Alphabetical Index to Advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Educational Legal Notices, Miscellaneous, Property and Land Sales—*see* pages xliv and xlvi.

Photo : J. Dixon-Scott, F.R.P.S.

1944

AS we thrill to the glorious promise of the year ahead we must not forget the lessons learned during the long and desolate months of frustration and disappointment, of heartbreaking defeat and endless toil.

Nature, in her infinite wisdom, teaches us to plan and work always for the future. The seed would never germinate, the slender sapling never grow, the tall and graceful tree would never give lodgement to the birds were it not for this constant striving to provide for the needs of the morrow.

And if we, as a nation and a company of nations, are to achieve peace in 1944, then it is essential that we too should maintain our reserves and increase our production. In town and village, in farm and factory, we must all give of our utmost so that nothing shall be wanting on that fast-approaching day when we again go forward, carrying high the banner of liberation and freedom.

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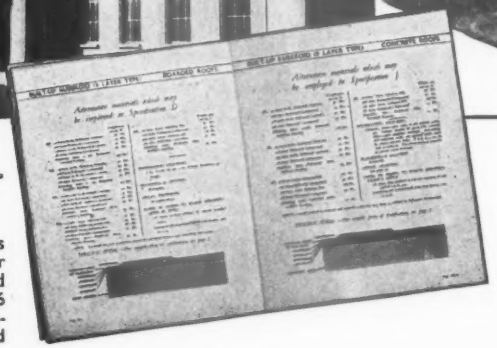

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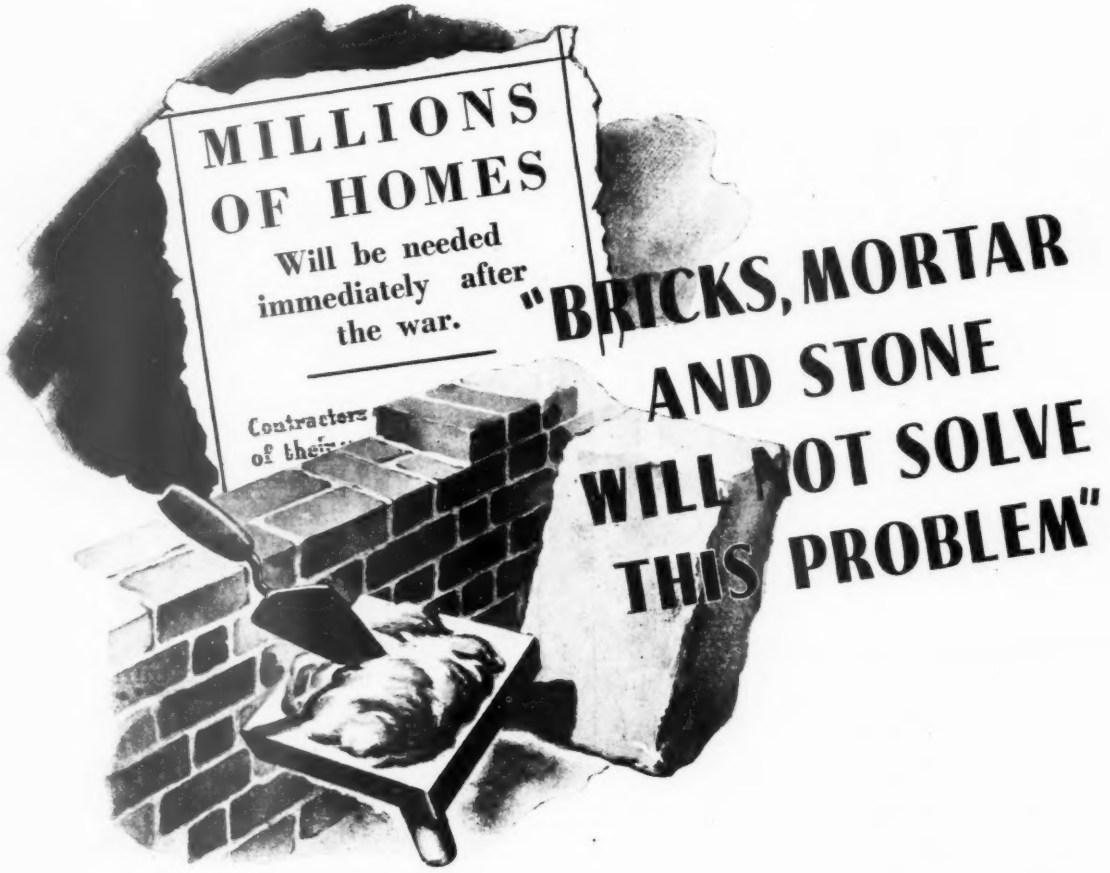

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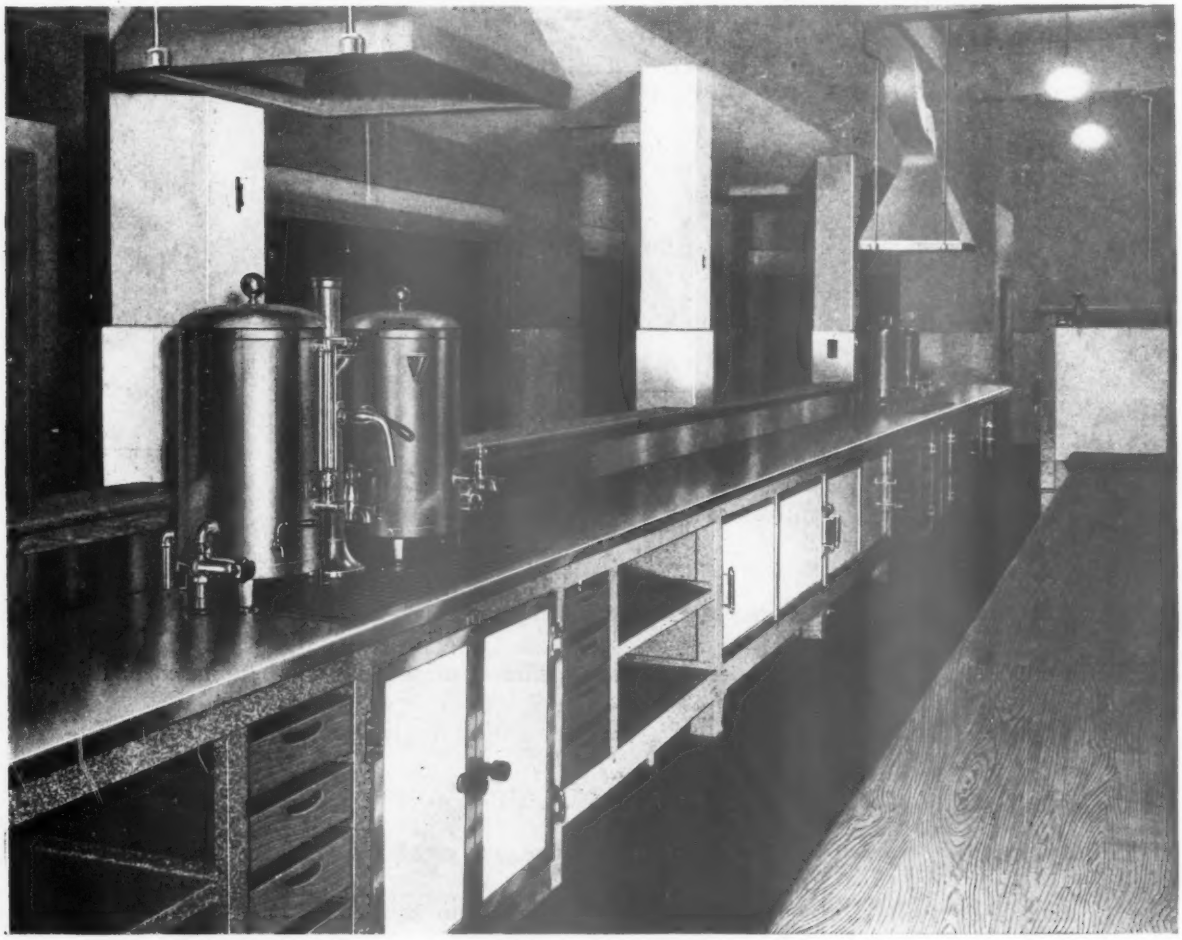

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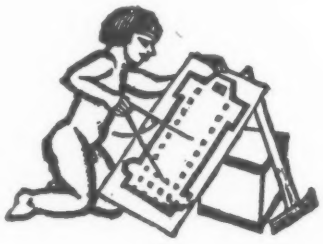


DIARY FOR FEBRUARY MARCH AND APRIL

Titles of exhibitions, lectures and papers are printed in italics. In the case of papers and lectures the authors' names come first. Sponsors are represented by their initials as given in the glossary of abbreviations on the front cover.

BEDFORD. *Octavia Hill Exhibition.* At the High School. (Sponsor, HC) FEB. 21-28

DERBY. *Homes to Live In Exhibition.* At the School Museum. (Sponsor, BIAE) FEB.-APRIL

HULL. Hermon Cawthra. *The Sculptor Explains.* At the College of Arts and Crafts, Hull. (Sponsor, Group for the Encouragement of the Arts and Civic Design). 6 p.m. FEB. 23

LONDON. *Colour in the Home.* Exhibition at the Royal Academy, Piccadilly, W. There are units representing dining, sitting, nursery and bedrooms, colour in everyday ware, and some building materials such as paints. There are also suggestions for the interior decoration of civil aircraft. (Sponsor, British Colour Council.) FEB. 17-26

Swedish Factory-Made Timber Houses. Exhibition of photographs and drawings lent by the Swedish Timber House Export Association of Stockholm. At the Building Centre, Maddox Street, W.1. 10 a.m. to 4 p.m. (Saturdays 1 p.m.) FEB. 17-26.

RIBA Exhibition of Paintings and Etchings by William Walcot. At the RIBA, 66, Portland Place. Walcot died in May last. His outstanding achievement, which is fully represented in the exhibition, was the production of expert gouache and etched restorations of the Architecture of Greece, Rome and Egypt. Walcot, in his later years, concentrated his interest largely on town planning as applied to London. Much of his work in this field was shown in the recent exhibitions of the County of London and is reproduced in the Report on the County Plan. The RIBA exhibition includes a scheme for short-circuiting the Thames to facilitate the planning of the central area. The exhibition also includes a considerable number of other water colours, pencil drawings and etchings of recent years. FEB. 17-19

Exhibition of drawings of Landscape, Seascape, Industry and War subjects. By E. B. Musman. At the AA, 34-36, Bedford Square, London, W.C.1. Mr. Musman's drawings are in water colour, pastel, pen and wash, and pencil. Most of them have been done since September, 1939, as a relaxation from wartime duties. Weekdays 10 a.m. to 6 p.m., Saturdays until 2 p.m. FEB. 17-26

Living in the Country Exhibition. At YMCA, Great Russell Street, W.C.1. (Sponsor, HC) FEB. 19-26

Etchings, Engravings and Drawings Exhibition. By Fellows and Associates of the Royal Society of Painter-Etchers and Engravers. At R.W.S. Galleries, 10 a.m. to 5 p.m. Saturdays 10 a.m. to 1 p.m. FEB. 17-MAR. 9

E. B. Bailey. *The Natural Resources of Great Britain.* Lecture I. *Minerals.* At Royal Society of Arts, John Adam Street, Adelphi, W.C.2. 1.45 p.m. FEB. 21

H. J. Spiwak. *Temporary and Demountable Housing for Reconstruction.* At Housing Centre, 13, Suffolk Street, S.W.1. 12.45 p.m. FEB. 22

N. Slutski. *Beyond the Bauhaus : New Aims in Industrial Design.* At AIA, 84, Charlotte Street, W.1. 7.30 p.m. FEB. 23

BSI. Meeting of members of the Technical Committee B/29, Co-ordination of Sequence of Trade Headings in Specifications. In Committee Room "C" (Third Floor), 28, Victoria Street, London, S.W.1. 2.30 p.m. FEB. 24

E. B. Bailey. *The Natural Resources of Great Britain.* Lecture 2. *Underground Water.* At Royal Society of Arts, John Adam Street, Adelphi, W.C.2. 1.45 p.m. Feb. 28

W. S. Haines. *The English Tradition of Textile Designing.* At AIA, 84 Charlotte Street, W.1. 7.30 p.m. MAR. 1

Sir William Halcrow. *The Natural Resources of Great Britain.* Lecture 3. *Hydro-Electric Power.* At Royal Society of Arts, John Adam Street, Adelphi, W.C.2. 1.45 p.m. MAR. 6

Film Evening. Films selected by Paul Rotha, who will give an informal talk. At 34-36, Bedford Square, W.C.1. 6 p.m. (Sponsor AA). MAR. 14

P. Schiller. *An Analysis of the Load on a Modern Electricity Supply System.* At Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. 5 p.m. MAR. 16

W. N. C. Clinch and F. Lynn. *The Design and Performance of Domestic Electric Appliances.* At the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. 5 p.m. MAY 4.

LUTON. *Rebuilding Britain Exhibition.* At the Museum. (Sponsor, BIAE) FEB. 26-MAR. 11

RISCA, MON. *Living in the Country Exhibition.* (Sponsor, HC) FEB. 17-29

SHEFFIELD. *Your Inheritance Exhibition.* (Sponsor, HC) FEB. 26-MAR. 1

NEWS

THURSDAY, FEBRUARY 17, 1944
No. 2560. VOL. 99

Though no feature in the JOURNAL *is without value for someone, there are often good reasons why certain news calls for special emphasis. The* JOURNAL'S *starring system is designed to give this emphasis, but without prejudice to the unstarred items which are often no less important.*

★ *means spare a second for this it will probably be worth it.*

★★ *means important news, for reasons which may or may not be obvious.*

Any feature marked with more than two stars is very big building news indeed.

Deptford Borough Council has decided that, although not very desirable, FLATS WILL HAVE TO BE TOLERATED after the war. This is inevitable, said Councillor Mackenzie, unless we are going to increase the traffic congestion on the roads by forcing the population to go "out." Alderman R. Anderson said nobody likes flats, and there is no place where the flats plague is so extensive as in London. But we all hope the new flats will be very different from those we have had. Councillor Allcock said : Flats are an evil necessity. Communal gardens will be a grave mistake. It would be rather terrible seeing the washing getting mixed up.

During the quarter ended September 30, LOANS SANCTIONED BY MOH to local authorities in England and Wales totalled £1,817,840. The total was made up as follows : housing, £1,018,101 ; municipal services (including clinics, sanatoria and mental hospitals), £187,130 ; swimming pools, playing fields, recreation grounds, open spaces, etc., £2,114 ; water supply, £130,780 ; disposal of waste products (sewerage and sewage disposal and refuse destruction), £22,968 ; education services (including libraries and museums), £15,623 ; air raid precautions, £7,780 ; roads and bridges, (including private street works), £59,294 ; other services (including loans to defray contributions, etc., under War Damage Act, 1941), £374,050.

from AN ARCHITECT'S *Commonplace Book*

STUDY IN RED. [*From* Here Lies, *by Dorothy Parker.*] Red paper covered its walls up to the wooden rack on which were displayed ornamental stains of domestic manufacture. Empty pipe racks—Mr. Durant smoked cigars—were nailed against the red paper at frequent intervals. On one wall was an indifferent reproduction of a drawing of a young woman with wings like a vampire bat, and on another a water-coloured photograph of *September Morn* the tints running a bit beyond the edges of the figure as if the artist's emotions had rendered his hand unsteady. Mr. Durant's books were lined up behind the glass of the bookcase. . . . They were mostly accounts of favourites of the French Court, with a few volumes on odd personal habits of various monarchs and the adventures of former Russian monks. Mrs. Durant, who never had time to get around to reading, regarded them with awe, and thought of her husband as one of the country's leading bibliophiles.

The ISPH Committee, whose work is now completed, is to be dissolved and a HOUSING PRODUCTION SOCIETY FORMED.

At a meeting of the ISPH Committee on February 27, it was unanimously decided that the Committee should be dissolved since its work had been completed by the production of its two Reports and by the foundation of the Housing Production Society which is the non-commercial research development and enquiry organisation suggested by the Committee's First Report. The Founder-signatories to the Memorandum and Articles of Association of the Housing Production Society are: Sir Charles Cunningham, Sir David Munro, Sir Victor Schuster, Howard Robertson, F.R.I.B.A., R. A. Duncan, A.R.I.B.A., A.I.PROD.E., Denis Clarke Hall, A.R.I.B.A., A. B. Llewelyn Roberts, F.R.I.B.A., A. W. Davson, F.S.I., F.I.ARB., W. A. Wort, P.A.S.I., J. A. Bullen, Capt. J. F. Campbell, Miss Elizabeth Denby, W. R. Balch, Michael Dawn, R. Perry. Steps have already been taken towards strengthening the governing body of the Society on the broad-based lines indicated in the Committee's Reports.

Mr. Edward Maufe has been APPOINTED PRINCIPAL ARCHITECT FOR WAR CEMETERIES *in the United Kingdom.*

The appointment has been made by the Imperial War Graves Commission. Mr. Maufe will advise the commission on the planning of the war cemeteries in this country, including the large military cemetery at Brookwood. This cemetery now contains some 3,000 graves of the late and present wars, comprising those of members of all the Empire forces and of the French, Belgian, Polish and Czechoslovak services.

In view, particularly, of newly developed post-war materials and methods the SCOTTISH BUILDING CENTRE IS A VITAL LINK *in the building industry.*

Expressing this opinion, Col. G. Gardner McLean, who presided at the sixth annual general meeting of the Centre, referred to the continued progress maintained despite the continuance of hostilities, and said: To the manufacturer the Centre offers an excellent medium for bringing his materials to public notice, while to the user it affords facilities for seeing and examining a wide range of building materials, appliances etc., with the added advantage of a technical information service. The new year has opened under good auspices. A number of new exhibitors have already been secured, while the prospects of obtaining the support of other manufacturers is distinctly encouraging.

East Suffolk Roads Committee urges the construction of SPECIAL ROADS FOR MOTORISTS.

The Committee is sending notice of its decision to the Ministers of War Transport, Reconstruction, and Town and Country Planning.

Further steps have been taken by MOS to ensure that the amenities of our WOODLANDS WILL NOT BE UNDULY IMPAIRED *by the felling of timber for the war.*

The following people have agreed to act as advisers to the Home Timber Production Department on difficult cases: England and Wales—Christopher Hussey, arts editor of *Country Life*, and Clough Williams-Ellis, chairman of the Council for the Preservation of Rural Wales. Scotland—Lord Keith, Association for the Preservation of Rural Scotland, and Sir Ian Colquhoun, chairman of the National Trust for Scotland.

Leigh Park House, Havant, is TO BE DEVELOPED AS A SATELLITE TOWN *for Portsmouth.*

The house is to be bought by the Portsmouth City Council, and 1,671 acres of land adjoining at a cost not exceeding £150,000. According to *The Times* the site, to be developed as a satellite town for Portsmouth, will have its own civic centre and industries, and is designed to house about 25,000 people of the overflow population from Portsmouth. The creation of this town is part of the scheme for replanning Portsmouth after the war. In view of the embargo imposed on capital expenditure by local authorities, the approval of the Chancellor of the Exchequer for the Leigh Park purchase had to be obtained. Another satellite town for Portsmouth to accommodate 20,000 is projected to the northward of the city on a site between Purbrook and Waterlooville.

★

At the request of the War Office a CORRESPONDENCE COURSE FOR THE FORCES *on Town and Country Planning has been prepared by the School of Planning and Research for Regional Development.*

The course is in three parts, each consisting of ten lessons:—*Course* 1: *Background of Planning*—1, The modern concept of planning;

Soviet architects at the Exhibition of British Architecture held in Moscow. The exhibition consisted of photographs, sketches and plans of buildings dating from the sixteenth century to the present day.

Sir Banister (Flight) Fletcher

This month, or early in March, the City of London Plan, the result of four years' work by the Improvements and Town Planning Committee, will, the Committee hopes, be placed before the Court of Common Council. The Committee has been working on a plan ever since it was appointed the town planning authority of the City of London in 1932, but the enemy devastation of four years ago completely altered the problem and the work had to start all over again. Perhaps the best known architect member of the Committee is Sir Banister (Flight) Fletcher, who is also one of H.M. Lieutenants of the City. Eldest son of the late Professor Banister Fletcher, he was educated at University College and the Royal Academy. Famous for his *History of Architecture*, he is also a Barrister-at-Law, and is believed to be the first architect to become a Sheriff of the City of London just as his father was the first Professor of Architecture at King's College, London University—which incidentally was the first school to inaugurate day classes for architectural students. University staff lecturer on Architecture at London University, his recreations are golf, motoring, sketching and travelling. He has travelled extensively on sketching expeditions. The other architect members of the Committee are Messrs. Ernest Bates, John Batty, W. H. Gunton, E. J. Underwood and G. E. Withers. Mr. Claude W. Dennis, who is also an architect, has seven times been chairman of the Committee.

2, Topographical and geological structure in relation to planning; 3, Climate in relation to planning; 4, Distribution of population and location of industry; 5, The rural community; 6, The urban community; 7, Thirty years of town planning in Britain; 8, The Barlow Report; 9, The Scott Report; 10, Background to the Uthwatt Report. *Course* 2: *Planning Factors*—1, Elements of sociology; 2, History of Town Planning; 3, Law and Administration of planning (including central government); 4, Structure of local government (including rates); 5, Ownership and value of property in relation to planning; 6, Survey for planning: purpose, method, presentation; 7, Transport and communications; 8, Distributive and collective services; 9, Social services and amenities; 10, The physical structure of buildings, roads and utilities. *Course* 3: *Planning Practice*—1, Application of survey and research to planning; 2, National planning; 3, National planning; 4, Regional planning—land use, population and industry; 5, Regional planning—power, transport and communications; 6, Regional planning—community services; 7, Local planning—land use, communications and services; 8, Civic design; 9, Construction and reconstruction—old centres and new towns; 10, Conclusion. The titles and order of these lectures are subject to alteration. The courses are suitable for the following classes of student:—*Class A*: Those who have passed the Final Examination of the RIBA, the Institution of Civil Engineers, the Institution of Municipal and County Engineers or the Chartered Surveyors' Institution. Students in this class, who satisfy the Directorate of Studies of the School in each of the three courses—T.P.1, T.P.2 and T.P.3—will be eligible for admission to the Special Three Months' Completion Course to be organized immediately after the war by the Town Planning Institute for Ex-Service Candidates. *Class B*: Those who hold an educational qualification of Matriculation Standard and are members of professions, allied to those mentioned under A. For such students these courses will be a suitable preparation for the Intermediate Examination of the Town Planning Institute. *Class C*: Those who are interested in planning subjects, but who do not seek an Examination qualification. It is estimated that the whole course will take nine months to complete; this is based on the assumption that the student will have three hours spare time per week. It could, however, take less time, or might require more, according to the individual circumstances of the student. The first course is now available and in circulation. Applicants should apply to their Education Officer for the necessary enrolment forms, or if they write to the School of Planning and Research for Regional Development, 32, Gordon Square, London, W.C.1 (Euston 2158), their names will be given to the War Office and the forms sent direct to them from there. The fee is ten shillings and text books are free.

Post-war need TO PROVIDE FOR DIFFERENT TYPES OF HOUSING accommodation at the various stages in the development of family life is stressed by the British Legion Planning Committee.
The Committee, in an interim report on housing, also recommends (1) that provision be made on an extensive scale for accommodation to be available for letting at reasonable rents; (2) that in any form of preference in the efforts to re-establish home life immediately after this war, men and women who have served in the Armed Forces shall have first claim; (3) that provision shall be made for the needs of unmarried ex-Service women which can be provided by flatlets or cottage flatlets; (4) that in all house building a standard of good design and sound construction should be maintained.

The future BATTERSEA WILL BE SPLIT IN TWO by a roadway.
That is, says the Battersea County of London Plan Committee, if the proposed route in the County of London Plan for "B" ring road is carried through, and this, the committee adds, will be undesirable. In suggesting two alternative shorter routes, the committee points out that at present railway lines divide the borough, and at only six points in the three miles breadth of Battersea is there access from north to south. The committee also recommends the abolition of street markets as soon as alternative sites can be found for the establishment of controlled markets.

An appeal is being made for funds TO FOUND A HOSPITAL IN ETHIOPIA in memory of Princess Tsahai.
During 1936-1941, Princess Tsahai, daughter of the Emperor of Ethiopia, was trained as a nurse at the Great Ormond Street Hospital for Sick Children, and after becoming a State Registered Nurse, entered Guy's Hospital for further training. She returned to Ethiopia and was creating a modern medical and surgical service there but her work was stopped by her illness and death at the age of twenty-two in 1942. The appeal, made by eminent members of the medical and nursing professions, is for funds to found a hospital with medical school, library and ambulance services. All donations to be sent to Lord Horder, Hon. Treasurer, Princess Tsahai Memorial Hospital Fund, c/o Messrs. H. Reynolds & Co., Hon. Accountants, 9, Greenhalgh Walk, N.2.

Other NEWS IN BRIEF.
MR. HENRY WILLINK, Minister of Health, in a written Parliamentary reply to a question, said that short-term housing programmes received from rural district councils cover 37,700 houses. Nearly 1,700 houses have been requisitioned by local authorities and used for rehousing. LYDFORD GORGE has been given to NT by Mr. H. T. Radford. Extending for two miles, the gorge lies between Tavistock and Okehampton, Devon. MR. FREDERICK MACMANUS, Advisory Architect to the English Joinery Manufacturers' Association (Incorporated) has become an FRIBA. SUPPLEMENTARY CIVIL ESTIMATES include £6,930 for the £5,000-a-year salary and additional staff of the Minister of Reconstruction.

LORD PORTAL'S SPEECH

SCEPTICISM about the Government's intention to build houses and build them quickly immediately the war in Europe is won has been swept aside in a few moments by Lord Portal's great speech in the House of Lords last week. In crisp and pungent phrases—so markedly in contrast with the pious platitudes we are accustomed to hearing fall from the lips of Ministers concerned with other aspects of post-war physical reconstruction—the Minister of Works has announced three momentous decisions.

First, that in the late spring and early summer housing sites are to be prepared, with roads and sewers, and, where desired, electricity, water and gas services.

Second, that temporary houses and temporary prefabricated houses are to be built at high speed after the war.

Third, that these temporary houses are to be Government owned and licensed for a (limited) period.

It is no fault of Lord Portal that these vital decisions have been reached before legislation has been introduced to implement the fundamental recommendations of the Barlow, Uthwatt and Scott Committees. But the speed with which he has acted emphasizes once again that these promised sites (the promised land) must fit into the larger picture of a general plan. Location of housing depends on many factors. Nor must there be a repetition on a gigantic scale of the failure that attended the modest programme of 3,000 agricultural cottages—only 49 of which are now occupied, though they were promised in time for the last harvest.

Of 1,300 local housing authorities 826 have already prepared plans for post-war reconstruction. These authorities have acquired 13,000 acres for housing and shortly will acquire a further 13,000 acres. It is to be hoped that these scheduled sites will be considered for Lord Portal's houses only if they serve both the immediate and the long-term requirements. And until the Government has announced its decisions regarding the location of industry this basic factor connot be determined.

It must not be forgotten that it was left to the Scott Committee to point out how faulty legislation led to the fantastic planning record of 1937, when the amount of land zoned for housing in schemes that had reached an advanced stage of preparation was large enough to accommodate nearly 300 million people additional to the existing population.

Lord Portal, in his revealing speech, has set the pace. At times in the past he has been attacked by those who feared that he had none for his refusal to speak about his plans. But his long silence has rendered this speech more pregnant than it otherwise could have been. He has spoken of what has already been done, he has announced decisions—decisions strongly supported by this JOURNAL on many occasions and particularly in the leader *Build Temporary Homes* of November 25.

That these decisions have not been lightly reached is evident

from the full text of Lord Portal's statement.* The criticisms that might be made by laymen regarding the decision to build temporary homes have been anticipated and obviated. Lord Portal has obtained Government consent to the Solomon's judgment that the temporary homes (of which the prototype will be ready by the end of April) shall be Government owned and leased. He is determined that, while temporary homes are essential if the people are to be quickly housed, the long term programme of "permanent" houses shall not suffer from a diversion of building labour during the two years interregnum period, during which housing will be subsidised.

Lord Portal has already provided for the necessary labour and he fathered the apprenticeship and training scheme. Within his terms of reference there is no aspect of the problem he has ignored. And though he has shown himself determined to concentrate on buildings before fittings (you can't live in a refrigerator), he has made it clear to the public that by standardisation and factory production, better quality fittings, whether essential or merely desirable, can be produced at low cost and high speed, thus ensuring the early provision of homes (rather than houses) fit to live in at rents the men who build them can afford to pay.

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

NOTES & TOPICS

THE LORDS TALK COMMON SENSE

Anyone who reads his Hansard conscientiously must have noticed how much more simple, practical common sense is spoken in the Upper House than in the Lower. Perhaps it is because its members are not compelled to leap so readily at the crack of the Party whip, and can more honestly express their personal, and, in many cases, more disinterested views.

★

The debate on Housing in the Lords on February 8, when Lord Portal made his remarkably intelligent, cogent and unprevaricating speech on future housing policy, is a case in point.

★

Lord Portal, for instance: "People think that because a house is prefabricated or standardized it is something dreadful, which it need not be. It is obvious that you can prefabricate or partly prefabricate in a factory the shell of a house, or you can prefabricate some of the fittings. That is what I want people to understand, because they talk about prefabricated fittings only, and forget that you can prefabricate the two."

★

And thus Lord Addison: "If we are going to have housing provided on a large scale, that means standardization of fittings and of household requirements of all kinds. I hope the noble Lord (Lord Portal), when dealing with that matter, will remember that it is the public need and not the need of the building merchants, that we are talking about. I am thinking of things like cooking stoves and boilers, ironmongery of all sorts, windows and doors. I wonder if the noble Lord has thought of the possibility of having refrigerators made available on reasonable terms, because they are very useful for the keeping of food, particularly milk, in summer." This kind of simple and forthright talk may seem very homely and, perhaps, obvious, but it surely is the way they should talk in Government circles, and too rarely do.

★

Lord Barnby was sensible about prefabrication, and cleared up the confusion between this term and that of "temporary housing": ". . . assembly-line construction of unit types of shells is capable of application to both short-life transitional type dwellings, and to houses that may be recommended, for instance, by the Burt Committee as capable of what would be called longer life," and again on the use of architects in prefabrication designs: "The use of prefabricated methods of constructing the shells of houses does not exclude the employment of architects; indeed, the very flexibility of this method of construction gives full opportunity for the architect to use his skill."

FASHION AND THE LONDON PLAN

Fashion—in peacetime at least—is a ruthless, breathless trade. Even those who serve in her lowest ranks, must run like the White Queen just to stay where they are, and the leaders flash past without ever stopping, throwing us an occasional novelty like a mail bag from an express train. Every day (before the war) there was a new style in hairdressing or house-building, in nail polish or poetry, in breakfast-foods or armchairs—and every one was *different*.

★

"Ownership to-day," recently remarked a moody purchaser of a radio set, "is just a passing glance at an object on its way from factory to junk yard." "Faster, faster," cried the Big Business Moguls, the Stylists and the Ad-Men, as they swept giddily by. To these men a world event was only news if it could be tied up with a product. "Tie it up, old boy," they cried, "with a film star, a new serum, or a political crisis," and the fingers of the Ad-Men flashed busily in reply.

*See pages 142 to 144.

A French battleship arrives off the Battery, and before the crew can get ashore for their first leave, half the women in New York are wearing the cutest little pompom sailor hats. There is a revolution in Mexico, and at once every handbag in Bond Street is studded and stitched like a gaucho's saddle. There is no time to trace significant trends. That's the job for historians and critics.

*

If the Fashion-Boys stopped to think about such things they might drift with their latest creations down the descent into popularity. Fashion doesn't take long to pass from birth in Grosvenor Street to death in Hammersmith Broadway, and there's no time to waste in hanging about.

*

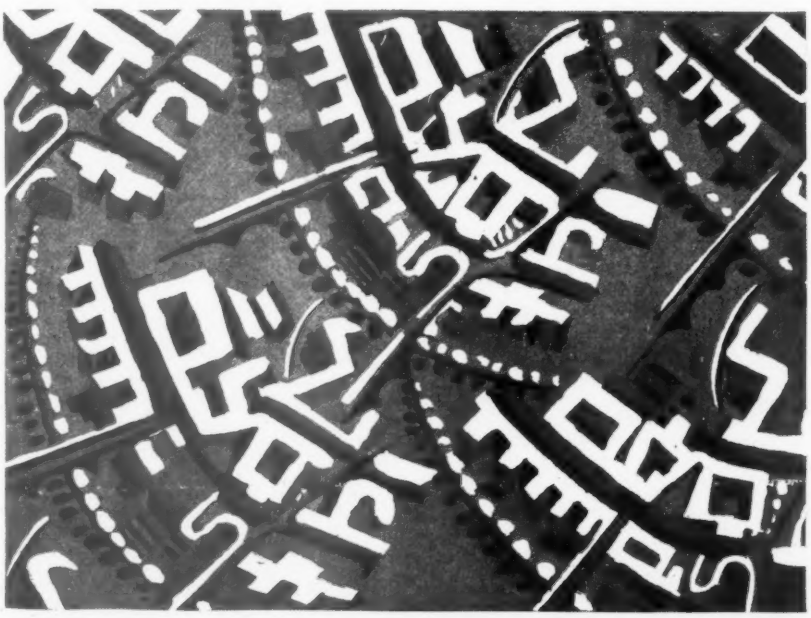
Why worry, then, about such transient affairs? Because the effects of a fashion are by no means as trivial or brief as its life. The shortening by fashion's decree of a woman's skirt may mean bankruptcy for wool farmers in Australia and unemployment in the mills of Bradford. Potentially the power of fashion is even more terrifying, for it can command at times slavish, immediate and universal obedience from the public. Harnessed to a Cause it might prove an overwhelmingly strong ally.

Perhaps, then, we should welcome the illustration on this page. It is reproduced from *It*, a lively trade journal published for fostering the sales abroad of British textiles, and it depicts one of several fabric designs by Hilly which have been inspired by the Forshaw - Abercrombie plan for London. We are told by *It*, in addition, that a British firm intends to devote part of its new print collection to the same New-London theme, and a very pretty job they will probably make of it.

*

Is this going to increase public support for the plan? Certainly neither the girl who sells it nor the girl who buys it is likely to bother her head much about the message behind the pattern and the colour—*unless that message is pointed out to them at the time.* Perhaps we might imitate the Fashion-Boys and tie-it-up? To the public, planning is still a vaguely highbrow concern of expensive books, complicated exhibitions and quarrelling experts. Planning in fact is still in Grosvenor Street. We want it in Hammersmith Broadway. A display in a suburban store of Hilly's fabrics or of the Forshaw-Abercrombie plan would arouse probably only perfunctory interest. Display them *together* and who knows what would be the result?

ASTRAGAL



One of the textile designs based on the London Plan reproduced in It, *a textile journal, is inspired by the drawing of the south bank of the Thames. See Astragal's note above.*

LETTERS

N. Martin-Kaye, F.R.I.B.A.

Will Green

The Teaching of Architectural Appreciation in Schools

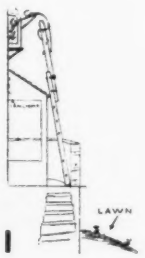
SIR,—Mr. W. A. Eden in his recent book *The Process of Architectural Tradition* wrote: "The great majority of children whose tastes will become the constituents of the public taste of to-morrow are brought up from infancy amid surroundings in which beautiful things are the exception rather than the rule. Their vision has become depraved before ever they reach school through what they see in their homes, in the streets, at the cinema, in shops and often at church. When they reach school they are not, as a rule, likely to meet anything better, and thus it is with minds nourished from first to last on false ideas that the would-be teacher of architectural taste has to deal" . . . and later ". . . that is why it is worth while making some attempt to improve their taste."

One does not know whether this is the general impression which prompted the convention of the recent conference at the RIBA on *The Teaching of Architectural Appreciation in Schools*. If so, it is a distinct case, to use a vulgarism, of having missed the bus.

Children do not see with adult minds, or place any analytical reasoning on what they see, hence without knowledge of correct values and ability to select, the verdict "depraved" can only be applied to voluntary selection after tuition. Until trained in correct visual values, children must be deemed indifferent, and quite unripe for instruction in architectural appreciation.

To be content with the mild phrase that it is worth while making some attempt to improve their taste is gross underestimation of a very vital matter.

Indifference of appreciation does not remain quiescent in the child. It emanates into feelings of opposition, obstruction and Philistinism fostered by an innate resentment against any cultural asset. There is nothing so tiresome or hostile as unspoken ignorant jealousy.



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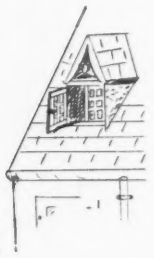
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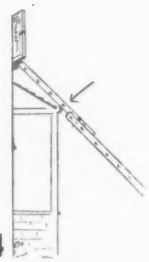
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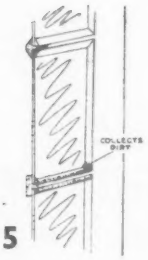

5

Window and fanlight design, by a window cleaner. See Will Green's letter below.

For more years than one cares to remember, the profession has fought against this obstruction, displaying wares of beauty and good intent to those unempowered to understand. Curiously and sadly enough it has, instead of effecting a reduction in their number, indulged more in the policy of building up an excellent recognised training school system adding to its own ranks innumerable professional aspirants to cope with the indifferent child now grown to man's estate.

So it is quite obvious that the main point is for the profession to assure itself that children are being trained to see any object at all correctly. Values of design, Proportion, Harmony, Unity, Symmetry, Asymmetry, Balance, Sense of Scale, Rhythm, Repetition, Contrast and Variety are not architectural monopole, and it would be professional impertinence to deem them such. *Are these taught to any proper extent with constant practical application from the day children enter school to the day of departure. Practical, since it is quite useless to rely on possible subconscious cultural assimilation*? This passage is italicised for emphasis as the real crux of the matter.

Proper investigation would prove very much to the contrary, and yet this backbone theory of architecture is an essential prelude to any suggestion of teaching appreciation.

The argument that Schools of Art exist for such purpose will not convince, with the indefinite ideology, far too limited powers these institutions possess at present, and in view of the fact that there is no question of general compulsory attendance there in the general theme of State education.

Moreover, why should correct vision with proper powers of analysis being such a fundamental essential be deemed an "art" subject?

It is difficult to understand why this state of affairs affecting as it does the recognised schools of architecture of the State-controlled type has been so grossly overlooked.

The teacher in this type of school has no enviable task. He is forced to provide instruction in elementary principles of visual perception before he can hope to bring his students to grips with the subject proper. No student is exempt, not even the matriculated or higher certificate type, in fact these are rather worse than should be expected. Few of them can be expected to develop a creative capacity (which should never have been interrupted or ignored) until well on in far too short an approved course. Forgotten, too, is the fact that governing bodies and their so-called education officers know no better than the students themselves; they possess not the vaguest notion of how a professional course should be run, and being themselves in the category of the hostile and Philistinic element, the result of neglected child indifference, they bring every obstructive element to bear—that is to true education as against "results" and platform fodder.

To talk therefore of teaching architectural appreciation in schools *per se* is very much like feeding a baby on champagne.

We as a profession should aim not merely to enlighten those likely to be most responsive, but to take part in the far harder task of increasing the means for the child of the ordinary man and woman in the street to see correctly in the first place. To augment Mr. Eden's statement these children comprise the greatest majority of those constituting the public taste of the future, and who will be called upon to approve the National Plan and endow our cities of the future with the light and colour of correct visual appreciation. Seeing correctly they are ripe for instruction in architectural appreciation but not one moment before.

These notes and somewhat trenchant expression of opinion are not written at random or based on inexperience. Far from it. They are the result of close observation extending over 20 years of teaching in a locality where Philistinism and ignorance were at their fullest strength in flagrant vindictiveness and stupidity, amidst a riot of speculative and jerry built horror and senselessness engendered by so-called educational and municipal ineptitude from the highest executive official down to the humblest bill poster who stuck bills in the morning and built in the afternoon.

Far from decrying the motion of the Conference let us hope it is the first of many others framed to cope with this grim business.

Southend N. MARTIN-KAYE.

A Window Cleaner Looks In

SIR,—While realising that the design of a house is governed by many unchangeable circumstances and influences I feel justified in offering my suggestions to practising architects because of the two following considerations: (i) In spite of the specially designed frames to enable occupiers to clean their own windows, less than half per cent. do so (three-quarters of my work is amongst bungalows); (ii) taking into consideration insurance benefits and premiums, window cleaning is the most highly rated job in the world—even higher than the steeple-jack.

There seem to be three main considerations as far as the window cleaner (and therefore the eventual occupier of the house, as you will see) is concerned.

First, the position of the windows. Though not common, the situation presented by sketch No. 1 is more common in some modified form than one would think. To clean this bay is impossible in wind. The ladder is almost vertical and a quick movement may easily make it sway backwards. In the house sketched, the lady was without a cleaner for long periods as each one refused it after several attempts. This could easily have been avoided by extending the balcony about 18 in. further out.

The attic in the second sketch is on the roof of a two or three storey building. It is only possible to clean the outside of the open window at great risk to both neck and tiles. Two very simple remedies: (a) a shelf below the window; (b) let *both* windows be openable. The system of having two windows to open in such cases would save trouble and risk if it were more general.

If the window over the porch in sketch 3 is to be cleaned in winter, please see that the tiled path does not slope. Many hundreds do. I have several times been left dangling.

Whilst dealing with windows over porches, or over lower bay-windows look at sketch 4. The vital point is indicated by the arrow. When the weight of the cleaner bends the ladder, the gutter-pipe must suffer. If, as is sometimes the case, the slates or tiles meet the ladder first, they inevitably break, leaving an ugly jagged edge over an otherwise comely front door. To say: "Then get a longer ladder" isn't a solution. It would need a ladder at least 6 ft. longer, which would then be unusable for houses even two feet higher. Try it out, if you doubt it. And then—what kind of window cleaner is going to cart around a longer, heavier ladder when he can just miss out the house? Remedy: Either stronger gutter-pipes, or put a small *bay* over the porch.

Another not inconsiderable point is the position of a house with regard to its neighbours. There is in Goodmayes (Essex) an estate of nearly 1,000 bungalows. I take there a small ladder—about 6 ft. tall. So do other cleaners. So the very few families living in the odd tall houses (two stories) cannot find a cleaner who is willing to take a long ladder into the middle of the estate for one or two houses here and there. When they do find one, they have to pay high, as a cleaner is obliged to consider travelling time and trouble involved.

A previous customer in a house built on a slope had a sloping lawn at the lower side of his house. The second floor could not be reached by a ladder used normally for three-floor houses. The window was curved and could not be reached from within. The only thing to do was paint over the inside to cover the filth on the outside. That was, in my opinion, the architect's bad designing.

Another consideration is the detailed shape of the window. A glance at sketch 5 will clarify this. The lower piece of framework is bad. It gives right angles everywhere. A leather and polisher will not easily press into these corners, particularly if one is in a hurry (as one usually must be), and the lady of the house usually asks the cleaner to do inside as well as out as she cannot spare the time for them. The upper piece of framework shows a better way, which is just as good from other points of view.

The putty and/or wood should be bevelled on *both* sides of the glass. Almost invariably one sees a collection of mud, varnish, spiders' eggs, and Kleenol in those square corners, and neither the housewife nor the cleaner is to blame.

There are other points, such as the silly little fanlights tucked away up in the roof of a porch (sketch No. 1), which give no light, collect dirt (as there is no rain to wash it away) but which must be cleaned, or the housewife gets irate; such as the unnecessarily complicated designs of coloured lights which often just *cannot* be kept clean in the sharp corners; houses that are so built that a ladder cannot be taken through, and which have no back entrance; and windows with ledges which attract the birds . . . but there. I've said enough.

Perhaps one last request will be permitted. In windy weather or awkward places to lean to, we do appreciate a ledge or projection of some kind. Some windows have nothing like that.

London WILL GREEN

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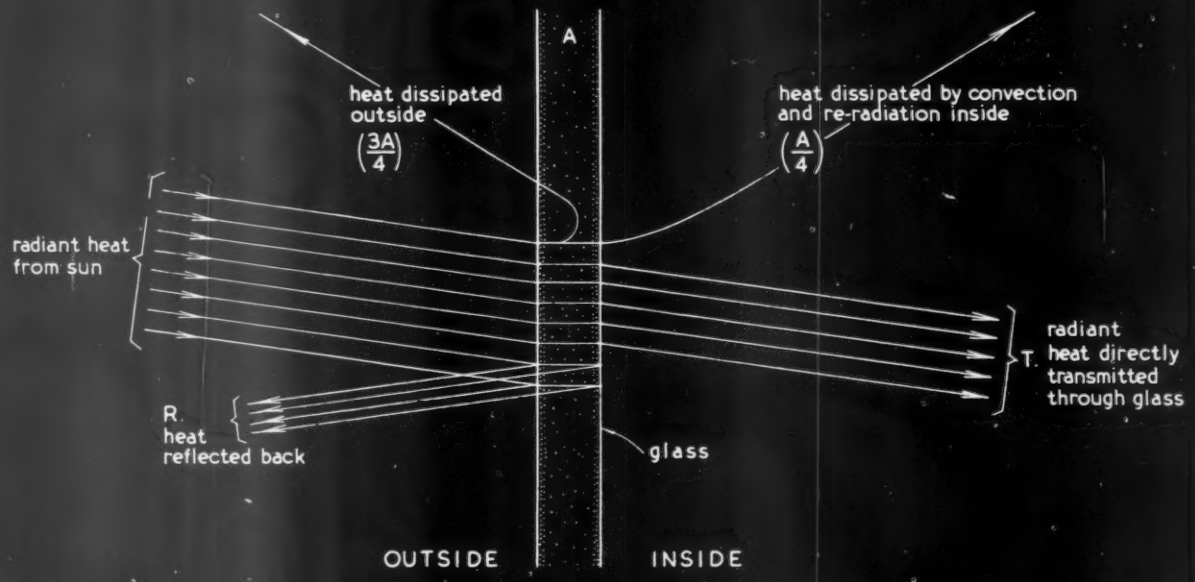
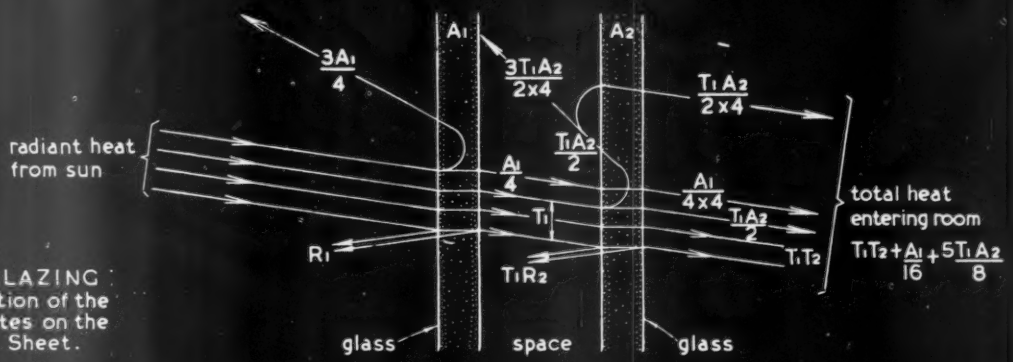
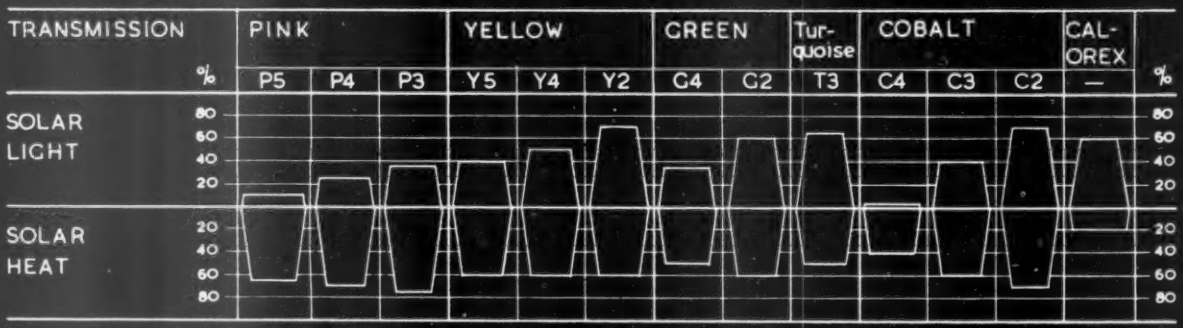
HEAT TRANSMISSION THROUGH GLAZING: RADIATION.



1: SINGLE GLAZING: DIAGRAM SHOWING PRINCIPLES OF RADIANT HEAT TRANSMISSION.
N.B. The proportion of the dissipated radiation re-radiated inside/outside will depend on external weather conditions.



2: DOUBLE GLAZING: For full explanation of the diagram, see notes on the reverse of this Sheet.



HEAT AND LIGHT TRANSMISSION THROUGH COLOURED GLASSES.
N.B: It may be seen from these values that no direct relation exists between solar light and heat transmission for coloured glasses.

Information from Chance Brothers Ltd.

843 INFORMATION SHEET: GLASS 8
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INFORMATION SHEET

• 929 •

GLASS: No. 8

Subject : Heat transmission through glazing : Radiation.

General :

This Sheet is the eighth of the series dealing with glass and glass products, and sets out the fundamentals of calculating heat transmitted through glazing by radiation.

Glass is transparent to various forms of radiation, notably that of the visible region of the spectrum. Such visible radiation causes a rise of temperature in any body absorbing it, so that a glass which transmits light must also transmit heat in some degree. The radiation from a body varies in character according to its temperature. For example, a paraffin flame, an incandescent lamp, and the sun have their energy distributed as follows : (See graph 2 on Sheet No. 4 of this series.)

	Ultra-violet (below .4μ)	Visible (.4μ—.7μ)	Infra-red (.7μ—∞)
Paraffin flame ...	nil	0 8%	99.2%
Incandescent lamp	0.4%	5.6%	94.0%
Sun at earth's surface.	3.5%	33.0%	63.5%

Thus a theoretically perfect glass transmitting all the light and none of the invisible portions of the spectrum would inevitably allow 33 per cent. of the solar energy to pass through.

In view of the fact that all glasses absorb long infra-red radiation such as is emitted by bodies only slightly above room temperature, no radiation is allowed to escape from a room, while solar radiation is allowed to enter, leading to a rise in temperature ; this is the explanation of the greenhouse. The loss of heat through glazed openings is therefore one of conduction only, and the problem becomes one of preventing the excessive ingress of solar heat in summer. The calculations refer primarily to direct sunshine such as is experienced on a South aspect, and no allowance for radiation from the sky is included.

Simple Theory of Transfer of Radiant Heat Through Glazing :

Single Glazing (see diagram 1) :

Assume that a glass has the following properties for solar heat :

Transmission ratio	T
Absorption ratio	A
Reflection ratio	R

Then $T+A+R=1.0$

An amount T is transmitted directly into the room as radiant heat. Amount R is reflected back and does not enter the room. Amount A is dissipated by convection and re-radiation, partly inside and partly outside. The proportions so dissipated depend on the external weather conditions, but since there is usually some wind, it is reasonable to allow $\frac{3}{4}$ as being lost outside. Then $\frac{1}{4}$.A is allowed to enter and the total heat entering is given by $T+\frac{1}{4}.A$ of the total falling on the window.

The heat represented by $\frac{1}{4}.A$ is located at the window and can be removed by adequate ventilation above the window, so that in the ideal case the total input may be reduced to T.

Double Glazing (see diagram 2) :

Assume that the outer glass has properties T_1, A_1, R_1, and that the inner has properties T_2, A_2, R_2.* The radiation falling on the first pane is treated as in the case above, so that T_1 falls on the second pane, and is partly transmitted, reflected and absorbed by this pane.

* In practice these are somewhat dependent on the properties of the first pane.

The direct transmission is T_1T_2 and the absorption in the second pane is T_1A_2.

The assumptions are now made that :

a. $\frac{1}{4}.A_1$ is dissipated into the interspace.

b. T_1A_2 is dissipated as $\frac{T_1A_2}{2}$ inside and $\frac{T_1A_2}{2}$ into the interspace.

c. The total heat in the interspace is dissipated in the proportions of $\frac{3}{4}$ outwards and $\frac{1}{4}$ inwards.

In symbols, the heat entering the room by conduction through the inner pane is :

$$\frac{T_1A_2}{2}+\frac{1}{4}\left(\frac{1}{4}.A_1+\frac{T_1A_2}{2}\right)=\frac{A_1}{16}+\frac{5}{8}T_1A_2$$

In addition there is a proportion of the radiation reflected back from the second pane, i.e. T_1R_2 which is absorbed by the first pane and contributes to the heat in the interspace.

This and various other second order corrections are very small and can safely be neglected.

Thus the total heat entering the room is :

$$T_1T_2+\frac{A_1}{16}+\frac{5}{8}T_1A_2$$

The heat represented by the last two terms is communicated to the air in contact with the inner pane, and if this is removed by ventilation, the heat input in the ideal case may be reduced to T_1T_2.

Typical Examples for Ordinary and Heat Absorbing Glass :

	T	A	R
a. Ordinary glass ...	0.80	0.12	0.08
b. Heat absorbing glass	0.20	0.75	0.05

Single Glazing	*Total Heat*	*Ventilated Window*
a.	0.83	0.80
b.	0.39	0.20

Double Glazing	*Total Heat*	*Ventilated Window*
Two panes of a. ...	0.71	0.64
Outer pane a., Inner b.	0.54	0.16
Outer pane b., Inner a.	0.22	0.16
Two panes of b. ...	0.18	0.04

The point should be noted that the position of the heat absorbing glass is vital—it must be outside. If not, the total radiant heat into the room is actually increased by double glazing. The value of double glazing is more pronounced the higher the heat absorbing properties of the outer glass.

Heat Absorbing Glasses : Effective Sun Temperature :

It is known that the effect of direct sunlight is to cause discomfort where persons may be exposed to it. The temperature in the direct light of the sun at points remote from the window may be calculated approximately as follows :

Let θ_1 = sun temperature
θ_2 = shade temperature
θ = floor temperature

Then $\theta = \theta_2+T(\theta_1-\theta_2)$ for single glazing, and
$\theta_2+T_1T_2(\theta_1-\theta_2)$ for double glazing

For example, suppose $\theta_1=130°$ F. and $\theta_2=80°$F. Then for the various assemblies, the following values are found for θ :

		θ
Single	a.	120° F.
	b.	90° F.
Double	a.	112° F.
	a.+b.	88° F.
	b.+a.	88° F.
	b.	82° F.
Shade temperature	...	80° F.

Coloured Glasses :

There is no direct relation between solar light and radiant heat transmission for coloured glasses. (See diagram 3).

These values are only typical ; the values for artificial light and heat would be appreciably different.

The values for Calorex heat-absorbing glass are given for comparison only and full details will be found in Sheet No. 17 of this series.

Figured Glasses :

Radiant heat is diffused and scattered in precisely the same way as light.

Previous Sheets :

Previous Sheets of this series on glass are Nos. 914, 917, 919, 922, 925, and 927.

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PHYSICAL PLANNING

THE JOBS TO BE DONE

Britain has the smallest forest or woodland area in relation both to the total land area and to the total population of any country in Northern Europe. Less than 5 per cent of its area now remains afforested. Forestry in common with Democracy is only fully appreciated in time of war. The last war produced the Forestry Commission; this war has produced a report on a Post-war Forest Policy by that Commission. Mr. Ray Bourne, author of this week's article on Forestry, alludes to the report in a postscript. He urges in his article that a positive policy should be produced covering the ownership of forests and the question of State control; the production of high-grade timber and the relation of the race of a species to its best locality; and finally the need for felling and planting plans to be submitted to a Forest Authority pending the establishment of a fully qualified body of forest managers.

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index

The Job

Mr. Ray Bourne, author of this week's article on Forestry, after reading Botany and Forestry at Oxford, spent eleven years in the Indian Forest Service. From 1922-37 he lectured at the School of Forestry and Imperial Forestry Institute, Oxford; making a special study of European Forest Practice. His many publications include the Oxford Forestry Memoir No. 13, on Regional Survey. Since 1937 he has concentrated on advisory work in private and corporate woodlands.

WE MUST PLAN FOR A REVITALIZED FORESTRY

by Ray Bourne

prosperous forestry

There is a growing consensus of opinion that the maintenance of a prosperous agriculture is essential to the life of the nation in peace as well as in war. In the interests of national security and of the preservation of the country-side it is widely realized that the land and the rural communities dependent on it must never again be left to waste, as after the last war, in face of urban demands for cheap food. On the other hand, it is generally agreed that the cost of living cannot be allowed to soar; and that food prices above all must be controlled in relation to wages. It is universally hoped that international co-operation will eliminate violent fluctuations in world production and prices of food. But many reasonably argue that the Government must be prepared, if necessary, to stabilize internal prices by subsidies to farmers out of general revenues.

In competition there will always be many other urgent calls on the public purse, which cannot be bottomless if the nation is to prosper. Thus the agricultural industry cannot be assured that it will continue to receive the financial assistance it at present obtains. Clearly, the more it stands on its own feet, the more it is likely to get what it needs and the better it will be for the nation.

To this end, agriculture should not attempt to retain in production sub-marginal lands. It should concentrate on restoring the heart to the better lands and on increasing production per unit of area and labour. It follows that many areas, often distributed in small units but large in the aggregate, which have been reclaimed to food production during the war, should sooner or later be voluntarily relinquished by agriculture. The question will arise as to what should be done with them? They certainly should not be allowed just to go waste.

Almost all that has been contended above with regard to agriculture applies to forestry. In the interests of national security and preservation of the country-side it is essential to build up a prosperous forest industry side by side with agriculture. The two are in no sense antagonistic but are complementary. It has often been said that forestry begins where agriculture ends. Yet they overlap in three directions. Forestry supplies much that agriculture needs in the way both of shelter and of woodland products and, what is just as important, they can conveniently

share some of their labour. Wherever forestry is intensively practised, the woods absorb the surplus agricultural labour in the slack winter months, while it is general, even in this country, for the woodmen to help with the hay and corn harvests. In this connection it is essential that much, not necessarily all, productive forest land should be intimately mixed with agricultural land.

forestry finance

Again, forestry in this country must make a considerable demand on the public purse for funds. Under war conditions, large areas of woodland have to be devastated to save shipping space and, in reverse to agriculture, the productive forest area is progressively reduced. Nevertheless, there must be a limit to the allotment of funds for forestry and the sooner it can become profitable, and the more profitable it can be made, the better it will be for the nation.

To this end, the practice of forestry should be restricted, with certain exceptions, to sites which can produce profitable stands. With regard to the exceptions, maintenance of woodlands and planting on unprofitable land are necessary in many areas of this country to provide shelter from wind both to agriculture and forestry. Winds in such areas can render cultivation of crops or trees and the higher forms of stock-rearing wholly unprofitable. But narrow belts are often sufficient to provide effective shelter and, though innumerable, the woodlands actually required for shelter would occupy only a small proportion of the area which should be devoted to forestry.

Again, it is necessary to maintain woodlands, irrespective of profitableness of site, in recognized public recreational areas. Similarly it is essential to care for and plant trees, irrespective of site, in literally hundreds of thousands of small spinneys, dells and clumps, quite apart from park and hedgerow trees, all of which are inherent parts of many of the varied, rural landscapes of Britain.

These exceptions do not invalidate the contention that forestry, in general, should be restricted to profitable sites. There are very many sites in Britain, both under woodland and at present bare, which might possibly be considered for intensive management or for afforestation, but which could never become profitable under forestry. The soils are either too wet or too dry, or the aspect is too exposed. It is clearly not implied that trees will not grow on them; but simply that trees cannot be grown with profit. It is an absolute waste of private or public money, as the case may be, to invest capital in them. The only reasonable argument for using them in production is that a further extension of forests is essential for purposes of national security and that there is no other better forest land available. That is far from being the case in Britain.

forest land

In England, Scotland and Wales there are millions of acres in the aggregate, though often in small areas, which are unsuited to agriculture but which are or could be profitable forest land. For example, there are many relatively sheltered slopes with highly productive soils for forestry which would be much sought after under agriculture but for their steepness. Frequently these slopes will grow first-class ash, beech and oak as well as conifers; in fact good trees of all species can be grown with sound scientific treatment. There are also many other areas, some large and some small, which have never been reclaimed to agriculture or have been abandoned centuries ago and which could be profitably planted with a variety of species. In addition there are many sites, as mentioned above, which are sub-marginal to agriculture except in emergency and under heavy subsidy, but which are relatively good forest land once woodland conditions are re-established. Some are suitable for broad-leaved species, pure or in mixture with conifers, and others primarily for conifers. A very large proportion of the above areas is situated within agricultural regions and, therefore, the bringing of them under intensive forest management, both by restoration of the woodland and by afforestation of the scrub or bare land, is in the interests both of agriculture and forestry.

landscaping trees

It should be stressed that, in the case of commercial forestry, sight need never be lost of considerations of amenity and of harmony with the landscape. It has sometimes been contended that amenity and commercial woodlands are essentially distinct. That is a most short-sighted and fallacious argument. It is obviously true that in certain stages of young plantations, particularly of pure conifers, there can be little amenity value. But it must always be remembered that in time, because all trees take time to grow, the older woods, including coniferous woods, may be a very pleasing addition to the local amenities. Moreover, there is a growing realization in forestry circles that even-aged, closed-canopy woods are often not the aim of good forestry. In some areas irregular woods, particularly mixed woods, with broken canopy and trees of all species, ages and sizes, connote even better forestry. Again, neglect of woodlands primarily of amenity value rarely serves the true cause of amenity. Open glades and vistas are soon overgrown in Nature; diseases become established and spread; and in the end drastic treatment may be essential to remedy the neglect. All woodlands of any sort demand constant and careful attention.

The real antagonism between amenity interests and commercial forestry lies in siting in relation to the landscape. Anything incongruous or out of harmony with the natural features of a landscape is unsightly. Just as red brick villas are out of place in a Cotswold stone village, so square or rectangular plantations, particularly of dark conifers, fail to merge with the rounded contours of the Cotswold Hills and the broad-leaved woodlands of the ridges and valleys. Hundreds of similar examples could be quoted to illustrate these points. It may be emphasized, however, that woods with straight edges are far more incongruous than any contrasts in form and colour of the trees. Indeed, cleverly sited and sufficiently restricted, some sharp contrasts can be pleasing to the eye.

While on this subject, mention must be made of the importance of the skyline. If it is extensively wooded, the forester must be far-sighted and plan the fellings so that no sudden, unnatural break need ever be made in it. Similarly, in an afforestation scheme, the planting should either extend right over the full length of any natural section of the skyline or should stop sufficiently far below it that there is no danger of the trees, as they grow up, ever breaking a part of it. On the other hand, an isolated clump of trees right on the top of a hill often helps to place the hill in true perspective.

If these contentions are accepted as sound, the responsibility for developing and establishing a profitable forest estate in Britain must lie as much or more on landowners, large or small, as on the State. The land is in the possession of the former and it is clearly for them individually to consider whether they will bring it under intensive forest management themselves or dispose of it either by sale or by lease to the State or to other bodies or persons who will cultivate it with profit.

private ownership

In this connection it is important to recognize that old woodland sites, if they are good forest land, are generally far more profitable under forestry than newly afforested soils. There are, of course, exceptions but it follows that it is the owners of woodlands situated on profitable soils who should be the first to be held responsible. Of these, there are some who have long realized their responsibility and possess profitable woods, though few could claim that there is not much scope for further improvement. But there are many more whose woodlands are run at a loss. They have either little appreciation of their real value, or they manage them inefficiently, or they subordinate forestry wholly or in part to sporting interests. The above remarks obviously apply only to potentially profitable woodland sites. The cost of maintaining woods on other sites or for shelter purposes is beside the question. Thus the primary need is for a survey of potentially profitable woodlands. This survey should not be entrusted to foresters alone, but should be carried out by foresters in conjunction with soil-scientists, ecologists, agriculturalists, planning authorities and the timber trade.*

*Such a survey was envisaged in a Memorandum on a National Survey of Rural Resources presented to the Prime Minister in 1937 by a Committee convened by Professor Patrick Abercrombie.

Woodland owners ought to be able to rely on obtaining an impartial schedule of the woodlands and wastelands which could and should be devoted to profitable forestry. They should then consider whether they will cultivate these areas themselves or leave it to others.

Before a decision could be reached by many owners they would want to have some idea of the measure of profit they might expect and of the financial and technical assistance they might be given. All would want to be assured of reasonable continuity in State policy with regard to land and forestry and that technical initiative would not be stifled by undue bureaucratic control.

On the first point it must suffice here to state that there are privately owned woodlands in Europe which yield a regular nett rental per acre of £3 and more. That is a target fully realizable in time on many sites in this country. It may be added that many of the most profitable forests on the Continent are in the possession of local bodies, particularly of small towns and villages which, from their forest revenues, are able greatly to reduce their local rates. There are even cases where, in consequence of forest ownership, there are no rates; where every householder gets free firewood, a measure of free timber for house repairs and even an annual sum in cash.

public ownership

Ownership and efficient management by local authorities is the most effective way of developing a true Forest Sense in local people. The local forest is their property. If it is a burden on the rates, several of them want to know why. If it results in reduced rates, their interest is more constructive. If they learn that a neighbouring local body is obtaining a higher nett forestry rental, they want their forester to explain. If he is shown to be incompetent, he is dismissed. All this applies in a sense to private ownership as well and, in both cases, tends to technical efficiency and the elimination of waste in expenditure. The same cannot be said of State Forestry anywhere. State forests belong to everybody and yet to nobody. And provided that, as a whole, they show a substantial profit, their management is not subject to intense economic criticism.

In the matter of financial assistance, free grants are given, in many continental countries, in aid of approved reclamation schemes or of capital works, such as roads of use to the public, up to 50 per cent. of the nett cost. Loans at low rates of interest are made to facilitate purchases of woodland or of afforestable land and for other capital improvements. Such financial help is given not only to private individuals but also to public bodies and any other owners of woodlands. In this country, failing other action by the State, woodland owners should certainly be given grants towards the cost of eradicating rabbits and grey squirrels, the greatest enemies of profitable forestry.

planning forestry

With regard to technical assistance, one of the greatest problems in the improvement of woodlands in Britain is the present scarcity of fully qualified forest managers. In every other Northern European country only foresters with a university degree or special diploma in forestry are permitted to hold these positions and to advise. Forestry is not an exact science; nor is it a business which can be run on stereotyped lines. New knowledge is daily being gained; old theories, or rather hypotheses, are constantly being upset. Nobody who has not had a thorough grounding in the subject or who is not in constant touch with developments, the world over, can hope to keep abreast with advancing knowledge. Practical experience is, of course, as essential as in farming, but practical experience alone gets no one very far in forestry. Errors in farming are soon obvious and involve contemporary loss; mistakes in forestry may not be apparent for several decades and it is often the next generation which has to foot the bill.

It will certainly take some time to build up an efficient cadre of forest managers and advisers in Britain. Some 200, and ultimately more, could be economically supported by the existing woodland area in private hands. A fair proportion of this number could be absorbed by the forestry schools and trained within a decade, a short period in the life of a tree. But one word of caution must be used. The standard of the applicants must be high. There is no subsequent room in the higher grades of forest managers for young men with few other qualifications than a good physique and a desire for an open-air life. On the other hand, there are excellent prospects for good men in positions in which skill and initiative are fully recognized and amply repaid. There will also, of course, be a great demand for trained woodmen who should be craftsmen at their job.

forest policy

In the matter of State Control* private woodland owners and local bodies would certainly want to know the position in which they will stand in relation to the State in respect of all potentially profitable forest land on their estates, not devoted to agriculture or allocated primarily for recreational purposes. In view of the facts that Britain has the smallest forest or woodland area in relation both to the total land area and to the total population of any country in Northern Europe and that, in normal times, the import of timber, particularly of coniferous softwoods, per head of the population, are the highest in the world, it is obviously reasonable for the State, in the interests of national security, to demand that all land, irrespective of ownership, which can be devoted to profitable forestry, shall be progressively brought and permanently kept under intensive forest management. That should be the first aim in any new forest policy.

In the second place, since fir is the principal import and, in consequence of fellings in the last and this war, is already short in supply, there is no question but that the replacement of the conifer growing-stock must have precedence over the cultivation of broad-leaved species, the so-called hardwoods, except as to special grades of such species as ash, beech and oak. Fortunately for the country the Forestry Commission was constituted shortly after the last war and charged primarily with the task of building up as quickly as possible a reserve of coniferous pitwood for the coal mines in such an emergency as has since arisen. If it had not followed the lines of least resistance and planted conifers wholesale, particularly subsequent to the curtailment of its funds under the "Geddes Axe," the position in the coal mines to-day would have been even more serious than it is.

Even so, the majority of the Commission's plantations are still too young to yield even pit-props and, in a sense, constitute a compensating advance reserve for the future. Unfortunately, for reasons which will be stressed below, too many of these plantations will never produce timber or even pit-wood which can compete commercially as to quality with imported material. But that mistake need not be repeated and does not alter the fact that the Commission's afforestations will have to be greatly extended. Its task, however, could be materially eased if all woodland owners were required to cultivate a considerable proportion of conifers, either pure or in mixed woods according to the soil and the features of their local landscape. That should certainly be the second demand by the State.

As a result of the extensive selected fellings, during the last war and this war, high-grade timber of every species is now becoming increasingly difficult to find. The number of trees which would yield these grades has for a long time been limited in this country. The woodlands generally have not had the skilled attention necessary to the production of high-grade timber but, above all, little heed has been paid to the importance of using only the best variety, strain, or race of a species for a locality. If that is done and proper treatment is subsequently given, the differences in the ultimate yields as to quality are enormous.

In agriculture and horticulture the importance of strain is fully recognized and, to some extent, is governed by legislation. In forestry some nurserymen sell "Native" Scots Pine plants raised from seed collected in the few remaining natural forests of Scotland. Apart from this example and a few others less general in application, the Forestry Commission has carried out considerable research on the subject. But the Commission's failure to consider this aspect of afforestation in many of its plantations has, as indicated above, reduced

*Reference may be made to Forestry and State Control, R. S. Troup, 1938.

the future value of much of its past work. Clearly it is a matter to be sponsored by the State, as in Switzerland, where there is a central seed research station at Berne and where no plants may be raised for sale and planting in any area except from approved seed. That should be the third safeguard required by the State.

Since the unfelled woodlands remaining in these islands, together with those to be replanted or to be created in early post-war years, could not suffice to sustain the country through a third Great War, within the next 30-50 years, it is clearly essential that adequate reserve stocks of imported timber should be established and maintained for such a period. In order to help the home-grown timber trade, so essential in times of war, through the lean years which must ensue, as much as possible of this timber should be imported in the log for conversion over here. To the same end, woodland owners should be encouraged to fell and sell much inferior material of little value in war-time and to replace it with trees of future quality. Markets will have to be found or specially created to absorb this low-grade timber. Obviously, therefore, the State must be prepared to assist and possibly to subsidize the timber trade and woodland owners in these matters.

Finally, until an adequate cadre of fully qualified forest managers has been established, the State must demand that all plans for felling and planting should be submitted for approval to some Forest Authority and that all operations should be open to inspection by arrangement during or after their execution. Such an Authority might be a central or regional body, preferably the latter. As forest managers are trained and gain practical experience, they might be individually empowered to operate without previous approval. That would be an incentive towards technical efficiency. This is the only other measure of control which the State need impose.

If State Control of private and local public forests were limited to the above measures, and the financial aids indicated were guaranteed, no owner of land to be devoted to profitable forestry could reasonably claim that his rights were being unduly infringed. He would have security of tenure for the future and every incentive to show initiative in the development of his forest estate. And he would know that he was making the fullest contribution towards national security and the prosperity of the country that could be expected of him. The State, on the other hand, with the minimum of interference with private enterprise or with the activities of local bodies, would ensure that a large part of the private woodlands in Britain, much of it on the best forest soils, was brought without undue delay under intensive management. And the Forestry Commission would not be forced, as after the last war, to acquire and attempt to afforest so much bad forest land in order to establish, at any cost, a forest estate adequate to meet the needs of the nation in any future emergency. Thus the underlying theme, throughout, is that with certain notable exceptions forestry as well as agriculture, irrespective of ownership, should be made to pay and, wherever possible, to pay well. Nothing less will ensure the preservation of the country-side, and the prosperity and security of the nation, so far as forestry is concerned.

POSTSCRIPT

This article was written prior to the publication of the Forestry Commissioners' Report on Post-War Forestry and, of course, prior to the issue of their supplementary report. Nothing in these reports affects the conclusions reached in this article. The Commissioners fail to emphasize or recognize the significance of an impartial survey of woodlands, of extensive ownership of woodlands by local authorities, of a private as distinct from a State Forest Service, of legislation to control the strains of species cultivated, and of reserve stocks of imported timber. They seek more centralized and, in some respects, wider powers of control than have been granted to any European State Forest Service, except to Reichs Forst-Minister Hermann Goering in the enforcement of his four-year plan. The question arises whether the work of the Forestry Commissioners in the past warrants the grant to them of such over-riding powers in the immediate future?

PLANNING REVIEW

PLANNING THE HOMES

The Times in a leader on Lord Portal's speech in the House of Lords, recalls Lord Portal's statement last month, that in the first twelve years after the war an enormous number of houses will be built, and asks: Where will they be? What building powers will be vested in local authorities? What financial aid will local authorities receive? What powers will they have to acquire land, and on what terms? The time needed to prepare detailed plans and remobilize the building and building materials industries for the great tasks ahead makes it imperative that clear answers should be given to these questions without further delay. Britain needs, but has yet to acquire, a policy for general economic development, including guidance and control of the location of industry; a simplified procedure for acquisition of land by public authorities and a solution of the problem of compensation and betterment; a policy for the orderly development of transport and fuel and power services; and a national overall plan for land utilization and for balanced regional industrial development, so that local plans can be co-ordinated and fitted into a nation-wide framework. Uncertainty on these and similar issues still holds up the planning and development schemes of local authorities in all parts of the country. The County of London plan is but the most important example of a development scheme based on what can only be guesses at future trends in industrial location. Lord Portal spoke of Lord Woolton as the Minister who can see the complete picture. But this cannot be the whole of the story. The precise scope of Lord Woolton's powers will shortly be discussed in the House of Commons. The House will expect to hear that somewhere in the Government's policy-making machinery there is a Minister or group of Ministers with the power not merely to seek to co-ordinate the work of all the departments concerned in the field of physical planning and industrial development, but to take decisions and, if necessary, to enforce them with the support of the Cabinet.

The same urgent need was reiterated in leading articles in the *News Chronicle* on the 8th and 9th of February. The second article points out that the business of clearing sites for Lord Portal's temporary houses is to be proceeded with as soon as possible. No doubt he can, without much difficulty, select sites for a large number of homes and be fairly sure that that is where they will be needed. But, so far as his long-term programme is concerned, he is confronted at once by a fundamental difficulty. Where is the central plan? His statement brings home, once again, the fact that the Government has not yet made up its mind about (1) the location of post-war industry, or (2) how best to utilize the resources of the countryside, or (3) questions of land ownership, compensation and betterment. With these issues undecided there can be no finality about any building programme.

INDUSTRY

It is reported in *The Times* that the jute workers of Dundee knew so little of their industry that a travelling exhibition has become necessary, as a wartime measure, to tell them about it and about its place in the national and imperial economy. It is a staple industry, settled in Dundee for over a century. *The Times* asks, is it indeed the case that the children of Dundee can go through its schools without learning the elementary facts of the industries on which their town subsists? Is this true of other manufacturing areas? The mobile exhibition van is an essay in adult education which a documentary film would greatly enhance. At the same time, it carries a wider message. Industries and towns dependent on them would well serve their first interests by co-operating to maintain popular exhibitions, illustrating their enterprises, which would help to sustain civic and industrial pride. Something has been done in this field, but not enough.

PLAYGROUNDS

The Times points out in an article that financial consideration does not account for the wide variations of provision for children's playgrounds between different towns. Whereas York has one playground for every 2,000 children, Middlesbrough has only one for every 40,000, Huddersfield has 29 playgrounds, while Glasgow, with ten times more people, has only 16. The clearance of many useful small sites as the result of air raids, the promise of nursery schools in the Education Bill and the hope that the Government will produce a workable scheme for the public acquisition of land, all offer an opportunity for local authorities to empty their casualty wards and juvenile courts by filling their playgrounds.

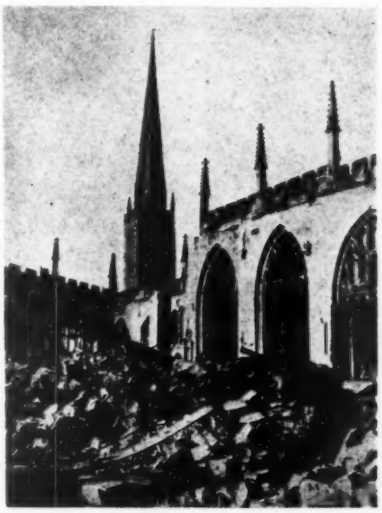
NEW LITERATURE

Town and Country Planning for the Local Community: Study Outline. Town and Country Planning Association. 2s. 6d.

Things We Need in Cleveland. Presented by the City Planning Commission. City of Cleveland, No. 5.

Your Home Planned by Labour. The Labour Party. Transport House. 3d.

A Book of Farmcraft. Michael Greenhill and Evelyn Dunbar. Longmans. 2s. 6d.



Left, bird's-eye view showing suggested lay-out of the new Cathedral buildings. Above and below, two views of the bombed Cathedral. It was wholly rebuilt in the fourteenth and fifteenth centuries. The tower, dating from 1373 *to* 1394, *escaped serious bomb damage and is retained in Sir Giles Gilbert Scott's design. An open-air pulpit for outdoor services will stand in a cloister, the outer wall of which is formed of the aisle walls of the old Cathedral. At the end of this cloister stands the existing tower.*

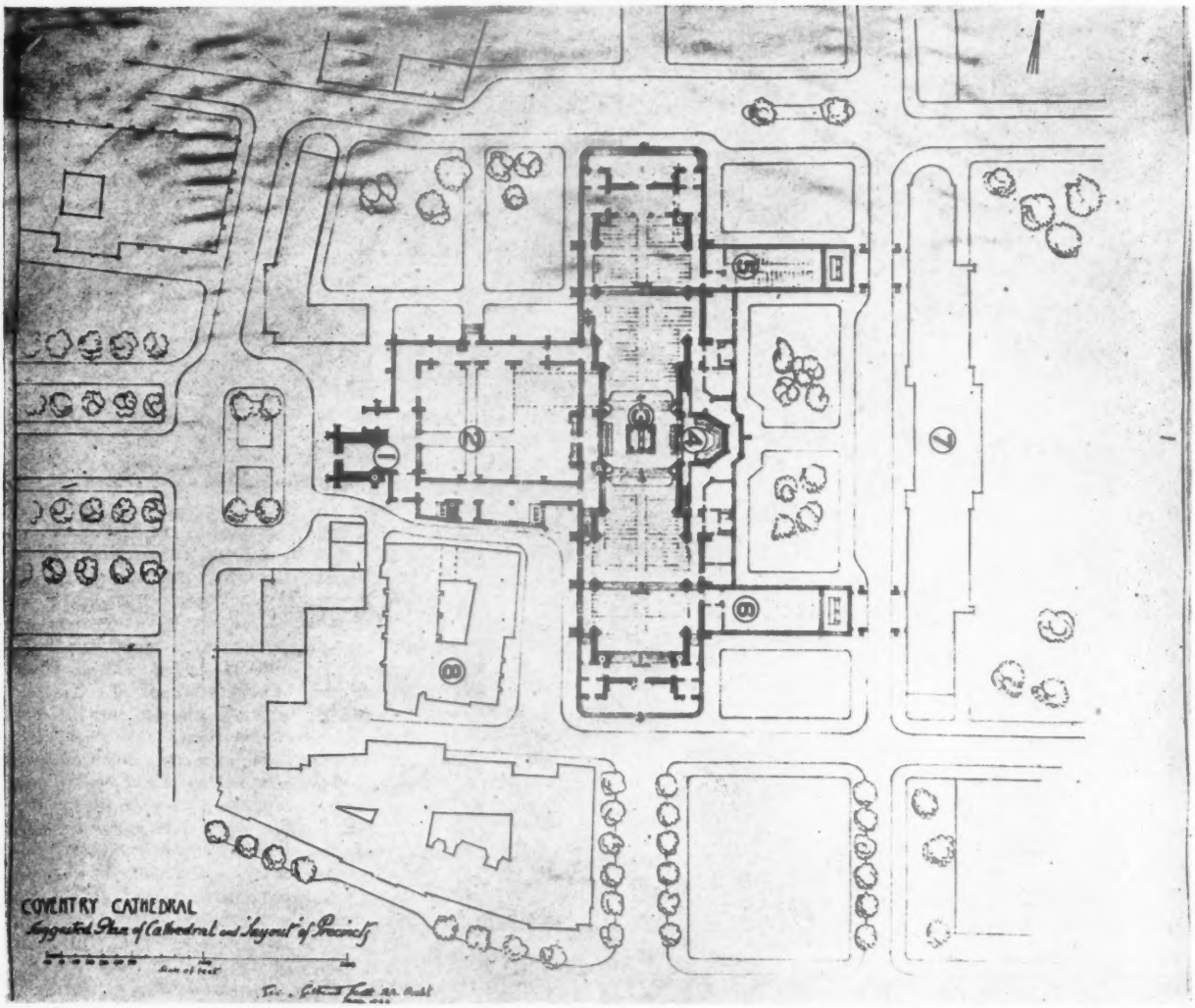
COVENTRY

CATHEDRAL SCHEME

DESIGNED BY SIR GILES GILBERT SCOTT

Plans for rebuilding bomb-destroyed Coventry Cathedral after the war contain two striking innovations: a central altar, so that the congregation can gather round it from all sides; and a Christian Centre of Service, to be established in partnership with the Free Churches. Connecting the Cathedral —and attached to its fabric— with the Christian Centre will be a Chapel of Unity, which will belong to the Anglicans and Free Churches together.

Sir Giles Gilbert Scott, R.A., in a statement issued last week showing how the plan is devised to suit the special conditions, says: It is necessary to decide whether the design of the old Cathedral should be retained and a replica

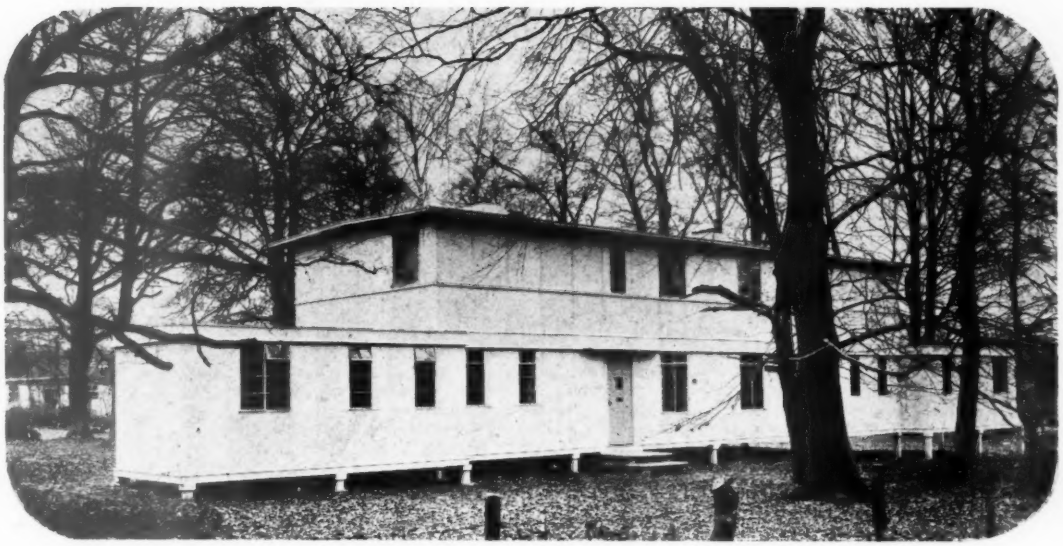


Sir Giles Gilbert Scott's plan for Coventry Cathedral. The numbers on the plan indicate 1, *The Tower;* 2, *Little Cloister;* 3, *The Altar;* 4, *The Apse;* 5, *Lady Chapel;* 6, *Chapel of Unity;* 7, *Christian Centre;* 8, *St. Mary's Hall.*

erected, or whether an entirely different design should be adopted. If the latter course is followed, what should be done with the remains of the old building? The retention of the spire, which escaped serious damage, is obvious, but the ruins of the rest of the building present considerable difficulties. The old Cathedral possessed more the character of a large parish church than a cathedral, and a larger scale and character in the new buildings is essential if a true cathedral atmosphere is to be created; but it is obvious that no building of cathedral proportions could be built up to the existing spire without ruining the æsthetic qualities of this fine feature, which relies for its effect upon soaring up into the sky with slender verticality, high above the roof line of the building to which it is attached. This led me to the conclusion that the higher portions of the new Cathedral should not abut against this spire. The fall in the ground towards the east end, where the apse stands, suggested that here some additional height for the new buildings might be obtained, thereby reducing the height to which the new roof line needed to be raised to give a cathedral scale to the new building. Most of the old aisle walls are used to form the outer walls of a cloister, which could be used for outdoor services, and an outdoor pulpit is provided. The existing spire stands at the entrance to this cloister. The materials proposed are a warm coloured stone for the exterior, similar in colour to that existing in the old aisle walls.

A lantern tower is arranged over the central altar, with a richly decorated roof, well lighted by windows all round; this gives a fine contrast in height, colour and light, to the rest of the interior, which is kept simple and austere. The interior span of the main portions is wide, viz., 60 ft., giving all the congregation a clear, unobstructed view of the altar. The floor levels are so arranged that worshippers seated at the back are on a higher level than those in front. The Bishop's Throne and Clergy Stalls are placed on each side of the Sanctuary, and the choir is situated in the old apse, the floor of which is well above the general floor level of the rest of the cathedral. A large cloister or quadrangle is formed at the east end, around which are arranged chapels and a group of buildings containing lecture halls and rooms devoted to social purposes embodying a United Christian Centre for Coventry.

COVENTRY CATHEDRAL



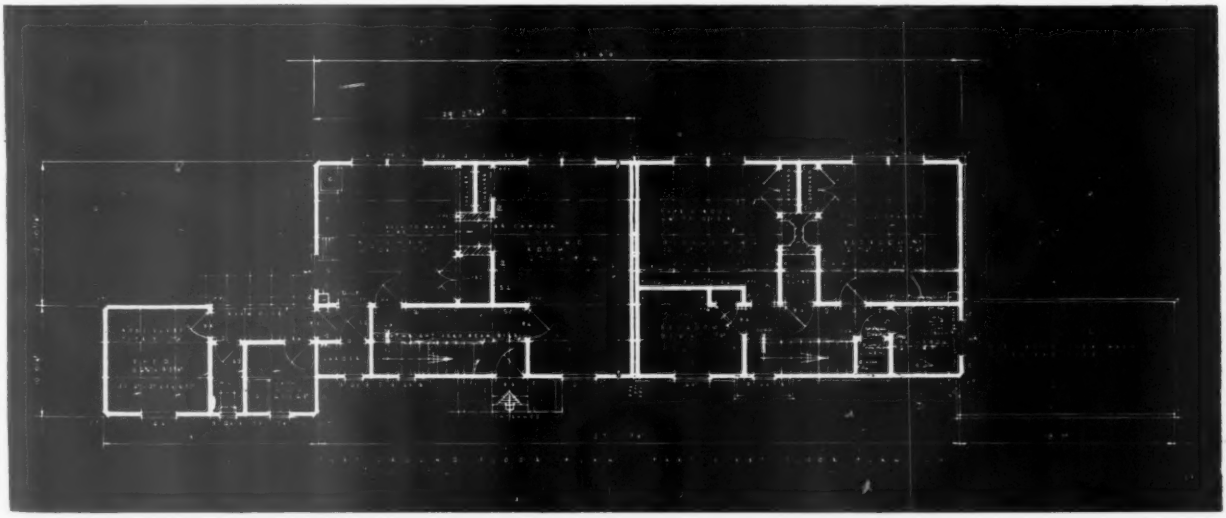
PREFABRICATED

COTTAGES AT CHOBHAM, SURREY

A pair of demonstration cottages, based on a plan chosen at random —one of many suggestions for accommodating agricultural workers—and built by the Seco system of unit construction. The cottages have been erected on pile-post foundations so that they can be dismantled after the demonstration, removed from the site, and re-erected elsewhere. The procedure adopted for, and the time taken in erecting the cottages, by Uni-Seco Structures, Ltd., were as follows :

Thirty-two pre-cast piles, 5½ in. square, were driven to conform with the contour of the site. These were placed in position, using light driving plant, by four men in two days. Pile-head shutter boxes were clipped to the pile heads, their levels being accurately adjusted. Ground floor beams, constructed of resin-bonded plywood, span from pile head to pile head. These beams are provided with hook bolts, which project into the shutter boxes. The boxes are filled with a cement, sand and gravel mixture to key the hook bolts and to form the pile head. The ground floor beams are provided with a continuous corbel or flange to receive the floor units. The top of the plywood beam has a groove to receive a loose tongue and erection of ground floor units takes place on these beams, which act as the keelplate to the building. The floor beams, when set, form a complete grid.

The largest span of the floor units (flat beams of resin-bonded plywood) is 12 ft. 9 in., equivalent to four No. 1 unit widths. The width of the floor unit, with its connecting fillets, is equivalent to the width of a No. 1 wall unit, and the depth of the floor unit is 5 in. Floor units have been tested with loads equivalent to 160 lb. per square foot ; their weight is approximately 3 lb. per

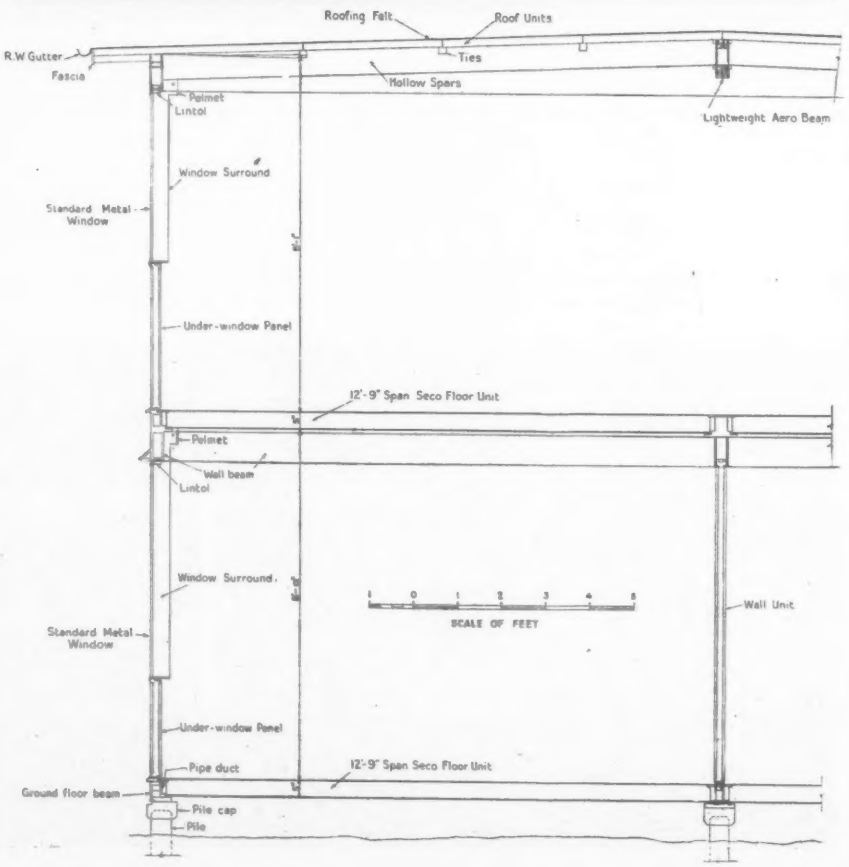


square foot. The largest can be easily handled by two men, as can all other individual units and components in the building. The standard floor unit, as used on the ground floor, is also used on the first floor and, being reversible, there is no loss of time in placing in position, one side forming the ceiling and the other the floor above. Spacing between floor units is governed by the fillet which forms the tie and lends rigidity to the whole floor slab. Convenient ducts for service pipes, electric and telephone wiring, etc., are provided between each unit and at the ends. Thus, all services can be economically installed and are concealed.

Ground floor units are fixed by tosh screwing through preformed screw holes, utilizing a loose tongue between all units. The intermediate floor beams are placed over and screwed to the ground floor units. When in position, each length of wall forms a deep section beam, and the connection between outside and partition walls creates a deep section grid, lending great strength to the whole ground floor structure, to which the first floor loads are transmitted. The construction of the intermediate floor beam follows the principles of the ground floor beam, the projecting flange or corbel forming a small decorative cornice to the ground floor rooms.

Erection of the first floor follows the same principle as the ground floor. First floor eaves are of box construction in resin-bonded plywood. The exterior eaves are provided with cut-outs to allow the roof spars or ties to cantilever to carry the projecting roof units. Internal partition fascias are, in effect, non-load bearing members serving the purpose of infilling pieces between the top of the units and the soffit of the roof units forming the ceiling. Weather protection to the roof is provided to a standard wartime roof felting specification. A decorative string course is applied at first floor window cill level, to eliminate the unresolved duality of two units of the same dimensions.

In the interior is a prefabricated staircase, designed in six standardized sections to allow for ease of transport and introduction into the building after erection. The kitchen is equipped with fitments which follow the unit principle of construction.



Right, the staircase and a section showing method of construction.

INFORMATION CENTRE

The function of this feature is to supply an index and a digest of all current developments in planning and building technique throughout the world as recorded in technical publications, and statements of every kind whether official, private or commercial. Items are written by specialists of the highest authority who are not on the permanent staff of the Journal and views expressed are disinterested and objective. The Editors welcome information on all developments from any source, including manufacturers and contractors.

STRUCTURE

1380 **Steel Houses**

WEIR, ATHOLL & COWIESON STEEL HOUSES, 1926-1928. 17 YEARS' EXPERIENCE PROVES THE SUCCESS OF AN EXPERIMENT. *A. H. Mottram.* (*Architectural Design and Construction, Nov.* 1943, *pp.* 222-227. *See also Inf. Centre No.* 1240 [*A.J., Sept.* 23, 1943, *pp.* 224-5]). Three types of steel houses erected in Scotland by three big Glasgow firms in last post-war period are described.

(1) The Weir Houses (Cardonald Housing Corporation Ltd.) consisted of sections of wood framing put together on jigs complete with their outer covering of ⅛ in. steel sheets and erected on poured concrete base walls. The internal partitions were of framed timber; the roofs of light composite timber and steel trusses with a covering of sarking and asbestos slates.

(2) The Atholl houses were built of steel framework of T and L stanchions with L steel horizontal members, and two rows of R.S.J.'s ran lengthwise through the block. The exterior of the framework was covered with 12-gauge steel sheets having a joggle joint at the horizontal overlap and jointed with canvas and red lead. The interior face of the sheets was covered with granulated cork on red lead.

(3) The Cowieson types had a joiner made wood framework on a concrete or brick base. The exterior of the framing was covered with 12-gauge steel sheets with felt solutioned on to the back to prevent rust within. The interior of the outer and all the inner wood framing was covered with Celotex with wood cover strips over the joints.

The Cardonald houses fulfilled most nearly the original intention of factory production and site erection of houses, and of providing work for the unemployed in the shipyards and contingent industries.

A problem to be solved in common to all these types was the protection of steel. This was done by two careful systems of cleaning the steel and then applying spirit, red lead and two coloured coatings.

The problem of periodic repainting was solved by the application of "claggy" paint in a heavy coat on to which granite chips, mixed in a rotary drum with similar paint, were thrown. This has lasted for nine or ten years with an entirely insignificant amount of repair. With their coating of granite chippings the houses look much like any other rough-cast house.

The Second Scottish National Housing Company (Housing Trust Ltd.) which arranged for the acquisition and layout of sites, provided roads, sewers, public services, fences and supervised erection, has also been responsible for maintenance. The houses have now been in occupation for 17 years and have proved very satisfactory regarding thermal insulation, fire-risk and cost of repairs.

This remarkable experiment of prefabricated steel houses would well deserve to be continued after the war when quick building and providing work for the workers of shipyards and other steel industries will again become major problems.

A block of four three-roomed Weir steel houses of the Blanefield type built at Lochend, Edinburgh, in 1926-1928. See No. 1380.

1381 **Timber Trusses**

AIRCRAFT PLANT HAS 150 FT. TIMBER TRUSSES. (*Engineering News Record, October* 21, 1943, *pp.* 624-629.) Construction of modern aircraft factory in second grade timber.

One of the greatest demonstrations proving the practicability of heavy timber construction in large modern plants is that of the recently completed Chicago Aircraft Assembly Plant. This was constructed at a time of exceptional shortage not only of steel and other usual building materials but also of first-grade structural timber. The main assembly area of the factory is spanned with 150 ft. timber trusses which are framed into 54 ft. high laminated timber columns. In view of the uncertainties in the quality of the timber the trusses were designed for a stress 25 per cent. less that permissible for first-grade timber. The wooden structure weighs about double and costs about 10 per cent. above the same building designed in steel. It is estimated that 20,000 tons of structural steel were saved by using timber trusses and columns throughout the factory building and hangar. All timber trusses were fabricated on the job. By fabricating the glued-laminated timber columns from 1 in. boards of varying short lengths, the use of large long timbers was avoided.

ACOUSTICS and Sound Insulation

1382 **Music in Industry**

MUSIC AS A SAFETY FACTOR. *E. Hough.* (*J. Acoust. Soc. Am., October*, 1943, *p.* 124). Experience of music as a safety factor in an arsenal.

The author describes the experience of music in one of America's arsenals. The management had observed that workers were most prone to accidents at peak fatigue periods. Shortly after the introduction of music at fatigue times, it was observed that the accident rate had materially diminished. The reduction is largely attributed to the music.

A close-up of one of the 150 ft. second-grade timber trusses in a Chicago aircraft assembly plant. See No. 1381.

1383 **Music in Industry**

ATTITUDES TOWARDS TYPES OF INDUSTRIAL MUSIC. *W. A. Kerr.* (*J. Acous. Soc. Am., October*, 1943, *p.* 125). A study of reaction to music among different types of workers.

This paper reports a study of typists, clerical workers, factory workers and a factory singing club in respect of their attitude to different types of music. Although the sample is small the reactions are clear and significant. Perhaps a larger sample would reduce the usefulness of the work, for it is also shown in the paper that attitudes of one type of worker vary a good deal in different regions. The clear argument that emerges is that for each factory, or for the factories in a given district, the music preferences should be determined by survey.

1384 **Music in Industry**

INDUSTRIAL MUSIC AND MORALE. *D. D. Halpin.* (*J. Acoust. Soc. Am., October*, 1943, *p.* 116). Technique of using music for industrial morale.

Music in factories, without doubt, is here to stay, and the Americans as well as ourselves have been giving careful consideration to the nature of the music to be used.

Mr. Halpin gives his opinion that music can be used to good effect on four types of occasion.

1. At the peak fatigue periods (which he says occur about 1¾ hours before meal times). Popular tunes and familiar melodies are best.
2. At the beginning of the shift, to get people off to a good start. Vigorous, martial music is used.
3. At meal times; novelty music and request items.
4. Special occasions.

Of these, items 1 and 2 are the most significant, and for music at these times strong melodies should be chosen, and not involved or rhapsodical types. A constant tone level is important. Rhythm and tempo should be clear.

Mr. Halpin discusses in great detail the whole question of programming, which is of much more interest to plant managements, of course, than to architects.

The significant point for the latter to note is that the introduction of music in factories calls for consideration of another factor for which the architect is responsible, namely the acoustic condition of the factory areas. He should also, presumably, keep an eye on the noisiness of the equipment to be installed, so that the sound-reproduction problems are not made more difficult than necessary.

1385 *Music in Industry*

PROGRAMMING MUSIC FOR INDUSTRY. *Ben Selvin.* (*J. Acous. Soc. Am., October*, 1943, *p.* 131). A record of experience in the use of music in industry.

A breezy article with some interesting points showing good psychology. The discussion is under three headings, "What to play," "How to play it," and "When to play it."

Under "What to play" one gets, as in other articles, the clear impression that good, simple melodies, easily understood, should be the aim.

Under "How to play it" the author says, ". . . strictly instrumental . . . and never over-arranged or tricky." That is to say, no modulation, and not too much finesse. A start must be made quietly, the level coming up only after 10 seconds or so. First and last numbers should be familiar.

"When to play it" is also important. Obviously an overdose can be undesirable. 2½ hours per working day is recommended, but none should occur as the shift begins; rather it should come a few minutes before.

In general the author refers to the significance of subtlety in all industrial music uses. He also notes that in America composers have recently been commissioned to write specially for industrial purposes.

1386 *Music in Industry*

THE STATISTICAL METHOD IN DETERMINING THE EFFECTS OF MUSIC IN INDUSTRY. *R. L. Cardinell.* (*J. Acous. Soc. Am., October*, 1943, *p.* 133). A study of the effect of music in production rates.

It is accepted without doubt that music in industry relieves fatigue and boredom, and is therefore important. What has never been proved is that it actually causes a significant increase in production. The present studies, which seem to have been done with some care, go some distance towards proof. In particular there are two comparative curves for production over a whole day before and after music was introduced. The curve taken before showed certain clear dips at the points of greatest fatigue, and it was decided to introduce music to deal with these. The curve taken after music was used shows a remarkable result, with the dips eased out, and the general rate maintained at a 15 per cent. higher level than before.

If more material of this sort can be produced, proof of increase of production due to music would have to be accepted as confirmed.

1387 *Insulating Test Sheds*

ACOUSTIC CELLS FOR AIRPLANE ENGINE TEST BUILDINGS. *D. Fitzroy.* (*J. Acoust. Soc. Am., October*, 1943, *p.* 106). Experiments on sound insulating ducts for aero-engine test sheds.

Aero engines are tested in large, robustly built chambers, with huge ducts for the admission and exhaust of air. The ducts are usually divided by a large number of splitters, made of sound absorbing material, so that the noise of engines under test is reduced.

The author reports on experiments he has made with splitters of two different general types, one of sound absorbent cast stone, and the other of perforated metal sheets filled with glass wool. (Only a limited range of absorbents are available for the present purpose because of the fire risk, oil, etc.). In general, each of those tested shows similar characteristics of high absorption in the first few feet of duct, and lower and lower absorption per foot run for the remainder. Mr. Fitzroy comes to the conclusion that not more than 10 ft. length of duct is needed, and that the glass wool is much superior to the absorbent cast stone.

He also observed other interesting data such as the fact that the critical frequencies in aero engine testing lie between 50 and 500 c.p.s.

It would be interesting to see a paper on English experience in this field, where some interesting work has been done during the war.

QUESTIONS and Answers

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 help is available to any member of the industry. Answers are sent direct to enquirers 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. Questions should be sent to: THE ARCHITECTS' JOURNAL, 45, *The Avenue, Cheam, Surrey.*

1388 *WAHC*

Reference back to Q. 1355. In answer to this question we stated that "A Report on Domestic Housing Requirements was obtainable from the Women's Advisory Housing Council." The Women's Advisory Housing Council have asked us to publish the following correction:—

We have no report under the title *A Report on Domestic Housing Requirements*, but issued last year a report entitled *Women's Needs in Future Housing* (price 15/-), based on the replies to 40,000 copies of a questionnaire distributed to lower-income housewives as to their needs, at the request of Lord Dudley's Sub-Committee on the Design of Dwellings, of the Central Housing Committee of the Ministry of Health, of which our Chairman, Lady Sanderson, is a member.

Later in the year, we also published a smaller report on *The Younger Women's Needs in Future Housing*, from evidence received from young women in the Forces and Factories, price 2/6.

1389 *Prefabricated Steel Houses*

Q *Could you let me have a list of any works or articles recently published dealing with prefabricated steel or non-ferrous metal houses and housing units such as sanitary and furniture units in steel or light alloys, also any information which you may have regarding any proprietary systems of prefabricated steel house construction?*

A We give below a list of more recent publications dealing with prefabricated steel in housing. We have not been able to trace any recent publications dealing with prefabricated steel or non-ferrous metal units, such as sanitary and furniture units.

The Mobile House. Le Tourneau Steel House. Copper Mobile House (*Prefabricated Transportable Unit Houses*). (*Architectural Forum*, July, 1937, p. 53).

System of Pressed Steel Interlocking Units, by G. Backer with MacDonald Alister (Inventors). (*Architects' Journal*, May 2, 1940, p. 446).

The Martin-Wagner System of Housing: Expandable and Contractable Steel House of Individual Igloo-like Rooms. (*Architects' Journal*, 1941, pp. 38-9, 40-1).

Pressed Steel Building Construction (published by Le Tourneau Corp., Peoria, Illinois, USA—*Engineering*, 1941, p. 346).

Prefabricated Housing for Marines at Quantico; Demountable Steel Frame, Sheet Steel Roof. (*English News Record*, 1941, pp. 134-135).

1390 *Precast Concrete Stairs*

Q *Would you supply me with the names of firms which manufacture precast concrete stair units suitable for use in housing schemes?*

A The following is a short list of firms manufacturing precast concrete stair units, who are in the London area:—

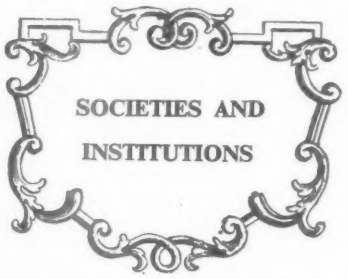
The Atlas Stone Co., Artillery House, Artillery Row, S.W.1.

S. Bradford, Angel Road, N. 18.

Girlings Ferro-Concrete, Great West Road, Feltham, Middlesex.

Liverpool Artificial Stone, 65, Victoria Street, S.W.1.

Stent Precast Concrete, 1, Victoria Street, S.W.1.



Speeches and lectures delivered before societies, as well as reports of their activities, are dealt with under this title, which includes trade associations, Government departments, Parliament and professional societies. To economise space the bodies concerned are represented by their initials, but a glossary of abbreviations will be found on the front cover. Except where inverted commas are used, the reports are summaries, and not verbatim.

HOUSE OF LORDS

Lord Portal

February 8, in the House of Lords. Speech by LORD PORTAL ON HOUSING.

Lord Portal: I should like to say a few words about the position of Lord Woolton and myself. He and I are keeping in very close touch on all the broader questions of post-war reconstruction which affect my Department. I think that it is necessary to have someone like him who can see the complete picture, and who has the great advantage, from my point of view, of being a member of the War Cabinet. He has given me all the help for which I can possibly ask on all these questions. Somebody asked me the other day what I considered Lord Woolton's position to be, and I replied: "As he has just come from the Ministry of Food, I regard him as my sugar-daddy." I suppose that that sums up the position as regards Lord Woolton and myself.

My noble friend Lord Woolton told your Lordships on December 10 that the Ministry of Works have now become the central Government authority on designs, specifica-

FACTS ABOUT GLASS FOR ARCHITECTURAL STUDENTS

SPECIFICATION FOR GLASS IN HOSPITALS

(The numbers in brackets correspond to the key numbers in the drawing.)

WARDS

Windows (1): Polished Plate Glass: permits the use of large panes and provides undistorted vision.

Cills (2): "Vitrolite": gives a hygienic surface, and maintenance is negligible.

Locker tops (3): "Vitrolite."

OPERATING THEATRE

Windows (4): Satin-finished Polished Plate: provides privacy with shadowless illumination, and gives a hygienic surface.

Walls (5): "Vitrolite," Eggshell, matt surface: the matt surface reduces glare, which is troublesome to a surgeon.

Trolleys and Instrument cabinets (6): Clear "Armourplate" Glass: provides additional safety factor and a hygienic surface.

LAVATORIES & BATHROOMS

Windows (7): Pinhead Morocco: provides light diffusion with privacy.

Walls (8): "Vitrolite."

CORRIDORS

(9): Rough Cast Domes for top lighting of flat roofs. Glass Bricks for side panels: provide light diffusion with privacy, and thermal and sound insulation.

STAIRCASE

Glass Brick panels (10): provide light with insulation.

Lift Shaft and Balustrade (11): Georgian Wired Glass: is a fire retardative, and maintenance is negligible.

DOORS

(12): Fitted with Georgian Polished Wired Glass panel: this gives perfect vision, extra safety against damage, and has fire-resistant properties.

CHILDREN'S WARDS

Windows: "VITA" Glass.

Isolation (13): "Armourplate" Glass screens between beds: permit clear vision throughout the length of the ward, whilst providing additional safety factor.

SUN BALCONIES

(14): "Armourlight" Toughened Lenses in reinforced concrete for floor.

(15): Wired Glass front.

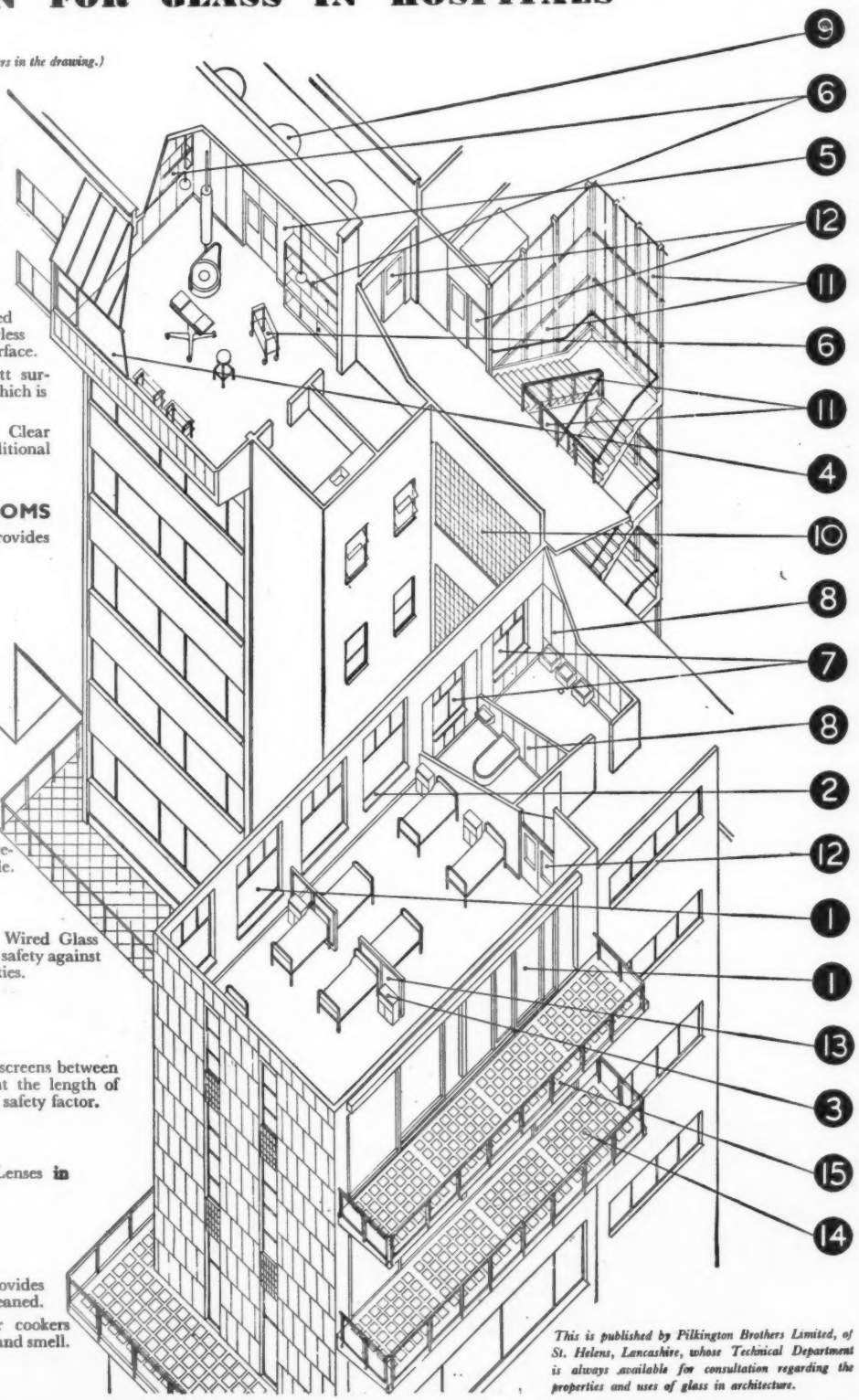
KITCHEN *(not shown on drawing).*

Windows: Rimpled Cathedral: provides semi-privacy, and the glass is easily cleaned.

Equipment: Wired Glass hood over cookers and steamers: this hood traps steam and smell.

Walls: "Vitrolite."

Table tops: "Vitrolite."



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where architectural students may get advice and information on all questions relating to the properties of glass and its use in building.

E

tions, materials, building technique and costs. On all housing matters I am working in complete accord with the Minister of Health, whose Department alone deals with the local authorities, as it has always done. In the same way, the Secretary of State for Scotland, with whom I work very closely, takes full advantage of my Department for any technical service which he requires.

I am going to speak to-day about what is being done as regards the future. I realize that the country, and quite rightly, is impatient to know what is being done about post-war housing. It must be remembered that the question which is uppermost in our minds is that of labour. The war effort is still demanding nearly all the available labour and materials in the country. Nobody knows the material position better than I do, because as Chairman of the Materials Committee I know what material is available. It is largely a question of timing. The Minister of Reconstruction and, in fact, the whole Government are alive to the vital necessity of getting on with this question of housing at the right moment, for they consider that it is all-important.

The Government consider that as regards war-damaged and other houses the limit of expenditure on repairs should be raised to £500 for any one house, and the arrangements now in operation empower local authorities to concentrate available labour on war-damaged or incomplete houses. I should like to emphasize the important fact that privately-owned houses will participate equally in this, and the instructions to licensing officers have been adjusted accordingly. Local authorities should be in a position to secure the carrying out of the great proportion of these repairs, and the back of them should be broken by the end of this year. If we can break the back of this work by the end of this year we shall be getting an awkward job out of the way.

The next thing I wish to say deals with what I call the preparation of housing sites. The Government have decided that in the late spring and early summer arrangements will be made for the use by local authorities of plant and machinery, as they become available from airfield construction, for the preparation of housing sites, including roads and sewers and, where desired, electricity, water and gas services, sufficient for the maximum number of houses which can be built during the first two years after the war. Sites in England will be settled and approved between the local authorities and the Minister of Health, who will consult the Minister of Agriculture where the interests of allotment holders are concerned. The Minister of Health will also, of course, have to consult the Minister of Town and Country Planning; while the Secretary of State for Scotland will deal direct with his own local authorities on this question.

If the sites are grouped by areas, the work can be carried out in the most effective and economical way. Local authorities in each area will, in such a case, draw up combined programmes, and the Government will make the necessary labour available as part of the Government building programme. Housing sites of over five acres would in the ordinary way be undertaken by the larger contractors, and those under five acres by the smaller contractors. This arrangement will not only enable one of the slow and uncertain parts of housing schemes to be carried out economically and quickly, but enable us to have everything prepared for the building of houses to start directly it is found possible to begin. Dealing with it on this scale we should ensure a material reduction in existing costs.

When I said that timing was the difficulty, here is a case where airfield construction grows less and we take the heavy plant off the airfields and transfer it to these sites preparatory to the building of houses upon them. That is very important. We have learnt a great deal about site preparation in this war. The great contractors of this country have learnt a lot in the process of building all the aerodromes and runways that they have put up. They have really done a mass production job. Let us therefore use their knowledge, and this is the time when we say the use of that knowledge should begin. That is, I think, an important preliminary step in housing.

I want next, if I may, to deal with demonstration houses; I am talking of demonstration houses of permanent type. The Ministry of Works are putting up a number of houses to demonstrate the use of different materials in permanent house construction, and to ascertain the costs. All these plans have been agreed with the Ministry of Health. I am only doing the experiments; the question of their suitability remains with the Ministry of Health. The plans have been agreed also by a panel of three architects nominated by the President of the RIBA. They are not meant to illustrate the various types of fittings that can be used, as we want to obtain comparable costs in the methods of construction. The first thing we want to know is how much it is going to cost to build the shell of a house, as my noble friend described it just now. I do not want that to get entangled with the question of different fittings in different houses. The alternative materials to be used are those recommended by the Inter-Departmental Committee presided over by Sir George Burt, which was appointed by the Minister of Health, the Secretary of State for Scotland and my predecessor. I will speak of the question of fittings and the bulk production of fittings presently. So as to get comparative costing results these houses will be built to similar plans of 850 superficial feet, except for two pairs which will be built to plans approved by the Dudley Committee in advance of the submission of their Report. These two pairs will be 900 superficial feet. I wish to emphasize the fact that these are typical plans for getting comparative costs.

The types to be built will be two pairs of brick houses, one pair with a broader frontage; two pairs of brick houses on the lines of the type accepted for this purpose by the Dudley Committee—one pair to be for urban dwellers and one pair for agricultural workers. Two pairs of houses will be built of foamed slag, with one pair built in pre-cast blocks, the other pair to be made on the site (poured within shuttering). There will be one pair of houses made of light-weight concrete (called "no fines"). These have already been experimented with in Scotland. There will also be one pair of steel-framed houses with brick panels, and three types of steel houses. The steel houses will be completed later than the others, as the various details are not yet complete. In order to ascertain comparative costs of a form of housing that may be largely used, we are also building one terrace of four brick houses.

The next thing I wish to come to is the question of temporary houses, and temporary prefabricated houses. The Secretary of State for Scotland has already carried out experiments in the conversion of war-time hostels for temporary houses. The Ministry of Works are carrying out an experiment on an industrial hostel at the present time which, when completed, will be shown to the Ministry of Health and those interested in this experiment. It is intended, in agreement with the Ministry of Health, that if these conversions are successful and economical, only hostels constructed of brick, timber, or concrete will be considered for conversion purposes. The industrial hostels referred to will in every case be close to a town. The point I want to emphasize there is that these hostels should be converted in about two months' time from now, and then the Minister of Health, having seen them, will ask the local authorities to come and see them. The question will then arise whether we cannot make use of this method. I am full of hope about these plans, and I think you will find that this will make a considerable addition to temporary housing.

Now I come to temporary prefabricated houses. I know this is a question in which my noble friend Lord Barnby is very much interested and will speak about to-day. People get wrong ideas about this word "prefabricated." As I have said before it is a pity that the word was ever invented. It is just the same with "standardization." People think that because a house is prefabricated or standardized it is something dreadful, which it need not be. It is obvious that you can prefabricate or partly prefabricate in a factory the shell of a house, or you can prefabricate some of the fittings. That is what I want people to understand, because they talk about prefabricated fittings only, and forget that you can prefabricate the two. Total prefabrication—though I am not a technical man on this question—would, I suppose, be something produced from a factory that theoretically would not take one hour to erect. That is how I should define it, but I may be wrong. Total prefabrication in fact means the production of something in a factory, the erection of which will require very little man-power on the site. That is the essential point. With regard to temporary prefabricated houses, the difficulty is obvious of obtaining the necessary labour for permanent houses during the interregnum period after the war.

The Government have gone a considerable way in getting out plans for a type of temporary prefabricated house. In considering prefabrication on a large scale, the questions of materials and the capacity available for their manufacture are vital, if it is to be started before the war is over. You have to remember that at the present time every factory that you want to use for this purpose is taking part in the war effort. It should be borne in mind also that it is essential that building labour shall not be diverted from the provision of permanent houses in order to erect temporary houses. The point here is that the question of man-hours, materials, and costs are all important.

In order to avoid these temporary houses remaining in existence as they did after the last war the Government have decided that, if approved, these houses shall be publicly owned and licensed for a period. I would emphasize this. After the last war, if a private individual put up one of these houses, he might be ordered to take it down. We are getting over this difficulty which faced us after the last war. The sites to which I have referred that are being prepared, or are going to be prepared, will be suitable either for permanent or for these temporary houses. At the request of the Ministry of Health, we are carrying out an actual experiment in the temporary division of new houses into two small one-bedroom and two-bedroom flats which, it is thought, may help to meet special problems in some cases. We are also, at the request of the Ministry of Health, exploring with certain local authorities the extent to which it would be economical and practicable to convert large houses in urban areas into comfortable flat dwellings.

A point I ought to have made while talking about experimental permanent houses is that we are working to encourage and stimulate private interest in the investigation and development of alternative methods and materials and of prefabricated equipment. I have established a Controller of Experimental Building with this object in view. Acting on the advice of the Inter-Departmental Committee, he issues certificates for materials and for permission to build, and assists in many other ways.

The question of standardizing fittings in houses after the war is all-important. It will be obvious that one of the most effective ways of securing efficiency and economy will be by far greater standardization of essential parts than hitherto. Some people appear to think that, by standardization, you are getting something less effective, but the fact is quite the reverse. We have been able to obtain a degree of success in standardization. We have, for instance, reduced by approximately 80 per cent. the various sizes of metal windows—this is one point to which my noble

friend alluded—to three basic types which can, without interference with the flow of manufacture, be produced in over 50 varieties. If you get three types like this—it does not matter how you break them up—it must be far more economical than making about two hundred types of these things. We have reduced the types of baths from 40 to 5; we have reduced water heaters, tanks, and cisterns from 272 to 100, and we are dealing with many other items on these lines.

Steps have been, and are being, taken to ensure the supply of all building materials that will be required for post-war building. Timber is the only major material that has to be imported. The Minister of Production and the Minister of Reconstruction both realize the importance of making the necessary arrangements to deal with this problem of timber.

The Government's plans for a long term building programme are, as your Lordships know, divided into two parts—an interregnum period of two years after the war and a further ten years after the interregnum period. My noble friend alluded to the question of labour to be employed, working up to a ceiling of 1,250,000. I realized that he had read the White Paper when he mentioned that figure. That is the figure we are working to. I should like to allay his fears as to continuity of work.

I come now to the question of the interregnum period which is obviously the more difficult owing to the questions of availability of materials and labour, and the problems of gradual transition from war conditions. That fits in with what has already been said, that if you have temporary houses you will have them in the interregnum period. That is the period when there will be the most difficulty about labour and materials. A great deal of time has been spent on this interregnum programme, and it is now satisfactorily taking shape. At the same time the broad outlines of the longer-term programme are being settled, and in particular the priorities necessary to secure construction of the full number of houses that have been already announced as well as all the other necessary building.

I would like to take this opportunity to bring to the notice of your Lordships' House the Report of the Mission which has been out to America. I feel certain it will be of real value to all people concerned in building and to the various interests concerned with building. All of these interests ought to go very carefully into this Report because there are things in it which I have no doubt will help us considerably in this country. Then there is the Report of the Inter-Departmental Committee to which I have already referred, presided over by Sir George Burt. This is now in the hands of the Stationery Office and I hope it will be published next month. It provides an authoritative survey of all the alternative methods of house building that have been tried in this country the best of which are now being erected by my Ministry. The Committee is a most valuable advisory body to both the Health Minister and myself in the technical aspects of house building.

ASEE

W. J. Jones

January 8, at the ELMA Lighting Service Bureau, 2, Savoy Hill, W.C.2. Meeting of the Association of Supervising Electrical Engineers. Lecture on THE FUTURE OF FLUORESCENT LIGHTING, by W. J. Jones, M.SC., M.I.E.E., Director of the Electric Lamp Manufacturers' Association.

W. J. Jones: At present practically all fluorescent lighting equipment is being devoted to industrial installations. Fluorescent lighting will sweep the board not only because of its overall economy for most purposes but also because its shape and low brightness, and other advantages such as reduced heating effect, lend themselves ideally to its incorporation in built-in lighting schemes with artistic as well as utilitarian merit. In due course, after the war, we shall be providing fluorescent tubes in different sizes and probably different colours from the 80-watt 5-ft. tube.

Investigation and research have shown that in spite of their elongated shape, trough-shaped industrial reflectors for fluorescent lamps mounted at the heights usually employed for general lighting have an efficiency and a distribution very similar to those of standard dispersive industrial reflectors for gasfilled lamps, and it therefore becomes possible to apply the appropriate coefficient of utilization and spacing ratio and to make use of the well-known Lumen method of design.

As an example, here is the coefficient of utilization for a room 20 ft. by 20 ft. With fittings mounted 7 ft. above the plane of work, with very light ceiling and light walls, it would be 0.54 in the case of single-lamp fittings which, if spaced 10 ft. apart, would give a service illumination of about 9 foot-candles. Two-lamp fittings correctly designed would give about 16 foot-candles, and three-lamp fittings about 23 foot-candles, the slight reduction in efficiency with multi-lamp fittings being unavoidable if the anti-glare properties of the fitting are to be retained and if reasonable compactness is required.

It has been stated that continuous parallel lines of fluorescent lamps spaced 1 ft. apart at ceiling level will give 275-375 foot-candles of illumination in an ordinary room, depending on its dimensions and decorations, and that comfort is increased by illumination of this order. That is undoubtedly true, but with incandescent lamps it is not generally true after a level of about 50 foot-candles is passed.

Lighting is both an art and a science. It is already possible for a lighting engineer to provide in his lighting scheme the contrasts shown on an architect's wash drawing, and if the result is not then satisfactory it will be the architect who is to blame for not examining the scheme in its initial stages under the correct illumination level. For some years now there has been a growing realization that light is not merely a utility enabling normal life to be continued after dark, but is something which can be used to increase the pleasure, the health, or the profit of all. Lighting engineers have sometimes been criticized by artists and architects for judging a lighting scheme in terms of foot-candles, rather as a picture might be assessed by the quality of paint used. True, the ultimate success of a lighting installation is based on an appeal to the eye—an appeal which cannot be measured—but calculations of foot-candles and brightness are necessary steps in producing that appeal. Engineering is often a compromise between the theoretical and the practical, and because this is true of lighting matters as of others, we must learn to temper the results obtained in a laboratory with experience in the field.

I hope and believe that the day will come when artificial light will cease to be a cobweb catching device hanging from the ceiling, but will become part of the structure, originally provided as a matter of course by the architect or builder in the same way as he now makes provision for the drains, leaving the occupier to provide touches of colour or decoration by supplementary lighting, as part of his furnishings.

The future of lighting is dependent on the team work of the electrical industry as a whole. The electric lamp interests can and will produce more efficient light sources; the fittings makers will design new and better fittings; but in each instance the progress made will depend upon the facilities provided for their use. It is important to have one standard size of plug, one standard voltage throughout the country, and a greater measure of uniformity in methods of charging for electricity.

RIBA

Examinations

Intermediate Examination, November.—The RIBA Intermediate Examination was held in London, Manchester, Newcastle and Belfast from November 12 to 18. Of the 103 candidates examined, 28 passed and 75 were relegated. The successful candidates are as follows: Bantin, Charles E.; Bellamy, Ivan M.; Bishop, Arthur; Bramley, John G.; Bullock, W. Gordon S.; Cartledge, Maurice; Chanter, Francis I.; Clarke, Peter O.; Coughlan, Neville G.; Crook, Borman C.; Germaney, Robert W.; Glen, Donald; Graham, John K.; Gurney, Geoffrey H.; Hayhoe, Harold R.; Husband, Raymond J.; Jones, Eric S.; Kemp, Alan M.; Lee-Jones (Miss), J. S.; McKenzie (Miss), Sheila; McLennan, David J.; Oxley, Richard E.; Platt, Geoffrey P.; Reed, Kenneth W. C.; Shepherd, William D. (subject to approval of remaining Testimonies of Study); Sherman (Miss), M. M.; Wing, Ronald W. E.; Wright, Keith.

Final Examination, December.—The Final Examination was held in London and Edinburgh from December 8 to 16. Of the 56 candidates examined, 33 passed as follows:

Passed whole examination	17
Passed whole examination, subject to approval of thesis	1
Passed whole examination, subject to approval of thesis and remaining Testimonies of Study	1
Passed whole examination, subject to approval of remaining Testimonies of Study	2
Passed Part I only	10
Passed Part I only, subject to approval of remaining Testimonies of Study ..	2
	33

23 candidates were relegated.

The successful candidates are as follows:—

Passed whole Examination.—Adams, John Treadwell (subject to approval of remaining Testimonies of Study); Blacklock, John D.; Brendon, A. Geoffrey C.; Critchlow, Arthur (subject to approval of thesis and remaining Testimonies of Study); Crossley, Alan; Daley, Harry; Early (Miss), Eleanor M. (*Distinction in Thesis*); Edwards, John E. Graeme (*Distinction in Thesis*); Emmerson, George Thomas; Evans (Miss), Jessie M. M.; Farquhar, Alexander; Firth, James Ronald; Gibbins, Wm. Leighton; Hughes, Maurice Howard; Kerr, Frederick H. (subject to approval of Thesis); Monk, Gilbert Leslie; Reid, Alexander Budge; Sayce, Gordon Henry; Sutcliffe, Tom Allison (*Distinction in Thesis*); Tilley, Michael Floyd (subject to approval of remaining Testimony of Study); Wyatt, Samuel Thomas.

Passed Part I only.—Astins, Norman Percy; Barlow, Leonard Robert; Edmondson, Kenneth H.; Gold (Miss), Mary J.; Gowans, Alexander A.; Graham, R. Malcolm (subject to approval of remaining Testimonies of Study); Greenfield, L. Nevil G.; Jarvis, Norman K.; McRobie, Alexander; Rosner, Rolf (subject to approval of remaining Testimony of Study); Urquhart, William J.; Whittle, Jack.

Special Final Examination.—The Special Final Examination was held in London and Edinburgh from December 8 to 15. Of the 39 candidates examined, 25 passed (9 of whom sat for and passed in Part I only, and 1 in Part II only), and 14 were relegated. The successful candidates are as follows:—

Passed whole Examination.—Anderson, Harry; Barnett, Michael; Dunand (Miss), A. E. C.; Guild, William M.; Hamilton, Arthur S.; Harrison, William T.; Harvey (Miss), G. E. Muriel; Jeffries, William Trevor; Loudon, William D.; Orme, William Russell; Paine, Robert William; Reeks, Stanley Thomas C.;

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Left, employees of Messrs. Ewart & Son with the replica of the Stalingrad Sword they have made out of scrap metal. The firm has raised enough money to endow two beds at the new Stalingrad hospital. See Trade Note below.

Rosenthal, H. Werner; Sommer (Mrs.), Camilla; Storer, Frederick E. S.

Passed Part I only.—Groag, Jacques; Hare, Albert Frederick; Hodgson, Albert; Lodge, George; Schoendorff (Miss), Ellen G.; Simons, Pieter; Thorpe, Rupert Lyell; Wyatt, Norman A. E.; Zwinger, Lionel Gordon.

Passed Part II only.—Smith, Eric Sydney.

Professional Practice.—The Examination in Professional Practice for Students of Schools of Architecture recognized for exemption from the RIBA Final Examination was held in London and Edinburgh on December 14 and 16, 1943. Five candidates were examined and passed. The successful candidates are as follows: Barron, Donald Gabriel; Booth, Alan Leetchfield; Coia, John Peter; Hecht, Samuel P. A.; Hutton, Charles William.

Licentiates to Qualify as Fellows.—The Examination of Licentiates to qualify for Candidature as Fellows was held in London from December 8 to 13. Four candidates were examined and passed. The successful candidates are as follows: Cross, Max George; Mort, Arthur Edward Thomas; Osborne, Arthur Leslie; Smith, John Marsh.

RIBA

New Members

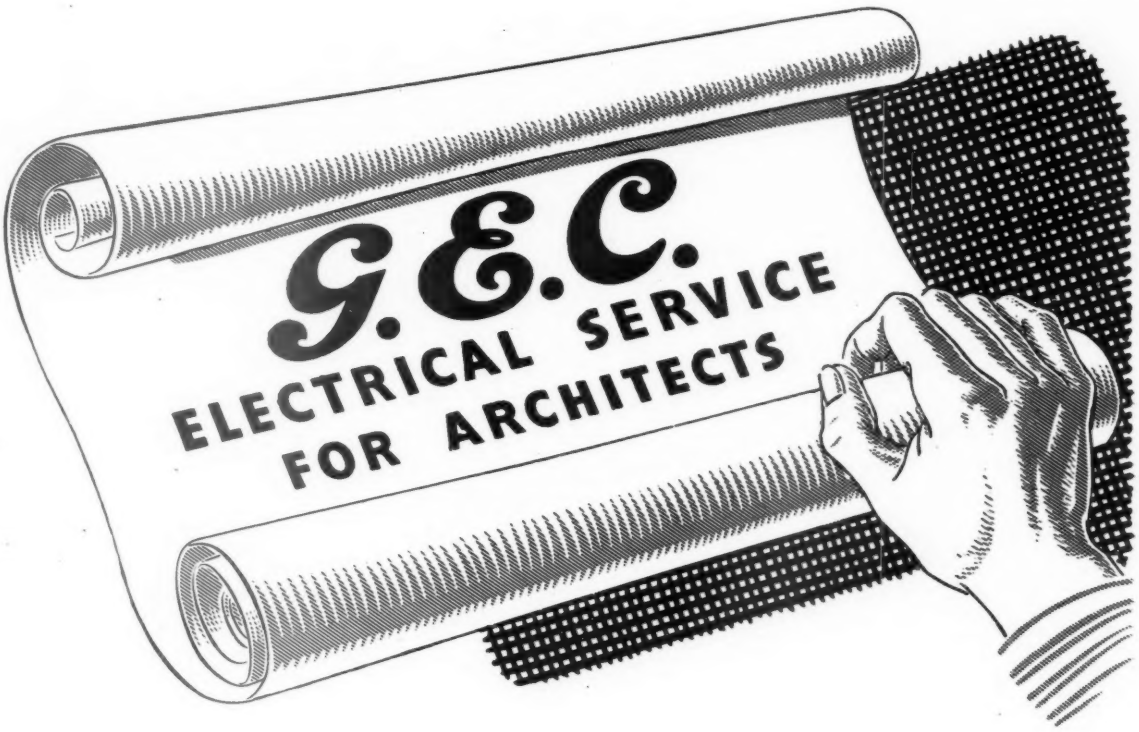
As Fellows (11).—Durnford, William John (London), Forward, Maurice Howard, P.A.S.I. (Dewsbury, Yorks), Gardham, Henry Edgar (Sheffield), MacManus, Frederick Edward Bradshaw (London), North, Thomas Eugene (London), Paxton, Norval Rowallan, M.C. (Leeds), Pickford, Leonard (London), Salisbury, John Vyvyan (Lt., R.N.V.R.) (London), Vanes, Robert Newton (London), Bacon, Francis (Denham, Bucks), Clarke, Ernest Seymour, F.S.I. (London).

As Associates (6).—Beaumont, Joseph Duncan (Edinburgh College of Art) (Bangor, Co. Down), Chandler, Hugh Brian (University of London) (Sutton, Surrey), Forrest, Frank (Harrogate, Yorkshire), Hutchings, Miss Phyllis Mary (University of Liverpool) (Frodsham, Cheshire), Potts, John Douglas, DIP. ARCH. (Sheffield) (University of Sheffield) (Sheffield), Tallon, Justin David, B.ARCH. (University College, Dublin) (Belfast).

As Licentiates (18).—Bird, George William (London), Brown, Arthur (Huddersfield), Bryceson, Thomas Gordon (London), Clare, Arthur Roy (Pinner, Middlesex), Claydon, John Arthur (Bedford), Cronin, John Reginald Patrick (Rugby), Emery, William Walter (Stoke-on-Trent), Forbes, John Robinson (Belfast), Hofmann, Edgar Daniel (London), Howkins, Ernest George (Croydon), Lawson, Stuart Curphey (Marlow, Bucks), Morley-Park, Werner (Nottingham), Murthwaite, Stanley Frank (Ruislip, Middlesex), Organ, Edward Daniel (Weston-super-Mare), Richardson, Robert Henry Willoby (Rudgwick, nr. Horsham, Sussex), Somerset, James Herbert (Epsom Surrey), Valentine, William Charles (London), Walford, Stanley Arthur (Parkstone, Dorset).

TRADE NOTE

An invitation to Messrs. Ewart & Son, Ltd., of Letchworth, to contribute £150 to endow a bed in the proposed new hospital at Stalingrad, resulted in £300 being raised, enough to endow two beds. A cheque for this amount has been presented by Mr. A. M. Evetts, the general manager, to the Rev. F. Thatcher, Rector of Letchworth, in aid of the fund. In the works of the firm hangs a replica of the Stalingrad Sword, made out of scrap metal by the employees in the tool shop, during their off-duty hours.



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Applicants for appointment (*c*) must be good colourists and draughtsmen, and be competent to prepare perspective drawings.

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The above Officers are required in connection with the preliminary survey work and the preparation of planning schemes for the Joint Committee's area and will work under the direction of the Town and Country Planning Officer.

The appointments will be subject to the terms and conditions of service applying to the administrative, technical and clerical officers of the County Council, and will be terminable by one month's notice on either side. The successful applicants will be required to pass a medical examination.

Applications stating age, qualifications and full details of experience, accompanied by copies of three recent testimonials must be sent to me, the undersigned, and must be endorsed "Planning Assistant (*a*)," "(*b*)" or "Draughtsman," as the case may be, by not later than Monday, the 28th day of February, 1944.

WILLIAM ROBERTS,
Deputy Clerk to the Joint Committee.

County Offices,
Ruthin.
February 7th, 1944. 552

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9th February, 1944. 555

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ARCHITECTURAL ASSISTANT required for preparation of working and detailed drawings in London office. State age and experience. Box 252. [Architects and Consultants.]

ARCHITECTURAL ASSISTANT required for drawing office in Birmingham firm of architects. State age and experience. Box 253. [Architects and Consultants].

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ARCHITECTURAL DRAUGHTSMAN required at once, exempt, good draughtsman capable of preparing working drawings from sketches, surveys of existing buildings, etc. State age, experience and salary required, with name of last employer. J. S. Thomson, F.R.I.B.A., 68, Wimbledon Hill Road, S.W.19. (Architect and Consultant.) 255

ASSISTANT WANTED, exempt from Military Service, good knowledge of construction, able to survey sites, etc. State age, experience and salary. Traylen & Lenton, 16, Broad Street, Stamford. (Architects and Consultants). 256

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