

Q⁴⁴⁸ ENGINEER, LONDON.—Are engineering draughtsmen still included in the

Schedule of RESERVED OCCUPATIONS?

Yes. In the Schedule of Reserved Occupations Revised, May, 1940, draughtsmen of the following classes—aero engine, general engineering, jig and tool, ship, civil engineering, wind tunnel (aircraft construction)—are reserved from general service at the age of 18 and draughtsmen (others, except architectural) at the age of 21.

page xviii. Apart from the AB Cooker, with which most architects are now familiar, I thought the most interesting items were the sink and the wall-plates. The latter can be made to any specified size within reasonable limits, which will be appreciated in these days of rigid standard sizes. The finish is of vitreous enamel of astonishing toughness, if a brutal and sadistic attack with a penknife constitutes a fair (or should I say unfair?) test. The ability to stand up to really rough wear makes these wall-plates especially suitable for use in hotel kitchens or as a dado to school corridors. The manufacturers claim to be able to match exactly any desired colour, and the cost compares roughly with good quality tiling.

The most surprising thing about this cast iron is the lightness of appearance achieved in a material intrinsically weighty.—(Federated Sales, Ltd., 80 Grosvenor Street, W.1.) H. M.

TRADE ITEMS

Protection and Blackout

I have just been looking at a sample of a material new to me, called "Bennieflex." It consists of a wire reinforced underfelt impregnated with bitumen. It has been approved by the Ministry of Supply for weatherproof black-out purposes, and by virtue of its reinforcement provides, when properly fixed, protection against flying glass and blast.

It should make an effective substitute for steel in sliding shutter systems for factory north lights in cases where there is difficulty in getting steel, though naturally it cannot give the same protection against splinters.

It is supplied in rolls up to 50 feet long, with widths of 3 feet and 6 feet, and cuts up easily as required.

As it is durable, flexible and weather-resistant, it should prove a handy material to know about for other uses besides that of black-out, for which it is primarily designed. (Bennie Lifts, Ltd., 2 Timworth Street, Albert Embankment, S.E.11.) H. M.

Cast Iron Kitchen

Cast iron is a material most of us tend to associate with the kitchen grate of our childhood days and municipal lamp-posts of incredible design. The demonstration kitchen recently opened in the London showrooms of Federated Sales, Ltd., should help to correct this impression. The fact is that, like most other materials, it looks just as good or just as bad as the designer cares to make it. A general view of the kitchen is shown in the illustration on

Plaster Board

In order to conserve the national paper supplies, Honeywill and Stein, Ltd., in co-operation with other plaster board manufacturers, have met the request of the Paper Controller to substitute a grey-faced paper for the ivory-faced paper used in their wallboard. Both papers will therefore be similar in quality to the grey paper at present in use. We understand that in all other respects the quality of Gyproc wall and ceiling board will be rigidly maintained. Customers, state Honeywill and Stein, are warned that during the transition period it may be necessary, in some cases, to send grey and ivory-faced board in the same consignment.

PRICES

BY DAVIS AND BELFIELD, CHARTERED QUANTITY SURVEYORS

GENERAL POSITION

The only rise of importance since the last prices section appeared in the JOURNAL (July 4 issue) is that of steel; the rise occurred on July 1, but was confirmed too late for publication. Ballast has also risen slightly.

RATES OF WAGES

Labour rates remain unchanged. The increases on pre-war labour costs are 9.52% for Labourers and 7.14% for Craftsmen in the Central London area.

Basic Material	Increase over pre-war prices at end of						
	January, 1940	February, 1940	March, 1940	April, 1940	May, 1940	June, 1940	July, 1940
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Portland cement	+ 9.8	+ 9.8	+ 9.8	+ 9.8	+18.3	+20.7	+20.7
2-in. unscreened ballast	+17½	+17½	+17½	+17½	+17½	+17½	+21½
Fletton bricks (at station)	—	—	—	—	—	+ 5.9	+ 5.9
Stoneware drainpipes (British Standard), 2 tons and over	+ 9.4	+ 9.4	+ 9.4	+ 9.4	+ 9.4	+ 9.4	+ 9.4
Roofing tiles	+ 7½	+ 7½	+ 7½	+ 7½	+12½	+12½	+12½
Steel joists (basic sections), ex mills ..	+19	+19	+19	+19	+19	+19	+30.8
Lime (greystone)	+14.3	+14.3	+14.3	+14.3	+19	+19	+19
Sheet lead	+50	+50	+50	+50	+50	+50	+50
Iron rainwater goods	+ 3½	+12½	+12½	+12½	+12½	+12½	+12½
Iron soil pipes	+ 3½	+12½	+12½	+12½	+12½	+12½	+12½
Copper tubes	+23½	+25½	+25½	+25½	+25½	+25½	+25½
White lead paint	+21½	+22½	+22½	+22½	+22½	+22½	+22½

T. A. Davis
F.S.I.

WAR OUTPUT OF INDUSTRY

SUCCESS OF NEW MINISTERS

CONTROL OF MAN-POWER

ORDER IN FORCE TO-MORROW

BY OUR SPECIAL CORRESPONDENT

The first results of the initiative and energy of Lord Beaverbrook, Mr. Herbert Morrison, and Mr. Bevin in the munitions drive are heartening. Everywhere production has soared. The output of some factories has been doubled in a few weeks.

By his determination to make the seemingly impossible possible, Lord Beaverbrook secured in a single week an output of aeroplanes that, could figures be given, would astonish and gratify the public.

Labour has responded splendidly to the call of these Ministers. Therein lies a danger that Mr. Bevin, as Minister of Labour, with all the experience of a trade union leader behind him, has wisely foreseen. Men cannot go on working long hours seven days a week indefinitely without their productive capacity suffering.

That is why he has asked management to plan a relay system by which every workman will have one day's leisure in seven, though the factory will continue to work to capacity.

STOPPING WASTE EFFORT

That is not all. To-morrow the order made by the Minister of Labour a few days ago will become operative. It gives him full power to direct man-power to places where priority work is being carried out and to prevent unnecessary and uneconomic changes. The turn-over of labour that represents a big waste will be reduced to a minimum. When and where labour is not fully utilised it is a waste.

EVERYONE MUST SAVE ALL SCRAP

SALVAGE must in future be collected by all local authorities with populations of more than 10,000. All householders in these areas must co-operate in a new national anti-waste campaign.

This was announced by the Ministry of Supply during the week-end. The decision has been made by the Minister, Mr. Herbert Morrison, following a recommendation by the Committee of Women M.P.s set up at the end of May under the chairmanship of Miss Nancy Lloyd George to advise him on salvage questions.

This is the first recommendation to Mr. Morrison. Most urgently needed are waste paper and cardboard, scrap metals and household waste. Other materials such as waste food and rags may be added to the list from time to time.

Householders have not yet organised any salvage work. The Minister of Supply, under the powers conferred by the National Regulations, will shortly issue directions to the local authorities to co-operate in the collection and disposal of the materials most urgently needed.

Potential Bullets

In a statement emphasizing the urgency of the new campaign Mr. Morrison stated:

"Every piece of paper, every old book, every piece of scrap metal is a potential bullet against Hitler. We must never fling away a bullet. We must never fling away one piece of scrap that can be salvaged."

Mr. R. S. Hudson, Minister of Agriculture, told the Greater London Food Production Conference that it was intolerable that land belonging to food-producing areas should be allowed to go overgrown with weeds because it could not be built on.

"I would like to want owners and their agents that I have the power to take over this land for food production for the period of the war and that, if I do, I can retain possession of it for three years after the termination of hostilities."

More than 100 Westminster City Council street sweepers will not work on Sunday with a special exemption. Their trucks will be allowed to enter the city to collect refuse and to put it in the convenient and safe of food they can find.

Common Questions

PRODUCING MORE TANKS
A statement on the production of tanks made by Mr. R. Morrison, Minister of Supply, during the week-end.

He said that the Ministry of Supply had decided to increase the production of tanks to 100 a week. This was a record for the Ministry of Supply.



Householders Must Collect Their Waste

The collection of waste is to be made compulsory for both local authorities and householders.

Mr. Herbert Morrison said yesterday that the task of salvage had so far been a voluntary effort and the majority of local authorities had responded well, but he had now decided that we must take compulsory powers and compel local authorities to include salvage schemes.

He had decided to follow up his action by similar powers to compel the householder to "play up."

"This is vital to the interests of the nation," said Mr. Morrison, "and it has got to be done."

Bevin to Put More Women on War Work

More women are to play their part in winning the war, Mr. Bevin said yesterday. He said that the Ministry of Labour was now submitting a plan to the Government to increase the number of women on war work.

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OUTPUT IS UP—BUT NOT YET SATISFACTORY

DETAILING increases in the output of munitions that have been made in the last few weeks. Mr. Herbert Morrison, Minister of Supply, told the House of Commons yesterday that though these facts were encouraging, the last thing he wanted the House and the country to believe was that things were satisfactory.

"They are not," he said. "They could not be satisfactory in the circumstances of the case, but I can only say they are coming nearer and nearer to satisfaction as the days pass along."

He had given these figures of increase in output:—
Cavalry and Infantry tanks: 15 per cent. between April and June; carriers: 64 per cent.; a wide range of guns from 18 per cent. for 16.5 mm. to 225 per cent. for 240 mm.; small arms: 40 to 100 per cent.; ammunition: between 25 and 250 per cent.

As an instance of the new spirit which he was trying to bring about, Mr. Morrison said that on June 19 he gave orders for very large quantities—millions—of a certain weapon. Already the output had reached nearly a quarter of a million a week—between four and five times the previous production—and that output will grow.

He said he did not claim all the credit for this increased production. It belonged to the organization at the Ministry and to the fine co-operation of the trade unions and industry. It belonged to the response that was being given by the people to the Government's appeal.

He was very gentle with the Ministry as he found it when he took over. His only comment was:—

"I felt that the construction of the Ministry in some of its high and indeed lower branches needed strengthening."

He took over a running concern at the Ministry, but it was not far from any whether the lay-out of the department was right or wrong. "It was not my fault," he added.

Ready for Offence

He emphasized that though the Ministry had concentrated on the production of munitions, it was ready for the day when it would be called upon to defend the country.

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He said that the Ministry was now submitting a plan to the Government to increase the number of women on war work.

Any Clothes to Spare?

A number of French soldiers are marooned in hospitals in Britain because they have no clothes, nothing but their pyjamas. So although they are fit enough to be discharged, they cannot leave till someone comes to the rescue with spare clothes.

Anyone who can spare any clothing is invited to send it to the Ministry of Munitions, c/o the Red Cross, 10, St. James's Place, S.W.1. Any surplus will be handed over to the Red Cross.

THEY TAKE THEM DOWN



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POST OFFICE TELEGRAM

Prefix. Time handed in. Office of Origin and Service Instructions. Words.

131 10.28 LONDON 58

URGENT APPEAL STOP NATION MUST HAVE EVERY OUNCE OF SCRAP IRON AND STEEL IN THE COUNTRY STOP DERELICT WORKS DISUSED PITHEADS CONTAIN ANY AMOUNT STOP DO YOU KNOW OF ANY IF SO REPORT THEM NOW STOP REPORT WHEREABOUTS OF RAILINGS BANDSTANDS IRON WORK THAT IS SERVING NO WAR PURPOSE STOP SCRAP MAKES TANKS GUNS AMMUNITION STOP DO EVERYTHING IN YOUR POWER TO MOBILISE SCRAP

For free repetition of doubtful words telephone "TELEGRAMS ENQUIRY" or call, with this form at office of delivery. Other enquiries should be accompanied by this form and, if possible, the envelope.

CHURCHYARDS

VICARS WANT TO AID STEEL PRODUCTION

DEFENSIVE—but only until the right moment to launch out with all our might on the offensive. That was the message broadcast last night by Mr. Anthony Eden, War

...the decisive advantages conferred by sea power. A recent and striking example was the successful withdrawal of the Allied armies from the Belgian coast. The balance of naval strength in favour of the Allies is now far greater than at the outbreak of war. The pre-war strength of the British Empire Navy, and the losses suffered, are: 15 capital ships—1 lost. 7 aircraft carriers—1 lost. 63 cruisers—2 lost.

In case of any difficulty arising over the sale or clearance of your scrap iron and steel write to: IRON AND STEEL CONTROL, MINISTRY OF SUPPLY, STEEL HOUSE, WESTMINSTER, S.W.1



The "AB" cooker demonstration kitchen described on page 102.

THE BUILDINGS ILLUSTRATED

ST. GEORGE'S HALL, UNIVERSITY OF READING (pages 91-93). Architect: Verner O. Rees, F.R.I.B.A. General contractors were Collier and Catley, Ltd. Sub-contractors and suppliers included: Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt, Trinasco tiles and Sparmatt; British Reinforced Concrete Co., Ltd., reinforced concrete; S. and E. Collier, Ltd., and The Sussex Brick Co., bricks; The Ightham Brick and Tile Co., white and blue sand lime bricks; Nailsworth Stone Co., stone;

Aston Construction Co., Ltd., structural steel; The Slate Slab Products Co., Ltd., slate copings and window cills; Armstrong Cork Co., Ltd., roofings, corkboards and stairtreads; The Paragon Glazing Co., Ltd., patent glazing; Hollis Bros. & Co., Ltd., woodblock flooring; G. N. Haden and Sons, Ltd., central heating; Bratt Colbran, Ltd., gas fires; The Reading Gas Company, gas services; The Reading Corporation, electric wiring; Hume Atkins & Co., electric light fixtures; Benham and Sons, Ltd., kitchen equipment; F. Baker (Southall), Ltd., plumbing; Shanks & Co., Ltd., sanitary fittings; Adrian Stokes, Ltd., door furniture; The Chiswick Guild, Birchply doors and book-

cases; Light Steelwork Co., Ltd., metal balcony and staircase balustrades; Hammond & Champness, Ltd., goods lift. Mr. Percy Smith executed the carving of the coat of arms.

KINGSTON HIGH SCHOOL, HULL (pages 95-97). Architect, Andrew Rankine, A.R.I.B.A. General contractors were Tarran Industries, Ltd. Sub-contractors and suppliers included: The Limmer & Trinidad Lake Asphalt Co., Ltd., asphalt and dampcourses; Richard Thomas & Co., Ltd., bricks; Kingston Cast Stone Co., Ltd., artificial stone; King & Co., Ltd., structural steel; Rapid Precast Floors, Ltd., fireproof construction; F. McNeill & Co., "Foamag" partitions; Furniss & Co., patent glazing; Humber Heating Co., Ltd., central heating; Hollis Bros. & Co., Ltd., woodblock flooring; Granwood Flooring Co., Ltd., patent flooring; Ideal Boilers and Radiators, Ltd., boilers; General Electric Co., Ltd., Troughton and Young, Ltd., and Falk, Stadelmann & Co., Ltd., electric light fixtures; J. R. Howie, Ltd., Adamsez, Ltd., J. Duckett and Son, Ltd., sanitary fittings; Asbestos and Rubber Co., Ltd., stairtreads; Helliwell & Co., Ltd., casements; W. and R. Leggott, Ltd., window furniture; Hull Corporation, telephones; W. J. Wilson and Son, fibrous plaster; Dixon Powney and Sons, Ltd., hand-rails, etc.; T. W. Palmer & Co., entrance gates; O. Toffolo and Sons, terrazzo; Kingston-upon-Hull Parks Department, shrubs and trees; Niels Larsen and Son, Ltd., gymnasium furnishing; A. Bentley, Ltd., North of England Furnishing Co., school fittings; Isaac Robson & Co., Ltd., cloakroom fittings; Thornborough and Sons, lifts; Gent & Co., Ltd., electric clocks.

HOUSE AT LLANGROVE, ROSS-ON-WYE (page 98). Architects, P. J. Westwood and Sons. General contractors were W. A. and E. W. Symonds. Sub-contractors and suppliers included: Keifer, windows; Mar-quees, Ltd., sunblind; Ruberoid, Ltd., roofing.

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SANILAND CHEMICAL CLOSET
for Every Air Raid Shelter.

SELECTION OF MODELS—IMMEDIATE DELIVERY

"EXCELSIOR" MODEL—All parts rust-proofed by special process—outer chamber spray green enamel finish. Inner container galvanized after made. Special Urinal Collar and seat in Whitewood Black Cellulose Enamel or Bakelite.

We could give immediate delivery of a selection of models ranging from **20/-**
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Even buildings are wearing 'Battle-dress' now

A new national organization has now been created—*British Industrial Design Group*—which has had expert studies made of all uses of paint in war time.

- What colour-treatment is psychologically correct for the interior design of air-raid shelters?
- What are the principles of factory-camouflage?
- Is it possible to camouflage cars in a way that will be equally effective in the country and in built-up areas?

These are to-day's problems. The British Industrial Design Group exists to help in solving them. They will be glad to send full details on receiving your name and professional address.

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