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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.
ABT	Association of Building Technicians. 5, Ashley Place, S.W.1. Victoria 0447-8.
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.
BDA	British Door Association, Shobnall Road, Burton-on-Trent. Burton-on-Trent 3350.
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. Belgrave Square, S.W.1. Sloane 4522.
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.
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. Sloane 5255.
CEMA	Council for the Encouragement of Music and the Arts. 9, Belgrave Square, S.W. 1. Sloane 0421.
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W. 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), Sackville House, 40, Piccadilly, W.1. Regent 4448.
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, W.C.2. Temple Bar 7676.
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197.
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.
ISPH	Committee for the Industrial and Scientific Provision of Housing. 1, Old Burlington Street, W.1.
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.
MOA	Ministry of Agriculture and Fisheries, 55, Whitehall, S.W.1. Whitehall 3400.
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. 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. Whitehall 8411.
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.
NFHS	National Federation of Housing Societies, 13, Suffolk Street, S.W.1. Whitehall 2881/2/3.
NT	National Trust for Places of Historic Interest or Natural Beauty. 7, Buckingham Palace Gardens, S.W.1. Sloane 5808.
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245.
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.
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.

Alphabetical Index to Advertisers

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

Acton Burnell Castle, Shropshire. *Photo: Crabtree Studio*

IT is well that we should occasionally glance back through the mists of time lest our hearts and minds, filled with the promise of the future, should forget from whence came our rich heritage of freedom, justice and courage, so aptly symbolised by the establishment of the first English Parliament at Acton Burnell nearly seven hundred years ago.

Progress, it must be remembered, is not a wonder-child of today: it is essentially of yesterday, born of the blood and toil and suffering of the pioneers of bygone centuries. Let us then pause for a moment in our labours and give thanks for this golden birthright which has enabled the British nation to endure the dark and troubled hours. Let us also acknowledge the priceless gift of true craftsmanship which has forged the weapons which will destroy our enemies—that same quality of hand and eye which will turn with equal facility to forging the tools of peace.

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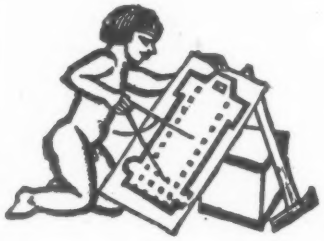
In common with every other periodical this JOURNAL *is rationed to a small part of its peacetime needs of paper. Thus a balance has to be struck between circulation and number of pages. We regret that unless a reader is a subscriber we cannot guarantee that he will get a copy of the* JOURNAL. *Newsagents now cannot supply the* JOURNAL *except to a "firm order." Subscription rates: by post in the U.K. or abroad, £1 15s. 0d. per annum. Single copies, 9d.; post free, 11d. Special numbers are included in subscription; single copies, 1s. 6d.; post free, 1s. 9d. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 15s. each; carriage 1s. extra. Goods advertised in the* JOURNAL, *and made of raw materials now in short supply, are not necessarily available for export.*



DIARY FOR DECEMBER, JANUARY AND FEBRUARY

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

CARDIFF. *Rebuilding Britain Exhibition.* (Sponsor, BIAE.) DEC. 30-JAN. 17

CLYDEBANK. *Housing, Town Planning and Reconstruction Exhibition.* At Janetta Street School, Clydebank. To be opened by the Rt. Hon. Thomas Johnston, Secretary of State for Scotland, at 3 p.m. on December 23. The exhibition includes detailed plans of planning reconstruction, scale model of the new town, done by William Crosbie, hall of housing, illustrating housing design of flats, cottages and prefabrication systems, model house, complete with equipment, all-electric kitchen, a prefabricated internal plumbing unit (working model) and a display of new building materials including: foam slag, wood wool, prefabricated brickwork, prefabricated briquettes and foam slag, special show of plastics and glass. Many prominent exhibitors from the building industry both in Scotland and England are showing components and materials to be used in post-war housing. DEC. 30-JAN. 14

DERBY. *Rebuilding Britain Exhibition.* At the Museum and Art Gallery. (Sponsor, BIAE). DEC. 30-JAN. 8

LONDON. *Russian Ancient Buildings Destroyed by the Germans.* Exhibition of photographs. At 66, Portland Place, W.1. 10 a.m. to 6 p.m. (5 p.m. Saturdays). (Sponsors, RIBA and USSR Embassy.) DEC. 30-JAN. 8

RIBA Conference on the Teaching of Architectural Appreciation in Schools. At 66, Portland Place, W.1. The Royal Institute has long felt that appreciation of architecture by a wider public would do much to ensure an orderly and more beautiful rebuilding of our towns. For many years it has worked to this end by means of lectures to various types of audience. Its most recent effort has been the setting up of a committee comprising architects and educationists to study the problem, to advise and to take action. The committee has sat for more than a year and, with great assistance from education authorities, directors of schools of arts and architects, has organized courses of lectures for teachers. The committee has also produced and circulated a list of books on architecture suitable for teachers and pupils. The RIBA now feel that it would be of great value if the subject were discussed fully by those primarily concerned. It has, therefore, arranged to hold a conference on the teaching of architecture. Invitations have been sent to representatives of national educational organizations and to others especially interested. The President of the RIBA will welcome those attending the conference and Basil M. Sullivan, Chairman of the RIBA Committee for the Teaching of Architectural Appreciation in Schools, will preside. Clough Williams-Ellis will be the principal speaker. In conjunction with the conference there will be an exhibition of school children's work which relates to the subject and a display of books on architecture and planning suitable for teachers and pupils. JAN. 6

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

Alastair Morton, on *Good Design in the Textile Trade.* At Royal Society, Burlington House, Piccadilly, W. Buffet lunch 2/6 from 12.45 to 1.30 p.m. Talk and discussion 1.30 to 2.30 p.m. (Sponsor DIA) JAN. 4

Miss J. Tyrwhitt, on *Adapting Wartime Sites for Post-war Industry.* At the Housing Centre, 13, Suffolk Street, S.W.1. 1.15 p.m. (Sponsor, HC.) JAN. 4

Science in the Art of Lighting. Discussion at a joint meeting of the RIBA and the IES. The subject will be introduced by R. O. Ackerley, Past-President of the IES, and A. G. Macdonald, F.R.I.B.A., Chairman of the Architectural Science Board of the RIBA. At 66, Portland Place, W.1. 5.30 p.m. (Sponsors, RIBA and IES.) JAN. 18

Henry Berry, chairman, Metropolitan Water Board, on *London's Water Supply.* At Royal Society of Arts, John Adam Street, Adelphi, W.C.2. Chairman, Viscount Falmouth. 1.45 p.m. JAN. 19

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

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

John Dower, M.A., A.R.I.B.A., M.T.P.I., on *Planning and Landscape.* At Essex Hall, Essex Street, W.C.2. 2.30 p.m. (Sponsor, TPI.) FEB. 3

RHYL. *Home from Home Exhibition.* (Sponsor, HC.) DEC. 30-JAN. 1

WEST HAM. *When We Build Again Exhibition.* (Sponsor, TCPA.) JAN. 8
TCPA Conference. JAN. 15

NEWS

THURSDAY, DECEMBER 30, 1943
No. 2553. VOL. 98

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 Army's campaign against wastage, which commenced three years ago, the NEED TO SAVE PAPER has always been emphasised. Lectures, films, economy inspections and the establishment of economy training centres have helped, not only to increase the efficiency of salvage collections, but also to reduce paper consumption, and encourage the re-use of old material. In the War Office 75 per cent. of all Army forms have been cut down in size and further reductions are constantly being considered by a special committee. The abolition of one form alone has resulted in the saving of sheets of paper equal in number to two-thirds of the Army's total strength. By issuing strength returns less frequently a million sheets of paper are being saved annually, and by the same means the amount of paper used in vehicle and ammunition returns has been halved. Drastic reductions have been made in the number of War Establishment notifications. By speeding up printing it has been possible to cut out a large number of typewritten advance copies of War Establishments, with a consequent saving of some 200,000 sheets of paper each week. Waste paper collected by the Army salvage organization in Great Britain amounted to 5,045 tons in 1940, and 30,862 in 1942. During the first nine months of this year 25,000 tons were collected.

from AN ARCHITECT'S *Commonplace Book*

A FOREIGNER ON LONDON.—(continued). [*From* Letters from England, *by Karel Capek.* (Geoffrey Bles)]. Thank goodness that there are buses here, vessels of the desert, camels bearing you on their backs through the infinity of bricks and mortar which is London. One of the things which puzzles me is that they do not miss the way, although, for the greater part, they do not steer by sun or stars, owing to the cloudy condition of the atmosphere here. I still do not know by what secret signs the driver distinguishes Ladbroke Grove from Great Western Road or Kensington Park Road. I do not know why he should prefer to take a trip to East Acton, instead of riding to Pimlico or Hammersmith. For all these places are so curiously alike that I cannot imagine why he should have specialized in East Acton. Perhaps he has a house there, one of those with two pillars and seven steps by the door. These houses look rather like family vaults ; I tried to make a drawing of them, but do what I would, I was unable to obtain a sufficiently hopeless appearance ; besides, I have no grey paint to smear over them. Before I forget, of course, I went to look at Baker Street, but I came back terribly disappointed. There is not the slightest trace of Sherlock Holmes there : it is a business thoroughfare of unexampled respectability, which serves no higher purpose than to lead to Regent's Park, which, after a long endeavour, it almost manages to achieve. If we also briefly touch upon its underground railway station, we have exhausted everything, including our patience.

Mr. F. C. Mears has been appointed CONSULTING ARCHITECT TO CENTRAL AND SOUTH-EAST SCOTLAND Regional Planning Committee.
The Committee represents 17 local authorities, and includes the counties of Fife, Perth and Kinross (southern part), Clackmannan, East Stirlingshire, Midlothian, East Lothian, West Lothian, Peebles, Roxburgh, Selkirk and Berwick. Mr. Mears, who is 63 years of age, was educated in Edinburgh and was an associate of the late Sir Patrick Geddes with whom he worked on the University and National Library at Jerusalem and on the Scottish Zoological Park, Edinburgh. He designed the Sanderson Memorial Homes at Galashiels, and the Livingstone Memorial at Blantyre. His town-planning schemes have been adopted by Greenock, Glasgow and Stirling, and he has post-war planning schemes in hand for Midlothian, East Lothian, Fife and Aberdeenshire.

Recommendations TO RELATE RETAIL DISTRIBUTION TO TOWN PLANNING schemes are to be made by a national retailers advisory committee.
The committee has been formed at the request of MOTCP, and local committees have been set up throughout the country to provide information. All types of shops are covered, from the multiple and departmental stores to the co-op. and independent trader.

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Winchester Rural District Council had to prepare 408 PLANS TO BUILD 12 COTTAGES.
This was because of the large number of authorities and others that had to approve before the building could be started. They were MOH, MOW, Land Utilisation Officer, War Agricultural Committee, the Planning Authority and the owner of the land. If any one of these raised an objection, the entire scheme had to be redrafted, and a new set of plans submitted to all the authorities which had already given their consent. According to the *Daily Telegraph*, certain objections were raised, by one body or another. As a result, although the decision to build the cottages was taken in February, building did not begin until July. More difficulties were encountered in actual building. Labour was hard to obtain. At one stage the Council had to lend the contractor its only plasterer to get the work done. The cottages, which have water and electricity laid on, are now being let at a rate-inclusive weekly rent of 13s. 6d. Two of them are occupied. Two more are about to be occupied. The rest are unfinished. A MOH official, commenting on the Winchester difficulties, said : It is hard to see how, in war-time, any of the authorities named can be by-passed. The Ministry realizes the difficulty and has arranged for most of the sanctions to be centralized through the Senior Regional Architect, but some delays in the early stages are inevitable.

In his parish magazine, the Rev. A. W. G. Duffield, vicar of St. John's Church, Chester, CRITICISES THE WAR DAMAGE COMMISSION.
He writes : As you know our lovely west window was damaged by bombs and was carefully crated for repair and replacement after the war. A claim for £118 was lodged. Now after a delay of three years the War Commission has cut the claim by £33 because the work was done by specialists.

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Unless bought privately, SUDBROOK VILLAGE IS TO BE SOLD by auction early in January.
The village is in Monmouthshire and has a population of about five hundred and consists of three streets, 120 houses, an institute, post office, stores, and shipyard. It was built by the late C. Hay Walker, of the engineering firm of C. H. Walker & Co. to accommodate the wives and families of men working on the Severn Tunnel. In addition to the village institute he built and maintained a mission-hall for Sunday Services and weekly teas, dances and whist-drives ; he employed three carpenters to keep the cottages in repair, and the small ships which he built in the now disused shipyard provided extra labour for all not working full-time on the upkeep of the tunnel. The mission hall and manse are not to be included in the sale, and will continue to be maintained by the firm of C. H. Walker & Co.

The War Damage Commission is now able to tell PEOPLE WHOSE HOUSES WERE DEMOLISHED in air raids how their claims will be treated.
Some houses will be treated as total losses. Owners will receive value payments, based on the value of houses in March, 1939, which may mean that some people will not get enough to rebuild homes at current prices. There will be a right of appeal against the final decision about the amount the Commission proposes to pay. The Commission will be able to say, after the work is finished, the reasonable cost of restoring or rebuilding houses in two classes, even where there are now only heaps of rubble. These classes are : Any house built after March 31, 1914 ; and any house built before that date which was sound in structure and conformed to the layout of similar houses built since 1914. By this decision a much larger number of people will be provided with new houses than had originally been expected. Claims are still pouring in.

Preliminary steps for a SURREY POST-WAR PLAN are being taken by the Surrey Surveyors' Association.
The association, composed of borough and district surveyors of local authorities, has divided Surrey into three areas and set up a committee of the district surveyors in each area. The committees' job is to co-ordinate the plans for developing Surrey so that they fit together and do not stop short and change suddenly at district boundaries. Eventually, a master plan for the whole county is to be prepared. Meantime, the surveyors are to ensure tidy development and see that builders do not despoil the countryside.

At Edmonton County Court, Judge Gordon Alchin, after reading a MOH document submitted to him by the Town Clerk of Southgate exclaimed "WHAT A RIGMAROLE."
The document read : Whereas the premises wherewith particulars are set out on the schedule hereto attached are in possession of the Ministry of Health by virtue of Regulation

He went to the Great Exhibition in 1851

Ninety-five-year-old Lord Hayter, a managing director of Chubb's—whose door locks and strong rooms have been used by architects for over a century—is the oldest Baronet and the second oldest Peer in the Realm. His hobby for the past twenty years has been canvas work. At the present time he is working on a design to be framed and hung as the principal decoration in the women's rest room now being built at the firm's works. Another of his designs, set in an antique fire screen, is in the possession of a member of the Royal Family. Before he took up canvas work—which he still does without spectacles—he practised wood carving for many years and carved the pulpit and pew ends at Leys School Chapel, Cambridge. Lord Hayter's earliest introduction to the firm was at the age of three when his father took him to the opening of the Great Exhibition in Hyde Park, where a cage and safe had been built by Chubb's for the custody of the Koh-i-noor diamond. But it was from 1872, on the death of his father, that he took a leading part in the firm, and to date his actual business career covers seventy-eight years. In 1871 he joined the 1st Surrey Rifle Volunteers and later formed a company of one hundred men as part of the 7th Surrey Rifle Volunteers, to which he had transferred. In the early '80's he built model dwellings for the firm's workmen—the first effort of its kind in south-east London, and with the late Duchess of Albany he helped to raise large funds to relieve poverty in Deptford and for the benefit of the Royal Waterloo Hospital. He also raised funds to build and equip seventeen sailors' and soldiers' homes in ports at home and abroad. Lord Hayter's wife died about three years ago at the age of ninety-one, just before their seventieth wedding anniversary. Lady Hayter was a Miss Early, of Witney, whose family has manufactured blankets since the reign of James II.

51 of the Defence (General) Regulations, 1939, and the Council of the Borough of Southgate, are, under authority of that Minister, using the said premises for the purpose authorized by the said regulations: now, therefore, the Minister, being of opinion that it is expedient in connection with such use of the said premises so to do, hereby authorizes the Council to do, in relation to the said premises, all such acts, including taking of any legal proceedings, as a person having an interest in the premises by virtue of which he is immediately entitled to possession thereof, would, by virtue of that interest, be entitled to do for the purpose of securing the removal from the said premises of persons not entitled to occupy the same. Given under official seal of the Ministry of Health. The Judge commented that all the words beginning with "now therefore" could be deleted and substituted with "authorized to recover possession of the premises."

Donations are invited to establish a RAF MEMORIAL CHAPEL IN WESTMINSTER ABBEY in memory of the air crews killed in the Battle of Britain.

The proposal to establish the memorial is made in a statement signed by Marshal of the Royal Air Force Lord Trenchard, Air Chief Marshal Lord Dowding, Flight Lieutenant E. H. Keeling, M.P. (hon. secretary) and Mr. N. P. W. Viner-Brady (hon. treasurer). It is as follows: It is proposed to create a memorial to the air crews of the RAF killed in the Battle of Britain. For this purpose the Dean of Westminster has offered the beautiful eastern chapel in the Henry VII Chapel of the Abbey. It is desired, immediately after the war, to place there a roll, now in preparation, of those who gave their lives; to fill the window with glass depicting the armorial badges of the squadrons engaged; to furnish the chapel for prayer; and to name it the Royal Air Force Chapel. A bomb-hole in the wall, made during the battle, will remain. The Dean, with the approval of the Chapter, has consented to arrange for the execution of the work. The cost is not likely to exceed £20,000. Any surplus will be given to the RAF Benevolent Fund. The project, which has the approval of the Air Council, is not intended as a general RAF memorial. It is stated that donations may be paid to any bank, for the Battle of Britain Memorial Account at the Bank of England. To save paper no acknowledgments will be sent and subscribers' names will not be published, but subscribers can enter their names on a list for transmission to a committee which will be formed to administer the fund.

In the West of Scotland, FOUR THOUSAND NEW HOUSES are to be erected including 600 emergency houses.

At a meeting of representatives of West of Scotland local authorities in Glasgow, Mr. Johnston, Scottish Secretary of State, said that this is as much as available labour can deal with. The meeting was a sequel to the conference of local authorities convened by Lanark County Council at the beginning of last month, when it was decided to ask the Government to start a programme of temporary houses immediately. The conference then passed a resolution declaring that a programme of purely temporary houses is urgently required to bridge the gap until permanent houses are available. Ordinary methods of construction, it was stated, will not meet the situation within a reasonable period of time.

In the early post-war years HOUSING COSTS WILL BE DOUBLE, estimates the House Builders' Association of Gt. Britain.

This means, estimates the Association, that a house which formerly cost £550, including freehold land, roads, sewers, and other services will cost not less than £1,000. In a letter to the Minister of Health, the Association suggests that it may be desirable for houses to let that building societies should lend 60 per cent. at their lowest rate and the Government 40 per cent. at 2½ per cent. interest.

The south-eastern area of the LMBA is the FIRST OF ELEVEN AREAS TO ELECT OFFICE-BEARERS for 1944.

The south-eastern area comprises Beckenham, Bexley, Bromley, Crayford, Chislehurst, Erith, Dartford, Orpington and Penge. The elected office-bearers are as follows: area chairman, R. Baker Smith; vice-chairman, H. H. Friday; hon. secretary, W. H. Gough Cooper; hon. treasurer, R. C. Hammett; hon. auditors: H. H. Friday and T. W. Pinion. *Area Executive Committee*: Beckenham and Penge, W. Duncan and J. Y. Grant; Bexley, R. B. Butler and E. T. Webb; Bromley, L. C. Treasurer and A. H. Willson; Chislehurst and Sidcup, J. J. Jagger and T. W. Pinion; Orpington, R. B. Forcey and E. O'Sullivan; Dartford, J. W. Ellingham and A. F. Taylor; Erith, C. B. Keenan and F. Ling.

★

The erection of 16,522 dwellings will be the LCC's FIRST POST-WAR YEAR building scheme.

This, the Council is to inform the Minister of Health in reply to his request to review building plans after the war, is assuming that sufficient labour and materials are available. 14,199 of the dwellings will be on sites already in the Council's possession and 2,323 on sites being, or proposed to be, acquired. They will consist of 11,887 dwellings at block dwelling estates and 4,635 at cottage estates. The Finance Committee points out that large housing programmes after the war will require capital resources beyond those which the Council can by itself provide. State help in raising the necessary capital may be needed and an adequate system of subsidies is essential.

WILL THERE BE TIMBER?

Last week we gave some of the reasons against the existence of adequate supplies of building timber in this country after the war. We now give the main reasons *for* their existence.

(1) More than a fifth of the earth's surface is covered with timber of which 75 per cent. is productive.

(2) Unlike other materials, such as coal and metals, timber is perpetually renewable by scientific planting.

(3) Sweden's exports have dropped by 250,000 standards annually between 1939 and 1943 and she has large and well-managed forests. Latest reports reveal that a good stock of sawn timber will be ready for shipping when the war ends. On the other hand Sweden has used a good deal of her wood for fuel in the place of the coal she formerly imported. This fuel timber is, however, mainly of low grade. Supplies from both Sweden and Finland after the war will probably depend on what we can send in the way of exchange, coal being the main item required from us by those countries.

(4) Though Russia will doubtless need enormous supplies for her own use, she will probably want to increase her export trade. She has gigantic resources of timber. Siberia alone has over 711,000 square miles of accessible forest, and the annual increment of Siberian forests is about 17½ million standards. Under improving transport facilities these will become more and more accessible. 29 per cent. of the whole territory of the USSR is covered with timber, more than 70 per cent. of this being coniferous, and less than 30 per cent. hardwood. Her forests form one-third of the total timber resources of the world, and only about one-third of her total growth is as yet put to use; 430 million acres of forest in the USSR have never felt the saw.

(5) The forests of South America are as yet almost untouched, though they constitute nearly 28 per cent. of the world's forest area. Much of this timber, however, is hardwood.

(6) The forests of West Africa and the British Colonies with their exotic hardwoods are similarly far from being over-exploited, though large supplies from there are unlikely to be available for some time after the war.

(7) Joinery will consume far less timber in future. The English Joinery Manufacturers' Association states that as a result of scientific investigation, a saving of between 25 and 33 per cent. in the contents of post-war joinery compared with that of pre-war days can now be effected. This applies especially to the wood window, which will at the same time be a greatly improved article.

(8) New developments in timber building in the USA indicate that small-sized and poor quality timber can now be successfully made use of by lamination and plastics, and can be built up to form beams and trusses of large span.

(9) The time-lag between felling and use due to seasoning is no longer a serious factor. Chemical seasoning coupled with greatly increased kiln capacity both at home and in the timber producing countries ensure this. Chemical seasoning moreover prevents the waste due to deterioration of sawn timbers usual in ordinary methods of seasoning.

(10) It has been stated that the Government will have stocks of between 25 to 30 per cent. of our maximum annual requirements at the end of the war, which will form a helpful reservoir for filling any temporary lack of timber pending the clearing up of the inevitable muddle during the first months of peace.

(11) Whether or not enough shipping will be available is debatable, and the whole question of timber supplies seems to rest on this more than any other factor. Timber is a bulky material to transport, and shipping could be eased to some extent by importing finished building parts manufactured in the exporting countries in place of the raw material itself. A great amount of shipping will be needed for European relief following the Nazi downfall; the Allied Post-War Requirements Bureau estimates it to be 47 million tons per annum. On the other hand many ships will be released by a discontinuation of the convoy system. Moreover, ships can be built at an extraordinarily rapid rate to-day by such methods as those used in the USA by Mr. Kaiser. It is reported that the USA will have increased her merchant shipping tonnage from 1,166,000 tons in 1941 to 50,000,000 tons by the end of 1944.

On the basis of the foregoing facts, what conclusions can be reached on the question of post-war timber supplies? Is the Timber Control correct in forecasting that a fair supply will be available within 3 months of the end of the war, in good supply within 12 months and sufficient to fill all requirements thereafter?

We conclude that the Timber Control *is* right, provided satisfactory trade agreements can be reached with Sweden,

Finland and Russia, the countries from which—Russia in particular—the main bulk of our future timber supplies seems destined to come. No doubt we shall also be able to obtain a fair quantity from Canada. There should even be enough timber for carrying out a programme of mass-produced demountable houses to ease the housing situation, though if this were on a very large scale some system of priorities relating to timber might have to be instituted for a few years. From the long-term viewpoint there should clearly never be a shortage of timber, but on the strict *proviso* that scientific replanting is adopted throughout the world in the way that Sweden, among very few other countries, has organized it. Such proper replanting depends on state control and development of forests, since forestry as an investment gives no quick return on capital except through exploitation. In Russia, of course, all forests are state owned and in Sweden and Finland, where rational limitation of extractions has been instituted, over half the forests are state owned. This augurs well for a large permanent supply of timber from those countries. Even with serious overcutting it is possible that there will be no serious shortage of post-war timber for many years.

The Architects' Journal

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NOTES & TOPICS

LOCAL AUTHORITIES AND MOH

Occasionally we read in the daily papers of this or that local authority's post-war housing plans being rejected by MOH. I have just heard of an interesting example of this. At a council meeting in Preston recently, there was an outcry because the municipality's proposal to purchase land for 1,000 houses has been rejected by MOH. MOH says that as Preston in peace-time was never able to build more than 400 houses in a single year, support cannot be given to the purchase of land for 1,000 houses. It would be interesting to know what was behind this veto (which Preston does not intend to accept without a struggle). Can it really be that the department is restricting future planning development on the grounds of pre-war technical inadequacy? As Preston points out, if the municipality does not secure land it will be exploited by speculative builders later.

FOR SALE AND TO LET

Architects can possibly be divided into those who have a very good knowledge of house property values and those who restrict their expert opinion to matters of structure and equipment and consult others about the effects of situation and the state of the market. As I am one of the latter class, I was interested by Mr. Hart's letter* about 5-7 bedroom houses near Kenwood.

*

If one takes Mr. Hart's *under normal circumstances* to mean *during the year* 1937, my architect acquaintance has no reason to complain at being asked to pay a rent of £400, exclusive of rates, to-day—even if the War Department flatly refuses to pay more than half that amount.

*

Yet Mr. Hart's letter does seem to demand a real effort to reconcile the following facts: (1) A certain number —perhaps 250, perhaps 1,000 or more—of such houses are now empty in the 3-6 mile belt ; (2) there is an acute housing shortage in London among people of whom not one can pay a £400 rent ; (3) local authorities possess powers to requisition empty houses to relieve congestion ; (4) the reasonable expectations of house owners must not be unreasonably disappointed.

*

I believe these four facts could be reconciled by a Minister of Health who meant business. Mr. Willink has a reputation for action and no one knows London's war-time housing conditions better than he.

*

No one, apparently, who now wants a house in or very near London can pay £400 a year. But thousands can pay £100—and if those are not the people who want houses most, they want them pretty badly. All the large houses which are still untenanted on January 1 next year could be requisitioned, subdivided to form four dwellings and let at £100 a year per dwelling to those who show greatest need. Alternatively they could be let at £50 per annum and the Government could pay the difference to the owners.

*

Of course this measure would have only the most minute effect on London's present housing shortage. But if this Government has anything in common with a certain predecessor it is that, at times, it *will* not pay enough attention to "the principle of the thing." I can think of nothing more monstrous than that *any* large houses near London should remain empty as specially reserved accommodation for that tiny proportion of the well-to-do who will stampede back to London directly the last All Clear blows.

WILLIAM NICHOLSON

It is a pity—almost, I think, a disgrace—that the gallery of presidential portraits at the RIBA does not, so far, include one by Sir William Nicholson. It is a serious omission, because at 71 he is one of the most distinguished and lively painters in this country to-day, and because, too, his associations with architecture have always been close and affectionate—not merely through

*Published on page 479 of this issue.

being the father of a well-known architect (Christopher Nicholson), nor through being a life-long friend of an even better known architect (Sir Edwin Lutyens) with whom he has worked at Folly Farm and in India, and who designed the lovely studio window in Apple Tree Yard, but because, in the words of a friend, " Nicholson has always liked houses better than people."

*

I was reminded of this recently when reading *William Nicholson*, the new biography by Marguerite Steen. Books about (or by) successful painters are usually dull or pompous, but this one certainly is not—it is as full of sparkle and sensitivity and wit as its subject.

*

William Nicholson is a contemporary of painters like Walter Greaves, Orpen and John. He has always been a painter rather than a talker and has kept aloof from groups and coteries (one of his proudest possessions is a letter addressed to him c/o the Royal Academy, and returned with the superscription NOT KNOWN HERE).

*

Partly perhaps as a result of this his work, as all who saw the recent collection of it at the National Gallery will agree, has served to develop every year in freshness and vigour—so much so that he has himself complained that his contemporary pictures all look like early works.

*

As for presidential portraits, well, any architect, surely, would be proud to know that a picture was hanging at No. 66 by a painter who could treat a domestic façade with such exquisite understanding as *First Communion*, reproduced on this page.

ASTRAGAL

" First Communion," an illustration from William Nicholson *by Marguerite Steen (Collins, 16/-), reviewed by Astragal above.*

LETTERS

Sir Ian MacAlister

J. Alan Slater, F.R.I.B.A.

Jessie M. Albery

F. J. Osborn

Kenneth J. Lindy, F.I.A.A., A.I.A.S.

W. Hart

Stanley C. Ramsey, F.R.I.B.A.

Sir Ian MacAlister: Changing the Pilot

SIR,—My own name is mentioned so often in the letter from a Middle-aged Member in your issue for December 9 that I feel bound to warn your readers that it betrays an almost fantastic misconception of the status and functions of a salaried official of a professional organization. The repeated references to " Sir Ian's policy " are entirely beside the mark. A secretary has no policy. Policy is the business of his employer—the Council which appoints him. The Secretary's business is to do his best to carry out his instructions.

If your readers will examine the letter with this fact in their minds they will avoid a serious misunderstanding as to the aims and methods of the RIBA. " Middle-aged member " is far too flattering in his references to my services.

Incidentally, I may mention that the five new developments which he suggests as desirable aims for the next 20 years are all already being dealt with by various committees.

IAN MACALISTER,
Secretary, RIBA.

London.

This letter has been sent to our correspondent who replies :

SIR,—I am afraid this is a case where Sir Ian must allow a Member to know better than the Secretary. A Secretary, even so great a one, of so great an institution, works within the forms and routine of his office. That goes without saying. Sir Ian, of course, is at liberty to argue therefrom that he is

simply a servant, and nothing more—the tool of others' policy—but he cannot expect wide agreement from those who have benefited from his wisdom and experience. The pleasant myth that a high Civil Servant is merely an automaton without influence on the course of affairs has long been exploded.

You have already, Sir, published a letter from me of inordinate length in which I said with care all I had to say, so I only reply to Sir Ian's last paragraph with—" that is not quite the point."

MIDDLE-AGED MEMBER

SIR,—There was so much latent energy as well as wisdom in the long letter from a Middle-aged Member, published in your columns, that I, for the fist time, did not regret my own three-score years. Not only was there a masterly analysis of Institute Policy during the reign of Sir Ian MacAlister, and of the latter's influence over that policy, but the constructive suggestions for a re-orientation of policy for the future was full of suggestive thought.

There is only one point which I should like to add.

I have at times publicly regretted that the Institute should have followed the policy of the Government with reference to " No Elections in War-time." In so far as pressure of opinion has apparently forced the Council to discontinue that policy for 1944 and to hold elections, this is all to the good. It must be realized, however, that just as the choice of a new Secretary, selected in as democratic a manner as possible, will have most important results for post-war architecture, so it is in my view equally important that the first post-war president should command the support and loyalty of the majority of our members. If these two officers are like-minded and forward-looking, and if they are backed by a strong Council truly representative of the profession at large, the work of the RIBA in the post-war world may be of paramount importance to the people of this country, architecture, and individual architects.

London. J. ALAN SLATER

SIR,—I have read with great interest the very lucid letter recently published in the ARCHITECTS' JOURNAL by a Middle-aged Member of the RIBA, and I believe a great many members will agree with the suggestion that we are in urgent need of a successor of the calibre of Sir Ian MacAlister as Secretary, and of a bold and forward-looking policy for the Institute. I understand that the War Executive have recently appointed a committee to organize the holding of open meetings at 66, Portland Place, and I would like to suggest that an early opportunity to discuss these needs would be of the utmost value to the profession.

JESSIE M. ALBERY

Hampstead Garden Suburb.

TCPA and London Plan

SIR,—It is, as you say in your note on my last letter, important for technicians to be clear about density figures. Policy discussions are otherwise hampered. So I gladly respond to your invitation to amplify my own data.

The size of " families " in census returns refers, I believe, to separately occupied dwellings, including apartments. A better term is " leaseholds." The national average of 3.6 persons (used in the plan diagrams) includes all the population except those in institutions, hotels, etc. Thus it includes one-person households separately occupying one or two or more rooms or a whole dwelling. Not all of these want flats. They should have their choice, like others.

Two-person household types include: widow and child, young married couple, couple whose children have left home, two women sharing a dwelling and so on. Of these, married couples are the most numerous, and the vast majority prefer houses. Most young couples contemplate children at some time and prefer to start life in a house suited to that; sociologically it is important that they should do so if they wish. Of those whose children have left home, very many like to stay on in the home; some move to smaller houses; a few prefer to move to flats. Fairly frequent is the two-women household, both at work, or one keeping house; of these many like a flat, but many like a house and garden and spare rooms.

Of the families of three and upwards, the majority include married couples and their offspring of various ages. Very few of these want flats. Some of these larger households contain boarders or lodgers.

The data as to " biological families " is scanty. It is wanted for population studies, but is not of much importance in housing, where we are not concerned with theoretical " needs," but with demand or choice. Very possibly, if there were sufficient houses, the average of 3.6 per dwelling would go down. But on the other hand, the present average means a declining population and an upward change in the birth-rate would tend the other way. If a two-person " family " wants, and will pay for, a four or five-roomed house, it is pointless to prove that they could be fitted with a two-roomed house. Much bad thinking on housing policy derives from the fallacy that you can tailor dwellings to households as you fit corsets to figures, or that it is reasonable to " decant " families from one dwelling to another when children come or when individuals leave home or die. In an adequate housing scheme there must be at any given moment much spare capacity in individual dwellings.

Now the London plan in its density calculations uses the national average of 3.6 persons per household. Presumably it also uses the national distribution of sizes of families, as I do.

The recent housing surveys, which covered a large part of the country, must represent an average size of family not far from the national average. They show, as you know, about six per cent. of spokesmen of households preferring flats, and 94 per cent. houses. These percentages (ignoring service men and women, who together show the same result), must roughly represent the actual demand of households for dwellings, and it is that, and not the " biological family," with which housing policy is concerned. I agree with the LCC planners on this.

Now as to what is possible at 136 persons per acre. At 3.6 persons per household, that is just under 38 dwellings per acre. If you decide the maximum permissible density of two-storey houses, and the maximum density of flats, you can easily calculate what is the necessary proportion of flats.

I studied the possible maximum density of houses in my *Reflections on Density* (Planning Year Book, 1942). Using standards of space which I think just tolerable, and allowing for variety of layout (what the plan calls " loss of efficiency "), I found that 18½ houses of 850 sq. ft. each is the maximum possible per acre. The space standards in the plan correspond so nearly to those I used that argument on this does not arise, unless you disagree with the LCC planners.

Combining this 18½ houses per acre maximum and a maximum of 50 flats per acre, you get, at 136 persons per acre, 79 per cent. flats, 21 per cent. houses. If you take the flats at 40 per acre, you get 90 per cent. flats, 10 per cent. houses.

Of course, you can get a higher proportion of houses by lowering the space standards adopted by the LCC planners. Evidently, however, they considered their space standards very carefully, for they say expressly that in their calculations their aim was to get the maximum number of houses (par. 118). Thus I am not quarrelling seriously with the arithmetic in the plan. The issue is one of public policy. It is important enough to be discussed objectively and without acrimony.

To avoid further misunderstanding, let me repeat that the TCPA is not suggesting, for London, the 94 per cent. houses known to be the average national demand. We think that in the special circumstances of Inner London, the public might just accept 80 per cent. of houses, but we do not think they could be satisfied with less. This works out, on the standards on which I and the plan broadly agree, at an average of 20 or 21 dwellings (mixed flats and houses) per acre. From this it would be possible to calculate the amount of decentralization necessary. Clearly 500,000 will not do the trick. I estimate that 1½ millions would, and in 25-30 years that is not an impossible programme, given the acceptance of the Barlow Report proposals.

In *Reflections on Density*, in order to sidetrack the flats versus houses issue, I suggested a legal maximum of floor-space per acre. My proposal was 16,000 sq. ft. per acre including roads. I am now inclined to think, but not without misgivings, that it might be as high as 17,500 sq. ft., but with an over-riding maximum of 20 " family " dwellings or 40 " non-family " dwellings (not permitted to be occupied by more than an average of two persons each) or any permutation of both, per acre. This wants further working out. The enormous advantage of a floor-space maximum is that, while it would prevent excessive density, it would permit freedom of layout to meet the actual local demand, with the utmost scope for architectural design.

Welwyn Garden City. F. J. OSBORN

Our Leader Writer writes:

I question the accuracy of Mr. Osborn's statement that " data as to biological families . . . is wanted for population studies, but is not of much importance in housing, when we are not concerned with ' theoretical needs ' but with demand or choice." Mr. Osborn is anxious to plan for an increasing population but he appears to have overlooked the fact that breeding is a biological process; a housing policy which sets out to encourage it *must* be based on the biological family. The census figures themselves tend over a period of years to reflect the biological trend. But they lag behind it. There are obvious reasons why they do not reflect the *potential* demand for separate accommodation, which is the only satisfactory basis for future policy. For the purpose of the census returns people sharing a house, or separately renting part of a house, are counted as members of the same family. For census purposes a family may include not only uncles, aunts or grandparents but lodgers, friends and grown-up children who might marry if other accommodation were available. In addition to reflecting a known shortage of houses the census figures may reflect a tendency for families to double up in times of economic depression. The date of the last census happens to have been 1931—the middle of a severe slump. All these considerations give reasons for supposing that the biological family is considerably smaller than the census family. And signs are not wanting that the war will turn out to have increased the natural desire of independent children to leave home, either to marry young or to continue the kind of community life they are now enjoying in the Forces. This would mean a further sharp reduction in size of the average family and steep rise in the demand for small cheap dwellings in the immediate future.

Mr. Osborn's density calculations are based on an " average " family of 3·6 persons, a figure derived from the Housing Report of the 1931 census, which recorded a national average of 3.72 persons per private family. The formula runs: 20 houses per acre at 3.6 persons per house=70—90 persons per acre (the latter figure allowing for a possible rise in the birth rate). His suggestion that 80 per cent. of the accommodation provided should be in the form of 3—4 bedroom family houses and 20 per cent. in flats is based

on figures showing the national distribution of family sizes derived from the same source. If these figures do not represent the real situation, if they represent instead social and economic factors such as housing shortage, low income level and late age of marriage, then they are not a satisfactory basis for translating housing into terms of density, or determining the type of accommodation that is suitable. If, for instance, the real figure turned out to be nearer 2.6 than 3.6, then 20 houses per acre would give a density of round about 50 persons per acre instead of 70-90. Is it helpful to invite opposition to the LCC proposals on the basis of such questionable information? Or do the TCPA advocate 80 per cent. houses at 20 to the acre for the County of London, whatever the resulting density may be?

Two further points are worth mentioning: (1) It is the policy of the TCPA to make provision for the future by building at least 80 per cent. 3-4 bedroom family houses with gardens. Admittedly it is necessary to look ahead and provide for a possible increase in the birth rate, but there is a point beyond which it may be inadvisable to sacrifice the present to the distant future, *particularly in times when resources are strained, and in places where space has a very high value*. The more one studies population statistics the more obvious the need for adaptable housing becomes. Modern building technique (frame construction and prefabrication) make possible a very high degree of flexibility if buildings are planned with this end in view. Doesn't the solution perhaps lie in this direction?

(2) Mr. Osborn suggests as an alternative to density a fixed ratio of floor space per acre, with an overriding maximum of 20 "family" or 40 "non-family" dwellings per acre (not permitted to be occupied by more than an average of two persons each). What basis is there for equating houses and flats other than density, e.g. 1 family dwelling=2 non-family dwellings (flats) because the average family consists of 4 people and the average non-family of 2 people. How is occupation by an average number of people to be enforced? At present the average woman who marries and has children does, in the course of her reproductive life, produce two children. But in Bethnal Green, where the population are largely Jews and Catholics, the figures are very different. And the present national average must be considerably raised if the existing population is to be maintained, which would result in a higher density for houses than for flats, which is surely a little ridiculous. Mr. Osborn objects to tailoring houses to fit families. But isn't it better than tailoring families to fit houses? We can't avoid doing one or the other without being very wasteful as society is no longer patriarchial and family groupings are no longer static.

Quaint New World

SIR,—Far from feeling any resentment towards Astragal for reprinting in your issue for December 2 the *Bicester's Advertiser's* unique paragraph about the YMCA recently built in that town*, I should have regarded him a dull dog (which I have never found him), had he not made capital out of such a delicious piece of journalese.

Nevertheless, I will confess to an awful shudder as I read it, and I am sure any self-respecting architect will sympathise with my feelings.

The entrance way to this building is between two stone-built cottages, and a third had to be demolished to achieve this access. What could be more logical than to form the gate piers (not mentioned by the *Advertiser*) and parapets of bridges in sympathy with adjacent features, let alone the economy in using second-hand material when building a £6,000 building on a £5,900 licence! Why a frankly steel and concrete bridge with local stone parapets should be either Cotswold or quaint I know not. The contrast with the war-time red clay block building is pleasant.

Far from being the first, this is more likely the ninety-first building in this particular form of construction built by the YMCA during the war. Its cost was approximately £6,000 and it was opened four months ago.

With these comments on journalistic accuracy I will close without calling further defence.

KENNETH J. LINDY

* The paragraph reprinted by Astragal from the *Bicester Advertiser* reads: "BICESTER'S NEW ALL-BRICK CENTRE.—The first hollow-brick and cement YMCA centre is to be opened in Bicester shortly. The building will cost approximately £5,000, and the amount has already been subscribed. A distinctive feature of the new centre will be two Cotswold bridges leading to the entrance—giving a quaint old-world air to the ultra-modern red-brick building."

For Sale and To Let

SIR,—I am wondering whether Astragal's note of November 18, headed *For Sale and to Let* applied to the particular Kenwood area. If so, your architect friend may be interested to know some first-hand knowledge from one who has been responsible for a fair share of its development in the decade prior to the war.

In actual fact, unfurnished lets were practically unknown before the war, and there was, consequently, no market upon which rentals could be assessed. With the advent of war there was still no market, since, although there was a fairly substantial evacuation and owners who would have liked a tenant to occupy their houses at a nominal rent, there were, not unnaturally, no takers.

When the blitz ended in June, 1941, it was interesting to watch the slow return of confidence, and by May, 1942, there was a market for the purchase of properties at prices perhaps 10 per cent. over 1939 values. At the end of that year the War Department requisitioned certain of our properties but (and we were not surprised) they refused to listen to local professional advice, and made offers that would have been reasonable in respect of houses about half their value in this district. In conclusion, I should say that if an owner let his house unfurnished under normal circumstances, he could expect £300 to £500 per annum, exclusive of rates, according to the scale of the accommodation offered.

W. HART

London

Architectural Education

SIR,—In your issue of December 16, Astragal, after a brief survey of education in fields other than architecture, asks what the RIBA is doing about architectural education.

A Special Committee, whose terms of reference were to take evidence, examine and report on all aspects of architectural education, was set up by the Council in July, 1939, and had only held one meeting before the outbreak of war. The Committee resumed its work in January, 1941, under the chairmanship of Mr. Darcy Braddell, himself a past-chairman of the Board, and has been in continuous session since that date.

The great interest in the subject shown by the members of the Institute and others is evidenced by the number of letters and memoranda, running into hundreds, which have had to be examined and reported upon by the members of the Committee. These memoranda include the two valuable reports submitted by the RIBA Architectural Science Board, referred to by your contributor in his notes.

At the unanimous request of the Committee, Professor Budden was invited to act as editor.

His very arduous task is now well on the way to completion, and it is hoped to have the report ready for presentation to the Council early in the New Year.

STANLEY C. RAMSEY,
Chairman of the RIBA Board of Architectural Education.

London.

We have time enough to think of the future, the architectural future out here—says the author of this article, a well-known architect now serving as an officer in the R.E.'s in the Middle East. At odd times we discuss it, anxiously, but not without hope.

HOME

Thoughts

[*BY AN ARCHITECT OVERSEAS*]

I know little of the plans being made to deal with the architectural situation. I watch from afar the creation of Ministries and the public heart-searchings of institutes and associations, but in all these activities I sense a note of suspended animation and am conscious of the reservoirs of vitality locked up in the warring armies.

Then I contemplate the tide of destruction, mounting everywhere; no longer an insular, but a European, a world problem; and I see that the opportunity so obviously presented to us is outclassed by its own magnitude and that we are in danger of creating second rate, third rate, or tenth rate architecture, quantity engulfing quality everywhere under the awful stress of circumstances.

There are those who claim that war cleanses, sweeping away more bad than good, and leaving a world receptive to ideas appropriate to the changing times. There is something to be said, I know: war provides its opportunities. But the expense is terrific. A succession of wars such as I have known, interrupting a steady advance towards an understanding of the bases of contemporary life, and robbing us of generations well qualified to enrich it and give it practical and noble expression, is beyond calculation. Life continues; we cut our losses and forget; but history teaches us that these losses are impressed upon the third and fourth generations, and that from some there is no recovery. These things we are to remember.

I like to imagine a time that seems so far away, when the end of war releases us—my generation now moving into middle age, new generations, young, hopeful and still more critical—to the tasks of social and economic restoration. On the one hand four, five, how many years, of destructive interruption, and on the other the same sad tale of arrested development and experience. Not quite perhaps, for the long periods of inaction common to all forms of warfare leave time for thought and discussion the purer for living isolated: it is not perhaps those in the forces that are likely to be stale and disillusioned.

They will return, as they did from the last war, eager to resume their vocations and to learn, peace being for them a release from mental servitude, and a challenge to their primary instincts. At once the question arises: How to equip them for their task? How this is to be done is the first responsibility of our profession.

What are they to be prepared for? Not to be architects in the narrow sense accepted as adequate after the last war. Not to become members of a small class dependent upon wealth and privilege. And not to be art mongers, dilettantes, decorators or fatuous scholars, nor yet men hamstrung by over-organized authority.

ARCHITECTURAL EDUCATION IS NO MACHINE

Then I have to ask myself how much of this can be taught, acquired, assimilated and absorbed by these young men and women. Architectural education is no machine. Remembering with gratitude my own capacity for avoiding unwanted instruction, and remembering also by what fragile and seemingly inconsequent stimulants my architectural imagination was first nourished, I turn from the temptation to cram young people's heads with an equal amount of technical and sociological data on the assumption that we had done our duty thereby: they might get bored by it: persisted in, they might come to hate it.

It is clear that they must reach a degree of understanding of the technique of building that will give them confidence through knowledge, of the craft they are to control; while equally they are to be led to imagine its social consequences in terms of fine architecture. It would seem that we steer between the extremes of a technical school, and a school of art, neither of which is really suited to our purpose.

A school of architecture, consisting of drawing boards, of a library, attracts me no longer. That it can be a very pleasant place, the background of a life in which may be learned, barely knowing it, things the most precious and worth knowing, I freely admit. But it is not enough for architects with this special responsibility of interpreting a world in which science and its offsprings occupy an unreasonably overmastering place in our lives: cloistered humanism will no longer do.

Modern building is different in kind and degree from that of the eighteenth or even the nineteenth century, when classical taste imposed the Vitruvian rules upon an uncompleted tradition of brick, stone and timber. Science has created fields of specialized knowledge—structural, mechanical, electrical—fully understood by only a few; and though I believe Le Corbusier was right to suspect an undue seasoning of professionally interested mystery, they have become provinces of knowledge in which the architect must move freely and confidently if he is to direct building towards its remoter ends, and to draw from it an architecture fitting the facts.

The same is probably true of the larger contractor controlling great aggregations of building in the capacity of master-manager rather than master-builder, who may be as little at home in these fields of high technique as we have often been. It is well to remember this, for we are in this thing together, parts of a single industry upon which, from architect to apprentice, the facts of science bear directly in terms of machinery of increasing ingenuity, and materials in process of constant evolution: we can no more reject them than we can recapture youth once lost; it is part of our destiny, and we must come to terms with it.

There is then this technical training without which we should send young architects ill-equipped for their job in life. How is it to be given?

Walter Gropius's Bauhaus offers a possible solution. There, if you remember, he set up machine workshops combined with a carefully organized system of preliminary training in the nature of materials, and from these workshops, guided by inspired instructors, there issued a stream of articles designed for reproduction by machine processes which have since taken their important place in the evolution of modern industrial design. And because the technical instruction of the Bauhaus was practical, the town of Dessau in which it was situated gave successful students the certificate of a trained building craftsman.

Yet I am not entirely convinced that school workshops, however well equipped, meet our demands to-day. They could easily degenerate, because only in the exceptional conditions under which Walter Gropius took up his work was it possible to man a research and experimental workshop with half-trained students, and a workshop without strong incentive, and reproducing only set tasks, is useless for our purpose.

What I like is the link between the Bauhaus and the building industry, and this suggests a possible solution, nearer perhaps to the ideal method of instruction—that of master and man, craftsman and apprentice.

Is there a better way of learning than by admiring a craftsman at his work, helping him in the capacity of learner, and imitating him when opportunity comes? It is the method of hedger and ditcher, of painter and sculptor, of all who seek the mystery of art or craft and would acquire it with certainty and for life. It is serious, useful, and rests upon the best type of human relationship.

SERVE APPRENTICESHIP IN THE INDUSTRY

One of the few articles on the subject to reach this coast was by Mr. Richard Coppock, whom I rejoice to see Chairman of the LCC, on the reorganization of the building industry; a plea for a return to more traditional methods of building and of architectural design that sounded a regretful note hard to attune with the facts of the matter to come; and a much stronger and more confident call for the re-establishment of a full apprenticeship system.

Why should not architectural students serve their apprenticeship in the industry as engineer students serve theirs, doing a third of their earlier student life in the wood-working, metal-working and electrical shops, on the job, in the yard, and in the foreman's office, before they graduate in their final year to an architect's office? Such an experience would confer knowledge, in a way not easily forgotten, of materials, machines, methods and men and with knowledge, sympathy and understanding of the problems of builder and operative alike.

Both sides would be likely to benefit from an association involving only a few hundred students annually, a drop in the grand total of apprenticeship, capable of absorption by even a limited number of firms interested in the development of our industry as a whole. I imagine that such an experience would be a gain for us both. It is at least worth thinking about.

A school of architecture, apart from this technical aspect, consists essentially of drawing offices, a library, a common room and a staff, of which the last is nearly the one thing that matters. Most of our time at the Liverpool School was spent in disgraceful makeshift buildings in an atmosphere of continuous enthusiasm. One thing we missed there, a link between drawing-board design and the job itself, was a materials bureau; not a glittering affair like the Building Centre, but the humbler, more handleable version from which it sprung. To this might be added a small experimental and model-making workshop, absorbing excess energy rather than creating new responsibilities.

ARCHITECTS AND TOWN PLANNING

As I believe town planning to be an extension of architecture, so I understand the larger aspects of town planning—regional and national planning—to lie beyond our control, an activity to which we may contribute, it being a wonderfully debatable subject, yet one for over which we should do well to entertain quite modest territorial ambitions.

We are concerned with every development of grouped habitation, since the greater is controlled by the lesser under the eternal formula of microcosm and macrocosm; yet we do well to beware.

Which does not mean that we should tolerate for a minute longer the separation of architecture and town planning, or the set of acts, rules and by-laws in which the fertile imaginings of William Morris and Letherby lie imprisoned, guarded by a sanitary inspector and a road engineer. A school of architecture to fit our future needs must operate within the larger framework of town planning; no building a separate entity, but each considered as part of a whole, drawing its particular programme, its particular materials, and its technique from the whole industry, and its architectural standards in relation to the community, town, city and region.

WE MUST STILL RELY ON ARCHITECTS

Our membership of the building industry is something I cannot set aside. As architects to our clients we are answerable for the integrity of our contractors, and as the designers of buildings we are answerable to the builders for our own. The industry as I knew it before the war, sacrificed quality for commercial success too often to be healthy. Its standards were lowered by the unimpeded entry of speculative builders with little knowledge and less care; and by a dearth of bound apprentices. During the war it has been forced by circumstances to build badly, its nucleus of craftsmen dispersed, its ranks diluted by God knows what riff-raff. It must indeed be in need of all the support we can give it, we with all our own deficiencies to make up, and our own sins upon us.

I am no politician. Whether we build with a House Building Corporation, an Executive Ministry of Works or out of a British Soviet Works Pool, I see that we must still rely on the architects, managers, foremen and operatives that time has produced for us, those who, with all their failings, I have been happy to work with these many years: me with my failings.

And now we have this testing time before us. I have gone on too long. If I sit here later into the evening I will get bitten by a mosquito interested in architecture. Nature is callous in these parts.

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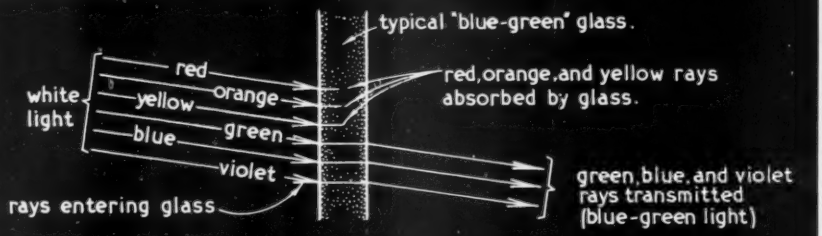
THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

LIGHT TRANSMISSION AND ABSORPTION OF GLASS : COLOUR.

DIAGRAM INDICATING TRANSMISSION AND ABSORPTION OF A TYPICAL "COLOURED" GLASS.

(For further information, see notes on the reverse of this Sheet)

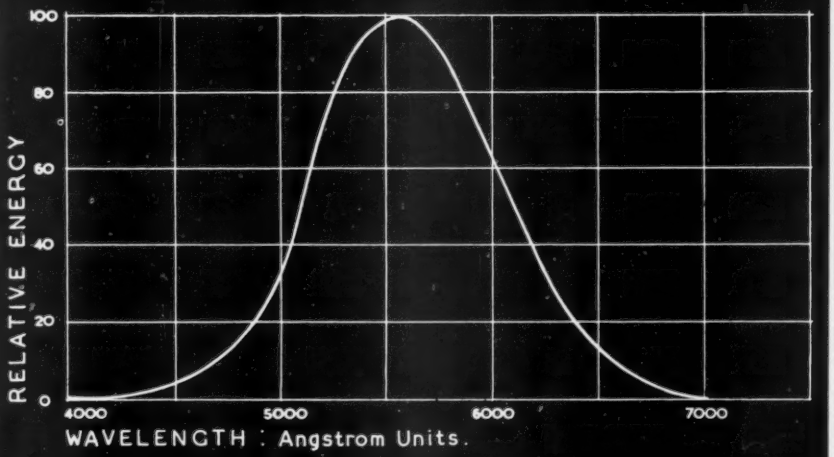


1: GRAPH ILLUSTRATING THE RELATIVE SENSITIVITY OF THE HUMAN EYE TO LIGHT OF VARIOUS COLOURS.

(Relative visibility of radiation of various wavelengths)

Approximate colour sensation of the visible wavelengths :

Red	: 6200	to	7800	A.
Orange	: 5950	to	6200	A.
Yellow	: 5750	to	5950	A.
Green	: 4900	to	5750	A.
Blue	: 4500	to	4900	A.
Violet	: 3900	to	4500	A.



2: GRAPH ILLUSTRATING THE RELATIVE DISTRIBUTION OF RADIATION AT VARIOUS WAVELENGTHS IN THE VISIBLE SPECTRUM.

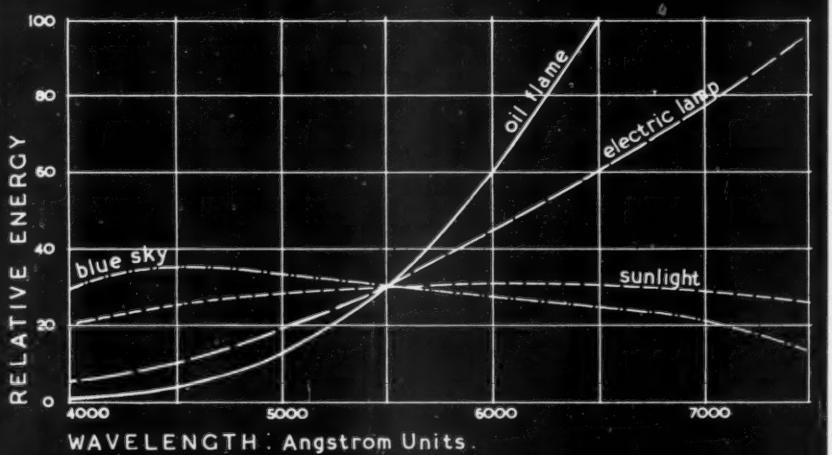
OIL LAMP FLAME.

ELECTRIC LAMP (gas filled).

DIRECT SUNLIGHT.

DEEP BLUE SKY.

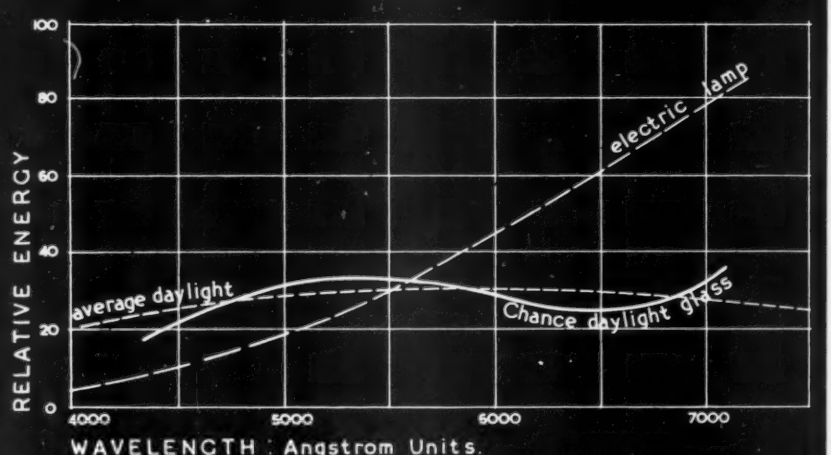
(for connection between energy distribution, and temperature of source see notes on reverse).



3: GRAPH ILLUSTRATING THE COMPARISON BETWEEN DAYLIGHT; TYPICAL ELECTRIC LIGHT; AND THE ELECTRIC LIGHT MODIFIED BY CHANCE DAYLIGHT GLASS.

showing the relative distribution of light radiation of various wavelengths.

Information from: Chance Brothers Ltd.



INFORMATION SHEET : GLASS 4 : LIGHT 1 : COLOUR.

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

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET
• 922 •
GLASS: No. 4

Subject : Light : Colour.

General :
This Sheet is the fourth of the series dealing with glass and glass products, and sets out the fundamental elements of colour.

Properties of Light :
Light is that range of radiant energy which is visible to the eye. Its properties are :
1. Wavelength (appreciated as colour).
2. Intensity (usually expressed as candle power).
3. Direction (extent of diffusion).

Colour :
White light is a combination of visible radiation of different wavelengths, and since the wavelength of a ray of light defines its colour, white light may be said to be a mixture of different colours.

The longer wavelengths are red, orange or yellow and the shorter are green, blue or violet. A " coloured " glass possesses the property of absorbing certain wavelengths and transmitting others, see sketch on face of this Sheet. Thus a glass which absorbs red, orange and yellow will appear a " blue-green " colour. If white light passes through such a glass, it then becomes blue-green light. A " coloured " article such as a " red " book cover (which absorbs blue, green and violet, and appears " red " because it reflects red, orange and yellow) will appear black when looked at in this blue-green light, because no light falls on it which it is capable of reflecting.

If, however, two or more " coloured " glasses are mounted side by side in a window, the transmitted coloured lights may combine to give what is effectively white or near-white.

Subtractive Mixing of Colours :
When coloured glass and coloured materials, or when two or more paints or pigments are mixed, the operation is subtractive since each pigment absorbs a certain range of wavelengths modifying the amount finally reflected. The three primary colours for subtractive mixing are : magenta, yellow and turquoise.

Additive Mixing of Colours :
Additive mixing takes place when a number of coloured lights (such as may be obtained from a coloured glass window or from coloured lamps) are combined. The three primary colours for additive mixing are : Red, green and indigo.

Sensitivity of the Eye to Light :
The eye is most sensitive to yellow-green light and graph 1 shows how the relative sensitivity varies with wavelength. The average colour sensations stimulated by the various wavelengths are tabulated at the side of the graph.

The Angstrom Unit is one ten-millionth of a millimetre and is a convenient measure for defining the wavelength of light.

Light Transmission of Coloured Glass :
As a coloured glass necessarily absorbs light, its transmission factor will be less than that of colourless glass, and pure, strong colours will be of lower transmissions than pale tints. Blue or red glasses are in general of lower transmission than green or yellow glasses, because the former absorb all but the ends of the visible range.

Source of Light : Colour Temperature.
Where radiation is due to high temperature, the temperature of the source influences the relative distribution of radiant energy given out. Generally speaking the higher the temperature the greater the proportion of short wavelength radiation (blue end of spectrum) emitted.

Graph 2 shows typical radiant energy distributions for various " white " lights. A useful way of expressing the " whiteness " of light is by its colour temperature expressed on the Kelvin scale, which is equivalent to the Centigrade temperature of the light source +273° as follows :—

Oil flame ...	...	2000°K (1727°C.)
Vacuum lamp	...	2360°K (2087°C.)
Gas-filled lamp	...	2800°K (2527°C.)
Carbon arc ...	...	3500°K (3227°C.)
Direct sunshine	...	5000°K (4727°C.)
Deep blue sky	...	10000 K (9727°C.)

Modification of Characteristics of a Light Source: Daylight Filter Glass.
It is frequently desirable to modify the relative distribution from a source, a typical example being the modification of an electric lamp to achieve a radiation characteristic more similar to that of daylight. Graph 3 illustrates the conversion of the light from an electric lamp to a daylight character by the use of Chance Daylight Filter Glass.

Previous Sheets :
Previous Sheets of this series on Glass are Nos. 914, 917 and 919.

Issued by : Chance Brothers Limited.
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Telephone : West Bromwich 1051.
Telegrams : Chance, Smethwick.

PHYSICAL PLANNING

THE JOBS TO BE DONE

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index

Dr. R. E. Dickinson, the second of whose articles on the structure and relations of villages, towns and cities is published this week is an M.A., Leeds and Ph.D., London. He is a reader in Geography at University College, London. He has specialized for many years on the physical and social structure of cities, studying the scope and problems of the subject in both the U.S.A and on the Continent. He is author of a Penguin Special The German Lebensraum.

In this second article Dr. Dickinson considers the ecological problems which arise in the case of existing cities and new towns. He draws particular attention to the need for scientific analysis of the community structure as a preliminary to any kind of urban planning. Only in this way will we be able to define accurately the existence of community areas as ecological units. He points out that, in view of the rural service relations already in being, newly-established towns are inclined to be in *the country but not* of *it, and he quotes the proposal of the Scott Committee that existing small country towns suggest themselves as suitable places for the location of small industrial units. The question of defining the zones of influence of the metropolitan city, or conurbation, is one which, in Britain, has been insufficiently considered, mainly on account of the lack of accurate statistics. Dr. Dickinson has, however, carried out such surveys on an accurate basis in the USA and Germany, and these are published on page 484 in Planning Review.*

WE MUST RELATE SERVICE CENTRES TO SOCIAL GROUPS

by Dr. R. E. Dickinson

Part Two—for the Townsman

the urban service centre

In the nineteenth century came the great concentration of basic industries in special localities, near to seats of raw materials, or where these materials could be cheaply assembled. The overwhelming majority of these industrial centres were simply dovetailed on to the existing pre-industrial towns, which had come into being in the Middle Ages primarily as service centres and secondarily as seats of handicraft industries. In this way the old towns were transformed in functional character and size so that industries became dominant, and the centralized services secondary, in their functional structure. Entirely modern urban communities, such as coal-mining, dormitory, and health resort communities, which have been planted in the countryside but have no fundamental relations with it, are even more unifunctional in character. The centralized services, however, together with the local services, such as distributive trades, building trades, transport services, laundrying and confectionery, have increased greatly in the last decades, owing to the rising standard of living of the urban populations, as well as to the general increase in the number and complexity of the centralized services. Unifunctional towns are deficient in many of the centralized services, which they must perforce draw from a neighbouring and larger city. But there are many towns which possess a nice balance of all these functions, since they are especially closely integrated with the surrounding countryside. These towns include many small country market towns with a population from 2,500 to 10,000. Especially characteristic is the county town, which is a historic capital, endowed with a variety of light industries, and is the chief centre for the activities and organization of the satellite market towns in its tributary district. The large cities owe their *raison d'être* as great urban agglomerations primarily to the concentration of industry, but they have also become, in varying degree, outstanding centres of centralized services, proportional to their importance as the capitals of the economic, social, and cultural life of the country and towns around them. A really distinctive feature of the large city is that the great concentration of centralized services results in the growth of a clearly defined and expanding central business district, which is the main centre of the daily ebb and flow of city traffic, and around which are grouped sub-centres in the urban area.

the location of new towns

Dispersal of population from the great cities calls for the creation of new towns and the further growth of existing small country towns. The new town is thrust, as it were, into the warp and woof of service relations, which are integrated in the surrounding

existing towns (shops, churches, schools, hospitals, cinemas, newspapers, etc.). Moreover, the new town is usually an industrial community and its services cater primarily for the town workers and their families. It is not concerned directly with services for the farmer or the villager in the surrounding district, except in so far as it offers a market for food supplies. Thus the new town is *in* the country but not *of* it in the same sense as an old country market town, although as its services grow in size and variety it may gradually draw upon a wider clientele in competition with its neighbours. The existing market town has the advantage of being closely linked with the surrounding country; it has a tradition and it is a "going-concern." The steady decline of many small towns also suggests that there is scope for their growth. There would not seem to be any serious economic difficulty in the further development of such towns, although, without new legislation, there would be difficulties to overcome if the same measure of control was sought over the whole town as is enjoyed by the company in control of the new town on virgin land. Thus, a local government authority recently claimed that its town, with a population of 15,000, could accommodate 40,000 people without encroachment on agricultural land or the creation of new public utility services.

Since new towns will be grouped primarily around new factories, their location will also be determined, in varying degree, by the factors which condition the location of industry. During the nineteenth century the location of industry was conditioned by two major physical considerations, seaboard location to supply overseas markets and location to the coalfields. During the last fifty years two new changes have affected the localization of industry—the development of electricity which permits the wider distribution of power, and the growth of miscellaneous light industries, providing consumer goods for the home market. These new conditions set a great premium on nodality, for many of these industries can now be more profitably located in inland nodal centres than in coastal locations or on coalfields.* Professor Eva G. R. Taylor writes that :—

"The distribution of industry now no longer fits the distribution of the industrial population and we have (as a consequence) distressed areas and lopsided urban growth." Thus, the same writer continues, "The fundamental question that has to be decided is whether industry is to be forced or cajoled back into the old distribution pattern, or whether the industrial population is to be assisted to adjust itself to a new one."

A framework for such a new pattern has been put forward by Professor Taylor. She has shown that an axial belt extending across England, from Lancashire to Kent, and covering 40 per cent. of England and Wales, includes nearly the whole of English industry. At the extremity of this belt are the great ports of London, Liverpool and Manchester, which handle two-thirds of the foreign trade of England and Wales. The chief industrial areas outside it, the North-east coast and South Wales, both with sea-board locations, both primarily coal producers, are "depressed" or "special areas." There is also a general scatter of the industrial population in the county towns and country-market towns. Professor Taylor has also marked in black on one map the areas which are not immediately suitable for industry owing to (i) their rugged relief, (ii) their scanty population, or (iii) poor accessibility from a large city. The areas excluded on this basis as potential seats of industry, are the South-west, the Scottish Highlands and much of Northern England. The areas which come out "positive" in these three respects form an axial belt extending from Lancashire and Cheshire to Greater London. Separate areas are the Vale of Glamorgan, the North-east, Hull and Southampton. Elsewhere there are numerous small towns where the conditions are also positive. This belt roughly corresponds with the main concentration of industrial workers and the greatest density of population (over 200 persons per square mile) and thus contains the main pools of labour. All areas in this belt, however, are not suited on other grounds for the location of factories and towns, for in addition to the great areas which are already built-up, land must be reserved for residential and recreational and, above all, agricultural use. New factories placed outside these areas or the establishment of mobile industries in villages and small towns would involve the shift of population and the creation of towns from scratch, or the establishment of mobile industries in villages and towns. In this connection we may note the conclusion of the Scott Committee that "no modern factory can be located in a village without the village changing character and becoming in fact a small town. On the other hand, the small country town suggests itself as a suitable place for small industrial units" (p. 67). The Committee also received evidence that factories have been successfully established in small towns with a population of 2,000 to 5,000, where there has been a gradual fusion of the social life of industrial and rural workers (p. 67).

the structure of the city

British cities have certain broad common features in their physical layout. These general features are common knowledge. The pre-industrial nucleus has become the central business district, the "City," an area of shops, offices, warehouses, public buildings and hotels, which is the hub of the communications of the whole area. It is congested, with few public open spaces, little or no open spaces inside the building blocks, with multi-storeyed buildings. It also has a very high day density of population, when workers and visitors are concentrated in it, and a small decreasing night population. Around the City there occur dilapidated border zones, in which old residential properties are being converted gradually to office use or demolished to make way for the expansion of the central business district. Factories built in the nineteenth century are concentrated on the less desirable and therefore cheaper land, both along the rivers or canals and along the railway tracks. Adjacent to these were built the monotonous areas of working-class "back-to-back" and "tunnel-back" houses, or tenements, at a time when proximity to the factory was essential since workers had to go to work on foot. Better class Victorian residences are sandwiched between these areas, usually near to the city but on higher land. These inner areas are now often obsolescent, and let as "rooms," "flats," shops and offices—the commercial use being especially marked on the borders of the City. After 1900, the city began to spread its tentacles on the routes far from this core. The twentieth century has presented us with Suburbia, with its serried arrays of semi-detached villas, council estates and ribbon extensions, derelict farm land awaiting sale to builders, and occasional examples of so-called "Garden City" developments. New factories, too, have been established on the railways and the roads on the urban outskirts, these being in part old firms which have shifted from a site in the city, or entirely new concerns. Thus, each city has a wide rural-urban fringe, characterized by the disorderly impact of urban land uses on the countryside, and recording an alarming increase of population in recent years.

Within the urban residential area there are distinct community areas, each characterized by common features of social and economic structure. The definition of these areas must be based upon the detailed analysis of the facts of economic and social life and the presentation of these facts on maps. In many cases such community areas will in large measure be coterminous with marked breaks in the physical structure—e.g., rivers, railroad tracks and factory belts, which isolate, and foster relations within, the areas they enclose. This type of study has been adopted for many American cities by American sociologists. But the idea of the community area as an ecological unit has been neglected in surveys of English towns by social scientists, and finds systematic application for the first time by the town planner in the recently published plan for the County of London. The suggestions made in this report indicate how much is to be done in the scientific analysis of community structure as a preliminary to any kind of urban planning.

The general mode of procedure in such a survey of a city is well established by many American studies, though it is beyond the scope of this article to deal with the many detailed problems involved in such a survey. We may instance the procedure adopted in a recent American survey of New-haven.* First, land use was plotted in the field for every building lot, the classification including single family, two family and multi-family dwellings, commercial buildings, light industry, heavy industry, railroad property, parks and playgrounds, public property and open spaces. Second, these detailed base maps were generalized, on the basis of the percentage of street-frontage devoted to the following major categories of urban land use—residential, commercial, industrial, transport, recreational and institutional. Third, areas with the same predominant use or combination of uses were shown on a third map. Fourth, the analysis of the socio-economic structure began with the mapping by exact place of residence, of such facts as density of population, nationality, income, delinquency, dependency and names included on the social registers (indicating social and professional status). (A further line of investigation would be to examine, as for the villages and towns, the service areas of subsidiary business centres, churches and schools.) These facts were first plotted separately on a series of maps, and then the maps superimposed and it was found that "to a remarkable extent the various area boundaries coincided." In this way social zones were defined and their boundaries were marked on the map of the land use areas. Lastly, by combining the two sets of areas, 25 composite "natural areas," or, as we prefer to call them, urban regions, were discovered. In nearly all cases it was found that physical barriers (railways, water, relief, industrial areas, etc.) divided these areas from each other; radial streets usually acting as arteries rather than boundaries of the areas. The *general* application of this technique in defining community units will be found in the County of London Plan (1943).

In order to determine and characterize this zonal differentiation in the life and organization of the large urban community, we require a set of maps for each city with over 100,000 inhabitants (the size beyond which such differentiation becomes marked), produced on a standard scale with a standardized set of symbols. Base maps would be prepared on the 6 in. scale, but it is probable that a scale of 2½ in. to a mile (1 : 25,000) would be the best standard map.† Essential maps in each series would be the following : (1) Period Map, to show the stages in the expansion of the city. (2) Land Use Map, to show public buildings, factories, retail, wholesale and office properties, and main types of residential property. (3) Population Map, to show the distribution and density of population, on a symbol basis, block by block. (4) Socio-economic Map, based on key criteria, such as wage levels, age and sex composition, numbers of children and domestic servants per

* Eva G. R. Taylor on "The Geographical Distribution of Industry," and "Memorandum on Geographical Factors Relevant to the Location of Industry," R.G.S. evidence to the Royal Commission, in the *Geographical Journal*, Vol. XCII, 1938, pp. 22-39 and pp. 499-526.

* Maurice R. Davie, "The Pattern of Urban Growth, Essay in Studies in the Science of Society"; edited by G. P. Murdock, 1937, pp. 133-161.

† Model examples of this type of analysis are contained in "Southampton : *A Civic Survey*," edited by P. Ford (1931), notably Chapter III on "Land Utilization," by O. H. T. Rishbeth, and in the recently exhibited "Civic Diagnosis of Hull," ARCHITECTS' JOURNAL, July 29.

cent. of population. (Such data are often not available in this country for small districts, not even for wards, so that they would have to be obtained from sample family returns). (5) Social Service Map, to show the location of institutional centres like churches, clubs, and schools, and the distribution, by place of residence, of their regular members. (6) Urban Regions Map, a composite map, produced on a scale of 2½ in. to a mile.

The main drawback to such work is the absence of the detailed census data; the addition to the Census of statistics for the large cities by small districts, as is done in the census of cities in the United States and some European countries, would greatly facilitate such research. Moreover, a central body is required to collect and collate what material exists and then to proceed systematically to a survey of our great cities on the same lines as the Land Utilization Survey has studied rural areas, recording in the field, as well as mapping the data in the office.

the urban social unit

When our urban areas are rebuilt—and this now becomes a real post-war necessity—the layout of new dwellings, be they houses or flats, must be conditioned by the provision of community services—public meeting places, churches, shops, etc. Services in the heart of the cities, like hospitals and churches, built at a time when their clientele was near them, are now wrongly placed from the standpoint of efficiency and service, and should be shifted to the city outskirts. Community services must be provided for existing suburban estates, and new planned areas in the city centre should be so designed as to cater fully for these needs. In the large city there is need not only for the definition of the existing small neighbourhoods but also provision for the integration of these neighbourhoods around centres of higher order, all grouped around the city centre. The former consideration is a strength of the County of London Plan, neglect of the latter a weakness.

A hierarchy of social units is suggested by the Royal Institute of British Architects in its recent publication on *Rebuilding Britain* as a basis for the broad reconstruction of our cities. A *residential unit* of 1,000 people is suggested as the smallest unit, supporting a small café, a pub., a nursery school and a crèche, and a few shops for every-day needs. The next grade of unit would be the *neighbourhood unit*, with 5,000 persons and containing five residential units. Its centre would have a few more shops for more occasional weekly demands, a restaurant, places of worship, library, community centre, medical centre, and schools. The *borough unit* would contain in its centre all the essential amenities of a fully-fledged town—theatre, cinema, hospital, specialized shops, town hall and an accessible railway terminal—and it would serve about 40,000 people, containing eight neighbourhood units. The *district unit* would be made up of six boroughs, with, in its centre, specialized services such as technical schools, exhibition and concert halls, department stores, market hall and special hospitals, serving about 240,000 people, the whole forming one urban aggregate. Larger cities may be combined (as they are, in fact, in all the big conurbations) of several *district units*, separated from each other by green belts, with a central city area for business, finance, entertainment and administration. It is essential above all else to realize, however, that any such scheme of reconstruction must reckon basically with the city or town as it exists. Broad plans of rebuilding must be adjusted to, or rather grow out of, the existing physical structure, and, what is just as important, grow out of the needs and wishes of the people who live in them.

Research into community structure demands not only the detailed diagnosis of the academician but also the active co-operation of local authorities and organizations.

The same approach is advocated by the RIBA for country planning. As in the case of cities, it is suggested, "beginning as the village grouped round its social services, then the market town which is the focus of several villages and which provides more complicated services, and so on, up through various stages. Much of this structure is actually in being already, just as it is to some extent in the city, but it needs new sorts of buildings and conscious guidance with national, regional, and local plans if it is to yield the maximum benefits all round."

It is important to note that this theoretical hierarchy of settlement units, both in regional and urban groupings, corresponds closely with the broad gradation of size of existing settlements, namely, the urban village (1,000 inhabitants), the fully-fledged rural town (over 5,000), the town in which functional areal differentiation begins to appear (25,000 to 50,000), while there is a marked distinction between the very large cities (over 750,000), and the cities with 100,000 to 250,000 inhabitants.

the region as a social unit

A city does not live for itself alone. It is closely allied with its neighbours, physically and functionally, by brick and mortar as well as by services. In Great Britain there are seven urban agglomerations each with over 1 million people, and 30 others with over 100,000 people each. A conurbation, by a recent definition, ends where the compact area of urban land uses ends. But the urban area is not compact. On its borders the open patches become wider and wider, and small towns, even isolated houses, form separate units, so that it is impossible to define the limit of the urban area on a brick and mortar basis only. Beyond the urban area, the influence of the city is felt over the suburban or "commuting" zone which is accessible to its centre and its borders within about one hour, and the whole is to be considered as one social and economic unit. This is probably the ideal unit from the standpoint of "regional" town planning. The activity of the city proper—the products of its markets, warehouses and department stores; the business connections of its banks and offices; and the circulation of its newspapers and the patronage of its cultural activities—extends to the towns and villages over a much wider field.

The prominence given by public attention to the idea of the Region as a homogeneous geographical unit, and the great variety of problems which are affixed with this label, are the spontaneous expressions of an urgent need in the life and organization of modern society. New areas of organization are needed for all aspects of national life, and the existing pattern of local government areas has been outmoded by wider areal organizations, and acts as a deterrent to the efficient functioning of public services. The idea of the Region has also developed in relation to the movement for the decentralization of authority from the central national government to a limited number of provinces, which would relieve the central government of its too onerous responsibilities, foster the development of local responsibility in the truest democratic tradition, and maintain provincial or regional differences of tradition and consciousness.

New areas of provincial government are needed larger than the counties, especially in the areas of greatest density of population where the county and other administrative boundaries cut across thickly peopled areas, the normal movement of traffic, the areas of distribution of public utility supplies, and of social and economic relations in general. The great question is what should be the extent of these proposed administrative regions and on what criteria should they be based? The Town-Planning Region is not generally suited for this purpose, since it is usually not a natural social unit and often covers only a part of an urban area aggregate or does not include the dependent urban and rural areas surrounding it. The whole country is divided into districts for an enormous variety of purposes. These districts are of a four-fold character—for statistical purposes, for administration by Departments of State, for numerous trade and professional organizations. Practically every aspect of business, commerce and administration is now "regionalized" in this sense, with the services concentrated in the principal cities. Particularly significant as embracing a great variety of activities, and as therefore indicating in large measure the extent of the most homogeneous units, are the regions of the Federation of British Industries and the emergency regions for Civil Defence. While these *ad hoc* regions differ widely from each other and are often arbitrary, many show a remarkable similarity in extent, especially around the great cities.

There are then in the countries of western civilization in general and in Britain in particular, areas that are unified by their economic interdependence, by their common organization and services, and by the close inter-relations of their parts, as is evidenced by the distribution and occupations and the circulation of persons and commodities. The diversity of economic activities and interest between the different parts of a country, the great mobility of our age and the consequent specialization of functions as between one place and another has led to the close integration of society on a geographical basis. Such areas have been appropriately called "circulation areas." Their focal points are the towns and their dominant centres are the great urban-agglomerations. In some cases the area is oriented towards one or more inland cities, or ports, e.g., Leeds and Bradford for Yorkshire, Manchester and Liverpool for Lancashire, Cheshire and N. Wales. In others, as in predominantly rural areas, such as East Anglia, with many small towns, and a relatively small focal city, like Norwich, there is a rather diffuse network of commerce.

Various schemes have been put forward for the division of Britain into such "natural administrative regions," but there has been little detailed analysis of the actual flow of goods and persons by routes and districts, and of the geographical aspects of the social and economic fabric.

Such an attempt was made by the writer in a study of Leeds and Bradford as regional centres by a crude analysis of the areas served by these cities in their multifarious functions.* The same mode of approach was attempted for the metropolitan cities of England and Wales in general.† But all such study in Britain was vitiated by the lack of accurate statistics. It was for this reason that the writer turned to the United States and the Continent in order fully to explore the idea.‡

There is much scope for the detailed study of the areas tributary to our cities, but statistical data and team work are essential to ensure adequate results.

It would then appear that the analysis of the geographical structure of society, in town and country, with respect to the character and extent of the existing service and community areas, and to the minimum needs of the different types of services, be they social, commercial, cultural, or administrative, affords a sound and essential basis for the planning of communities in the city, the town and the countryside. This, however, is not a problem for the geographer alone, nor for the economist, nor for the sociologist. It is a problem to which all can make their contribution, and is likely to be one of the most fruitful fields of future research in the social sciences.

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* R. E. Dickinson, "The Regional Functions and Zones of Influence of Leeds and Bradford," *Geography*, September, 1930, pp. 548-557.

† R. E. Dickinson, "The Commercial Functions of the Nuclei of the English Conurbations," *Sociological Review*, Vol. 21, 1929, pp. 38-49.

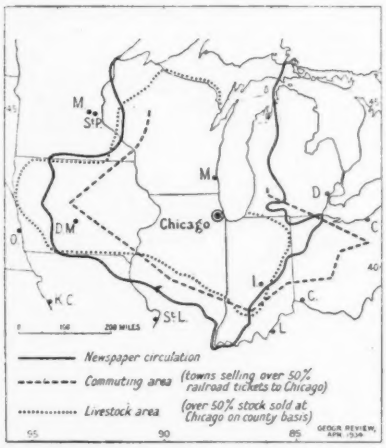
‡ R. E. Dickinson, "The Metropolitan Regions of the United States," *Am. Geog. Rev.*, Vol. XXIV, 1934, pp. 278-291, and "The Economic Regions of Germany," *Am. Geog. Rev.*, Vol. XXVIII, 1938, pp. 609-626.

* and ‡ For digest of these see Physical Planning, No. 20, December 23, 1943, and this issue, page 484.

PLANNING REVIEW

REGIONAL ZONES OF INFLUENCE OF THE METROPOLITAN CITY. 2. USA AND GERMANY

CHICAGO *The regional associations of any urban centre usually decrease outwards from the centre in relation to distance and the competition of rival centres. If statistics of movement of commodities and persons are available for small districts for particular purposes such study becomes practicable and valuable. This map of Chicago is based on such detailed studies, and the boundary lines shown here are generalized. Newspaper circulation, for instance, which has been demonstrated to be a most delicate indicator of urban influence in the States, has been studied on the basis of actual circulation to all surrounding places.*



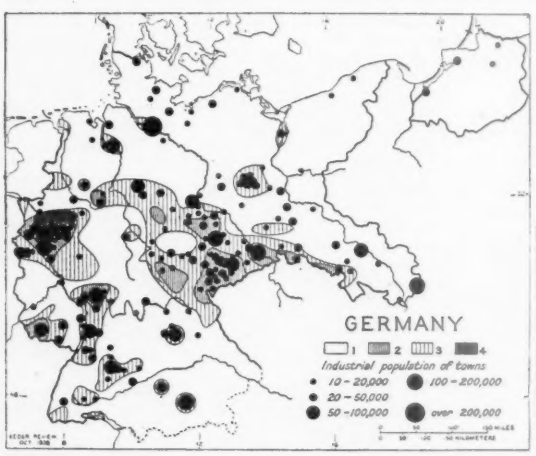
USA *The map of the United States shows the metropolitan cities and their regional zones of influence on a nation-wide basis. It is based on such studies as those for Chicago extended to the whole country. The symbols show the chief commercial centres, graded according to the value of wholesale and retail trade and manufacturing, the distribution of warehouse space, the location of branch offices of a selection of the biggest business concerns, Federal Reserve Banks, Exchanges, etc. The regions were determined by superimposing tracings of wholesale trade areas, circulation areas of metropolitan newspapers, livestock market areas, grain shipments, and several other criteria, all of which have been carefully studied, and mapped, by many public and private authorities. Boundaries are often arbitrary and it would be nearer the truth to have indicated the central areas completely dominated by a metropolis and the transitional areas which are centred on smaller cities and have a considerable measure of independence and divided allegiance between two or more metropolises.*

A good deal has been written recently on proposed planning regions for England and Wales, a main aim of which is to define areas that are homogeneous circulation units. In all such schemes there is a large arbitrary element, especially when there is little statistical information available. Moreover, the definition of such units must obviously be speculative as to area, centres and boundaries, until a clear directive is given by a central Government authority, on the purposes for which these regions are required.

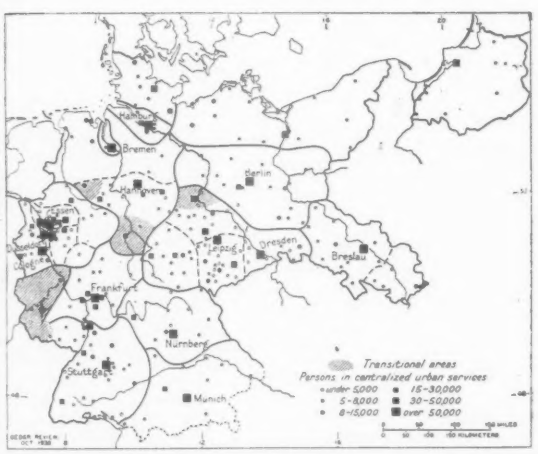
Dr. Dickinson has prepared the two maps of the United States and Germany showing such circulation units. They are not based on a broad subdivision of each country into vaguely conceived planning units. They are an attempt at scientific appraisal of the regional integration of human space relationships or circulations, based on many exhaustive studies of individual cities and regions and nation-wide circulations, made possible by published statistics for small districts. It is precisely this kind of information that is urgently required in this country—locally, regionally and nationally.

There are two aspects to the problem—the region and the metropolis or the head of affairs. The sphere of influence of a city cannot be envisaged as a line, for the service extends far from the city to scattered towns and villages, normally pushing out farthest on the main lines of communication. The basic determinant of relationships is undoubtedly accessibility, though the distribution of population and of industry and agriculture provide the basic pattern. Further, the relations of the urban complex often extend beyond the administrative limits of city—gas, water, electricity, residential areas, roads, etc. All these relationships should be examined and mapped.

To study the zones of influence of the cities, however, is not enough. Traditional regional associations and old-established political boundaries should also be considered and, of course, commercial traffic relations. Data on these are available for Germany for about fifty railway traffic districts. Boundaries on the maps of USA and Germany were defined by considering such data in general and in detail, their course placed by criteria varying according to the make-up of the districts through which they pass. Local political boundaries have been generally followed, rather than arbitrary ones.

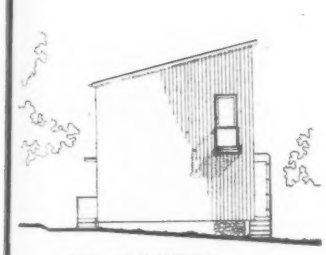


This map shows the percentage of persons engaged in industry as against agriculture for small districts. 1. Areas dominantly agricultural. 2. Areas exclusively industrial. 3. Areas dominantly industrial. 4. The Ruhr. Towns shown separately according to numbers engaged in industry.

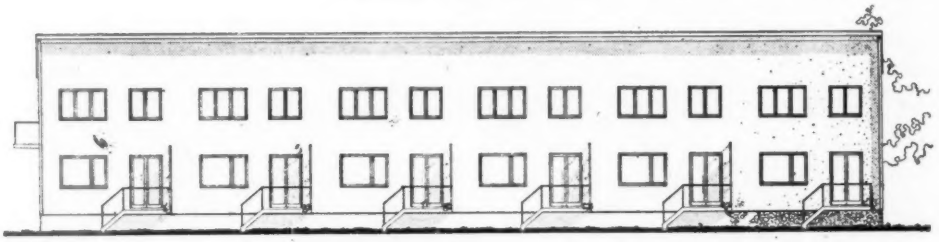


The commercial regions of Germany. The heavier lines show the boundaries of the main regions, the broken lines show divisions within the region. The symbols show the number of persons engaged in centralised urban services, i.e. occupations that are necessarily concentrated in urban centres—commerce, finance, administration and service.

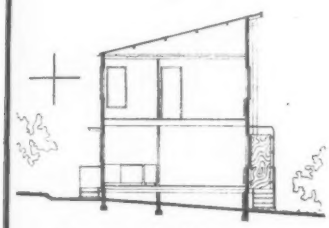
GERMANY *The problem of the city and the region in all their aspects has been the subject of a great deal of research and speculation in Germany by both public and private authorities. The problem of the recasting of the political structure and creating new geographical units was thoroughly studied after the settlement of the Weimar Republic, though the schemes were shelved, owing mainly to the opposition of the existing governments and the difficulty of resolving the dualism of government as between the Reich and Prussia, the dominant state—in area, population and political influence—in the Reich. A great deal of work, however, has been done during the inter-war period on the examination of the character of the structure of individual regions in the form of scientific studies and atlases of regions. The map of the commercial regions is based on a thorough assessment of these works and on independent study.*



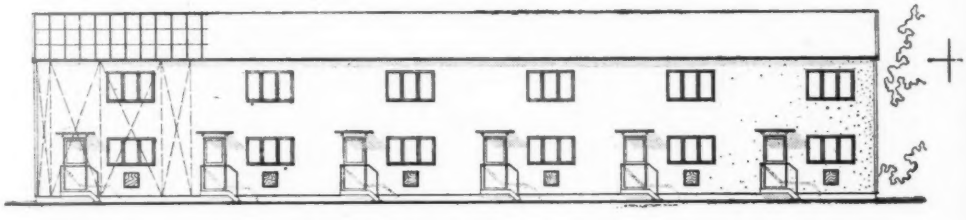
END ELEVATION



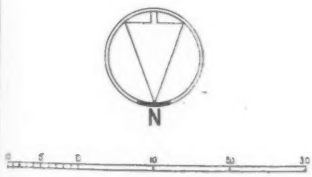
SOUTH ELEVATION

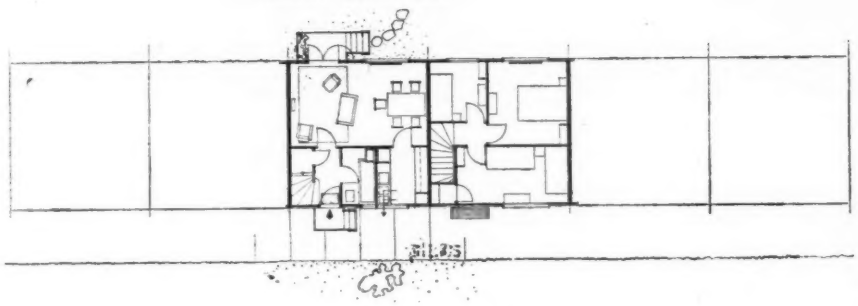


CROSS SECTION



NORTH ELEVATION





TIMBER

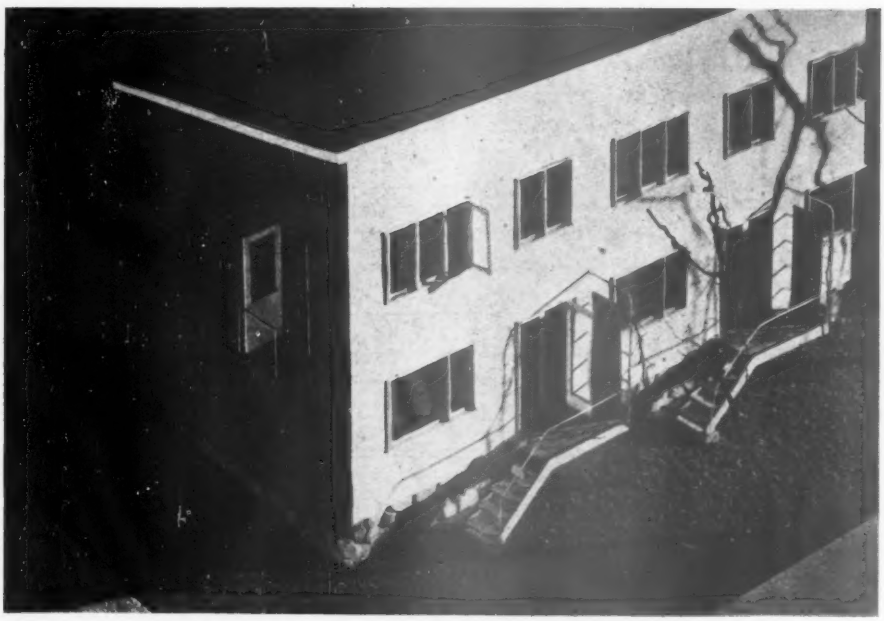
PREFABRICATED HOUSES

DESIGNED BY CYRIL SJÖSTROM

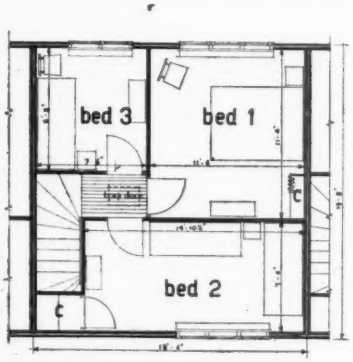
GENERAL—Working-class houses in Monmouthshire, comprising two blocks of six-terraced houses. A central building contains boilers for central heating and hot water, a laundry and a drying room, and stores for cycles and perambulators. Two alternative treatments for the elevations are shown: one with the external walls boarded, the other with the external walls plastered.

CONSTRUCTION—Prefabricated timber panels. The centre diagram at bottom of page 486 shows the construction adopted to make a weathertight joint between adjacent panels. Exterior boarding treated with Carbolineum tar product at factory.

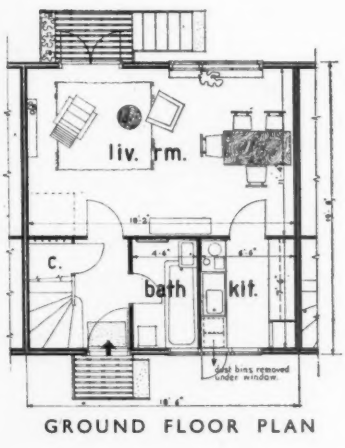
Left: Elevation with external walls boarded.



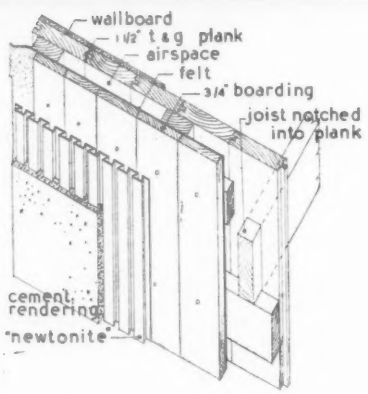
Above: elevation with external walls plastered.



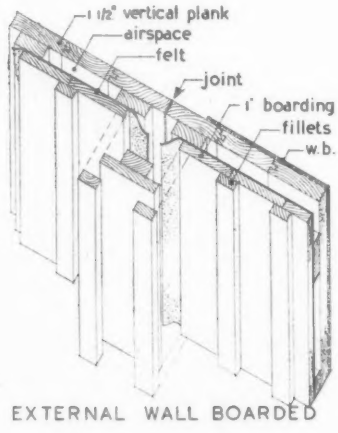
FIRST FLOOR PLAN



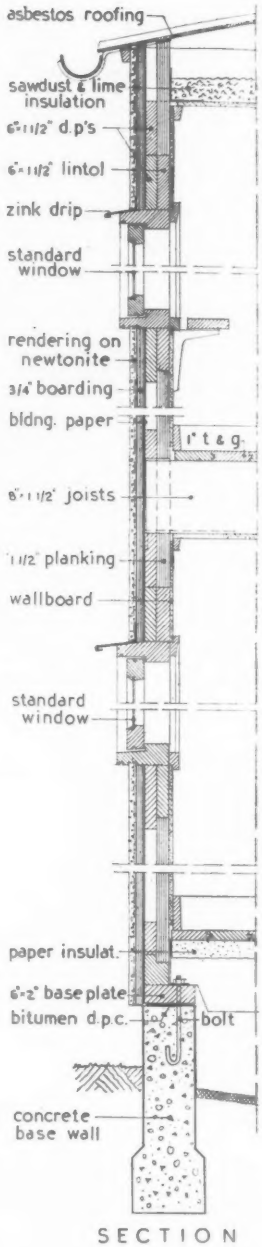
GROUND FLOOR PLAN



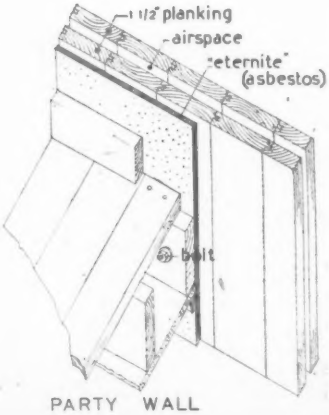
EXTERNAL WALL PLASTERED



EXTERNAL WALL BOARDED



SECTION



PARTY WALL

WINDOWS and doors embodied in wall sections, and fitted with locks and hinges at factory.

SERVICES—Central heating and hot water supplied from central boiler-house. Radiators in living room and one bedroom. Cost of central heating: £19 per house. Cost of hot water installation: £15 8s. 0d. per house. Central laundry.

PREFABRICATED TIMBER HOUSES

INFORMATION CENTRE

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

PHYSICAL PLANNING

1338 Regional Councils

PROPOSALS FOR REGIONAL PLANNING COUNCILS IN METROPOLITAN AREAS. (*Competition Awards, American Society of Planning Officials*, 1943). Group of prize essays on how to run metropolitan planning, i.e. to include urban development beyond the political boundaries of the central city.

First prize suggests :—

1. Regional Council's focal power to be that of review and approval or disapproval of plans and projects initiated by itself or by others within the region.
2. Council to consist of 3 representatives for the Federal Government (planner, economist, engineer) ; 3 for the state (planner, local government expert, engineer) ; 3 for the central city (economist, health expert, housing expert). These to be nominated by official planning agencies or professional bodies.
3. Council to have a skilled staff organized in 3 sections (*a*) economic analysis ; (*b*) engineering analysis ; (*c*) administrative analysis.

1339 Open Spaces in Towns

MEMORANDUM ON DESIGN AND PLANTING OF OPEN SPACES IN TOWNS. *Royal Horticultural Society and Institute of Landscape Architects.* (*War-time Journal of the Institute of Landscape Architects, October*, 1943, 1*s.* 6*d.*). Memorandum prepared for the Ministry of Works and Buildings in 1942. Deals with treatment of sites after their position and extent have been decided.

1. General Remarks : *Design* : qualified consultants should be employed. *Maintenance* : the authority must provide for adequate maintenance. *Planting* : early steps should be taken to ensure that well-grown trees and shrubs will be available when required. *Top-soil* : all top-soil from road and building sites should be reserved for use on open spaces.
2. USA park systems are far in advance of Britain's. These have been obtained by the appointment of Landscape Architects who act as designers and co-ordinators between the various local government departments.
3. Parks raise the value of surrounding land. The following are important : wide lawns with shade-giving trees ; swimming pools ; shelter belts and screens ; rest gardens ; botanical garden (educational section) ; restaurant.
4. The main function of small open spaces must be to serve as a setting for surrounding architecture. Tennis courts, children's playgrounds and rest gardens may incidentally be accommodated but the treatment must be kept simple and open. Massive shrub planting is to be avoided.
5. Children's playgrounds should offer scope for imagination. Trees should always be planted but flower beds only get in the way.
6. Footpaths should link school, children's gardens, playgrounds, allotments, rest gardens and major parks. The planting of trees and hedges along the footpaths should be light in character.
7. Wide streets and boulevards should have large trees spaced fairly closely and medium streets only upright growing trees ; spacing should accord with the architecture ; narrow streets should not have trees.

STRUCTURE

1340 Timber Blimp Hangars

TWO TRAVELLING TOWER DERRICKS ERECT HUGE TIMBER BLIMP HANGAR. (*Engineering News-Record, April* 22, 1943, *pp.* 542-546). TIMBER ARCHES FOR BLIMP DOCK ERECTED FROM SCAFFOLD AT FLATCARS. (*Engineering News-Record, August* 26, 1943, *pp.* 320-323). (*See also Engineering, October* 24, 1943, *pp.* 341-343). Methods and equipment for erection of timber blimp hangars for USA Navy.

Different methods are used for the erection of the timber construction of the huge blimp hangars for the USA Navy (see Inf. Centre No. 1140). The hangars have a span of 246 ft. and a height above the ground of more than 170 ft. The timber arch trusses are set 20 ft. c. to c.; overall measurements of the hangars are 1,058 ft. by 296.5 ft.

Travelling tower derricks were used at Lakehurst.

Timber members for the arches were accurately precut to template in mills and given an impregnation with chemicals to fireproof and preserve them. The members were pre-assembled on the ground into four sections for each arch truss. Two similar sections were framed into a " braced-bay " 20 ft. wide that formed the unit to be handled. The bottom sections of the arches were set in place in braced pairs by the individual derricks. The top quarters were then joined on the ground by the two derricks working together and raised to connection with the first erected part to form the complete ring. Before starting the erection the concrete floor of the hangar was placed to provide a solid foundation for working and for support of the equipment. Rigid concrete frames, adding 24 ft. to the height of the hangar, were placed in advance of the timber erection with anchor bolts set for connection of the timber trusses.

Erection of the pre-assembled arch sections was carried out by two stiff leg derricks, mounted on 145 ft. high triangular towers. Each tower travelled on four special trucks.

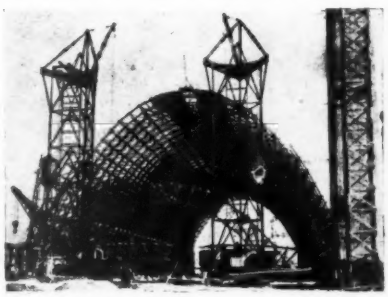
The rafters and sheathing were placed from a sliding scaffold that was drawn up the sloping roof by hand winches.

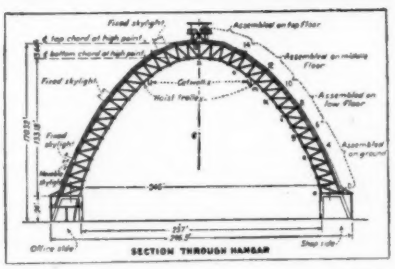
Progress of the work, weather permitting, was a complete 40 ft. advance in each working day.

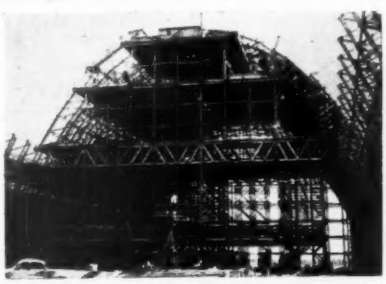
In contrast with the method of using travelling tower derricks, a large timber scaffold, supported on 18 railroad flatcars 40 ft. long, is being employed at a west-coast Naval air station. This method, in addition to providing for speedy forward moves of working platforms at three levels with their equipment and materials, made it possible, on completion of the arches of the first dock, to roll the scaffold across the field to the second dock where duplicate construction was undertaken.

The use of a rolling scaffold simplifies the accurate placing of the arch sections by shortening the lift, because each section is put together on a platform very close to the final location in the arch. The scaffold is 120 ft. by 210 ft. in plan. The supporting flatcars are coupled together in six three-car trains but there is no lateral connection between these trains other than provided by the scaffold itself. Three working platforms are provided at convenient levels on the scaffold at 78 ft., 118 ft. and 144 ft. respectively above rail head. Up to the first stage the scaffold consists of framed tower construction, above that level it is built of posts and girders.

When the scaffold is to be moved, car movers are operated by workmen. The propelling effort is synchronized by the foreman's whistle. The scaffold is moved ahead 20 ft. as often as one of the arch ribs is completed. As this is being written the average progress is 50 ft. for daily nine-hours' shifts (two and three moves alternating on successive days). The average moving time in quiet air has been seven minutes. Everything done to the arch is completed before the scaffold draws out of range; thus no other staging is required.







Blimp hangars for the USA Navy constructed of timber. Top, type of erection with two travelling tower derricks. Centre, section of type of dock erected from scaffold, showing the erection sequence followed in setting the timber arches. Above, this type of hangar during erection ; the lowest of three working platforms on the scaffold is near the top of the cantilever section of the arch. Upper sections are assembled on the platform and are set by gin poles on the scaffold (see item No. 1340).

1341 *Spun Concrete Floors*

PREFABRICATED FLOORS IN SPUN CONCRETE. *P. W. Abeles* (*The Architects' Journal, November* 11, 1943, *pp.* 357-359.) Construction, design, production and economy described by examples of buildings in Yugoslavia and Czechoslovakia (1936-38).

The floor beams—either of tubular or half-tubular section—are manufactured in a centrifugal mould. Spun concrete, thus obtained, is of great density and strength, great uniformity in carrying capacity being ensured. Tubular beams, as described, are a combination of a cylindrical tube and a beam, having a rigid reinforcement skeleton with transverse rings. As compared with other beams of the same depth and reinforcement, the strength is greatly increased, as proved by tests in Yugoslavia and Czechoslovakia. The design can be carried out on the basis of test results instead of according to permissible stresses (thus saving steel). This method was approved by the BRS for a roofing design for hutments. Photos show the employment of spun beams in conjunction with prefabricated slabs in floors of factories and dwelling houses and as purlins in a pitched roof. The use of half-tubular beams (two produced simultaneously) for floors in dwelling houses is also illustrated. A new type of spinning machine (of small weight) has proved satisfactory. Photos show a provisional factory in a hutment at the site and the handling of spun beams by hand and by crane.

By the use of factory methods in the production of spun concrete beams, a saving in labour cost is attained. This advantage in connection with the saving in material made this floor competitive in Czechoslovakia, where wages and costs of material were about the same as in this country, and in Yugoslavia, where wages were much lower and cheap timber was available. The cost of machinery and moulds is more than offset by the speed of erection and the great saving in material and labour—considerations which should be of primary importance in post-war building.

PLUMBING and Sanitation

1342 *Coventry Experiment*

EXPERIMENTAL HOUSES — COVENTRY. (*Architects' Journal and other publications, October* 7, 1943.) General description of experimental houses at Coventry with particular emphasis on heating arrangements and prefabrication of plumbing. Well illustrated.

1343 *Hot-water Pipes*

HOT-WATER HEATING PIPES. "*Omega.*" (*Industrial Heating Engineer, July*, 1943.) Common faults in installation briefly discussed. Lay-out of pipes. Air locks. Provision for pipe expansion. Supports for pipes. Blockage by dirt, etc. Corrosion.

This article discusses briefly a number of common troubles which occur with pipes carrying hot water and suggests appropriate methods of avoiding them.

Sharp bends lead to greatly increased resistance to flow equal to straight lengths of pipe of 30-40 times diameter of the pipe with plain pipes and 50-90 times with screwed pipes. An easy bend offers very much less resistance.

Expansion of pipes is considerable, an inch or more per 100 ft. of pipe, varying with material and temperature. This must be allowed for by changes in direction or possibly by swivel joints.

Pipes may be strained and leaky joints result if there is inadequate support. The supports must be arranged so that they do not prevent expansion. Care should be taken to avoid collection of dirt in pipes before or during erection and too lavish use of jointing material may also result in partial blockage.

Internal corrosion is uncommon but may occur as a result of acid waters. This can be easily overcome by rendering the water slightly alkaline. Internal corrosion can be caused by dissolved oxygen and carbon dioxide but this is not likely to continue for long unless fresh water is introduced to the system.

ACOUSTICS and Sound Insulation

1344 *Planning against Noise*

PLANNING AGAINST NOISE. *D. D. Harrison.* (*Architects' Journal, August* 26 *and September* 9, 1943). General principles of planning against noise, in town planning, site layout and building design. Many diagrammatic illustrations.

1345 *Factory Sound Absorption*

SOUND ABSORPTION IN THE FACTORY. *H. J. Sabine and R. A. Wilson.* (*J. Acoustical Soc. Am., July*, 1943, *p.* 27.) Study of the relief afforded by sound absorbents in factories.

This is a significant paper. Light and heat have had their fling in this war, because statistics were available to show how much they affect production. But sound—or quiet—has been neglected for the most part, and one reason is that its effect on rates of working, etc., has proved difficult to determine. Sabine and Wilson have gone some distance to improve our knowledge of the problem.

Their first object was to find out how people react to noise. Apparently in the USA it has resulted in continual change of personnel, especially female, though male labour shows the same tendency (this has been observed in England, too). It also causes absenteeism in the form of short vacations from jobs at frequent intervals. Actual rates of working do not appear to have been studied in this case, though they have been examined elsewhere, apparently with insignificant results. It may be that noise does not much affect rates of production, while the operative is at his machine, but simply forces him to take more frequent breaks for rest.

There is an interesting collection of noise loudness data from 33 factories. The range of loudness is from 65 to 130 decibels, and most of the noise falls between 85 and 105 decibels. Data of this kind is very useful, and much more of it is needed.

It has generally been assumed that the purpose of absorbents in factories is to reduce noise loudness, though it is known to have a limited effect at most. The present study indicates that loudness is not so important as two other factors, reverberation and something that is called "the spreading effect." Reverberation makes the sounds persist so that a constant high noise level is maintained, and even momentary reliefs are prevented. The spreading effect is apparently even more important. It is the rate at which loudness diminishes from noise source to listener inside a room. Operators are less affected by their own machines than by others over which they have no control, and when the noise from these other machines is "pushed back where it belongs," they don't worry about it.

Both reverberation and the spreading effect are materially reduced by sound absorption, and figures for the latter are unusually interesting. In a large room (170 ft. by 200 ft. by 26 ft.) untreated, the reduction of noise was at the rate of about 3 decibels per distance double so that eventually the rate of fall was so small as to make the sound appear almost equally loud over large areas of the room. In a room 360 ft. by 560 ft. by 27 ft., with an absorbent ceiling (coefficient about .7), the rate of reduction was 16 decibels per ft.; the fall in loudness is thus regular as well as more rapid—about 5 decibels every 30 ft.; 5 decibels is an appreciable amount. In a similarly treated room with a lower ceiling (room 100 ft. by 100 ft. by 9 ft.) the rate of reduction was .35 decibels per ft.—more than twice the former.

These observations show that in large, low ceilinged rooms sound distribution can be significantly limited by absorbent, and for this purpose the lower the ceiling in proportion to the area, the better. Baffles suspended from the ceiling could be very useful in higher rooms. If these studies can be extended to show more precisely what amount of time and production can be avoided, a most important contribution to quietness and factory design will have been made.

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.*

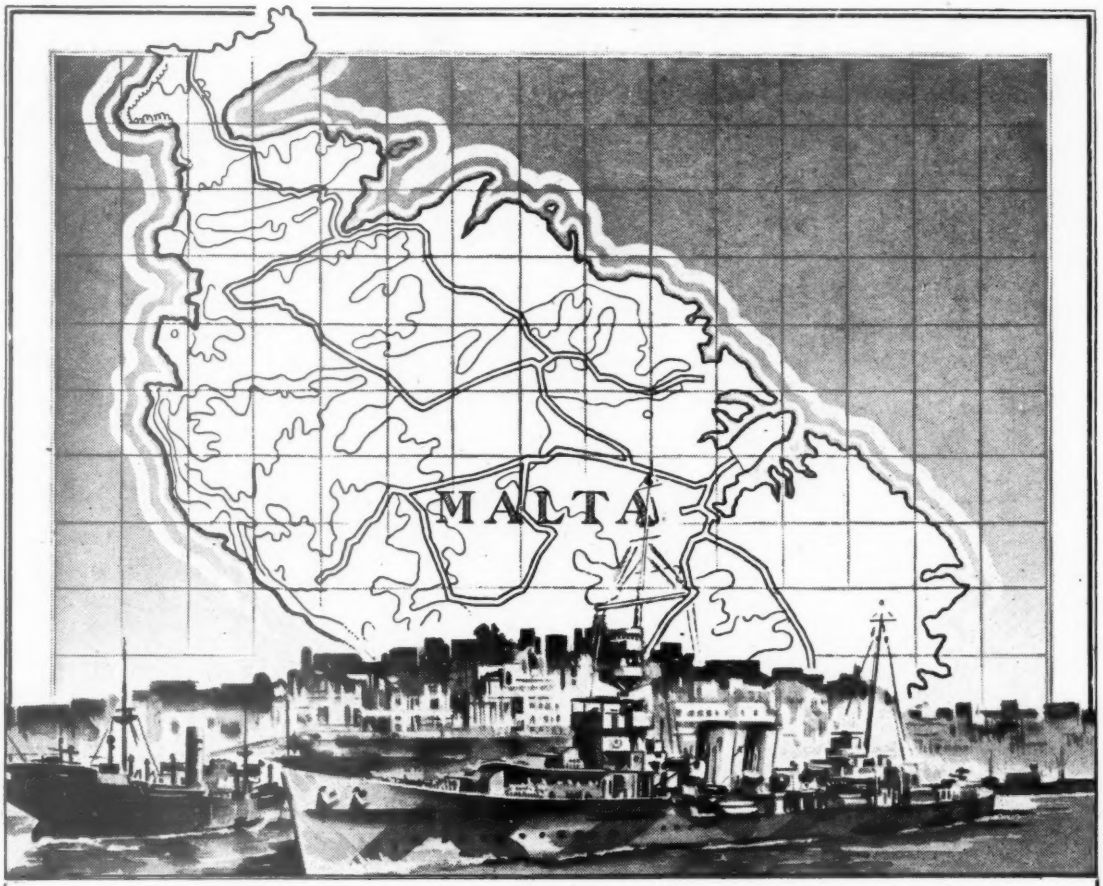
1346 *Air Required in Church*

Q *I have to design a church, and I want to renew the same amount of air which is used. Could you please inform me how many cubic feet of air* 100 *people would consume per hour while sitting or standing and singing.*

A The average quantity of air consumed by one person per hour is 18 cubic feet. This, of course, is purely of academic interest as in practice the expelled air vitiates the remaining air, and other factors such as rise in temperature and humidity have to be taken into account.

To give you some comparisons, filtration plants for gas-proof shelters have been designed to pass as little as 150 cubic feet per hour per person, which is deemed to be just sufficient to keep relaxed persons in tolerable comfort for a limited period; 450 cubic feet per hour per person would permit of quiet types of employment.

The LCC specify that 1,000 cubic feet of air per person per hour must be allowed for London cinemas, and this may be considered as a reasonable guide to other public buildings, such as churches. In this connection it may be worth noting that in an average church with heating, natural ventilation may be expected to account for something like three-quarters of a complete air charge per hour, i.e. if three-quarters of the volume of the building does not give 1,000 cubic feet per person, some mechanical ventilation may be required.



It made all the difference to Malta G.C.

No area in Britain has been through heavier ordeals than Malta: none has been more successful in maintaining communications, carrying on uninterrupted A.R.P. Services and keeping a high level of morale amongst the people. In all this the wired broadcasting system of Rediffusion has played an acknowledged and decisive part.

Rediffusion—this alternative means of receiving broadcast programmes—has been operating in many areas in this country throughout the war. It provides for every subscriber broadcast reception by wire direct from the studio—free of interference and unvarying in quality. It brings news and entertainment at the simple touch of a switch. It calls for no individual maintenance. And in time of emergency it can be switched over to the service of the public authority.

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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.

RIBA

Concessions to Students

The RIBA states : It has been decided that certain concessions may be granted to those men and women whose training has been interrupted by war service, and the Council has approved the principles which are to be followed when dealing with applications.

The application of each candidate will be the subject of individual and special consideration by a Committee of the Board of Architectural Education set up for the purpose, and the degree of concession determined according to the duration and circumstances of National Service.

Concessions may be granted to those who have served in the Armed Forces or whose full-time duties in Civil Defence or other form of national service have prevented them from studying or being engaged in matters related to architectural practice.

It is to be clearly understood that the concessions referred to in this memorandum are the maximum that may be allowed : each application will be considered on its merits and applicants will not necessarily be granted all the concessions. It has been decided that in no case shall there be any lowering of the standard required in the Final Examination as a qualification for Associateship.

INTERMEDIATE EXAMINATION

(*a*) (i) Candidates may be permitted to submit office or other drawings and sketches in lieu of one or more of the prescribed Testimonies of Study.

(ii) Illustrated theses may be submitted in lieu of one or both of the examinations in General and Specialised History of Architecture. The subjects of these theses may be selected by candidates granted the concession and will be submitted for approval by the examiners before being undertaken. The theses may be submitted with the Testimonies of Study or at the time when application is made for admission to the examination.

(iii) All candidates will be required to take the examinations in Design, Constructional Design and the Properties and Uses of Building Materials, and Calculations of Simple Structural Members.

FINAL EXAMINATION

(*b*) (i) Candidates may be permitted to submit the following in lieu of the prescribed Testimonies of Study :—

A Portfolio of office or other drawings executed by the applicant, such as will demonstrate knowledge of design and construction, and

One " Problem in Design " specially set, to include constructional drawings and involving acoustical treatment.

(ii) In place of the written thesis, candidates may be permitted to submit a thesis design, accompanied by a short report, for a building or group of buildings, based on a programme prepared by the candidate and approved by the Testimonies Examiners. The subject of the design is to be related to a problem of post-war reconstruction connected with the community in which the candidate resides or has resided. The report should deal with the selection of the site, its treatment and a description of the building which is the subject of the report.

(iii) The thesis design referred to in (*b*) (ii), or a written thesis in accordance with the regulations, may be submitted *before* or *after* the taking of Parts I and II of the Final Examinations. A written *or* design thesis will, however, remain part of the Final Examination and must be approved before the application for election as Associate is submitted.

Those who consider themselves qualified for concessions should submit their applications on a special form to be obtained from the Secretary of the Board of Architectural Education, RIBA, 66, Portland Place, London, W.1.

All students in the Forces are reminded that the Government has approved plans for providing financial assistance to enable suitably qualified men and women on demobilization to undertake or continue further education or training. Those who had already commenced training in a Recognized School are strongly recommended to resume studies as soon as possible after demobilization.

BRF

W. D. Chapman

December 16, at the Savoy Hotel. Luncheon given by the British Road Federation in connection with the MOTORWAYS FOR BRITAIN exhibition. Address by W. Dobson Chapman, M.T.P.I., F.R.I.B.A., F.I.L.A., President of the Town Planning Institute. Chairman : G. N. Wilson, President of the British Road Federation.

W. D. Chapman : Comparatively few realize just how vital is the part played by the road in the welfare of any nation—its very ubiquity tends to blind people to the fact that it is a creation of man and not part of the natural order of things.

To meet the needs of fast motor traffic, radically new plans such as those embodied in the motorway proposals of the County Surveyors' Society are necessary, as no amount of tinkering with the present system will ever meet the case.

The verdict of history is entirely against the view that modification can transform a road evolved to satisfy the needs of one form of traffic into one which will satisfy the requirements of some radically new form of road vehicle. The bridle paths of the pack horses were never any use for the stage coach, and it it is equally true to-day that the present road system which has grown up to cater for the horse-drawn vehicle is of little value to the new motor vehicle.

We now have a country littered with roads in which glaring deficiencies can be discovered by even the most cursory survey and yet whose haphazard growth has become confirmed by centuries of neglected opportunities and the fruitless expenditure of public funds.

The wheeled vehicle became a factor of road importance about the middle of the 17th century, but it was not until the end of the 19th century that we evolved a system of roads admirably suited to the needs of the stage coach which had passed from use some fifty years before. We must take care that history does not repeat itself in the case of the motor vehicle.

The problems of production are now largely solved but those of distribution still await a satisfactory solution and one of the least controversial contributions which might be made to this latter problem would be an efficient system of road communications.

The present highways of Britain have been aptly described as lines on which to peg the dirty linen of estate development. That is only one of their many improper functions which contribute to their failure. There is at present such a confusion of functions that any road may be called upon to serve any one or all of the following purposes :

1. As a highway for local and/or through traffic of all possible types and speeds ;
2. As a service road to residential development ;
3. As an essential part of a town's structure ;
4. As pedestrian access to all parts of town and country ;
5. As a car park ;
6. As a medium for the purveying of goods from barrows, vans, tricycles, etc. ;
7. As a universal " way-leave " for public services ; water, gas, electricity, etc., and consequently liable to be broken into at any time for repair purposes ;
8. As a permanent-way for tramcars ;
9. As a play space for children ;

and, on occasions, as a processional way.

It is small wonder that this Jack-of-all-Trades should be something of a failure as a means of dealing with the specialized needs of the modern motor vehicle.

High-speed motor traffic and building development are incompatibles, and all efforts to wed the two have already proved to be disastrous and preposterously expensive in every way. The imposition of a 30 m.p.h. speed limit in built-up areas is the official recognition of this incompatibility and though this restriction does somewhat reduce the possibility of fatal accidents it does nothing to remove any other of the evils arising from a heavy and constant stream of through motor traffic.

So long as we continue to let our main road traffic arteries wend their way through the living cells of the community, they will continue to be a constant source of danger and a blight to the amenities.

How preposterous the present situation really is can perhaps be realized by making a comparison between the roadway and the railway.

On a main road in a residential area there can be as many as 14,000 mechanical vehicles and 18,500 pedal cycles passing in a day—that is to say, the incredible figure of over 2,000 vehicles per hour of varying types and speeds. Many of these independent units are capable of speeds in excess of that of an express train and are, for the most part, under the control of independent private owners whose skill, experience and knowledge of the route are unknown factors but who, nevertheless, are not confined to the limits of a definite track adapted to the specific needs of the vehicle under their control.

What railway, with its carefully designed route, time schedules, signalling system,

regulated speeds and disciplined, experienced drivers, can compare with the road in elements of danger, and yet what ridicule would be poured on any suggestion to remove the fences from our railway lines and to erect on both sides endless rows of suburban villas each with its own little gate opening on to the line and allowing all and sundry to cross the tracks wherever and whenever they pleased.

Every traffic artery should be designed to secure :

In the first place : economical operation of the vehicle ;

In the second place : freedom from accidents ;

In the third place : economy in maintenance and administration ;

and last, but by no means least : the enrichment rather than the destruction of amenities.

I doubt whether it is possible to make much of a case against the present road system on the score of being excessively costly in maintenance and administration, though much money has been expended to little real purpose ; but on the other three counts the system is condemned beyond reprieve.

Thanks to the labours of the British Road Federation all the necessary statistics to support this condemnation have been marshalled into an overwhelming case which all who are interested can read for themselves.

The question of road accidents, however, is one which cannot be dismissed quite so summarily, even in a short address such as this, and I feel that no condemnation is too strong for the failure to grapple with this problem on scientific lines.

The policy of restriction on which we have relied almost entirely in the past has been an utter fiasco.

It is no use trying to condemn any particular class of road user for the appalling toll of life and limb exacted on the roads to-day. It is the duty of the Government to see that roads are provided on which accidents can only occur as the result of mechanical breakdown or positive criminal negligence.

If we are resolved upon bringing accidents down to the irreducible minimum we have only two alternatives before us. We can either adopt the incredibly expensive method of imposing a universal speed limit of 5 m.p.h., and so render innocuous the unexpected encounters which are responsible for 90 per cent. of all accidents, or we can eliminate completely two-thirds of those unexpected encounters by segregating fast motor traffic from other road users.

Certainly if human nature is so persistently fallible as the Ministry of Transport statistics seem to prove it to be, it is very obvious that rules, regulations and highway codes will never be of permanent value and can only serve as temporary expedients until we have prepared suitable conduits for modern traffic.

Warning signals and signs, traffic lights, pedestrian crossings and similar devices are mere palliatives—treatments of symptoms not causes—many of which aggravate rather than alleviate the defects which they are supposed to combat.

The signs which blossom so profusely by the roadside, particularly at junctions, have defeated their own object by their very multiplicity and have seldom achieved anything more than the creation of an unsightly mess. The lack of standardization of the various signs is, in itself, an element of distraction.

The Ministry of Transport's own signs are reasonably good but, unfortunately, other bodies are allowed to contribute their own quota of warnings and admonitions—often of the strangest nature ; skulls supplemented by a total of people killed on the spot do not contribute much to the enjoyment of a day in the country, and to greet the traveller as is done on the dangerous East Lancashire road, by the admonition "Prepare to Meet Thy God," is not a good method of inspiring him with confidence in the route he is using.

The very obvious failure of all these restrictive devices has tended to foster in the official mind the conviction that nothing very much can be done to diminish the number of accidents. This attitude of mind is implicit in such things as the compulsory insurance imposed on the motor user and the elaborate machinery which has been set up for the recording of accidents more for police purposes than as a prelude to a scientific solution of the problem.

The Form F.S.90 (Report of Road Traffic Accident) consists of fifty-five items of which particulars have to be filled in by the police for every single road accident which comes to their notice. This form is accompanied by a similarly elaborate form for the registration of details of persons killed or injured, and both are supplemented by eight pages of instructions on the compilation of these reports.

So long as we continue to pin our faith to restriction rather than construction there will always be the need for a very ample supply of Form F.S.90.

The motor user and the public at large have been ill-served in the matter of road communications by the wanton diversion, to other purposes, of funds from taxes levied for the avowed intention of road maintenance and improvement. As the report of the Select Committee of the House of Lords on the Prevention of Road Accidents (the *Alness Report*) pointed out, it is regrettable that the idea of a self-balancing Road Fund has been abandoned and that, for example, out of the sum of £75,406,000 raised in the year 1936/37 from motor and motor fuel taxation only £22,177,000 was devoted to road purposes.

Nearly forty years ago Anatole France wrote in *Penguin Island* :

> "... in order that the motor may cease to be injurious and become beneficent we must build roads suited to its speed, roads which it cannot tear up with its ferocious tyres and from which it will send no clouds of poison dust into human lungs ; we ought not to allow slower vehicles or mere animals to go on these roads, and we should establish garages upon them and so create order and harmony among the means of communication of the future."

In contrast to these same suggestions we find that our legislators have advanced very little in their outlook in the last seven hundred years. In 1285 the *Statute of Winchester* laid it down :

> "... that highways leading from one market town to another shall be enlarged where bushes, woods or dykes be, so that there be neither dyke nor bush to do hurt, within 200 ft. of the one side and 200 ft. of the other side of the way."

In 1935 the *Restriction of Ribbon Development Act* provided that :

> "... It shall not be lawful without the consent of the Highway Authority to erect or make any building upon land within 220 ft. from the middle of the road."

Time marches on, and in its forward surge the interest is transferred from dykes and bushes to buildings, but until the official eye takes within its ken, as it now fortunately seems inclined to do, such positive plans as form the subject of the instructive exhibition organized by the British Road Federation, there can be little hope of ever solving in a satisfactory manner the problems raised by the growth of motor traffic.

ISE

New Members

Candidates elected to membership of the Institution of Structural Engineers on December 2.

As Students : Gerald Eric Lester (London), Terence John Carroll (Ilford, Essex), Richard Leonard Crowe (London), Arthur Gibson (Bolton, Lancs.), Geoffrey Hartley (Greenfield, Lancs.), Philip Basil Lusty (London), Brian Desmond Yeoell (Buckhurst Hill, Essex), Colin Frederick Mountain (Penarth, Glam.), Alexander Gordon Stirrat (Wellington, N.Z.).

As Graduates : John Howard Baker (Chilworth, Southampton), Henry Wise Baker, jnr. (Glasgow), Herbert Heppleston (Bolton, Lancs.), Edmund Neil Robertson (London), Bernard Jean d'Arcy Harlow, B.SC. (Dewsbury, Yorks.), Mounir Fahmy Chalaby, B.SC. (Harborne, Birmingham), Alexander Stewart Crockett, B.SC. (Hessle, E. Yorks.), Frank Crowther, B.ENG. (S. Farnborough, Hants.), Harry Wolstenholme Elton (Thetford, Norfolk), William Struthers (Hessle, E. Yorks.), Hugh Brown Sutherland (Glasgow), Hormazdyar Kaikhushroo Sethna (Farnborough, Hants.), Jack Robinson (Redcar, Yorks.).

As Associate Member : John Charles Maxwell Cook (Brighton).

As Members : Thomas Whitley Moran, B.A.I., M.INST.C.E. (Epsom, Surrey), Norman Stanley Williams, M.INST.C.E. (Cardiff), Horace Raymond Chanter, F.R.I.B.A., F.S.I. (London), George Edward Cooper (Sketty, Swansea), Pestonji Edulji Golvala, B.A., M.I.E. (India) (Bombay), Henry Brodrick (Cheam, Surrey), Albert Lewis Saunders (Hornchurch, Essex), Clifford Wilkinson (Leeds).

LMBA

Deputation to Lord Portal

A deputation from the London Master Builders' Association, headed by Mr. H. C. Harland, the President, was recently received by Lord Portal, Minister of Works, at Lambeth Bridge House, to discuss man-power in the building industry. Lord Portal was accompanied by Mr. George Hicks, Parliamentary Secretary ; Sir Hugh Beaver, Director-General ; and Mr. H. H. Montgomery, Ministry of Labour representative at MOW. Mr. de Villiers represented MOLNS. The deputation consisted of the office bearers of the Association : H. C. Harland, President ; W. E. Rice, Past President ; J. Galbraith, Senior Vice-President ; E. W. Garrett, Junior Vice-President ; and Philip Smallwood, Honorary Treasurer. In presenting the deputation's views, Mr. Harland made the following points :

H. C. Harland : The Association holds that the building industry has now been reduced to the minimum consistent with safety, bearing in mind the present needs of the community and the post-war obligations it will be called upon to shoulder. In making this representation the Association had taken into account not only the programme of work on which the industry is engaged, but also the possibility of further enemy attacks on our towns and cities.

When the present programme is completed, the Association submits that it is essential in the interests of the country that the present minimum personnel in the industry should be retained for possible further Government requirements, and that should further Government demands not be made on it, it is equally important that a programme to keep this irreducible minimum employed in the industry should immediately be devised.

The Association urges that as maintenance work is now seriously in arrear, it should be put in hand as part of a definite Government programme, and that licences for this purpose

should be given freely, not only to keep the present personnel employed for eventualities and for post-war work, but also to avoid a serious drag on the industry in the post-war period.

The Ministry of Labour has already asked the industry to be prepared to augment its present personnel by absorbing men as they are demobilized from the Army, and by taking men partly trained and to be trained, into the industry. The industry is only too anxious to take its share in this work, but it will be unable to do so if the present nucleus of men in the industry is further reduced.

On demobilization the Association urges that it will be quite useless to the industry to have large numbers of men with no special technical training suddenly thrust upon it; the industry must first of all have returned to it the key men and foremen necessary to mobilize the rank and file coming into the industry, even if this means that the last men "in" should be the first to be demobilized.

Lord Portal: I am myself very much concerned with the problems raised, and am glad to know that the LMBA has given such serious consideration to them. I will pass on to the Ministry of Labour and National Service the memorandum which the Association has presented, and speak personally to Mr. Bevin about the matter at the earliest opportunity.

LMBA

Sir H. Bellman

Sir Harold Bellman, Chairman of the Abbey Road Building Society, addressed the London Master Builders' Association recently on WAYS TO SPEED UP BUILDING. Chairman: H. C. Harland, President of LMBA.

Sir H. Bellman: It is sometimes necessary under prevailing conditions for a building owner to make at least half a dozen applications to different authorities before he can lay a single brick.

With only the bare minimum of war-time building this is exasperating. In the post-war housing campaign it spells utter chaos. All these various controls and authorities must be effectively co-ordinated. The normal and natural provision should be that *one* application accompanied by the necessary plans to *one* authority is sufficient. It should be the duty of that one authority to establish effective liaison with all the interests concerned and to indicate approval or otherwise without inordinate delay.

Like all freedom-loving British people I dislike controls intensely. It is obvious, however, that in the conditions likely to obtain for some time after the war, some measure of control is quite inescapable. Priorities are obviously essential so long as acute scarcity prevails. It would be an outrage if luxury building should absorb labour and materials while the supply of both ingredients is short and the demand for homes for the masses is unsatisfied, or while industrial building essential to the redevelopment of our national economy is retarded.

A more effective measure of control on constructional standards, siting and design will also be accepted without dispute.

We are faced with the need of providing an average of 400,000 houses each year. Can this be done? I think it can, given certain conditions, but I am convinced that the task can only be accomplished if all the available resources are mobilized.

It is first of supreme importance that the Government discloses quickly and clearly its policy on the questions dealt with by the Scott, Uthwatt and Barlow Committees. I hope and believe it will be possible for the Government to find a compromise in respect of the more contentious proposals of the Uthwatt Report and one which, while not shackling future and proper development, will deal equitably with the issues of compensation and betterment.

There is obviously a wide field for local authority housing effort in the resumption of slum clearance schemes, the re-building of devastated areas, and in co-operation with other agencies, the provision of dwellings for letting to the lower paid workers, those particularly for whom house purchase is neither practicable nor desirable. But I see no real justification for any far-reaching development of municipal trading in ordinary housing business. I hold the view that the municipalities should not be encouraged to become involved in extensive undertakings if it can be established that these can be more efficiently administered by private enterprise.

H. C. Harland: Lord Woolton says that post-war building must be based on a system of priorities. I agree. Priorities should be granted for essential schemes equally to local authorities, Government departments and private enterprise. If we are all to take our place in the re-building of Britain, then we must all be given the opportunity of sharing in the effort. But let the other controls by which we are hampered to-day—the Essential Work Order and the Payment by Results scheme—cease as quickly as possible. In my view all that is necessary so far as materials are concerned, is to fix maximum prices, and that for short periods at a time, and leave competition to bring prices down.

ANNOUNCEMENTS

Mr. Frank J. Smith, F.S.I., has opened an office at 9, King's Bench Walk, Temple, E.C.4, where he will practise as an Architect and Surveyor. He is continuing to practise with the assistance of Mr. P. M. Wright under the style of Wright & Renny, at Midland Bank Chambers, Woolwich.

Neigh! Neigh! . . .

In other words, the answer is in the negative. It's hard, even for a horse, to be taken out of a well-earned retirement just because we've a war on. But he's helping to keep a tank going "somewhere." So let's put the best face we can on it and admit that a little inconvenience is inevitable these days for most people. Those who have trouble in getting M.K. products should know that the war effort is absorbing the entire facilities of our factory. When the piping days of peace are here again, production of fine quality switches, switch plugs and electrical accessories will be resumed.

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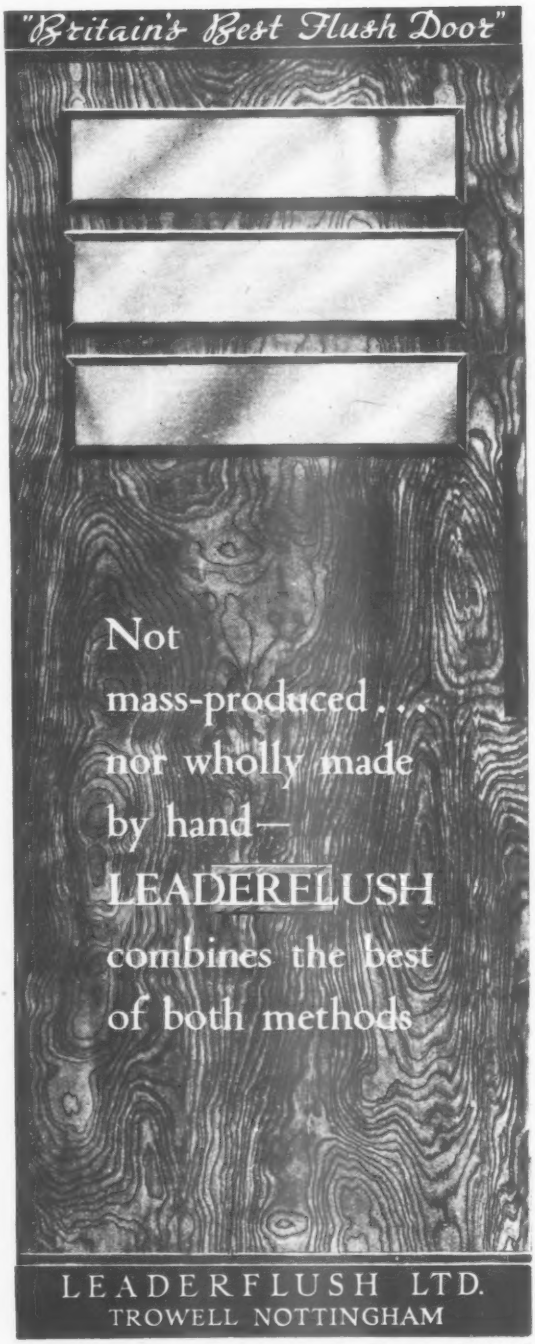

COGENT

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

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TEMPORARY ASSISTANT QUANTITY SURVEYOR required in the Provinces by Main Line Railway Company, capable of undertaking all duties including accounts, assessments and valuations. Young improver exempt from military service might be considered. Possible permanency to suitable man. Applications and salary required, with copies of recent testimonials, to be sent to the Employment Exchange, York. 8

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Classified Advertisements continued on page xxx

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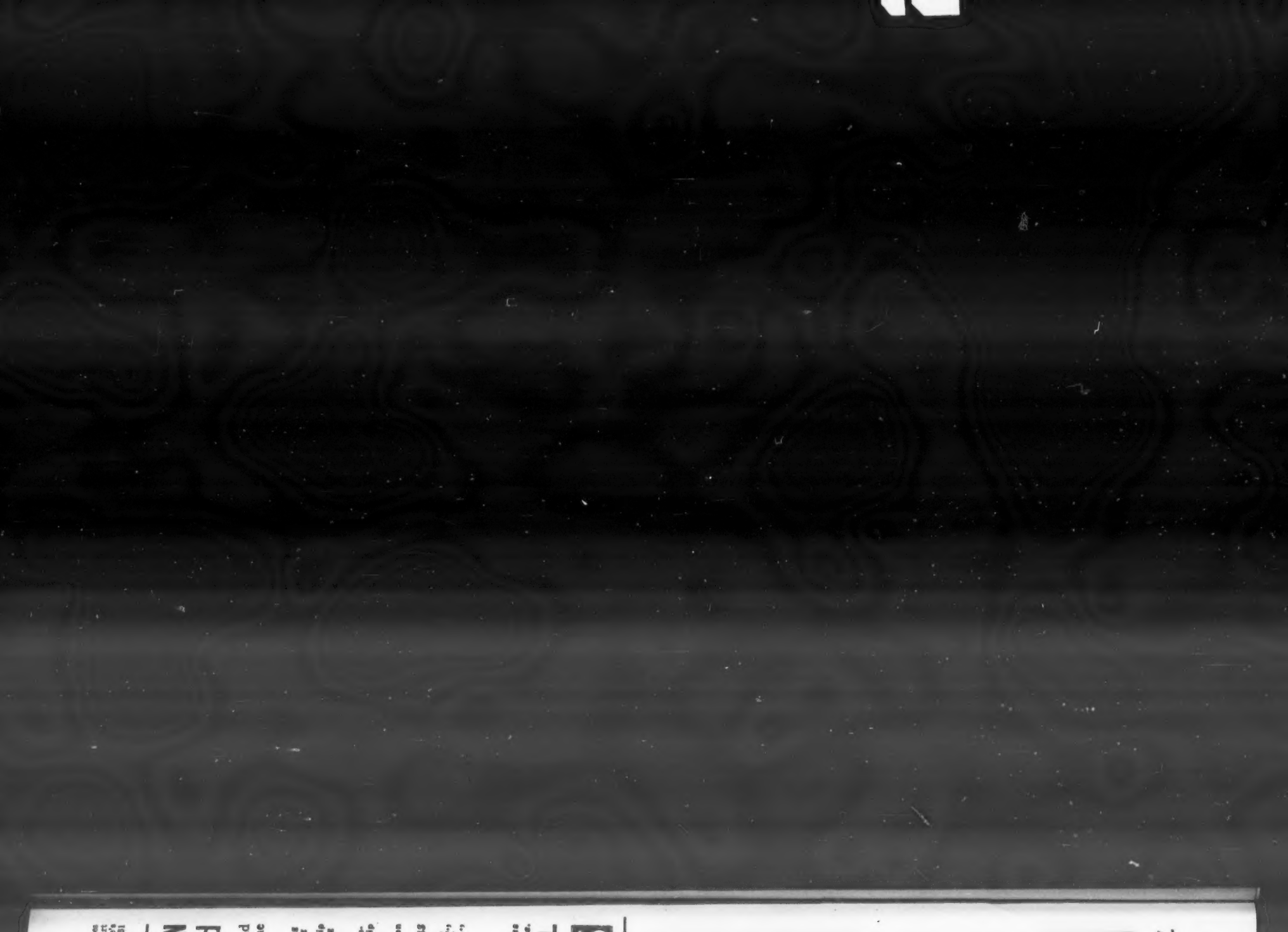

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