THE ARCHITECTS' JOURNAL

standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur.

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★ The war has both multiplied the number of Official Departments and encouraged Societies and Committees of all kinds to become more vocal. The result is a growing output of official and group propaganda. A glossary of abbreviations is now provided below, together with the full address and telephone number of the organizations concerned. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association. 34/6, Bedford Square, W.C.1. Museum 0974.
ABCA	Army Bureau of Current Affairs. Curzon House, Curzon Street, W.1. Mayfair 9400 (Extension 461).
ABT	Association of Building Technicians. 113, High Holborn, W.C.1. Holborn 1024-5.
APRR	Association for Planning and Regional Reconstruction. 32, Gordon Square, W.C.1. Euston 2158-9.
ARCUK	Architects' Registration Council. 68, Portland Place, W.1. Welbeck 9738.
ASB	Architectural Science Board of the Royal Institute of British Architects, 66, Portland Place, W.1. Welbeck 6927.
BC	Building Centre. 23, Maddox Street, W.1. Mayfair 2128.
BCGA	British Commercial Gas Assn. 1, Grosvenor Place, S.W.1. Sloane 4554.
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2. Temple Bar 9434.
BIAE	British Institute of Adult Education. 29, Tavistock Square, W.C.1. Euston 5385.
BINC	Building Industries National Council. 110, Bickenhall Mansions, W.1. Welbeck 3335.
BOE	Board of Education. Alexandra House, Kingsway, W.C.2. Temple Bar 8020.
BOT	Board of Trade. Millbank, S.W.1. Whitehall 5140.
BRS	Building Research Station. Bucknalls Lane, Watford. Garston 2246.
BSA	British Steelwork Association. 11, Tothill Street, S.W.1. Whitehall 5073.
BSI	British Standards Institution. 28, Victoria Street, S.W.1. Abbey 3333.
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1. Sloane 4280.
CSI	Chartered Surveyors' Institution. 12, Great George Street, S.W.1. Whitehall 5322.
DIA	Design and Industries Association. Central Institute of Art and Design, National Gallery, W.C.2. Whitehall 7618.
DOT	Department of Overseas Trade. Dolphin Square, S.W.1. Victoria 4477.
EJMA	English Joinery Manufacturers Association (Incorporated), Goring Hotel, Grosvenor Gardens, S.W.1. Victoria 9787-88.
FMB	Federation of Master Builders. 23, Compton Terrace, Upper Street, N.1. Canonbury 2041.
GG	Georgian Group. 55, Great Ormond Street, W.C.1. Holborn 2664.
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. Whitehall 2881.
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1. Sloane 3158.
ICE	Institution of Civil Engineers. Great George Street, S.W.1. Whitehall 4577.
IEE	Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2. Temple Bar 7676.
IHVE	Institution of Heating and Ventilating Engineers. 21, Tothill Street, S.W. 1. Whitehall 9609.
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1. Abbey 6172.
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128-29.
LIDC	Lead Industries Development Council. Rex House, King William Street, E.C.4. Mansion House 2855.
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3767.
MARS	Modern Architectural Research. 8, Clarges Street, W.1. Grosvenor 2652.
MOH	Ministry of Health. Whitehall, S.W.1. Whitehall 4300.
MOI	Ministry of Information. Malet Street, W.C.1. Euston 4321.
MOLNS	Ministry of Labour and National Service. St. James' Square, S.W.1. Whitehall 6200.
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.2. Gerrard 6933.
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Abbey 7711.
MOTCP	Ministry of Town and Country Planning. 32-33, St. James's Square, S.W.1.
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611.
NBR	National Buildings Record. 66, Portland Place, W.1. Welbeck 1881. All Souls' College, Oxford. Oxford 48809.
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041.
NFBTO	National Federation of Building Trades Operatives. 9, Rugby Chambers, Rugby Street, W.C.1. Holborn 2770.
NT	National Trust for Places of Historic Interest or Natural Beauty. 7, Buckingham Palace Gardens, S.W.1. Sloane 5808.
PWB	Post War Building, Directorate of. Ministry of Works, Lambeth Bridge House S.E.1. Reliance 7611.
RC	Reconstruction Committee RIBA. 66, Portland Place, W.1. Welbeck 6927.
RCA	Reinforced Concrete Association. 91, Petty France, S.W.1. Whitehall 9936.
RIAI	Royal Institute of Architects of Ireland. 8, Merrion Square, N. Dublin
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Welbeck 5721.
RS	Royal Society. Burlington House, Piccadilly, W.1. Regent 3335.
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Temple Bar 8274.
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646.
TCPA	Town and Country Planning Association. 13, Suffolk Street, S.W.1. Whitehall 2881.
TDA	Timber Development Association. 75, Cannon Street, E.C.4. City 6147.
TPI	Town Planning Institute. 11, Arundel Street, Strand, W.C.2. Temple Bar 4985.
ZDA	Zinc Development Association. 15, Turl Street, Oxford. Oxford 47988.

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Alphabetical Index to Advertisers

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

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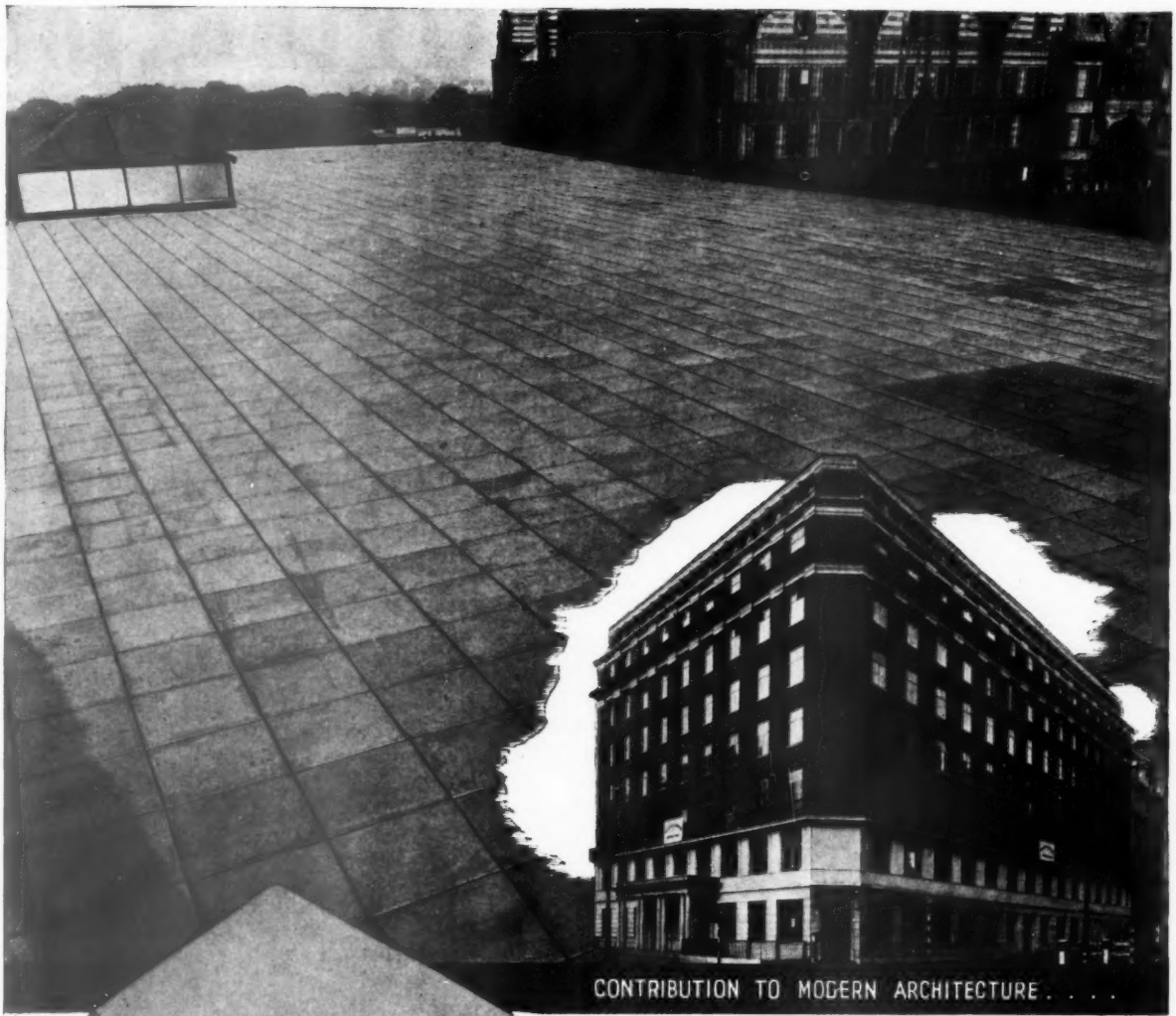

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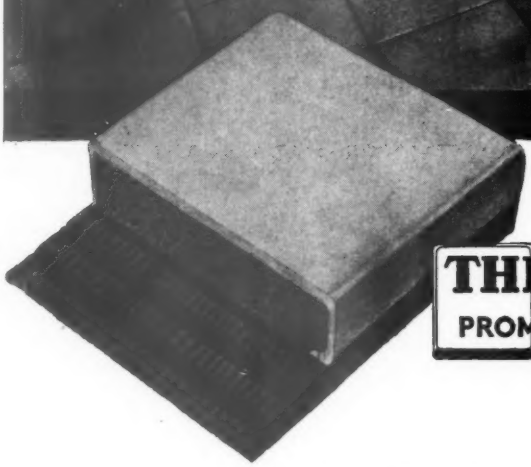

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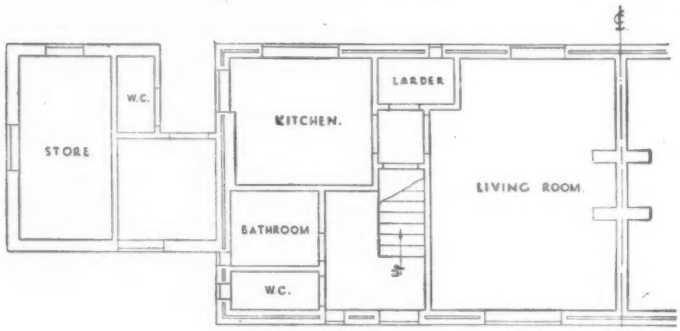

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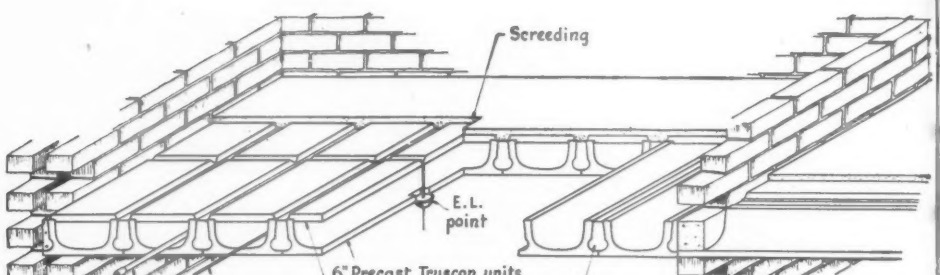

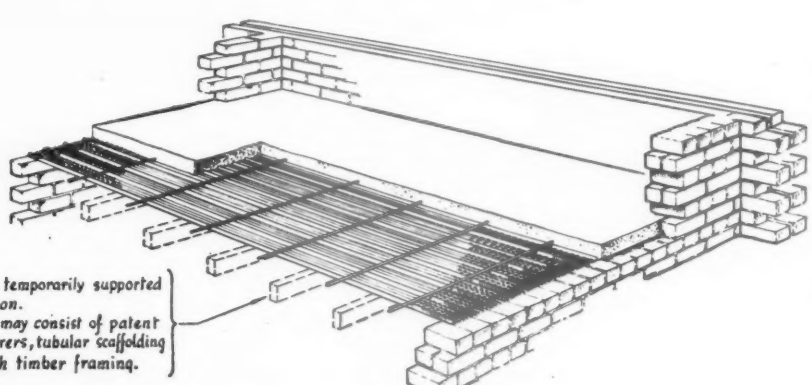

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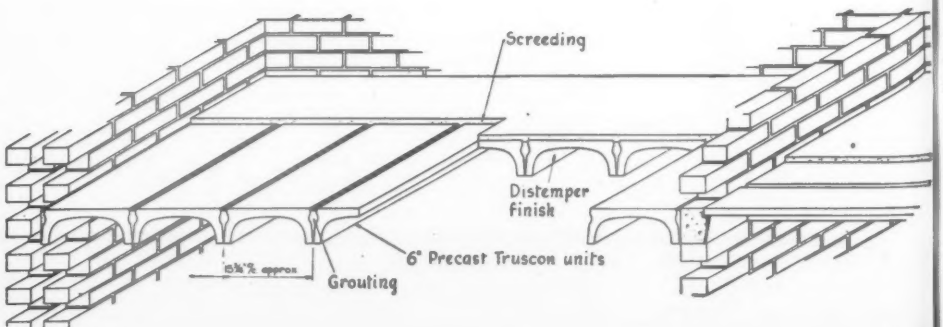

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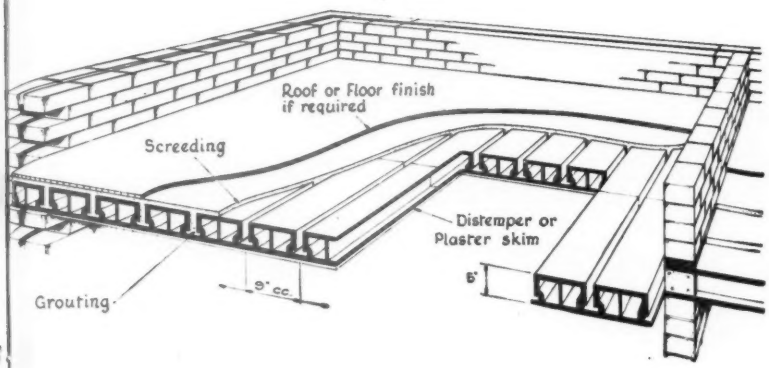

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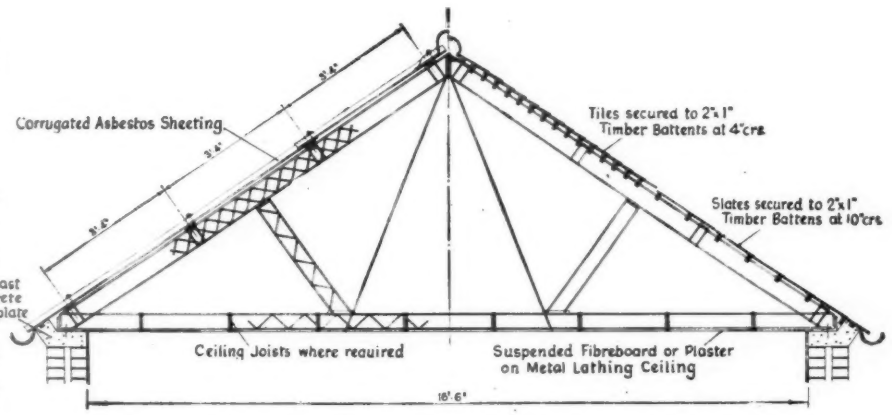

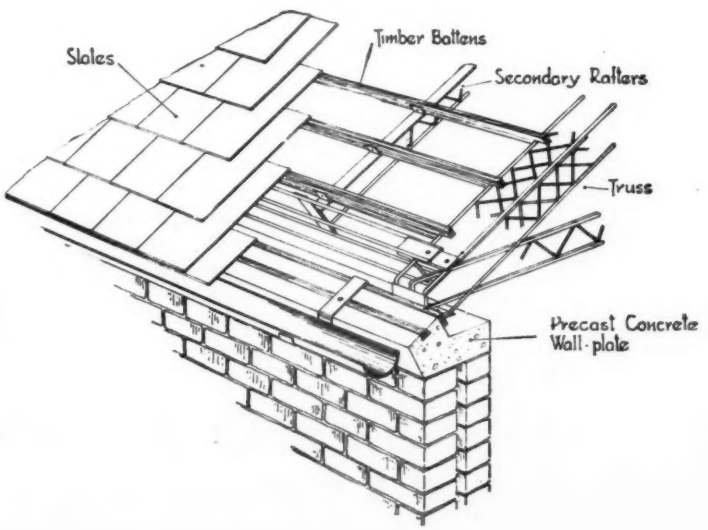

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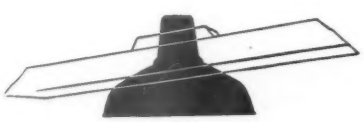

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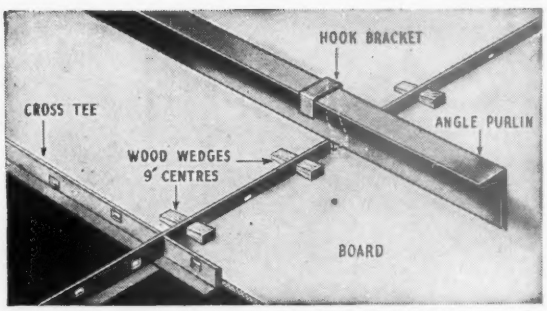

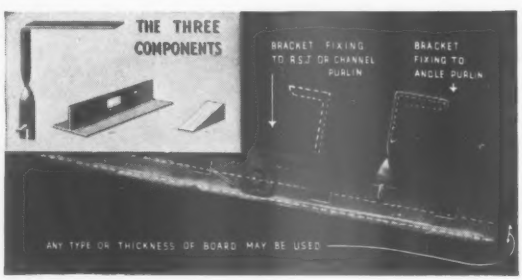

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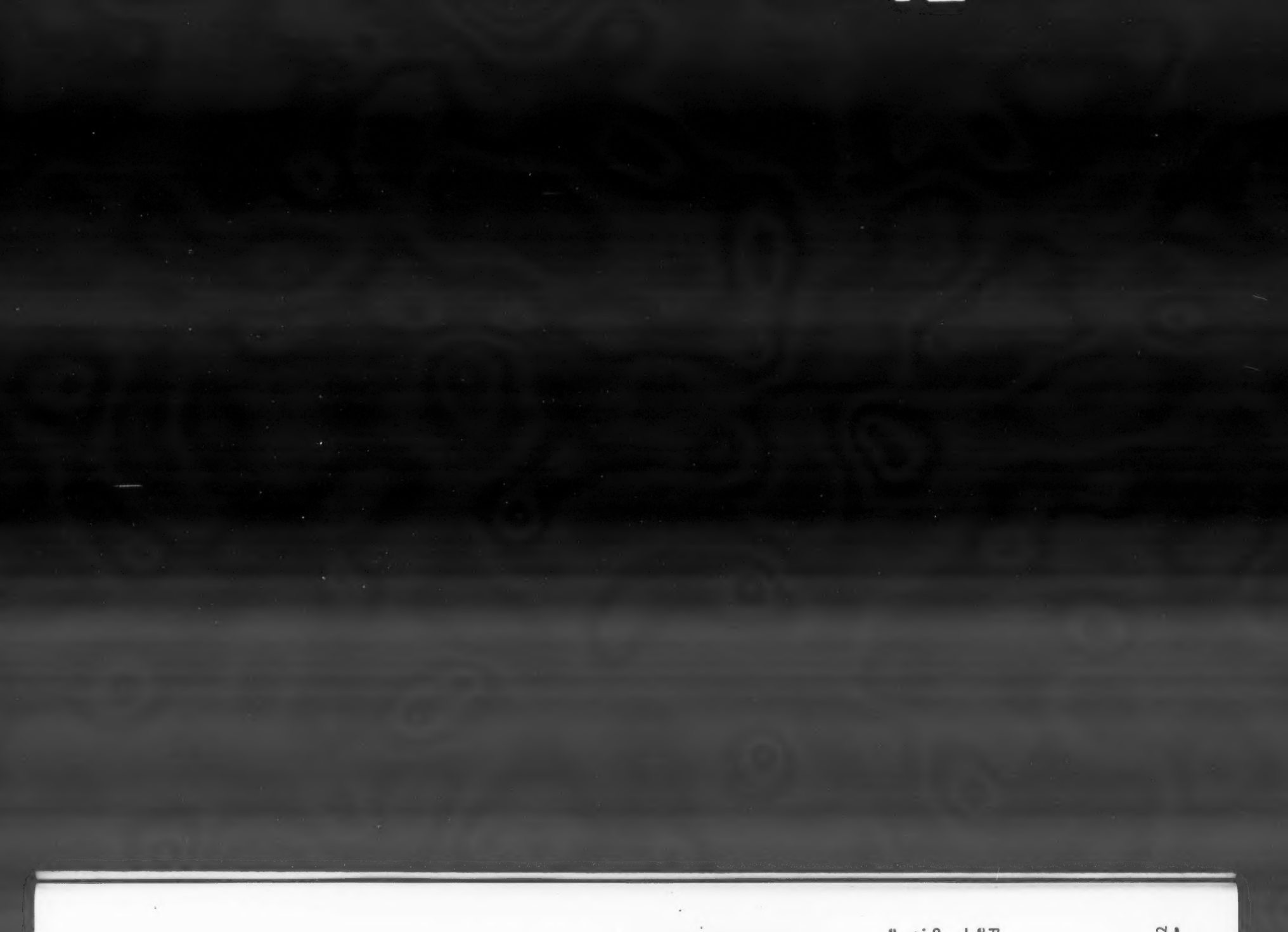

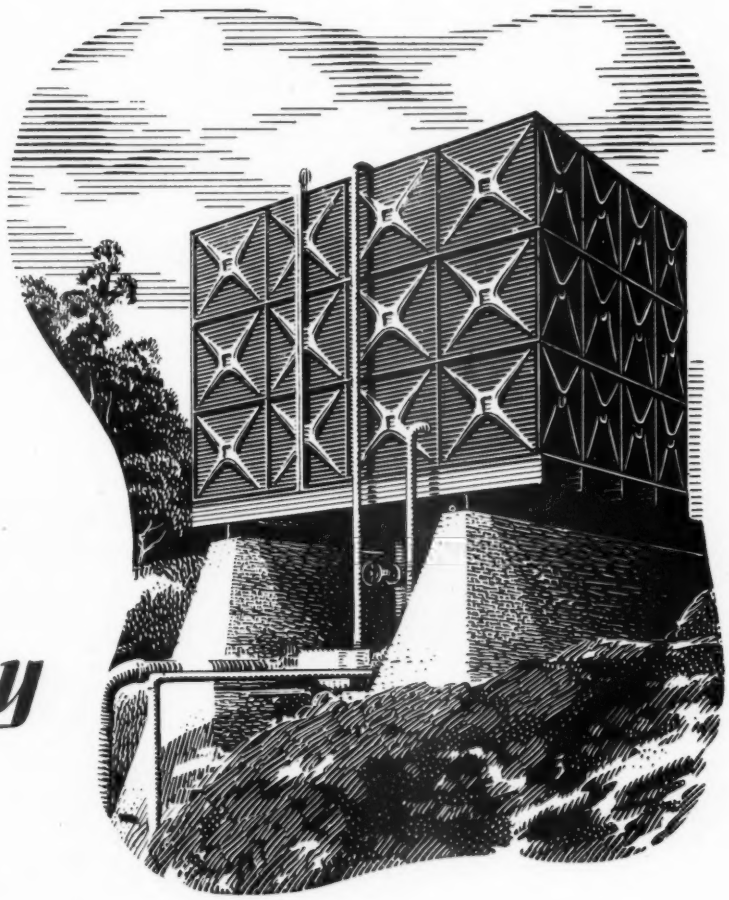

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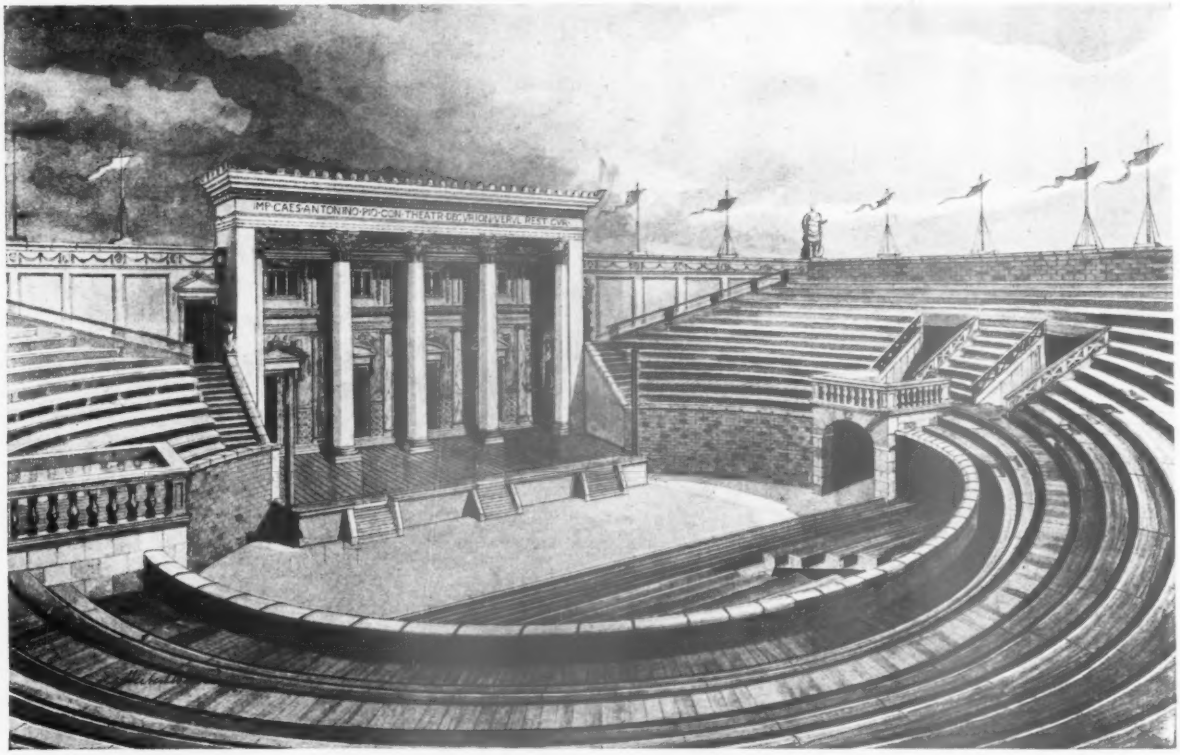

An impression of the Theatre, 180 A.D., reconstructed by the artist.

THE ROMAN THEATRE AT VERULAMIUM

A day in the year 140 A.D. saw the birth of " The Stage " in Britain . . . . . tentatively. The ' promoters ' dared only to put on a short performance, and even then were a little nervous of its reception. The people of Verulamium (St. Albans) were a vigorous, industrious, pleasure-loving, coarse people, enthusiasts indeed, but for blood-sports, for reality — no play-acting for them. This day, 1800 years ago, was the official opening of the theatre they had watched in construction for seven years. The stage they had seen being built, though merely an adjunct to the arena, had lent substance to the tales they had heard in the forum. They wondered what the world was coming to . . . then the bill for the day was posted and confidence returned . . . it showed wrestling, bull-fighting, a wild beast hunt, mostly the right stuff. The arena, 80 ft. across, and the 10 ft. high safety wall, meant more to them then than the stage. These things augured well. Seating for 1,000 was not nearly sufficient for these first " first-nighters."

The theatre flourished for 200 years and during that period was altered three times. The first alterations in 180 A.D. marked the end of the arena shows. People had learned to prefer the drama, so the stage was enlarged and seating accommodation increased, by occupying part of the arena. Subsequent alterations in 200 A.D. and 300 A.D. increased the size of the stage still further, and accommodation was ultimately doubled by removing the arena wall altogether.

The remains of this Roman Theatre, which can be seen today, are an interesting and eloquent record of the life and spirit of the times.

(Reproduced by kind permission of the Earl of Verulam.)

In common with every other periodical this JOURNAL *is rationed to a small part of its peace-time needs of paper. Thus a balance has to be struck between circulation and number of pages. We regret that unless a reader is a subscriber we cannot guarantee that he will get a copy of the* JOURNAL. *Newsagents now cannot supply the* JOURNAL *except to a "firm order." Subscription rates: by post in the U.K. and Canada, £1. 3s. 10d. per annum; abroad, £1. 8s. 6d. Special combined rate for* ARCHITECTS' JOURNAL *and* ARCHITECTURAL REVIEW *in the U.K. and Canada, £2. 6s.; abroad, £2. 10s. Single copies, 6d.; post free, 8d. Special numbers are included in subscription; single copies, 1s.; post free, 1s. 3d. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 12s. 6d. each; carriage 1s. extra. Goods advertised in the* JOURNAL, *and made of raw materials now in short supply, are not necessarily available for export.*

DIARY FOR MAY

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

CHICHESTER.—*The Artist and the Church Exhibition.* In Chichester Cathedral. The exhibition has been selected and arranged by John Piper, and is under the general direction of Mr. Philip James, Director of Art, CEMA. Public lecture May 20, in Chichester Cathedral, by the Rev. C. B. Mortlock, Lecturer on Ecclesiastical Art, King's College, London. The exhibition includes stained glass, church hangings and pictorial reproductions, and is designed to illustrate the wide scope of modern artistic possibilities in connection with the re-building of bombed, and the building of new, churches after the war. MAY 13-20

KNUTSFORD. *Homes to Live In Exhibition.* At the Drill Hall. (Sponsor, BIAE) MAY 19 to 26

LONDON. *Learning to Live Exhibition.* At Harrod's Stores, Knightsbridge. Rooms are arranged as a nursery school, with equipment and toys. The toys have been made from blitzed and waste material by members of the N.F.S. of London, members of which are seen at working bench with timbers from bombed houses being turned into toys by the men and women. Other toys have been sent in from H.M. prisons, where many inmates have sent gifts to war-time nurseries, and there are toys made at the Nursery School Association workshops. All toys are given free to war-time nurseries. The cloakroom and lavatory arrangements for the children are set out in detail. There are models of nursery schools, including the circular one at Kensal House, and the pre-fabricated building at Guildford. MAY 13-29

Royal Academy's Summer Exhibition. In Burlington House, Piccadilly. 9.30 a.m. until 7 p.m. Weekdays; 2 p.m. until 6 p.m. Sundays. Admission one shilling. MAY 13 to AUGUST 7

ASB LECTURES

H. C. Weston, Investigator to the Industrial Health Research Board of the Medical Research Council. *Lighting: Analysis.* The role of visual perceptions in physical and mental well-being. The law of stimulus and sensation or response. Intensity and distribution of illumination in relation to visual efficiency. Derivation of standards for positive health. The limitation of glare. The sense of congruity of natural and artificial lighting. At RIBA. 2.15 p.m. MAY 15

P. V. Burnett. *Lighting: Application Natural Light.* The sky as the source of daylight. The flow of daylight through windows. Intensities of daylight. Intensities over areas of rooms. Depth of penetration. Methods of window design. Obstructions. Thermal insulation. Aesthetics. At RIBA. 2.15 p.m. MAY 15

ASB LECTURES

R. Ackerley. *Lighting: Application Artificial Light.* The basic artificial lighting requirements for health and comfort: their application in the home: the examination of quantity and quality requirements for typical rooms; the psychological and æsthetic features: the selection of fittings and typical light distribution: how to determine the required candle power: positioning of fittings: brightness and sparkle: provision of facilities: special problems. At RIBA. 2.15 p.m. MAY 15

Rebuilding Britain Exhibition. At Royal Exchange. Open 1.45 p.m. Monday to Friday, 10 a.m. to 12 noon Saturdays. Open May 13.

Eighteenth Annual Conference, Electrical Association for Women. IEE, Savoy Place, Victoria Embankment, London, W.C.2. Address by Viscount Samuel, *An Electrified Future.* In the chair, The Dowager Lady Swaythling. 1.15 p.m. to 4.30 p.m. MAY 27

Exhibition of the work of the London Regional Reconstruction Committee. At the National Gallery. The LRRC is a Committee appointed by the Council of the RIBA, with 12 members from the Institute and the AA respectively. It has been at work for nearly two years on the problems of reconstruction and post-war planning for the London Region. The latter for the purposes of the Committee's work has been defined as C.D. Region No. 5, the area of which is about 850 sq. miles, with a population of about 8,500,000. The exhibition will consist of proposals for a Regional Plan illustrated by plans and a plan-model to a scale of 6 in. to 1 mile. Many other drawings and diagrams will be exhibited to illustrate particular problems of the Region, such as transport, and to demonstrate the principles upon which the Committee have based their proposals, a Historical Section will be included in the exhibition. The Second Interim Report of the Committee, to be published at the time of the exhibition, will contain illustrations and form a comprehensive survey of the work of the Committee and of the exhibition. MAY 31

MANCHESTER. *Homes to Live In Exhibition.* At the School of Art. (Sponsor, BIAE). MAY 13 to 14

A. Longworth. *The One Pipe System of Plumbing.* At the School of Architecture, Manchester School of Art. (Sponsor, Manchester School of Architecture). 3 p.m. MAY 18

NEWPORT. *Englishman Builds Exhibition.* At the Museum and Art Gallery. (Sponsor BIAE). MAY 13 to 22

SHREWSBURY. *Living in Cities Exhibition.* At the Technical College. (Sponsor, BIAE). MAY 13 to 21

NEWS

THURSDAY, MAY 13, 1943
No. 2520. VOL. 97

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.

In the House of Commons recently Mr. Bossom asked the Minister of Town and Country Planning the PRESENT NUMBER OF MOTCP STAFF; the number before it was transferred from the Ministry of Works and Planning; the estimated annual cost of his Department; and the annual cost when it was attached to the Ministry of Works and Planning?

The Parliamentary Secretary to MOTCP (Mr. Henry Strauss): The number of the staff is at present 183, of whom 145 were transferred from the MOWP. The estimated cost of my Department for the current financial year is £172,430. Since certain services were common to the Planning Department and other Departments of MOWP, it is impossible to give a separate figure of the annual cost of the Planning Department of that Ministry.

A hut made into a CHAPEL FOR GUNNERS and A.T.S. personnel in one of London's parks has been dedicated by the Bishop of London.

A batman made the altar, lectern, and platform. The materials were salved from a bombed church.

from AN ARCHITECT'S *Commonplace Book*

BACKGROUND FOR A PORTRAIT. [*From* Confessions of a Young Man, *by George Moore*]. At this time Zola was a fat man ; soon after he became a thin one. By abstaining from drink at his meals he reduced his weight thirty-six French pounds in two months. He seems to have accepted Balzac's maxim, that the elegance of life exists mainly in the waist. As his waist narrowed his manner of life became more expansive. No longer is he the recluse of Medan ; he has added a tower to his country house—with what intention I never fully understood—and he lives in a spacious mansion in the Rue de Bruxelles, which he has furnished with oak carvings, tapestries, portraits of archbishops and wrought-iron railings. A plaster cast of the Venus de Milo stands on the balustrade that encircles the staircase. The house seems to reveal a large coarse mind, a sort of coarsely woven net through whose meshes all live things escape, and that brings to shore only a quantity of debris.

MOS has made a new Timber Control Order which sets out anew WHAT IS MEANT BY TIMBER. The revised definition does not represent any change of policy. It merely clarifies the definition at a number of points where there may be the possibility of doubt. Certain descriptions of timber are included in the definition so as to make it quite clear that they are subject to the provisions of Control Orders such as licensing and fixed or maximum prices. These are : (i) shingles, weatherboards, shiplap and dropsiding however prepared ; (ii) salvage or reclamation timber. Very many people have assumed that second-hand or used timber and timber recovered from the breaking up of an article or building is uncontrolled. In order to remove all misunderstanding, salvage or reclamation timber has been defined to include any used or second-hand timber, boxboards or plywood and any wood which is capable of use as timber boxboards or plywood whether or not it requires any conversion or reconditioning to enable it to be so used. This is a very important matter as such timber now forms a substantial part of the available supplies. Packing cases or furniture are not timber and are not subject to Timber Control Orders because they are further prepared than timber as defined by the Order and are not capable of use as timber ; but when such articles are broken up the resultant pieces of wood are capable of use as timber even if they may require some reconditioning before they can be used. Such pieces are therefore timber and subject to Timber Control Orders. The definition of plywood is revised so as to include compressed plywood and plywood faced with materials other than wood. Copies of the new Order may be obtained from H.M. Stationery Office, or through any bookseller, price 1d., under reference S.R. & O. 1943 No. 611.

In common with other cities, Newcastle-upon-Tyne has made its war-time preparations for post-war planning, but it had, before the war, an ambitious plan for the CREATION OF A CIVIC AND ACADEMIC CENTRE. Some delay in putting this plan into operation may be inevitable. The scheme, says a correspondent of *The Times*, envisages an open space at the north approach to the city greater in area than Trafalgar Square, London. Partly residential and business and professional property in the Barras Bridge area is to be cleared to permit of the construction of a new town hall and municipal buildings on the east side. Balancing this on the west will be the present King's College, Durham University, buildings and any extensions, and, on the north-west, the existing Hancock Museum with its classical entrance. Into this area from the north will run the Great North Road in a fine, wide sweep, and on the south will be the entrance to the shopping centre of the city, overlooked by the South African war memorial. At a recent meeting the City Council adopted proposals of its long-term town-planning programme providing for the reconstruction of part of the shopping centre and the construction of a new major road running west to east through this area. It will facilitate the flow of traffic to the Newcastle bridges across the Tyne and give increased west-to-east traffic facilities. This road will pass through an area now partly occupied by the Grainger Market, built by Richard Grainger in 1835, which, in the opinion of some members of the council, has now outlived its original purpose.

A simple method for PUBLICISING PREFABRICATED HOUSES is one of the most interesting exhibits at the "Display after the War" Exhibition now being held at 27, Berkeley Square, London. The exhibit is intended to show that a prefabricated house can be comfortable, well finished and permanent. The exhibition is designed and executed by the Advertising and Display Service Division of Harris and Sheldon, in whose showrooms it is being held until the end of this month.

Stand publicising prefabricated post-war houses at the Display after the War *Exhibition.*

At the annual luncheon of IAAS, held in London, Lord Portal, Minister of Works, said the Ministry realized that for a year or so in this country ARCHITECTS HAVE BEEN HAVING A VERY POOR TIME, but they have this consolation, that when the war is over, if the organization is ready, the building industry will be one of the first to get on its legs again. Referring to the tremendous programme of housing after the war and to the shortage of materials, especially timber, he said that the architects will have to adapt themselves to the new situation. Sir Herbert Williams, M.P., referring to the programme of reconstruction after the war, said that unless Government decisions are made twelve months before the start of building, we shall have complete paralysis in the building industry. If civil building operations are not resumed within a few days of the cessation of hostilities, we shall have an unprecedented volume of unemployment. Mr. Alfred C. Bossom, M.P., F.R.I.B.A., said we are in the presence of a British revolution against the old methods of living. Mechanical devices can take much of the drudgery out of our lives. We must get rid of avoidable household slavery and get things done a little more by pressing a button. Old pre-war housing will not suffice. The Government must give a proper lead and they ought to do so right away. He believed that eighteen months is the shortest period that must elapse between the time of the Government's decision and the starting of rebuilding.

The Chadwick Trust is offering cash prizes for ESSAYS IN SANITARY SCIENCE AND HYGIENE. There are three prizes, the first of £100, the second of £50 and the third of £25, accompanied, if the Trustees so decide, by a Chadwick Medal or Medals. The subject of the essays is architectural, engineering and administrative principles (relative to sanitation and hygiene), which should be observed in the replanning arrangements of war-devastated towns or areas. Information in regard to the scope of the essays and conditions of the award can be obtained by sending a stamped, addressed envelope to the Clerk to the Chadwick Trustees, 204, Abbey House, Westminster, S.W.1. Essays to be sent in by September 1.

Secretary of the Royal Academy

Sir Walter Lamb, K.C.V.O., is the distinguished Secretary of the Royal Academy—now holding its one hundred and seventy-fifth summer exhibition at Burlington House. During the years 1905 to 1913 he was editor of the Cambridge Review, Fellow of Trinity College, classical lecturer at Newnham, King's, Emmanuel and Girton, assistant master at Clifton College, Bristol, and secretary of the Cambridge Philological Society. This work he gave up thirty years ago to become secretary of the RA. Sixty-one years of age, the son of the late Sir Horace Lamb, he was educated at Manchester Grammar School and Trinity College, Cambridge. He was made M.V.O. in 1925, C.V.O. in 1933, and awarded the Silver Jubilee Medal in 1935 and the Coronation Medal in 1937. He received the Belgian Medal of King Albert for War Services in 1920 and became an officer of the Legion of Honour in 1933. His brother is Henry Lamb, the famous painter. Technically the RA is a Royal institution and all the rules have to receive the Sovereign's formal approval. Each year the secretary accompanies the President to Buckingham Palace, and they discuss with the King the work of the Academy and the plans for the coming year. Sir Walter Lamb has been associated with this event during three reigns, George V, Edward VIII and the present King. For work at this year's exhibition see pages 315-318.

Plans have been prepared by the Birmingham Corporation Baths Committee for a £2,000,000 BATHS SCHEME.
The scheme, proposed to be carried out after the war, will be on a site in the centre of the city and will include a stadium.

In districts where the ban was lifted last October the RAC has re-erected between 15,000 and 20,000 DIRECTIONAL ROAD SIGNS. The number of others put up again by local authorities runs into many thousands.
The scrapping of signposts came at a very awkward time. For some years before the outbreak of war a complete reorganisation of road signs had to be carried out following rules laid down by MOT which decreed that only a certain type of sign could be used. The job was not completed until 1939 and a year later the new posts all had to come down again. For the R.A.C. alone this meant dismantling about 70,000—and more than 50,000 are still in store until they can reappear in rural areas.

After the war it is proposed to build a new 1,000 ft. ROAD BRIDGE ACROSS THE MERSEY, high enough to allow ships to pass beneath it.
Linking Widnes and Runcorn the bridge will span both the Mersey and the Manchester Ship Canal, and will relieve congestion in the Warrington bottleneck.

So far 3,491,402 volumes have been collected for the ESSEX SALVAGE DRIVE.
The best return per head of population has been made by Chelmsford with five-and-half books average. Harwich is second with four-and-a-half books per head. Both towns more than doubled their targets. This brings the total for the National Book Recovery Drive up to 13,237,089 volumes. Waste paper is still urgently needed for the war effort.

There is need for a body through which agriculture can speak on PLANNING THE COUNTRY-SIDE and its relation to the national planning programme said Mr. J. D. Trustram Eve, addressing the Farmers' Club in London.
It is essential, he said, that some efficient machinery at the centre should be set up to enable quick and proper decisions to be made between the conflicting interests. The splashing over of towns into the countryside is inevitable if those towns are to be cleaned up and their density reduced. Agriculture should meet this happening with a give-and-take spirit. Rural communities will be less isolated than in the past.

TRADITION NOW

THE only permanent tradition in architecture is that of good workmanship. It is the one tradition that is worth pursuing now, whether it be found on the drawing board, in the workshop or in the laboratory. Only through sound co-operative workmanship can sound architecture be attained. Recognition of architecture by the people, as a part of every-day life, ceased with the passing of the Gothic period. It was during that period that religion was part of life itself and religious architecture was the outward expression of it. The worship of the intellect which followed with the Renaissance moved the centre of interest from the church to the aristocracy, whose temples were their dwellings. With the gathering importance of money as the representative of wealth, in the eighteenth and nineteenth centuries, and the decline of religion to the point of formal observance on one day in seven, houses of Mammon took on the guise of the former palaces of religion and circumstance. To-day, as a result of new political philosophies and a growing social conscience, comfort and accommodation in the houses of the people are being demanded with growing insistence. This is but one reason why the tradition of good workmanship is now likely to become stronger than ever before.

It is the superficial so-called æsthetic traditions which are impermanent, in so far as they represent opinions or beliefs which change radically according to the changes in cultural outlook. In this country the Gothic and Renaissance traditions are no longer alive; the reasons for their being have ceased to exist. The best buildings of these two periods, so far as they remain, are museum pieces, ever to be preserved as sources of learning and inspiration. The lesson they teach is that beauty in building is not dependent on outward ornamentation, but on good workmanship applied honestly to structure in the knowledge of the powers (and limitations) of materials. The custom of good craftsmanship persisted throughout these works, from the design of the structure down to the finishing of the last stone. This custom has no concern with surface style, it is only concerned with the best use of available materials. In the Gothic period it was exalted to the position of an inseparable part of the æsthetic whole, but during the Renaissance the intellect sought and achieved an outward stylistic expression which was abstract

in the sense that it tended to ignore structural means. The confusion which ensued during the last century was largely due to the mistaken idea of paper designers that character in building is achieved merely by applying surface decoration, and not (as it is) by the proper use of materials, from which ornament may naturally develop in the finest architecture as an integral part of structural expression. Structure was thus left to an ever increasing degree to the engineers and continued to be relegated to the position of an unexpressed necessity considered unworthy of the scholarly attentions of the architect. An early and romantic worker in structural æsthetics was Soane, but the first visionary fully to realise what we had lost in the realm of a national æsthetic was the younger Pugin. In seeking to recapture that dynamic beauty which belongs to engineering in stone, he demanded the acceptance of a catholic belief as being the one prerequisite which would enable the spirit to reproduce the forms of Gothic. He accepted, believed and drew, was fanatically sincere, yet was unable to adjust himself to his time. His was a backward and a romantic vision; he was born too late. Pugin's insistence upon structure as the core of a complete architectural expression, did, however, pave the way for the sincerer revivalists who, though sadly limited by their Gothic sheet anchor, at least dealt with structure and allowed it to speak for itself. Nevertheless, Scott and Ruskin ultimately succeeded in killing Gothic as a revived national expression by their two enthusiasms: Scott cashing in prolifically and successfully on Ruskin's popularising of its moral significance. The Classic revival was less successful because it was "unchristian" in origin and therefore less capable of popular acceptance.

Meanwhile, the tradition in good workmanship developed in the factories, in spite of the lack of taste to guide it. On the other hand Ruskin's pet craftsman O'Shea and Morris himself each tried to show how ancient manual skill and creative artifice were only awaiting a re-awakening. They held in their various ways that the humble man is a creative being. This is true enough, but the humble man has more sense than to be self-conscious and imitative.

At the present moment a new feeling for the tradition of good workmanship is emerging as Everyman's desire and demand grows for those amenities of daily life which could now, in peace time at least, be so readily produced—amenities which depend on co-operation, on integrity in the use of modern technics, and on the application of scientific knowledge. The development of these three virtues will crystallise the new phase of the old tradition. This new phase will be based on the workmanship of hundreds of thousands working for the betterment of millions of patrons of their own kind, not of thousands working for the betterment of privileged hundreds. It is for the designer through co-operation, integrity and knowledge to unify the practical accompaniments of good living into a cultural whole.

The Architects' Journal
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NOTES & TOPICS

CUPBOARD LOVE

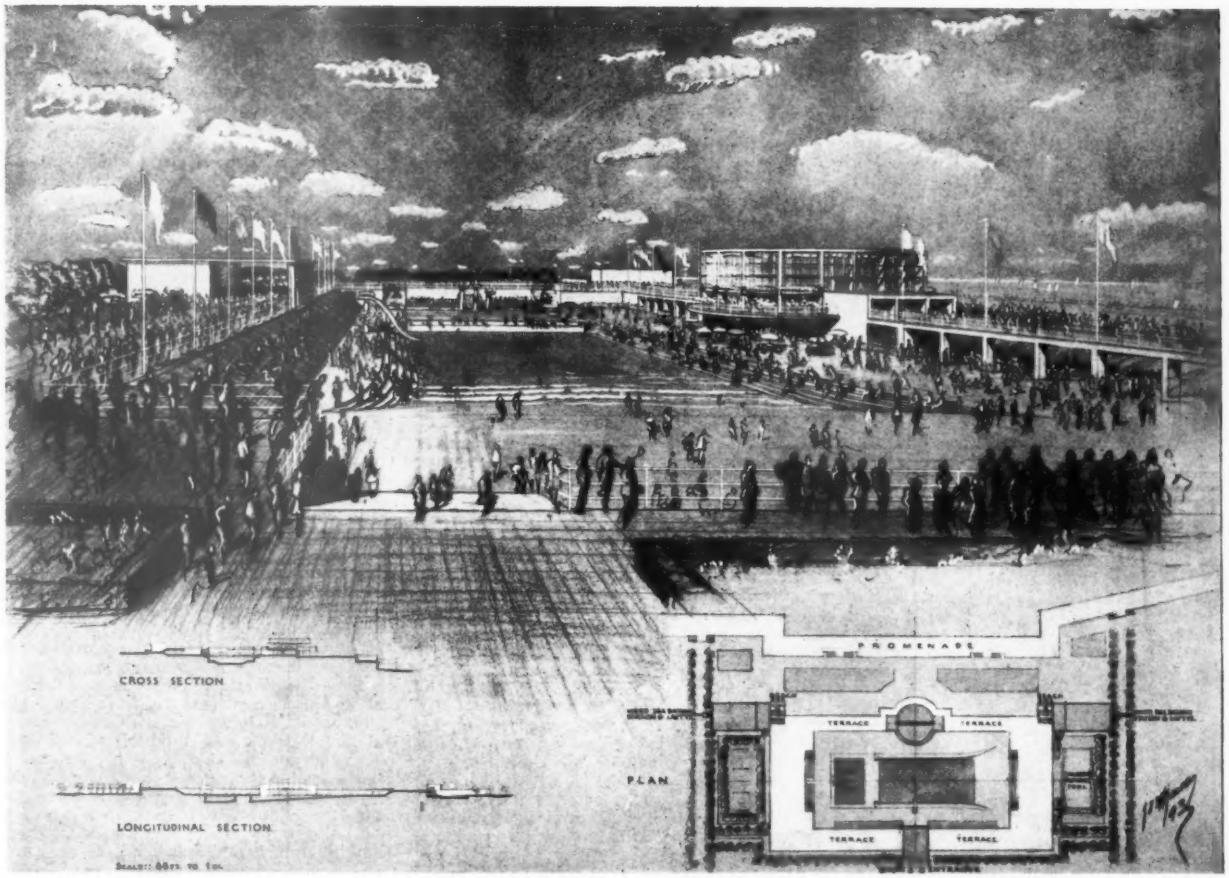
How many architects, I wonder, if faced with the direct alternatives would choose (other things being equal) to build a house for themselves rather than to alter and modernise an old one? It may be disloyal or impolitic to admit it, but I suspect that the majority, if they were honest, would vote for the latter. Certainly very few architects *have* built their own homes, and it is hard to believe that the reason for this is merely financial.

★

A new and self-designed house has, of course, many advantages, but most architects are romantics at heart, and dearly love a bit of atmosphere—steel sinks, dust-proof light fittings, central heating and fitted cupboards by all means, but preferably within walls which are at least 100 years old—so at least would say the architect-father, because for children, the new house provides little fun or adventure compared with the old. How can roof gardens, rubber floors, sliding windows and fitted toy-cupboards compensate for the lack of those youthful delights, the narrow twisting staircase, the jumbling outhouses, the cavernous attics lit by dusty shafts of sunlight, the poky cupboards scooped from the thickness of the walls?

★

Most children, it should be more often remembered, like to spend a great deal of their time in cupboards. "In every house," Edith Olivier once wrote, "an immense



A touch of holiday gaiety at the Royal Academy Exhibition, in a proposed giant pool at a new Thames-side Holiday Centre, by Louis de Soissons. Other exhibits are reproduced on pages 315 *to* 318.

amount of space is lost to the grown-up people who never sit in cupboards," but, be sure of this, she was not thinking of the modern closet, immaculately detailed, neatly niched and shelved for every object, smug behind its flush, silent-sliding, mahogany doors.

★

Perhaps it's as well that so few of us live in houses of our unconditioned choice, for a building profession whose members were unwilling to live in new houses would stand on very sticky ground.

THE 57 VARIETIES

It has been remarked many times that increase in discussion of planning brings us no nearer full understanding of what the other fellow is talking about. We seem now reaching the point where only the publication of a *Simple Vocabulary of Planning*, sponsored by the weightiest authorities, will enable hundreds of thousands of people to be even tolerably intelligible to each other.

★

Consider the plight of the citizen who now notices the word PLANNING at the head, or in the midst, of a body of print. He knows that if he reads on he will be in for a scramble over at least four mental hurdles. He will have to decide :

1. Whether the man using the word is one of the many who seem to believe that Physical Planning *is* all that there is to Post-war Planning.
2. Whether the word refers to Post-war Planning, or some part of it, or merely to scraps of planning of other kinds which seem still to be carried on in places.
3. Whether the word is meant to mean (read this carefully) the devising of a series of actions by which it is intended to achieve a specified result ; *or* the actual execution of the actions ; *or* the achievement of the result ; *or* any two *or* all three.
4. Whether it is used to mean Post-war Physical Planning only or the whole of Post-war Planning.

These things settled he is at liberty to proceed and may quite possibly discover one more of the manifold ways in which PLAN or PLANNING can be used to bewilder and to nauseate both the ordinary chap and the poor fellows who still have to use the words in the course of earning a livelihood. Here are a few already discovered :

As an eyecatcher [*PLAN FOR THE FUTURE—Buy a fur coat. . . .*]

To sugar boredom's pill [*Muggerstown R.D.C. plans for post-war. . . .*]

As camouflage for partizan skullduggery [*International Arsenics state that the combine's post-war plans will be doubly based on service to the public and welfare of employees. . . .*]

As useful alternative to pie-in-the-sky. [*When we think what careful planning will do after this war to make our glorious country. . . .*]

To dodge nasty ones [*Production's problem is already solved and we are surely entitled to believe that skilled planning can, and will, solve also distribution, unemployment, malutrition. . . .*]

★

Perhaps it would be best to use some entirely new words to describe what we now *really* mean by P——T W——R P——G.

ASTRAGAL

LETTERS

A. E. Eberlin, F.R.I.B.A.

R. Jacques, A.R.I.B.A.

John Gloag

Bloggs

Farm Workers' Cottages

SIR,—Referring to Mr. Gilbert T. Gardner's letter in your issue for April 22, the fact that a cottage has only one entrance does not, I suggest, designate its tenants as sub-human.

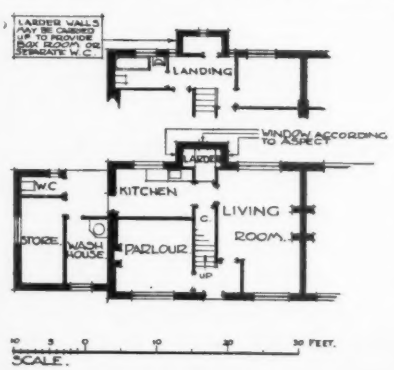
I agree that rural workers have in the past been badly housed in cottages with front doors and back doors, but no bathrooms, and often not even a sink.

I do not object to two entrances, but consider that if you are forced to plan to a small floor area, the rural workers themselves, at any rate in the North Midland area, would prefer to sacrifice the social standing which a front door locked, bolted and stuck fast with paint, gives them on the rare occasion of a call from a distinctive visitor, to the extra floor space in their often crowded living room.

The same principle applies to the winders on the stairs (which are not good) but do give an extra cupboard or more room for the baby's cot in one of the bedrooms. They miss the w.c. and come over the foot of the bath, there being sufficient headroom where required. I see no objection to cottage bedrooms being partly in the roof. If the fireplace does not give sufficient ventilation, there are ways of extracting air at ceiling level which can easily be incorporated.

A. E. EBERLIN

Nottingham.



Plan for Farm Workers' Cottages by R. Jacques. See letter on this page.

SIR,—As a countryman I am interested in the cottages to be built for farm workers.

The plans show a great advance on what has hitherto been thought good enough for farm workers.

There are, however, one or two criticisms which I would like to make :—

(1) The Larder : This has obviously been designed by a townsman with a Wartime Ration complex. It is presumed that the cottages are to be built in the country, where the woman cannot run across the street to a shop for little things which she may have forgotten. This larder is not nearly big enough and the door must open out into a passage, which is perhaps the busiest part of the house. The enclosed plan shows my proposals and besides providing more accommodation gives three alternative positions for the windows, according to aspect.

(2) Sinks, etc. : These farm workers, I take it, are lucky at the present time if they have a hot tap in the house. They are not used to plumbing and it must be assumed that there is no plumber in the immediate vicinity.

For this reason such utensils as sinks must not be fixed in front of windows, or you are asking for trouble, especially should the aspect be easterly.

I notice that one of your readers puts forward a scheme with winders in the stairs. While these are very convenient for utilising space they should, in my opinion, be absolutely banned.

When a young man, over 30 years ago, I was given the job of laying a strip of carpet on winding stairs. Result—I have never made use of this " convenience." No wonder in certain quarters it is held that men should not design houses.

R. JACQUES

Nelson.

How to Ruin the Case for Planning

SIR,—I have read with interest and dismay the report of Mr. Thomas Sharp's lecture on *Planning of Rural Areas*. My interest was roused and held, because it is impossible to read anything from the pen or lips of Mr. Sharp without being interested ; my dismay was occasioned by the casual arrogance of some of his statements. In the course of his lecture he referred to numbers of elderly people who earn their bread in towns but prefer to live in the countryside, or who want to retire to the country after a lifetime in some town.

" This second type," Mr. Sharp tells us, " should be directed into villages, rather than permitted to scatter about the countryside, for only in villages will they find the kind of social life which, though escapers, is still necessary to them after a lifetime in towns."

The word in this sentence, which is not used in a free country during peace time, is *directed*. Who is going to do the directing, anyway ? Some impersonal committee in Whitehall ? If Mr. Sharp or anybody else whose passion for tidiness has impaired their knowledge of an Englishman's impatience of authority and interference—righteous and glorious impatience, for which we have fought in the past and for which we are fighting again to-day—if such people imagine that the men and women in the Services are going to stand for planned interference in their lives or the lives of their relatives, elderly or otherwise, when they return from the war, they are making a tragic mistake. I say tragic, not because it is a tragedy for Mr. Sharp to be mistaken about anything, but because it will be a tragedy if the England which he wants, and I want, the tidy, better-ordered England of decent towns and pleasant villages, cannot be given to us, unless exhaustive and continuous interference in our lives accompanies the tidying-up process. That Mr. Sharp not only visualises but accepts such interference is suggested by his statement that the congestion arising from an increase of car-owners " may lead to the necessity of staggered weekends."

Are the ex-flight-sergeants and other men who have kept this island safe, while we chatter and scribble about the future of *their* country, are they going to be told *when* they are going to be allowed to take out the Austin Seven or the Morris Eight, *when* they can run down to the sea, or go to the dogs, or go to the movies ; and who is the official (or officials) who will have the job of *directing* elderly, middle-aged and young people to do this, that or t'other ? Telling the other chap is a congenial pastime, to some people ; and planners of the inhumanist school are prepared to sacrifice liberty a little too eagerly.

It should be one of Mr. Sharp's most urgent concerns to suggest how rural areas may be replanned without any interference in the lives of his fellow-countrymen. I have such a high opinion of his brains that I believe he is one of the few people who could solve this problem if he addresses his attention to it. We used to sing a song in the last war (I've marched miles to it), which ends in a line thrice repeated with tremendous emphasis : " We won't be ———ed about ! " It might well be the theme song of the English, and it will be sung loud and long to anybody who replans England but leaves out liberty.

East Sheen. JOHN GLOAG

Concern over England

SIR,—I feel concern for the way in which local town-planning is being tackled in this country. It is being done to a large degree in the wrong way and by the wrong people. This state of affairs has, like Topsy, just growed, and if it is allowed to continue without proper consideration being given to it, we may find in ten or twenty years time that much of our town-planning has been ruined by muddleheadedness and inability, and many thousands of pounds just wasted by the " penny-wise pound-foolish " methods of the average local council.

Throughout the country the cloak of the town-planner has been assumed by the Engineer and Surveyor to the local council, without any particular consideration as to his suitability for this work. The engineers' professional societies urge their members to prepare schemes on the principle that those areas that have schemes ready will be able to get going early on post-war building, and the average council, fired with a desire to " do something about town-planning " agree with the engineer's suggestion of preparing a scheme.

It is true that many engineers and surveyors are competent town-planners, but it is equally true that the majority, in common with their councils, have only the faintest idea of what it is all about. It is also a fact that what the average person considers to be up-to-date in the realm of town planning and building, is something that was the thing about 30 years ago. As a result, many uninspired, conservative and negative schemes are being prepared, schemes which are out-of-date from the start, combined with a total lack of appreciation of the fundamental requirements of the different types of buildings.

At a typical meeting of the representatives of

the different authorities in a joint town-planning area held last year, ten members attended, all engineers and surveyors of the councils represented. Of these, four possessed good engineering or surveying qualifications, two had the minimum qualifications, and the remaining four had no qualifications of any kind. Surely, men who have either so little interest or such little ability in their chosen profession that they are unable to achieve even a minimum qualification are unsuitable for the greater responsibilities of town-planning? Yet these ten men are each responsible for the preparation of the scheme in his area, and only one of the ten possessed a town-planning qualification.

Isn't town-planning on this basis going to produce something as deadly in its own way as we suffer from now? Are we in twenty years time going to be as disgusted with our towns after this effort, as we are after the efforts of the last twenty years? Are we, with the placidity of the Briton, going to leave it to the self-styled experts to make our towns beautiful, only to find when it is too late that we have achieved no such thing?

Town-planning can only be done satisfactorily by trained planners who should devote their whole time to the subject and be responsible directly to Committee. It is not a job to be tacked on lightly to the already multifarious activities of the council's engineer and surveyor. In any case this official is rapidly reaching the stage when even he will be more or less fully occupied. He is already the Council's engineer, surveyor, architect and building inspector. In addition, and to ensure good measure, he may also be in charge of street cleansing, sewage disposal and water supply.

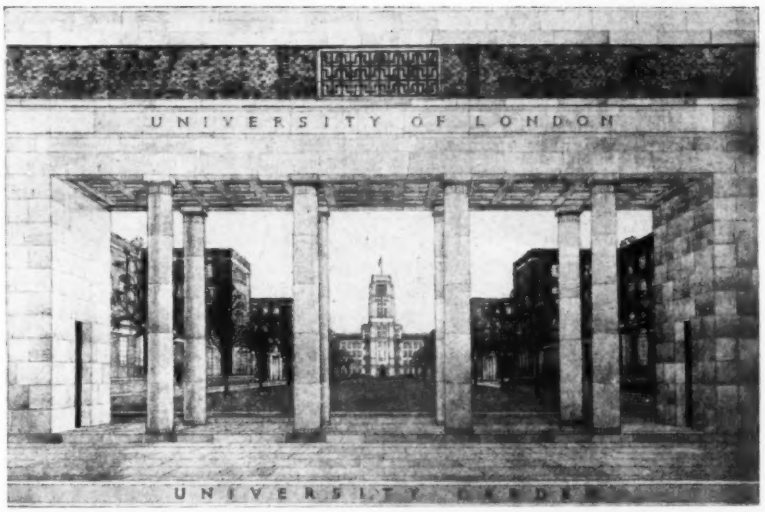
He has been known to act as sanitary inspector and is often the ARP controller. If he does all these duties competently and conscientiously his time should be fully occupied. There should be little left to devote to the new and exacting responsibilities of town planning, the collation and fusion into first class schemes of the requirements of statisticians, economists, transport experts and highway engineers, lawyers, geographers, financial experts, medical officers, botanists, biologists, electrical, mining and gas engineers, public administration experts, psychologists, students of public relations, architects and surveyors, which Dr. Robson says will be needed.

It would appear, therefore, that either town-planning is not going to receive the consideration and application it requires, or that it is going to do so only at the expense of the other activities. We want town-planning carried out with knowledge, vision and enthusiasm, and an understanding of such things as landscape design, æsthetics and architecture, and not (what we're going to get if we're not careful) "town-botching."

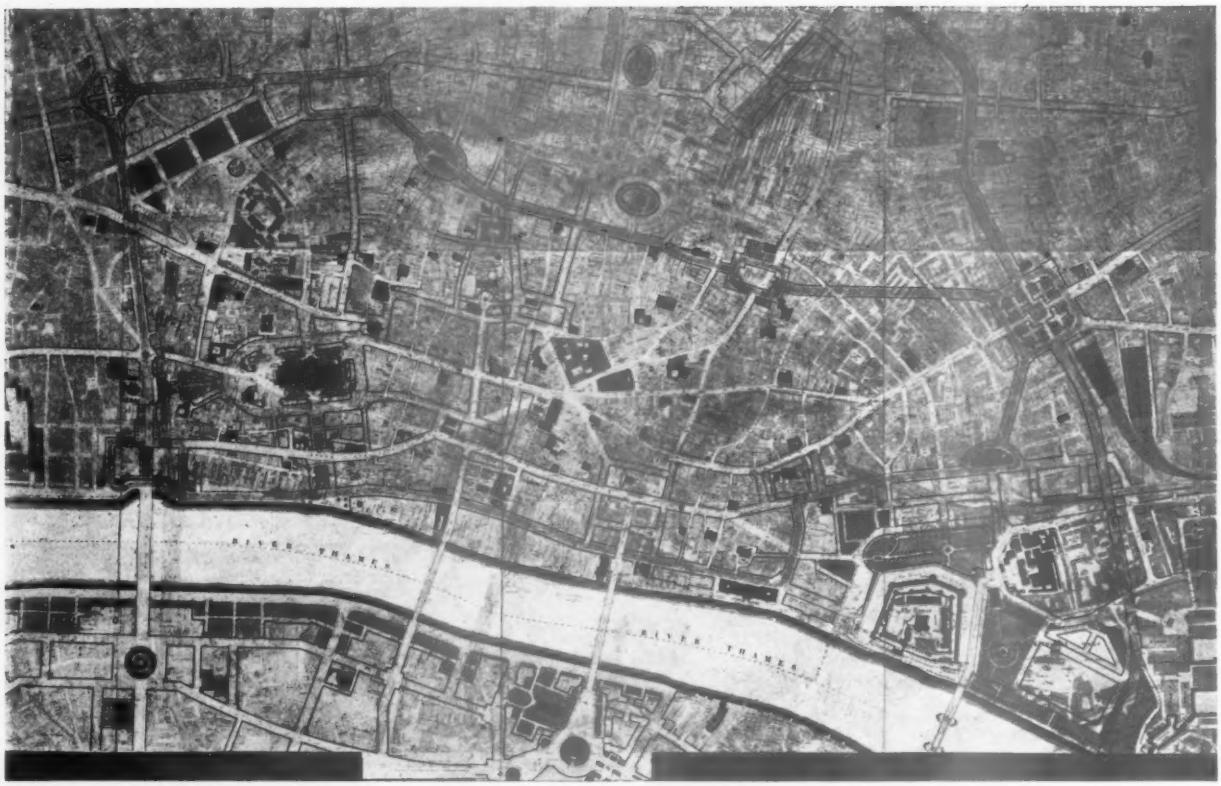
That's why I feel concern over England, but there is a solution. That is, that scheme-making local authorities should be circulated by, say, the Ministry of Town and Country Planning, advising them that a principle of drift is not enough, and that good planning can only result from the use of proper methods. That the Council should form a town-planning Committee, and not let some existing committee deal with it on I-suppose-we-shall-have-to-do-something-about-it lines. That a person responsible to the Committee should be appointed and his minimum qualifications stated. (The method of allowing an existing official not suitably qualified to be responsible to Committee while employing an assistant to do the work, for which he has little responsibility and less credit, should be stopped). Lastly, local authorities should be warned, and the Ministry of Town and Country Planning should obtain the necessary powers for doing so, that unless the schemes submitted for approval are in every way first class, they will not receive financial aid. And that's the best and most effective way to persuade local authorities to do what's essential for their own good.

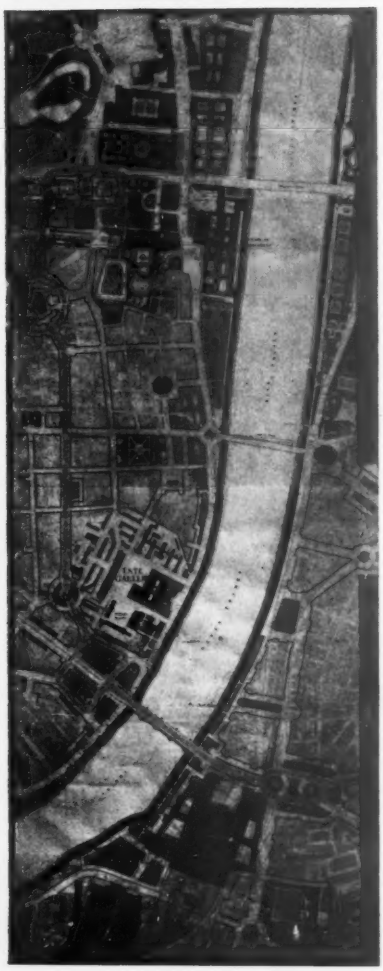
BLOGGS.

AT THE R.A. EXHIBITION



Top, proposed re-development scheme for Brentford, Kew Bridge Section, by Howard V. Lobb. Centre, the University Garden of the completed University of London in Bloomsbury, viewed from the north, by Charles Holden. Below, the proposed Nurses' Hostel for the National Hospital, Queen Square, W.C.1, by Herbert H. Clark. Notes on the R.A. Exhibition and details of the revised R.A. Plan for London are published overleaf.





Above, the eastern half of the revised plan for Central London, which forms the principal feature of the architectural gallery. This half of the plan covers the City and includes the new scheme round St. Paul's and the proposed park at the Tower. Left, the revised plan for Westminster from Whitehall to Vauxhall. Below, a view of St. Paul's Cathedral from the south.

R.A. EXHIBITION

REVISED R.A. PLAN FOR LONDON

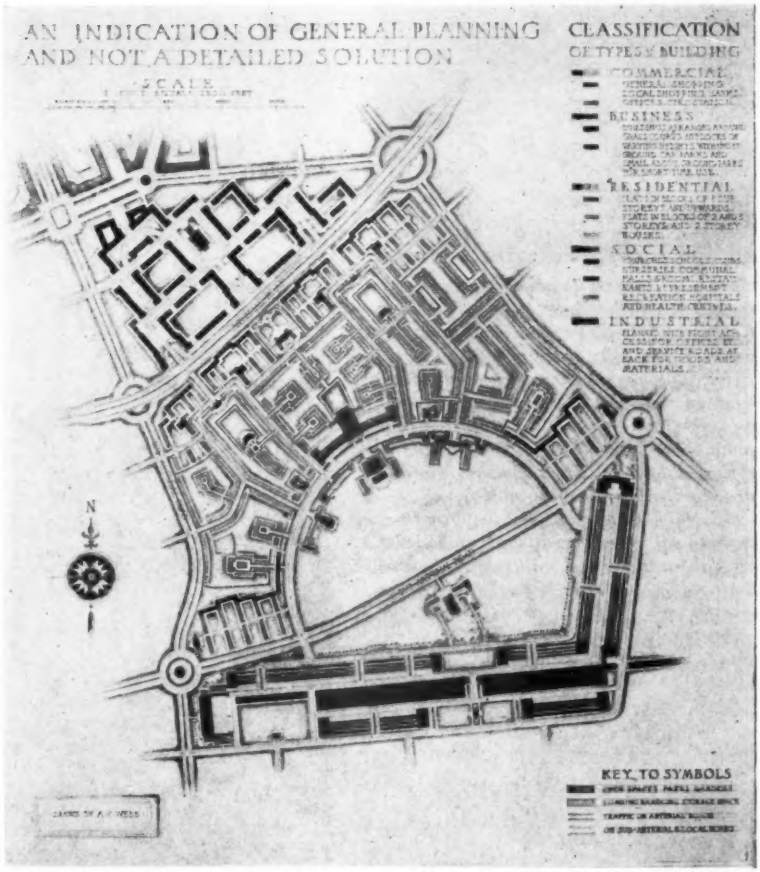
The hundred and seventy-fifth exhibition of the Royal Academy opened on May 1 and will remain on view until August 7. Three of the drawings in the architectural gallery are shown on the previous page and another is illustrated on page 313. The main feature in the gallery is a set of plans, drawings and models of the revised scheme of the *R.A. Planning Committee for the Redevelopment of Central London*, a part of which is reproduced here. The original scheme was exhibited at the Academy in October, 1942 (See A.J., Oct. 22).

The revised plan is the outcome of various criticisms of the original proposals, which the Committee has received, particularly from the City authorities. A major alteration occurs round St. Paul's Cathedral, where Ludgate Hill is now retained, and new approaches are opened up from the west and south. There is also a new lay-out for the park and streets round the Tower of London developed from the Tower Hill Improvement Scheme. The approach to St. Paul's from the river has been revised to a certain extent by a more open and grandiose treatment.

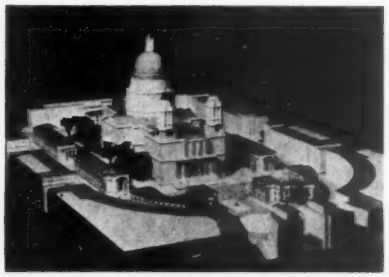
A large district in South London has been selected for detailed study, and sketch plans show sites

allotted to housing, commercial and industrial buildings and social centres, within an area contained by the main traffic routes, no through traffic being allowed within the precinct formed by these routes.

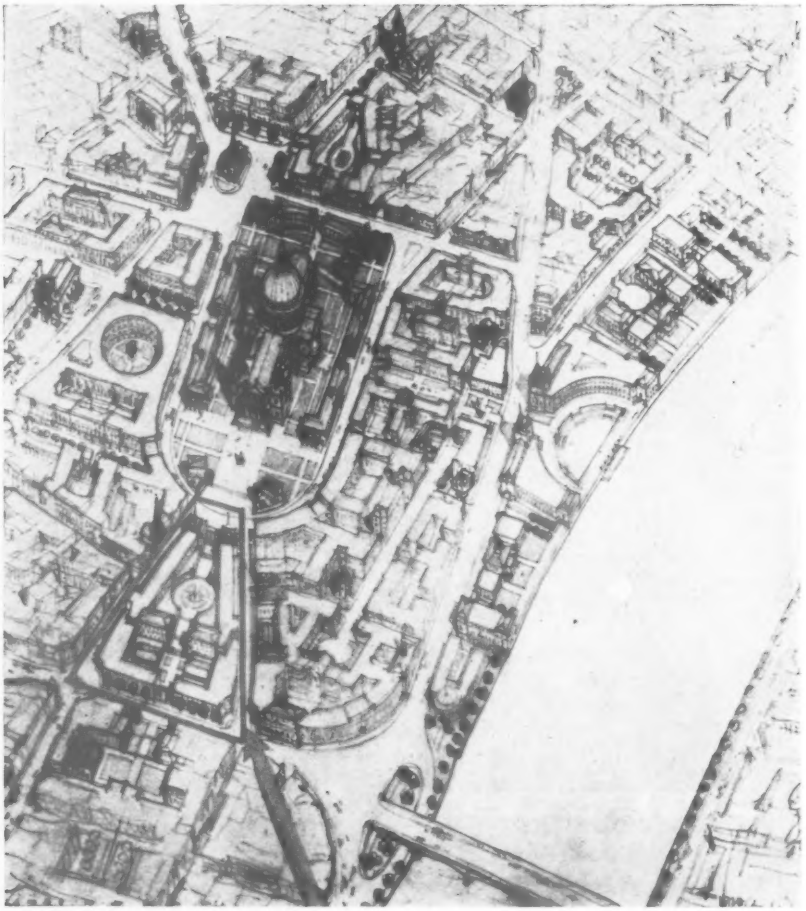
Apart from this district plan, it will be seen that the R.A. scheme is not town-planning in its proper sense, but merely ameliorative road planning—minor surgery to ease traffic congestion and to obtain axial vistas round buildings of " outstanding national interest." Having no relation to any broad London Plan or to any new social objective, the R.A. plan for London, in both its political and architectural implications, remains completely reactionary.

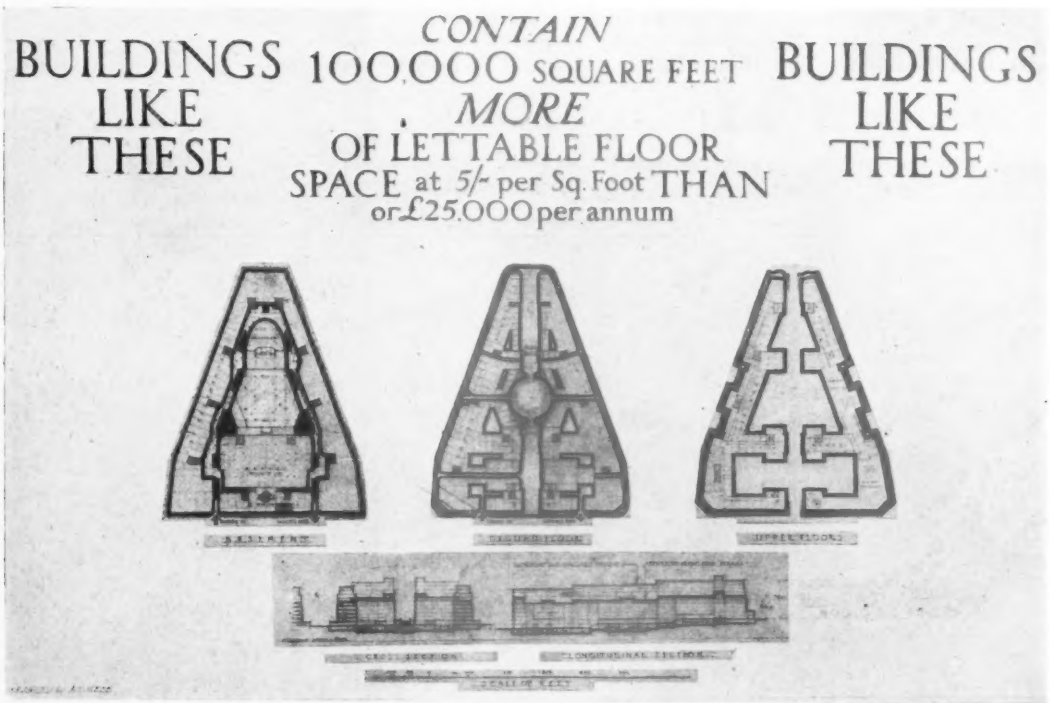


Above, suggested lay-out of an existing site in London, south of the river, comprising commercial, business, social, residential and industrial areas, forming a precinct within the bounds of the main traffic routes. Below, a bird's-eye view of this site development. Top left, a view of the Covent Garden area, which has been opened up to include Drury Lane Theatre, and forms a centre for Music and the Drama. Centre left, a model showing the suggested treatment for the Tower Hill area, exhibited by courtesy of the Tower Hill Improvement Trust.



Above, a model showing the suggested treatment of the area round St. Paul's Cathedral. Right, a sketch of the central area of the City including St. Paul's. Below, plans of the wedge-shaped site west of St. Paul's, illustrating how a typical City site could be developed for commercial purposes. The Committee claims that by such "modern planning practice" there would be a gain of at least 100,000 square feet in floor space over an equivalent area which includes the central avenue and courtyards, without the need of building higher than 60 feet.





PLAN FOR LONDON AT R.A. EXHIBITION

The function of this feature is to record 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. The ***Information Centre*** *attempts to supply an index and a digest of scientific data, the lack of which has for too long been a handicap both to the technician and the planner. 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

1138 Social Foundations

THE SOCIAL FOUNDATIONS OF POST-WAR PLANNING. *Lewis Mumford* (*Faber and Faber*; *March*, 1943; 1*s.* 6*d.*). Urges need for new scale of values and stable human culture, opposed to purely mechanical progress and expanding pecuniary power culture, as basis for planning.

The end of the period of land expansion must be accepted; the balancing of local resources is a complementary process to the establishment of a balanced world economy; and the two go hand in hand. The end of the period of mechanical industrial expansion must likewise be accepted; it is the condition, as Mill pointed out, for distributing wealth more justly and for achieving a more varied and interesting and purposeful life. But if the irrational increase of population, as a pretext for stealing a neighbour's territory or enslaving his people, must be combated, a more orderly and socially valid stabilization of the population must be undertaken, so that the possibilities of parenthood and family life should not be divorced from the normal expectation of life for any group or region.

The ideal personality for the opening age is a balanced personality, one that is in dynamic interaction with every part of his environment, one that is capable of treating economic experiences, parental experiences and vocational experiences, as the related parts of a single whole: namely, life itself. The importance of emphasizing the needs of variety and flexibility will come out more clearly, perhaps, if we call to mind the patent dangers that will attend stabilization itself, dangers that are already visible. Stability and security, pursued for their own sake, will result in a caste division of labour; unless shaken by some outside force, these castes harden and the capacity for adaptation disappears both in the individual and in the organization as a whole. We can and must arrange our environment and our course of life so as to prevent premature fossilization—even of those forms of it associated with expertness and professional skill.

The importance of providing for our subjective life has been forgotten in our planning, though the need for solitude, for withdrawal, for what is expressed historically in the cloister, is a basic one. Yet there is not a village or a housing estate that is well planned unless it has made provisions for places of withdrawal—solitary walks, devious woodland paths, unfrequented towers hard to climb—no less than places where people can gather together in groups for social communion or common recreation. The whole tendency of our mind, during the period of mechanical expansion, was so opposed to this need that the idea of almost all planners is to make all places equally accessible, equally open, equally public.

The ideals of a pecuniary and power culture, which have dominated the world since the period of Western expansion, bear little relation to the constant demands of human existence. One of these primary needs is the need of reproduction: the personal need for love and sexual intimacy, the racial need for children, bred in an environment favourable to their physical and psychological growth; that is, the stable, reassuring environment of home and garden and nearby countryside.

Individual balance is formed in the family where the human personality is nurtured; social balance is formed by regional planning, for it is against the natural setting of hill and river and sea, of soil and climate of natural formations and man-made landscape, that the human community defines itself. There is one characteristic of a region that must underlie every geographic or historic reference; it must combine the primeval, the urban, and the rural as part of the daily setting of life.

Regional planning must be zealous to keep the countryside as an active, dynamic element in city life, growing food close to the urban market, because fresh foods offer most nourishment, drawing on the urban population for extra hands at harvest, locating appropriate workshops and factories in the country for the sake of giving agricultural workers and their families a second or alternative occupation, making the land economically productive, by utilizing every natural resource—in order to make it culturally productive.

The watchwords are stability, not expansion; human culture, not simply mechanical progress. That imposes a new scale of values. Our too masculine, too mechanical, too life-denying society has come to its terminus. Perhaps the best slogan for the coming age is that for the lifeboats: women and children first.

STRUCTURE

1139 Wood-Concrete Beams

TESTS OF COMPOSITE TIMBER-CONCRETE BEAMS. *F. E. Richart and C. B. Williams, Jr.* (*Journal of the American Concrete Institute, February*, 1943, *pp.* 253 *to* 276). Composite beams and slabs of timber and concrete. Useful construction for heavy floors of highway bridges, piers, etc. Essential feature: shear connection between timber and concrete. Tests on various types of shear units. Effectiveness and relative merits.

The composite timber-concrete beam is a form of construction that has come into general use only in the last eight or ten years. The concrete is subjected principally to compressive stress and is utilized to provide a good wearing surface under traffic and a weatherproof and fireproof cover for the timber portion of the structure. The timber is mainly used in tension.

Floors of composite timber and concrete have been used successfully in highway bridges, hangar aprons, wharves, piers, etc. Such structures are intermediate in cost between timber structures and those in reinforced concrete. The use of composite highway bridges began at about the same time at extreme parts of the USA, Oregon and Florida; examples are now found in more than a dozen states and in Canada.

One of the main considerations in the

design is provision for transmitting shear across the junction of the two materials since the natural bond between timber and concrete is insufficient especially when cresoted timber is used. The tests described were made to secure information on the behaviour and efficiency of various devices for shear transmission.

Two general types of composite timber-concrete beam are in use. In one, a concrete slab is supported on and connected with a series of parallel T-beams. This requires pieces of large dimensions. The other consists of a concrete slab placed on a continuous laminated floor made up of small sized timbers placed on edges. Such a construction has the advantage that the solid floor provides a complete formwork for the concrete slab. The tests apply to this second type of floor.

Tests on 32 composite beams were made in the Talbot Laboratory, University of Illinois, 1938 to 1942. The beams were 11½ in. wide, 12 in. deep and 12 ft. long; they were tested on a 10 ft. span, with equal concentrated loads at the one-third points. The timber portion consisted of a number of pieces well spiked and bolted together. The shear connections of most beams were triangular shear plates of various dimensions and placed at various angles. In some beams the plates were supplemented by spikes. The timber used was dense, shortleaf yellow pine, square edge and sound, surfaced on all sides and impregnated with about 8 lb. of creosote oil per cu. ft. The computed modulus of elasticity of the timber averaged 2,050,000 lb./in.², the modulus of rupture 8170 lb./in.² The average cylinder strength of the concrete was 4,300 lb./in.² at 28 days.

The beams showed in most cases fairly satisfactory structural action. Triangular plate units, combined with wire spikes, appeared to be the most satisfactory shear connections. 12 gauge plates were thick enough to give the necessary strength. This unit should always be used in combination with spikes. Railroad spikes, lag screws and timber daps with spikes produced fairly good results, though slip between timber and concrete was appreciable and the action of such beams differed considerably from that of homogeneous types. Timber daps by themselves gave rather poor results.

The stiffness of the better types of composite beam was slightly less than that computed for a solid timber beam of the same dimensions and quality; the strength was considerably less, but this is probably offset by some of the advantages of the composite structure. The different rate of shrinkage and expansion of the two materials, measured over a period of 2½ years, had little or no effect upon the strength of the beams as compared to beams tested at 28 days after fabrication. Repeated load tests indicated that if the design load is applied a considerable number of times, no appreciable permanent deformation will occur.

From these tests permissible loads for various types of shear connections have been determined. The test beams were apparently well proportioned to utilize the potential strength of both materials since in many beams it seemed to be a matter of chance whether initial failure occurred by compression in the concrete or tension in the timber.

Composite beams can also be used in continuous structures if in the region of negative bending moments the top of the concrete is reinforced with steel.

1140 Timber Arch Record

BLIMP HANGARS SET NEW TIMBER ARCH RECORD (*Engineering News Record, October* 22, 1943, *pp.* 110 *to* 111). New record in timber arches. Limit set by precedent so far available. Design for temporary loading.

The US Bureau of Yards and Docks has been led by the desire to save steel to set up a record in timber arches. These spandrel-braced arches are for hangars to house the US Navy's patrol balloons. Their span is 246 ft. and even this might have been exceeded but for lack of precedent. The longest previous timber arches have a span of 200 ft. and it was decided that a 25 per cent. increase was all that could be justified at the present stage of the art.

It should be noted that the arches are primarily designed to resist wind loads, though earthquake possibilities and snow must also be taken into account in some localities. The importance of loading that is only applied temporarily and intermittently makes timber a particularly suitable material. A 5,000 lb. trolley hoist load had also to be taken into account in the design.

Another factor which warrants increases in unit stresses in timber is the transference of load by bridging and sheathing to stronger adjacent pieces since floor or roof joists act together.

Failure of a single piece would not endanger the safety of the structure and jobs under competent engineering supervision offer possibilities for the advantageous placing and cutting of weaker members.

Greater economy by means of higher working stresses is now feasible in timber design because of improved fabrication, and more complete knowledge of the fundamental properties of wood and careful stress-grading. (Grading of timber according to quality has also been adopted in Germany, as was mentioned in the Information Centre No. 1118. In this country BSS No. 960 provides for grading).

1141 Wood-Concrete Framing

CONCRETE AND LAMINATED WOOD FRAMING (*Engineering News Record, October* 22, 1943, *pp.* 100 *to* 102). Combination of wood and concrete. Speed of erection. Flexibility.

Plans for a machine shop at Wisconsin, USA, originally provided for a framing in structural steel. Steel detailing and fabrication alone would have taken at least four months and the owners wanted the building completed in three months. The following system of construction was, therefore, adopted.

The building, 206 by 417 ft. overall, consists of four bays of different sizes. The bays have reinforced concrete columns for the vertical members and continuous concrete beams for longitudinal crane rails and eave struts. The completed building is characterized by large areas of sash (face brick is only used for the lower part).

The entire roof construction is timber. It consists of prefabricated laminated wood girders, purlins, column knee braces and a plank covering. Spans of 62 ft. required wood girders 35 in. deep. This combination of concrete and wood enabled the building to be ready for the war-effort in three months and saved much steel. The flexibility of the structure is indicated by the change of dimensions which was necessitated after construction had been started, because cranes to fit the spans as originally designed could not be obtained.

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*

1142 Piggeries

Q *Can you send me a list of publications dealing with the planning and construction of Farm Buildings (Piggeries) and of Refrigeration and Cold Stores?*

A With the kind assistance of the Librarian of the Royal Institute of British Architects, we have prepared a list of publications dealing with Cold Stores and Piggeries. It is highly probable that you will not be able to obtain most of the publications except through a Library, and we would advise you to

contact the Librarian of your local Architectural Association.

PIGGERIES

How Concrete Can Help the Pig Breeder (A booklet on housing of pigs and piggery construction). The Cement & Concrete Association, 52, Grosvenor Gardens, London, S.W.1.

Pig Keeping, by W. A. Stewart, M.A., B.SC.(AGRIC). (A booklet which includes information on construction of pig sties. Ministry of Agriculture and Fisheries. (Bulletin No. 32.) Obtainable from H.M. Stationery Office, price 1s. 6d.

ARTICLES IN PERIODICALS

(*Piggeries*) *Current Notes on Planning*, by Edwin Gunn, A.R.I.B.A. *Architect and Building News*, February 10, 1939, and February 24, 1939.

A Canteen Piggery. Note with illustrations by Peter Cocke and Michael Powers. *Architectural Assoc. Journal*, July, 1942 ; *Architectural Review*, November, 1942 ; *Builder*, August 14, 1942.

REFRIGERATION AND COLD STORES

Information Supplement on Refrigeration. *Architects' Journal*, March 10, 1938.

Full and informative article on Alexandra cold storage and bakery, Singapore, dealing with layout, etc. *Royal Engineers' Journal*, September, 1939.

Industrial Cold Storage. (Data, diagrams and plans). *Cold Storage and Produce Review*, March and April, 1932.

Thermal Insulation Report, by Dr. E. Griffiths. *J.R.S.A.*, August 25, September 1 and 8, 1933.

Cold Storage Warehouses, by C. de Moll. (Seven photos and plan and section). *Architectural Forum*, October, 1929.

Heat Insulation in Cold Storage Construction, by Dr. E. Griffiths. *Structural Engineer*, May, 1932.

Precooling Facilities for the Fruit Export Trade, by Dr. E. Griffiths. *Structural Engineer*, March, 1932.

Thermal Conductivities of Walls, Concretes and Plasters, by Dr. E. Griffiths. *DSIR Technical Paper*, No. 6, 1928.

Refrigeration in U.S. : *Frozen Food Lockers, Flemington, U.S., Architectural Forum*, September, 1941.

1143 Appraiser's Licence

Q *Is it necessary for architects to have an Appraiser's Licence ? The only valuation which we do is the usual valuation for insurance, or opinion as to value, etc., when property is being bought.*

A An Appraiser's Licence must be obtained if appraisements are made for gain or profit. The Licence is £2 0s. 0d. annually on July 5, and is obtainable from the nearest Excise Office. The penalty is £50 0s. 0d.

Duly licensed Auctioneers and House Agents require no licence, and a licence is not required for a single appraisement that is not chargeable with stamp duty.

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.

TPI

W. G. Holford

April 29, at Caxton Hall, Westminster. Address to the Town Planning Institute by Professor W. G. Holford, M.A., A.R.I.B.A., M.T.P.I., on TOWARDS A NATIONAL PLANNING SURVEY : SOME NOTES ON METHODS OF RESEARCH AND CLASSIFICATION.

W. G. Holford : "In the two years since Lord Reith was charged with an investigation into the methods and machinery of physical planning, both local and national, a good many changes have occurred. During those two years the war has turned some critical corners, the peak of war-time building has been passed, and more and more technical staff has gone to strengthen the armed forces. In the planning field, in spite of the stop to peace-time activities, considerable changes have taken place, both in the planner's horizon and in the public concept of planning. Reports have been published, ideas have begun to crystallise ; and with them prejudices have formed in people's minds. In a word, the stage is being set ; the scene, though sketchy at present, is beginning to take on a certain atmosphere ; and we are looking forward to the day when the actors assemble. This is one of the occasions which the Institute has arranged, *ad interim*, to give us an opportunity of discussing the future.

What follows is entirely a personal view, contributed as a member, and intended simply as an improvised platform which may, or may not, stand up to the weightier and more expert tread of many of those here present. It is an extremely difficult subject ; and members will notice the cautious phrasing of my title. I do not suppose that any of us can clearly envisage what national planning means : even in the physical sense. In fact there never was a period when this and similar gorgeous phrases were used more frequently, with greater conviction, and with a more complete ignorance of their significance, than the present. But behind all the jargon and the vagueness, there probably exists a greater national determination and a greater opportunity than our profession has ever recognized before. So it is worth while to curb one's impatience and put up with the difficulty of words in an attempt to define the terms of a national survey.

Method of approach

In building a bridge, one can proceed by setting up a frame-work and then by placing stone to stone until an arch is formed. Or one can throw a rope across a gap, and spin on that cables of increasing strength to carry the foot and carriage way. I sometimes think of a national planning survey in terms of the suspension bridge technique, as opposed to the technique of building solidly on foundations carefully established, and pieced together with local stone. The initial process requires greater imaginative daring, takes greater risks, breaks with custom ; but if successful it achieves its object quickly. In the same way a picture may be made up of a mosaic of parts, each important in itself ; or it may be presented in broad strokes, so that one stands at a distance to appreciate its general effect.

It is not for me to discuss the policies behind national planning, but simply to examine the ground and report on possible methods of bridging the gaps. And it is the national rather than the aggregate of local points of view that I should like to deal with ; the aerial suspension method rather than the series of masonry arches. You may think it fanciful, but if so it will serve to show up the virtues of the more terrestrial approach. In actual fact I believe both methods are necessary in planning, the one being complementary to the other.

Let us assume, then, that we are aware of the warnings of the Barlow Report, that the Scott Report has struck an answering chord in all our minds, that we are conscious of the limits and potentialities of the natural resources of this tightly-packed little island, which the war has demonstrated so clearly, and that we are planning, not for planning's sake, but to create social profits in the widest sense. The drawing up of a national plan of land use is parallel to, and no more Utopian than, the Beveridge plan for social insurance, the Keynes plan for an International Clearing Union, and the bigger plan—that is still to come—for the maintenance of full employment after the war.

I am not thinking in terms of the aggregate of proposals from 61 County Councils, 83 County and 309 Non-County Boroughs, 512 Urban and 475 Rural Districts or 11,100 Parishes. I am attempting to think rather in terms of 58,000 square miles ; of a population of 41 millions ; of the economic and natural resources of the geographic regions of the country ; of 10½ million taxpayers whose taxes are mobilized for public use to the tune of over 30 per cent. to-day, as compared with 6 or 7 per cent. in 1914 ; of 10½ million houses, and the new 4 million that we are to build in the first decade or so after the war ; of three-quarters of a million shops ; and of a road system that is already over 160,000 miles in total length and used to be the scene of 16 fatal accidents a day.

To think of all in such terms, while awaiting policy decisions on questions of national economy, may be considered a hopeless task. Town planners, in the years before the war, tended to regard the national problem as theory and the local problem as practice. That kind of practice will probably remain the chief livelihood of our profession and its best school of experience. But it is now quite clear that something more is expected of the physical planner than that he should draw up a scheme under prescribed powers and to meet defined conditions. He is now being told to plan, *or to prepare to plan*, for requirements that are, at best, loosely defined ; and with a promise that what he says is essential in the way of powers will be seriously considered and presumably introduced for legisla-

tion. It is therefore essential that, besides the piecing together of local surveys in joint committee areas, there should be some attempt at an open approach to national questions in a national survey. In such an attempt the physical planner must come to terms with three different obstacles. The first is the big political question, which it is entirely outside his province to answer. It may be a general question such as the rate of demobilization, the post-war export level, or the maintenance or otherwise of certain strategic measures that now operate; or it may be a particular question, such as the future of a war-time factory, or of certain government offices now located in seaside towns.

In any case he must make assumptions, and if he is wise he will make alternative assumptions wherever possible. That means more planning now, but it will lead to quicker decisions when the time comes.

The second type of difficulty is that in which the planner, though he is not responsible for a solution, is morally bound to state the consequences—so far as they come into the field of planning—of the various courses of action that are being and will be proposed. This is a case where the planner, after a survey of the facts, may take sides in a dispute. He is in the position of an architect whose client demands that one bedroom in his house shall have windows twice the size of the others. The thing can be done, but at the cost of an alteration to the design he has approved, and the payment of an extra. In the same way the planner must make plain the consequences of certain courses of action which appear to be contemplated by various development agencies at the present time. This is particularly true of industrial versus recreational use of land, or building versus agriculture. *How much* the nation is prepared to pay for amenity, whether in the form of national parks, smoke abatement, the planting of hardwoods, the provision of playing fields, or architecture instead of shacks, is not for the planner to say; but it is his duty to state the long-term value of these things, and that they can be created by one course of action or injured by another. This is very largely the kind of question that Lord Justice Scott's Committee dealt with in their enquiry into the use of rural land. Perhaps it was because both the Scott and the Barlow Committees gave such circumstantial warnings that the client is still scratching his head.

The third kind of difficulty is one on which the politician has not thought it worth while to make up his mind, and here, I think, the planner must do his own thinking. Against the background of these distant but universal social objectives, which everyone agrees to be desirable, but which—in a free country—one hesitates to define too exactly, he must set forth the actual physical results (and the trends for the future), of geographic conditions, demographic movement and economic change. In this kind of question—which is simply, and in shorter words, the *Place*: *Folk*: *Work* of Patrick Geddes—the politician is unlikely to produce a working programme; and the planner must assemble the evidence from which a programme will emerge. It is, in fact, his stock in trade, and the preamble to the 1932 Act should be as applicable to the physical aspects of national planning as to those of local planning. A national housing shortage is a planning fact; and planners must make proposals to meet the problems of location and movement consequent on the enormous housing programme. The treatment of the coast line and of other national scenic resources is another subject which is not mainly dependent on the shape of post-war economics. The re-classification of existing roads in the town pattern, and the determination of adequate standards for the various types of neighbourhood or community units, are other examples.

National Planning and the Location of Industry

It should be noted that I have referred so far only to national surveys in particular fields, and not to comprehensive national planning. But so consistent is the suspicion of the English citizen towards any investigation whose practical results he cannot immediately discern—as many an intrepid planning officer has proved during the present war, if not before it—that the two words may well be taken for parts of the same process; and I had better say to what extent I believe they are.

Sir Gwilym Gibbon, writing on National Planning just before the appointment of the Barlow Commission,* made a very salutary criticism of it in these terms: "The motion," he said, "arises partly from a mechanised mentality, from thinking of the life of society in simple terms without realizing the unmeasured complication of means and motive, as in the individual life of man. It derives in part, too, from a feudal type of mind, though sometimes marked in the gentlest of dreamers, from a desire to control and to manage." "There are," he adds, "certain types of well-meaning persons who always hanker after miracles. The heavens are as brass and produce none, but their bent must find an outlet and they look with hope to the State, wishing to arm it with powers of totalitarian mood and endowing it with wisdom far surpassing that of man."

Sir Gwilym bases his argument on the fact that the crux of national planning lies in the location of industry; and he gives good reasons why industrial dictation would not work. He questions the extent to which the "drift to the south" has occurred and whether, in any event, it was controllable. He quotes the history of the Special Areas as a partial approach. He raises the issue of defence strategy—in which, it must be admitted, he was a reliable prophet—and says it would be doubtful policy overmuch to control normal needs by the emergency of war; as this might even make the country less formidable for war itself. He adds that Government would be paralysed if any loss to a district arising from national policy carried a right to compensation in some form or other. And finally he allows that there are certain matters of planning which must, by their nature, be determined for the country as a whole; and instances national parks, main trunk roads, inland navigation, special problems such as soil conservation or land settlement, and lastly research and intelligence as a form of public relations.

This last concedes my point; nevertheless there are reasons for thinking that we have veered further towards national planning than Sir Gwilym anticipated. He ended his chapter, it is true, by saying that while the notion of comprehensive national planning seemed erroneous, the Central Government had, notwithstanding, a much larger part to play than it was then undertaking. And perhaps I am underestimating his use of the word "comprehensive." Yet, at the risk of being dubbed mechanically, or feudally, or even wishfully-minded, I would like to put forward for your consideration some changing factors in the relations between industrial development and planning, which necessitates a national survey on somewhat extended lines.

The war has focused the attention of the individual and of the public generally, on the long-term programme of redevelopment as well as on the short-term programme of reconstruction, on obsolescence as well as on bomb damage. It has also caused certain psychological changes which, if they last, are likely to alter the whole background of planning. These include:

1. a realization of the strategic importance of these islands, their small extent (as compared, for example, with North Africa), and the supreme importance of maintaining *the efficiency of its physical apparatus*—roads, services, open spaces, the expansion of industrial plant, transport, storage space, coal;
2. arising from this, and from the visible space demands on the land for agriculture, mineral working, war-time camps and hostels, landing grounds, etc., a realization of the importance of our limited *natural resources*, whether for the growing of food, the winning of minerals, the extension of forestry, or for any land use whatsoever;
3. rationing and other war-time controls, the need for which has been clearly and popularly demonstrated, has bred at least a temporary *intolerance of waste*, whether of food, fuel, paper or man-power; and interest in the social costs of mass production economy as we knew it before the war, when over production and under employment produced waste of all kinds, has enormously increased in consequence;
4. one aspect of this present intolerance of waste is of special importance, namely, the *preoccupation with post-war employment* on the part of those who, during the war and because of its very nature, are fully employed. This is a significant fact, and one of its consequences for planning is likely to be that priorities in a post-war programme of public works or social services will be for those things that guarantee a minimum standard of living for all, and a gradually increasing purchasing power. The country is clearly in the mood to accept controls in the immediate post-war period if they are necessary for the maintenance of full employment;
5. and lastly—an obvious result of total warfare and the growth of air traffic—an increasing tendency to take a bird's-eye view of things, what Geddes called "the synoptic vision." This manifests itself in the readiness of local groups, in the army or elsewhere, to discuss intelligently large territorial and planning questions; and, more specifically, in the comprehension of the layout and relation of buildings to land, of roads to towns, of landscape as seen from an aeroplane or on an aerial photograph.

These faint indications of change raise in my mind a query about the future of industrial location, and it is this: has not the time come when the relation between private enterprise and social costs can be well enough assessed to devise a sliding scale of controls suited to the type of industry concerned? Why should we assume that the only alternative to complete freedom of location, should be a general licensing by which, in effect, an industrialist would be compelled to locate his works in an area determined by the State? Surely the effect of national planning would be to put a greater measure of responsibility on to the developer rather than to make him less responsible and consequently less vigilant. Therefore the planner must acquaint himself with the essential needs of an industry; and the industrialist must be made aware of the social costs or otherwise of his undertaking.

What the planner needs to know about an industry is whether it is expanding or declining, whether it is employing more or less labour per unit of production and in what proportion of sexes, what is its industrial acreage, both for storage and production and its method of extension; what are its raw materials and its waste products; has it exceptional demands on services or utilities—water, electricity, gas, transport, fire protection; what are its ancillaries and its linked industries; does it require special location from the point of view of climate, relief, noxious fumes or effluents and noise, or from the point of view of specialized skills or working traditions.

The planning facts of which the industrialist should be made aware, if he is not aware of them already, include such things as the balance of employment in the areas affected; the counter claims of agriculture, amenity, water gathering, housing or recreation to the use of certain parcels or regions of land; the life of houses, sewers, roads and public buildings, as compared with factories (with all that that implies for short-term industrial specialization); the elements of danger and congestion in industrial road transport, in addition to its convenience and cost from a production point of view; the complete

*Problems of Town and Country Planning: 1937.

feasibility of good industrial layout and architecture, with efficient smoke-consuming fuel-burning apparatus, which can almost totally remove the stigma of dirt and decay which has come to be associated with so many old industrial areas. Most important of all, the industrialist himself should have a development plan, know how his business will extend if things go well, in what manner and at what a pace. Factory extension is often bigger in volume and importance than the annual increment of new enterprises.

Much of this information cannot be known during the war, but at least its scope and main headings should be determined, and the gaps filled in as fast as possible. It is the method that counts, and the right relation between planner and developer. Everyone hopes that an age of expansion is being succeeded by one of stabilization, and it is ridiculous that the town and country planner should any longer be suspected of diabolical motives in keeping up with the trends of industrial location and extension, and working out the consequences in terms of land use, amenity and social services. The post-war facts of housing, production, agriculture and services, if they are to be considered in relation and not as problems peculiar to certain central or local authorities, will involve a measure of planned land-use ; the relaxation of war-time controls will also require it. The planner himself must be content to be servant to all trades, though he be master to none.

The Classification of Land

I have put the economic survey first because generation should precede distribution. But the main task of a national survey is clearly the intelligent classification of all land and land uses. The question of ownership is one with which I cannot deal here, though it should not ever be forgotten. I would only point out a national survey of ownerships and a national survey of uses are two distinguishable things, and the second should not be unduly coloured by the first. Management is very largely a matter of efficiency, and many owners manage their own land efficiently, or see that it is done for them—and this includes municipal owners. But land development, and the decisions governing its best use in the national interest, call for greater disinterestedness and a longer vision than is now possible for either the individual owner or manager.

No matter whether the Uthwatt proposals or others more general and (in essence) no more revolutionary, eventually form the basis of a new system of land control, it will be the task of the central authority to determine the meaning of the phrase, " in the national interest," remembering that this is a more difficult thing to do in peace time than during the war. And I cannot see how it can well dispense with a general and preliminary classification of land under the headings of agriculture, building development, recreation, mineral working, forestry, transport and services. I do not mean that the authority itself should be expert in the requirements of these different users—save possibly those of building development and recreation. But it can consult those who are, and develop with them a basis of judgment and a system of prompt evaluation of evidence for use in particular cases. The picture may be built up in three stages :

1. The inherent or natural characteristics of the land, including soil, minerals, geological formation, relief, water table, drainage, temperature, etc. ;
2. the use to which the land is at present put —as is shown on the Land Utilisation Survey of Great Britain ; and
3. the potential suitability of the land, in a series of categories under each of the headings just mentioned, based on existing and inherent characteristics, on indications afforded by natural and semi-natural vegetation, and on a knowledge of the possible improvements to natural resources which the particular sciences or arts suggest.

Herein lies the value of such an agricultural land classification as that produced by Dr. Dudley Stamp and of the mapping of national resources, land uses, and conditions in the Maps Office of the Ministry of Town and Country Planning. Many people scoff at the idea of such general classifications having any practical value whatever. It is quite true that for the owner and developer a knowledge of comparative values, relative to other land, may not be of immediate urgency. But a *planning* authority must have principles ; the higher the authority the higher the principles. And a survey alone can show what is permanent in a series of land classifications, and what is subject to change or liable to local exception. I am sometimes reminded of certain employers of architectural labour who received into their offices recent graduates from a famous school of architecture of which I was—and am—a member. Occasionally they would complain of even the most brilliant student that he appeared to know how to design a town hall, or even a town, but had made a very incompetent job of a section through a sash window or, shall we say, of the working drawing for a septic tank. Consequently they blamed the student, the school and the whole system of architectural education. In the same way it is useless to expect a general system of land classification to settle the doubts in a farmer's mind as to whether he should plough up a certain parcel of land. It will, however, indicate to a planning authority in anticipation of development, that this is or is not a border-line case requiring expert investigation.

Forgive me if I am being elementary. The principle that is coming to be gradually accepted in relation to agricultural land classification has to cover very complex detail indeed in the case of minerals and very controversial differences of opinion in the case of amenities and recreational uses. In both these cases the first step is to consider the programme of national development against the background of land classification. If, for the sake of example, the proposals of the National Farmers' Union for a minimum tillage acreage of 11 million acres, and a certain desirable figure of stock, were to be accepted as the proper implementation of a policy for mixed farming after the war, then there must be an acceptable and quick method of estimating the distribution of land necessary for 2¼ million acres of wheat, 600,000 of potatoes, 400,000 of sugar beet, 800,000 of fruit and vegetables, and for stock amounting to 7½ million cattle, 20 million sheep, 60 million poultry and 3¾ million pigs.

In the same way a global assessment of needs for surface minerals, some in limited supply, some in abundance must be related to a map of surface utilization so that a programme of workings for the industries themselves can be drawn up which will not fetter their enterprise, nor waste national resources, even in an emergency, nor damage unnecessarily the requirements and amenities of other land uses.

In landscape survey, and for the benefit of the outdoor organizations and of the tourist industry alike, a national scheme of values is required to set against the picture of national assets. There is room here for endless controversy, prejudice and passion. One hopes that pride of place will always continue to burn; but the need for a complete picture is undeniable if the total scenic resources of the country are to be maintained at a high level. To the local vigilance of the CPRE must be added a national survey, built up on the regions, so that there may be central vigilance as well. Members will recollect the plea for a survey of rural resources submitted in 1936 by Professor Abercrombie, Mr. John Dower and others. Many of the items in that list are now much more easily capable of execution. In particular I would mention the aerial survey and, as a brilliant and fascinating illustration of the power and value of aerial photography, recommend you to look in at the London Museum and see the small exhibition of archæological photographs called " Looking at the Past through the Present." The plans of Roman buildings and fortifications at places such as Ditchley and Woodhenge rise literally out of the fields of corn when viewed from above.

With war-time experience behind us, the completion of an aerial survey should be an early and practicable enterprise.

People and Places

So much for the background : the most urgent of all reasons for a national survey is anticipation of the movement of population upon it.

I need not refer in detail to the memorandum prepared by the Registrars-General just before the war, and published by the Minister of Health last year. You are all familiar with the forecast of population figures for Great Britain which, starting from approximately 46 million in 1937 is projected to 47½ million in 1951, and then down the hill to 46 million again in 1971 with a subsequent serious decline. Favourable assumptions for mortality and fertility would raise this figure by 1½ million, unfavourable ones would reduce it by the same amount ; and a concerted attempt at preventing a decline—such as would maintain the present level of 700,000 births per annum—would bring the 1971 total to 48½ million ; a possibility which is very much to be reckoned with, if recent war-time figures are a real indication.

Some of the planning facts that emerge from these calculations are of considerable interest. Apart from their direct effect on the numbers and distribution of dwellings, and on the objective of one house per family, there are the indirect effects resulting from a changing composition ; for example, the trend towards smaller (and therefore more numerous) families, and the alteration in the proportions of the different age groups. If planners are considering residential neighbourhoods based on two primary schools, each of 400 children, they can reckon at present on an average of 14 children per thousand of the population in every year of the school age groups. So that if 7 years are represented in the school (or in the primary and infants' school combined), then each school will draw on a population of roughly 4,000 people, making 8,000 for the residential neighbourhood as a unit. But in another generation it is very likely that the number of children per 1,000 of the population will be, on a national average, what it is in London now, namely, 11 for each of the school years, or even less ; and the school of 400 will then be one of 300. This may be a boon to the teachers, but it is a poor look-out for the nation. And at the other end of the scale there will be proportionately twice as many old people over 65 as there are now. No longer shall we be able to leave to private and charitable enterprise the provision of dwellings of a size and type suited to elderly and retired folk. This detail of the huge mosaic will, in fact, need attention long before then, since one of the methods of releasing family houses for those who need them immediately after the war would be to plan and build anew the smaller houses and communities for the retired.

Beside the general enquiry into numbers and composition, must be set the more urgent survey of distribution. The local surveys instigated by the Ministry of Health into housing needs due to damage, obsolescence, slum clearance and overcrowding are producing figures which may reach a panic level after the war, unless plans for effective distribution, proper grouping and the allocation of suitable land are ready beforehand. Each local authority has its own problem, some graver than others, and I should like to touch only on some of the national or regional aspects.

The conclusions reached by Professor Abercrombie and Mr. Forshaw on the possible redistribution of population and industry within the area of London, are not yet made public, but it is extremely unlikely that they will envisage redevelopment without transfer or overspill outside the area with which they are concerned. The same is true of Manchester and Leeds, and may be true of Birmingham and Liverpool. What are the ultimate re-

ception areas for this anticipated evacuation?

As in the early part of the war any scheme of redistribution on this scale must be conceived on a national and regional basis; and so must the location of any new or satellite towns for which sound economic reasons arise.

Satellites may be of various types. They may be built round the core of an existing war-time development; they may come into being as a result of rural reorganization, whereby a central or market town concentrates the educational, recreational and transport facilities of the district within its own area; they may be primarily an industrial adjunct to a large town which they serve as rail or riverhead or dock; they may be primarily residential—whether as resorts or dormitories—with opportunities for light and service industries to settle in them; or, lastly, they may be social experiments undertaken by large local authorities, by public utility companies, or by some other form of recognized association, in conformity with principles of balanced development. Strong prejudices have grown up, both for and against the establishment of new towns. On the one hand it is stated that such developments would be fresh wounds in the side of what is even now only a convalescing agriculture; on the other, that industry must be moved out of existing towns, even where there is a high quota of pre-war unemployment, to fresh fields and pastures new. A natural survey of building distribution would show, I think, that the total acreage required for new industry and new housing over the next 20 years would be comparatively small—something of the order of a quarter of a million acres in all, or .6 per cent. of England and Wales; and, secondly, that everything depends on where the land is taken and what scale of redevelopment is attempted in the areas already built up.

In addition to new and redeveloped construction there will be a need for some temporary or semi-permanent construction in the form of camps and hostels for foresters and those engaged on urgent building and public works; possibly even for educational and holiday establishments. All these needs must be anticipated, so that eventually all kinds of development agencies, from Government Departments to individuals, will become accustomed to approach the officers of the central and local planning authorities *before* any proposal is decided upon, and they will be in the almost Keith Prowseian position of saying, "You want the best land for your particular purpose; we can tell you where to look for it."

Conclusion

It is the fault of papers like this which appear, so to speak, in battle dress, that they lack any distinction of cut, and to make the garment serviceable one must hang all sorts of things on to it at the end, without regard for appearance. I have put forward the main points, and now have time only to mention by name the headings of other kinds of national survey on which research is needed, and in some cases going forward. I am sorry if it has a flavour of "Believe it or not."

1. *Roads and Motor traffic:* the system as a whole, as well as individual re-classification and by-passes. Apart from accidents there is the question of increasing motor traffic after the war. New York had 1 car to 35 residents in 1920, and now has 1 to every 7½. The West Side Express Highway is one of the answers to this problem. Los Angeles has 1 car to every 2½ residents. The Greenbelt towns are planned for motor transport; are we to think in the same terms? A motorway system of nearly 3,000 miles, as suggested in 1936 by the Institute of Highway Engineers, would have a major bearing on new industrial location as well as being a large item in the public works programme. It needs reconsideration in the light of war-time changes.

2. *Post-War Capacity of the Building Industry:* the White Paper issued by the Ministry of Works in February, made an estimate of 1¼ million men as compared with the figure of 1,050,000 in 1937. On this basis an annual volume of work amounting to £600 million might be reasonably accounted for, of which something less than half would be devoted to housing. This is the kind of general estimate that needs constant and periodic relation to a national planning programme.

3. *Shops and Offices:* if 750,000 shops are regarded as too high a figure for efficiency (it means 1 to every 53 people) a reasonable basis for reallocation after the war needs to be worked out. Some urban areas can afford to carry a high proportion of shops, others are over-shopped; most housing estates and rural areas are slightly under-shopped. The office-carrying capacity of commercial and business towns needs careful estimating. In some ways it is as powerful an incentive to decentralization as industry is. London is the most significant case, and much will depend on the extent to which administration, business houses and offices are catered for in re-development plans, and on the extent to which they are persuaded—either by policy or by lack of premises—to stay outside London, in provincial towns, in resorts, or even in the smaller market towns to which many are evacuated at present.

4. *Forestry* has been referred to in a previous address by our President (Col. W. S. Cameron), and I wish to add only one small comment. It is that a national scheme on the scale envisaged by the Chairman of the Forestry Commission may, besides the planning consequence I have already referred to, introduce a series of related industries in wood pulp, cellulose and other by-products, for which Sweden provides some useful history.

5. *Local Authority Finance.*—May I—dare I—mention in conclusion the subject of rateable values. It is noteworthy that the total receipts of local authorities from rates in 1942, though slightly lower than the £200 million level of 1940, are still higher than those of any previous year. Again, the problem is one of distribution rather than bulk, and the anomalies are so obvious that a survey of rates in relation to planning stands out clearly as a necessary preliminary to national planning."

EJMA

Woodworking

Mr. R. H. Hall, Director of Woodworking, has sent the following official statement to the deputation, led by the English Joinery Manufacturers' Association, which discussed woodworking problems with him on April 13.

"When I last saw representatives of your Associations, on April 13, you raised certain important questions on which I thought it better to seek further advice. I am now able to answer in general terms the points you then raised.

In the past, while there was a substantial demand for articles made of wood, any firm with woodworking machinery and suitable premises was eligible for woodworking contracts. Fully equipped shops possessed by building contractors, engineers and others were well able to handle certain types of work for which there was not then the great excess of capacity there is now. Whatever may be thought of the original employment of these firms, some of the work for which they have been organized, such as special aircraft, vehicle or boat-building production, cannot be interfered with at this stage of the war. I think this will have been understood from my remarks at our last meeting a few weeks ago. All that it is possible to discuss now is the allocation of orders for general woodware which involves no elaborate tooling and training of staff.

The primary consideration must be to utilize plant, labour and premises now engaged on woodworking to the greatest advantage. Production must, as far as possible, be concentrated into the most efficient units, so that redundant labour and factory space can be diverted to other urgent purposes. The equipment and experience of a firm must be the first criterion for deciding whether to employ it. Almost equally important is the labour position of the area in which a factory is situated. Factories otherwise suitable cannot be fully employed if there is a competing demand for labour. Moreover, in order to economise in transport production must be located so as to avoid long hauls of bulky articles or material.

All these factors must be taken into account in assessing the claims of each production unit. Only after they have been taken into account are the pre-war position of a firm or its other interests at the present time relevant to the decision whether it is to have contracts. Subject, however, to the overriding claims of efficiency, labour supply and transport, it will be fair to give preference to woodworking firms over those to whom woodworking is ancillary to other types of business. In other words, each production unit must be judged on its merits and in the light of the total amount of work it is desirable to place in its particular locality, but, all these things being equal, an endeavour will be made to use for woodworking firms who are covered by the definition of a woodworking firm in preference to firms whose main interests are in other activities.

Definition of a woodworking firm.—'A factory or self-contained unit of a factory primarily engaged in the processing or machining of wood not ancillary to its own production.'"

SAFA

New Association

While retaining the freedom of individual manufacturers to develop their own appliances, makers of stoker and furnace equipment for Shell-type boilers have united to set up the Stoker and Furnacemakers' Association.

The objects of the new Association are to encourage the production of efficient appliances and to maintain a high standard of workmanship in all developments in design while deprecating extravagant performance claims. The Association will also represent the interests of its members in negotiations with Government departments, trade associations, scientific bodies and industrial purchasers.

Foremost amongst its objects will be to define and support guaranteed standards of performance and to promote co-operative research into stoker and furnace design with a view to increasing their efficiency and extending their field of application.

The Founder Members are: British Doby Stokers, Ltd., London; Crosthwaite Furnaces & Scriven Machine Tools, Ltd., Leeds; James Hodgkinson (Salford), Ltd., Salford, Lancs.; Meldrums Ltd., Timperley, nr. Manchester; J. & J. Neil (Temple), Ltd., Glasgow; Niagara Engineering Co., Ltd., London; James Proctor, Ltd., Burnley; Superheat Furnace Co., Bradford; John Thompson (Triumph Stoker), Ltd., Leeds; The Turbine Furnace Co., Ltd., London; Whitehead Bros., Ltd., Farsley, nr. Leeds. The address of the Association is: Rickett Street, West Brompton, London, S.W.6, where the Secretary will be pleased to receive enquiries and suggestions from users of plant of the type manufactured by members of the Association.

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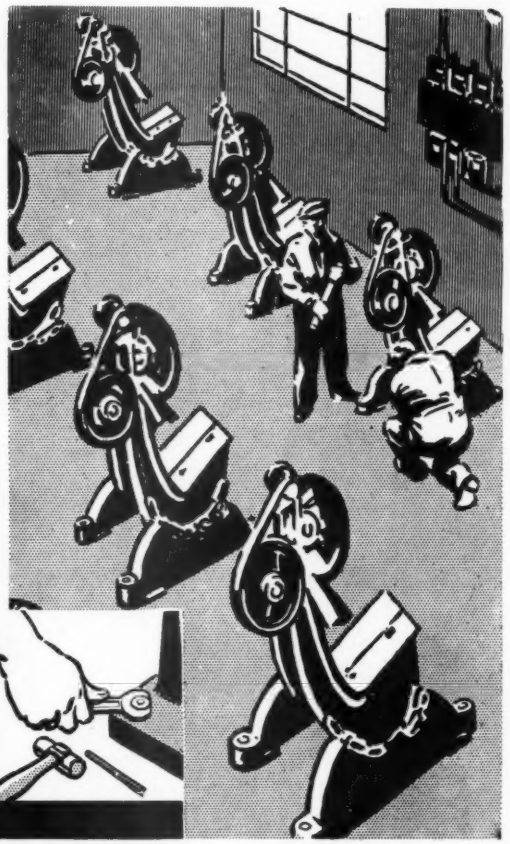

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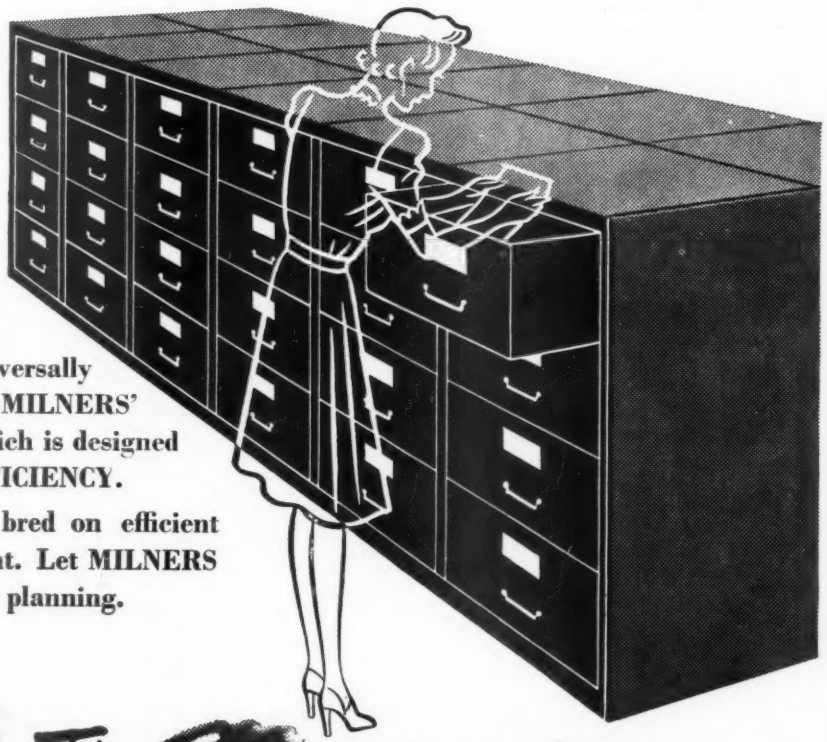

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PRICES

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The price of ballast has risen during the last month, otherwise there has been no alteration in the prices of the basic materials given below. We have not included the price of Copper Tubes as these are no longer used for building purposes.

Rates of Wages have not risen since 2nd April, 1943.

BASIC MATERIALS	Increase over pre-war prices at end of			
	January, 1943	February, 1943	March, 1943	April, 1943
	Per cent.	Per cent.	Per cent.	Per cent.
Portland cement	+41·46	+41·46	+41·46	+41·46
2-in. Unscreened ballast	+71·01	+71·01	+71·01	+88·41
Fletton bricks (at station)	+29·19	+29·19	+29·19	+29·19
Stoneware drainpipes (British Standard) 2 tons and over	+37½	+37½	+37½	+37½
Roofing tiles	+42½	+42½	+45	+45
Steel joists (basic sections) ex mills	+47·5	+47·5	+47·5	+47·5
Lime greystone	+43·53	+43·53	+43·53	+43·53
Sheet lead	+65·22	+65·22	+65·22	+65·22
Iron rainwater goods and soil pipes	+26½	+26½	+26½	+26½
White lead paint	+44·70	+44·70	+46·21	+46·21
RATES OF WAGES (Central London Area)				
Labourers	+22·22	+22·22	+26·98	+26·98
Craftsmen	+16·67	+16·67	+21·43	+21·43

LABOUR—Rates of Wages since 2nd April, 1943.

LONDON DISTRICT	Craftsmen	Labourers
Within 12 miles radius	2s. 1½d.	1s. 8d.
From 12-15 „ „	2s. 1d.	1s. 7¾d.

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Classified Advertisements continued on page xlii.

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