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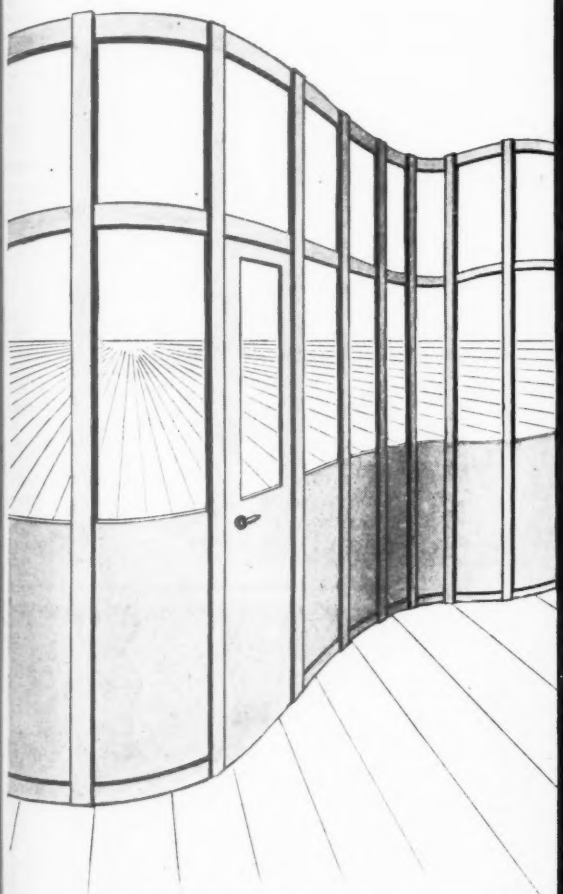

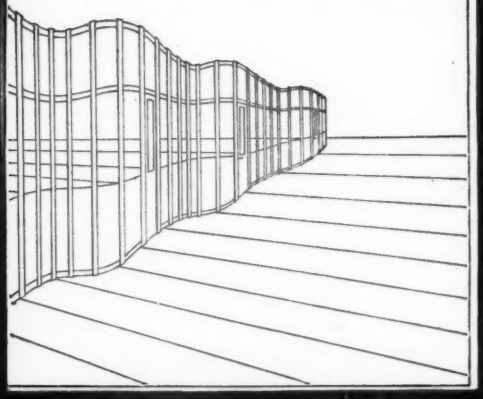

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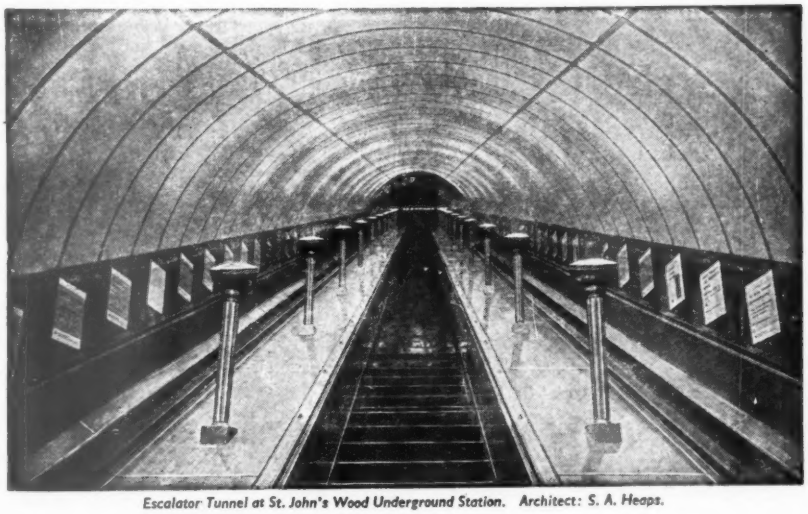
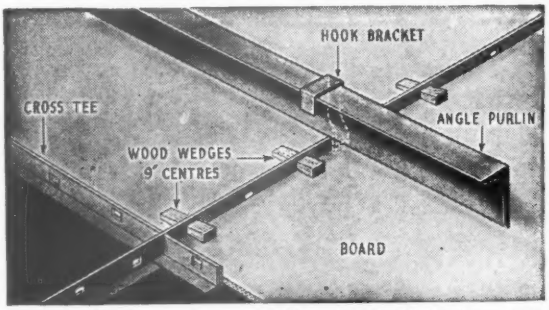
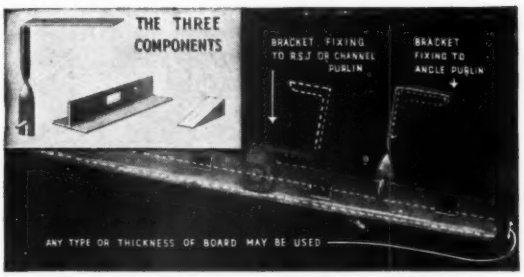


Escalator Tunnel at St. John's Wood Underground Station. Architect: S. A. Heaps.





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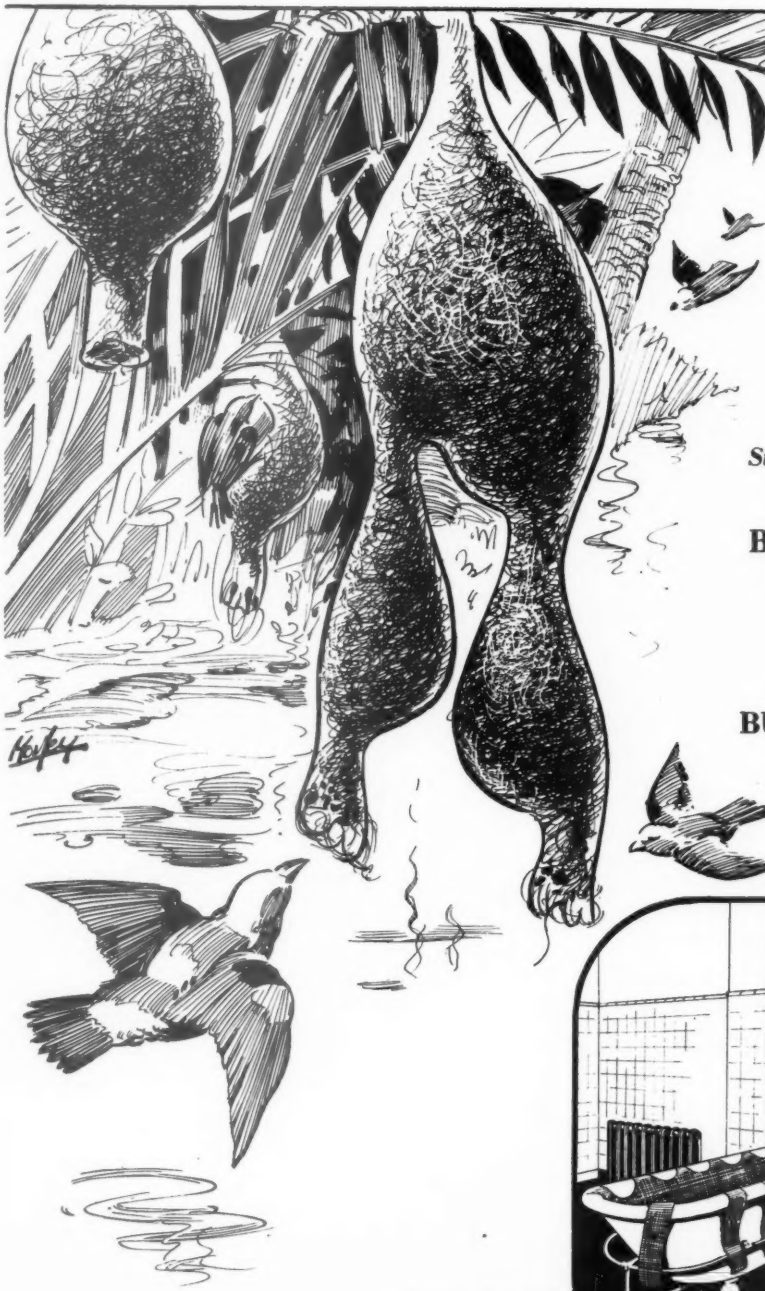

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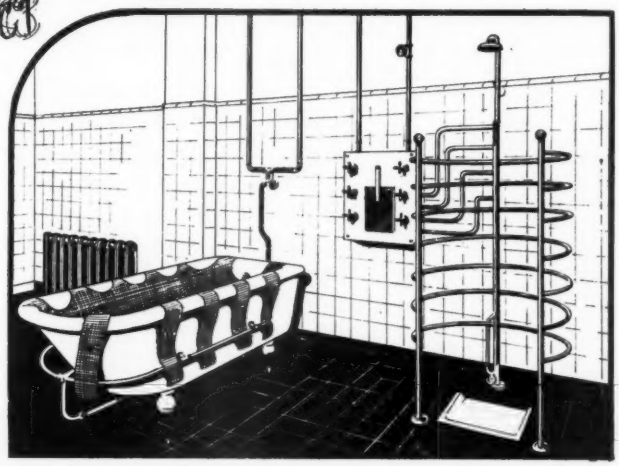

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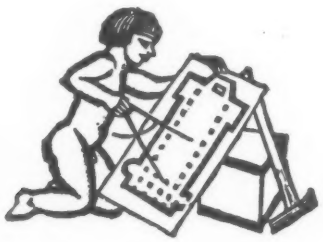

DIARY FOR JANUARY, FEBRUARY AND MARCH

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.

CAMELFORD, Cornwall. *Twenty Women at Home Exhibition.* (Sponsor, HC.) JAN. 27-31

CROYDON. *Homes to Live In Exhibition.* (Sponsors, HC and CEMA.) JAN. 29-30

DICKLEBURGH, Diss. *Twenty Women at Home Exhibition.* (Sponsor. HC) JAN. 27-FEB. 8

EASTCHURCH. *Living in Cities Exhibition.* (Sponsors, HC and CEMA.) JAN. 27-31

ERITH, KENT. *When We Build Again.* Exhibition at the Electricity Showrooms, (Sponsor, TCPA.) JAN. 29 to FEB. 5

LONDON. *Colour in the Home.* Exhibition at the Royal Academy, Piccadilly, W. There are units representing dining, sitting, nursery and bedrooms, colour in everyday ware, and some building materials such as paints. There are also suggestions for the interior decoration of civil aircraft. (Sponsor, British Colour Council.). JAN. 27 to FEB. 26

Design in the Home. Exhibition at Geffrye Museum, Kingsland Road, E.2. Arranged for CEMA from the collection of the V and A Museum. The exhibition includes old and modern English pottery, textiles, cutlery, silverware and glass. 10 a.m. to 4.30 p.m., excluding Sundays and Mondays. JAN. 27-FEB. 5

Yugoslav Exhibition. At the Royal Academy, Piccadilly, W. Sponsored by the Royal Yugoslav Embassy and the British Council. The purpose of the exhibition is to make the style and way of living of the Yugoslav people better known to their British allies. Exhibits include costumes from areas in Yugoslavia where there have recently been pitched battles, and frescoes copied from the walls of Yugoslav monasteries and churches, since destroyed by the Germans. Some of the frescoes were discovered only comparatively recently. For centuries they had lain hidden behind coatings of plaster with which " restorers " of Yugoslav churches had covered them. A room is devoted to textiles which include goats' hair embroidery and carpets, and a small section to painted beehive fronts to which Yugoslavs (the inventors of the modern sectional type of hive) give as much attention as is paid in this country to the painting of inn signs. American museums have lent sculpture, paintings, costumes and embroideries. Mondays to Fridays, 10 a.m. to 5 p.m., Saturdays, 2 p.m. to 5 p.m. JAN. 27 to FEB. 13

County of London Plan. Light Touring Exhibition, prepared in collaboration with LCC by Ernö Goldfinger and Ursula Blackwell. At 13, Suffolk Street, Haymarket, S.W.1. JAN. 27-FEB. 12

RIBA Exhibition of Paintings and Etchings by William Walcot. At the RIBA, 66, Portland Place. Walcot died in June last. His outstanding achievement, which is fully represented in the exhibition, was the production of expert gouache and etched restorations of the Architecture of Greece, Rome and Egypt. Walcot, in' his later years, concentrated his interest largely on town planning as applied to London. Much of his work in this field was shown in the recent exhibitions of the County of London and is reproduced in the Report on the County Plan. The RIBA exhibition includes a scheme for short-circuiting the Thames to facilitate the planning of the central area. The exhibition also includes a considerable number of other water colours, pencil drawings and etchings of recent years. JAN. 27-FEB. 19

Dr. Fenton, Medical Officer of Health, Kensington. *House Conversion into Flats: the Need for Legislation to secure Satisfactory Results.* At 13, Suffolk Street, Haymarket, S.W.1. (Sponsor, HC.). 1.15 p.m. FEB. 1

John Gloag, *The Selling Power of Good Industrial Design.* At Royal Society, Burlington House, Piccadilly, W. Buffet lunch 2/6 from 12.45 to 1.30 p.m. Talk and discussion, 1.30 to 2.30 p.m. (Sponsor DIA) FEB. 2

E. C. Goldsworthy, on *Light Alloys in Post-war Britain.* At Royal Society of Arts, John Adam Street, Adelphi, W.C.2. 1.45 p.m. FEB. 2

John Dower, on *Planning and Landscape.* At Essex Hall, Essex Street, W.C.2. 2.30 p.m. (Sponsor, TPI.) FEB. 3

Nationalization of Land. Debate during an evening arranged by the AA Students' Committee. At 34-36, Bedford Square, W.C. 6 p.m. FEB. 8

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

Swedish Factory Made Timber Houses. Exhibition of photographs and drawings lent by The Swedish Timber House Export Association of Stockholm. At the Building Centre, Maddox Street, W.1. To be opened by Alfred C. Bossom, M.P, at 12 noon on Feb. 2, 10 a.m. to 4 p.m. (Saturdays 1 p.m.) FEB. 2-26.

NEWPORT. *Rebuilding Britain Exhibition.* At Museum and Art Gallery. JAN. 27-FEB. 5

SHEFFIELD. *Your Inheritance Exhibition.* (Sponsor, HC.) JAN. 27-29.

NEWS

THURSDAY, JANUARY 27, 1944
No. 2557. VOL. 99

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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.

Mr. Frank C. Mears, appointed Consulting Architect to the Central and South-East Regional Planning Advisory Committee of Scotland last month, has STARTED WORK ON TWO AND A QUARTER MILLION ACRES of land.

Bounded by the Highlands and the Cheviots, the main problem in the area perhaps is to open up new coalfields without destroying the amenities and to create a recreational and cultural background.

LMBA urges the Government NOT TO INTERFERE WITH THE FORTY-FOUR HOUR WEEK after the war.

In a report sent to NFBTE on future building policy, LMBA states: Excessive hours which builders have been forced by instruction to work on Government programmes during the war have been totally unproductive, cause of serious loss of morale and thoroughly uneconomical. The Association urges that after the war the Government will not interfere with the 44-hour standard working week, and recommends that the industry generally should only consider overtime in exceptional circumstances. The report also calls for the repeal of the Essential Work Order so that pre-war rates of pay for output can be restored.

from AN ARCHITECT'S *Commonplace Book*

MEDIÆVALISM IN AMERICA. [*From* Intellectual America—Ideas on the March, *by Oscar Cargill* (*Macmillan & Co.*, 1941)]. The monastic character of American higher education is suggested not only by the trivial pursuits of their thousands of scholars; but the huge endowments of some of these schools also suggest the tremendous accretions of wealth by the ecclesiastical establishments of England before the Reformation. The comparison is enhanced, furthermore, by the absurd efforts to transform American colleges and universities into specimens of Gothic architecture. In part this is due to the eloquence of John Ruskin and Henry Adams, but the most active single agent of this false æsthetic credo is Ralph Adams Cram. Cram is, in many respects, one of the most remarkable men of our time in America. Son of a Unitarian minister, he has become the most important American Anglo-Catholic; undecided between a career in architecture or in letters, he has distributed his talents rather evenly between both. Though as a creative artist we believe him to be less original and independent than Frank Lloyd Wright . . . we cannot but admire some of his great creations, however anachronistic they are—the Post Headquarters at West Point, the Refectory at Princetown, the Nave of the Cathedral of St. John the Divine in New York, and the East Liberty Presbyterian Church, in Pittsburgh. No one will come to harm by these things, and many who cannot afford the grand tour may come to a sense of the grandness and solemnity that imagination working through stone, wood, and glass can achieve. Possibly after Europe has been reduced to rubble by constant warfare, these will be the only monuments to suggest the grandeur of the Middle Ages—which will be ironical enough.

Dulwich Village is TO OPPOSE THE COUNTY OF LONDON PLAN.

Camberwell Borough Council is to be asked by its Planning Committee to oppose the proposal to create an industrial area in the neighbourhood, as the village is one of London's beauty spots. The committee is surprised by the suggestion and thinks the provision of the industrial area may be an error on the part of the draughtsmen. The preservation and creation of communities is applauded, but the committee add that it does not want to see it carried too far. As one means of avoiding this, the committee suggests the elevation of radial and ring roads, so as to allow people to cross easily into their neighbours' district. Summing up, the committee is unreservedly in favour of planned redevelopment, and regards the formulation of a national policy as a pressing need.

Sweden is USING PREFABRICATED BARRACKS for its troops.

When war began, makers of prefabricated houses provided large numbers of prefabricated barracks for Sweden's mobilized troops and later for the wood-cutters in the forests. As a standby in case of emergency, evacuation authorities recently asked for grants to buy over 600 prefabricated barracks to house 30,000 persons.

The Council of the North Staffordshire Field Club has made a PROTEST AGAINST THE OPENING OF A CEMENT WORKS in the Manifold Valley.

It is proposed to establish the cement works at Waterhouses and Couldon Low. According to *The Times* the Field Club, in its resolution of protest, states that while fully appreciating the claims of industry, it feels strongly that in the location of new industrial sites every care should be taken by responsible authorities that these are not placed where they will detract from the amenities of essential rural districts, particularly when such are, as in this case, of recognized natural beauty. The resolution concludes: In view of the club's 80 years' old interest in the natural history of North Staffordshire, the council is bound to point out that the establishment of a cement works in this area is likely to have a permanently detrimental effect on the flora and fauna of considerable stretches of the Hamps, Manifold, and Dove Valleys (see page 82).

A report on Industry and Research issued by the Federation of British Industry suggests the setting up of an organization TO STRESS THE NEED FOR INDUSTRIAL RESEARCH.

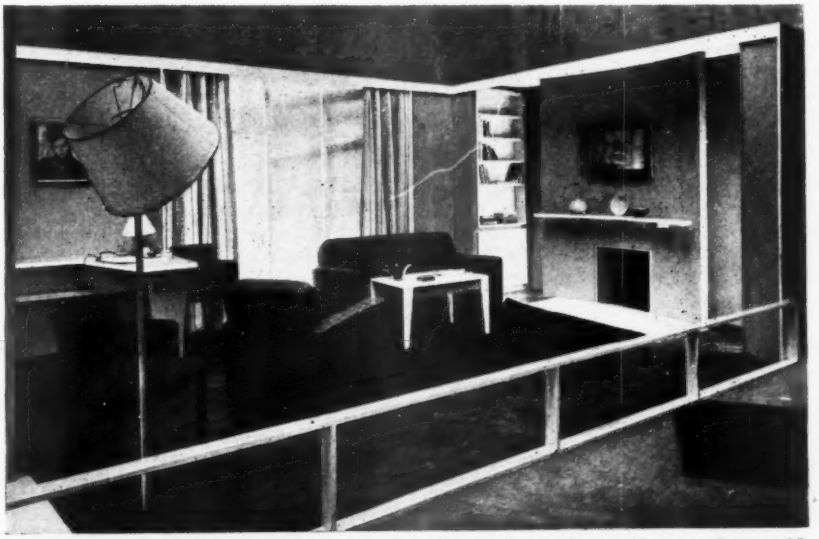
The form and functions of the organization were discussed at a conference summoned by the FBI and attended by representatives of the Royal Society, the Department of Scientific and Industrial Research, the Universities, and the Research Associations. A sub-committee was appointed to inquire further into the subject and to report back.

The Minister of Works has retained Mr. A. W. Kenyon as consultant on matters affecting the design and planning of EXPERIMENTAL AND DEMONSTRATION HOUSES.

The Minister is also receiving in this connection the advice of a panel of architects, nominated by the President of the RIBA, consisting of Messrs. T. C. Howitt, C. H. James, and L. H. Keay.

Lord Woolton, Minister of Reconstruction, expressed the view that there should be TWO PRIORITIES IN HOUSE BUILDING after the war.

These priorities, he said, should be for our damaged towns and for the returned soldier, particularly the newly married. Lord Woolton was making his first speech as



An exhibition organized by the British Colour Council opened at Burlington House on January 15. The Exhibition covers Colours in the Home, in Everyday Things, in Design for Children, in Women's Dress, in Civil Aviation, and in Industry. Above, a lounge in the gallery on Colour in the Home, the scheme being in cream, rust, brown and blue. The exhibition closes on February 27.

Chairman of Apprenticeship Council

Last week the Building Apprenticeship and Training Council, a body sponsored by the Government, issued its apprenticeship scheme for the building trades. The scheme is drafted with two purposes. First, to recruit the industry with an adequate supply of skilled men after the war. Secondly, to provide that the training shall be thorough and the interests of the apprentices shall be safeguarded during the period of training. The scheme assumes that the industry will require 500,000 craftsmen and provides for a total apprenticeship strength of between 75,000 and 100,000 on the basis of five years apprenticeship. Including apprentices the industry should then contain, after the war, 600,000 craftsmen. The recommendations of the Council and the manner in which it is proposed to carry them out, are discussed in our leading article. In the words of Sir Malcolm Trustram Eve, the chairman of the Council, the aim of the scheme is to provide a craft-educational charter for the boys. There has, he says, been much good apprenticeship in the past even in the absence of any written agreement, but there has been no security of tenure for the boy and no security of service for the master. Eldest son of the late Sir Herbert Trustram Eve and educated at Winchester and Christ Church, Oxford Sir Malcolm was in the Royal Welch Fusiliers during the last war (he was awarded the M.C.) and served in Gallipoli, Egypt and Palestine. In 1919 he was called to the Bar, Inner Temple, and from 1927-31 commanded the 6th Battalion of his old regiment. In 1938 he was chairman of the Air Transport Licensing Authority and in 1941 became chairman of the War Damage Commission.

Reconstruction Minister outside Parliament, in receiving the honorary degree of Doctor of Laws from Liverpool University. He said: Without giving any pledge on behalf of the Government, I think it right that some priority should be given to the returning soldier, particularly to the newly married, so that they may begin their married life in a home of their own. The provision of work is a natural part of the economic life of the country. I trust that industrialists and traders will feel encouraged to make their plans now, and to call for such help as they may need from Government. I go to much trouble to inform myself of what the men—and the women—in the Forces are thinking about reconstruction. Let us welcome them home with bands and flag-waving and all the heroic panoply that passes with the day. But also let us see that they have a house to live in, a way of life that will give to them and to their children a chance of work and happiness and healthy life, and a chance of benefiting themselves by their own efforts. They have behind their minds the fear of unemployment which wrecked the lives of their parents. In the matter of housing I am heavily engaged with several colleagues in preparing the legislative basis that will enable local authorities to take a long view. The demand for housing is much greater than the supply of labour and materials can possibly meet until some time after the war.

★

On the recommendation of the Official Architects' Committee the Council of the RIBA has approved the following resolution passed by the South Wales Institute of Architects on the subject of the DESIGNATION OF ARCHITECTS on the Statutory Register:—

"That in view of the principles and implications of the Architects (Registration) Act 1931, the synonymous use of the terms Architectural Draughtsman and Architectural Assistant is to be deprecated as detrimental to the status of the profession, and it is, therefore, advocated that all those whose names have been recorded in the Statutory Register of Architects shall be officially designated Architects or Assistant Architects whenever engaged upon work of a building nature, whether or not in departments or offices controlled by a member of this or any other profession." Copies of this resolution have been sent to all Allied Societies in the United Kingdom and also to the County Architects' Society. Members of the RIBA who are city and borough architects have been requested to bring the terms of the resolution to the notice of local authorities with whom they are serving.

Sir Henry Buckland said the Committee appointed to consider the FUTURE OF THE CRYSTAL PALACE has not yet come to terms with the RIBA concerning an open competition for a new building.

At a meeting of the trustees of the Crystal Palace, Sir Henry Buckland, general manager, said that they have more money in hand than was paid for the Crystal Palace some 30 years ago. Investments and cash in hand amount to £236,816, or £6,816 more than the purchase price. Hence they have not only got back the entire cost but, in addition, possess a property which to-day is worth at least half a million sterling and probably more. He said that in October, 1941, he submitted a scheme for the future Palace. In April of the following year he discussed the matter with Lord Keynes, chairman of CEMA, who brought it before the CEMA, with the result that a special committee representing the council and the trustees was formed to pursue relevant questions and obtain architectural proposals. Unfortunately they had not yet come to terms with the RIBA, whose conditions respecting an open competition for designs for a new building were thought to be so exacting as to make it impossible for the joint committee, with its limited financial resources, to accept. Sir Henry Buckland's 1941 scheme proposed a theatre-auditorium for 8,000, a large theatre for opera or ballet, concert, dance and exhibition halls, sports hall with swimming pool and ice rink, bandstand, flower gardens and promenades, cafés, buffets and shops.

FIRST TRAINING REPORT

THE building and civil engineering industries are well advanced with their plans for training sufficient young men to carry out at least the traditional craft side of the post-war building programme. Sitting under the independent chairmanship of Sir Malcolm Trustram Eve, the Building Apprenticeship and Training Council has published its First Report*, described by Sir Malcolm as "no mere guff."

It is remarkable that, although the Council is composed of fifty-eight representatives of employers and operatives, professional bodies (including the RIBA), educational bodies and, in an advisory capacity only, Government Departments, this First Report, produced in less than six months, is unanimous.

Full details of the proposals are contained in Sir Malcom's speech, summarised on page 88 of this issue. Within its terms of reference, the Council has already covered every aspect of the problem, setting out the basic factors that govern a recruitment and training campaign and giving evidence of action already taken to implement its proposals. First an estimate of the number of boys required (100,000 in various stages of five years apprenticeship) was made and a publicity campaign, including the making of two films that should reach 12¼ million people, has been prepared to encourage boys to become building craftsmen.

Then a decision to "catch 'em young" was taken and a scheme for pre-employment education in junior technical schools evolved, priority apprenticeships being reserved for boys with this educational bias. Safeguards for boy and employer during apprenticeship are offered, with the backing of legal documents.

To enable this planned entry into the industries to take place, an estimate of the number of teachers required was made (1,300 more are wanted at once) and MOLNS has already been asked for deferments, release or early demobilization, while a scheme for the training of suitable craftsmen to pass on their skill is proposed.

To complete the full circle, the Council presses MOW to release labour and materials (including sectional units in timber or concrete) to provide more training facilities, and an adequate supply of timber for practical experiment is demanded. Finally the Council has ensured the absorption of the boys into the industries, and has proposed the maintenance of a register of apprentices.

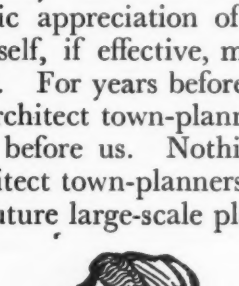
This comprehensive scheme is opportune. By the time the Government's post-war programme is ready for execution 10,000 boys will be ready to sign their apprenticeship agreements. These boys, we hope with the RIBA, are to work mainly on jobs supervised by architects. This hope is

**Building Apprenticeship and Training Council, First Report, December 1943.* Published for MOW by HMSO. (Price 6d.)

stressed by the report recently issued by the RIBA, the National House-Builders' Registration Council and the Building Societies' Association, in which the NHBRC favour the compulsory employment of architects for the design of all houses *as soon as practicable.*

It will take two years to put the boys through a pre-employment educational course before they enter apprenticeship. It takes six or seven years to train an architect. Our profession is therefore already four or five years behind MOW in the matter of training. (In a letter on page 77, Mr. Ansell claims that the profession is large enough. Our reasons for disagreeing with him follow this letter.)

Recently the RIBA reaffirmed its intention to encourage public appreciation of architecture. We suggest that this in itself, if effective, must increase the employment of architects. For years before this war we pressed for the training of architect town-planners in preparation for the tremendous task before us. Nothing was done, and now the supply of architect town-planners is so short that it is liable to endanger all future large-scale planning.



The Architects' Journal

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NOTES & TOPICS

JOINT CONFERENCE

The Report of the Joint Conference of the RIBA, the National House-Builders' Registration Council and the Building Societies' Association on Post-War Housing (reprinted on page 89), is in many ways a sensible document. But it does not come clean on prefabrication. "Factory production . . . may help towards a solution of the (housing) problem," it states. On the other hand "the Conference inclines to the view that not only would the Englishman much prefer his home to be built of the traditional materials . . . but as far as can be seen there are no national economic advantages in departing from these traditional materials."

★

There are several million different individual English men and women alive. Which of them is The Englishman? Did the Conference before making these statements ask the several million different English men and women their personal opinions on this question of traditional versus prefabricated houses, putting the case fairly and showing models and drawings of the alternatives, both good and bad? Of course not. On what grounds then can it honestly claim to know that "the Englishman much prefers his home to be built of traditional materials?" There is far too much of this kind of unsemantic assertion from responsible quarters.

★

Again, what is meant by "national economic advantages"? Presumably the word "national" is here used in its usual sense of "vested interests." There is surely no greater truly national economic advantage than the proper housing, as soon as maybe, of every member of the community—an advantage which is obviously impossible if traditional methods and materials alone are relied upon?

★

However, "the Conference is of the opinion that there should be an open mind on the question of prefabrication." If it really means this let its members remember two vital things. Prefabrication, and all the word implies, is significant only in so far as it contributes to the two issues more vital than any others in post-war reconstruction—more vital even than cost. The first is building houses at a speed far greater than anything yet done. The building industry has *got* to find the answer to this. The second is mobility, or the quality of not being permanently anchored to a given patch of ground. The nature of our dilemma is such that in public opinion housing takes priority of planning, and much housing is by the nature of the case certain to be embarked on before our plans are ready. If it is permanent it will do what it's done in the past—make serious planning impossible.

PROFESSORSHIP OF BUILDING

The announcement that Mr. Leslie Wallis, of the National Federation of Builders, and Mr. Harland, of the London Master Builders' Association, have approached Cambridge University to discuss the foundation of a Chair of Building, is both of public and professional importance.

★

In the next few years it is expected that the Government will recruit an increasing number of technicians to assist the men of "all-round unspecialized intelligence" on whom it has hitherto relied for the running of its machinery. An equivalent move began to take place in the senior universities about 20 years ago and has continued ever since—a move from concern only with "pure" knowledge and science to the application of science to particular purposes and the social background. Cambridge, at least to begin with, led its rival in this extension of its field. From mathematics, science and the natural sciences emerged the schools of medicine and engineering, and economics blossomed into a Chair of Industrial Relations.

★

Now the march of events makes a Chair of Building a possibility and thus recognizes an industry of crucial importance both economically and

in the field of social welfare. It is not before its time. The successful execution of the post-war building programme will need all the brains that can be brought to bear on it. A centre at Cambridge at which all sides of the industry—economics, organization, science, design, technique and training—can be considered dispassionately would prove of the greatest value.

*

The proposal naturally raises for architects the question of the future of the Cambridge University School of Architecture. Despite changes a few years before the war and good preliminary training provided thereafter, many architects have felt uneasy about the school. The principal cause of this uneasiness is not far to seek. A certain intellectual snobbery is unavoidable at Cambridge, and it is felt to have been damaging to architectural prestige throughout the country that the Cambridge School has only commanded an "ordinary" degree and thus has commanded in university circles only the benevolent semi-serious attention paid to "minor studies." It is felt that the Cambridge School can be either an ordinary school of architecture or a "different" one, but that, whichever it is, it should be first class in all respects.

*

If in the near future a Chair of Building is established and launches out into a full University Department awarding an Honours Degree, the position of the Cambridge School will have to be very fully re-examined. This is not merely a University matter: it is one most intimately affecting the RIBA.

THE BAYEUX TAPESTRY AND ALL THAT

Another batch of the delightfully produced King Penguin two-shilling books has recently been published, including one on the Bayeux Tapestry. It has a text by Eric Maclagan, Director and Secretary of the Victoria and Albert Museum.

*

The first thing he tells us about this famous and unique Tapestry is that it is no tapestry at all, for the eight-coloured design is embroidered on, and not woven into, its coarse linen background, some 231 feet long and 19½ inches wide.

*

Buildings, says the author, are mostly represented in a rather conventional way, though the prominence given to the new Abbey of Westminster suggests that it may give some idea of what the building was like. "Houses often have two stories; the Palace and the manor used by the Normans at Hastings are shown as elaborate structures. The pictures of castles indicate that these consisted of little more than a mound surmounted by a stockade and surrounded by a moat."

ASTRAGAL

Illustrations from the Bayeux Tapestry. See Astragal's note above on the new King Penguin.

LETTERS

W. H. Ansell, F.R.I.B.A.
Our Leader-Writer

Architects Wanted

SIR,—I would ask for the courtesy of your columns for a comment on a recent leading article for some of its conclusions appear to me to be based on ignorance of the true position of affairs to-day and a misconception of the future.

It is not the case that the RIBA has not acted in the matter of the post-war employment of architects or the provision of the numbers of architects necessary to give increasing design and supervision power o the profession of the future.

The RIBA representatives on the Advisory Council of the Building and Civil Engineering Industries at the Ministry of Works took a leading part in the preparation of a report to the Minister on *Professional Men required for the Post-War Period.* This report dealt with architects, engineers and quantity surveyors. It was discussed and modified by the Advisory Council and submitted to the Minister as a report of the whole Council.

The report does not agree with your statement that there are obviously not enough architects. The amount of building work which can be done in the immediate post-war period will be governed by the size and constitution of the post-war labour force, which will for a time be seriously limited.

Of the available labour a considerable amount will be employed on minor repairs in which there will be little necessity or scope for architectural skill. For the remainder there will be sufficient architects available, given a reasonable scheme of demobilization which has been suggested.

May I express my regret that your leader shows too great a readiness to assume that the responsibility for whatever is wrong, either inside or outside of the profession, may be laid at the door of the RIBA.

Sevenoaks. W. H. ANSELL.

Our leader-writer writes: It is difficult to reply to Mr. Ansell without knowing the premises from which he is arguing. But assuming that he agrees with us that an almost complete rebuilding of the whole country within the next generation is necessary and may be carried out—apart from the minimum essential of the 4,000,000 new homes and the thousands of new schools—can he claim that there will be enough qualified architects at

AT THE YUGOSLAV EXHIBITION

An exhibition of Yugoslav art—ancient, modern and peasant—opened at Burlington House on January 18, under the auspices of the British Council. One room contains coloured reproductions and photographs of frescoes of the twelfth, thirteenth and fourteenth centuries from the monasteries and monasterial churches of South Yugoslavia—the work in the Byzantine style of founder kings and archbishops, and Serbian architects and artists of the Serbian mediæval empire, extinguished at the end of the fourteenth century by the Ottomans. Some of these frescoes have been destroyed in this war, among them being those only recently stripped of the veiling of plaster of the iconoclasts, under which they had remained hidden for centuries. Photographs of the churches and monasteries containing some of the frescoes are also shown at the exhibition. These are small, thick walled and compact, like fortresses, built specially to contain mural Christian propaganda. They were not built in the cities but in the heart of wild country and their architects aimed at multiplying the religious buildings rather than erecting vast edifices. The Serbian school of architecture was not a mere imitation of the Byzantine but was influenced via the Adriatic by Western styles. Left, St. John the Baptist, Grachanitra Monastery, fourteenth century. Right, detail of the Nativity from Petch Monastery, thirteenth century.

the present "rate of production" to do the job?

In 42 of the 48 States of America no building can legally be erected without proper supervision by an architect. Similar legislation may, and we believe should, be instituted in this country. We are glad to see, in this connection, that the RIBA in the report of the Joint Conference with the National House Builders' Registration Council and the Building Societies' Association (see pp. 89-90) believes that "co-operation between architects and house builders is a matter of great concern," and the house builder members of the conference came out boldly in favour of making the employing of architects compulsory for the design of all houses. It is difficult to believe that if use of architects were made compulsory there would be sufficient architects to go round.

Added to that, there will be an ever-growing call for architects in industrial design, especially of factory-produced housing and equipment. Moreover, there are other fields than that of architecture proper for which an architectural training is desirable and indeed essential, e.g. town planning and survey, local government supervision of building construction and design and so on, jobs too often carried out at present by improperly trained personnel. Of these Mr. Ansell makes no mention.

Having implied that the RIBA has acted to secure the provision of an adequate number of architects for the post-war period, Mr. Ansell states that the RIBA representatives on the Minister of Works' Advisory Council took a leading part in the preparation of the report to which he refers. This report was, we understand, a confidential one, from the Advisory Council to the Ministry. Since it has not been published, we presume it was not prepared on the initiative of the RIBA, but was solicited by the Minister. Mr. Ansell implies that this report is concerned with demobilization rather than with recruitment and training.

We agree that the labour force will be limited during the early post-war years and that much of the work will be in the nature of repairs for which architectural supervision will not be necessary. But there is a vast amount of preparatory work that must be started at once, especially in the field of survey. It takes six or seven years to become an architect, and we anticipate that none of those who start training to-day will be qualified to practise by the time the interregnum period has passed and the post-war programme proper is well on the way.

As leader and guardian of the profession, the RIBA must surely be charged with the responsibility of discovering what is wrong within the profession, and of righting it. Organization of the profession should come from within and not be imposed from without. Mr. Ansell does not say that the RIBA has an educational scheme, but Mr. Stanley C. Ramsey, chairman of the RIBA Board of Architectural Education, in a letter in the Journal for December 30, has already reminded the profession that a Special Committe is now working on one. We can only hope that the Special Committee is dealing with this vital matter of architectural education with the seriousness it warrants.

PHYSICAL PLANNING

THE JOBS TO BE DONE

In the article on Public Relations which appeared as Problem Number Four in the Architects' Journal, December 2, 1943, Misha Black stressed the need for an agency such as an Office of Reconstruction Information which would primarily be responsible for putting planning across. He showed how an essential part of its work would be the assembly of data on planning and its dissemination in digestible form to the public. The articles which followed on survey, ecology and land use each showed that there is a varying lack of the information essential to their successful operation as planning techniques. This lack is particularly evident in the field of Demography, for, as Dr. D. V. Glass points out in his article this week, we shall require far more information on family needs and trends than we now possess if we are to draw up the framework of a satisfactory long-term housing policy. The consideration of the effect of population trends upon the need for housing and the relation of population policy to housing policy forms the basis of the article.

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Dr. D. V. Glass, whose article on Population Trends is published this week, is a B.Sc. (Econ.), a Ph.D., and is the author of Population Policies and Movements in Europe, The Struggle for Population *and various other studies. He has been engaged in population research for some years and until this war was the Research Secretary of the Population Investigation Committee.*

WE MUST BASE THE PLANS ON ACCURATE DEMOGRAPHY

by Dr. D. V. Glass

population trends and policy

Other contributors to this series have taken up specific problems which will have to be solved if we are to achieve satisfactory planning on a national and local scale. But behind all these specific problems is a broad, general question—the size and composition of our population. In some of the current discussions on planning, the demographic factor is taken for granted—either because it is assumed that there will be no significant population changes or because it is believed that such changes as may take place (even if they are large) will be unimportant compared with the many other factors which need to be taken into account. Both these views may have undesirable consequences. In the long run—and clearly our planning has to be for the long run if it is to be on any significant scale—population is a basic fact conditioning both the latent and effective demand for housing and building in general. At the same time, if there is to be a positive population policy in the future (as there might be after the Royal Commission on Population has reported), housing may well form a major part of the policy. It is these two opposite aspects of the population-planning question which I shall discuss in the present article—the effect of population trends upon the need for housing and the relation of population policy to housing policy.

population trends

As regards the first question we can obtain some idea of the magnitudes involved from the following table, which shows two hypothetical trends of the population of England and Wales over the next fifty years. The total populations given in Estimate I are arrived at by assuming the continuance of the fertility and mortality of 1935, while those in Estimate

TABLE I.

Year	Estimate I. Total Popn. (millions)	Estimate I. No. of private families (millions)	Estimate I. Av. size* of family (persons)	Estimate II. Total Popn. (millions)	Estimate II. No. of private families (millions)	Estimate II. Av. size* of family (persons)
1950	41·312	11·694	3·35	40·714	11·815	3·27
1960	40·392	11·698	3·28	39·005	12·030	3·08
1970	38·582	11·466	3·19	36·445	11·758	2·95
1980	36·156	10·916	3·14	33·044	10·944	2·87
1990	33·357	10·129	3·13	28·887	9·727	2·82

* It is assumed that, as at the 1931 Census of England and Wales, about 5 per cent. of the population does not live in private families.

TABLE II.

Year	Age-Composition of Families: No. of children under 15 years per 100 families, Estimate I	No. of children under 15 years per 100 families, Estimate II	No. of persons aged 60 years and over per 100 families, Estimate I	No. of persons aged 60 years and over per 100 families, Estimate II
1950	69	61	57	57
1960	64	48	62	62
1970	58	40	70	73
1980	56	37	74	82
1990	56	34	77	91

II derive from an extrapolation of the pre-war trends of fertility and mortality. Neither estimate takes account of migration or war losses.* Naturally the population of England and Wales will not follow the precise course of either of the two estimates, which are hypothetical products. But in view of the likelihood of a declining population during the next generation (immigration apart), it is useful to see what follows from the two different rates of decline postulated. The estimates of the number of families were obtained by assuming that the same ratio constantly exists between the number of males aged 20 years and over, and the number of private families as was found at the 1931 Census. The average size of the family was then computed by deducting 5 per cent. from the total population to allow for persons not living in private families (this being approximately the position recorded in 1931) and then dividing the balance by the total number of families.† These calculations are necessarily very rough but they fit in reasonably well with past experience. At the same time the limitations in the validity of the estimates, which will be considered later, are of some interest in indicating the kind of problems which may arise with a declining population.

The results show that, even with a declining population, the total number of families continues to grow for a considerable time. As compared with the 10,233,000 private families of 1931, Estimate I yields a peak of 11,698,000 in 1960 and Estimate II a peak of 12,030,000 by the same year, whereas the total populations would begin to decline by 1945 in the case of the first estimate and by 1940 in the case of the second. Thus even apart from the need to eliminate overcrowding, to pull down obsolescent houses and to replace those destroyed during the war, we should have to plan for a substantial increase in the number of families. In neither estimate does this number fall below the 1931 level until after 1980, and if the decline in population were to be slower than that indicated, the high numbers of families would persist even longer.

At the same time, the increase in the number of families is accompanied by a decrease in the average size of the family. From a figure of 3.72 persons in 1931 it falls to 3.13 by 1990 according to the first estimate and to 2.82 according to the second. The numbers of children per 100 families decrease correspondingly, while the number of persons aged 60 years and over rise sharply. Table II. indicates what would happen in accordance with the two estimates of population in Table I.

population and housing

In interpreting these figures in terms of future housing needs, a number of points should be noted. First, the calculations have all used as their basis the Census enumeration of families in 1931. But that Census, like previous ones, recorded only the private families as observed at the given date and as conditioned by the specific economic and social circumstances of the time. The decline in the average size of the private family from 4.36 persons in 1911 to 3.72 in 1931 was the result not only of a fall in fertility but also of changes in income levels and distribution and of changes in social patterns. If the standard of life were to rise still further in the future and if sufficient accommodation were made available, we might find a still greater increase in the number of private families than that suggested by the calculations. On the other side of the balance sheet, however, we must take into account the possible results of the ageing of the population. It might mean a much larger proportion of the population living in institutions than that found in 1931, and this would tend to lower the rate of increase in the number of families demanding separate accommodation.

Similar considerations apply to the size of dwellings which may be demanded. The average size of the family declines but the proportion of adults increases and adults require more privacy and more room. But the average size of the family is a poor indication of the changes in demand which might result from a declining population. It is far more important to know the trend in the distribution of families of different sizes. A crude estimate can be used to illustrate this, based on the method of the 1931 Census. The method assumes a continuance of the relationship between the decline in the average size of the private family and the distribution of families of various sizes found in the period 1911-1931. On this assumption we can calculate that, according to Estimate I, families of three or fewer persons would constitute 64 per cent. of all families in 1990 as compared with 53 per cent. in 1931. According to Estimate II, they would constitute almost 70 per cent. On the other hand families of five or more persons would constitute only 15 per cent. according to Estimate I and only 9 per cent. according to Estimate II, as compared with almost 28 per cent. in 1931.

lack of accurate information

The various calculations given above are used only as illustrations of possibilities, and I should like once more to stress the crudeness of the methods used and the paucity of the basic data. The great difficulty is that in this field, in which it is evident that demographic changes must be taken very seriously into account, we suffer from a marked lack of fundamental information. We should, for example, begin with biological families, and analyse these in terms of size and age and sex composition. Comparison of these results with similar material relating to private families enumerated at the same point of time would throw much light on the formation of private families and give us a much more secure basis for estimating how a given population is likely to be divided up into private families of various types and sizes. This information should be coupled with other data which can probably be obtained only through sample field inquiries. We should want to know, for example, the circumstances in which people at present living "doubled-up" would wish and be able to set up separate households. We should also have to ascertain the size of dwelling which the various families would want to have if they were in a position to choose. This, of course, involves far more than simply asking questions *in vacuo*. The replies to questionnaires on the subject of housing attitudes would be of little use unless the investigations took into account the

* A more detailed account of the assumptions involved in these estimates is given in Glass, *Population Policies and Movements in Europe*, Oxford, 1940, pp. 355-57. I have used these particular estimates here simply because they are the only relatively recent computations for which I have the full data immediately available. Estimate II assumes an ultimate net reproduction rate of 0.566, about 25 per cent. below that obtaining in 1935.

† Used with Estimate I, this method gives a total of 11,107,000 private families and an average size of 3.52 persons per family for 1940 as compared with the Registrar-General's forecast for 1941 of 11,150,000 and 3.50 respectively. (*Census of England and Wales* 1931: *Housing Report*, p. lviii).

income ranges of the families considered and what these families could afford to pay for rent, fuel and light, transport and so forth. If carefully planned, there is very wide scope for the collation of official Census and vital statistics with sample inquiries into circumstances and opinions in providing indispensable data on housing needs.

The foregoing discussion has been in terms only of national data and national planning. For local planning the need for information of the kind described is even more urgent, because of the wide disparities which may occur between region and region or between the separate segments of a town. In the Central Wards of Birmingham in 1938, for example, 7.5 per cent. of the working-class families consisted of one-person families, whereas in the Outer Ring, the proportion was only 3.1 per cent.* Clearly the types of accommodations demanded in these two areas would be somewhat different. Similarly, if it is intended to undertake urban planning on the basis of neighbourhood units, the kind and extent of social facilities required will be partly conditioned by the specific population structure of the area. For example, in Shoreditch in 1931, 37.5 per cent. of all females were under 20 years of age, whereas in Westminster the proportion was only 19 per cent. In Chelsea 42.5 per cent. of all females were 40 years of age or more, while in Stepney the proportion was under 31 per cent. The planning of social facilities (including schools) would have to take account of these differences in age structure. (See Planning Review, p. 82).

population policy

When we come to the question of housing policy as a component of a positive population policy, the importance of obtaining adequate demographic data and of using these data as a basis for planning is still more evident. The data are, however, of a slightly different kind and must spring in large part from the postulates of the policy.

In the first place we must, of course, have a fairly clear idea of the size of the total population for which we are planning, assuming that it is part of the policy to prevent a fall in numbers below a given level. But the maintenance of a specific population level can be achieved with markedly different distributions of family size. For example, with the mortality of 1937, it would require on the average that 2.32 children should be born to each woman passing through the reproductive age groups. Assuming that 85 per cent. of women marry before reaching their fiftieth birthdays (which implies a fairly high marriage rate) and that there are no illegitimate births, each married woman would need to bear 2.73 children. The actual distribution of children over marriages would depend upon the proportions of 0, 1, 2 and more child marriages found or encouraged by the policy. Thus if 20 per cent. of marriages were infertile and a further 20 per cent. were to yield only one child each, the remaining 60 per cent. of marriages would have to yield an average of over four children per marriage. These proportions would alter with changes in the probability of marriage and in the incidence of infertility. A policy designed to stabilize the population might therefore encourage or accept any one of a large number of possible combinations of family sizes, ranging from a very high incidence of spinsterhood and infertility coupled with a relatively small proportion of extremely large families to a high marriage rate coupled with a very large proportion of relatively small families. Evidently the housing needs (in terms of the type of accommodation) will vary in accordance with the family pattern aimed at or established.

housing policy

Once the general family pattern is known (and there will obviously be a considerable degree of flexibility in this pattern), we could, if we had unlimited resources at our disposal, solve the problem of the kind of accommodation required by planning all dwellings on a scale sufficient for the largest family units. But since our resources are limited, it is much more desirable to plan on the basis of an optimum distribution of family size—that is, the range of size of dwellings would have to be keyed in with the most probable distribution of family size in the community, plus, of course, a margin for flexibility. In practical terms this would mean that, in a given estate or neighbourhood unit, the distribution of size of accommodation would have to fit in with the kind of family pattern most likely to obtain in the particular community or with that which it is desired should develop, ranging from accommodation suitable for the single-person family to that adequate for families with many children. This does not necessarily mean a very heavy concentration on large houses or flats for at any point of time the proportion of families with, say, the maximum number of children under 20 years sharing the parental home is not likely to be very high, though this, too, requires careful investigation. To some extent the need for very large houses or flats might be reduced by the provision of crèches and other communal accommodation for children.

If housing estates and other local housing communities are based on specified distributions of family size, provision must be made within those local units for mobility as family circumstances and needs change. A young couple must be able to move to a larger dwelling when they begin to have children and so must parents when their families increase. Similarly old persons should be able to move to more suitable accommodation when their children have ceased to live with them. And there must be a margin of flexibility to allow for movement between local units and from one part of the country to another. To achieve this mobility and at the same time to minimize rents in relation to income per head (which might well be a part of housing policy) would probably involve very substantial changes in current housing finance, especially as regards the operation of building societies.

There are, of course, many other demographic aspects of housing policy—such as the provision of labour-saving equipment which would reduce the effort involved in running a house, the planning of parks, schools and other public facilities, of communal laundries, of suitably located shopping centres and so forth. But these are far more part of the technical function of housing and town-planning experts and rather beyond the province of this article. Here I have tried to deal only with some of the basic demographic factors which should be considered in drawing up the broad framework of a satisfactory long-term policy. To elaborate the policy and to implement it, we shall require far more information on family needs and trends than we now possess and our first step should be to press for the facts to be provided. Only if we obtain this material as soon as possible shall we be able to plan in realistic terms for post-war needs.

* *When We Build Again* (Bournville Village Trust), London, 1941, p. 47.

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PLANNING REVIEW

LOCAL AUTHORITIES

A special article in *The Times* has surveyed the recent changes which have taken place in the functions of local authorities. It points out that local authorities are in peril of being left almost disregarded in a backwater while a great stream of social administration rolls past them in fresh channels. So far no satisfactory policy has been put forward by those most concerned—the local authorities themselves. Faced with the serious competition of decentralized bureaucracy, they have failed to produce a united policy for fitting themselves to expanded post-war burdens. The nearest approach to such a policy is the interim report on the reform of local government structure by the NALGO Reconstruction Committee. But that is a report by and on behalf of local government officers; the real fountain-head, the local authorities themselves, have no single scheme of reform. Their unity of outlook begins and ends on an agreed condemnation of regionalism in the sense of the present civil defence regions. The urgent need is for all local authorities to unite in formulating and pressing upon the Government a single policy—a policy based on compromise, fitted to modern conditions, designed for the preservation of true local democracy (as distinct from vested interests in any special type of body) and commanding attention by its imaginative appeal and obvious adaptation to the needs of the future.

BEAUTY AND THE BEAST?

The *News Chronicle* reports, under the heading Villagers Welcome Cement Works in a Beauty Spot, that two hamlets in the Hamps Valley at the foot of Cauldon Low, Staffordshire, will become the centre of the cement industry if everything goes well with the plans of a big cement company. The company's first steps have been successful, a lien has been obtained on several farms at the foot of Cauldon Low, where it is proposed to exploit the limestone resources. Cheadle Rural Council has agreed to schedule these hamlets, where the main occupation is farming, as an industrial area. The local people, excited by the prospects held out of a wealthy company sinking perhaps £1,000,000 in the project and providing jobs for hundreds, and maybe building their own housing estate nearby, have so far put up no effective opposition. But lovers of the countryside bordering on the Manifold Valley, and the CPRE, have taken steps which will lead to a stand-up fight between them and industrial interests, with MOTCP as referee. They have petitioned Mr. W. S. Morrison to use his powers to prevent the scheme, and have asked Staffordshire County Council and Stoke City Council for support. The Cheadle District Council have pledged themselves to do all in their power to promote the scheme. Constructional plans will soon be submitted. An expert will supervise the construction work to see that it does not mar the countryside. The plant will be smokeless and dustless. The National Trust states that it has no details of the scheme, but as far as it is able to judge from available information, it would inevitably involve substantial and lasting injury to the amenities of beautiful country close to the extensive area in which the Trust is interested.

The Council of the North Staffordshire Field Club has passed a resolution protesting against the proposal to establish a cement works at Waterhouses and Cauldon Low, in the Manifold Valley.

CLYDE VALLEY

The Clyde Valley Regional Planning Scheme will affect 19 local authorities with a combined population of 2,400,000 and a rateable value of £20,000,000. The first meeting between Professor Abercrombie and the planning committee took place on January 6. Professor Abercrombie has estimated that about 250,000 houses are required for the Clyde Valley area. The plan is to envisage half a century's progress. He has in mind the possible establishment of short-range airports as well as an international terminal; he thinks the area may include one of the largest airports in the world. He has described the undertaking as being the greatest commission he has ever had to handle.

GREAT YARMOUTH

Great Yarmouth is exhibiting its scheme for post-war reconstruction by the means of a model 6 feet square, built by Mr. K. K. Parker, the Town Planning Officer.

EASTBOURNE

The first report of the Eastbourne post-war reconstruction committee has been circulated. It records that Government assistance is to be continuous until the town is able to stand on its own feet. It is suggested that the Government should waive their possible claim to a return of 25 per cent. of the grant. (*See Planning Review*, A.J., December 9, 1943, *Blitzed Cities Will Need Financial Aid, by Lord Astor*). The report will come before the town council in February.

SOUTHAMPTON

Southampton has evolved a plan to maintain her position after the war, not only as the chief liner port in Britain, but as one of the principal land and seaplane bases in the country. The proposed water runways are between three and five miles in length, and lie clear of the main shipping channel. It is proposed that the new land aerodrome should be constructed at the nearest point to the sea runways, so that services could be common to both land and water aircraft. The airbase would be linked with the main road and railway to Portsmouth.

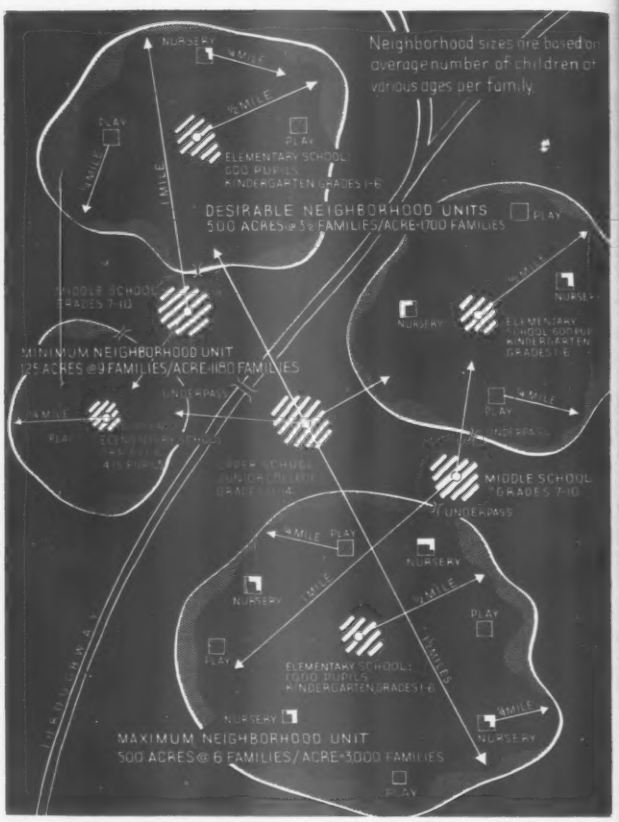
NEW LITERATURE

British Social Services: D. D. K. Owen. British Life and Thought Series. Published for the British Council by Longmans, Green & Co. 1s.

The Nation's Food: Sir John Orr. The Labour Party. 2d.

Walsall, A Town Plan: Public Works Committee, Walsall, December, 1943.

SCHOOLS AND NEIGHBOURHOODS



The above diagram illustrated an article on The School-Neighbourhood Nucleus by N. L. Engelhardt, in The Architectural Forum, October, 1943. Extracts from the article are given below, and although the data is derived from American statistics, the application of the principle is of common interest.

The best education is the result of a well-conceived neighbourhood plan in which the school has been created as an integral part of the daily life of all the people who reside in the community. The organization of the educational and school programme is an important function of the size of the neighbourhood, and the character of educational facilities to be provided. Taking into consideration the basic types of school organizations; the minimum and maximum enrolments for classes and schools within which an educational programme can be operated most economically and effectively; the maximum distance which children of various ages should be required to walk to school, and the estimated average number of children between 5 and 14 years of age inclusive for each family, it is possible to determine roughly the number of family units required in a neighbourhood to support an elementary school. On the basis of figures collected by the author, he estimates that with an organization of grades 1-6 (an elementary school for children from 6-11) the enrolment should be about 400 pupils. If we use an average figure of 0.05 children per grade per family, we would expect 0.3 children per family for this school, and would require 1,330 families to fill the school. The maximum number of families in any neighbourhood unit could likewise be determined in terms of a maximum desirable enrolment of 800 pupils. At 0.3 children per family for grades 1 to 6, this maximum would be approximately 2,666 families. From this point of view, therefore, each neighbourhood should range in population from 1,000 to 3,000 families. Within each of these neighbourhoods, subdivisions based on nursery school units could be created. Each nursery school should have at least two teachers, and the minimum enrolment should be considered as 20 infants. It would require, on the average, about 200 families to supply these children. However, the attendance of children at nursery school is so irregular that it is well not to expect more than 25 or at the most 50 per cent. of the potential load in attendance. One nursery school for 400 families would probably be adequate except in unusually youthful districts. The relation of the advanced grade schools to the neighbourhood units is shown in the diagram above. Playgrounds are well dispersed throughout each neighbourhood, for it has been found that when children are required to walk more than a quarter of a mile to a playground, they will probably never get there, there are too many distractions en route. They should be designed so as to provide not less than 100 sq. ft. for each child in attendance.

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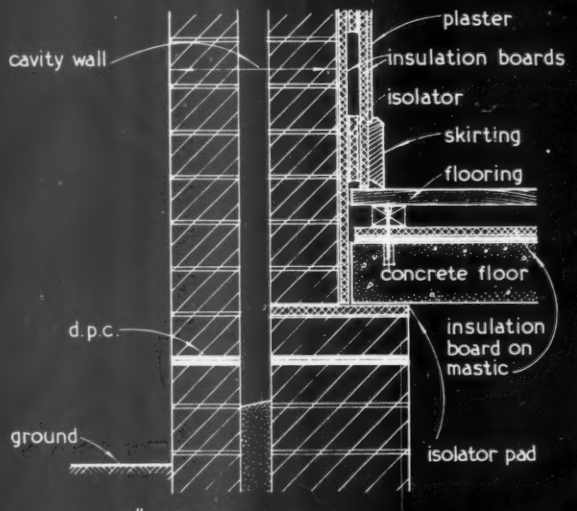
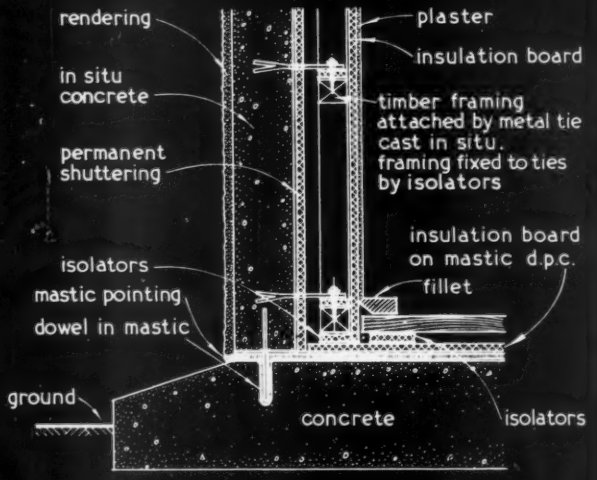
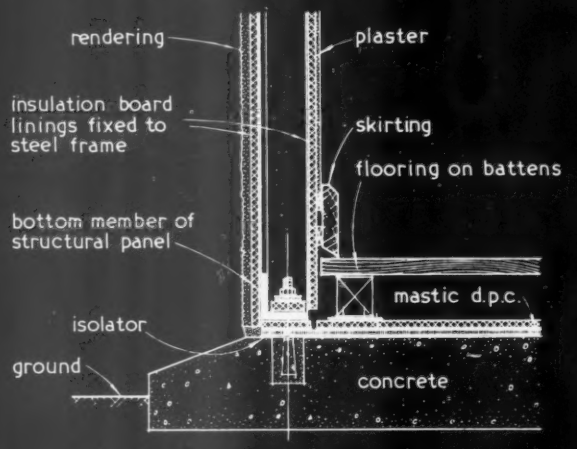
SOUND TRANSMISSION REDUCTION BY STRUCTURAL ISOLATION: PRACTICAL DETAILING 2.



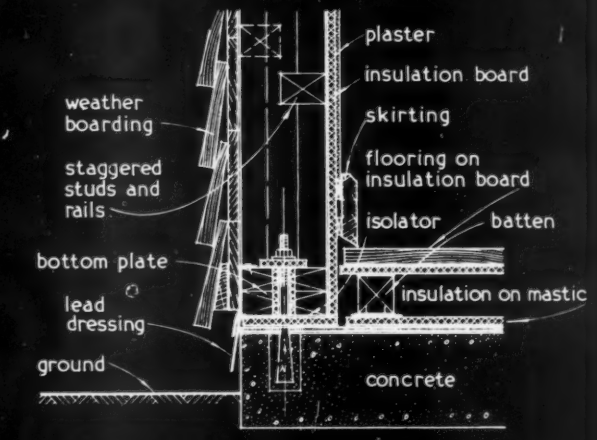
1: 11" BRICK WALL.



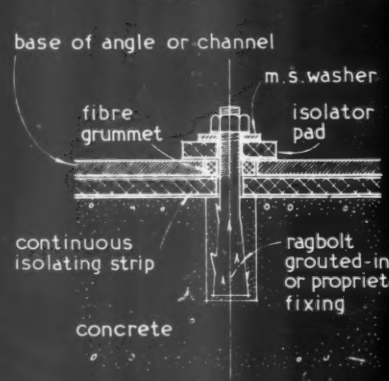
2: IN SITU CONCRETE WALL.



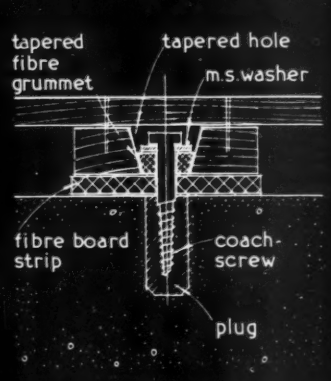
3: STEEL FRAMED WALL



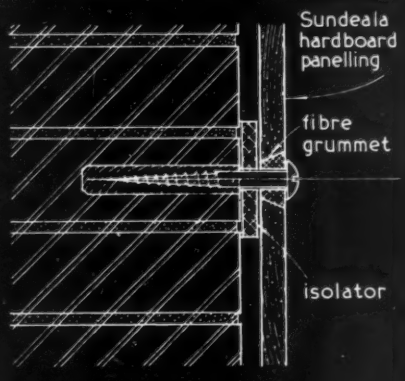
4: TIMBER FRAMED WALL



a) Structural steel member to concrete



b) Timber floor bearers to concrete.



c) Panel to brickwork.

TYPICAL FIXING DETAILS GIVING A DEGREE OF ISOLATION

Issued by P.I.M. Board Co. Ltd.

INFORMATION SHEET: FIBRE BUILDING BOARDS 15: SOUND ISOLATION.

943 Sir John Burnet Tait and Lorne Architects One Montague Place Bedford Square London WC1.

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INFORMATION SHEET

• 926 •

BUILDING BOARDS

No. 15

Subject : Sound Transmission Reduction by Structural Isolation Practical Detailing 2.

General :

This Sheet is the fourth of the group dealing with sound insulation, and a continuation of Sheet No. 14, and illustrates further practical applications of the principles of sound insulation by structural isolation outlined in Sheet 12 and 13.

The structural details shown indicate practical methods of isolating walls and floors from supporting foundations and surrounding earth, and suggest practical methods of overcoming the detailing problems which occur.

The principles of structural discontinuity are carried out by interposing resilient pads or a complete resilient layer between adjacent structural members, to reduce the efficiency of the mechanical transmission of vibrations.

As far as practicable all fixing between one structural element and another should be continuous only via the isolating medium, and where direct fixing between two elements is unavoidable, this should be as light as possible.

The efficiency of the detailing employed will depend largely upon the resilience of the isolating medium, but however satisfactory the isolator may be, the insulation as a whole will not be satisfactory if considerable structural continuity is present due to bolts, screws or nails.

Insulwood :

This grade of board belongs to the low-density range, and is suitable for use as an isolator to reduce structural continuity ; it has a sound absorption coefficient of 0.26 at a frequency of 512 cycles per second.

It is available in various thicknesses and in sizes up to a maximum of 12 ft. by 6 ft. Further technical data, methods of working, fixing, etc., are given in other Sheets of this series.

Previous Sheets :

Previous Sheets of this series on wallboards are Nos. 893, 895, 896, 898, 900, 902, 904, 909, 911, 912, 913, 916, 920 and 923.

For Pimco systems of metal ceiling and partition fixing see Sheets Nos. 854, 858, 861, 864, 868, 872, 879 and 884.

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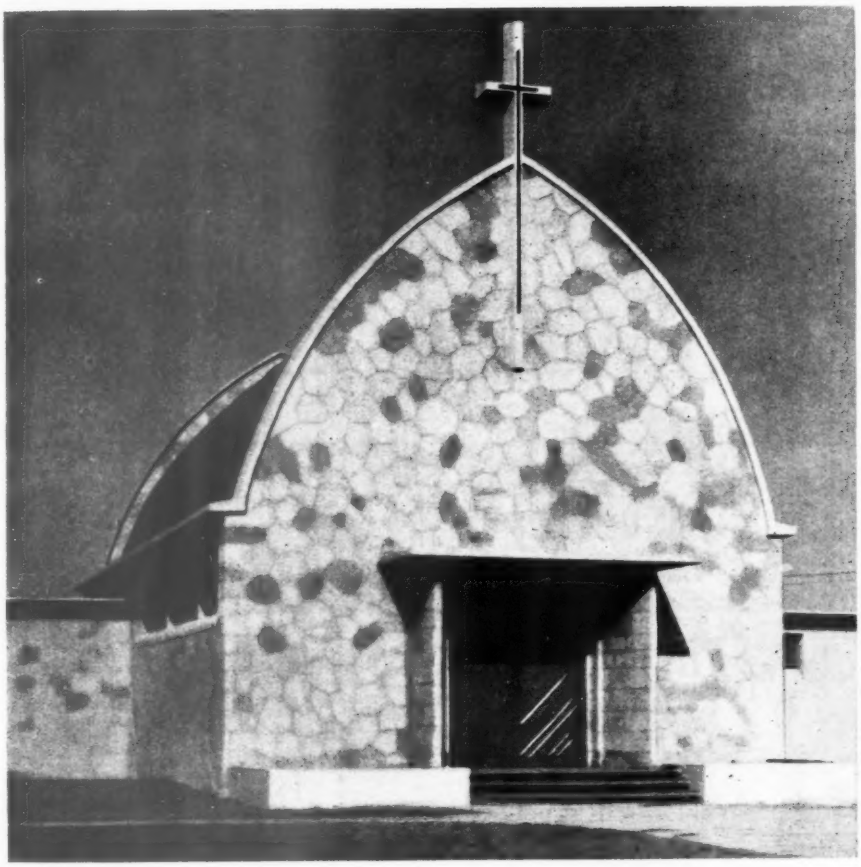
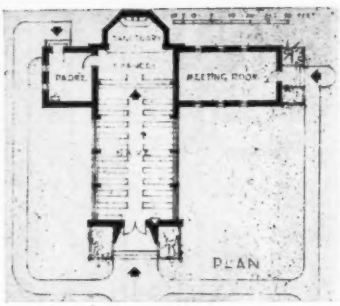
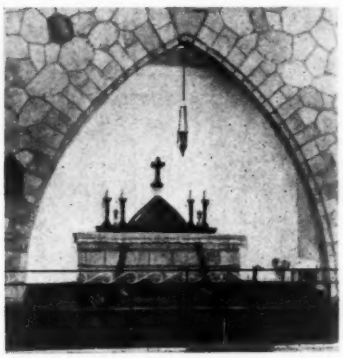






CHURCH

IN EGYPT FOR THE R.A.F.

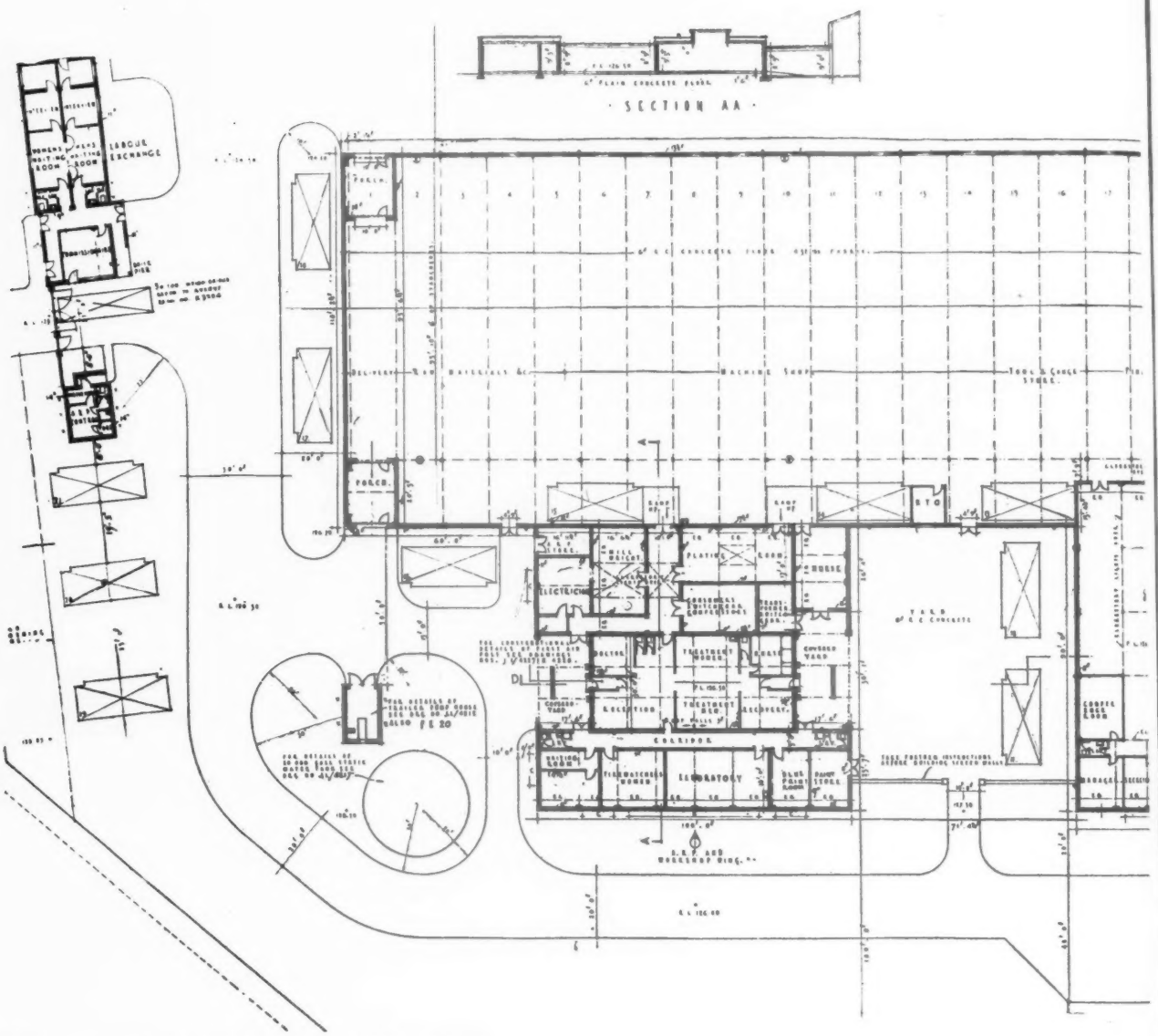
DESIGNED BY EDWARD NARRACOTT

GENERAL—The Catholic members of an R.A.F. desert station desired to erect their own church out of funds provided by themselves. Money was soon forthcoming, plans were prepared, approval obtained and so developed the first permanent R.A.F. Catholic Church in Egypt. It was desired that the church should seat 125 members and have as an addition a small meeting room to seat 50 persons for lectures.

CONSTRUCTION — The design was partly controlled by the lack of materials available, timber being practically unobtainable. The walls are of 16 in. local multi-coloured stone set spider-web pattern on each face. The roof to the nave is of corrugated iron carried on wood rafters supported on precast reinforced concrete Gothic trusses sunk into the floor. The ceiling is lined with fibre board. The roofs of the padre's room, the meeting room and the sanctuary are of reinforced concrete slab. Natural lighting to the sanctuary is by a screened roof light, and artificial lighting to the nave by indirect lighting from troughs set in the concrete window hood.

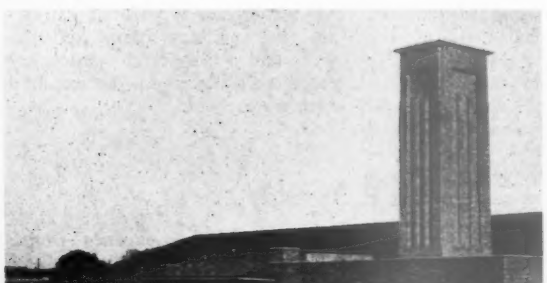
INTERNAL FINISH—All floors are paved in 12 in. by 12 in. grey terrazzo tiles set in a $\frac{1}{4}$ in. red joint with the exception of that in the sanctuary, which is of 6 in. by 6 in. red terrazzo tiles. Internal walls, except to the sanctuary which is plastered, are left in natural stone. The altar is of pink stone and red terrazzo. All woodwork is painted eau-de-nil, the ceilings ivory and the walls and ceiling of the sanctuary pale blue. The roof is distempered dark terra-cotta.

Top, left, main entrance front; right, general view, the plan, and the chancel and sanctuary. The padre's room is on the left of the chancel. On the right is the meeting room with its own entrance.



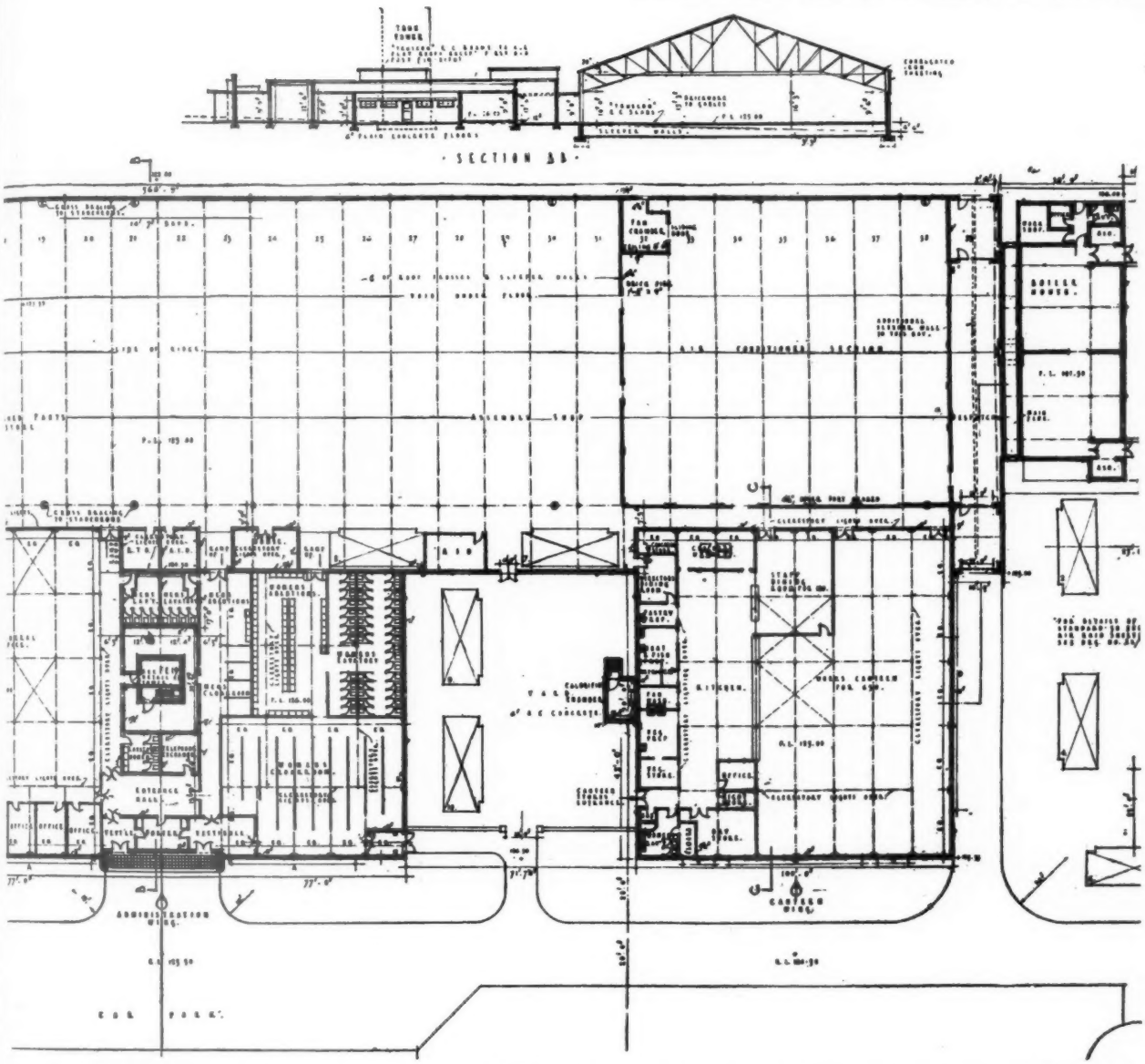
FACTORY

BUILT IN FOUR MONTHS



In a semi-residential district of a Scottish city, an 80,000 ft. super-factory has been built in four months. Pre-war a similar project, it is estimated, would have taken from nine to twelve months. The factory, faced with local common bricks with artificial stone dressings, is designed for a personnel of 1,250 and has a production area of 68,000 ft. super. In addition there are canteen facilities, general offices and A.R.P. quarters.

The production area comprises a steel-framed shed 568 ft. long by 98 ft. wide with a 20 ft. 6 in. wide annexe running the whole length, forming an access corridor and provision for some of the air raid shelters. The factory has top light with a mechanical system of black-out shuttering. Brick walls formed of 11 in. cavity walls and pre-cast clerestory lights house the canteen, general offices, cloak rooms and lavatories and A.R.P. quarters, the yards between the projecting wings being masked with low walls. Heating of the factory is by a low-pressure steam system, fed by cast-iron sectional boilers. In the main factory heat-

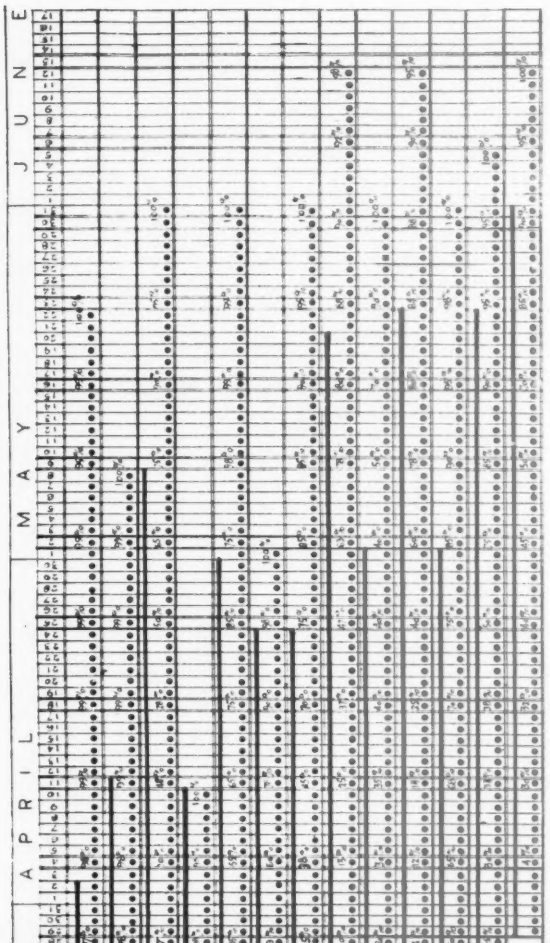


ing is by unit heaters steam heated, each alternative heater being fitted with an inlet duct to the outside air for ventilation. Calorifiers are provided for the domestic supply and the heating of the ancillary wings, which is by hot-water pipes and radiators. The electrical services comprise normal lighting plus power supplies to machine tools and H.T. switch gear and factory transformer. A separate L.T. emergency supply is also provided.

The site was settled in late December, the manufacturers' requirements were obtained, sketch plans prepared, and the final scheme, together with approximate costs, was approved early January. $\frac{1}{16}$ in. scale working drawings were then proceeded with and a very approximate bill of quantities prepared to serve as a schedule of basic prices only. Competitive

Above, ground floor plan and sections; below and facing page, two views of the main front. The factory is faced with local common bricks with artificial stone dressings.

FACTORY BUILT IN FOUR MONTHS



Left, progress chart; right, views in the canteen, top, and in the factory.

tenders were invited and the tenderers were given the approximate bill of quantities together with a sketch plan, which indicated to them the type and approximate amount of work involved in the scheme, and the contract was let early February. This procedure enabled many more weeks to be gained than would have been the case if the usual practice had been adopted of completing $\frac{1}{8}$ in. working plans and details and handing them to the quantity surveyor to prepare a detailed bill before going out to tenderers.

Consulting engineers for the mechanical and electrical services were called in at the sketch plan stage, and the services were designed in conjunction with the working drawings, the consultants' staff working alongside the staff of the architects. Negotiations were entered into with the various suppliers so that bulk orders could be placed as soon as the contract was let. These orders were finalised at a later stage when the particular items could have more detailed consideration, but it will be appreciated that the manufacturers could proceed with the bulk of the specialist supplies, such as steel work, windows, mechanical equipment, artificial stone, etc., and so be ready to deliver to the site, so that the sequence of building operations could proceed in an orderly manner.

To facilitate the smooth running of the work, temporary site offices were erected and a resident organization, including architects, engineers, consulting engineers, quantity surveyors, etc., was set up at the outset of the job. This arrangement was found to be most beneficial and allowed numerous queries to be settled at once and obviated loss of time due to constant reference back to head office. It also permitted a large amount of advanced information to be given to the contractor. Very close liaison and team spirit between the contractors and the technical staff were fostered and every assistance was given, including collaboration in forecasting future labour requirements. In order to proceed with as much work as possible during wet periods, a system of tubular scaffold frames with tarpaulin sheets was arranged. These could be moved into position at a moment's notice, and such items as brickwork, etc., proceeded with, the contractor being met with the cost of the frames and any loss of output by working through wet periods.

A progress chart of a simple character was prepared (see diagram) and constant attention was given to the state of the various sections of the work. Weekly progress meetings were held and attended by the contractors and their sub-contractors and all differences and difficulties were discussed. Minutes of the meeting were circulated to all concerned and formed a complete history of the job. The contractors undertook substantially to complete in 17 weeks and give the manufacturers an area of the factory floor for installation of plant in 12 weeks. This was achieved and it is interesting to note the result at the end of 16 weeks on the progress chart and how the target dates for the various sections of the work were effected during the course of the erection of the factory.

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

1367 *Planning Guide*

ACTION FOR CITIES: A GUIDE FOR COMMUNITY PLANNING. *Public Administrative Service Booklet No.* 86, *Chicago.* (Sponsored by *American Municipal Association*; *American Society of Planning Officials, International City Managers' Association.*) Valuable guide to information required in planning any town, its sources (USA) and methods of collation and presentation.

The planning procedure is based on a series of progressive steps listed under five divisions. The People of the Community; The Community Makes its Living; The Community as a place in which to live; The Ground Plan of the Community; Plans into Action. Each main division contains sections numbered in tens. Each section contains steps numbered in ones.

Each stage of the procedure is based on:

(*a*) *Determination of goals*—what do the people of the planning area *want* their area to become in the light of:
  (i) Its possibilities—what *could* the area become if proper use were made of its resources—physical, human, economic, social, cultural?
  (ii) Feasible paths of development—what *should* the area become.

(*b*) *Determination of needs*—what must be provided in order to reach goals, measuring:
  (i) Existing conditions and facilities.
  (ii) Shortages of physical facilities and arrangements, and of programmes of services.

(*c*) *Programmes of meeting needs*—how can the necessary changes, facilities and services be provided in terms of:
  (i) Time schedules—what order of projects and programmes should be followed?
  (ii) Physical changes—new development of existing arrangements.
  (iii) Legislative, administrative and financial means.
  (iv) Community organization and public opinion.

MATERIALS

1368 *Cracks in Concrete*

WIDTH AND SPACING OF TENSILE CRACKS IN AXIALLY REINFORCED CONCRETE CYLINDERS. *David Watstein and Douglas E. Parsons.* (*United States Department of Commerce. Journal of Research of the National Bureau of Standards, July*, 1943, *pp.* 1-24.) Investigation of the width and spacing of cracks in weak and strong concrete, reinforced with different types of bars.

The avoidance of large cracks is one of the important considerations in the design of reinforced concrete structures. The paper deals with the factors governing the spacing and width of cracks in symmetrically reinforced concrete members subjected to axial tension. Tests of axially reinforced cylinders are described and the results of the tests are compared with the indications of theory and with the results of previous investigations.

Two mixtures of concrete, giving an average cylinder strength of 2,900 and 5,300 lb./sq. in. respectively, and five different types of reinforcement were used. Comparison of the results obtained with the weak and strong concrete indicate no appreciable difference in the widths of cracks for stresses in the reinforcement corresponding to commonly used design values. On the other hand, the type of reinforcement has proved to be of great influence. The following two series of figures indicate the relative value of the various types of reinforcement used in the tests.

(1) The widths of cracks at a stress of 30,000 lb./sq. in. were in the following ratio:

Type of bar	*Ratio of width of cracks to that observed for 7/8 in. plain hot-rolled bar*
$\frac{7}{8}$ in. plain hot-rolled	1
$\frac{7}{8}$ in. deformed	.72
No. 8 webbed Isteg	.75
Two $\frac{5}{8}$ in. deformed	.48
$\frac{7}{8}$ in. threaded	.46

(2) For the width of crack observed in specimens reinforced with $\frac{7}{8}$ in. hot-rolled bars carrying a stress of 20,000 lb./sq. in., the corresponding stresses for the other bars were, on the average:

Isteg bars	24,000 lb./sq. in.
$\frac{7}{8}$ in. deformed	25,000 ,,
Two $\frac{5}{8}$ in. deformed and $\frac{7}{8}$ in. threaded	35,000 ,,

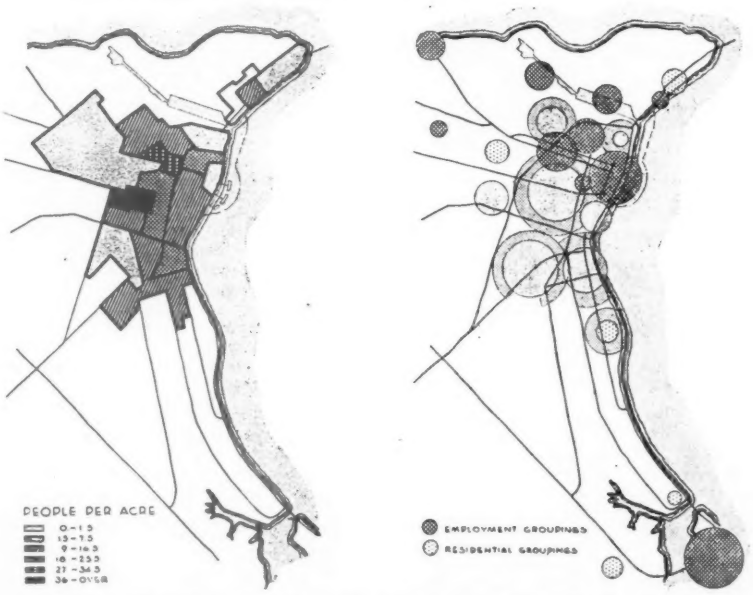
The width of cracks in symmetrically reinforced concrete members subjected to axial tension and to the effects of shrinkage of concrete and change of temperature may be minimised by:

(*a*) Using concrete of low shrinkage properties.
(*b*) Limiting tensile stresses in the reinforcement to low values.
(*c*) Reinforcing the concrete with the largest number of bars of the smallest sizes compatible with other requirements.
(*d*) Using deformed bars having projecting lugs that afford resistance against slipping without causing splitting of the concrete and that are spaced to provide the minimum of bearing area necessary to develop the desired bond strength.

1369 *Properties of Concrete*

TENSILE AND OTHER PROPERTIES OF CONCRETE MADE WITH VARIOUS TYPES OF CEMENTS. *Louis Schuman and John Tucker, Junr.* (*United States Department of Commerce. Journal of Research of the National Bureau of Standards, August*, 1943, *pp.* 107-124.) Improved method for tensile testing of concrete. Maximum values of tensile strengths usually between 7 days and 3 months.

The tensile strength of concrete is an important factor in its resistance to cracking by bending, shrinkage, freezing and thawing or differential expansion. Unlike the compressive test, which has been standardized, tensile tests of concrete have been made by a number of different methods which are not quite satisfactory. Some of them are open to



From Action for Cities (*see No.* 1367). *Left, density map—Corpus Christi,* 1940—*made from information obtained from the* 1940 *census according to enumeration districts. It was used as a basis for study of desirable future densities for various parts of the city. Right, distribution map—Corpus Christi,* 1942—*made to study centres of population in relation to residence and place of work. It was used in analysing origin and destination for the transportation and transit planning, for the study of industrial relocation and of neighbourhood development.*

objection because of the way the specimens break.

The new feature of the improved method of determining tensile strength is the application of the load to the concrete under test through threaded rods embedded in rich mortar moulded on the ends of the cylindrical test specimens. The new method gives more uniform results than those used previously.

A large number of concretes were tested with different cements, aggregates and mixes 1 : 6 and 1 : 4.5 (by weight), both in tension and compression, at ages of 3, 7, 28 days, 3 months and 1 year. Concretes containing aerating agents were also included in the series. The effects of various sand-gravel ratios on tensile strength were also studied.

Tensile strengths usually attained maximum values between 7 days and 3 months, with retrogression in many cases. At one year tensile strengths were generally between ±10 per cent. of the 28-day strengths, except for high alumina cement, which gave appreciably lower values. For compressive strengths up to about 2,500 lb./sq. in. the 1 : 6 aerated concrete gave somewhat higher tensile strengths for equal compressive strengths than 1 : 6 mix with normal cements. The high-alumina cement gave appreciably lower tensile strengths for equal compressive strengths than other cements. Tensile strengths of concrete varied considerably with the sand-gravel ratio or with the type of coarse aggregate used.

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.*

1370 Starting a Builder's Business

Q *With what Government Regulations must one comply before commencing business as a jobbing builder and electrical contractor? In addition to summarizing the position will you make specific references to the regulations concerned.*

A We quote extracts from a reply to questions, made by the Ministry of Works, as published in *The Builder* for Sept. 3, 1943 :—

"The registration of builders was carried out in September, 1941, under Defence Regulation 56 A.B. as a war-time measure. . . . . Since that time it has been the policy of the Department not to register any new firms or individuals that were not operating as building firms or principals prior to October 1, 1941. . . . Any firm or individual not registered, which carries out any building or civil engineering work in the course of an undertaking carried on by them is acting illegally."

"The possibility of continuance of registration after the war has been referred to in the Government White Paper on Training for the Building Industry in the following terms: The Government . . . and if requested would consider favourably the continuance at least during the immediate post-war period of the present statutory provisions controlling registered building and civil engineering undertakings. . . ."

Such remarks would apply equally to an Electrical Contractor.

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.

BATC

Sir M. T. Eve

January 17, at Devonshire House, London. Statement on the FIRST REPORT OF THE BUILDING APPRENTICESHIP AND TRAINING COUNCIL OF MOW, by Sir Malcolm Trustram Eve, K.C., Chairman of the Building Apprenticeship and Training Council.

Sir Trustram Eve: To-day is published the First Report of the Building Apprenticeship and Training Council.

May I in a few sentences trace the history of events leading up to the formation of this Council and the publication of its First Report. In November of 1942, the Education Committee of the Central Council for Works and Buildings submitted to the Minister of Works a report on training for the building industry. The report contained a number of important proposals for dealing with the expansion and maintenance of the personnel in the industry, some of which were of a short-term nature and one—the setting up of an Apprenticeship and Training Council for the Building Industry—of a definitely long-term application.

After consideration of this document, the Ministers of Labour and of Works jointly presented to Parliament in February last a White Paper, *Training for the Building Industry* (Cmd. 6428), which announced that the Government was "prepared to take the initiative in establishing without delay an Apprenticeship and Training Council for the Building Industry, which will be primarily representative of the industry but will include representatives of other important interested bodies, as well as of all Government Departments concerned." Our primary function was defined as being "to observe and advise on all matters concerning the recruitment, education and training of young persons for the industry, both for craftsmanship and management, and to encourage by all appropriate means the development of craft apprenticeship schemes and student apprenticeship schemes on a comprehensive basis." In addition, therefore, to all matters directly relating to apprenticeship, education both before and during apprenticeship, comes within our purview; such matters as the regulation of wages, hours and conditions of employment, do not.

"Craftsmanship" as related to the building industry includes a very wide range of trades. All craftsmen of each of these trades ought to be trained through apprenticeship, and the industry after the war ought to contain about 600,000 such craftsmen (including apprentices).

A properly regulated system of apprenticeship must differ in many respects from the often insecure methods of past years. Undoubtedly there has been a great deal of good apprenticeship training in the past, even though the greater part of it was without any formality of written agreement of any sort and without regard to the boy's suitability for the work. It appears that the employer was often unwilling to bind himself to the boy owing to lack of continuity of employment, which might mean that he would find himself under an obligation to pay wages without a return in work. Under this informal apprenticeship, also, the boy was free from legal liability and would tend to leave the employer before completion of his training if he saw an opportunity to get the higher wage of a craftsman. Thus there was on the one hand no security of tenure for the boy, and on the other no security of service for the master, and the entry into the crafts of semi-skilled or untrained youths and men became a common practice. The so-called back door of entry remained open. Even where apprenticeship was at its most satisfactory, comparatively few boys were able to supplement their training on the job by technical education during the day-time and the others had to depend entirely on evening tuition after a hard day's work.

It is our view that while the master remains—as he should—primarily responsible for training his apprentices, there must be two other factors brought into play.

1. So that a boy may start his career reasonably equipped as an apprentice and later as a craftsman, he should receive before apprenticeship junior pre-employment education for building and during the period of his apprenticeship he should receive part-time education at a technical course. Our definite recommendations are that a boy with approved pre-apprenticeship training should be given absolute priority in the selection of apprentices, and that day-time release for attendance at a technical course during apprenticeship should be compulsory up to the age of 18, wherever it is available.
2. In addition to the supervision by his master, a helpful and a watchful eye should be kept on his training throughout apprenticeship by an Apprenticeship Committee representative of the industry and of other interests concerned with the well-being of the boys. To give practical effect to this view, we recommend that the Apprenticeship Committee should in all cases be either a party to the indenture of apprenticeship or should be given suitable powers under it.

It is the Council's view that the industry will be able, for some years after the war, to absorb all the apprentices forthcoming in each of the crafts without in any way prejudicing the employment of other workers in it. Between 15,000 and 20,000 will be required each year merely to make good normal peace-time wastage by death and illness. This would give a total apprenticeship strength of 75,000 to 100,000 on the basis of five years apprenticeship. Even if this number were exceeded it would be to the advantage of the industry, since any number of apprentices in excess of those necessary to make good natural wastage would build up and strengthen the total force which has been depleted by the war, and the industry would be saved to that extent the necessity of taking in partly

trained adults. It is quite clear to us that the building industry will require in the post-war years something of the order of 100,000 apprentices all at one time, undergoing their various stages of apprenticeship.

Now a word as to the terms under which a lad should be bound to his employer, and the employer to the lad. We attach importance to the form of the indenture. It should always be in writing and should be an enforceable contract. I have already mentioned that an Apprenticeship Committee should have powers under every indenture. These powers broadly should be :

To inquire into the efficacy of the training of the apprentice and to consider reports from either party and from the schools, so as to ensure that instruction is being given in all such processes and operations as are required for his proper training.

To take steps to ensure, where circumstances render it necessary, that apprenticeship shall be completed with another employer.

To relax, vary or suspend any of the conditions of apprenticeship affecting training as may be necessary in the interests of employer or apprentice.

To cancel the apprenticeship in the event of continued failure of any party to comply with his obligations.

One of our main duties is to assist the industry in the encouragement and guidance of apprenticeship. To this end it is, in our view, essential that the Council should have a record of *all* the boys already in, or who in future will enter, the various branches of this industry to learn a craft. Where, but only where, a boy has had the advantage of training under approved conditions, he will receive the Council's Certificate of Completion of Apprenticeship at the end of his apprenticeship. One of the effects of this provision will be that both parents and boys will take every care that the apprenticeship agreement is in terms which will be approved. But where a boy is " recorded " as having been apprenticed under terms which do not comply with the approved conditions, it will be possible to notify both apprentice and employer in order to afford a chance to modify the agreement and bring it into line, so as to secure for the boy the benefits of registration and certificate. The Council hopes to bring into being as soon as possible a detailed system of record, registration and certificate on the above lines.

I have said that the industry will want some 20,000 boys a year, and if these are to become real craftsmen, the industry must have its fair share of the best type of boy. How are they to be obtained? Parents, boys and schoolmasters must know of our proposals and, what is far more important, must believe in them and must feel that the industry offers to its craftsmen a real career. It is to spread the knowledge of our proposals that I ask the help of the Press. There is no better way to speak to everyone concerned. We also have decided to use the cinema to help us. Two films will shortly be made and shown as early as possible this year. One will be designed to arouse the general interest of parents and boys and one will depict technical aspects of the various crafts.

Given the candidates, and the schools, there is the question of the staff necessary to impart this training. An adequate supply of capable teachers will be a matter of urgent and capital national importance, and the present serious difficulties in this direction will be accentuated as the facilities expand. The requirements, on the basis of an annual school output of only 10,000 boys, will be about 1,500 teachers and instructors for pre-apprenticeship training schools alone. Even this is a big force to build up, but I am happy to say that the Departments of Education have already taken steps to obtain the consent of the Ministry of Labour to the release from industry of the teachers of technical subjects and the craft instructors necessary to deal with the immediate requirements of junior pre-employment education for building and that they have circulated Local Education Authorities informing them how to proceed in the matter. There are now in the schools in England and Wales some 150-200 teachers and instructors, and it is understood that the Ministry of Labour will approve the transfer of a sufficient number of suitable men from the industry to meet existing needs. If the local authorities will take advantage of this situation, the needs for existing students will be met, but the problem of recruiting teachers and instructors for future expansion remains, and in this connection we strongly recommend that the special needs of the building industry for well-trained apprentices should be urged upon the demobilization authorities so as to secure that those who are to teach the boys should be put into a class for early demobilization.

These, as shortly as I can put them, are in broad outline the main features of our report.

RIBA, NHBRC, BSA

Conference

The following is a report of the Joint Conference on POST-WAR HOUSING of the Royal Institute of British Architects, National House-Builders' Registration Council and the Building Societies' Association.

1. The Conference met on five occasions in 1943—on May 28, July 9, September 3, September 24 and October 22.

2. The delegates to the Conference were : *The Royal Institute of British Architects* : C. H. James, A.R.A., F.R.I.B.A., Hubert Lidbetter, F.R.I.B.A., A. L. Roberts, F.R.I.B.A., C. D. Spragg (Assistant Secretary). *The National House-Builders' Registration Council* : Dr. J. Greenwood Wilson, J. W. Laing, F.I.O.B., Sir Jonah Walker-Smith, M.P., Norman Wates, Norman H. Walls (Secretary). *The Building Societies Association* : Stanley C. Ramsey, F.R.I.B.A. (Chairman of the Conference), Wm. McKinnell, F.F.A. (formerly Chairman of the Council), R. Bruce Wycherley, M.C., F.C.I.S. (Chairman of the Council), Sir Harold Bellman, J.P., LL.D., Arthur Hollis, F.S.I., F.A.I., Lewis H. Pratt, F.C.I.S., Sir Geoffrey Shakespeare, Bart., M.P., David W. Smith, J.P., F.C.I.S., Sydney A. Smith, F.S.I., F.A.I., Dr. L. Dudley Stamp, Andrew Stewart, C.A., F.C.I.S., Hugh F. Thoburn, F.S.I., Brig.-Gen. Sir Edward N. Whitley, K.C.B., C.M.G., D.S.O., D.L. ; with L. F. Gregory (Acting Secretary), F. H. Champion (Public Relations Officer), and G. W. Hemming, F.S.I. (Hon. Secretary to the Conference).

3. TERMS OF REFERENCE.

(i) To consider by what means the improvement of housing standards can best be effected after the war.

(ii) To consider the availability of building materials in the immediate post-war years.

(iii) To consider how the procedure of the approval of schemes can be improved.

(iv) To investigate and discuss any other matters relating to the post-war housing programme which are of interest to the parties to the Conference.

4. QUALITATIVE STANDARDS.

(*a*) In commencing the discussion on this subject the four recommendations as to standards for post-war housing which were made by the Qualitative Standards Sub-Committee of the Reconstruction Committee of the Building Societies' Association, and which have been approved by the Councils of the three parties to the Conference, were referred to. These recommendations, subsequently referred to as the Charter, are :—

(i) The site planning to be in accordance with the plans of the projected central planning authority, which will have nation-wide powers, and of which the nucleus at least apparently already exists in the Ministry of Town and Country Planning.

(ii) As a safeguard against over-rigid central control, and to assist in securing proper harmony with the local environment, however, the design and planning of the house should be subject to the approval of the local authority, which should consult for this purpose qualified technical advisers.

(iii) The local bye-laws should be thoroughly revised and brought up to date, and enforced by means of adequate supervision.

(iv) The quality of the workmanship and of the materials should be certified by a properly constituted body, fully representative of the interests primarily concerned, and given statutory authority.

(*b*) With regard to (i), the Conference is in complete agreement with the recommendation, and considers that the functions of what has been termed the Central Planning Authority will now devolve on the Ministry of Town and Country Planning.

(*c*) With regard to (ii), the Conference supports the argument that the ultimate responsibility for the planning of new units should rest with the local authority, but that such control should be exerted on behalf of local authorities by persons having adequate technical qualifications, whether they be paid employees of the authority concerned, or panels of architects, builders and informed laymen on the voluntary system, which was found useful in many areas prior to the war, or alternatively, to statutory panels as envisaged in the Scott Committee Report (para. 162).*

(*d*) In considering (iii), it was pointed out by Sir Geoffrey Shakespeare that since 1936 the adoption of the Model Bye-laws was obligatory on all local authorities. In view of this, the Conference agrees that the words " revised and " be omitted from Clause (iii) of the Charter. The need for the general enforcement of local bye-laws was agreed, but it is the view of the members of this Conference that bye-laws alone will not effect the improvements in housing standards which, in the opinion of the Conference, are desirable. The County Councils and the Councils of most cities and boroughs are able to employ adequate technical staff, but many scattered Urban and Rural District Councils are unable to retain the services of qualified personnel. The remedy might lie with the re-grouping of such areas for housing purposes, so that the responsibility for the passing of plans, and the enforcement of bye-laws in such cases would be the responsibility of the technical staffs of County Councils.

(*e*) It is considered of the utmost importance that in the future greater collaboration should exist between house-builders and the architectural profession. Such collaboration was markedly lacking during the period of intensive building between the two wars, and the reasons for this and the means of obtaining closer co-operation in the future were closely considered. It is considered that co-operation between architects and house-builders is a matter of great concern, not only to those having an interest in housing, but to the welfare of the nation as a whole, and it can only be brought about by :—

(1) The education of the public ; and

(2) Greater attention being given to the design of domestic buildings, particularly the smaller types, by the architectural schools.

(*f*) It is realised that this is a long term policy, but in the meantime co-operation between architects and builders should be

* *Extract from Scott Committee Report (para. 162)* :—
" We are appreciative of the good work done in many counties by the voluntary Advisory Panels of architects and others in promoting good design and harmony, but consider that it is unfair to leave such important work to voluntary effort and that review by Statutory Panels of paid architects and others, which we recommend should be set up, should be compulsory. The economies which would result from this expert advice should lower rather than increase costs. There is a wide and very important field for architects in this sphere of rural housing, and the use of modern materials to harmonize with existing local, and the traditional type of building calls for much study. It is especially important that supervision be exercised not only over new building but also over the additions to or restoration of existing buildings, and it should extend to execution as well as design."

encouraged in every way possible. The House-Builder members of the Conference are in favour of making the employment of architects compulsory for the design of all houses as soon as practicable.

(*g*) With regard to (iv), consideration was given to the operations of the National House-Builders' Registration Council prior to the war, whereby houses were erected for sale by firms of builders under a guarantee that the materials and workmanship complied with a standard specification laid down by the Registration Council, and that the standard of workmanship had been inspected and certified in various stages by the Council's technical employees. The merits of this system received general approval, but its effectiveness, when applied to the immense problems of post-war housing, is dependent upon the granting of some form of statutory authority. The members of the Conference unanimously agree that Clause (iv) of the "Charter" should be amended as follows :—

> The quality of the workmanship and of the materials be certified by the National House-Builders' Registration Council, as expressly constituted for its wider functions, and provided it is given statutory authority.

(*h*) The Clauses of the "Charter" if amended according to the recommendations of the Conference would read as follows :—

(A) That the site planning be subject to the approval of the Ministry of Town and Country Planning.

(B) That the design and planning of the houses be approved by the local authority : such approval to be the responsibility of the authority's own qualified technical staff where employed, and in other cases, to be dealt with by a statutory panel as envisaged in the Scott Committee Report (para. 162).

(C) That the local bye-laws, enforced by adequate supervision, be complied with.

(D) That the quality of the workmanship and of the materials be certified by the National House-Builders' Registration Council, as expressly constituted for its wider functions and provided it is given statutory authority.

(*j*) The necessity for avoiding any proposals which might have the effect of restricting or delaying the supply of houses after the war is fully appreciated by the Conference, but it endorses the recommendations set out above if properly and speedily applied, as the most effective means of improving standards in post-war years.

5. PRIVATE ENTERPRISE.

(*a*) From such data as is available, and from the pronouncements of Government speakers, it is envisaged that there will be an urgent need for 4,000,000 houses after the war to replace unhealthy, worn-out and slum dwellings, to provide for the replacement of property destroyed by enemy action, and to cater for the inevitable demand for new houses which has been aggravated so considerably by the cessation of building during war years. It is the unanimous opinion of this Conference that a programme of such magnitude cannot possibly be carried out within a period of 10 to 12 years except with the active co-operation of private enterprise, which during the period between the last two wars built nearly 3,000,000 out of the 4,000,000 houses erected. It is also fully realised that it is difficult for private enterprise to make extensive and effective plans for post-war reconstruction at the present time until the Government have publicly announced whether, and to what degree, they intend to implement the recommendations contained in the Barlow, Scott and Uthwatt Reports. At the present time the State, through the agency of local authorities, is pressing forward with plans for the development of such sites in their respective areas as would normally and inevitably be developed for housing purposes without any risk of using up valuable agricultural land, or land likely to be required for green belt or industrial zones. This means, in effect, that many available sites are to be ear-marked by local authorities, and private owners or builders are thereby at a disadvantage in making any preparations in advance for post-war development.

(*b*) From the speeches of the Minister of Health, Mr. Ernest Brown, and other members of the Government, it is clear that the Government intends to encourage the use of private enterprise in the solution of the housing problem. But it is not so clear as to the manner in which private enterprise is expected to function.

(*c*) From answers in the House it may be assumed that of the 4,000,000 houses a substantial proportion will be for the lower income groups, and that these will have some measure of priority. Economic factors will also exert a powerful influence upon any plans which the building industry can make now for development after the war. Amongst these factors are :—

(i) The prices of building materials, and will prices be controlled ?

(ii) Will there be priorities for the release of materials for specified purposes, such as the housing of the working-classes ?

(iii) Will there be any form of Government subsidy ?

(iv) Will some materials be in short supply, thereby involving the use of more costly substitutes ?

(v) What will be the conditions with regard to wages and working hours in the industry, and the mobility or flexibility of the labour force ?

(*d*) All these factors affect the re-entry of private enterprise into large-scale house-building after the war, and it is felt that it is of the utmost importance that the Government should utter a clear pronouncement as to its attitude, after consultation with the interests concerned, if private enterprise is to play an adequate part in rehousing the nation.

6. PREFABRICATION.

(*a*) This subject has aroused spirited discussion of late months and, in view of the impelling need which will arise for a very large number of houses in a short time after the cessation of hostilities, it is one which cannot be disregarded. When prefabrication is related to the manufacture of components, such as kitchen and bathroom fitments, or even internal wall linings, its merits are obvious, and in fact all through this century the house-building industry has increasingly found uses for prefabricated units, such as metal casement frames, etc. Prefabrication, however, in its larger sense relates to the mechanical factory production of the complete house in standardised units, capable of erection upon a prepared site by workmen unskilled in building industry technique. To carry through an immense housing programme in half the time which it took to erect the same number of houses between 1918 and 1939 is a tremendous undertaking, and factory production, which can be carried out independently of weather conditions, may help towards a solution of the problem. It is perhaps only natural that the building industry, both employers and operatives, while fully conscious of the urgent need for houses, are deeply concerned, both as to the future of the industry, and conditions with regard to wages and employment if factory operatives and unskilled labour should supplant their building technique, and the work of the craftsman.

(*b*) The Conference inclines to the view that not only would the Englishman much prefer his home to be built of the traditional materials of brick, stone, concrete, tile and slate, etc., but that so far as can be foreseen, there are no national economic advantages in departing from these traditional materials, though there is no doubt scope for the development of prefabricated standard fitments, such as bathroom and kitchen units, with all plumbing, electrical and gas services ready for connection, also for the development of new materials and new techniques.

(*c*) The Conference is keenly alive to the urgent need for large scale housing in the shortest possible time if social maladjustment is to be avoided, but before it can pronounce any opinion upon prefabrication in its widest sense, it considers that the application of this system to modern factory technique and new materials should receive thorough practical testing under the weather conditions prevailing in these Islands.

(*d*) The Conference therefore recommends that, before any prefabricated or other house which does not conform to the bye-laws is licensed, it should be the subject of tests and reports by qualified scientists, such as constitute H.M. Building Research Station at Watford.

(*e*) The Conference is of the opinion that there should be an open mind on the question of prefabrication, but that prefabricated, as indeed all, houses should conform to three principles :—

(1) They should be pleasant in appearance.
(2) They should be soundly constructed.
(3) They should satisfy an adequate standard of performance and comfort.

7. AVAILABILITY OF BUILDING MATERIALS.

(*a*) This is a subject of importance in connection with reconstruction, because the availability or non-availability of any of the traditional materials may have a considerable effect upon the design of houses and standards generally in the reconstruction period, but it should be made clear that any conclusions reached are only conjectural, because no precise information is available as to stocks held in this country, or as to the availability of shipping for importation after the war.

References to the subject were made by ministerial speakers at the recent Building Congress at Central Hall, Westminster, and from this and other sources of information, the position with regard to the principal building materials would appear to be as follows :—

(*b*) *Steelwork*. Should be in plentiful supply.

(*c*) *Timber*. The position as regards timber is still in considerable doubt. This material will probably be in short supply, although apart from any stocks that may be available in this country, large scale importation of timber from Canada and elsewhere should be possible, as it is understood that large stocks have been cut, dried, stacked and reserved for this purpose, but the situation may be affected by international considerations.

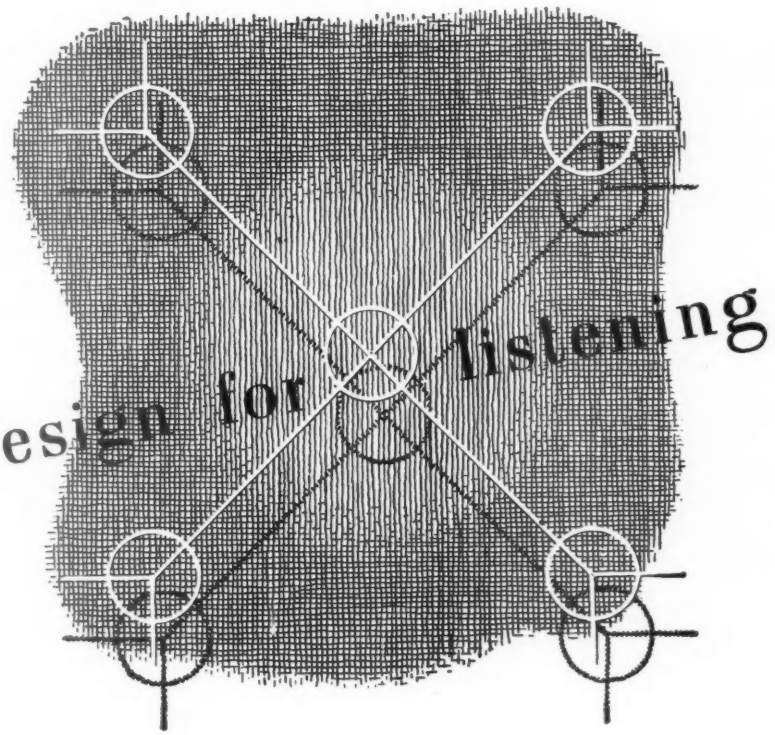
(*d*) The Conference is of opinion that the Government should take all possible steps to secure an adequate supply of timber at a reasonable cost.

(*e*) *Bricks*. Optimistic opinions have been expressed as to the ability of the brick-making industry to expand production within a reasonably short time to meet the huge demand which will arise. From available statistics it would appear that the peak production of bricks in this country in between the two wars was 7,000,000,000 per annum, and this figure would be just about sufficient to provide for a programme of 400,000 houses a year (i.e., 4,000,000 in 10 years) without taking into account the further immense demand which will arise for bricks for the repair of war damaged property, and for the erection of business premises, schools and public buildings. Taking into account the fact that many brickfields have been shut down during the war, and may take some little time to restore to full production, it will be necessary for the industry to increase very substantially its peak production of pre-war years. If, however, all concerned are alive to the danger of such a shortage, it is considered that the supply of bricks will probably be in advance of, rather than behind user-capacity.

(*f*) *Cement*. It is considered probable that the cement industry in this country is sufficiently organised to be able to meet any demand, and that the constituents of concrete will also be available.

(*g*) Builders' ironmongery, sinks, baths and other glazed ware, electrical fittings and components may all be in short supply at the outset of the building programme, but with the release of factories at present used for war purposes, and ample supplies of basic materials and skilled workmen, such shortage is only likely to be of a temporary nature.

(*h*) The general feeling of the Conference is,



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therefore, that the availability of building materials is not likely to cause a serious delay to the post-war housing programme, because other factors, such as economics, planning restrictions and labour difficulties are likely to involve an inevitable time-lag of anything up to two years before building can really get into its stride, and during that period the various branches of the building materials industry should be able to reorganise themselves for peak production.

NOTE.

(*j*) All the materials referred to above are home produced, with the exception of timber.

8. AVAILABILITY OF LABOUR.

(*a*) Some 1,000,000 men were directly employed by the building industry plus 250,000 in the civil engineering industry, before the war, and it is probable that at the end of the war there will not be more than 400,000 workmen in both industries, many of whom are over age, and have only returned to work during the period of hostilities. The Government propose to increase the manpower of the building industry over a period to approximately 1,250,000, this increase to be realised by the demobilisation of building operatives, by a system of apprenticeship training, and by the short and intensive instruction of suitable new entrants to the industry from demobilised service men.

(*b*) The Conference is of opinion that the availability of skilled building labour is likely to be the limiting factor in post-war reconstruction, and the Government and the building industry should continue to take all possible steps to ensure an adequate labour force.

9. PROCEDURE FOR SECURING THE APPROVAL OF SCHEMES.

(*a*) The simplification of building legislation is a matter of real importance, if post-war reconstruction is not to be hindered in every stage of planning. At the present time the Ministries of Works, Supply, Health, Planning, Production, Transport, Agriculture, Labour, the Service Ministries and practically all the departments of State are concerned with some aspects of building activity, and, apart from emergency wartime legislation, it is still impossible to say what new legislation will arise as a result of the recommendations of the Barlow, Scott and Uthwatt Reports. There is also the anomaly whereby building in London is regulated by the London Building Acts and Bye-laws, and under the Public Health (London) Act, whereas building in the Provinces is regulated by bye-laws adapted to each district based on the model bye-laws framed by the Ministry of Health.

(*b*) It is the opinion of this Conference that, as far as housing is concerned, the procedure must be so simplified and co-ordinated that *one application* by a building owner, accompanied by the necessary duplication of plans, to *one appropriate authority*, shall be sufficient. It shall then be the duty of such authority, be it County, Urban or Rural District Council, to take all the necessary steps with the various Ministries concerned which may be necessary to secure approval. Decisions on such applications should be given within one calendar month. This may mean the drastic overhauling and remodelling of Governmental machinery ; but the present process by which it is sometimes necessary for the building owner to make as many as seven applications to seven different authorities will assuredly cause chaos, and will do more almost than anything to delay and hinder the necessary production of houses.

10. FINANCE.

(*a*) The Conference did not deal fully with the question of the provision of the capital necessary to finance the huge building programme contemplated, but it is understood that the Building Societies are likely to have large funds available to finance the purchase of their homes by owner-occupiers, and that the Reconstruction Committee of the Building Societies Association is taking immediate consideration of the question of the finance of houses to be let, including the possibility of a Treasury guarantee on somewhat similar terms to that provided under the Housing (Financial Provisions) Act, 1933, for houses which could not be provided at an economic rent within the means of the lower income groups.

11. THE URGENCY OF THE PROBLEM OF POST-WAR HOUSING.

(*a*) In the deliberations of the Conference speakers have constantly alluded to the urgency of the problem which confronts the Nation. Never has there been so great a number of Conferences, Congresses and Committees concerned with reconstruction, but the total absence of any definite lead as to Governmental intentions prohibits the formulation of any practical plans for post-war development. Those who remember the chaos which resulted in connection with housing after the last war are apprehensive as to the consequences which may ensue if the Government's programme of 4,000,000 houses in ten years cannot be fulfilled. Too much emphasis cannot be laid as to the immensity of the problem now, as compared with 1918. Tens of thousands of houses, public buildings and business premises have been demolished and damaged by enemy action. An artificial redistribution of the population has taken place by the evacuation of cities, and the dispersal of factories. Coincident with the commencement of demobilisation a public clamour will arise for housing, and for the sake of political peace, and the rehabilitation of our industrial life, it is of supreme importance that practical planning, based upon declared Government policy, should be put in hand at the earliest possible moment, and not left to the conclusion of hostilities. The time is past for mere theorising and the expression of pious hopes accompanied by elaborate statistics, which mean less than nothing to the man in the street seeking shelter for himself, his wife and his family.

(*b*) This Conference urges the Government to announce its policy with regard to housing, planning and post-war development generally, as until this is made clear, private enterprise, though willing and capable of bearing a worthy part in reconstruction, is severely handicapped in the making of essential plans for future activity.

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 week'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, 8s.; 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

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LECTURER IN BUILDING AND ALLIED SUBJECTS.

Applications are invited for the post of full-time Lecturer in Building Subjects in Junior and Senior Classes to begin early April. Subjects offered should include Building Construction, Elementary Quantities and at least one of the following trades: Bricklaying, Carpentry and Joinery, Painting and Decorating, Plumbing, in which applicants should have had practical experience.

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Salary according to the Burnham Technical Scale, which provides for additional increments approved for industrial service after 21 years of age.

The post offers opportunities and those interested should apply for full particulars to the undersigned before February 1.

A. E. FOX,
Principal.
35

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ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the undermentioned temporary appointments in the Engineer and Surveyor's Department:—

(*a*) General Assistant. Experience of a similar appointment. Salary £6 per week.
(*b*) Architectural Assistant. Salary £6 per week.
(*c*) Woman Technical Assistant. Salary £5 per week.

The appointments are temporary subject to one month's notice of termination on either side.

Applications, stating age, qualifications and experience, accompanied with copies of not more than two testimonials to be delivered to the undersigned as early as possible.

The consent of the Ministry of Labour to the above appointments will be necessary.

F. W. WALPOLE,
Clerk.

Council Offices,
Oxted, Surrey.
12th January, 1944. 40

Required by the CITY OF PORTSMOUTH ARCHITECT'S DEPARTMENT.

Two SENIOR ASSISTANTS (Order No. 379). Salary £390 by £15 to £435 per annum.

Four GENERAL ASSISTANTS (Order No. 380). Salary £330 by £15 to £375 per annum.

Plus War Bonus. First increment payable 1st April, 1945.

Applicants must have planning and/or architectural qualifications. Experience of Town and Country Planning Acts procedure desirable.

Appointments, which are subject to medical examination, are expected to be for at least five years.

Applications in writing (no interviews) stating date of birth, full details of qualifications and experience, accompanied by three recent testimonials, and quoting the appropriate Order No., should be addressed to Appointments Office, Ministry of Labour and National Service, 16, Westwood Road, Southampton. 41

Architectural Appointments Vacant

Advertisements from Architects requiring Assistants or Draughtsmen, and from Assistants and Draughtsmen seeking positions in Architects' offices will be printed in "The Architects' Journal" free of charge until further notice. Other "Appointments Vacant" and "Wanted" will be found under later headings, and are subject to the charge given under each heading.

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 AND SURVEYING ASSISTANT required in S.E. Greater London area. Experience building works, specifications, quantities and land surveys. Good draughtsman. Good and durable prospects to suitable person. Must be exempt military service. Apply Box 233.

ARCHITECTURAL ASSISTANT required immediately for Westminster office. State age, experience and salary required. Box 30.

ARCHITECTURAL DRAUGHTSMAN required in Westminster office of company controlling a number of non-industrial properties. State age, experience and salary required. Box 31.

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ARCHITECT, experienced in carrying through works complete, specialized in large industrial and commercial building. Box 216.

ARCHITECT AND SURVEYOR, with own office near Exeter, seeks free lance or part-time work. Experience in all branches of the profession, especially in brewery, licensed premises, domestic, war damage and maintenance work, schedules of condition and dilapidation. Speedy, accurate draughtsman with high capabilities in design and construction. Box 217.

THOROUGHLY EXPERIENCED ESTATE CLERK OF WORKS, BUILDING SURVEYOR, etc., desires position, Midlands preferred; over 30 years' experience, with qualifications, practical and theoretical. Not liable for military service; rendered war service during 1914-18, first Great War. Controlled large, important, ane extensive first-class contracts, etc. Estate management, general property maintenance, supervision all branches of the building trades and the profession; local authorities experience. Full particulars, testimonials, etc., on request. Box 227.

ARCHITECT, with 20 years' experience in all branches of the profession, with special qualifications in domestic work and decoration, desires to change from his present position. Write Box 220.

PERSPECTIVE AND ARCHITECTURAL DRAWINGS carried out by architect, with good experience in this work, for moderate charges. Box 228.

ARCHITECTURAL ASSISTANT, R.I.B.A., Intermediate standard, requires work in London, post-war housing preferred. Box 229.

ARCHITECT'S SENIOR ASSISTANT AND BUILDING SURVEYOR. Age 29. Medically exempt. Wide experience architectural planning and design. Capable of controlling large public works and Government building contracts. Salary by arrangement. Box 231.

Classified Advertisements continued on page xxx

LONDON AREA, Senior Assistant, A.R.I.B.A., aged 38, offers part-time services. Wide experience in most branches of the profession. Own office accommodation. Box 232.

ARCHITECT, B.Arch., A.R.I.B.A., 8 years' experience. Two years' experience as chief assistant, capable of preparing all drawings, specifications from preliminary instructions, supervising works, etc. Desires change. Box 234.

CHARTERED ARCHITECT, A.R.I.B.A., A.M.T.P.I., Dip.T.P. Age 26, exempt military service, requires senior appointment of responsibility, London area. Salary £450—500 p.a. Box 235.

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ARCHITECT with own office seeks free lance and part-time work, or will represent London practitioners having work in South Midlands and south-west England. Experienced in all branches of wartime building and accustomed to large contracts. Box 239.

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Other Appointments Vacant

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JUNIOR INSTRUCTORS, male or female, in Architectural and Building subjects, required by large London Correspondence College. Previous teaching experience not essential. Any necessary training would be given. Five-day week. Suitable for boys or girls interested in Architecture. Write stating age and experience (if any) to Box T.922, Willings, 362 Grays Inn Road, W.C.1. 42

Other Appointments Wanted

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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.

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WELL KNOWN INTERIOR DESIGNER wishes to contact keen progressive Architect to co-operate in producing post-war houses for construction by alternative methods to brick. Box SC, F. F. Leach & Co., 39, St. James's Street, London, S.W.1. 25

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