Alphabetical Index to Advertisers

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

A small income . . .
but a large refrigerator!

In a happier, healthier, post-war Britain every housewife will be "cold-store-minded" and it is to be hoped that even the most modest home will possess a refrigerator to safeguard the precious vitamins, etc., in perishable foods.

Prestcold designers suggest in the illustration above a built-in refrigerator which can be mass-produced at a popular price. It would be of 4½ cubic feet capacity and hold sufficient perishable food for a family of four, a practical size which renders a larder unnecessary. It has several other major advantages. Note the features below :—

Storage capacity of approximately 4½ cubic feet, which will hold all the perishable foodstuffs for a family of four.

Larder space rendered unnecessary. Dry goods and non-perishable foodstuffs would be kept in kitchen cupboards.

Waist - high refrigerator door, allowing access to interior without stooping.

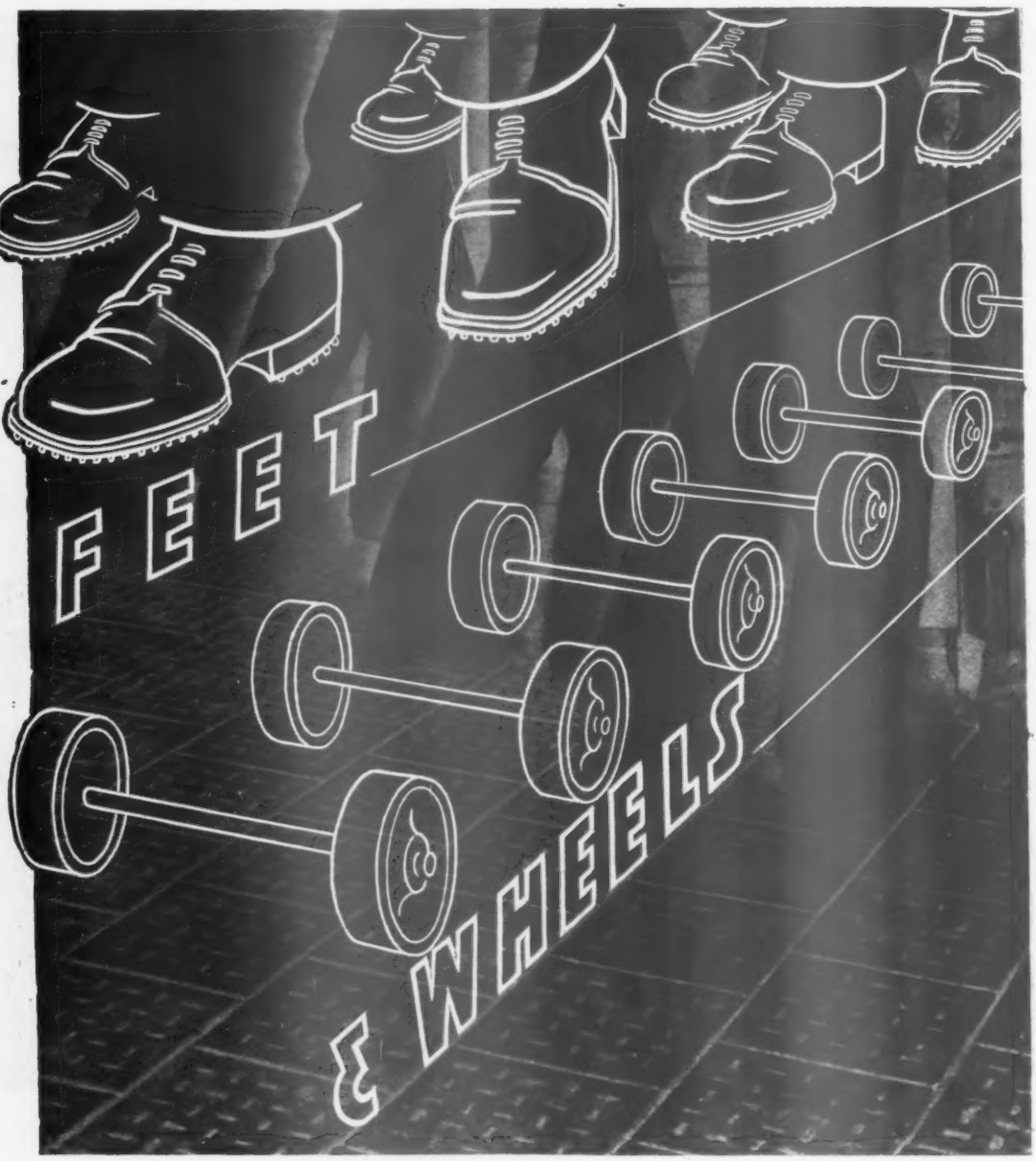
Height adaptable by varying position of supporting frames.

Refrigerator can be built into kitchen fitments with cupboard space above and below it.

Design provides for adequate ventilation of mechanism without the necessity for special air-bricks or ducting.

PRESTCOLD *Refrigeration*

A PRODUCT OF THE PRESSED STEEL COMPANY LIMITED



. . . Feet and Wheels. Wheels and Feet, backwards and forwards, day in and day out. Wearing . . . wearing . . . wearing . . .
Worn floors are not only costly, they are also dangerous. You can make your factory safer and more efficient and also save considerable sums of money by laying . . .

Stelcon

"One of Britain's Best Floors for Factories."

FULL DETAILS WILL BE SENT ON REQUEST

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Telephone: HOLborn 2916

Cut your shuttering costs

BY USING

"FERROCRETE"

THE RAPID-HARDENING PORTLAND CEMENT

In 3 to 4 days concrete made with "Ferrocrete" attains the same strength as concrete made with ordinary Portland cement in 28 days, thus saving considerable time and therefore money in shuttering and overhead charges.

A BLUE CIRCLE CMC PRODUCT

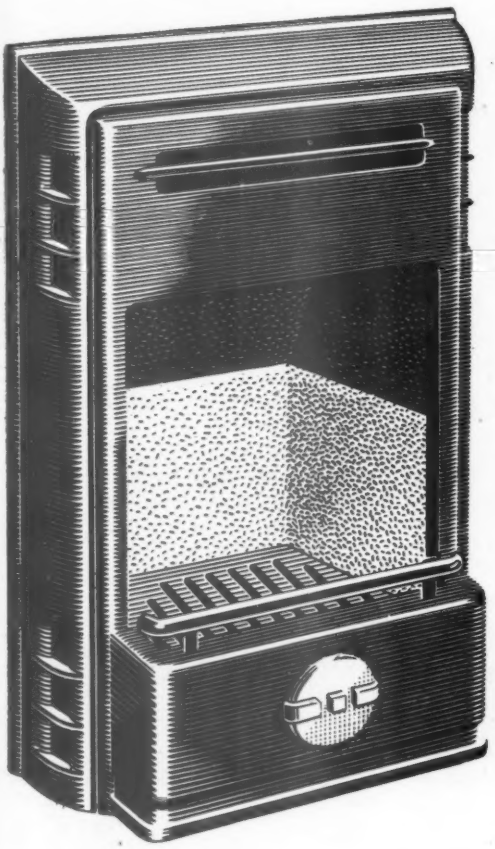
THE CEMENT MARKETING COMPANY LTD.

THE CLUB HOUSE · COOMBE HILL · KINGSTON-ON-THAMES

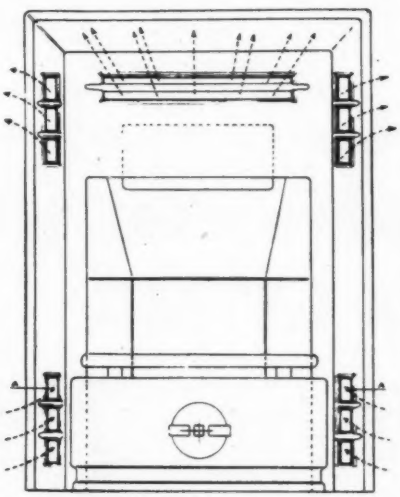
NEW-FASHIONED VISIBLE HEAT

EXAMPLE

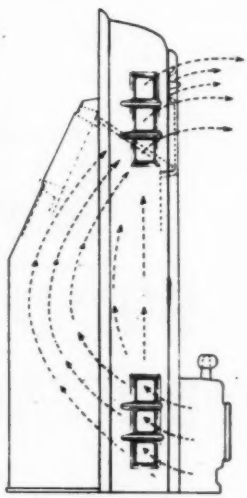
A.I "PROJECTOR" HEATING UNIT



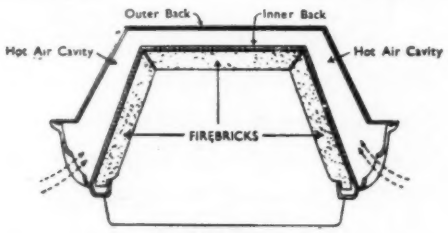
SPECIFICATION: This is a self-contained interior grate, with double casing, which gives warmth on the convection principle. By carefully arranged air inlets in the sides and top of the unit, the heat from the fire is projected over the whole area of the room. The path of this heated air is indicated by dotted lines in the accompanying diagrams.



FRONT ELEVATION



SIDE ELEVATION



SECTIONAL PLAN A.A.
with bottom grate & fret removed

SIZES : Overall sizes : 25¼" high x 18¼" wide x 12" fire. Minimum size of existing fire opening required : 22" high x 16" wide. Clearance from underside of projecting lintel (if any) over fire opening to level of hearth must be at least 26".

FINISHES : Ebony black or coloured vitreous enamel, or "Alisheen" de Luxe enamel.

ADVANTAGES : The unit can be fitted to most existing fireplaces. It gives more heat per unit of fuel, and cuts down fuel consumption by approximately 40% over the ordinary coal fire.

ONE OF THE MANY CONTRIBUTIONS TO THE POST-WAR HOME THAT WILL BE MADE BY

ALLIED IRONFOUNDERS LIMITED

ALLIED IRON
REGD. TRADE MARK

Proprietors of: AGA HEAT LIMITED; ALLIED IRON (R.W.) LTD.; BRITISH BATH CO. LTD.; THE BURTON FOUNDRY CO. LTD.; CALLENDER ARMOTS FOUNDRY COS. LTD.; THE JAMES CLAY (WELLINGTON) LTD.; THE COALBROOKDALE CO. LTD.; M. COCKBURN & CO. LTD.; R. W. CROSTHWAITE LTD.; DOBBIE, FORBES & CO. LTD.; EXCELSIOR FOUNDRY CO.; THE FALKIRK IRON CO. LTD.; THE FORTH & CLYDE & SUNNYSIDE IRON COS. LTD.; GENERAL GAS APPLIANCES LTD.; F. HELM LTD.; H. E. HOOLE & CO. LTD.; McDOWALL STEVEN & CO. LTD.; PLANET FOUNDRY CO. LTD.; SINCLAIR IRON CO. LTD.; THE WELWYN FOUNDRY CO. LTD.

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PREFABRICATION and BRICK

The following comments are from the speech of Sir P. Malcolm Stewart, Chairman of London Brick Company Ltd., at the forty-fourth annual general meeting of the company.

Prefabrication has received much publicity. The Minister of Works, Lord Portal, has accepted this method of construction to meet an emergency in a transitional period. There has been some concern among those interested in the supply of materials for the construction of traditional housing lest the prefabricated house should displace the standard type of house we are accustomed to, or, at any rate, reduce the demand for such houses.

If the problem is looked at in the right light it should be realised that the Government's decision to embark on prefabricated housing is not inspired by any question of choice of type, but is due to the determination to provide as quickly as possible accommodation of a temporary character for those young people returning from the war and others dispossessed of their homes by blitz. In a word, the effort is to provide homes ready for occupation at the earliest moment and on the largest scale practicable. If the matter is thus envisaged it is clear that all concerned should place first this national need in an emergency.

You are doubtless forming the question in your mind, how will the priority and prestige given to prefabricated building under the ægis of the Government affect the manufacturers of building materials, particularly our company, as the largest brick makers in the world. The degree of detriment to the manufacturer of building materials will, in my opinion, depend considerably on the reaction of the professional services, the building operatives, the manufacturers of materials and particularly the numerous smaller building contractors.

We have to face a new competitor entering the field offering speed of assembly and possibly lower first costs, but whose production, however designed to please the eye and conveniently fitted up, will lack certain fundamental requirements and amenities. The prefabricated house gets a wonderful start while the traditional house gets away later from scratch. How can it win the race? By confirming to owners or tenants that brick houses are more comfortable and pleasant to live in. It is no good decrying prefabricated structures, it is up to us to produce progressively something better and get it accepted as such by the householder. I am not afraid of the issue, there are several helpful factors in our favour apart from the pleasing results which can be produced by building in brick when an experienced architect is employed.

The public like a brick house; it gives a sense of permanent security and of solidity not to be obtained from any temporary structure. Bricks have established themselves for domestic construction and have stood the test of thousands of years. They will survive competition so long as they are best fitted to the purpose to which they are put.

While prefabricated buildings could be low in cost if mass produced, it must be remembered that they are not intended to be of a durable character. Their cost has yet to be proven in this country and comparison should be made with the results obtained by those contractors who have operated on a large scale. It must be remembered that though they have built thousands of brick houses these total but a small part of the aggregate number built between the war periods.

There is going to be after the war much competition from a big range of materials, old and new. Many will fall by the way, as they did after the last war, despite their being much boosted.

The most pressing need is to reduce the cost of the traditional house. This must be accomplished to the maximum degree to make possible the granting by Government of reasonable subsidies, the finding of sound finance and the establishing of fair purchase price or rent. The most effective method of reducing the cost is to tackle first the heaviest items. Everyone who has had experience of house building will know that while the walls can be run up and the roof placed quickly, there is an interminable delay in fitting up and decorating before occupation can be enjoyed. A variety of tradesmen have to fiddle about with fittings which never fit and much time is wasted and costs increased. This is the common experience. I do not say this applies to those large scale contractors who have practised standardisation.

Now, to overcome these difficulties it will be essential to apply prefabrication in respect of fittings to the greatest extent possible. Fittings can be much reduced in cost if mass produced and assembled on panels at the factory ready for delivery to and erection on site. But those who manufacture them must be assured in advance of bulk orders to permit of full and continuous production, always essential to low costs. Further, an adequate number of houses must be contracted for at a time by local or other authorities or parties. Lastly, and this is a pre-requisite, the batches of houses to be built must be strictly dimensioned in respect of every part designed to receive the prefabricated fitments. Here lies opportunity for reducing the cost and building-time of traditional housing and of retaining all the comforts to which we are accustomed.

Pyrene TRADE MARK FIRE APPLIANCES

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The "recessing" of vitally essential Fire Fighting Equipment so that whilst it is correctly located and instantly available it is nevertheless unobtrusive and out of the way, is an increasing feature of modern architecture.

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THE PYRENE COMPANY LIMITED, Fire Engineers
GREAT WEST ROAD, BRENTFORD, MIDDLESEX
Telephone: Ealing 3444 (14 lines). Telegrams: "Pyrene, Brentford."

For the post-war house . . . . . .

The M.15 Electrolux Refrigerator can be built into a kitchen fitment at any height, and will hold all the perishable food of the average small family. It can be seen at The Building Centre, London, and in many experimental post-war houses and kitchens. Write for our "Better Kitchens" leaflet.

Is noiseless and without moving parts.

ELECTROLUX LIMITED

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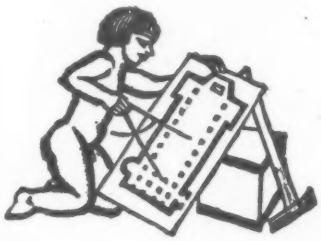
Stoneham & Kirk

In common with every other periodical this JOURNAL *is rationed to a small part of its peacetime needs of paper. For this reason it is virtually impossible for Newsagents to accept new orders for the* JOURNAL *for the time being, and the Publishers are also now unable to enter new subscriptions. Intending subscribers should, however, send in their names either to their Newsagent or direct to the Publishers to be recorded on the "waiting list" when they would be advised as soon as a vacancy occurs. The annual post free subscription rate is £1 15s. 0d.. Single copies, 9d., postage 2d. Special numbers, price 1s. 6d. are included in the annual subscription. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 15s. each; carriage extra. Goods advertised in the* JOURNAL, *and made of raw materials now in short supply, are not necessarily available for export.*



DIARY FOR MAY JUNE AND JULY

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.

BISHOPS STORTFORD. *When We Build Again.* Exhibition and Film. (Sponsor, TCPA.) JUNE 2-10

DARLINGTON. *Rebuilding Britain Exhibition.* At Darlington Public Library and Art Gallery. Guide lecturer, Miss Helen Kapp. (Sponsor, BIAE.) MAY 25-31

EPSOM. *When We Build Again. Exhibition and Film.* At Electricity Showrooms, Church Street. (Sponsor, TCPA in collaboration with Messrs. Cadbury Bros.) MAY 25-27

GUILDFORD. *The English Town—Its Continuity and Development. Exhibition.* (Sponsor, TCPA.) MAY 25-26

LONDON. *RA Exhibition.* Weekdays 9.30 a.m. to 7 p.m. Sundays 2 to 6 p.m. Admission: One Shilling. MAY 25-AUG. 7

Hugh Casson. Exhibition of Drawings and Water-colours. *Gloucestershire in Wartime.* At 34-36, Bedford Square, W.C.1. (Sponsor, AA.) MAY 25-26

West Wycombe Rural Cottages Competition. Exhibition of all the designs submitted. At Regent Street Polytechnic School of Architecture. (The winning designs were illustrated in the JOURNAL for April 20). 9.30 a.m. to 5 p.m. MAY 29-JUNE 3

Sir Harry R. Selley, M.P. *The Conservative Party's Housing and Planning Policy.* At Housing Centre, 13, Suffolk Street, S.W.1. (Sponsor, HC.) 1.15 p.m. MAY 30

E. H. B. Boulton. Technical Director TDA. *Home-Grown Timber.* At City of London College, Electra House, Moorgate, E.C.2. Chairman: Stanley Longhurst, chairman of the English Timber Merchants' Association. 6 p.m. MAY 31

Chartered Surveyors' Institution. Annual General Meeting. At 12, Great George Street, S.W.1. Announcement of results of election of Council. 5 p.m. JUNE 5

Dennis Chapman. *Social Survey Technique of obtaining Information for Housing.* RIBA Architectural Science Board lecture. At 66, Portland Place, W.1. 6 p.m. JUNE 6

Films at 2, Savoy Hill, W.C.2. *English Town* (British Council), *The River* (U.S. Dept. of Agriculture), *When We Build Again* (Cadbury Bros.) (Sponsor, TCPA.) 1.15 p.m. JUNE 8

Harold Morris. *Sawmilling.* At City of London College, Electra House, Moorgate, E.C.2. Chairman: L. A. Bayman, President of the London Sawmillers' Association. 6 p.m. JUNE 7

ABT Westminster Branch Film Show. At the Alliance Hall, Palmer Street, S.W.1. Films to be shown: 1, *An English Method of Prefabrication as applied to Housing* (the Seco System; ; and 2, *World of Plenty*, an analysis and a solution to the world's food situation. Tickets from the Branch Secretary, D. E. Morrison, A.R.I.B.A., 3a, Heathway Court, Finchley Road, N.W.3. Tel., Speedwell 1996. Price 1s. to members of the ABT and 1s. 6d. to non-members. Early application is invited in view of the limited accommodation. (Sponsor, Westminster Branch, Association of Building Technicians.) 6.30 p.m. JUNE 8

A. M. Chitty. *Science and Housing.* RIBA Architectural Science Board Lecture. At 66, Portland Place, W.1. 6 p.m. JUNE 13

National Housing and Town Planning Conference. Of local authorities in England and Wales. At Central Hall, Westminster, S.W. Subjects to be discussed: *Planning for Post-war Reconstruction in England and Wales* and *Rehousing the Nation.* The conference will be addressed by the Minister of Health (Mr. Henry Willink). Papers will be submitted by W. Dobson Chapman, President of the Town-Planning Institute, and Major John G. Martin, Secretary of the National Housing and Town Planning Council. A memorandum will also be presented in regard to the Prefabricated Emergency Houses for the erection of which extensive preparations are now being made by the Ministry of Works. (Sponsor, National Housing and Town Planning Council.) JUNE 29-30

PRESTON. *Homes to Live In Exhibition.* At Harris Art Gallery, Preston. (Sponsor, BIAE.) MAY 25-JUNE 5

READING. *When We Build Again.* Exhibition and Film. (Sponsor, TCPA in collaboration with Messrs. Cadbury Bros.) JUNE 18-25

UPPINGHAM. *The English Town—Its Continuity and Development Exhibition.* At the Church Rooms. (Sponsor, TCPA in collaboration with Messrs. Cadbury Bros.) JUNE 1-14

NEWS

THURSDAY, MAY 25, 1944
No. 2574. 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.

The War Damage Commission announces NEW REPAIR PROCEDURE for war damaged houses and other property

The new procedure is designed still further to speed up the work of repairing houses and other buildings damaged by enemy action in those cases in which an expenditure of more than £250 is necessitated. This procedure cannot be applied when the expenditure is less than £250. Where the cost of repair is to exceed £250 licence holders are recommended to see that their professional adviser or contractor proceeds on the following lines: (1) Prepares (*a*) a specification of all the war damage to the property; and (*b*) a statement showing what works it is proposed to carry out under licence and in what (if any) respects those works involve repairs not attributable to war damage, or "alterations" or "additions" to the property as it was before the damage. (2) Sends the licence (or a copy), and the specification and statement, to the Commission's Regional Office with a request for agreement as to the proposed works for making good of war damage. If the works can be carried out on the basis of a firm price obtained in competition the Commission will be prepared to consider approval of the price, provided sufficient particulars of the work to be carried out are supplied. Payments on account during the currency of the work will be made where desired. Arrangements for these can be made much more readily if works are being carried out at a firm price. The grant of a licence does not imply that the War Damage Commission will necessarily make a cost of works payment in respect of war damage. An applicant in any doubt as to whether he is entitled to such a payment should consult the Regional Office of the War Damage Commission.

from AN ARCHITECT'S *Commonplace Book*

INADEQUACY OF PUBLIC PROVISION—(continued). [*From* Cleanliness and Godliness, *by Reginald Reynolds* (*Allen and Unwin*)]. Next, to return to the adequacy or otherwise of the public provision, and the great importance of this question; since we do not all enjoy the privileges and statutory rights of cab-drivers (who may legally perform what it is a *nuisance* for others to commit, subject to various sub-clauses and notwithstanding, etc.), I say this matter is greatly under-rated. For I have heard a gentleman declare that what he most condemned in the city of New York in the 'twenties was the lamentable lack of public conveniences; and a nation can acquire an ill name for so small a thing as this. And rather than see a few very splendid edifices, of imitation marble and alabaster, which seem only to mock themselves of our shabby persons, I would prefer to see the money spent upon cheap and efficient places of great number and frequency in our streets, to serve our needs promptly rather than to crush and dominate our inadequacy with their affluence and magnificence.

The Queen has given a donation of £100 to the PRINCESS TSAHAI MEMORIAL HOSPITAL now being erected in Addis Ababa.
It will be recalled that the Princess Tsahai gave the five years of her exile to service in British Hospitals, and that she died shortly after her country was liberated by the aid of Britain and her Allies, and within a year of her return home whilst actively engaged in organizing the health services of her country. This gift of Queen Elizabeth has been gratefully received by the Honorary Treasurer of the Memorial Council, Lord Horder, who will gladly acknowledge donations, c/o Messrs. H. Reynolds & Co., Hon. Accountants, 1, Bloomsbury Court, High Holborn, W.C.1.

★

Professor C. H. Reilly has accepted an invitation to become an honorary member of THE MARS GROUP.

Dartmoor Prison, said Mr. Tom Callan, should be razed to the ground. It is NOT FIT TO LIVE IN.
At the Prison Officers' Association Conference at Liverpool last week Mr. Tom Callan, the chairman, said Dartmoor Prison is unfit for prisoners or staff. The whole of this horrible place, he declared, should be razed to the ground. It is a sink of iniquity, not fit for human habitation.

In all new housing GRATES TO BURN SMOKELESS FUEL or ordinary coal smokelessly should be made compulsory.
Squadron Leader E. H. Keeling, M.P., Chairman of the Greater London Advisory Council for Smoke Abatement, and Mr. Charles Gandy, Chairman of the National Smoke Abatement Society, expressed this opinion when a deputation from the Council and the Society met the Minister of Health, Mr. Willink. Among those present were the Parliamentary Secretary to the Ministry of Fuel and Power (Mr. Tom Smith), and representatives of the Ministries of Works and Town and Country Planning. The crux of the problem, said Squadron Leader Keeling and Mr. Charles Gandy, is the living-room fire. The Government should specify and demonstrate efficient grates. The possibilities of central and district heating should also be examined. In reply Mr. Willink said the subject is of great importance from the point of view both of health and amenity. It is a question of practical ways and means of achieving this objective. He would welcome any specific suggestions from the Council and the Society. Mr. Tom Smith said that apart from smoke prevention his Ministry is keenly interested in the efficient use of fuel and will do its utmost in that direction.

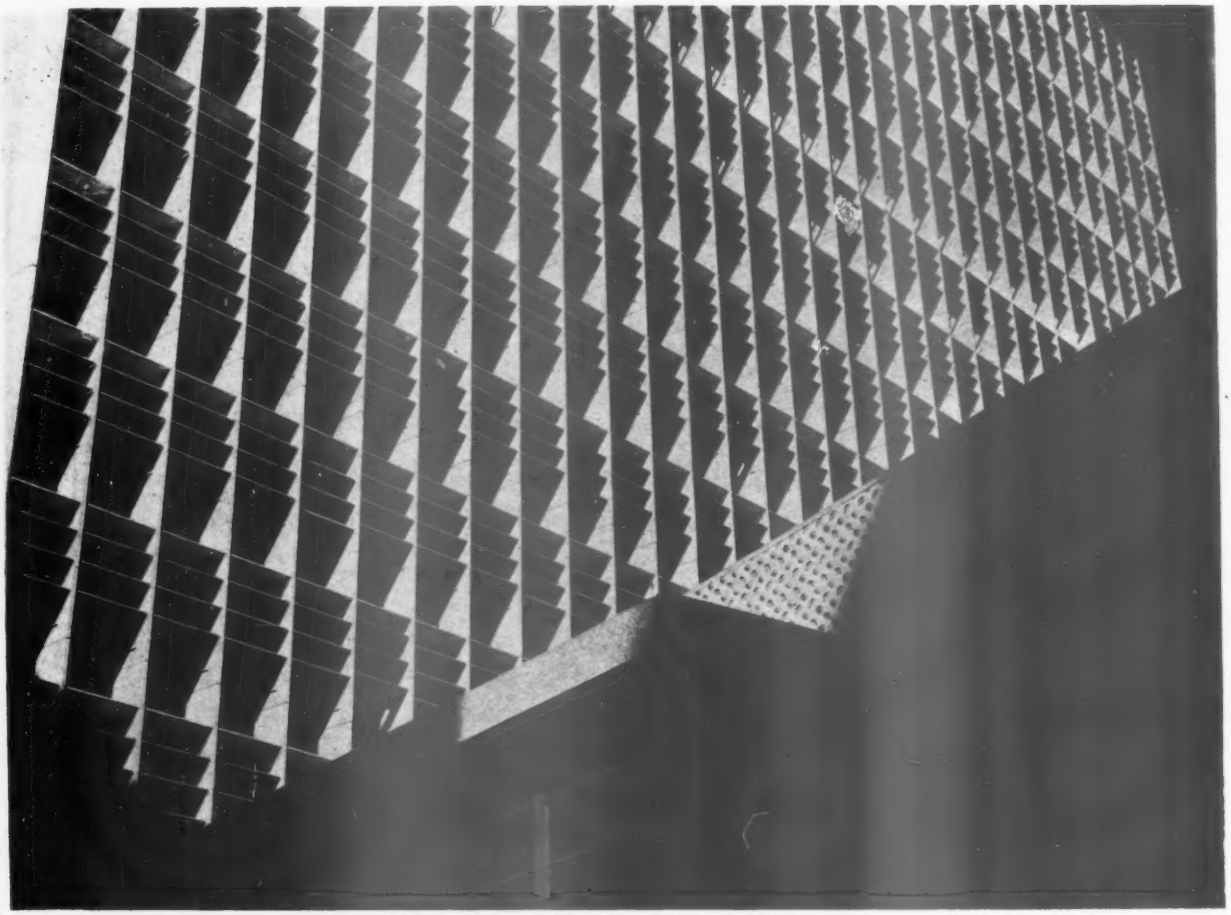
When wartime restrictions are removed the immediate contribution of private enterprise in HOUSE BUILDING may be expected to exceed that of the local authorities.
This is the view of the National Federation of House Builders. In a memorandum on reconstruction in Britain it states that given certain conditions houses can be built to rent at figures comparable with those charged before the war. The federation does not wholly accept the statement that building costs to-day are 100 per cent. above those of pre-war. The proportion of this increase which will have to be carried into the post-war period, it estimates, amounts to only 34½ per cent. When crippling restrictions of wartime are removed the immediate contribution of private enterprise in housebuilding may be expected to exceed that of local authorities.

Advantage has been taken of the need for reprinting the WAR DAMAGE Commission's explanatory pamphlet C.1/A to revise the publication.
Changes in the law resulting from the War Damage (Amendment) Acts passed since 1941, and the recent Treasury direction dealing in particular with the position of damaged or destroyed post-1914 houses, have had the effect of widening the benefits conferred on the owners of land and buildings. The revised pamphlet sets out in simple terms the procedure consequent upon these changes, and experience of the working of the Acts (now consolidated as the War Damage Act of 1943) indicated a number of other respects in which its advice has been rendered more clear and up-to-date. There has now, too, been added a short informative statement on the rights of tenants under the Landlord and Tenant War Damage Acts, 1939 and 1941. C. 1/A is provided free to every applicant who requires Form C. 1 on which to notify damage to land or buildings. Others who desire copies may obtain them from H.M. Stationery Office, or through the booksellers, at one penny per copy, or 3/- for 50.

Mr. Philip Noel-Baker, speaking at Manchester, said the ROADS OF THE FUTURE must segregate the traffic.
Mr. Philip Noel-Baker, Parliamentary Secretary, Ministry of War Transport, opening a Safety First exhibition in Manchester indicated the trend of the Government's proposals for reducing road casualties. His remarks amplified his statement in the House of Commons 10 days ago when he said that a report was being drafted to deal with this "grave social problem" and would be ready soon. The roads of the future, said Mr. Noel-Baker, must segregate the traffic. It was absurd to let the 10-ton lorry, the luxury coach, the 80 m.p.h. saloon, the horse van, the pedal cyclist, the child of five, and old and blinded people all mix on the same road. Post-war road surfaces will have to be so made as to cut out skidding, and motor vehicles will require more safety devices. There will also be need of greater supervision to see that vehicles are in a roadworthy condition.

On the invitation of Mr. Hugh Dalton, President of the Board of Trade, a JOINERY INDUSTRY Reconstruction Committee has been formed.
The Committee to consider the problems of the joinery industry in the immediate post-war period of reconstruction, and to report, has been constituted by the appointment thereto of representatives from the following trade associations and trade unions concerned with the industry: *Trade Associations.*—English Joinery Manufacturers' Association, Timber Building Manufacturers' Association, British Door Association, and National Federation of Building Trades Employers. *Trade Unions.*—Amalgamated Society of Woodworkers, Amalgamated Society of Woodcutting Machinists, and National Amalgamated Furnishing Trades Association. Mr. T. Muir Wilson has been appointed independent Chairman in an honorary capacity, and Mr. P. H. Blackwell, 55/61, Moorgate, London, E.C.2, Secretary of the Committee.

The MOW Emergency House is TO BE SENT ON TOUR.
Various improvements are to be made in the Government's prototype steel house. After these improvements have been incorporated, Lord Portal, the Minister of Works, plans to send the house on tour to each region. This news was given in Parliament last week by Mr. Hicks, Parliamentary Secretary to the Ministry, in reply to a number of questions. Asked if there would be a place to store a pram in the



Contemporary Texture

This photograph, by G. E. Kidder Smith, of the Brazilian Ministry of Education and Health at Rio de Janeiro, provides a striking modern example of architectural texture, a subject which is dealt with in a special article on pages 385 to 388, by Cecil Stewart. The north and south elevations of this building are entirely of glass though the north side is shielded as shown above by a slatted sunshade or *quebra-sol*. The low block in the foreground is faced with blue and white decorated tiles, whose smooth shining surface and small repeat pattern (Mr. Stewart's two-dimensional "induced texture") contrasts effectively with the three dimensional "tactile texture" of the reinforced concrete honeycomb of the main block in the background. Further details of this building are published on pages 389 to 392. Begun in 1937 and still under construction, it illustrates how the imaginative but pure expression of contemporary materials and construction can provide as dramatic a textural pattern as its Baroque antithesis of 200 years ago, the altar of the Church of São Francisco at Bahia, illustrated on page 384. The architects were Lucio Costa, Oscar Niemeyer, Afonso Reidy, Carlos Leão, Jorge Moreiro and Ernani Vasconcelos; Le Corbusier, consultant.

house, Mr. Hicks replied Yes. Mr. Higgs (Con., Birmingham) asked what was the anticipated useful life of the experimental steel house. Mr. Hicks: These houses will be publicly owned and licensed for a period only. You may rest assured that the period fixed will not exceed the useful life of the house. Are we going to embark on an expenditure of £75,000,000 a year and not know how long the equipment will last? The house is conceived with the view of tiding over a difficulty between the termination of hostilities and the ordinary building programme coming into operation. If a period of ten years is contemplated the house will stand up to that. Replying to a question about the possibility of Britain supplying prefabricated houses to France after the war, Mr. Eden, Foreign Secretary, said: The capacity of this country to produce prefabricated houses is likely to be fully occupied in meeting the needs of our own people. The supply of emergency housing in liberated areas is only part of the general question of how the essential needs of those areas on liberation can best be met. This general question is under consideration.

Some of Britain's 14,000 *BOMBED CHURCHES may be rebuilt on new sites, others repaired or replaced.* Churches of historic interest or special importance may be fully reinstated. Special payments by the War Damage Commission are provided for in proposals published last week. The proposals are the results of the negotiations between the Bishop of London, Dr. Fisher, representing the Christian Churches, and the War Damage Commission. The proposals state that damaged church structures, including monasteries, convents, chapels and a number of subsidiary buildings, will, unless they are not required, be either reinstated on the same site or rebuilt elsewhere. Where a church is rebuilt on another site the value of the whole of the original site will be taken into account in assessing the payment to be made by the War Damage Commission. The payment will be decreased by any excess of market value of the old site over the new, but if the old site is so valuable as to provide funds for a new site and a new church, any remaining balance will be the property of the church. It has been agreed that instead of a cost of works or value payment, which would have been appropriate in an ordinary case, there shall be awarded a "church payment." This will be the smaller of either the reasonable cost of "plain repair" or the reasonable net cost of building a "plain substitute" church. "Plain" implies that unnecessary ornamentation has been omitted and allowance made for undue size and structural defects in the damaged building. In exceptional cases where the damaged building remains for architectural, historic or other reasons of special importance, it may be in the public interest to secure exact reinstatement. In ordinary cases the aim should be replacement in the former materials and in style appropriate to the situation of the church. A tower or spire should be replaced. Reasonable replacement of stained glass windows is provided for, but this does not include replacement of private memorial windows merely because they are memorial windows.

Greater use of the fine river front and open spaces for music and recreational places, and co-ordination of new building round CHELSEA'S TREASURED SPOTS.

These are among the post-war ideas in the annual report of the Chelsea Society. The County of London plan, says *The Evening Standard*, is criticised as speaking of Chelsea with two voices, which are hard indeed to reconcile. One extols the mellow charm of the borough, emphasises its historic value, and singles out its treatment of the river front and tree-lined embankment as a shining example of how the Thames should be respected, it is stated. The other proposes to mutilate its Physic Gardens, to make a huge traffic way along part of that river front, and to violate the site on which, it is hoped, Chelsea Old Church will be rebuilt. The Chelsea Society, the report states, exists to protect and to foster the amenities of Chelsea and there can be no doubt of its attitude towards proposals such as these. It is revealed that lines on which the Borough Council are working, include these: Provision of tall flats with adequate garden and playground spaces around them. Concentration of large factories in the Lots Road area. Conversion into flats of large houses such as those in Cadogan Square and Lennox Gardens. Rebuilding of the Old Church, if possible, as it was. If industry is to remain in Western Chelsea, either its employees will have to seek homes and gardens in less congested areas, or they will have to accept flat life near their works, with such amelioration as lifts and playgrounds may provide.

At the Northern Polytechnic, London, a PART TIME DAY CLASS for Glazing Apprentices has been started.

Believed to be the first of its kind in this country, the class marks the beginning of a scheme, created by the Joint Industrial Council for the Glazing Trade, to enable glazing apprentices to supplement their training by part-time attendance at a technical school. To begin with classes will be available only for apprentices residing in the London area. Later it is hoped to form similar classes in other parts of the country. A detailed syllabus of training has been drawn up. It covers a period of three years, and instruction will be given by a practical glazier.

Lands in Carmarthenshire and Lancashire have been GIVEN TO THE NATIONAL TRUST.

Mr. H. Lloyd-Johnes has added to his previous gift of the Dolaucothi estate, Carmarthen, to the National Trust. The additional land of 421 acres includes most of the village of Pumpsaint and the Dolaucothi Arms, eight farms, and other smaller detached areas. The farms adjoin and extend the existing property of 2,074 acres in the Cothi Valley, half-way between Lampeter and Llanwrda. Mr. Lloyd-Johnes will reserve a life interest in this additional land, as he did in the rest of the estate. The whole gift is made in memory of the Johnes family, who acquired the estate in the time of Henry VII. The late Mr. J. E. Ludlam, of Ashton-under-Lyne, left a legacy for the purchase by his trustees of a number of separate holdings totalling 13 acres at Daisy Nook, between Manchester and Ashton in Lancashire. This purchase has now been completed, and the lands have been presented to the National Trust.

CODES AND STANDARDS

THE result of many months of work by the various committees and sub-committees of MOW's Directorate of Post-War Building is at last becoming visible in the form of a spate of official pamphlets, now being published, which threatens to become a flood before the end of hostilities is reached. To avoid confusion it is as well to review the general set-up.

Reference should first be made to page 276 of the Journal for April 22 of last year, where two charts explain MOW's standardisation activities and method of producing codes of practice. From these it will be seen that the two main bodies under the co-ordination of the Directorate of Post-War Building (established in 1941) are the Standards Committee and the Codes of Practice Committee. These are permanent organisations whose work will ultimately be expressed in official British Standards, Codes and Specifications. They are assisted by the findings of the 23 Study Committees which are temporary, excepting for that dealing with house construction, which was recently established on a permanent basis. On all these Committees sit representatives of the Government, of science, of industry, and of the professions, so that decisions which are reached have the virtual support of all sections.

The Codes of Practice Committee presented its first report in April last year* to its constituent bodies consisting of the principal technical institutions, BSI and BINC, in which it reviewed the present position of building codes, and decided the form and functions of those it intended to produce which would be "codes of good practice defining the methods by which materials can best be used to perform the required functions of a building operation. They will embody the results of practical experience and scientific knowledge with the object of obtaining increased efficiency in building work and economy in labour and materials." Some 200 general codes will finally be produced covering every building operation, and they will be governed by the functional requirements of the building as a whole, independent of methods of construction and equipment, laid down in a Classification Code. A second report was issued in October,† which was little more than a progress report, though new ground was broken to the extent of setting forth the objectives of codes covering civil engineering and public works. Last week four preliminary draft sub-codes of the Code of Functional Requirements (Classification Code) were issued for the Committee by the British Standards Institution. These cover schools and dwellings only and deal with *Sunlight* (6d.), *Ventilation* (dwellings only) (6d.), *Precaution against Noise* (2s.), *Precaution against Fire* (dwellings and non-residential schools of not more than two storeys) (2s.). The remaining parts of the Classification Code will be issued shortly, of which the final one on *Dirt and Vermin* will not be the least important. All these preliminary draft sub-codes are being circulated and comments on them are invited from all sources. Final drafts will then be prepared.

The Standards Committee was appointed in 1942 "to consider the use of standard fittings and components in building, and to recommend action which should be taken to introduce the greatest possible measure of standardisation." The committee has already made about 100 recommendations which have been passed to BSI for the formulation of Standard Specifications. It is concerned both with dimensional and performance standards. Its first report has just been published called *The Use of Standards in Building* (HMSO, 6d.), which merely outlines its terms of reference and programme and gives a summary of recommendations. A few drawings are included as samples of the kind of work the committee is doing, and an appendix is added on the scope of prefabrication. Further reports will be published later.

The Study Committees issued draft reports for comment last year which were reprinted at different times in the JOURNAL.‡ The first of the final reports was

* See *A.J.*, April 15, 1943, p. 259. † See *A.J.*, October 21, p. 299.
‡ See leading article, April 22, 1943, p. 263, and Societies and Institutions columns, April 22, 29; May 6, 20, 27; June 17, 24; July 8, 15, 22; August 5.

issued last month, that on *House Construction* (HMSO, 2s.).* Since then four more PWB studies have been published, namely *Standard Construction for Schools* (6d.), *Plastics* (1s.), *Gas Installations* (6d.), and *Steel Structures* (6d.). In all 22 studies will ultimately be published. These together with the Standard Codes will be reviewed individually in our Information Centre. Apart from their purpose of helping the formulation of codes of practice and standards, the studies are likely to be of general practical value to all concerned with post-war building.

The final result of all this work should be extremely useful. Building will become more scientific and less haphazard, more rational and of better quality. Greater economy, speed and architectural unity will be achieved. Added to that building research will benefit by securing a stable datum from which to measure values. At present it is not intended that any of the final official codes, standards and specifications shall be mandatory, though of course they could be made mandatory, for instance, by the terms of a contract. It has been said that the English genius lies less in an infinite capacity for taking pains than for making drains, a belief borne out by our present building by-laws, which are concerned almost exclusively with health and safety. The laws have certainly not produced good architecture, and it is not too early to express the hope that many of the new British Codes and Standards will become more compelling than mere recommendations.

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

NOTES & TOPICS

MORE ASB LECTURES

Two more lectures arranged by the RIBA's Architectural Science Board are soon to be given, under the general title of *Social Needs and their Solution in House Building*. On June 6, Mr. Dennis Chapman talks on *The Social Survey Technique of Obtaining Information on Housing* and on June 13, Mr. A. M. Chitty follows up with *Science and Housing*. They are likely to be important.

*

Mr. Chapman has been engaged on several of the most detailed social surveys made in this country, and for nearly three years has been Senior Research Officer of the Social Survey of MOI. Not much has been heard of this MOI Survey, but apparently it has already made some valuable contributions to the work of the BRS on heating, lighting and noise. It has also made studies of national tastes and habits in relation to housing in which Mr. Chapman has taken a leading part. It should be particularly interesting to hear from him something of how this valuable job of discovering consumers' needs is carried out. It cannot be an easy one, for snooping, even with the best intentions, is not always popular.

CHILDREN IN BOND STREET

Luckily for the RA, the recent exhibition of drawings and paintings by the pupils of Mr. Neill's school, Summerhill, closed before Burlington House opened its doors. Luckily, because there is now no need to draw the usual despairing comparisons between the work of self-expressing children and be-knighted greybeards. Heaving bricks at the RA, as Mr. Osbert Lancaster has pointed out, is a familiar custom at this time of year, and one in which all lovers of tradition will therefore happily join. Let us leave them, then, at their sport, for the Academy—with the sales of *gitano's* torsos and glistening horseflesh ticking up every day—needs no help from us.

*

Nor, for that matter (and if sales are any guide), did the Summerhill exhibition show signs of needing the assistance of a patronizing word. Attendances were good, the sales brisk, and the children presumably well satisfied with a success which was deserved.

*

For those who have never heard of Mr. Neill's school, it is perhaps necessary to explain that the basis of Summerhill (now 23 years old) is freedom. The children are free to work or to play or to loaf. They make their own laws and have no teaching in religion, morals, and manners. They are not made to listen to Bach, and Medici prints of the old masters are not hung upon the walls. (What, I wonder, *is* hung upon the walls? If not Rembrandt and El Greco, perhaps Graham Sutherland and Henry Moore? or Cecil Aldin and Margaret Tarrant? Mr. Neill does not say. It is not a trivial question). The direct result anyway, says Mr. Neill, is a body of girls and boys who are "sincere, original and mannerly." As to the last quality, those of us without experience must take Mr. Neill's word for it, but the children's pictures were triumphant witnesses at least of their sincerity and originality.

*

All ages from 6-17, both sexes, and every kind of medium were represented and the results were as exciting as they were talented. One of the artists—Ishbel MacWhirter—is clearly a born painter in the same way as Mr. Robert Bond, the art master, is obviously a born teacher. One of his methods apparently—and it seems a highly successful one—is to show the children the physical effects of various techniques and materials, scratching on canvas or on wood or on wet blotting paper, of mixing oil paint with water or ink with glue—and thus to stimulate their imaginations with the resulting textures and patterns into the creation of works of art.

* See leading article, April 6, 1944, p. 255.

Whatever his method Mr. Bond certainly gets results, and let's hope this is only the first of a Summerhill series. (This exhibition, by the way, is being recorded in a publication by the Arcade Gallery.)

. . . AND ON WEST 53RD STREET

Perhaps next time Mr. Bond might borrow an idea from an American colleague—Mr. D'Amico—an art master who recently organized a Holiday Circus at the Young People's Gallery of the Museum of Modern Art.

★

The idea was to make art familiar to the children through participation as well as by observation, and the Gallery was accordingly fitted up with work benches, drawing boards, brushes, paper, clay—and to start them thinking—a Calder mobile.

★

A representative of *The New Yorker* who visited the Circus found a host of small artists hard at participation surrounded by a fringe of inhibited parents. Parents, according to Mr. D'Amico, never fail to gum things up. "Just the other day," he said, "a mother insisted that her child stop drawing a house because she had read in some fool book that houses symbolize mother-hatred."

★

Before leaving, the *New Yorker* man took note of a picture called *Man leading a dog which he wants but doesn't have*—(remember Hans Arp's *Paper arranged according to the Laws of Chance* and *Mountains, Table, Anchors, Navel*?) —and before sidling out was rash enough to ask a young artist what she was drawing. "It's a design," she said courteously—adding with the brisk patronizing smile of a trained nurse—"I don't think you'd understand it."

★

Speaking as an inhibited parent who, man and boy, has been drawing houses which symbolized practically everything but mother-hatred, I should say he asked for that.

ASTRAGAL

Three of the paintings at the recent exhibition at the Arcade Gallery, mentioned by Astragal. Top, two street scenes; left, by Betty Muller, 14 years; right, by Keith Critchlow, 10 years. Above, Solitary Confinement, *by Toddy Harman, 14 years.*

LETTERS

H. W. Rosenthal, Dip. Eng.
(Lecturer, Leicester College of Art, School of Architecture).

Anthony Steel & Owen, AA.R.I.B.A.

Precision Building

SIR,—Prefabrication still spells hutments and tin shacks to many people. For this and many other reasons it is an unfortunate term. Practically all the components of traditional building are prefabricated. The term therefore does not even cover the essential meaning of prefabrication.

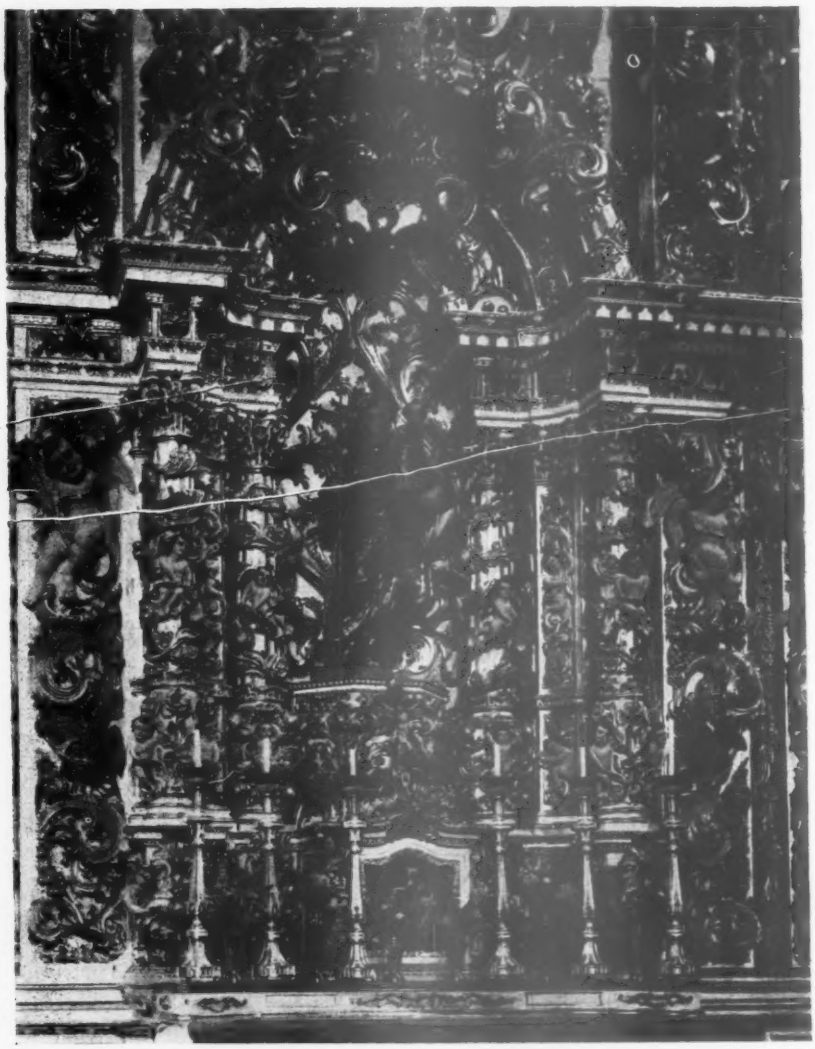
The real problem facing us in post-war building from the constructional point of view is not Prefabrication versus Traditional Building. It is scientific building implying the precision and the true economy of the engineer and scientist applied to building. Prefabrication in the accepted sense is therefore only the outcome or the by-product of scientific building.

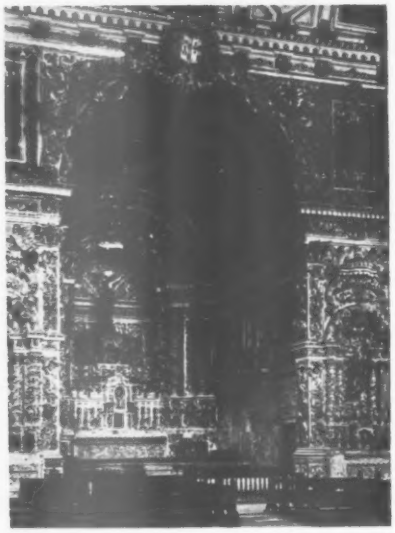
It does not cover all the vital changes that have become necessary in our outlook on house building; it is not comprehensive enough. For these reasons I would like to introduce a term the Americans have used before—Precision Building. This sums up the problems of post-war building construction in a most comprehensive way.

Traditional building methods consist essentially of a laborious sticking together of innumerable small parts introducing many hundreds of gallons of water. In actual theory these processes are of a highly scientific character, but they are carried out most haphazardly on the site owing to the rough and tumble methods of traditional building. This is no slight on the building trade. The methods are inevitably linked with the vagaries of the weather and the necessary shortcomings of accommodation on the site and site equipment. To mention only a few of these processes: the mixing of mortar, laying of composition floors, plastering, installations of plumbing equipment and others.

The introduction of large quantities of moisture, the inevitable inaccuracy in the chemical composition of the various compounds, the

TEXTURAL FANTASY OF BRAZILIAN BAROQUE





The golden exuberance of the altar in the Baroque Church of São Francisco de Assis at Bahia, Brazil, is as typically Portuguese in character as its plain, tiled exterior. This is a remarkable example of textural effect, as riotous as the tropical forests around it. Compare this with the contemporary texture of the Ministry of Education and Health at Rio de Janeiro, illustrated in this week's issue of the Journal, which in its reliance for effect on restrained repetition of pure geometric form arising from function is the complete antithesis of the purely decorative texture of the free, organic floridity of this Baroque interior. Nevertheless both examples possess what Mr. Stewart explains in his article on pages 385-388 is a major principle of all textural effect—unity of pattern. The photographs are by G. E. Kidder Smith.

often incompatible methods of fixing of modern engineering fittings to structures never originally designed to receive them. All this leads to movements in the structure, warping, shrinking, spalling-off of finishes and requires great tolerances in sizes, in quantities and dimensions. Traditional building construction methods with their small units, many variable joints, etc., allow for these inaccuracies and too much precision might even be detrimental to such procedures.

Given enough time to build a house, say up to two years for one of medium size, traditional methods can produce excellent results. Actually the main reason for failures of traditional materials used in modern building is speed of erection. Rendering coats are not given time to set and expand or shrink before second coats are slammed on, inevitable settlement is not given time to take place before finishes are applied, trades come on the job walking and hammering on work barely finished by the preceding trade and so forth.

But we must also remember that even if given time traditional methods may not prove as successful these days as they might have done say a century ago. Our houses are subject to entirely different stresses than were houses of the past. Fires were kept on all day in kitchens and probably a number of the living-rooms, while often nowadays houses are only heated locally and often only for certain hours of the day or alternatively are kept under much higher overall temperatures day in day out through central heating. Then there is often vibration through traffic.

Furthermore, there is the inevitable combination of old-established materials with new ones, which often might seem familiar but are of entirely new chemical composition. Then there are our much higher claims for domestic comfort. Finally there is the present need for speed.

We must therefore resort to greater scientific precision in the design of the components not only in the dimensions but in their physical and chemical composition. This can only be done if site work is reduced to a minimum. Only factory conditions permit precision work.

It follows automatically that precision-made components can be much larger and more complex than hitherto as their site behaviour can be much more reliably predicted and combinations of steel and timber in precise proportions for the greatest efficiency can be effected in the works. The actual building process is then no longer a haphazard sticking together of particles but an assembly of precision parts like building an aeroplane or a ship. Such parts if designed with imagination will result in houses æsthetically as good but more efficient than any houses of our best architectural periods. Prefabrication thus becomes the servant of Precision Building.

Leicester. H. W. ROSENTHAL.

West Wycombe Competition

SIR,—We read Astragal's remarks on the West Wycombe Competition with considerable interest. Although not ourselves competitors, we heartily endorse Astragal's sentiments and feel that these remarks would equally apply to the recent Northampton Competition which, unfortunately, you did not review at such great length.

We cannot but believe that, from the considerable entries to both competitions, there must have been some really fine schemes which might have made a more commendable contribution to the progress of architectural thought and design than the winning and premiated designs.

It does seem to us significant that in both competitions, not one of the schemes illustrated had a flat roof, thus suggesting some prejudice against this type of construction, whereas in point of fact, innumerable cases can be quoted both in this country and abroad of flat roofs sitting the landscape and harmonising with their surroundings.

Beverley. ANTHONY STEEL & OWEN.

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DOMESTIC WATER HEATING 4: DISTRICT HEATING (A)

GENERAL DESCRIPTION.

The term District Heating means the supply of heat to a large number of buildings from one source by means of pipes laid in the streets, just as for water, gas and other services. In Russia it is called "Heatification."

The heat is either produced in boilers provided for the purpose, or it may be waste heat from electric generating plant.

The pipes or mains are insulated and are generally enclosed in ducts or tunnels below roads and footpaths.

The heat is delivered to the Consumer by connecting pipes terminating with valves, and some form of metering apparatus inside his premises. To these is connected the central heating, hot-water supply, or steam system within the building.

The medium conveying the heat may be either :—

(*a*) hot water at a temperature of 160°F. to 180°F. (low pressure).

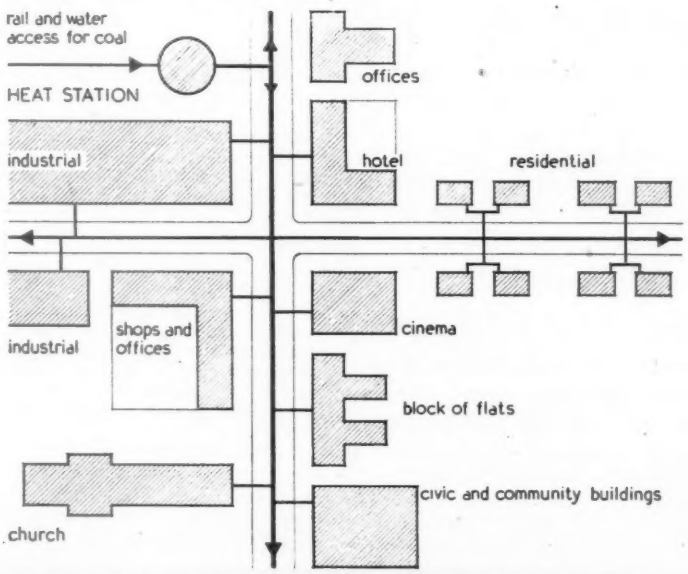
(*b*) hot water at a temperature of 220°F. to 300°F. (high pressure).

(*c*) steam at any pressure between 5 and 200 lbs. per sq. in.

The choice of medium and temperature or pressure depends on the distances to be covered, whether or not the system uses waste heat from electric generation, and on other factors.

LARGE BUILDINGS AND DISTRICT HEATING.

The greatest scope for District Heating is probably in connection with larger buildings in fairly densely built-up areas, where heating requirements are considerable for a given length of main. Such buildings include Blocks of Flats and Offices, Hospitals, Shops, Churches, Civic and Community Buildings, Cinemas, Theatres and Factories.



SECTION OF TYPICAL HEAT DISTRIBUTION PLAN.

DISTRICT HEAT FOR DOMESTIC USE :

In this country the number of houses where any continuous supply of heat is provided is small, and mostly confined to better class property. The inefficiency of present methods of heating means that the result is poor for the expenditure involved. District Heating, if applied to the domestic field, can offer improved conditions for the same household budget.

It may take the form of complete central heating, or background heating supplemented by a radiant source for topping-up in the living room when required.

HOT WATER SUPPLY :

All hot water supply requirements for baths, sinks, basins, showers, etc., can be provided by District Heat. The normal system in the larger buildings is connected to the supply mains through a heat exchanger. In the case of housing, a continuous supply of hot water becomes available, again generally through a heat exchanger, though some housing estates have used a direct draw-off system.

PROCESS HEAT :

Many industrial processes depend on a supply of steam or high temperature hot water. Steam is also required by laundries, hospitals, hotels, etc., for a variety of purposes such as washing, cooking, sterilising, etc.

All these requirements for heat may be made available from District Heating mains, provided pressures are suitable.

GAS AND ELECTRICITY :

Gas and electricity may be considered as forms of District Heating. They are "refined" fuels, hence their use on a large scale for heating is not necessarily economic. District Heating should make it possible to supply lower grade heat at a cheaper rate. Further, the capacity of existing gas and electric stations and mains would generally require to be greatly increased to meet the complete heating loads of large districts.

[TURN OVER

INFORMATION SHEET 939 CONTINUED

ADVANTAGES OF DISTRICT HEATING :

From the Consumer's viewpoint :

The consumer is absolved from the necessity and expense of providing boilers, flues, space for boiler plant and fuel store, labour for stoking and attendance. Delivery of fuel and removal of ashes with their attendant dirt and dust are avoided.

Heat is available " on tap " when required, without the " time lag " associated with solid fuel boilers.

Thermostatic control is readily applied, thus maintaining comfort without under or over-heating.

These matters come under the general heading of " convenience," and are real benefits though it may be difficult to give them an actual monetary value.

From the National viewpoint :

Where combined with electric generation there is a considerable reduction in total coal consumption as compared with separate generation of heat and electricity.

In Russia, in 1937 alone, the total saving of fuel attributable to District Heating was 1½ million tons, though in the U.S.S.R. District Heating is as yet in its infancy.

In this Country, if only 10 per cent. of the heat supplied by the burning of raw coal in open grates, etc., were supplied from thermo-electric District Heating stations, there would be a saving of about 2½ million tons of coal per annum.

Labour engaged in the menial task of stoking is released for more productive work.

Atmospheric pollution, causing fogs and damage to paintwork, buildings and their contents, is considerably reduced due to the gas washing possible with large plants.

DISADVANTAGES OF DISTRICT HEATING :

Opening up of streets for installation and maintenance of mains is often difficult in existing thoroughfares, easier in reconstructed or newly developed areas than in existing cities. Heat losses from mains are a permanent charge on the system, independent of load. Thus, a densely built-up area is more economical to serve than a sparsely built-up area. Also, heating loads which are continuous summer and winter, such as for hot water supply and process steam, reduce the proportion of losses to heat sold over the year.

PLANNING FOR HEAT :

New cities and redeveloped areas should be planned for heat, just as they are for drains and roads. A multiplicity of heat producing units is obsolete. District Heating means comfort " on tap," constant hot water, low cost, national fuel economy.

TARIFFS :

The tariff on which heat is charged to the consumer must bear costs made up from the following items :—

Generating costs :

Fixed Costs	interest on sinking fund, and depreciation on buildings, boiler plant, auxiliaries, heat exchanges, coal and ash handling plant.
	Interest on cost of land.
	Salaries and wages of administration and operational staff, Insurances.
Running Costs	Coal.
	Ash removal.
	Maintenance and repairs.
	Oil, water and stores.
	Rates, Taxes.
	Profit.

Distribution costs :

Fixed Costs	Interest on sinking fund, and depreciation on mains, valves, expansion joints, pumps, tunnels, ducts and conduits, and meters.
	Salaries and wages of supervisory staff, Insurances.
Running Costs	Maintenance and repairs.
	Stores, Rates, Taxes.
	Heat losses from mains.

The tariff may be expressed either :—

(*a*) as a flat rate per therm (100,000 B.Th.U.'s), or

(*b*) as a standing fixed charge per therm based on maximum hourly demand over the year, plus a running charge per therm used (similar to electrical tariffs).

The advantage of method (*b*) is that it encourages a reduction of peak demand, and penalises the consumer with a poor load factor to the advantage of one with a good load factor.

As a rough guide to the rates which would be charged for District Heating it may be assumed that tariffs would lie between 3d. and 6d. per therm. It is impossible to state a definite figure owing to the numerous variables and wide variety of conditions applying in different cases.

In comparing costs of District Heat with other methods, it must be remembered that District Heating can be used by the consumer at 100 per cent. efficiency, apart from any losses from mains within the building, common to any centralised system.

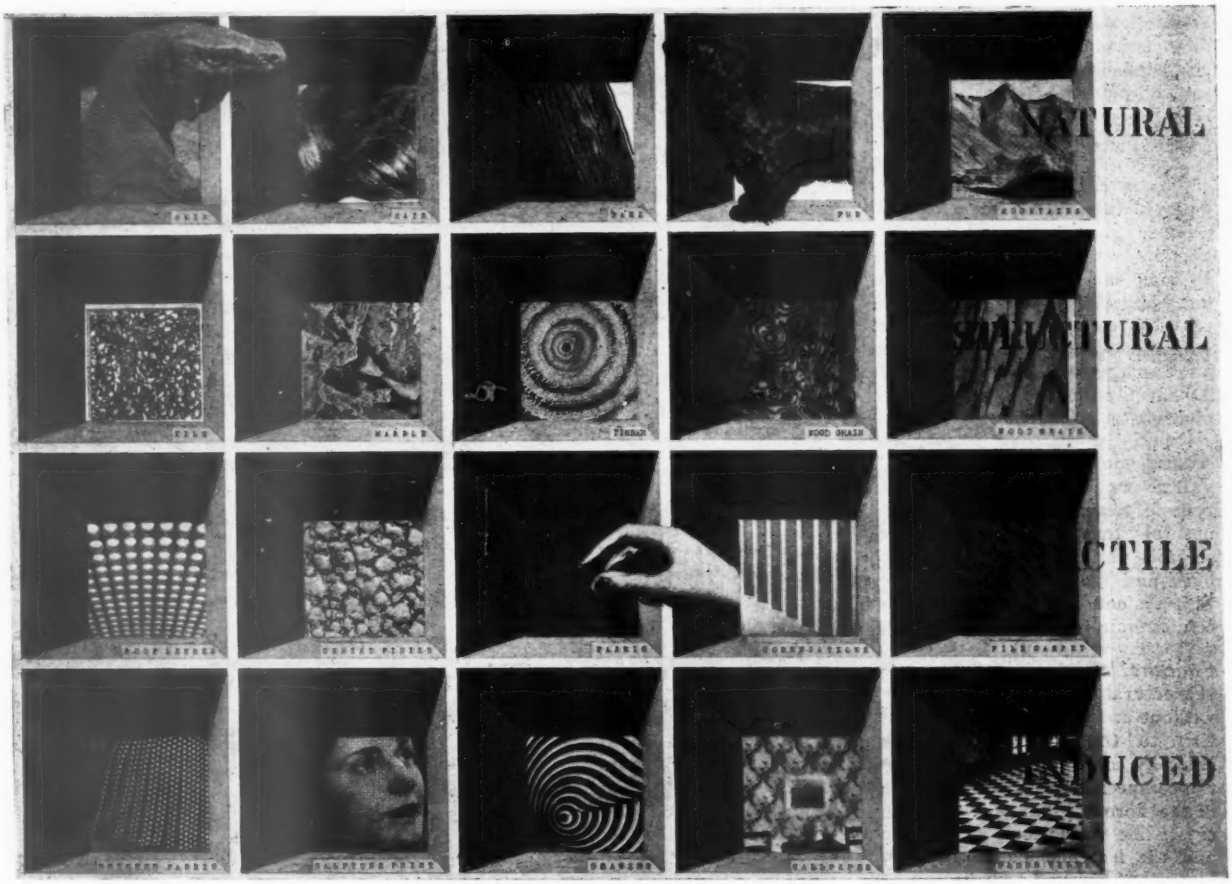
Ascot Gas Water Heaters Ltd., North Circular Road, Neasden, N.W.10. Telephone : Willesden 5121 (14 lines).

Issued by Ascot Gas Water Heaters Ltd.

Compiled by Oscar Faber, O.B.E., D.C.L., D.Sc., M.Inst.C.E., M.I.Mech.E., Pres.I.H.V.E. and J. R. KELL, A.M.I.Mech.E., M.I.H.V.E.

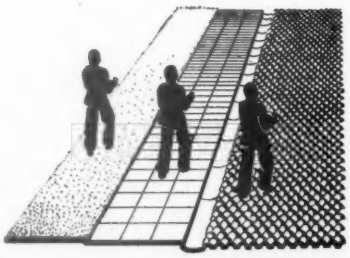
INFORMATION SHEET: DOMESTIC WATER HEATING 4

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1



AN ANALYSIS OF TEXTURES

BY CECIL STEWART, A.R.I.B.A.



The value of texture in contemporary architecture has yet to be fully appreciated, but it is encouraging to note that one of our chief schools of architecture, the AA, includes the study of texture in its curriculum. Here a teacher of the subject at this school analyses texture into its various types, and explains its æsthetic use, and its relation to pattern and to scale.

The object of this analysis is to arrange in some sort of order the various main types of textures, and to discover why certain textural combinations are æsthetically more satisfying than others. Generally we speak of textures in the comparative sense of roughness and smoothness, softness or hardness, and we realize that there exists an infinite range of textural variation between the imaginary ultimate extremes—imaginary because it cannot be possible to reach an ultimate degree of roughness or smoothness.

We are conscious of this roughness or smoothness of surface through touch or sight, or through a combination of both touch and sight. Imagine a cobbled road having at one side a flat stone pavement and beyond that a grass verge; then we may say the cobbles have a textural value both rough and hard, the pavement a value smooth and hard, and the grass rough and soft; and we are conscious of these qualities through our feet by touch and through our eyes by sight.

Many of our impressions are derived not so much through touch

as through inference. Because we see particular variations of light and shade on the surface of, let us say, a corrugated sheet, we infer that the sheet has an undulating surface without actually touching it. A study of texture therefore embraces a consideration of not only surfaces that have a real tactile value but surfaces that give an impression of form simply by tonal effects. Thus the pattern on wallpaper may give an impression to the eye of surface variation which is not borne out by touch, but must, because of its effect upon the retina, find a place in this analysis.

Natural and Tactile Textures

There are at least two distinct types of texture that we can feel—natural textures such as the surface variations of skin, tree bark and mountains, and tactile textures not of natural origin, *e.g.*, cement renderings, fabric weaves.

Structural and Induced Textures

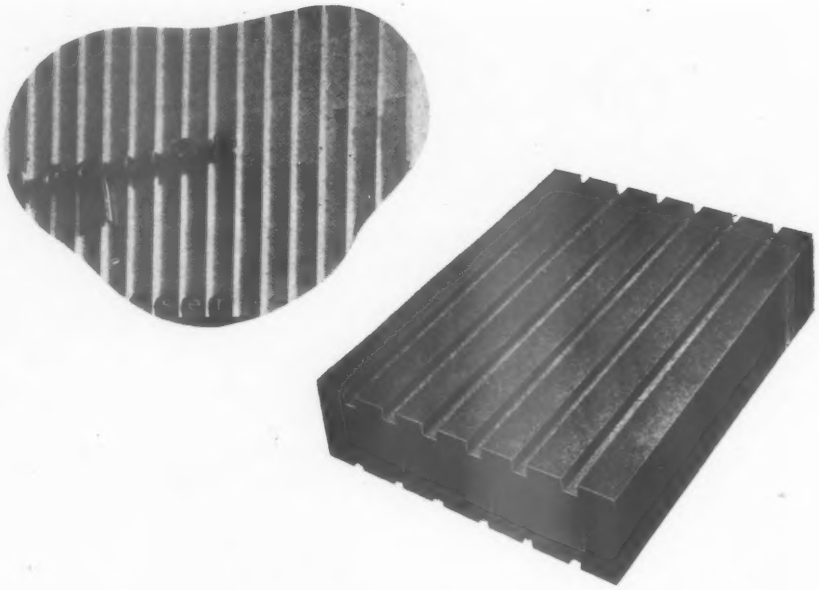
Structural textures are those without appreciable surface variation to the touch, but which show by markings on the surface the composition of the material as in the fibrous grain of wood, the crystalline formations of marble and the irregular composition of terrazzo. Induced textures again cannot be distinguished by touch but give impression of depth by tonal differences which are induced on the surface as on printed fabrics, wallpaper patterns, and half-tone reproductions.

Raised and Recessed Textures

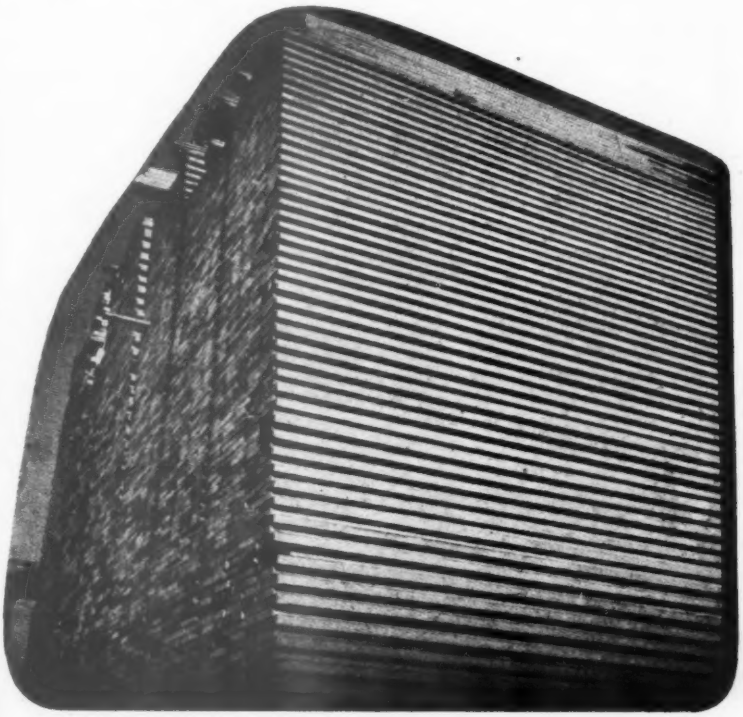
The appearance of texture depends on light and therefore the lighter the tone value of a surface the more emphatic becomes the textural value to the eye. Thus a white corrugated sheet appears to have more pronounced undulations than a grey or near-black sheet with the same tactile value. Whenever a general surface is broken into parts that recede or project we produce alternative effects. There are in fact raised textures and recessed textures.

Balanced Textures

There are also tactile textures which are neither raised nor depressed; and induced textures which give the impression of equality of light and shadow as on a corrugated sheet where the amount of recession is equal to the amount of projection, or on a chequer board where the amount of light equals the amount of dark. The first is an example of balanced tactile texture, and the second of balanced induced texture.



Above, examples of raised and recessed texture in building materials. Below, News Building, New York, by Raymond Hood, an example of balanced texture.



Above, the Palazzo Riccardi, Florence, an example of textured harmony. Below, stacked timber showing a linear texture arising out of the orderly arrangement of planks.

Textural Harmony

Harmony in texture is produced in much the same way as harmony in colour; that is by using them in some sort of related sequence. According to colour theory a harmony of, say, red and yellow can be obtained by the introduction of a third element half-way between the two, i.e. orange. Similarly we can produce harmony of texture by relating a rough with a smooth surface by introducing a third surface of a textural value between rough and smooth. The façade of the Palazzo Riccardi is a good example of the use of textural harmony with its ground storey of heavily rusticated masonry, its top storey of smooth ashlar finish, and the link on the first floor storey of deeply drafted masonry.

Textural Contrast

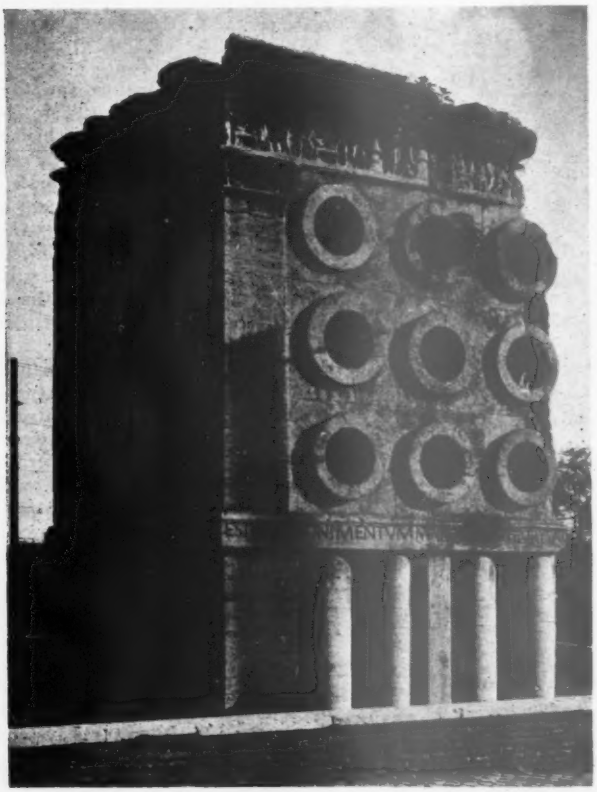
There are three distinct varieties of textural contrast. There is the contrast obtained by using different materials, as between marble and wood, for example; there is the contrast between rough and smooth surfaces as between rock-faced and polished granite; and there is the tactual contrast between soft and hard surfaces like chromium plate and glossy silk.

Colour may play an important part in the emphasis of textural contrast. If we have as a contrast in a room silk curtains and tweed upholstery, the textural contrast between these two materials would be intensified if a colour contrast was also introduced and the tweed dyed green and the silk crimson.

Texture and Pattern

All materials are distinguished by certain arrangements of lines (fibres) or corrugations, or by arrangements of spots (crystals) or moticulations. As nearly all patterns are based on some system of lines or spots, this leads one, naturally enough, to a study of the relationship of texture and pattern. Generally we think of pattern as a formal design of one or more elements multiplied and arranged in an orderly sequence. The word pattern, like the word texture, is very loosely used. But both have something in common —that is orderly design. Thus, the pattern of the clouds may be considered as the ordered repetition of similar motives moving across the sky, and musical pattern as the repetition of a sound motive. The motive or element is the basis of the design, and the ordered arrangement of the motive produces the regularity of the pattern and the evenness of the texture.

Above, examples of raised and recessed texture; left, the mediæval House of the Beaks, Portugal, in stone; right, the Institute and Zoological Museum at Nancy by Jacques and Michel André, in concrete. Below, the Roman Tomb of Eurysaces shows the close relationship between pattern and texture. Bottom, camouflaged silos, an example of induced texture.



The patterns of Nature, as seen by the naked eye, are irregular. The elements of a cloud composition or the corrugations of tree bark are never identical or mathematically disposed, though the resultant effect may have much in common with a geometric pattern or a constructed tactile texture. In the same way textures and patterns revealed by Man, as for example the graining of wood and the speckling of granite, are never regular, though when revealed under a microscope may be composed of precisely regular forms or shapes. On the other hand, man-made textures and patterns have generally some geometric basis. In architecture they are mainly rectilinear and have a general direction of horizontal or vertical; when curves are used, they are nearly always geometric, either from circles or parabolas. The elements used in architecture have invariably a geometric basis, e.g. brick, the hewn stone or the sawn timber; even the plasticity of concrete is restricted by the geometric mould.

Texture and Scale

The degree of roughness or smoothness of surface is largely dependent in its effect upon how distant one is from the subject. For example, in architecture we are concerned firstly with the texture of the materials used—the brick, stone or timber face; secondly, with the total effect of the façade, its degree of roughness being dependent on the larger modulations of solid and void; and lastly one might consider in, let us say, a housing estate the sum effect of the disposition of the cubic values of the buildings in relation to the landscape as a whole. The question of scale is, therefore, important in so far as our conception of roughness of texture is controlled by our relative nearness to the object under view.

Generally

(1) All materials have textures.
(2) Texture depends upon light.
(3) Texture may be enhanced or emphasized by colour.
(4) Texture and pattern are related.
(5) Textural quality varies with angle of vision and one's distance away from the subject.
(6) Textures may be measured in terms of roughness or smoothness, softness or hardness.
(7) Textures may be measured in terms of light and shade.
(8) The range of textures is infinite.
(9) There are four main types of texture:—Natural; Structural; Tactile; Induced.
(10) Texture is more apparent on light surfaces than on dark.

MINISTRY

AT RIO DE JANEIRO, BRAZIL

BY LUCIO COSTA, OSCAR NIEMEYER, AFONSO REIDY, CARLOS LEÃO, JORGE MOREIRO AND ERNANI VASCONCELOS

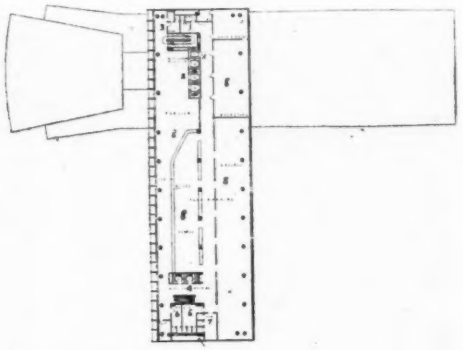
MINISTRY AT RIO DE JANEIRO, BRAZIL

View from north-east. In the foreground is the auditorium, at the blank end of which will be placed a semi-detached statue by Lipschitz.

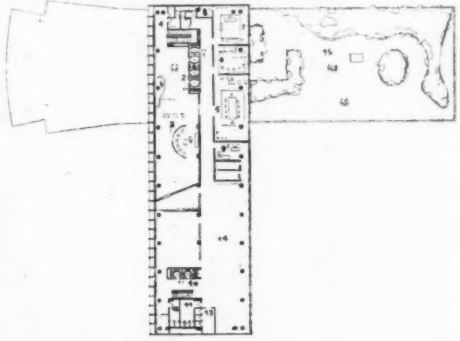
A view of the building from the north-west. A close-up of the housing for the water tank and the lift machinery appears on page 392.

The Ministry of Education and Health, Rio de Janeiro. Architects, Lucio Costa, Oscar Niemeyer, Afonso Reidy, Carlos Leao, Jorge Moreiro and Ernani Vasconcelos; Le Corbusier, consultant. Begun about 1937, still under construction. The Minister of Education and Health has certainly inspired the construction of a remarkable building. Most striking is the enormous honeycomb that shields the north side of the building. The north and south elevations are entirely of glass, the narrow east and west walls and the columns supporting the main block are veneered in pinkish-grey granite. The low block contains the auditorium and exhibition halls and is faced with specially designed blue and white tiles, which also form a great mural at the base of the west wall of the main building. The roof structures enclosing water tanks and lift apparatus have boldly curved outlines and are covered by vitreous blue tiles. It is interesting to compare Debret's quaint drawing of the primitive types of bee-hive dwellings he saw on his travels in 1820 with this building, which might be described as a technically highly developed form of the tree-house.

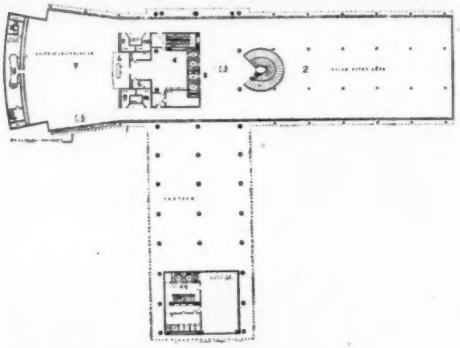
DESIGNED BY LUCIO COSTA, OSCAR NIEMEYER, AFONSO REIDY, CARLOS LEÃO, JORGE MOREIRO & ERNANI VASCONCELOS



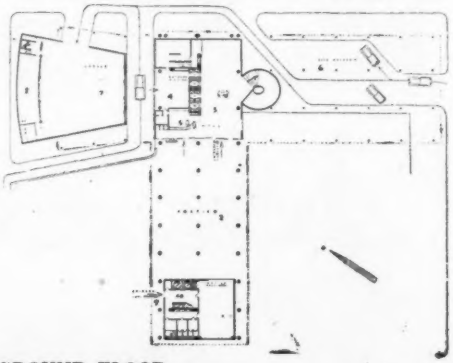
FOURTH FLOOR
1, *minister's elevator*; **2**, *public elevator*; **3**, *toilet*; **4**, *employees' elevator*; **5-7**, *toilets*; **8**, *divisible space*



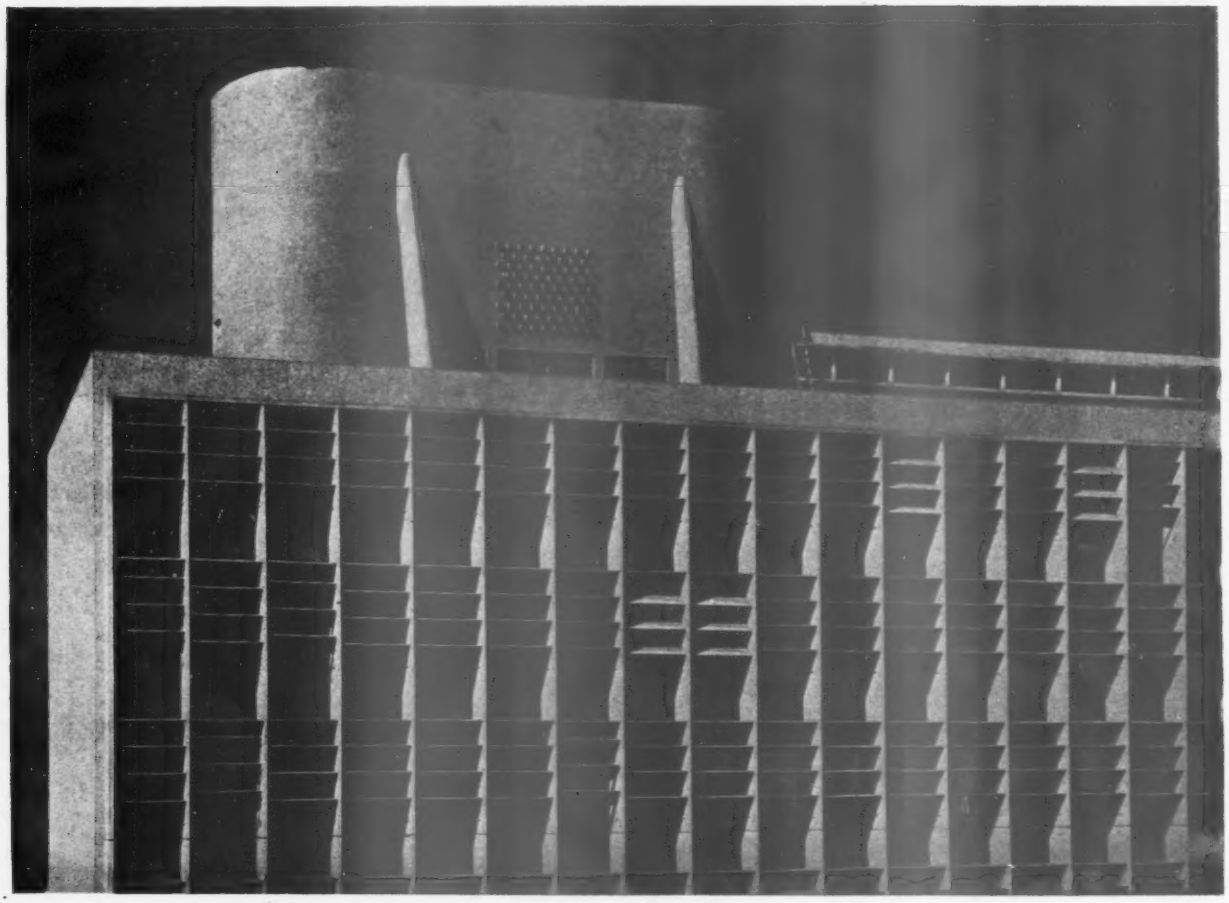
THIRD FLOOR
1, *minister's elevator*, **2**, *public elevator*; **3**, *waiting room*; **4**, *toilets*; **5**, *conference room*; **6**, *secretary*; **7**, *minister's office*; **8**, *toilet*; **9**, *assistant*; **10**, *employees' elevator*; **11-13**, *toilets*; **14**, *offices*; **15**, *roof garden*.

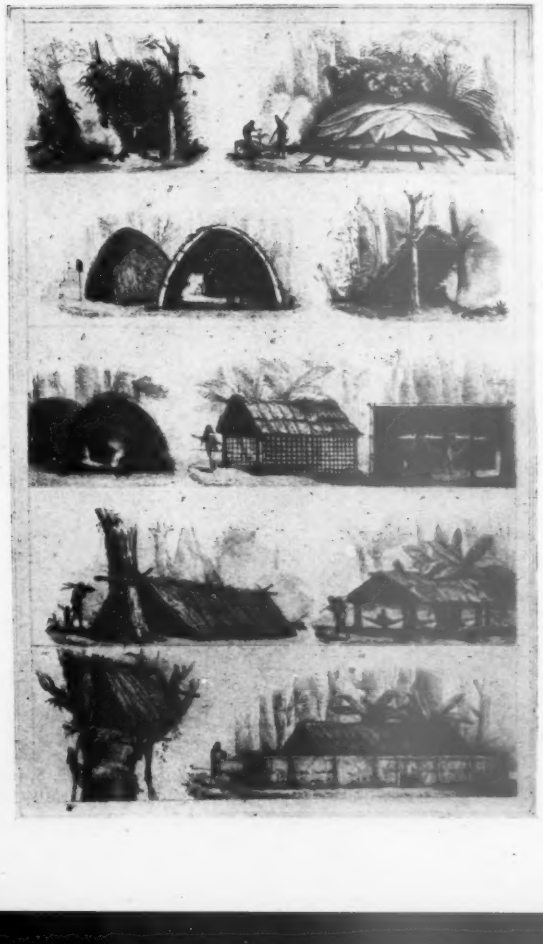


SECOND FLOOR
2, *exhibition hall*; **3**, *public elevators*; **4**, *conference room*; **5**, *toilet*; **6**, *speaker's platform*; **7**, *auditorium*; **8**, *projection booth above*; **9-10**, *toilets*; **11**, *employees' hall*.



GROUND FLOOR
2, *portico*; **3**, *public hall*; **4**, *minister's entrance*; **5**, *information desk*; **6**, *parking*; **7**, *garage*; **8**, *machinery*; **9-10**, *employees' entrance and hall*.





Above, a close-up of the housing for the water tank and lift machinery. On the right is the end of the restaurant. The housing is covered with bright blue tiles with white structural supports taking part of the load over to the columns. The small round red tile openings are for ventilation. Left, Debret's quaint drawing of the primitive types of bee-hive dwellings he saw on his travels in 1820 is a fitting companion to illustrations of this building, which might be described as a technically rather more highly developed example of the tree-house in the drawing.

MINISTRY AT RIO DE JANEIRO, BRAZIL

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.

PHYSICAL PLANNING

1495 CSI on London Plan

COUNTY OF LONDON PLAN: MEMORANDUM OF OBSERVATIONS BY THE COUNCIL OF THE CHARTERED SURVEYORS' INSTITUTION. (*Journal of the CSI, March*, 1944.) Council criticizes practicability of London Plan in view of existing legal powers and customs.

A careful perusal of the Report, the Institution says, does not disclose any indication that altogether, apart from finance, the practical sides of all the problems have been considered and it is not altogether clear as to when specific proposals in the report are intended to take practical shape and be implemented by a statutory town planning scheme and what parts are pictorial presentations of the application of an ideal.

Neighbourhood Units

The Institution considers that perhaps the fundamental proposal is for the organization of the County in a series of communities having a population of some 6,000 to 10,000 people isolated from neighbouring communities by belts of open spaces and not crossed by any mainline thoroughfares, and centred upon schools. It is obvious that this would ultimately involve the entire reconstruction of the whole of the County of London. It is not clear that their plan has been designed to give any consideration of the difficulties, nor of the question of compensation and values involved.

West End

The authors suggest that many parts of the West End need rebuilding to meet a different need, viz., that of the worker in office, retail store or theatre, and to facilitate this they suggest that arrangements should be made for simultaneous termination of leases. This might mean payment of heavy compensation, and although the Institution considers that this suggestion would have advantages, it is impracticable in the absence of new legislation.

Roads

The Institution is very well aware of the great expense and dislocation likely to be caused by the new road proposals. Residential property in secondary roads might very well benefit by a reduction of traffic, but business and commercial properties would suffer heavily if access to them were made difficult.

Railways

The Institution is very doubtful as to the practicability of the proposals and imagines their implementation would involve great expense without affording an adequate financial return.

Markets

Whilst the over-riding consideration should be the avoidance of traffic congestion, street markets do fulfil a public need for certain classes of the population. It appears doubtful to the Institution whether the proposed decentralization of all markets is practicable or in the best interests of the public.

Flatted Factories

The erection of a number of flatted factories to take small industries is indicated and the authors assume that these will be built by the County Council itself. If, in fact, there is a demand for such buildings, the Institution sees no reason why private enterprise should not be allowed to provide such buildings.

Conclusion

The Institution desires to conclude these observations by congratulating the LCC upon the initiative which impelled it to begin and carry through its investigations into the many facets of metropolitan life and being, and to publish the ideas of its advisers for the improvement of post-war London. Whatever criticisms there may be of those ideas, the County of London Plan, 1943, will live as a noble record of the work of its authors and of the concern of London's war-time Government for the future welfare of its citizens.

MATERIALS

1496 Dry-Rot

THE MINISTRY OF HEALTH DRY-ROT MEMORANDUM. *J. Watson Cabre.* (*The Builder, March* 3, 1944, *p.* 180.) Article offering sharp criticism of Circular No. 3/44 issued by MOH (See Inf. Centre No. 1429).

The criticism is based on the work of the late Professor A. E. Groom, who devoted a lifelong study to this subject. He came to the conclusion that the great dissemination of *merulius lacrymans* (which alone is more destructive than all other timber attacking fungi taken together) is not due to spores but to the dried and invisible root cells. These little cells of dried roots are easily carried about with anything that was in contact with infected wood (even apparently sound timber may contain them) and will contaminate whole areas with this deadly disease of timber. The Ministry's instruction, to cut away all infected wood 12 in. to 18 in. beyond the last visible sign of attack, is wholly inadequate, since the dry root cells are invisible and may be yards away from the place of attack. The only effective remedy is to burn all timber affected in the room where the rot has occurred. What is needed are properly trained men with practical experience, who, by having the right kind of knowledge about the causes of the disease, could deal with it effectively.

1497 Post-War Timber Supplies

POST-WAR TIMBER SUPPLIES FOR THE BUILDING INDUSTRY. (*Memorandum by the English Joinery Manufacturers' Association, February*, 1944.) No timber shortage expected after the war.

The leaflet has been issued to prove that the fears of many, that there will be a timber famine after the war, are completely unfounded. A review of the timber-growing countries shows that there can be no world shortage and post-war supplies therefore depend on exchange, shipping and political factors. The pamphlet suggests that all apparent difficulties are easy to overcome and that an adequate planning of the immediate housing programme can only be carried out if adequate supplies of timber are assured, timber being the ideal material for low-cost housing. The conclusions are summarized and Government Departments urged to give serious consideration to all the aspects of the problem set out in this country. (The contention that the recent delay in building the 3,000 cottages for agricultural workers was caused by the general public's unwillingness to accept timberless houses does not seem conclusive).

1498 World Timber Supplies

WORLD TIMBER SUPPLIES. (*Timber Development Association.*) Booklet examining timber situation likely to arise after the war. No shortage of standing timber. No lack of production capacity.

The facts and figures given in the appendices prove that there will be sufficient timber of suitable kinds in the forests of the world. As far as it can be estimated now, timber production will be resumed without difficulty and modern methods (for instance modern drying kilns) have made production even more economical than it was before the war. The scientific use of timber will allow a great saving in material. In the building industry timber is still one of the most economical materials to use and also the one best liked by the public. Still, the statement that " solid floors and staircases and other woodless innovations are as undesirable as they are unnecessary " seems somewhat rash. To anyone who followed closely the controversies over the agricultural cottages it must also seem absurd to account for the delay in the erection by the reluctance of the public to accept timberless construction.

1499 BWA Timbers

TIMBERS OF BRITISH WEST AFRICA. (*Timber Development Association.*) Description in alphabetical order of most important West African timbers.

During the war timber import to the United Kingdom has stopped from most of the usual sources. West Africa is still open and capable of supplying a vast quantity of first-class timber. Most of these timbers are not sufficiently known and the purpose of the brochure is to give unbiased and practical details of a number of commercially important timbers. The timbers are arranged in alphabetical order of their common names, under which the most important data regarding strength, seasoning, durability, working qualities, uses, supplies, etc., are given for each individual timber. The *Index* and *Use Guide for West African Timbers* at the end make it a very handy little reference book for all users of timber.

HEATING and Ventilation

1500 Cinema Projection Rooms

THE AIR CONDITIONS IN CINEMA PROJECTION ROOMS. *Oesterle.* (*Gesundheit-Ingenieur, June* 10, 1943, *pp.* 163-4.) Ventilation of many projection rooms found to be inadequate, and should be much greater than that of body of cinema.

The author considers that the deterioration of the air conditions within projection rooms is due to the fumes from the arc-lamps. He measured the concentrations of ozone, nitrous gases, carbon monoxide and carbon dioxide, as well as the temperature, humidity and the kata-cooling power in 50 German cinemas. CO_2 concentration was sometimes harmless, but in the worst cases, up to 3.7 per cent. was observed; and at this concentration would have pronounced physiological effects. The

lowest tolerable limit for nitrous gases is stated to be 0.07 mg./1. and this was exceeded in many cases. Ozone and CO did not reach toxic concentrations. The physical conditions were also poor—temperature 24-25°C, humidity 28-43 per cent. and kata-cooling power 3.4-5.3—and these warm and dry conditions would increase the effects of CO_2 and nitrous gases.

Mechanical extraction was not always satisfactory—in many cases it was defeated by inadequate inlets for fresh air, and in some cases the fan was not in use.

Author considers that Liese's standards of ventilation for the body of the cinema (350—700 c.f.h.) are too low for the projection rooms; although it is not possible, on the basis of the present work, to suggest appropriate rates of air change. It is added that so long as safety film is not compulsory, the ventilation of the hall and of the projection room should be quite separate.

1501 *Control of Air Streams*

CONTROL OF AIR STREAMS IN LARGE SPACES. *G. L. Tuve and G. B. Priester.* (*Heating, Piping and Air Conditioning, January*, 1944, *p.* 39.) Choice and design of air outlets for ventilation systems. Tests described.

Tests are described, in which the authors sought to determine the maximum velocity of an air stream at given distances from outlets of various shapes and sizes, and also the "throw" in a large room.

Equations and tables of discharge coefficients and correction factors are given to determine the throw corresponding to any given maximum velocity in the air stream in a room when the size and shape of the nozzle and the volume of air are known; or alternatively to find the size of outlet to give specified conditions within the room. Examples of calculation are given.

They conclude that for straight-flow outlets, up to 100 sq. in. in area and for outlet velocities less than 7,000 ft. per min. (i) the shape of the outlet has little effect on the throw, so long as the aspect ratio is less than 50; (ii) the shape of the air stream at distances greater than 20 diameters is little affected by the shape of the outlet; (iii) when the maximum velocity in the air stream is greater than 500 ft. per min., this falls off inversely as the distance, and is proportional to the outlet velocity; but the maximum velocity falls off more rapidly with distance when it is less than 500 ft. per min.; and (iv) multiple slots, nozzles or orifices when spaced a few inches apart produce the same effect as a single outlet of the same total area.

1502 *Radiant Heating*

WHAT 500 INSTALLATIONS HAVE REVEALED ABOUT RADIANT HEATING. *C. A. Hawk, Jr.* (*Heating, Piping and Air Conditioning, January*, 1944, *p.* 28.) Summarizes American practice in radiant floor heating.

Experience shows that the easiest method of radiant heating is by means of hot water circulated through pipes in the floor, ceiling or walls. The floor is usually chosen, and is considered in the paper. The pipes are usually laid in concrete slabs, which may or may not be in contact with the ground. The pipes may also be in contact with the lower surface of the concrete, or below it, in crushed gravel or stone. The thickness of the floor is immaterial, and installations have been satisfactory with floors varying from 3 to 10 in. thick. The recommended construction is 6 to 8 in. of gravel under the slab, with a waterproofing membrane between. A sinuous pipe layout is best for small buildings, but a grid layout is more satisfactory for large structures. The floor should be insulated against downward heat loss, but it is said that the losses here are not so serious as had been thought. The venting of pipe-coils appears to be a matter of private opinion. About half the systems are gravity drained, the rest are not. If properly designed, the floor temperature will not exceed 85° F., and this is not excessive. Almost any floor finish may be used. Thermostatic control of the air temperature affords a satisfactory means of control.

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.*

1503 *Plaster Defects*

Q *Internal plaster to walls of the semi-detached villa I occupy are giving trouble. All walls (except small bedroom) are distempered. There being no wallpaper, the plaster faults are, therefore, readily seen.*

1. *In some rooms the skim finish plaster has cracked and blown from the main float. House is 12 years old and the trouble has occurred in the last year. Main float seems to be poor, dirty plaster, with black pieces here and there like coal. Would you say that I should remove all the skim finish, serate the main float, and re-skim with a good quality plaster—say Keenes, and feel reasonably sure that it will not blow off in the course of time?*
2. *In principal first-floor bedroom, on internal party wall (distempered five years ago) dark stain patches arrived some months ago after frosty weather, and have remained. They are perfectly dry to the touch. What steps would you recommend before distempering again?*
3. *In the small first-floor bedroom at S.W. corner of house, three wet patches occur on inside of this cavity wall at 5 feet below ceiling. Each patch is about 1 sq. ft. in area, alternatively wet and dry, but always at same identical spots. Sometimes most wet when there has been no rain for days. By a detailed examination after removing eaves, etc., I am quite satisfied no damp is coming from outside.*

A All the defects suggest the use of faulty material in the plaster. The blowing of plaster is a typical result of using an unsound, slow slaking material which combines slowly with moisture and expands in the process. A surface treatment of paint helps to retain the moisture with the result that the failure usually becomes apparent at a comparatively early date. Distemper is less impermeable, however, and the expansion is often very slow in manifesting itself.

Stains, also, are usually caused by the use of some faulty material.

The presence of hygroscopic material would cause a liquid film to form on the wall surface at a temperature well above dew point which may persist under atmospheric conditions which are relatively dry. Chlorides of calcium and magnesium (constituents of sea water) and certain nitrates are the chief hygroscopic substances which cause trouble in building work.

This is a clear case for analysis and we should advise you to send samples of the plaster to the Building Research Station, Garston, Watford, Herts, with full particulars. They have, of course, a great deal of experience in these matters, and it is just possible that they could diagnose the trouble from examination of the plaster, without analysis.

SOCIETIES AND INSTITUTIONS

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.

CHADWICK TRUST

W. H. Hobday

April 4, at the Royal Society of Tropical Medicine and Hygiene. Bossom Gift Lecture of the Chadwick Trust on SANITARY TECHNIQUE IN THE DESIGN OF HOSPITAL AND DOMESTIC FITTINGS, by W. H. Hobday, F.R.I.B.A. Chairman: A. C. Bossom, F.R.I.B.A., M.P.

W. H. Hobday: We begin then with the general hospital. Although the patient is the focal point of all services, there is little we can deal with in connection with his immediate personal comfort. There is his bedside locker, an essential and constant companion, generally of hardwood, but far more sanitary in stove-enamelled steel. With its clean lines and stainless steel top one has a real good, suitable and sanitary job.

So we turn to the nursing staff. If we provide proper apparatus the nurse will not be worried with having to make something do, resulting in untidy utility rooms, congested with articles they were never designed to accommodate. For instance, while we have learnt that there are such things as mackintosh sheets to be washed and stored in the sink room, how seldom one sees provision made for the airing of blankets used in blanket baths. Give the nurse a hot towel rail, double the usual length, in the bathroom, and she knows exactly what to do with her blankets.

Somewhere, preferably in the sink room, bowls for the washing of patients must be neatly stored. Shelves in a recess will do, but a cupboard that will contain linen also, such as cloths for covering bed-pans, will make a neater job.

The labour entailed in the service of bed-pans is considerable, and any device to lessen it must be welcomed. The introduction of the modern washer was a great step forward, not the least of its many advantages being the reduction of the liability of nurses to throat infections.

L. E. Walker, Photo.

TUESDAY MARKET PLACE, KING'S LYNN.

THIS fine old house was once the town residence of an eminent local family but is now used as offices by a number of professional and commercial firms. Despite this fall in fortune, and the loss of some superb wrought iron lamp standards which once flanked the entrance, it still delights the eye. The bricks used are soft, and extremely porous, and only the prodigious thickness of the walls saves them from penetration by driving rains. Thin external walls, which economy has long since demanded, are weatherproofed by renderings of sand and cement made impervious with 'PUDLO' Brand waterproofer, in place of the usual undercoats of the internal plastering. Ask for the specification 4B.

There are two types of washer, that which stands against the face of the wall and that which is built into it. The former is useful for installing in an existing sink room, the latter in a new building where a brick setting can be provided.

With regard to the patient's bath, this can be an ordinary type or with an enclosure. If the former, it should be movable, which necessitates wall cocks, and a short brass waste discharging into a floor channel, which must be of ample size. This method does away with the insanitary collection of fixed pipes that would otherwise be necessary. But it is important that the floor should be laid to fall towards the channel, in case the outlet from the latter becomes blocked.

The other type is the fixed bath with enclosure installed at the LCC Lambeth Hospital. This I think makes a much better job. Make it a rule to provide 1 in. hot and cold services and 2 in. wastes to all baths, including those in the nurses' home, thus giving a quick filling and emptying.

Personally, I go to almost any lengths to avoid obstruction to the floor surface, cantilever brackets being used on every possible occasion. This applies to such things as small gas-cookers, vegetable sinks, pot racks, shelving, wall tables, and so on.

Another interesting fitting is the drug cupboard which, besides drugs, usually contains many other medical and surgical items. The capacity should be carefully considered with relation to the size and nature of the ward unit it is to serve, and its position decided upon in consultation with the medical superintendent or matron.

In the section of the drug cupboard containing medicines in constant use, it is a good plan to put narrow shelves to contain only one row of bottles. This can be supplemented by racks on the inside of the doors, thus simplifying the nurse's search for the right bottle. Keep all shelving, whether in cupboards or on walls, ½ in. to 1 in. clear of the wall at the back to facilitate dusting.

A combination fitting in the sister's office of a 20-bed paying patients' ward, is in polished mahogany. At the top is the poison cupboard with stove enamelled metal interior. Drug cupboards are provided elsewhere. In the centre is a rack for charts, at the bottom a store cupboard with movable shelves. In use it was found that a space for inserting the names of patients over the charts would have been helpful.

In connection with the urine testing cabinet you must provide a work bench or table. This should be covered with vitrolite, as the chemicals in use stain wood badly. The table is best carried on cantilever brackets.

The built-in instrument cabinet and shelf for drums are important items. In one case the latter was of polished anodium on which lay a ¼ in. pale green rubber pad. This reduced noise to a minimum and was easily taken off and scrubbed.

One or two points about the sterilizing room. Note that every piece of equipment is carried on cantilever brackets, there being no obstructive legs. Over each battery of sterilizers there is a wired plate-glass hood, from which steam must be mechanically extracted. To provide an opening in the outer wall in the hope that the steam will escape through it naturally, is quite useless. Another small but essential item is the chromium plated gutter under the bottom edge of each hood to receive the condensation water, and save it from dripping on the nurses. Each has a small outlet pipe carried through the outer wall.

One or two small points might be mentioned. The first is pipe ducts. It is important that these should be adequately ventilated by vertical flues at intervals, or by some other means. This not only to keep the air sweet and clean, but to prevent condensation on the underside of the floor above. If this occurs it may saturate the concrete and cause trouble with the floor covering. The second point. To avoid disfiguring an important elevation with soil and waste pipes, they can be run inside the building. When this is done, however, it is important that access eyes should be provided on the external face. With a soil pipe blocked at the foot, imagine the disastrous results of removing the cap of an access eye inside a ground floor room. Although almost incredible, I have known this occur.

Sir W. Collins: Fifty years ago I had to consider the question of the lining of the walls of an operating theatre. I decided that the fewer the excrescences on the wall the better so that there could be no place on which dust could rest. I used glass tiles granulated at the back so as to key on to the plaster, and this material has stood for years. You can almost hit it with a hammer without cracking the glass. It is absolutely non-absorbent and easily cleaned.

F. R. Hiorns: A hospital to be effective requires the most careful attention to details. Every working detail is important, and on account of the purpose it has to serve it must be scrupulously designed in what might be called minimum terms. Excess of equipment should be avoided. The avoidance of lodgments for dust and of supports that hinders the effective cleaning of the floor are of extreme importance. In the operating theatre there should be no opportunity for the lodgment of germs. I have myself used a lining material the basis of which consists of a hard plaster. This was sprayed with a form of paint which set with a surface as hard as china. This material is known as cement glass, and enables the walls and ceiling of the operating theatre to be finished with no suggestion of a joint; the whole thing can be washed down and the extreme of cleanliness ensured.

GLACSA

Conference

May 18, at the House of Commons. Annual General Meeting and Conference of the Greater London Advisory Council for Smoke Abatement on POST-WAR SMOKE PREVENTION IN GREATER LONDON. Address by H. V. Willink, K.C., M.P., Minister of Health. Other speakers: H. T. Perry, Chief Sanitary Inspector, Kingston; H. G. Clinch, Chief Sanitary Inspector, West Ham; Arnold Marsh, Secretary of the National Smoke Abatement Society.

A. Marsh: The question of a smokeless central area has received the approval of the Manchester City Council and, but for the war, that city would have established the first smokeless zone in the country. I suggest that the new buildings to be erected in London City area after the war should be smokeless and that they should not be forced to suffer rapid degradation by erosion and blackening from their smoke-emitting neighbours.

The whole of the City of London, and parts of Westminster and Holborn, would be an area of adequate size for the experiment and would include most of the heart of the metropolis. In it are the principal buildings, streets and squares, and the centres of Government in and around Whitehall, the open coal fire smoke of which has been notorious in the past. If this zone were rendered smokeless it would give a magnificent opportunity to the architects and town-planners to re-design the damaged parts of the city.

It will be necessary to prohibit open fires in all new buildings other than dwellings. In other non-industrial buildings all heating and cooking would, without question, be fully smokeless. Such procedure, already widely used in other parts of the world, would not prescribe the type of fuel or appliance to be used, but would only ensure that what was used was suitable, efficient and smokeless.

Existing smoke-producing premises will find it necessary to go over to the use of smokeless fuels, or instal suitable equipment. If it proves to be necessary the cost of such changes could be helped by grants from the local authority as is done in the case of changes in the sanitation system.

Such smokeless zones, adopted at the same time in other parts, should not be regarded as final objectives representing isolated areas in a sea of smoke. Rather are they the initial phases of a development that, by progressive expansion, would in due course lead to the joining together of the separate areas until the whole of Greater London has become smokeless.

WACSF

Discussion

April 28, at the Good Housekeeping Institute. Discussion convened by the Women's Advisory Committee on Solid Fuel on PREFABRICATED HOUSES AND THE USE OF SOLID FUEL BURNING APPLIANCES. Chairman: the Hon. Lady Egerton.

B. Brunton: (of Uni-Seco Structures): A great deal has been written about prefabrication in recent months and people are slowly developing some appreciation of the limitations and possibilities of factory produced houses. A good deal of educational work is still required; for instance, a prominent engineer recently said that to take full advantage of prefabrication solid fuel will have to be disposed with and heating and cooking carried out by gas, electricity or oil. My company has supplied hundreds of prefabricated buildings at factories, ship yards, farms and military establishments and in all these solid fuel burning appliances of different types have been installed. Our system is based on what is known as the unit system of construction, having a basic unit 7 ft. high by 3 ft. wide to which can be added smaller units bearing a carefully defined mathematical relationship. By selecting the appropriate types of roof and wall units, it is thus possible to erect a building following any architect's plan ranging from a single room to a two-storey house or a large factory building. The components have very high insulating value which contributes to the economical use of fuel. The smallest building so far erected has been a telephone box and the largest a canteen for feeding three thousand people at one sitting. The importance of providing solid fuel appliances for the post-war home must be stressed; proper co-operation between manufacturer and builder is needed to establish suitable sizes and types.

R. E. Maxwell: (of Smith & Wellstood): It is important to give every householder efficient and well-designed cooking and heating appliances instead of regarding prime cost as the first consideration. The practice of buying appliances on a basis of cost without any regard to their performance has been the principal reason why manufacturers have not been encouraged to produce grates and cookers which make the best use of the desirable features of solid fuel burning appliances. Families who were able to afford to do so had in pre-war years installed space-heating stoves which would keep alight day and night, and which were cheap to run and easy to clean. In the kitchen they might have a modern solid fuel burning cooker which would heat the water, warm the room, do the cooking and air the clothes with one source of heat. It is more important to spend a little extra money in giving housewives up-to-date and proper appliances, which are at the same

time economical in fuel, and not to fill the house with gadgets at the expense of basic needs.

J. S. Hales: The requirements of solid fuel burning appliances for an adequate flue to take away products of combustion often present an apparent difficulty when dealing with prefabricated houses. The provision of at least one such flue can, however, be made to fit in with any prefabricated construction, particularly where a centralized system for the plumbing and other services are provided. Moreover, means can be provided for tapping off some of the heat from the flue for warming other rooms, and thus raising the efficiency of the use of solid fuel generally. Under these conditions and given the improved solid fuel burning appliances, not only can the standard of heating be greatly increased, but the cost of supply of that heat can be within the means of the lowest income groups. In the construction of flues many considerations have to be taken into account to ensure satisfactory operation and life, but these can be met by correct design.

RIBA

Architects' Fees

Local authorities throughout England have been advised by the Ministry of Health of the urgent need for providing the maximum amount of housing accommodation at the earliest possible moment, both by the repair of WAR DAMAGED PROPERTY AND THE REQUISITIONING OF HOUSES which may be reconditioned or in some cases may be converted into flats. Scales of architects fees for this work have now been issued by the RIBA. Where local authorities find it necessary to engage the services of architects in private practice, the fees in respect of war damage repairs and work of a similar character will continue to be those laid down in MOH Circular 2720. In the case of conversion of dwelling-houses into flats, the Council of the RIBA, after consultation with the Ministry of Health, has approved a scale of fees. Here are the scales for both classes of work :

WAR DAMAGE REPAIRS

Fees for War Damage Repair Work for Local Authorities: Extract from Ministry of Health Circular 2720 to Housing Authorities (England). Part II: Professional Fees.

6. The fees now payable by local authorities for professional services in connection with the first-aid repair of houses damaged by enemy action are laid down in Memorandum IIA 16, dated December 28, 1939. This Memorandum provides that a fee of 10s. per hour shall be paid for principals' and senior assistants' time, this to include any necessary office expenses and clerical assistance.

As local authorities will appreciate, there was at the time no real data on which to base a scale of remuneration for this work and the fee prescribed was the best estimate that could then be made. It has been found by experience that the cost of work at these fees varies within wide limits and that very uneven results have been produced. The matter has been under consideration in consultation with the War Damage Commission and the RIBA : and the Minister has decided that a revised code should in future be applied. This is substantially the same as that recently issued for use by persons other than local authorities by the War Damage Commission after consultation with the RIBA, the Chartered Surveyors' Institution and the Auctioneers' and Estate Agents' Institute. This code so far as it affects the operations of local authorities is as follows :—

Scale of Fees

(1) For preparing a specification of works (or equivalent document); for obtaining tenders and/or arranging a contract where necessary; and for general supervision and execution of the works and certifying for payments and completion :—

(*a*) 5 per cent. on the first £500 of the cost with a minimum fee of £1 1s. 0d. (or a minimum fee of £5 5s. 0d. where the work affects the structural stability of the building or involves reinstatement or repair of features of architectural or artistic interest).
(*b*) 4½ per cent. on the next £500 of the cost.
(*c*) 4 per cent. on the next £500 of the cost.
(*d*) 3½ per cent. on the balance of the cost.

(2) An appropriate specification, or equivalent document, conveying to the builder clear directions as to the work to be carried out must be prepared before or at the time when the works are put in hand, and the person charging the fees must certify that he has fully performed the services described.

(3) If, in any exceptional case, it is desired to utilize the services of a quantity surveyor, the proposal *must be referred* to the Senior Regional Officer of the Ministry of Health for prior approval. If it is agreed that such services are needed, fees will be allowed, in addition, on the normal professional scale.

(4) The above fees are *exclusive* of travelling expenses and other reasonable disbursements and of the wages of a clerk of works.

(5) The above fees are *inclusive* of the fees of any consultant or specialist engineer by whom the architect or surveyor may wish to be advised.

(6) The scale of fees shall be applied by reference to the aggregate cost of work done under each contract between the local authority and the contractor or builder.

(7) It will be observed that the scale of fees makes no provision for the employment of an architect to make a detailed survey of buildings or to prepare or check working drawings. In the Minister's view, it will very seldom be necessary as regards the repair of war damage to house property, including blocks of flats, for local authorities to resort to an arrangement of this kind. If, in exceptional circumstances, the local authority wish to make such an arrangement in relation, e.g., to block dwellings, an application for prior approval should be submitted to the Senior Regional Officer, accompanied by a full statement of the facts. The Senior Regional Officer will, if the application is approved, advise on the appropriate scale of remuneration.

(8) The Minister desires to make it clear that the fees referred to in the above Scale are maximum fees and that where outside professional assistance is not used for the whole of the work there described, the local authority should consider what reduction in the Scale would be appropriate, having regard to the nature of the work and the existence of any special difficulties it may present.

EMERGENCY CONVERSION OF DWELLING-HOUSES INTO FLATS

Scale of Fees for the Emergency Conversion of Dwelling-Houses into Flats by Local Authorities.

After consultation with the Ministry of Health, the Council of the RIBA has approved the following scale of fees for the emergency conversion of dwelling-houses into flats by local authorities.

(1) For making detailed survey of the building :—

Principal's time	£5 5s. 0d.	a day
Senior Assistant's time ..	£2 12s. 6d.	,,
Junior Assistant's time ..	£1 11s. 6d.	,,

Note.—Senior assistants to mean assistants receiving £6 6s. 0d. a week and upwards; junior assistants, those receiving up to £6 6s. 0d. a week.

(2) For preparing working drawings and specifications of the works (or equivalent document); where necessary, obtaining tenders and/or arranging a contract; for general supervision of the execution of the works and certifying for payments and completion :—

10 per cent. on works costing up to £500 with a minimum fee of £10 10s. 0d.
9 per cent. on works costing between £500 and £1,000 with a minimum fee of £50.
8 per cent. on works costing between £1,000 and £1,500 with a minimum fee of £90.
7 per cent. on works costing between £1,500 and £2,000 with a minimum fee of £120.
6 per cent. on works costing over £2,000 with a minimum fee of £140.

(3) The above fees are exclusive of travelling expenses and other reasonable disbursements and the fees under (1) are in addition to those under (2).

(4) The above fees are exclusive of the wages of a clerk of works.

(5) The above fees are exclusive of those for quantity surveying services. If such services are required, fees will be allowed, in addition, on the normal professional scale.

Fees for quantity surveying services will be allowed where the works cost more than £1,000, and where these services are rendered by a Quantity Surveyor or a firm of Quantity Surveyors practising as such, not being the person or firm rendering the services described in paragraph 2 of the scale above.

Provided only that where the person or firm who has rendered the services described in paragraph 2 of the scale above in the capacity of Architect, is also in regular practice as Quantity Surveyor, fees for Quantity Surveying services may also be allowed where the certificate that these latter services have been performed is signed by the person (stating his qualifications) who has actually rendered such services, and also by the principal or firm with which he is connected.

(6) The above fees are inclusive of the fees of any consultant or specialist engineer by whom the architect or surveyor may wish to be advised.

(7) The fees are to be calculated on the cost of the building work carried out to a property or properties for which one set of drawings and one specification have been prepared. In the event of a group of similar properties being dealt with by the same Architect and where one set of drawings and one specification are supplied for the whole of the properties then the scale may be applied by reference to the aggregate cost of the work.

(8) The fees for abandoned work for which professional services have been rendered shall be calculated by reference to the RIBA Scale of Charges, Clause 2 (*e*) (i), (ii), (iii) and (iv).

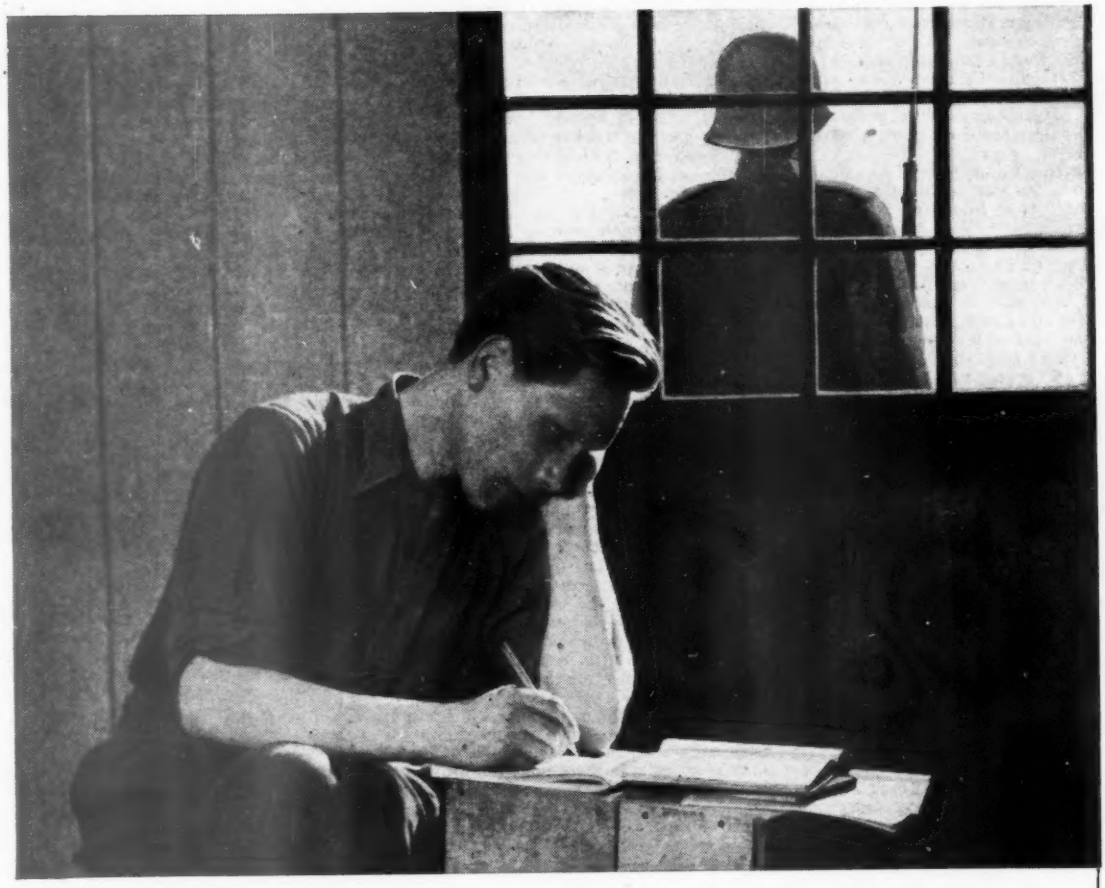
ABS

Annual Meeting

April 26. Annual general meeting of the Architects' Benevolent Society at the RIBA.

The President, Mr. Percy E. Thomas, O.B.E., P.R.I.B.A., in moving the adoption of the Report, Statement of Accounts and Balance Sheet, said that, although the general position of the Society was satisfactory, the Council were not able to give grants which would be really adequate for the times, in view of the increased cost of living. They could not do so until greater help was received from members generally. The response to the Half-Crown Appeal was the highest yet received up to date, but still only represented one-tenth of the profession. The President hoped that the other nine-tenths would come forward to support the Society and so help its work.

Captain H. S. Goodhart-Rendel, Hon. Treasurer, in presenting the Accounts and Balance Sheet, drew attention to a new form of donation received by the Society—National Savings Certificates. The Society was entitled to hold these and they were a form of donation which might prove invaluable as a reserve for post-war difficulties. He hoped that this



PRISONERS OF WAR STUDY FOR EXAMINATIONS

WILL YOU HELP THEM?

Two Pilot Officers in a German prison camp have recently passed the Intermediate Examination of the Royal Institute of British Architects. Hundreds of other prisoners are preparing for examinations, or have already taken them, in Architecture, Surveying, Town Planning, Engineering and many other subjects.

Far from home, deprived of physical freedom, often without quiet or privacy for study, these men are preparing now for the tasks of post-war reconstruction. The Educational Books Section of the Red Cross and St. John are doing everything possible to help them. But many of the books needed by the prisoner-students are difficult to obtain. So will *you* help as well? Please see if you have any of the books listed, or books of similar type. They should be in good condition to stand the journey and unmarked to meet censorship regulations.

BOOKS NEEDED BY PRISONERS OF WAR

MITCHELL: Building Construction. Vols. I and II.
FLETCHER: History of Architecture.
ADAMS: Elements of Concrete Design.
BLAKE: Drainage and Sanitation.
OVERTON: Heating and Ventilating.
Books on Technical Drawing and Draughtsmanship.
PALMER: Practical Upholstery.
PATMORE: Modern Furnishing and Decoration.
IONIDES: Colour in Everyday Rooms.
HOLMES: Colour in Interior Decoration.
QUENNELL: Everyday Things in England (any vols.).
FABER & BOWIE: Reinforced Concrete Design. 2 vols.
JAGGARD & DRURY: Architectural Building Construction. 3 vols.
FOWLER: Architects' Builders' and Contractors' Pocket Book.

PLEASE SEND YOUR BOOKS TO

The Secretary, Educational Books Section, Prisoners of War, marking the parcel "FOR GENERAL USE."

RED CROSS & ST. JOHN WAR ORGANISATION

THE NEW BODLEIAN, OXFORD

(Red Cross & St. John Fund — Registered under the War Charities Act, 1940.)

This space has been given to the Red Cross by
THE CRITTALL MANUFACTURING CO. LTD.

reserve might grow as a result of further donations of the same kind.

Mr. Percy Thomas was re-elected President, and other Officers and Members of the Council were elected as follows: Vice-Presidents: Sir Harry S. E. Vanderpant, Hon. A.R.I.B.A.; Sir Banister (Flight) Fletcher, P.P.R.I.B.A.; Sir Charles A. Nicholson, Bart., F.R.I.B.A.; H. Greville Montgomery, Hon. A.R.I.B.A.; Captain H. S. Goodhart-Rendel, P.P.R.I.B.A.; W. H. Ansell, M.C., P.P.R.I.B.A.

Hon. Treasurer: Captain H. S. Goodhart-Rendel. Hon. Secretary: Sir Charles A. Nicholson, Bart. Hon. Auditors: Sir H. S. E. Vanderpant and Charles Woodward.

Members of Council: S. H. Hamp, F.R.I.B.A.; C. H. Holden, F.R.I.B.A.; A. H. Moberly, F.R.I.B.A.; F. Winton Newman, F.R.I.B.A.; S. Tatchell, F.R.I.B.A.; Maxwell Ayrton, F.R.I.B.A.; Romilly Craze, F.R.I.B.A.; O. P. Milne, F.R.I.B.A.; Michael Waterhouse, F.R.I.B.A.; F. R. Hiorns, F.R.I.B.A.; J. Alan Slater, F.R.I.B.A.; L. Sylvester Sullivan, F.R.I.B.A.; Charles Woodward, A.R.I.B.A.; S. Phillips Dales, F.R.I.B.A.; Francis Jones, F.R.I.B.A.; C. M. Hadfield, F.R.I.B.A.; Ernest Bird, F.R.I.B.A.; Arthur C. Russell, L.R.I.B.A.; B. M. Ward, F.R.I.B.A.; Cecil Burns, F.R.I.B.A.; J. R. Leathart, F.R.I.B.A.; Vincent Burr, L.R.I.B.A.; F. G. Sainsbury, L.R.I.B.A.; E. Hadden Parkes, F.R.I.B.A.; John Beloff.

LMBA

H. C. Harland

May 11, at the Edinburgh Rotary Club. Speech by H. C. Harland, President of the London Master Builders' Association.

H. C. Harland: After the war, the Essential Work Order must go and unnecessary control of materials disappear, if we are to have cheaper houses. On the return of younger men from the Forces the hourly output will increase. With the disappearance of Government interference between employers and employed there will be increased confidence, which will result in a greater will to work for the ultimate benefit of all who require housing. A spirit of competition between prefabricators, who threaten to build houses quicker and more cheaply, and the builders of real houses with great experience behind them will result in stepping up production and thus reducing costs.

As to wages, they may go up or down, but there must be some relation between output and the hourly rate of pay. Any agreement for a bonus on output is not a matter for Government arrangement, but for mutual agreement between the members of the team working together to produce what all men need, namely, homes, and I am confident that with the disappearance of the present spirit of profligacy which the war has produced, we may expect costs to be standardized at some 50 per cent. above the pre-war level, which would result in the £500 house costing somewhere about £750.

As to the post-war house, much has been said and written about prefabrication. Everything in the ordinary house is already prefabricated, even the common walling materials to which we have become so accustomed.

I have seen a Portal steel house, and I am sure it will meet a great need, especially in housing people on the Continent of Europe, and it will have to be put up with by many requiring houses in this country. Externally, it is more or less a tin box, or, shall I say, a motor body minus wheels, but internally it looks quite good, and it will be Home to many who await the real houses which everyone will want, but which simply cannot be produced. Steel houses should be produced quickly in factories switching over from war production of light steel construction, and as temporary measure will be hailed as a boon and a blessing to men.

There are other forms of so-called prefabricated buildings and my own feeling is that, where these forms of construction compare reasonably in cost with normal construction, do not employ building trade labour which will be required on permanent construction, and can be erected on the site with considerable saving in man-hours, the country will have to accept them as a temporary measure to give us houses and more houses against the millions that will be required.

No one wants these temporary prefabricated articles which will never fit comfortably into our countryside or our new town-planned housing schemes, but it will be a case of Hobson's choice, and for this reason we will accept them as being inevitable.

As to permanent construction, there will be many varieties of concrete construction for walls to overcome shortage of stone and masons and of bricks and bricklayers. But these permanent alternative methods will go on side by side with stone- and brick-built houses employing craftsmen, and will be camouflaged by rough cast and cement render so that they will fit into any scheme. All these are tried and tested forms of construction. Let us see to it that all these houses are architectural in appearance, are spacious and have all necessary plain fittings economically possible so that those occupying them can afford the rents and enjoy their comfort and amenities.

ANNOUNCEMENT

Mr. Victor L. Johnson, A.R.I.B.A., has commenced practice at 88, Staines Road, Twickenham (POPesgrove 3288), where he will be pleased to receive Trade Catalogues, etc.

CORRECTION

On page 344 of the A.J. for May 11, the caption under the heading *Utility Home* should read ". . . over 2,000 of these houses a week" and not ". . . over 20,000 . . .".

WHAT ARE THE PROBLEMS OF SHOP DESIGN?

TAKE, FOR EXAMPLE, THE QUESTIONS THAT ARISE FROM INTERIOR LAYOUT:

1. What is the income of the majority of customers — i.e. should the plan of the shop be designed to give an impression of high class and exclusive trade or one of popular, mass appeal?

2. If a popular type of store, what materials best lend themselves to standardisation without losing eye appeal? i.e. for door surrounds, counter tops, display cases and lettering.

3. Is any degree of privacy essential in any department? This can be formed by the use of storage and display cases and is usually best arranged on upper floors away from main circulation.

4. Is the volume of business spread evenly over the week, or are there special peak periods for which provision must be made in the form of wide circulation space and additional entrances and exits?

5. What is the most practical relationship between the entrance doors and the lifts and escalators? i.e. should customers be encouraged to pass through the store to reach lifts, etc.? How should emergency exits be arranged in relation to lifts, stairs, etc.?

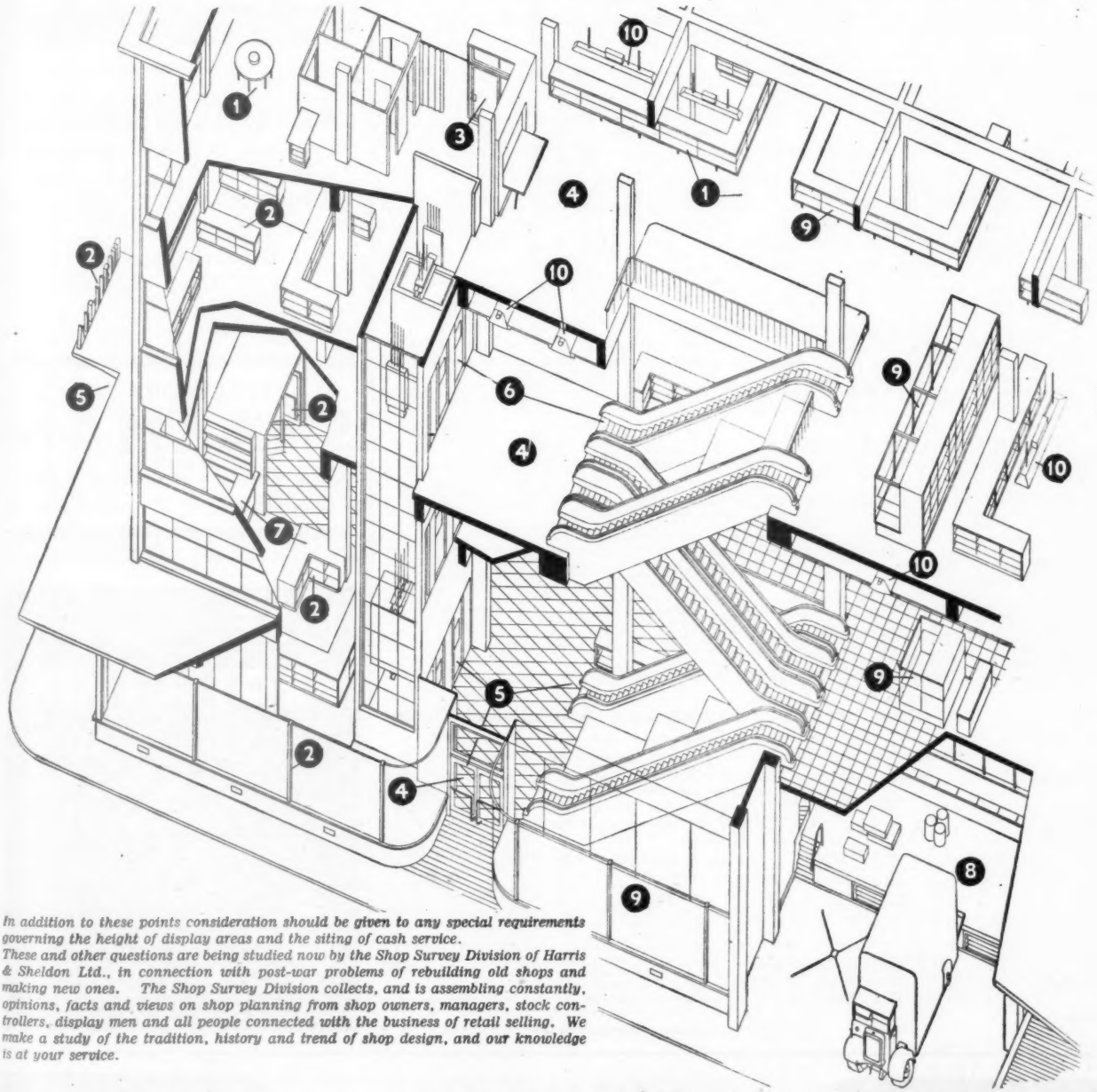
6. Will lifts, escalators, or both carry the main traffic loads?

7. What are the most important departments for the particular store's business — how should space be allocated and divided? In this case space has been allowed close to entrance.

8. What arrangements are to be made for intake and storage of merchandise and for dispatch — use of side street or internal court within the shop — connection to basement by chutes and conveyors?

9. What size of display area is required? Is it to be continuous or broken up?

10. What methods of lighting? Use of fluorescent lighting. Use of recessed or sunk fittings.



In addition to these points consideration should be given to any special requirements governing the height of display areas and the siting of cash service.
These and other questions are being studied now by the Shop Survey Division of Harris & Sheldon Ltd., in connection with post-war problems of rebuilding old shops and making new ones. The Shop Survey Division collects, and is assembling constantly, opinions, facts and views on shop planning from shop owners, managers, stock controllers, display men and all people connected with the business of retail selling. We make a study of the tradition, history and trend of shop design, and our knowledge is at your service.

PUBLISHED BY THE SHOP SURVEY DIVISION OF **HARRIS & SHELDON LIMITED**

MAKERS OF SHOPS

Works & Head Office: Stafford Street, Birmingham, 4. Telephone: Central 7101. London Office: 27, Berkeley Square, W.1. Telephone: Mayfair 2017. Glasgow Office: 94, Miller Street: Manchester Office: Fernleaf Street, Moss Side. Loughborough Office: Woodgate.

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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal." War Address: 45 The Avenue, Cheam, Surrey, and should reach there by first post on Monday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal." War Address: 45 The Avenue, Cheam, Surrey.

Public and Official Announcements

Six lines or under, 6s.; each additional line, 1s.

The Incorporated Association of Architects and Surveyors maintains a register of qualified architects and surveyors (including assistants) requiring posts, and invites applications from public authorities and private practitioners having staff vacancies. Address: **75 Eaton Place, London, S.W.1. Tel.: Sloane 5615** 991

CORNWALL COUNTY COUNCIL

Applications are invited for the appointment of Two Senior Architectural Assistants in the County Architect's Department, at an annual salary from £460 to £500 according to qualifications and experience.

Forms of application may be obtained from the County Architect, County Hall, Truro, to whom applications must be sent not later than Saturday, the 3rd June, 1944, accompanied by copies of three recent testimonials.

L. P. NEW,
Clerk of the County Council.

County Hall,
Truro.
10th May, 1944. 640

COUNTY COUNCIL OF DOWN (NORTHERN IRELAND).

The Council of the Administrative County of Down invites applications for the position of County Planning Officer for the preparation of a Planning Scheme for the County Rural areas, the Scheme to be co-ordinated with those of the several Borough and Urban District Councils in the County, and the person appointed, or his Assistants, may be called upon to prepare Schemes for certain of the Urban Districts.

He will also be required to discharge all duties in connection with Interim Development Orders.

Salary at the rate of £1,000 per annum, with travelling expenses at Civil Service scale. Motor car to be provided and used by the Officer.

Applicants must possess the following qualifications: He must be a Fellow, Associate or Member of one of the following:—

The Royal Institute of British Architects;
The Royal Institute of the Architects of Ireland;
The Institution of Civil Engineers;
Institution of Civil Engineers of Ireland;
The Institution of Municipal and County Engineers; or
The Chartered Surveyors' Institution,

in addition, he must be at least an Associate Member of the Town Planning Institute, and have had practical planning experience.

Employment (probable duration at least three years) will be of a whole-time nature, terminable by three months' notice, in writing, on either side, and the appointment is subject to the sanction of the Ministry of Home Affairs.

Selected candidates will have to attend for interview; vouched expenses being allowed, and the person appointed will be required to enter into an agreement prepared by the County Solicitor.

Applications, in writing, giving full age and particulars of qualifications and previous experience, together with copies of three recent testimonials, will be received by the undersigned not later than TUESDAY, 30th MAY, 1944.

J. H. HARVEY,
Secretary, County Council.

Courthouse,
Downpatrick, N.I.
12th May, 1944. 642

CITY OF MANCHESTER.

TEMPORARY TOWN PLANNING ASSISTANTS.

Applications are invited for Temporary Senior Appointments in the Planning Section of the City Surveyor's Department, at basic salaries ranging from £400 per annum to £600 per annum, plus appropriate cost of living adjustment ranging from £49 8s. to £40 6s.

The successful applicants will be expected to have technical qualifications and town planning experience which would readily enable them to take charge of different aspects of Town Planning work involved in the preparation of draft proposals for the reconstruction of built-up areas.

Applications endorsed "Temporary Town Planning Assistant," stating age, present occupation and salary, previous experience and qualifications, and accompanied by copies of three recent testimonials, should be delivered to the undersigned not later than 3rd June, 1944.

R. H. ADCOCK,
Town Clerk.

Town Hall,
Manchester. 645

SOMERSET COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of Temporary Class II Architectural Assistants in the above-named Department. The salaries will be within the scale of £310 per annum by annual increments of £10 to £350 per annum, the commencing salaries to be determined by experience and qualifications. A payment equivalent to 15 per cent. of the basic salary in respect of increased working hours adopted by the Council, plus war bonus, will also be made.

The successful candidate will be required to pass a medical examination by the County Medical Officer of Health.

Applications, stating age, training, experience, qualifications, position in regard to Military Service and length of time required to take up new appointment, together with copies of three recent testimonials should be sent to the undersigned not later than Saturday, the 3rd June, 1944.

R. O. HARRIS, A.R.I.B.A.,
County Architect.

Park Street,
Taunton. 646

COUNTY COUNCIL OF DUMFRIES.

COUNTY ARCHITECT.

The council invite applications for the appointment of County Architect. Applicants must be fully qualified and registered architects, and should also be qualified to supervise the measurement and scheduling of building works and the re-measurement of such works.

The salary will be at the rate of £800, rising by annual increments of £25 to £1,000 per annum, with such war or other bonus as may from time to time be payable. He will receive a mileage allowance for use on official duty of a motor car provided by him.

The appointment will be subject to the Local Government Superannuation (Scotland) Act, 1937.

Further particulars and form of application may be obtained from the undersigned with whom applications (on the prescribed form) must be lodged not later than noon of Friday, 2nd June, 1944.

Canvassing directly or indirectly will be a disqualification.

JOHN ROBSON,
County Clerk.

County Buildings,
Dumfries.
16th May, 1944. 647

CITY OF PORTSMOUTH EDUCATION COMMITTEE.

SOUTHERN COLLEGE OF ART (PORTSMOUTH CENTRE).

Principal: E. E. PULLEE, A.R.C.A.

FACULTY OF ARCHITECTURE.

EVACUATED TO NORTH WALLS, WINCHESTER.

Required for September full-time Lecturer and Studio Instructor. Candidates should be Fellows or Associates of the R.I.B.A., and preferably graduates of a recognised School of Architecture with some professional experience. Teaching experience an advantage but not essential. Salary Burnham Provincial Art scale (plus War Bonus). Increments may be allowed for approved time spent in industry or professional work up to maximum of 10 years. Further particulars and form of application may be obtained from The Registrar, College of Art, The Municipal College, Portsmouth. Applications should be submitted by 8th June, 1944.

E. G. BARNARD,
Chief Education Officer.
649

Architectural Appointments Vacant

Four lines or under, 4s.; each additional line, 1s.

Wherever possible prospective employers are urged to give in their advertisement full information about the duty and responsibilities involved, the location of the office, and the salary offered. The inclusion of the Advertiser's name in lieu of a box number is welcomed.

ARCHITECTURAL ASSISTANTS REQUIRED:

(a) Senior Assistant; to prepare schemes, perspectives, working drawings and details, site-surveys, etc., A.R.I.B.A. or equivalent.

(b) Junior Assistant; to prepare working drawings and details under supervision, assist on surveys, etc. Inter A.R.I.B.A. standard.

Applicants must be keen, energetic and capable of original work. Midlands area, permanency with good prospects to the right applicants. Apply in writing, stating age, qualifications, brief resume of training and professional experience, salary required and liability for National Service to Box 637. [Chartered Architects].

Classified Advertisements continued on page xxxiv.

TEMPORARY ARCHITECTURAL ASSISTANT required for Architectural Section of Local Authority (Greater London Area). Salary may be up to £400 plus war bonus, according to qualifications and experience. Before any appointment is made the approval of the Ministry of Labour and National Service will be necessary. Box 617.

SENIOR ARCHITECTURAL ASSISTANT required, capable of undertaking responsibility in the preparation of post-war plans for factory work, and in connection with work on prefabricated housing. Advertisers are an old-established, progressive firm in the north midlands willing to pay a good salary to the right man. The work to be undertaken is considered of national importance and covered accordingly. [Chartered Architects.] Box 643.

ASSISTANT ARCHITECT required, temporary or permanent. Salary according to qualifications and experience. Apply in writing to Sir John Brown & A. E. Henson, 117, Sloane Street, London, S.W.1. 644

ARCHITECTURAL GENERAL ASSISTANT required by chartered architect in Midlands county town—must be exempt from military service. Apply, stating age, salary and experience to Box 652.

Architectural Appointments Wanted

Architectural Assistants and Students seeking positions in Architects' offices will be printed in "The Architects' Journal" free of charge until further notice.

ASSISTANT, seven years' experience domestic, commercial, industrial structures and prefabrication, is available immediately for professional firm, contractor, industrial concern or research organization. Salary about £6 6s. Box 305.

SURVEYOR, BUILDING SURVEYOR, INSPECTOR, Etc., with over 30 years' varied experience, qualifications (theoretical and practical), in all branches of the profession and building trades, seeks responsible position in Birmingham, or surrounding five counties; with Local Authorities, or public bodies, etc.; experience in public offices; and includes war damage, dilapidations, etc.; exempt military service, over military age. Box 306.

ARCHITECTURAL STUDENT, having trained for 2 years at Day School of Architecture and who wishes to obtain practical experience while continuing studies in Evening School desires position with progressive firm on essential work, preferably in London area. Box 307.

MALE ARCHITECTURAL STUDENT, second year Liverpool school of Architecture, wants work of national importance in an architect's office, London preferred, during summer vacation after July 8th. Box 308.

Planning

As originators of the Auto-Recorder System of Machine Milking we have had extensive experience of planning layouts to accommodate the new technique. The service of our Technical Department is available to any Architect planning or modifying farm buildings for this purpose. Write in confidence to:—The Planning Dept., Gascoignes (Reading) Ltd., Gascoigne House, Berkeley Avenue, Reading. 603

Other Appointments Vacant

Four lines or under, 4s.; each additional line, 1s.

ASSISTANT EDITOR wanted for Architectural Paper. Write, with full particulars of qualifications, salary required, &c., to Box 51.

Other Appointments Wanted

Four lines or under, 2s. 6d.; each additional line, 6d.

HEATING AND VENTILATING ENGINEER, A.M.I.H.V.E., specialist in district supplies for hot water services and heating, is willing to act as "consulting engineer," free lance at the usual fees, etc., or paid post to private company or corporation desirous of, or at present financing undertakings for the supply, installation and maintenance of engineering plant in the above connections on a large scale. Write in the first place to Box 628.

LIFELONG STUDENT of and writer on architecture (B.A. and B.L.), seeks position of any kind connected with the profession pending taking examinations in practical side. Box 641.

Miscellaneous

Four lines or under, 4s.; each additional line, 1s.

A. J. BINNS, LTD., specialists in the supply and fixing of all types of fencing, tubular guard rail, factory partitions and gates. 53, Great Marlborough Street, W.1. Gerrard 4223-4224-4225.

WANTED. Complete set or part ARCHITECT'S JOURNAL Library of Planned Information Sheets. Bound or Unbound. Good price offered. Box 621.

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POST-WAR HOUSING.
The Bournville Village Trust are preparing schemes for the erection of houses immediately after the war.
Manufacturers and others who have developed systems for the rapid construction of permanent houses are invited to send full details to Secretary and Manager, Estate Office, Bournville, Birmingham, 30. 650

1,000 TYPEWRITERS NEEDED. £25 paid for Royal, Underwood, Remington, LC Smith, Smith Premier, Imperial machines up to 6 years old; £20, 10 years; £10, 25 years. Others at current values. Collected cash. King's Equipment Co., 26, Buchanan Buildings, Holborn, London, E.C.1. 651

Educational Announcements

Four lines or under, 4s.; each additional line, 1s.

R.I.B.A. AND T.P. INST. EXAMS. Private Courses of tuition by correspondence arranged by Mr. L. Stuart Stanley, M.A., F.R.I.B.A., M.T.P.I. Tutor, St. Catherine's College, Cambridge. 231