THE ARCHITECTS' JOURNAL

No. 2548] [VOL. 98

THE ARCHITECTURAL PRESS, War Address: Forty-five The Avenue, Cheam, Surrey. Phone: Vigilant 0087-9

Price 9d.

Registered as a Newspaper

★ 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. All Souls' College, Oxford.	Welbeck 1881. Oxford 48809.
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041.
NFBTO	National Federation of Building Trades Operatives. 9, Rugby Chambers, Rugby Street, W.C.1.	Holborn 2770.
NT	National Trust for Places of Historic Interest or Natural Beauty. 7, Buckingham Palace Gardens, S.W.1.	Sloane 5808.
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.

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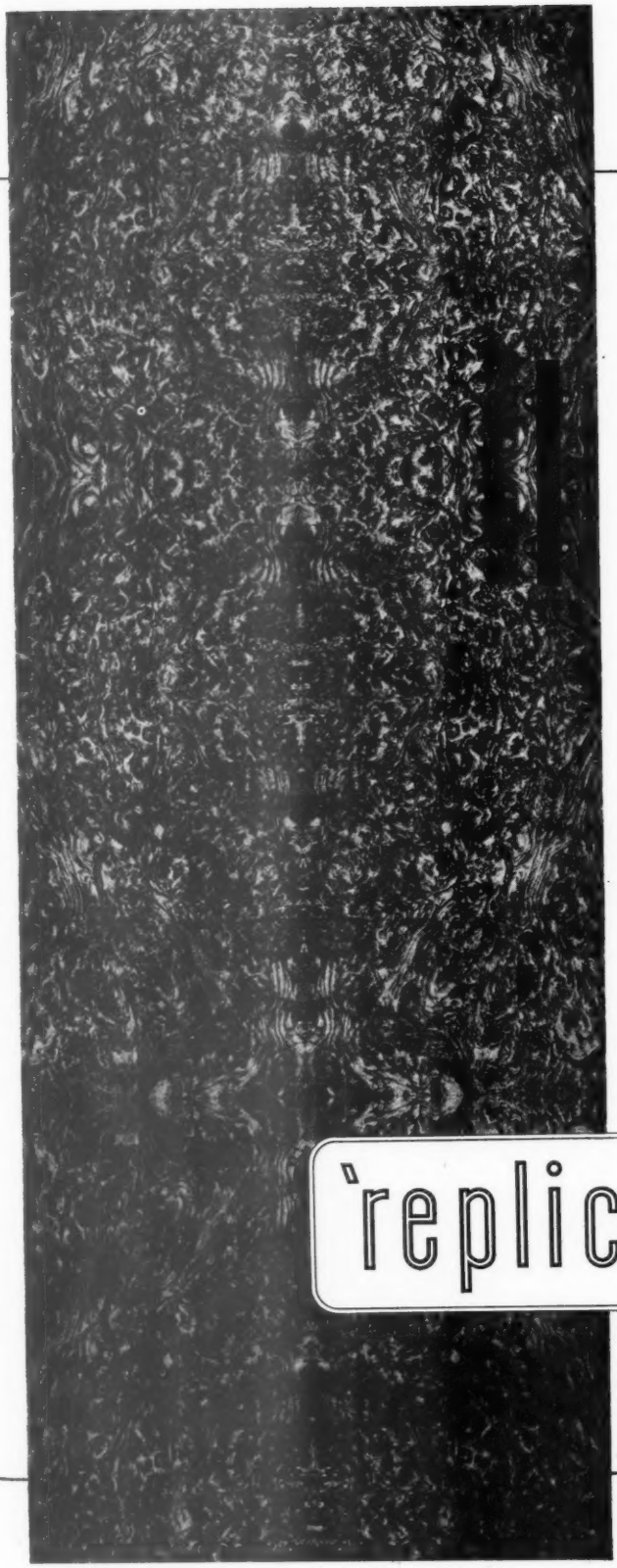
Telephone: Whitehall 9936.

Alphabetical Index to Advertisers

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



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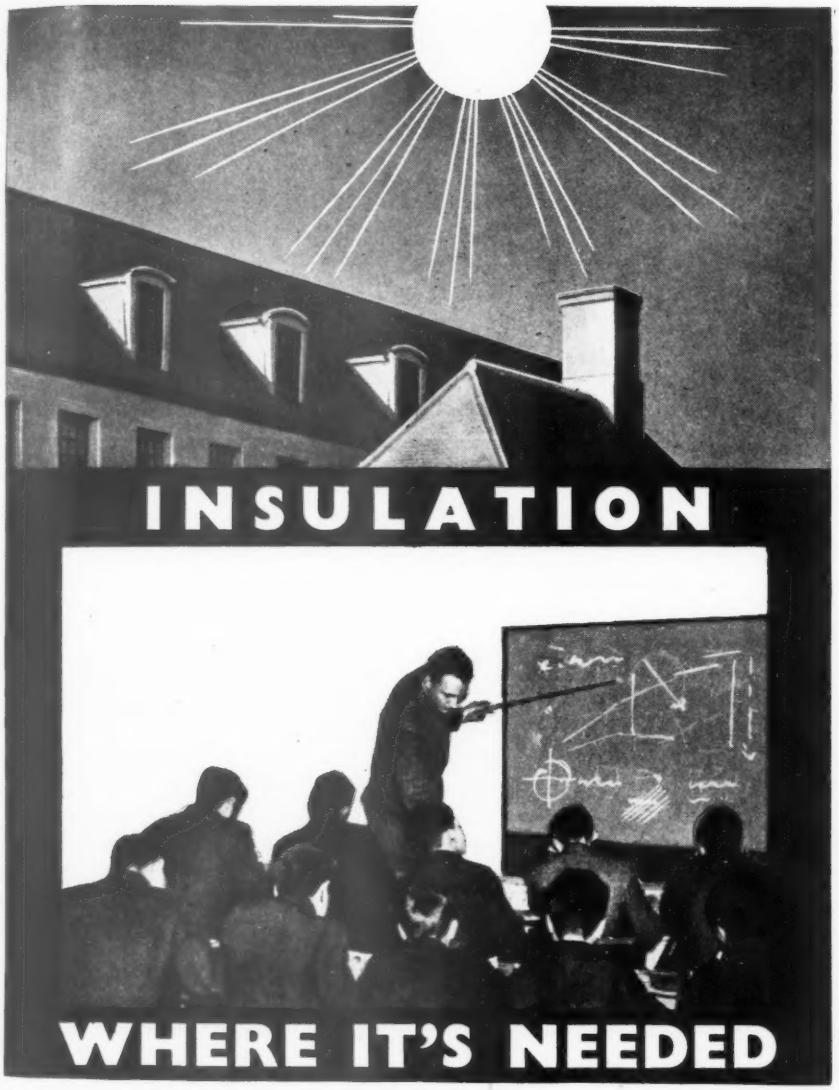

One of the most urgent needs of post-war building will be to provide homes which will keep cold out and warmth in. Such dwellings will be necessary on the score of both health and economy. Fortunately, the science of insulation has been perfected through the various requirements of war and, through the use of Wood Wool Building Slabs, most of the war-time problems of insulation are now being met. The remarkable degree of resistance to fire, heat, cold, sound and moisture which is now being demonstrated in canteens, hospitals, hutments and various emergency buildings where Wood Wool Slabs have been used, points to wide and practical constructional developments when war is over.

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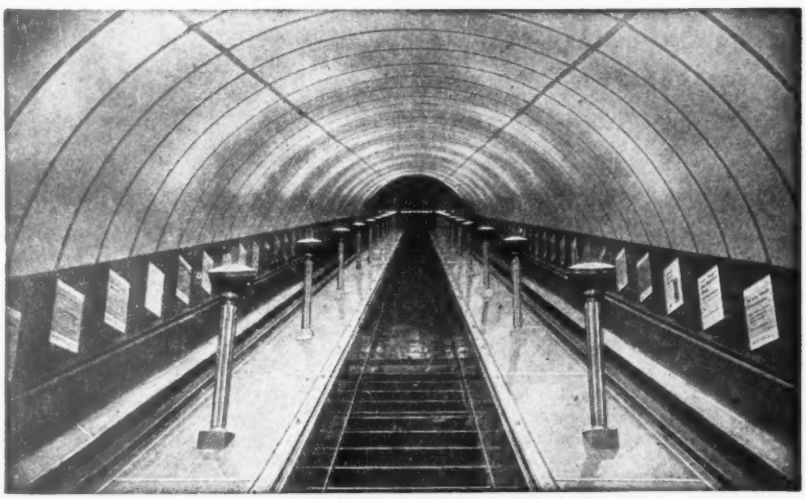
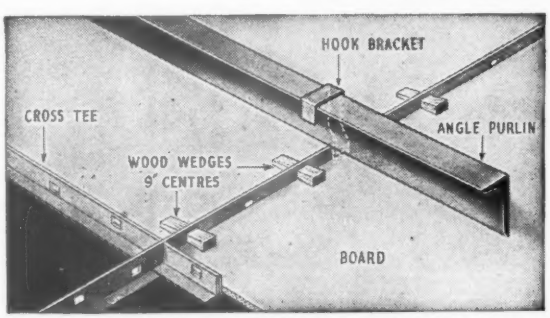
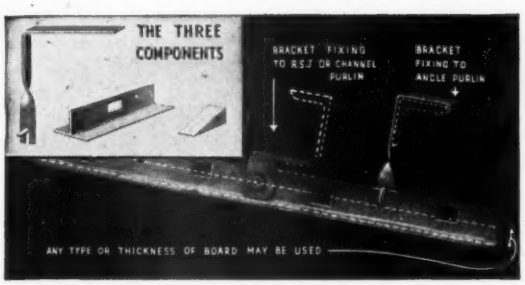


Escalator Tunnel at St. John's Wood Underground Station. Architect: S. A. Heaps.





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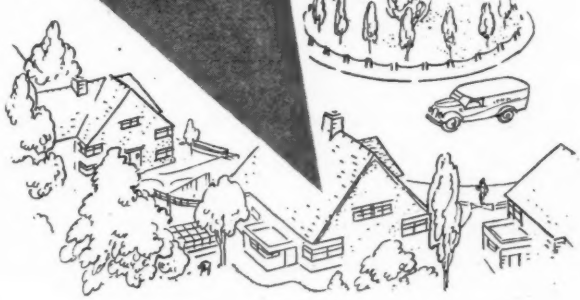

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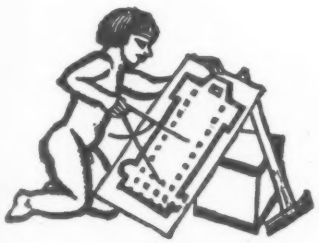


DIARY FOR NOVEMBER AND DECEMBER

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.

CHESTERFIELD. *Royal Sanitary Institute Sessional Meeting.* At the Town Hall. 10 a.m. Inspection of town planning drawings, 10.30 a.m. Welcome by the Mayor. Discussion on *Houses of the Future with Special Reference to the Housewife's Needs,* to be opened by W. S. Wilson, Borough Engineer; Miss B. Gamble, Woman Property Manager; and Councillor Miss F. Robinson, chairman of the Health Committee; all of Chesterfield. 1 p.m., lunch. 2 p.m., Talk on the *Development of Chesterfield since* 1900, by W. S. Wilson. 4 p.m., Tea by invitation of the Mayor. Nov. 27

GLASGOW. *Exhibition of Plans submitted for "Set Piece" to the Town Planning Joint Examination Board of Great Britain.* At the Scottish Building Centre, 425, Sauchiehall Street, Glasgow, C.2. The exhibition has been arranged by Frank A. B. Preston, Milngavie, one of the Scottish Examiners of the Town Planning Joint Examination Board of Great Britain, in co-operation with the Scottish Building Centre. This year the problem set by the Examination Board was the replanning of the Central area of an existing town in relation to its outskirts, having in view its commercial importance and traditions. Candidates were required to select their own sites and were to assume that a central area, approximately one-half mile in diameter, had been almost totally destroyed. Scottish candidates selected sites at Clydebank, Glasgow, Paisley, Ayr, Arbroath, Edinburgh, Leith, Aberdeen. Some 200 candidates submitted "Set Pieces" and those now on view in the Building Centre represent the work of a selected 50 entrants, comprising 8 from Scotland, 6 from Ireland, and the remainder from England and Wales. The drawings are the work of qualified architects, engineers, etc., who desire professional qualifications as town planners. 9.30 a.m. to 1 p.m. and 2 p.m. to 5 p.m. Saturdays, 9.30 a.m. to 1 p.m. Nov. 25 - DEC. 1

ISLE OF ARRAN. *Twenty Women at Home Exhibition.* (Sponsor, HC.) Nov. 25-29

LONDON. *County of London Plan Exhibition.* At the Royal Academy, Burlington House, Piccadilly, W. The exhibition consists of large-scale maps and drawings illustrating the County of London Plan, prepared for the LCC by J. H. Forshaw, the Council's Architect, in association with Professor Patrick Abercrombie. The Council now awaits the views of MOTCP and MOT, and of the other Government departments and public authorities and public utility undertakings concerned, and will consider the Plan further when these views have been received. The Council is also anxious to obtain the views of the general public, particularly of Londoners. Open 10 a.m. to 5 p.m. weekdays, 2 p.m. to 5 p.m. Sundays, admission free. Nov. 25-28

H. A. Cox. *Timber, Uses New and Old.* At Royal Society of Arts, John Adam Street, W.C.2. 1.45 p.m. Nov. 29

C. C. Handisyde. *House Construction, Methods and Standards.* At Housing Centre, 13, Suffolk Street, S.W.1. 1.15 p.m. Nov. 30

Institute of Welding Discussion Meetings. Meetings designed to give opportunities for the informal exchange of practical information on welding. The programme will consist of a short film followed by general discussion, in which questions will be invited. 6 p.m. Dec. 1, South-West Essex Technical College, Forest Road, Walthamstow. Dec. 9, Wimbledon Technical College, Gladstone Road, Wimbledon. Dec. 15, Acton Technical College, High Street, Acton. Members of the Institute will be admitted on production of Sessional Card. Non-members are invited to apply for Guest Tickets to the Secretary, Institute of Welding, 2, Buckingham Palace Gardens, S.W.1. (Telephone: Sloane 9851/2).

MANCHESTER. *Paintings by Turkish Children.* Exhibition at the Manchester Municipal School of Art, Cavendish Street, All Saints, of paintings from Yozgat Secondary School, near Ankara. Nov. 25-27

MELKSHAM, WILTS. *New Homes for Old Exhibition.* (Sponsor, HC.) Nov. 25-30

MORETON-IN-MARSH. *Town and Country Planning Association Conference.* Speaker: Dr. L. Dudley Stamp. Nov. 27

READING. *Good Neighbours Exhibition.* (Sponsor, HC.) Nov. 25-29

SWANSEA. *Rebuilding Britain Exhibition.* (Sponsor, RIBA.) Nov. 25-DEC. 11

WALTHAMSTOW. *S.W. Essex Technical College and School of Art.* Third Annual Dance of the Department of Architecture and Building. At the hall of the College, Forest Road, Walthamstow, E.17. Architects are invited. Tickets 3/6 each including refreshments. 7 p.m. to 10.30 p.m. Nov. 26

YEALMPTON, DEVON. *Living in the Country Exhibition.* (Sponsor, HC.) Nov. 25-DEC. 2

NEWS

THURSDAY, NOVEMBER 25, 1943
No. 2548. 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.

About 4,000 acres of land to accommodate about 25,400 HOUSES FOR GLASGOW have just been acquired by the Corporation.

The amount is divided up among a large number of sites, and the Department of Health has already approved lay-out and type plans prepared by the Corporation for about 5,200 houses. The Corporation will probably reconsider these in the light of the recommendations being made by the Scottish Housing Advisory Committee in their forthcoming report. Glasgow has about 90,000 applications for houses.

Since February last, £1,100,000 has been INVESTED IN WAR BONDS by the Building and Civil Engineering Holidays Scheme Management Ltd.

Under this scheme for providing holidays with pay, employers and workers have got together, blessed by the Ministry of Labour, and stamps costing one shilling and sixpence each are bought by the employers every week for each man. The scheme has been so successful, says Mr. Ernest J. Chapman, General Manager and Secretary, that other branches of industry such as the asphalt manufacturers, the demolition contractors and the building industry in the Isle of Man are thinking of taking it up. It has been adopted in Scotland and has been discussed with the Northern Ireland Building Joint Advisory Council.

from AN ARCHITECT'S *Commonplace Book*

APARTMENT HOUSE: 16TH CENTURY (continued). [*From* The Lives, Heroic Deeds and Sayings of Gargantua and His Son, Pantagruel, *by François Rabelais*]. All the halls, chambers, and closets or cabinets, were richly hung with tapestrie, and hangings of divers sorts, according to the variety of the seasons of the year. All the pavements and floors were covered with green cloth: the beds were all embroidered: in every back-chamber or withdrawing room there was a looking-glasse of pure crystal set in a frame of fine gold, garnished all about with pearles, and was of such greatnesse, that it would represent to the full the whole lineaments and proportion of the person that stood before it. At the going out of the halls, which belong to the ladies lodgings, were the perfumers and trimmers, through whose hovels the gallants past when they were to visit the ladies; those sweet Artificers did every morning furnish the ladies chambers with the spirit of roses, orange flower-water and Angelica; and to each of them gave a little precious casket vapouring forth the most odoriferous exhalations of the choicest aromatical sents. . . . All their life was spent not in lawes, statutes or rules, but according to their own free will and pleasure. . . . In all their rule, and strictest tie of their order, there was but this one clause to be observed, DO WHAT THOU WILT.

"We need at least five hundred houses but MOH CUT US DOWN TO FIFTY," said Mr. F. Chivers, at a meeting of Melksham (Wilts) U.D.C.
He urged the Council to ask the new Minister of Health to alter the Ministry's decision that the Council should buy only enough land for fifty houses. He said the Ministry's decision is all bunkum as it only means buying more land later and paying two lots of legal charges. The Council decided to accept the Ministry's decision.

Mr. W. H. Ansell, PP.R.I.B.A., speaking at the County of London Planning Exhibition at the Royal Academy, said that PLANNING MUST BE PRACTICAL. A city is there to be used, but planning without imagination will give us again all the dreariness we lament.
Continuing he said: The 28 miles of railway viaduct in south London, the lines of depressing houses that back on to the arches or embankment, the railway bridges that disfigure our river or block one of the finest views of St. Paul's, are the result of practical planning, with very imperfect and earth-bound imagination. Civic pride is one of the few kinds of pride that are tolerable and even estimable. Let the LCC foster it by refusing to forgo its high ideals.

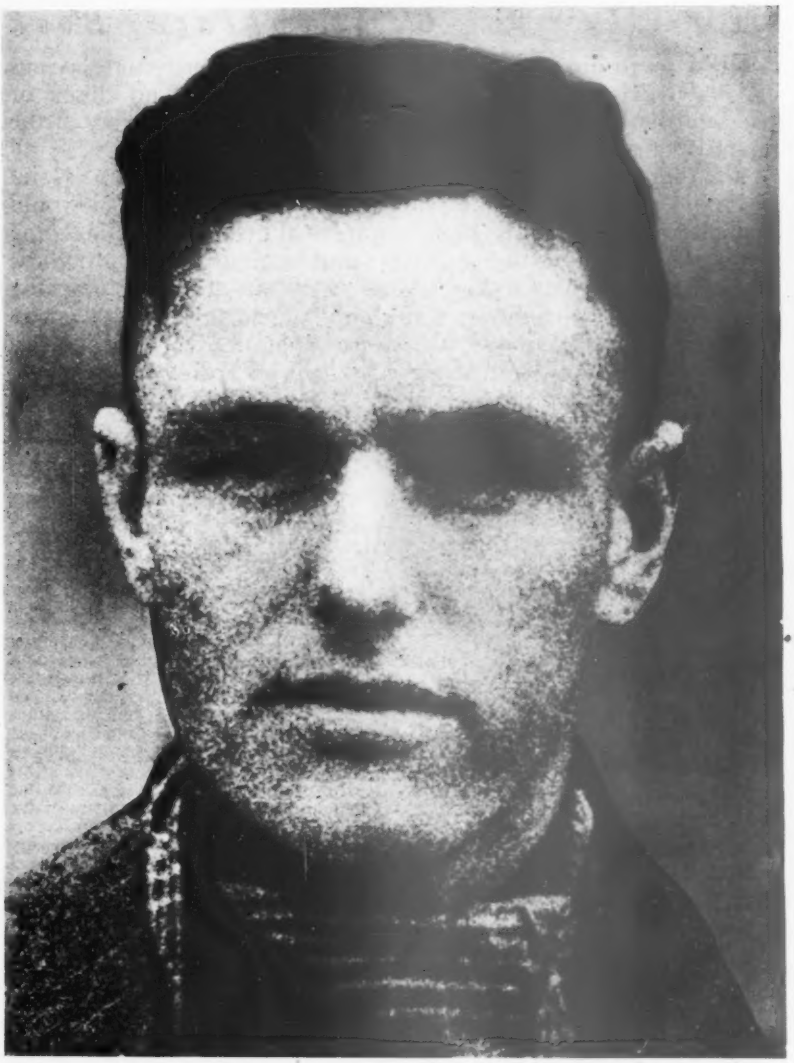
★

At a meeting of the Court of Common Council at Guildhall, Captain Alfred Instone asked for information regarding the publication of the CITY OF LONDON REPLANNING SCHEME.
He said that there is growing anxiety because of the absence of information. Mr. Claud Dennis said that everything possible is being done to expedite the presentation of the provisional plan. Provisional recommendations have been decided upon and the report is in the hands of the printers. The presentation of the scheme depends on the rate at which finished drawings can be prepared and printed. After consideration by the committee of the draft report, the Special Committee will be consulted as to the manner of the presentation. Captain Instone urged that more precise information should be given. Mr. Dennis replied that they must wait for the plans, which will be prepared as quickly as possible. Captain Instone must be patient.

On his retirement from the post of County Architect of Stirling, owing to ill-health, Mr. A. N. Malcolm has been PRESENTED WITH A BANK DRAFT by the members of the Council, county officials and the staff of the architect's department in recognition of his services.
Mr. Malcolm was appointed master of works under the former County Education Authority in 1921, and since 1932 he has been County Architect in charge of all the buildings under County Council ownership.

The Gas Industry has submitted a report to the Minister of Fuel indicating the FUTURE PLANS OF THE GAS INDUSTRY for organization and structure.
Two years' research has gone into the drafting of this report including a factual survey of the industry which was submitted to the Minister some weeks ago. The chief recommendations include: (1) The formation of a British Gas Association to supersede various other national gas bodies now in existence and to assume their functions. Its Central Council will act as a Parliament for the Industry. (2) Methods of integration of undertakings throughout the country to provide a better service to the community after the war and to hasten the extension of gas into rural areas. The report puts forward a suggestion that the Ministry of Fuel should appoint a National Fuel Advisory Council to facilitate the elimination of wasteful competition between the fuel industries, and to reinforce the spirit of constructive co-operation both in the interest of the National economy and of service to the individual fuel user.

The Ministry of Information has set a high standard in exhibitions, and this is already having an effect on exhibition design in general, such as that of the excellent little Health in Industry *exhibition. The first of its kind, it was arranged by the Chloride Electrical Storage Company for the benefit of its employees at their works in Mancheste', but it has been moved to London where it is now on view at Messrs. Harris & Sheldon's showrooms. These form an excellent background to the exhibition with their grey pleated hessian wall coverings and simple recessed ceiling lights. The showrooms were decorated within the £100 limit to the designs ofGrey Wornum.*



Flight Sergeant Arthur Louis Aaron, V.C.

" In appalling conditions he showed the greatest qualities of courage, determination and leadership, and, though wounded and dying, he set an example of devotion to duty which has seldom been equalled and never surpassed." This is an extract from the *London Gazette* announcing the award of the V.C. posthumously to 21-year-old Flight Sergeant Arthur Aaron, of 218 Squadron, who died of wounds nine hours after the Stirling bomber, of which he was captain and pilot, had landed at Bone, North Africa. When he joined up in 1941, he was a second-year student in the Diploma Course in the Leeds School of Architecture, and showed great promise as an architect. On the night of August 12, Aaron's bomber left Britain to bomb Turin, but while over the Alps it was attacked by an enemy fighter. Devastating bursts of fire hit three engines, shattered the windscreen, put the front and rear turrets out of action, and damaged the elevator control. The navigator was killed and other members of the crew were wounded. In the cockpit, Flight Sergeant Aaron had slumped over the control column, his jaw broken, and part of his face torn away, his right arm useless and with a wound in the lung. The plane dived several thousand feet, but the flight engineer, Sergeant Malcolm Mitchem, recovered control at 3,000 feet. Still conscious, Flight Sergeant Aaron signalled to the bomb-aimer, Flight Sergeant Alan Larden, to take over. Larden decided that without a navigator he could not go on to Turin, so with one engine entirely out of action he headed for North Africa, although he was practically without experience at the controls. Dragged from his pilot's seat and given morphia, Aaron rested for a while in the rear of the aircraft. Then he insisted on returning to the cockpit. He was lifted into his seat and they placed his feet on the rudder bar. Twice he tried to take control, but his weakness was apparent. The crew talked to him, and with difficulty persuaded him not to try again. But his left hand was still capable of writing and, although he was in great pain and exhausted, he went on writing directions. Five hours after leaving the target the Stirling was short of petrol, but the flares of Bone airfield were in sight. At the critical moment of landing —the aircraft had been unable to jettison its bomb load because the release mechanism had jammed—Flight Sergeant Aaron summoned his failing strength to direct Flight Sergeant Larden. Four times the bomber tried to land in the darkness, crippled and with its under-carriage retracted. At the fifth approach Flight Sergeant Aaron was so near to collapse that the crew had to restrain him. The fifth attempt was successful. They carried him out of the damaged plane to hospital. Here is the comment in the official citation : Had he been content when grievously wounded to lie still and conserve his failing strength he would probably have recovered ; but he saw it as his duty to exert himself to the utmost, if necessary with his last breath, to ensure that his aircraft and crew did not fall into enemy hands. He was the first Leeds—and it is believed the first architect—V.C.

★

A scheme is being considered for the QUALITATIVE REGISTRATION OF BUILDERS, said Mr. Leslie Wallis, President of NFBTE.

Mr. Leslie Wallis was speaking at Liverpool and said: What we are aiming at is not a closed or protected industry, but a qualified one. Why should anybody who thinks he can make money be allowed to start building with little knowledge and no experience? It would not only be a great advantage to the public who have work to be done to be assured that by going to a registered builder they would get the job done properly and fairly, but it would raise the standard of building. No firm would be admitted to the register unless it could be shown that it was capable of and actually did good, sound quality work. (See page xxxii).

Mr. Percy E. Thomas, P.R.I.B.A. and President of the Architects' Benevolent Society is issuing an APPEAL FOR FUNDS FOR THE ABS.

Unemployment is not a serious problem, but the war is making life specially difficult for the aged, the infirm and widows with young children, and throughout the country many who are in desperate need apply to ABS for help. In his appeal Mr. Thomas says: We do not want to be forced to refuse any for lack of funds and I am therefore making an appeal to architects for donations to enable us to help those members of the profession and their families who are in distress. Our need for funds is urgent. The smallest sum will be received with gratitude. Owing to paper restrictions, Mr. Thomas's appeal cannot be sent by the ABS to every architect individually.

★

Residents of Oxhey, near Watford, are OPPOSING THE LCC'S PROPOSED NEW COTTAGE ESTATE for London workers.

A petition is being sent to Air Commodore W. Helmore, M.P. for the division, requesting that the matter be raised in the House of Commons. The site to be developed at Oxhey covers an area of 910 acres and accommodation is proposed on the new estate for 15,000 persons. Councillor E. J. Baxter, representing the Oxhey ward on the Herts County Council, described the LCC plan as a good one. He said: No one could improve it. Schools and recreational facilities are included. The site has been earmarked for building for some time, and the LCC plan is better than any speculative builder could envisage.

★

On Sir Ian MacAlister's retirement, on December 31, Mr. C. D. Spragg will take over the duties of SECRETARY OF THE RIBA until the end of the war. Mr. Spragg has been assistant secretary for the past seventeen years. Mr. J. B. Turner has been appointed Acting Assistant Secretary. He will take up his duties on December 1.

BUILD TEMPORARY HOUSES

HOPES of initiating a programme of new house construction during the war have been raised by recent political, economic and war news. Such a programme could probably be started early in 1944—for the following reasons.

The decision of the Portuguese Government to afford facilities in the Azores to Great Britain gives us a base of the utmost importance for the protection of transatlantic shipping. Sinkings by U-boats during recent months have been comparatively small. These two facts have increased the actual and potential imports of timber from Canada and the United States, which is reflected in the significant announcement that the Timber Control is encouraging the use of constructional plywood, except where alternative home produced sheet materials are giving satisfactory service. Supplies of iron and steel for civil use may soon become greater, as the naval and merchant naval ship building programmes are completed and sinkings decrease. Further, it is unlikely that the munitions programme will require a higher weekly consumption of iron and steel than at present, while output of these two materials is not likely to fall.

The new house repair and completion programme recently announced by the Minister of Health is significant. This turning of all immobile building labour towards easing the housing shortage indicates the Government's concern. If good progress can be reported with this programme at the end of the six months it has been allotted to run, it is possible that between 50,000 and 100,000 building operatives, unfitted for absorption into munitions factories, may be switched to a house building programme.

The Minister of Works announcement of his intention (in a Statutory Rule and Order) of calling for a further return of labour from all registered building and civil engineering contractors bears out this possibility for it may well be that this return has been prompted by the events recounted above. On the results of this return the decision to allow or to turn down a war-time housing programme will probably be made. The housing shortage grows ever more acute, and the sooner this shortage can be overcome the better. But the country is quite unprepared for rebuilding to any coherent plan. There are dangers attached to immediate re-housing schemes, even to the limited extent possible during the war, in that they may, if carried out in a haphazard way, seriously jeopardize future long-term planning and the proper use of land.

What is the solution? Pending the formulation of a long-term national planning policy, it is (*a*) that available traditional building labour and materials should be concentrated mainly on repair and conversion of existing buildings (those 1,500,000 damaged houses mentioned by Mr. Walter Elliot in his excellent article published in the *Evening Standard* on November 18*) and on public buildings rather than on the erection of permanent houses of a traditional type, and

*Reprinted on page 399.

(*b*) that purely temporary, factory produced, and, to a large extent, demountable houses should be produced and erected on town sites and on new country and suburban sites only where it is certain that these will be used in the future for no other purpose than building. This means that far greater effort should immediately be concentrated by the Government departments concerned on the study of the design and organization for manufacture of temporary, mass-produced, houses. Much useful work on new methods of house production is being carried out by private firms and individuals but this needs the co-ordination and active assistance of an official body backed by emergency building legislation and working to a clearly formulated plan of campaign.

The solution of the immediate housing problem will no doubt be one of the main tasks of the new Ministry of Reconstruction. In re-housing and physical planning it will have clearly to articulate two policies—the short and the long-term. The short-term will be mainly concerned with the rapid erection of those essential mass-produced houses, chiefly of a temporary nature, the long-term with the radical re-planning and re-building of the whole country on more permanent lines, possible only when the future becomes both politically and technically more clearly discernible, and after adequate research and training for the job has been carried out. Without that clear articulation, chaos will come again.

The Architects' Journal

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

N O T E S & T O P I C S

POINTS ABOUT PREFABRICATION

The second part of the Report by the Council for the Scientific Provision of Industrial Housing has been published. I understand that the Committee has only issued it to subscribing members, and it is hoped that it will soon be made available to the public. A copy which I have been able to see makes me think that its issue to the public, as soon as possible, is desirable. It gives an excellent account of the various methods of prefabrication in different materials, and one would like to hear the comments on this report of the various designers who are working on prefabricated systems.

*

Discussion on prefabrication is widening out ; it is no longer confined to arguments on the possibilities of construction, but to the wider questions of cost, length of life, and the social effect that it may have on the communities who may be housed in this way. The cost and the length of life of a prefabricated house are obviously locked up with one another. The Ministry of Health grants loans for brick houses on an expected life of 60 years, and this factor must have an effect upon the cost. No claim, so far as I know, has been made for this span of life with a prefabricated house. The building societies have different loan periods, and as the majority of houses built by private enterprise in the inter-war period were financed in this way, the length of life of the prefabricated house is bound to have a bearing on the loan they would be prepared to make. It does not seem likely that a building society would be prepared to lend money on the security of such a house, nor would any prudent member of the community care to invest his savings in a building whose life has not been determined by experience. It looks as though the prefabrication of houses will be confined to schemes financed in some form or another by the State and let on a rental basis.

*

From what one has seen of prefabrication it does not at present seem to offer any startling economies in cost. But it is still in its infancy, and no one would care to predict what might happen with a really large programme carried out on mass-production lines. If the problem however is to be nibbled at, and various little colonies using one system or another are to be built, it does not appear that prefabricated houses, so far as they have gone at present, are likely to make much impression on the general building programme. The plans of some of the larger contractors for the efficient organization of in situ construction are going to make formidable competition in cost.

*

The fuss about the conditions of the Whitley estate near Reading shows, once again, that housing a community successfully does not depend upon the provision of houses and nothing else. Even using bricks and mortar, the policy of dumping the surplus population somewhere outside the town has been as unsuccessful as it was in other branches of the export market. With prefabrication the faults of a policy of supplying housing and nothing else will be accentuated, and the social effect must be considered before any large scale schemes are introduced. It would be interesting to know if any committee is considering this problem. In actual field work there are excellent opportunities of such study amongst the dwellers in converted buses and coaches along the south coast—so far as this country is

concerned. From all the illustrations one sees they seem to have handled this thing very efficiently in America, although there is of course the possibility that only the better American schemes are illustrated in the British papers. To the uncontrolled caravan town almost anything is to be preferred, and we were probably wise to build our hostels.

★

IN SEARCH OF COMMUNITIES

During a discussion of various plans for London, someone remarked recently that everyone seemed to have discovered the value of communities at the same time. No doubt when history is written we will find this is not true, that the present unanimous recognition that people should live in groupings that are human in scale, possess a centre and boundaries and cater for all more important activities, was just the last inevitable step in a long series. But at the moment it does seem to have happened very quickly.

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The fulfilment of the need is not going to be so easy. We know, or think we know, one or two helpful facts. It will be usually desirable to add, very judiciously, to existing communities rather than to build entirely new ones. We know that houses alone cannot provide the setting for a successful community. We can list the number and kinds of buildings that will be needed by a community of a given size. But when one leaves the field of concrete objects and their arrangement, aims and their method of fulfilment become much more hazy. What, for example, is a socially well-balanced community, and what are the conditions most likely to lead to its development?

★

Most people can make a good shot at answering the first part of the question. A good community should contain a reasonable proportion of all income groups and considerable diversity of jobs, outlooks and interests.

★

The second part of the question is a very different matter. Nearly all pre-war trends were against the formation of such communities. The rich moved out of towns to one area, the not so rich to another, and the poor either stayed behind or moved or were moved to a third type of area. It is difficult to say which of the three types was socially the most damaging. Probably the third because its inhabitants had least power to leave.

★

The problem of reversing this process of social fragmentation is upon us already. It is freely assumed that after the war a large number of people will be moved out of big cities; it is also assumed that this move will be carried out by local authorities under housing grants somewhat similar to inter-war grants. If this is so the local authorities may not be able to build houses for middle-class tenants, and there is no guarantee that middle-class persons would occupy them if they were so built (providing any other houses were available). The alternative course, in many ways desirable, is for housing authorities to make surveys now of areas principally inhabited by better-off people and to prepare to inject reasonable numbers of smaller houses among them.

NOTHING NEW

In this wonderful age, when a sexy advertisement can sell anything from pineapple rock to machine-guns, the true nature and history of the object advertised is sometimes obscure to the public mind.

★

In my ignorance I had always assumed that the efficient and slickly designed refrigerators of to-day were essentially a production of our own times. I was surprised therefore on sticking up Loudon's *Villa and Cottage Architecture*, published in 1834, to find a full description and working drawing of a refrigerating plant for keeping cool "blancmange, jellies, cream, ice and fluids."

★

This plant was recommended not as a luxury but as a common and necessary fixture in the farm and country house. The evaporation principle of the modern refrigerator was employed and waste heat from the kitchen was the motive power. It was also interesting to find that 110 years ago shower baths, hot closets and service lifts were in use.

ASTRAGAL

LETTERS

A. M. Chitty, A.R.I.B.A.

Ove N. Arup, M.Ing.F.

Peter W. L. Wakefield, A.R.I.B.A., Lieut. R.E.

M. Kahn Speyer, A.R.I.B.A.

F. J. Osborn

Homes

George Greaves, A.R.I.B.A.

The RIBA Memorandum

SIR,—The Memorandum by the RIBA on *House Construction of a Definite Limited Life* published in the *RIBA Journal* for October, has been criticized on the grounds that it is superficial and ill-informed. It is to be hoped that when this difficult subject is eventually investigated by those qualified to do so, the following considerations will be borne in mind:—

1. Of what value is permanence in building? Surely of little value when the social usefulness of a building has been outlived. A proper study of limited life can only start from a full and serious review of the degrees and difficulties of permanence, the reasons for and degrees of impermanence and the effects of setting a limit to life. Standardization and prefabrication can never be "a reason for considering policy"; they are purely means to ends.

2. Is it right to assume so rigid and limited an idea of craftsmanship as has been done by the authors of this memorandum? Such phrases as "suppression and supersession of both craft and skill," "preserving the skilled crafts," etc., smack of the phobias of Capt. Swing and Ruskin. True craftsmanship is a living phenomenon which moves with the times and to which the idea of "preservation" must always be alien. The idea that the assembly man with a spanner must necessarily be an unskilled robot, and the man with a chisel or a saw the opposite, is of course ridiculous. The thought and research that have been given to this subject (e.g. by Sombart,

Chase, Mumford, Rabinowitz), suggest that the idea of craftsmanship dying out is a phantasy; that for each craft that is outmoded many new ones are formed. Who will care to say that the capstan-setter, the jig-borer machinist, the man at the control panel of the rubber die-press is not a craftsman? (In any case it is a pity to hang this particular hat on the peg of limited life with which it is very indirectly associated).

3. The assumption that "House Construction of Limited Life refers to housing to be erected under a relaxed code of building by-laws wherein a poorer quality of construction and material would be acceptable" is very sweeping. It is by no means proved that the altered weight/strength ratio to be found in many new proposals for dry construction indicates a poorer quality of construction or material. In fact the whole tendency of building research is rather in an opposite sense, towards a more scientific appraisal of the physical properties of materials to achieve quality, efficiency and economy.

4. The memorandum assumes that present finance arrangements for local authority housing will remain unaltered. The loan sanction categories of permanence for housing are not based upon physical properties but are suitable amortization periods with a rough distinction between brick (60 years) and timber (40 years), both of course arbitrary from a technical point of view. Short-life building and new materials may perhaps not fit these categories but it will be a strange inversion if, as implied, we avoid new techniques because the finance machine is rusty and inflexible.

5. The tendency in housebuilding is for the proportion of equipment to carcase to increase, and most of this equipment is of the replaceable type. Thus a full analysis of the permanence and replaceability of the various elements must be made before a conclusion can be reached. Consideration should also be given to the possibility of separating the above-ground structure (occupiers concern) from the below-ground works including foundations, drains, fences and roads, and making the latter the concern of local authority.

London A. M. CHITTY

SIR,—The Memorandum on *House Construction of a Definite Limited Life*, prepared by the RIBA and published in their October *Journal* is a deplorable document.

It confuses the question of whether a temporary lowering of building standards may be necessary after the war with such other questions as:—

The greater resort to standardization and prefabrication.

The replacement of traditional craftsmanship by other forms of skill in modern production methods.

Freedom of choice and liberty of market.

The exploitation of the public by unscrupulous manufacturers, etc.

And ends up with a number of platitudes such as:

The Royal Institute "being unable to recommend short-life housing as an 'adequate' solution of the housing problem," and being opposed to "unproved materials," or to the "indiscriminate" production of ready-made buildings, etc.

I should like to know who isn't. Surely it should be clear by now that prefabrication is only incidental to certain modern production methods which exploit the economical possibilities of quantity production. If the task is to provide a large quantity of goods which have to fulfil the same purpose, then standardization and, wherever possible, machine production is the way to do it economically, and to suggest that it should be done uneconomically, just in order to preserve certain traditional methods of construction is, I am afraid, to fight a losing battle.

Standardization or prefabrication have nothing to do with quality. We can prefabricate to any quality we like, in fact modern production methods ensure better control of quality. It has nothing to do with "short life" either. We have, however, to face the real problem that through economic pressure the trend will be towards more and more standardization. It is, therefore, very important to fix good standards, and it is also important to decide at what point considerations of economic efficiency should give way to the safeguarding of freedom of design, and freedom of choice.

It is certainly essential to safeguard the consumer, but to say that the Royal Institute is not in favour "in any way to limit the freedom of choice and the exercise of judgment by the public" is just trash. The freedom of choice of the general public has, up to now, been very limited indeed. We may not be able to increase this freedom materially, but we can perhaps make it a choice between attractive solutions, instead of a choice between a limited number of evils. This can, however, only be done by making use of modern production methods, which will entail big changes in the organization of building.

The chosen representatives of the architectural profession should use their foresight, knowledge and influence to guide this development so that the essential human values are safeguarded, not to fight hopeless rearguard actions against technical progress.

London OVE N. ARUP

SIR,—I also was filled with alarm and despondency after reading the RIBA Memorandum on 'Short-life' Housing. "Heaven help me," I thought, "if the public gets hold of this." Architects have failed to establish for themselves a recognized place in society, mainly because they have failed to tackle the problems which interest the mass of the people. Their clients have been the well-to-do section of the community and somewhat naturally they have come to be regarded as a luxury. Recent work, such as the *Rebuilding Britain Exhibition* and the various London plans, had encouraged one to feel that we were at last trying to overcome this isolation and fulfil our proper role as servants of the community.

Then, along comes this deplorable memorandum in which the RIBA seems to me to say to the people—"You have given us a tremendous problem—to provide you with a vast number of houses in as short a time as possible. Well, it just can't be done by traditional methods and we're not prepared to tackle the difficulties of finding new methods. So we're afraid you'll just have to wait." The people's reply will naturally be—"Well, we still want our houses, you can't solve the problem, so we must find someone who can."

They will find someone, another vast programme of disfiguration will take place, the architect's stock will once more slump out of sight, and a great opportunity will be lost.

This RIBA Committee seems equally oblivious to the industrial reality of our age, as those who fondly believed that the only way to cure the ugliness of machine production was to destroy machines.

It is an ironical coincidence that in the same number of the *RIBA Journal* which contains this obstructive memorandum, is an article by Anders Tengbom on prefabricated houses in Sweden—a country whose architectural standards are second to none—in which is contained the following wisdom—"Architects have often regarded the development of prefabrication with anxious eyes. . . . It has been found, however, that it would be wrong to try to oppose this quite natural development and that instead the professional man ought to use his energy and knowledge to improve the factory-made house from a technical and architectural point of view. A house-fabricating industry, led by truly first-class experts, should have great possibilities to improve the country's architectural standard."

This simple piece of honest twentieth-century thinking serves to underline the reactionary quality of the RIBA Memorandum. Would this Committee seriously suggest that the standard of Swedish small houses, of which we learn that 40 per cent. are built of prefabricated material, is lower than our jerry-Tudor alternative?

This Memorandum seems to justify the ever present fears of younger members of the profession, that decisions with which they are in profound disagreement will inevitably be taken by those least in sympathy with contemporary thought and feeling.

PETER W. L. WAKEFIELD

SIR,—The memorandum prepared by the RIBA for the Ministry of Health on *House Construction of a Definite Limited Life*, reflects a regrettably defeatist attitude of mind, which I am convinced is not shared by the more active members of the profession.

While refusing to admit any advantages in temporary housing, the Institute makes no alternative proposals for meeting the needs of millions of homeless families after the war. This attitude is not likely to encourage government departments to submit future problems of this sort to the RIBA, and it gives the erroneous impression that the architectural profession as a whole is against all prefabricated methods of building.

Below are the conclusions reached by the Institute with my observations.

(*a*2) While recognizing the difficulties arising from shortage of housing and the urgency of the problem, the Royal Institute is unable to recommend short-life housing as an adequate solution of the housing problem.

(*b*2) While recognizing that there may be shortages of materials of traditional kinds after the war, the Royal Institute is opposed to substitution for them of unproved materials.

This assumes that any untraditional materials are necessarily bad. Many of these materials have already given adequate protection during four years of war, and can hardly be termed unproved.

(*c*2) The Royal Institute is opposed to the creation of a body of men unskilled in any craft beyond the assembly of ready-made buildings. It is in favour of the creation of an increased force of skilled labour through apprenticeship and training, and is of the opinion that such a force could be obtained in a limited number of years.

In paragraph (*c* i) of the report the RIBA gives a period of five or six years for the training of skilled workers. The homeless will therefore presumably have to wait, but where?

(*d*2) The Royal Institute is of the opinion that only a long view of housing could be acceptable. That codes of building by-laws should not be relaxed for the sake of speed or cheapness at the expense of quality in either building materials or construction.

It is all very well to preach perfection, but surely the homeless will prefer a temporary shelter to no shelter at all.

(*e*2) The Royal Institute recognizes that there is a place for a limited application of standardization and prefabrication and the advisability of converting war factories to peace-time uses. It is not in favour of diverting these factories indiscriminately to the production of either ready-made buildings or building materials, especially to goods or construction of untried quality or value. It is in favour, to a limited extent, of discriminate mass production, provided good design and quality are integral parts of the goods produced. The Royal Institute is not in favour of these factories being assisted to force their goods on the public, or in any way to limit the freedom of choice and the exercise of judgment by the public.

The assumption here, as in (*b*2) above, seems to be that something manufactured in bulk is of bad design. One need only consider the Spitfire to realize that with expert designers and efficient co-ordination, an article produced in quantities has every chance of benefiting

by large-scale production, because it cannot afford to be bad. Conversely, there is no guarantee that designs produced individually are good; there is plenty of evidence to the contrary along most of the roads in this country.

In conclusion, I should like to suggest that if the RIBA is so firmly against temporary methods of housing, it should propose some alternative method of relieving the acute shortage which will inevitably occur.

Merstham M. KOHN-SPEYER

TCPA *versus* LCC

SIR,—"Some confusion"—you've said it, Mr. Editor! But it is not in the TCPA policy *vis-a-vis* London. Let me very briefly show where it is.

1. The TCPA accepts as just tolerable a density of 18 houses, or 20 dwellings (including some flats), per housing acre where space-pressure due to past over-concentration makes it necessary to rebuild up to the very limit of tolerable density.

2. 20 dwellings per housing acre corresponds at 3.6 persons per dwelling (the national average just before the war) to 72 persons per housing acre. If the reproduction rate recovers to unity the persons per acre may be as high as 85 to 90 in 20 dwellings.

3. The diagrams in the LCC Plan show substantial agreement with us as to the maximum tolerable density for 2-storey family houses. The Report (it is a great merit) is realistic and practical about the possible densities of the various types of housing.

4. The theoretical diagram on page 81 of the Report shows that at 136 persons per housing acre, 31.3 per cent. of the *population* would be in houses, and the remainder, 68.7 per cent., in flats. On page 174 it is explained why a theoretical 58 per cent. (at 130 per acre) becomes a practical 75.5 per cent. of population in flats. And on page 175 a sample is given showing how 66 per cent. of the *population* in flats means that 80.8 per cent. of the *dwellings* will be flats. Taking these figures together, any competent technician can understand why Mr. Silkin, in his explanatory article in *The Times* (13/7/43), said that the Plan probably means 80 per cent. to 85 per cent. of flats. Disagreeing with Mr. Silkin as I do, it is a pleasure to say that he at least has not fluffed the main issue.

5. Our estimate that a population of the order of 1¼ million would ultimately have to be housed elsewhere if our proposed standard is adopted is derived by a rule-of-three sum from the figures in the Report, counter-checked by other methods. We do not think the figure is far wrong, but its main importance is to give a broad measure of the amount of new development necessary to accommodate the "spill-over" that will occur in the next 25 to 50 years (according to the speed of re-development). Before the war, people were leaving the County at the rate of 1 million per 20 years.

6. You have no justification whatever for saying "Mr. Osborn . . . disclaims responsibility for the views expressed by Mr. Reiss." His name had not come up at all when I wrote, and I did not mention him. You now for the first time refer to a speech by him. The figures given by him in this speech were a study of the actual overall density of good modern town developments, not a proposal for central London. There are a great many towns in England and America with an overall density (including their open suburbs) of 12 or fewer persons per acre. After 1¼ million people have moved out of London County, the *overall* density of the County will still be three times that density. Mr. Reiss's figures for London are consistent with my own and with those implied in the TCPA memorandum.

7. Though in the case of our Bethnal Green conference the speakers were in full agreement, it must not be assumed that the Association puts an opinion test on speakers. The Association has opened its platform to many speakers who disagree with details of its collective policy, though they are usually in broad agreement with its main trend.

TCPA policy is to be found in the official statements of the Association. It is untrue to say that it has recently changed.

F. J. OSBORN

Welwyn Garden City

Our leader writer writes:

Mr. Osborn says there is no confusion in the TCPA policy. Sect. 2 of his letter belies him. It reads: "Twenty dwellings per housing acre corresponds at 3.6 persons per dwelling (the national average just before the war) to 72 person per housing acre." The figure 3.6 persons per dwelling given as national average before the war is based on census returns. For census purposes the family is not a biological unit. In practice a density of 20 houses per acre would probably result in a population of 40 or less, in conditions which allowed a separate dwelling to everyone who wished for one. At Welwyn, where one would expect the population to contain higher than normal proportion of large families, we are told that a housing density of 12 per acre will give a population density of 20 in residential areas, when development is complete.

It is time the TCPA executive cleared up this confusion. Are they advocating family houses for families as the wording of the London plan memorandum suggests ("family houses for at least 80 per cent. of the families remaining in the county") or are they advocating 20 houses per acre without any regard to the real requirements of the inhabitants?

In the first case it is up to them to prove, before opposing the LCC proposals, that a density of 136 people per acre makes it impossible to provide houses for all, or even 80 per cent. of, the families remaining in the county, stating clearly the assumptions on which their calculations are based (composition of population, height and spacing of flat blocks, size of flats, etc.). Alternatively they should, in fairness to the public, make it plain that they are opposing the LCC plan because it fails to provide 2-storey 3-4 bedroom houses with gardens for every inhabitant of the county of London who requires a separate dwelling, in the hopes presumably that auto-suggestion will work and they will all acquire young children somehow regardless of their age and status.

Until this confusion is cleared up it will be possible for Mr. Osborn to maintain that the policy of the TCPA requires the removal of 1½ million people from the county area; for Mr. Silkin who, Mr. Osborn concedes, "has not fluffed the main issue" to maintain that it will involve moving between 2¼ and 2½ million people from the county area; and for others still to maintain, with equal show of reason, that the LCC proposals are perfectly compatible with the TCPA policy. Such a situation can only have one result—to bring discredit on planners and the whole idea of planning. Everybody is at liberty to have other views on the subject, but there are certain rules of the game which require to be observed, i.e. not to raise public controversy without honestly stating the issues involved.

The policy of the LCC is reasonably clear. It is 136 persons per housing acre in the reconstruction boroughs. The report states plainly that the authors regard "an overall population density as the desideratum to be agreed upon now, in whatever building form it may ultimately be realised" (sect. 118, page 32, County of London Plan). What is difficult to understand is what the TCPA is driving at. Sect. 5 of Mr. Osborn's letter is not satisfactory on this point.

With regard to sect. 4 of Mr. Osborn's letter, we would like to say in passing:

(i) that the detailed calculations in the report to which Mr. Osborn refers, are not based on a population survey, and many of the assumptions on which they are based, which differ in almost every case, are open to question, i.e. the table which shows that 34 per cent. of the population can be accommodated in houses, and that 80 per cent. of the dwellings must therefore be flats, assumes that 17.7 per cent. of the population will be accommodated in four-storey flats without lifts. This does not vitiate the LCC proposals because the LCC proposals do not follow from these calculations. But it does mean that the TCPA cannot base their case on these figures.

(ii) A sample population survey undertaken by the APRR indicates that the number of *family* houses required in every 100 dwellings is round about 25. The TCPA London plan memorandum asks for houses for 80 per cent. of families remaining in the county. A proportion of 80 per cent. flats—20 per cent. houses (assuming for the moment that it really is not possible to provide more than 20 houses to every hundred dwellings at the LCC density) might be thought to give the TCPA what it wants. It all comes back to the question, what does family mean to the TCPA? Mr. Osborn still refuses to commit himself on this point.

Garages for Council Houses

SIR,—Addressing a meeting of Tyneside architects at Newcastle-on-Tyne Mr. D. E. E. Gibson, City Architect of Coventry, suggested that all council houses built after the war should have garages either adjoining or grouped. How is the average person who will live in a council house earning a nominal wage going to support a car, including licences and running repairs?

3,000,000 houses are wanted, and if there are going to be garages equal to the number of houses, what will be the total area these garages are going to occupy? A house can be planned to provide for a garage at a later date, at the tenant's request, providing he can meet the increase in rent.

London. HOMES.

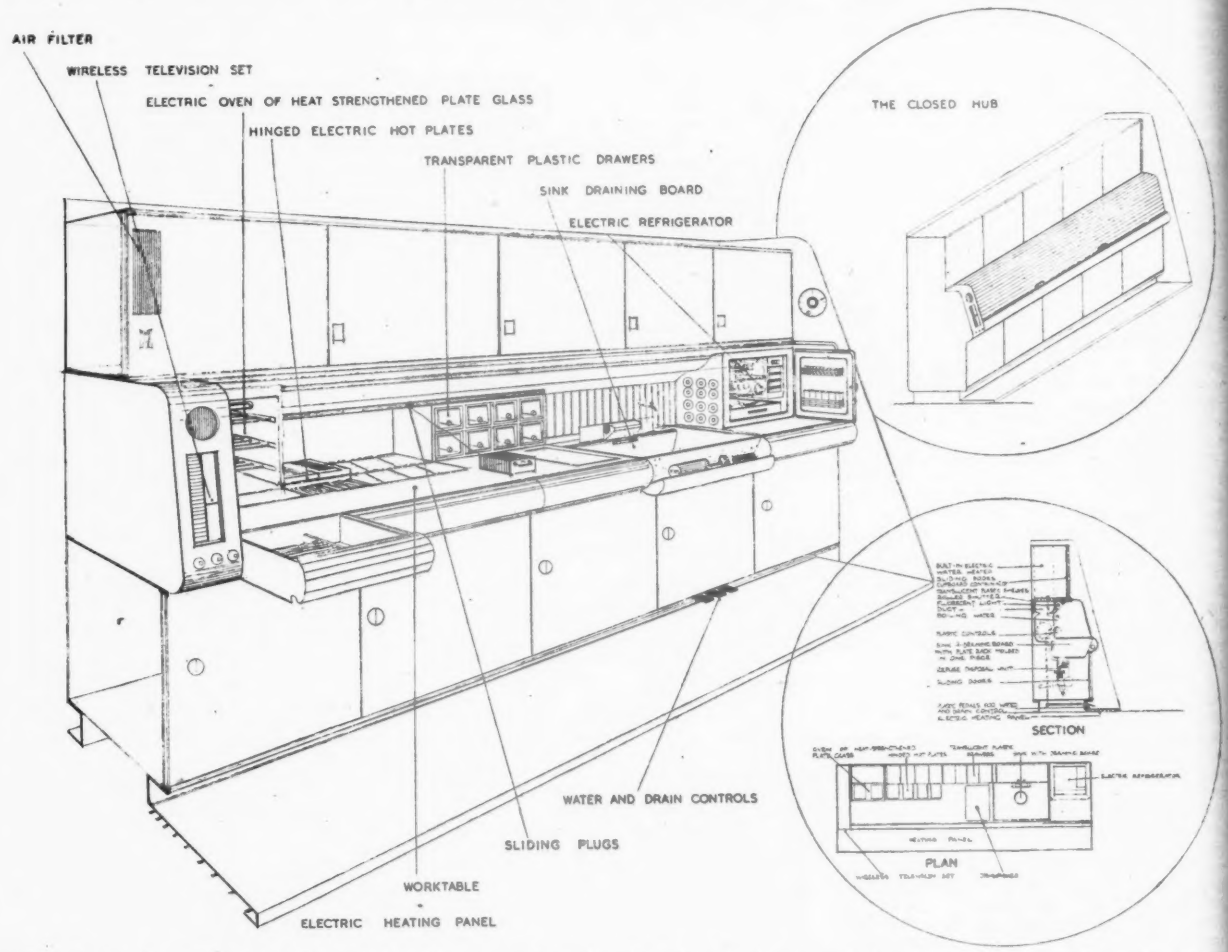
Planning will not end Private Property

SIR,—May I congratulate Mr. E. S. Watkins on his article. For too long it has been the case in the architectural profession, and this has been reflected in our technical press, that we have adopted an ostrich attitude and followed our own little æsthetic concerns without regard to the major problems which underlie and, indeed, control all our work.

Your issues of recent times have happily indicated an entirely new approach and have not been too squeamish on occasion even to lambaste some of the graver abuses besetting us and limiting any real approach to reconstruction and better living conditions for all. Mr. Watkins reaches to the roots of the matter by indicating in no uncertain terms that the conditions of land holding are in every sense of the word the foundations of all building and reconstruction.

At the present time there are roughly two schools of thought: first that which is majestically upheld by the building societies, banks, insurance companies, property owners' associations and the like which screams "sanctus" at anyone who dares to violate the principles of property. At the other end there is that body of opinion whose catchword is "nationalisation" though unhappily often misunderstood and whose belief is that the undermining of all monopolies can only be achieved by the complete ownership of land by the State. In the minds of the former there is a deep conviction that the rights of the individual are being restricted by the removal of the privileges which have been open to all, or so they say, at least since the Norman Conquest, and that there is a danger that the rugged independence and individuality which is so marked a characteristic of our people, will suffer thereby. The latter are equally certain that every monopoly is founded on the land, and indeed they have the very best authority in the words of no less a person than the Prime Minister in this view, who stated:—

AN ELECTRIC KITCHEN HUB



This design for an electric kitchen hub, with suggested applications for plastics, was designed by T. Warnett Kennedy, D.A., A.R.I.A.S., A.M.T.P.I. It was among the illustrations shown during a lecture he gave recently on Current Trends in Building Plastics *to the West of England Branch of the Institute of Quantity Surveyors, in which he said, "Now the industrial designer with a basic architectural training, should be able to achieve a greater integration of details as, for instance, in a kitchen, instead of merely designing a shell and filling it with gadgets." The framing members are of plyplastic or aluminium and magnesium alloys; lower sliding panels are of plyplastic or urea-formaldehyde laminated sheeting; top sliding panels and shelves are of glass or translucent methyl methacrylate; worktable top is of stainless steel, light metal sheeting or hard composition with chemically resistant polyvinyl chloride binder; drawers are of moulded transparent cellulose acetate; sink and drainer are of moulded felt-base cresol-formaldehyde with hard thermo-setting glaze; roller shutter and drawer fronts are of extruded cellulose acetate butyrate or unplasticised polyvinyl chloride; floor panel is of phenol or cresol-formaldehyde laminated sheet with copper foil conductor inset.*

"It is quite true that the land monopoly is not the only monopoly which exists, but it is by far the greatest of monopolies—it is a perpetual monopoly, and it is the mother of all other forms of monopoly. It is quite true that unearned increments in land are not the only form of unearned or undeserved profit which individuals are able to secure; but it is the principal form of unearned increment which is derived from processes which are not merely not beneficial but which are positively detrimental to the general public.

"Land, which is a necessity of human existence, which is the original source of all wealth, which is strictly limited in extent, which is fixed in geographical position—land, I say, differs from all other forms of property in these primary and fundamental conditions."

For my own part I believe that a landowner is one who has the right to exclude from a particular piece of land the whole of the rest of the community, and therefore that it is just and proper that if he is to exercise this right he should pay to the community a sum equivalent to the economic rent of the land which he is thus restricting to his own use.

It is important at this juncture to differentiate between undeveloped or site value and the value after development has taken place, as in my opinion a man is entitled to the fruits of any development which he places upon land or any improvement which he makes to it but never to the improvements which have come to land by reason of its inherent productability or mineral content or by its accidental proximity to natural features or centres of population. If therefore all land were to have an assessed rent on its undeveloped value, taking into account these latter features, it is clear that the holding of land purely for speculation would become impossible. Further, it is also clear that it would be impossible to hold land out of production. This has an important bearing in another way since all economists agree that wealth may only be produced by the application of labour to land, and as in pre-war days it was clear from the high unemployment figures that there was never a restriction in labour it follows that any restriction in wealth—by this I mean real wealth and not money—must have been due to a restriction in the use of land. Here, then, is a fruitful source of speculation on a possible solution of the unemployment problem.

Turning for a moment now to the philosophical side, it is clear that there are certain things necessary to life and freely provided by nature, without which life cannot exist. These are air, sunshine and land. If then since no-one can live without land either in the physical sense or in the sense of fruits from it, it must follow that if land is owned, as it is in this country, by a minority of the people, that a majority are paying to this minority for the right to live. Yet under our present system such is the case and even so redoubtable a champion as William Temple, Archbishop of Canterbury, is, to put it vulgarly, "getting it in the neck" from his own people for stating this all too clearly in the name, and, indeed, in the words of his Master.

GEORGE GREAVES

Stoke-on-Trent.

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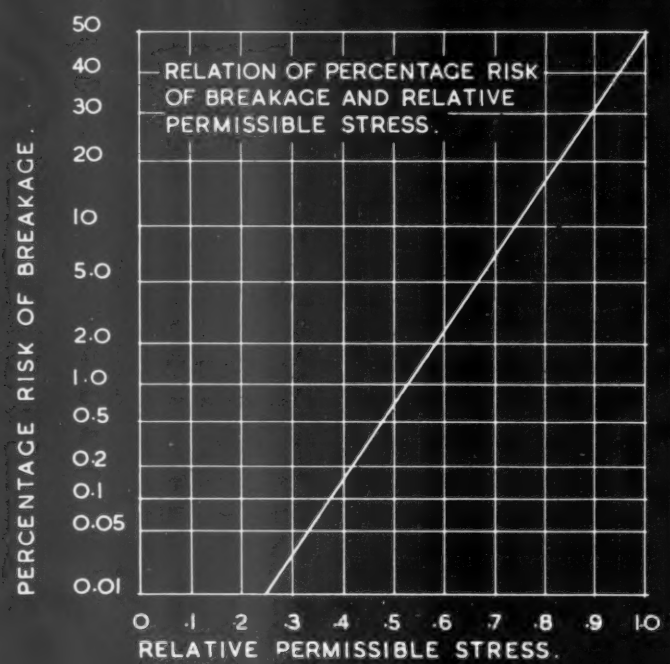
PERMISSIBLE TENSILE STRESSES

TYPE OF GLASS	LOADING	lbs/sq in
SHEET	50% risk, momentary loading (i.e. average breaking stress)	10,000
ROLLED		5,000
REINFORCED (wired)		3,740
SHEET	1% risk, momentary loading	5,350
	sustained loading	2,675
ROLLED	1% risk, momentary loading	2,675
	sustained loading	1,340
REINFORCED (wired)	1% risk, momentary loading	2,000
	sustained loading	1,000

Tensile values may only be determined on a statistical basis — repeat measurements show an inherent variation which is a characteristic of the material.
The term percentage risk is used in the sense that if a number of specimens as closely similar as can be made, are all tested at a particular stress, the percentage that break gives the percentage risk.
In making calculations it is usual to assume the simultaneous occurrence of the worst loading that can occur, and it is therefore safe to take a 1% risk as a basis.
The figures on this Sheet are based on the assumption of a coefficient of variation of 20%.
The standard deviation is the square root of the average of the squares of the differences of individual values from the mean of all the values.
The coefficient of variation is the ratio of the standard deviation to the mean value, and therefore a measure of the relative variability. It can be expressed either as a ratio or a percentage.



TYPE OF GLASS	SPECIFIC GRAVITY lbs/cu ft	MOD. OF ELASTICITY lbs/sq in
SHEET	158	1.0×10^7
ROLLED	158	1.0×10^7
REINFORCED (wired)	160	1.0×10^7
HEAT RESISTING	141	0.85×10^7

SPECIFIC GRAVITY AND MODULUS OF ELASTICITY FOR VARIOUS TYPES OF STRUCTURAL GLASS.

Information from Chance Brothers Ltd.

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INFORMATION SHEET

• 917 •

GLASS: No. 2

Subject : Physical characteristics : 2.

General :

This Sheet is the second of the series dealing with glass and glass products, and is a continuation of Sheet No. 1 and sets out further physical characteristics of the material.

Specific Gravity :

Glass used for building purposes has a specific gravity comparable with that of aluminium.

Coefficient of Linear Thermal Expansion :

Glass in general has a much lower coefficient of linear thermal expansion than metals.

Modulus of Elasticity :

The modulus of elasticity (Young's modulus) is appreciably lower than that of the metals in common use.

Tensile Strength :

In view of the statistical variation which occurs (see note " b " Sheet 1) this question must be approached from the point of view of the degree of risk which can be accepted.

The permissible load varies with the duration of the loading and also according to the dimensions of the specimen. In this latter respect it is similar to steel, where the unit strength of a fine wire is much greater than that of the same material in greater sections. The " percentage risk " is used in the sense that if a number of specimens as closely similar as can be made, are all tested at a particular stress, the percentage that breaks corresponds to the percentage risk at that stress. In making calculations it is usual to assume the simultaneous occurrence of the worst loading that can occur, and it is therefore safe to take a 1 per cent. risk as a basis for the calculation of the tensile stress allowable.

The figures on the face of this Sheet are based on the assumption of a coefficient of variation of 20 per cent.

Impact Strength :

Little data is available for the resistance of glass to impact. Impact may be considered as a bending test of extremely short duration and the permissible load would therefore be expected to be substantially higher than the permissible load under normal bending tests.

No satisfactory method of specifying impact strength has yet been evolved, but an estimate of the strength of any particular shape of glass may be made by calculating the maximum tensile stress caused by the impact ; and assuming that the glass can withstand about three times the tensile stress which it could withstand as a sustained load.

Thermal Shock :

The resistance of glass to thermal shock is largely related to its chemical composition. Thermal shock is caused by sudden change in surface temperatures, and the most important physical property is the thermal expansion. Glasses do not differ much in tensile strength as a function of composition, whereas thermal expansion can vary over a wide range. It is impossible to give figures indicating the sudden temperature drop that can be withstood by glass articles, without a knowledge of the thickness, shape, composition, etc. Glass of low thermal expansion will withstand a greater thermal shock than a glass of high thermal expansion.

Durability :

The durability of glass under normal conditions of exposure is so high that the possibility of deterioration can usually be ignored. Glasses are not however entirely immune from the effects of such exposure, and under tropical conditions the attack can become appreciable.

Hydrofluoric or phosphoric acids will cause rapid deterioration of the surface, and the storage of glass sheets under damp conditions, where the sheets are separated by straw or corrugated paper, can cause films of moisture to persist for so long as to mark the sheets permanently. Similarly it is unsafe to allow the glass to remain dirty for lengthy periods, as this again will tend to maintain a moist film on the glass with consequent etching of the surface.

Previous Sheet :

The previous Sheet of this series on Glass is No. 914.

Issued by : Chance Brothers Limited.
Address : Glass Works, Smethwick, Birmingham.
Telephone : West Bromwich 1051.
Telegrams : Chance, Smethwick.

PHYSICAL PLANNING

PROBLEM NUMBER THREE

16

index

David Percival, author of this week's article on the organization of the building industry, is a B.A. Arch. (London, 1937) and an A.R.I.B.A. He works as a designer of industrial and welfare buildings. Expert writer and lecturer on building in the USSR, President of ABT since 1942, he is now in charge of ABT reconstruction research. He has broadcast frequently this year.

This week's article on the post-war organization of the building industry brings us into the extremely topical and controversial realm of the relations of the Government to industry. It is for this reason that the Journal has asked for comment on the article from two men whom it hoped would express, as indeed they have, different points of view.

Mr. Herbert Morrison emphasized in his recent speech to the Fabian Society that we live in an age when the unsolved problems of industrial organization seem to have a greater power to wreck our societies and to bring our political aspirations to naught than any other single factor. The Tory Reform Committee, in its pamphlet Forward by the Right, *considers that a point does come when an individual firm, or group of firms, obtains a position of dominance in some aspect of our national life which it should neither exercise nor wish to exercise, without the counsel and authority of government itself. These two statements point to a certain measure of agreement, in this particular field, which cuts across party boundaries. There is, nevertheless, a strong body of contrary opinion in favour of a wholesale relaxation of government control. It is with this general position in mind that the current article and the two commentaries upon it should be read and judged.*

HOW WILL THE BUILDING INDUSTRY BE ORGANIZED?

by David Percival

If, as has been suggested, the building industry is to absorb four-fifths of the total annual investment of capital during the period of reconstruction, the question of efficient organization for the industry is of very great importance. Is the Government to control the building industry, or to be controlled by it? What is to be the criterion of efficiency—speed in delivering completed buildings, the avoidance of booms, slumps, astronomical dividends and bankruptcies, the reduction of costs and the raising of standards of design and craftsmanship? The answer you get to such questions depends very largely upon the attitude of the man you question. There is not merely a conflict of interests between the producer and the consumer, but between the financier, the large contractor, the small builder, the private consultant, the salaried technician, producers of old-established materials and inventors of new techniques, and finally, between large and small consumers. It is no easy task that the prophet faces, in dealing with the question of the probable lines on which present conflicts will be resolved, and present tendencies crystallized. We must begin with a brief review of the position to-day. The war has brought drastic changes in the industry, but these changes follow logically upon the development of bigger and bigger units which had started even before the last war. The large-scale contract, whether for a factory, a housing estate or a block of offices, has increasingly gone to the large firm, whose smaller competitors have steadily been driven back, until, in wartime, they have had to content themselves with ARP and war damage work for local authorities, minor War Department work, and small factory extensions. The

Ministry of Works Registration of Builders, carried out 1941-42, showed that there are over 86,000 firms connected with building, but 36 per cent. of them did not employ a single operative, while a further 56 per cent. of the firms employed under twenty men each. But on the other hand 205 firms then employed over a third of the total labour force in the industry, and 16 *of these firms alone employed over* 12 *per cent.* It seems clear that even if a process of artificial respiration is applied to the small firms, they are bound in the end to disappear from an industry in which mechanization and mass-production technique are becoming dominant factors. Such small organizations as survive will turn into the maintenance departments of industrial or housing estates. The future for the efficient small firms lies in collectivization, or group working, based on a steady market—and that is the essential condition of success.

Few sections of the industry to-day wish, after their experience of the steady war-time market, to return to speculative building, which is of advantage neither to the producer nor to the consumer, but only to the financier. Speculation is the arch-enemy of planning, the most obvious purpose of which is to fulfil social needs in accordance with democratic decisions and in order of priority. We do not, in other words, talk of planning just for the fun of the thing, but because we want to ensure 100 per cent. use of all our resources of labour, materials and intelligence to build the buildings the community needs, in the order in which it needs them. While, therefore, we observe the inevitable growth of monopoly organization, we have to examine it closely, from the point of view of ensuring that it does not master the community.

The big contractor is bound steadily to increase his financial tie-ups with the banks and insurance companies which have at their disposal vast funds they wish to invest profitably and securely. At the same time he sees the advantage of securing a hold on the suppliers of building materials, as well as his sub-contractors, and of eliminating all possible competition. The logical outcome of these tendencies would be the creation of a very small number of firms, owing allegiance to large insurance corporations, controlling a network of materials suppliers, organizing a service of specialist sub-contractors, and run with a staff of technicians of all kinds, able to organize building in an all-inclusive way. Such an organization might be extremely efficient, particularly in gathering rewards, and would regard all technical innovations from that particular angle. It would not be possible to criticize it effectively, as it is possible to criticize a public department or a ministry by question in council chamber or parliament. We can therefore say that the organization of building on monopoly lines is likely to be dangerous, from the consumer's point of view, unless there is proper public control over the large firms.

Although it is fashionable to grumble at the restrictions imposed by the wartime controls, the most prejudiced critics cannot deny that the principle of directing the greatest resources of material and labour to the most urgent jobs, and of postponing less essential work by a process of licensing or "starving," is the only reasonable one for accomplishing a given programme. If we are entitled to assume that the Government seriously intends to formulate and organize the execution of an all-round reconstruction plan, we are also entitled to assume the maintenance of control by the Ministry of Works over the price of materials as well as over their allocation to jobs, in order of priority. It is, however, essential to see that control is not purely on a national basis. If there is to be economy, the important question of transport must be kept well to the fore. Probably the best form of organization would be on a regional basis, so that, as far as possible, each region uses the nearest available building materials, and maintains its own pool of plant and machinery. Furthermore, if the industry is carrying out a precise programme of essential work—housing, schools, community buildings and industrial reconstruction—it seems logical to use, as we have begun to in wartime, the local authorities as agents for the social building work, and the government departments supervising the various industries as agents for the factory work. Relations with the ministries in charge of works as well as planning would then be freer from friction than would be the case if many private agencies were used. Logic alone will not, however, decide the issue, since the powerful contractors would dislike the scheme intensely, and constantly bring pressure to bear against it.

From the contractors we must now turn our attention, in order to look at the future structure of the building industry from the point of view of the manual and technical operatives employed in it, and paid by wage, salary or fee, by commission, bonus or even by bribe.

To deal first with the position of the craftsmen and labourers: there is a strong desire to retain after the war that part of government control which has brought better welfare conditions and guaranteed wages during wet-time, though nobody wants to retain the restrictions on personal mobility imposed by the Essential Works Orders. By the publication of the White Paper on Training, the Government has outlined a policy for expanding the force of trained personnel to meet a programme far wider than that to which the industry has been hitherto accustomed—a programme of continuous and productive work for the operative, without the tragic wastage associated with recurring unemployment, which always averaged 15 per cent. and sometimes rose to 27 per cent. throughout the inter-war period. Incidentally, payment for wet-time will be a spur to the development of methods of prefabrication, which promise to reduce the dependence of the industry on the vagaries of climate. The Training Scheme proposed by the Government and agreed on by both employers and workers, provides for both special training of new adult apprentices as an immediate post-war measure, and a single road into the industry for youth, through apprenticeship controlled by the Government, and the Federations of Employers and Operatives. The need to equate supply and demand for the different kinds of labour is a further argument in favour of planned output.

As for the technical and professional side of the industry: here we have to recognize that the greater monopolization of the industry is likely to lead to the employment of larger staffs of experts of various kinds by ministries, local authorities and by contractors, rather than the appointment of consultants, which under more periodic and irregular programmes has offered advantages which must be reduced under conditions of stability. The best method of providing good technical advice on all construction work seems, if Russian experience is anything to go by, to be by widening the scope of public offices. In them would be gathered groups of technicians, planners, architects, engineers, surveyors and so on—both on a national or regional scale, so as to specialize on certain types of scheme like Miners' Welfare; and on a local scale where the groups would be available to tackle any work from park layout to cottage design. Finally, the post-war industry will stand in need of a much better organization of research than the multitude of private bodies set up for limited purposes have been able to make available hitherto. It has been said hundreds of times before, but it must here be repeated, that the industry would benefit infinitely more if it cut out competitive advertising, and spent its money on research. The Building Research Station should be provided with much more money, staff and powers. There should be constant endeavours to revise by-laws in the light of the publicly controlled experiments on building materials the BRS could do. There is every advantage to be gained by the industry's taking the public, the people, into its confidence—through regular discussion of new technical developments and possibilities in relation to human needs. It should never be forgotten that building is one of the most fundamental social services. It is, perhaps, more amusing to build banks and cinemas and town halls than flats and cottages and factories, but if planning means anything, it means that the order in which these buildings go up is in accordance with a consciously predetermined decision, which can only be arrived at satisfactorily if the organs of national and local government have the final say.

H. B. BRYANT, *Secretary of BINC, criticizes Mr. Percival's predilection for planning. He believes it is a fashion of the times, in the main a lazy one, to claim that any social or economic problem which arises in the ordinary development of society can be solved by a fairy touch of government control. Furthermore, he believes, there is no really special problem facing the building industry, but what the industry needs is the lifting of the restrictive legislation which surrounds every phase of building activity in this country.*

Mr. Percival's article contains so many statements open to dispute that it is hardly possible effectively to comment upon them in the limited space allowed. There is, however, a general assumption running through the paper which might be accepted as the basis of criticism. The assumption is to the effect that the future organization of the building industry should be through direct Governmental control; this shows a predilection for planning, which has no historical support. It is a fashion of the times, in the main a lazy one, to assume that any social or economic problem which arises in the ordinary development of society (and there is no really special problem facing the building industry) can be solved by a fairy touch of Government control. History—and day to day observation—proves conclusively that such an assumption is a complete fallacy. Government control in practice means control by persons generally speaking who are unable to earn or obtain equivalent employment within the industry itself (i.e., place-seekers), whose standard of efficiency is considerably below the standard of their opposite numbers in industry. History also proves that where Government has controlled industry on the lines adumbrated by Mr. Percival it has always brought in its train most complex and costly social and economic problems. This is so because the human race has not yet been able to find any method of Government control which is, in principle and effect, democratic. Bureaucratic Government control of industry and democracy are mutually antagonistic forces. By its very nature Government control must be restrictive in principle and bureaucratic in application. The history of such a comparatively simple subject as town planning, in its application in this country, is a most eloquent example of restrictive control. However fine or high the sense of inspiration in the individual may be it cannot be applied unless it falls within the narrow conception of the enactments rigidly controlling town planning. And so far as the building industry of this country is concerned there is no evidence whatsoever that any great measure of reform of practice is needed warranting such restriction. What is needed, however, and it has been evident to students of the building industry for many years now, is the lifting of the restrictive legislation which surrounds every phase of building activity in this country—a body of legislation which is more pregnant with vested bureaucratic interests than surrounds any other industry of the country if not of the world. Indeed very little responsible or knowledgeable criticism has been made against the building industry, and on examination even less has been proved justified. The public safety, so far as the building industries are concerned, is centred in the building by-laws and on the whole that trust has been well administered with the maximum of enlightenment and the minimum of interference by the appropriate division of the Ministry of Health and of the London County Council. The method of bringing the building regulations into consonance with the developing technique of building, provided by the machinery set up by the Ministry of Health and parallel departments of the London County Council, is all that is needed so far as the practical application of building to the requirements of public safety is concerned.

It is clear therefore that there is no substance in the assumption that all is not well with the building industry and that it is not capable of providing all the building accommodation needed by the nation at this or at any future time. The line of reform is to relieve the industry from the archaic mass of vested administrative interests. Mr. Percival is really typical of the critics of the building industry in that he expresses his charges solely in general terms and without producing the slightest evidence in their support. Without making charges against Mr. Percival it is none the less becoming increasingly clear that a very large number of the people making proposals with respect to the future of building in this country have their personal objects to serve and the position has already been reached when the self-styled reformers must be faced with the simple questions—what do you hope to get out of your proposed reforms? Where do your interests lie?

As to the remedy proposed by Mr. Percival, whether it be termed planning or some other euphemism, it is on examination found very largely to be a crude form of collectivism and as the world knows now to its cost, collectivism is the one element ever present in industrial Fascism or Nazism. Mr. Percival and those who think with him should study carefully the history of town planning administration in this country, and he will see therein the play of the forces in the urge to freedom of expression on the one hand and of harsh repression and vested bureaucratic interests on the other, which latter Mr. Percival proposes the industry should accept without demur.

Mr. Percival will appreciate that the views I express here on his paper are entirely my own personal ones and have no other significance.

H. WEAVER, *London Divisional Secretary of AUBTW, believes Mr. Percival's propositions contain the basic requirements for the post-war organization of the building industry. He agrees that our people, by their courage and fortitude during the war, have earned the right to expect that the building industry shall be organized as a social service in the interests of the community as a whole, and that it is only by such organization that we can meet post-war demands on the industry.*

Mr. Percival enunciates some challenging views on post-war organization of the Building Industry. His main conclusions appear to be :—

(a) That post-war reconstruction presents a major social problem which can only be solved by planning.

(b) That mechanization and mass-production methods, tremendously increased under the impetus of war-time building, have faced the smaller organization with the prospect of being confined to maintenance work or sinking its separate identity in the group system and becoming a minor part of a large-scale organization.

(c) The success of reconstruction plans depends upon obtaining the confidence and co-operation of those who will have to do the job, both technicians and operatives.

(d) Government control, as exercised through the Ministry of Works, is essential to the execution of a national rebuilding plan.

My personal opinion is that these propositions contain the basic requirements for the post-war organization of the Industry.

Undoubtedly, the housing shortage confronts us with a social problem of a magnitude that must be tackled with the same inflexible determination as was the problem of war production after Dunkirk. Those in the Forces and those who lost homes through the War have a simple post-war aim; a decent home, at reasonable rent, as soon as possible. Homes for heroes were promised during the last Great War. They failed to materialize because building became a paradise for the financial speculator instead of a service to the community. The social need must be the deciding factor in post-war building plans.

It is a fact that the Building Industry has now developed from the old handicraft industry, organized on the basis of thousands of small units, into a modern mechanized mass-production industry in which only a large-scale organization has the resources and plant necessary for carrying out the huge construction jobs associated with war-time building and the vast reconstruction schemes envisaged in the future. Post-war building demands the mobilization of all technical, material and labour resources, planned and co-ordinated for achieving the maximum results. Mr. Percival rightly warns that the large monopoly organizations must be subject to public control.

The co-operation of those who will transform the plan into actuality can be obtained, provided the old, haphazard, casual methods are replaced by a planned industry which guarantees full and continuous employment, a guaranteed weekly wage and fair working conditions. Given these guarantees the industry will attract the finest type of personnel in sufficient numbers to meet all requirements and building will provide the youth of this country with the opportunity of a career equal to that offered by any other industry. Certainly, the technicians and operatives who were the victims of recurring unemployment and loss of wages due to inclement weather during pre-war years, consider this of supreme importance. Any attempt to sidetrack the operatives' just claim to a guaranteed weekly wage will precipitate a major industrial crisis.

Finally, the question of Government control, without which the organization of all the resources of industry would be impossible, must be maintained. Those who attack the Ministry of Works would do well to recall the chaotic state of the Building Industry in the early days of the war—the competition of Government Departments for labour and materials, the absence of a clear understanding of what was most urgent in the national interest. The Ministry of Works may be in need of considerable improvement but, having regard to the mess with which it was confronted, it would have been surprising if in the cleaning-up process it had not got bespattered with some of the muck. Without some controlling authority capable of deciding which are the most urgent jobs and in a position to control the price and allocation of materials, planning is impossible. Those who object to control are those who see the housing needs of the people as a medium for financial speculation, with profit as the main objective. As I understand it, Mr. Percival is anxious that the Building Industry shall be organized as a social service in the interests of the community as a whole; our people, by their courage and fortitude during the war, have surely earned the right to expect it.

PLANNING REVIEW

MOR

The appointment of Lord Woolton as Minister of Reconstruction has been acclaimed from *The Times* to the *Daily Worker*. The leading article in *The Times*, on November 12, quoted in last week's JOURNAL, points out that one overriding condition of success is that the Minister shall enjoy the powers without which, as has been seen already, reconstruction of any kind can hardly begin. He must have a mandate of unimpeachable authority to bring together the departmental Ministers concerned, to supervise and co-ordinate their investigations and programmes, and in short to elicit and formulate a policy under which each department will play its relevant and proportioned part.

On November 14 the *Observer* published an article by its parliamentary correspondent on Reconstruction which states that M.P.s expect the King's Speech will contain the promise of a powerful instalment towards reconstruction in the social and industrial field. Since Mr. Churchill made his *Four Year Plan* broadcast last March, preparations have gone forward at a very deliberate pace. This is where Lord Woolton comes in. His appointment as Minister of Reconstruction is generally welcomed at Westminster as promising a businesslike approach to the plans for domestic reconstruction, and it will be his responsibility to accelerate the pace where possible, and to bring to the War Cabinet definite proposals for legislation. The article also emphasizes the importance with which the Government looks upon the building industry as the great stabiliser for industry after the war.

The *Daily Worker*, in an article on November 15 entitled *Can Woolton Do It?* points out that if reconstruction is being held up by departmental jealousies, Lord Woolton, as his record at the Ministry of Food shows, is the man who can break them down. On the question of the Uthwatt report and the fourteen months' delay over it, the author believes that Lord Woolton will find it much more difficult to persuade landlords to tolerate permanent State control of the land than it was to get food traders to agree to control for the duration. Yet unless this problem is tackled, the rebuilding of Britain will be utterly chaotic and damnably expensive.

UTHWATT REPORT

On November 10 the House of Lords debated and agreed to a motion to introduce at an early date legislation covering as a minimum:

(1) Power for local authorities to acquire land necessary for replanning at the 1939 ceiling;

(2) the prescribing of procedure as recommended in the Uthwatt report for the obtaining and exercise of such compulsory powers with right of entry in advance of settlement of claims to compensation.

As Lord Balfour of Burleigh pointed out, the motion did not cover the elaborate and perhaps controversial scheme of the Uthwatt report in connection with the global acquisition of development rights. He stated that they all welcomed the Prime Minister's new slogan, *Food, Work and Homes*. Food and work depended on the efficient planning of industry, and so did homes. National planning was necessary for all three.

Lord Snell, in answer, assured Lord Balfour that his suggestions and criticisms would receive the closest attention from the Government. The Government had been reluctant to act before they knew where they could and ought to go. Everybody knew what was desirable; the Government could promise only what they decided was practicable. There existed at present a readiness and even an eagerness to accept dreams for facts, and those who put realities before ambitious desires and fancies were very seldom applauded. The way of caution was often the surest way to success. Those who set out on a journey in a fog, not infrequently returned to the place from whence they started.

Viscount Elibank said that Lord Snell's speech would carry little comfort to the local authorities or the people in the blitzed areas.

BUILDING INDUSTRY

Mr. Bevin, speaking at Wigan on November 14, stated that the Ministry of Labour is to prepare a *human budget*, as a new approach to the problem of post-war unemployment. Discussing plans for re-housing after the war, he said there was to be built up a force of 1,250,000 building trade workers working on a 12-year programme, properly organized and with raw materials at their disposal. That programme would find permanent employment for 5,000,000 in this country.

TCPA VERSUS LCC

Lord Esher, Chairman of the Central Council of Civic Societies, in a letter to *The Times* on November 16, states his belief that the TCPA is doing no service to town planning by the unfortunate controversy with the LCC on the relative merits of houses and flats.

His council is anxious lest the brickbats thrown by schoolmen should have a harmful effect upon the bold and magnificent scheme presented to the public by the skilful and experienced architects of the LCC.

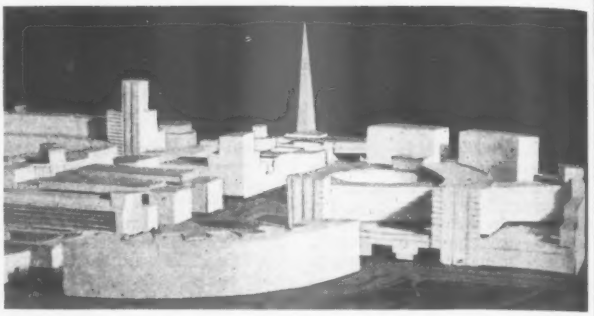
NEW LITERATURE

Problems of Population: R. M. Titmuss. Unless We Plan Now. Handbooks for Discussion Groups, No. 9. Association for Education in Citizenship. 4d.

A Town and Country Plan for Surrey: The Surrey Federation of Labour Parties. 6d.

Practical Planning: Engineering Science applied to the Development of Great Britain. 2s. 6d.

LOCAL PARTICIPATION IN PLANNING
1. BLACKPOOL GRAMMAR SCHOOL



Above and below are views of the model made by four sixth-form boys of Blackpool Grammar School to illustrate their scheme for the replanning of Blackpool. The conspicuous spire in the centre of the building on the sea front is not a church, as some might suppose, but the centre of indoor entertainment called Tower Buildings. The blocks in the centre of the scheme are mass-produced flats, and provision is also made for department stores, numerous hotels and a concert hall.

A scheme for the replanning of Blackpool has been carried out by four sixth-form boys of Blackpool Grammar School, with the advice of the Art Master, Mr. Barnet, and the Headmaster, Dr. Benson. The imagination and understanding evident in the scheme makes it one of the year's most encouraging planning events. A Ministry of Reconstruction is merely an effigy and the plans of local authorities so much waste paper if there is no understanding nor wish to participate in planning on the part of the people; but if a Grammar School devotes its sixth form economics and art classes, as Blackpool Grammar School has done, to an urgently needed consideration of practical measures to reconstruct and rehabilitate it's own community, there is indeed hope for the new Ministry.

The scheme was exhibited at a prize-giving in the school which was addressed by Professor Reilly, and includes plans, perspectives of streets and buildings, a model which is illustrated on this page, ordnance survey maps of Blackpool, aerial photographs, illustrations of existing conditions and drawings by the boys suggesting a new civic centre. The first four or five weeks of the subject were spent in discussing road systems, railways, housing, hotels, shopping centres, parks, churches, schools, entertainment places, administrative buildings, etc.

In the words of the report, the scheme aims at replanning the present muddle of dark streets by wide ones, pleasant in appearance and sufficiently wide to cope with any volume of traffic which the holiday season may produce. Instead of the buildings being totally unrelated to each other in colour, size, shape or line, the proposed buildings have been designed to produce continuity without monotony. The report makes a plea for the concentrated town on the grounds of convenience, efficiency and beauty; pointing out that the Municipal Town Planning Scheme No. 1 provides for a zoning of housing density and a continuance of the town's expansion, which although orderly and quite healthy, tends to spoil country and town alike. The proposals not only deal with the centre of the town, shown in the model, but also make practical suggestions for the whole region to which Blackpool is related and, in addition, provide a graphically worked out potential unit system. Certain of the outer suburbs which were once villages have been re-organized into self-contained satellites. The provision of satellites and residential areas away from the centre were thought essential in a town like Blackpool where, during the summer, the resident wishes to get away from the crowds of visitors. The civic centre is planned as a self-contained administrative unit on the northern fringe of the town for similar reasons. Since, as the report points out, most of the business of running the town is conducted by letter or telephone, this siting of the administration will cause no real inconvenience. The town as planned in the scheme would hold 150,000 residents and would be capable of accommodating 1,000,000 visitors.

In conclusion, the authors of the scheme affirm their belief that if Blackpool is planned on this basis, it would yield a rich dividend in human welfare and happiness and incidentally would be much more profitable financially.

FLATS
AT BUENOS AIRES

BY GARCIA MIRAMON AND GARCIA BELMONTE

This new block of flats at Buenos Aires contains twenty-two flats and two shops at ground-floor level. It covers an area of 2,700 square metres and has a garden of 490 square metres. Special attention has been given by the architects to the disposition of the windows and the principal rooms in the flats have been designed to receive the maximum of sunlight. All the flats have wide balconies

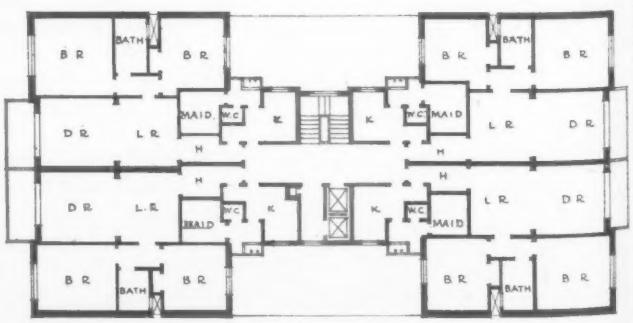
giving either on to the front or on to the garden. The construction is in reinforced concrete with external walls of solid brickwork and internal walls of hollow brickwork covered with gypsum. All floors are parquet oak and landings are in a crushed volcanic stone. On the ground floor are, in addition to the two shops, two flats—one with one bedroom, the other with two bedrooms—each containing hall, living-drawing room, kitchen and maid's room. Above are floors with four flats on each landing. Each of these flats has a large living-drawing room, two bedrooms, hall, kitchen and maid's room. There are two lifts.

Left, the street front; above, the entrance hall; below, ground and typical upper floor plan. The building contains twenty-two flats and two shops at ground-floor level.

FLATS AT BUENOS AIRES

DESIGNED BY MIRAMON & BELMONTE

GROUND FLOOR.



TYPICAL FLOOR

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

1297 Chicago Master Plan

CHICAGO PLANS. (*New Pencil Points No.* 3, *March*, 1943). The master plan prepared by the Chicago Plan Commission set up in 1940.

(1) In addition to the staff of architects, engineers, and land-planners who have carried on the invaluable work of developing the physical plans for Chicago, a staff of economists, geographers and sociologists were assembled to study economic trends and the social and economic patterns of the city's structure.

(2) A series of analytical maps were prepared giving a graphic picture of existing conditions and trends. These included the Age, Condition, Average Rental and Types of Residential Structures and maps of Population Density.

(3) Careful analysis of a number of such maps led to the classification in eight categories of the residential sections of Chicago: (i) Blighted; (ii) Near Blighted; (iii) Conservation; (iv) Stable; (v) Arrested Development; (vi) Progressive Development; (vii) New Growth; (viii) Vacant.

(4) The future disposition of housing types has been carefully calculated to care for the requirements of the probable number of families in each rental level.

A great part of the present blighted area will have been rebuilt with group houses or two-storey garden apartments, while around the periphery of the city the extent of land occupied by single family homes will be, it is expected, greatly increased.

Conservation areas of to-day will by 1965 be ripe for rebuilding, while the portions of the city now classed as stable will be twenty-two years older and ready for conservation measures. Meanwhile, new growth will have filled in much of the vacant territory. Population densities will have been increased in these vacant areas, due to the building of new homes, but will have been reduced in conservation areas. Neighbourhoods will have become provided with properly related community centres and protected against future deterioration of the sort that has caused much of the present distress.

(5) Most spectacular, perhaps, of the proposals of the Chicago Master Plan is for a vast system of express-highways, radial and circumferential, extending into the adjacent region and furnishing facilities for modern express motor transportation. In the near-in sections and within the city, the routes are planned to parallel waterways and railroad lines as far as possible. Outside the city they will follow lines of existing highways as part of the Federal, State, and County Highway System. These express-highways are designed to by-pass both suburban towns and the relatively well-defined sub-communities of the city itself, yet are so distributed as to serve the whole area uniformly, both now and in future.

(6) Air passenger growth is calculated to rise from 625,000 in 1940 to 4,800,000 in 1950. This calls for three major air terminals within 3-10 miles of the Centre: four major inner belt terminals within 20-40 miles, and five major outer ring terminals within 40-60 miles. All these should be publicly owned. In addition 30 secondary airports are called to serve commercial and private non-scheduled flights. Finally 30 minor airports privately owned and operated will be used primarily for pilot training and private flying.

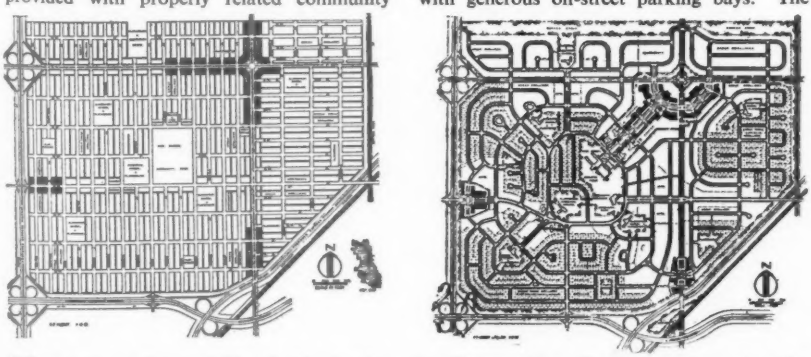
(7) One of the principal fields for action by the Chicago Plan Commission has been to find ways in which the blighted residential areas of the city can be transformed into convenient, comfortable, quiet, safe and healthy neighbourhoods, protected by all resources of modern planning against any future recurrence of blight. As a sample of what could be done an area on the near West Side was chosen and illustrative plans prepared to indicate a manner of redevelopment. This thickly settled and blighted section is susceptible of complete rebuilding by private initiative, operating under the Illinois Neighbourhood Redevelopment Corporation Law which permits the application of condemnation proceedings. The street system would be reorganized and a number of the minor streets converted into park and playground areas with generous off-street parking bays. The new housing might be in the form of group and row houses or low apartment buildings. Interior parks and playgrounds surrounding the schools would be accessible to the neighbourhood residents.

The planning technique demonstrated here would be applied, it is expected, to large portions of the blighted area of Chicago. By making these areas as attractive as this sample would obviously be, it is reasonable to expect that many families now living in the suburbs would be drawn again toward the centre of the economic activity that gives them their livelihood. They would thus be enabled to live comfortably near their work while enjoying, at the same time, the benefits of light, air, and safety, in search of which they originally moved to the outskirts.

(8) Believing strongly in the virtues of modern neighbourhood planning, the Chicago Plan Commission is urging that the present rigid laws regulating land sub-division should be changed. To illustrate the advantages of the modern approach as opposed to the old rectilinear block arrangement, it has made studies of the same (now vacant) area treated in both ways. It is shown how this area might develop if laid out to conform with the existing sub-division code. The same area is then shown planned for a community of about 26,000 people, organized into five neighbourhoods of individual character. The second plan has many advantages over the first. It has over five miles less of streets, which is not only an initial economy but permits better use of the land. In the centre of each neighbourhood is the elementary school and playground and the streets are designed for circulation within and between neighbourhoods so that school children would need to cross a minimum number of lines of merely local traffic. The high school, which serves all five neighbourhoods, lies at the centre of the community with its adjacent athletic field and a community building situated in a park. A group of public buildings and retail shops are placed between the high school and the junction of two important through streets where they can serve the entire community.

A community development of this sort, it is contended, would represent less land improvement cost for the developer and less cost to the home owner or rental occupant than the gridiron type and would result in greater economic and social stability for the community and for the city of Chicago.

(9) The central shopping and office area of Chicago is called *The Loop*. A careful study by the Chicago Plan Commission has disclosed that the present accommodations operated by private individuals or companies in this district can accommodate only 12,000 automobiles, as compared with the 23,000 that should be provided for. As an important part of its plans for redeveloping the district, therefore, there are included proposals for enough additional privately operated, but possibly municipally owned, parking terminals to care for the required number. A number of obsolete and obsolescent buildings will eventually be torn down and replaced by these improvements.



Believing in modern neighbourhood planning, the Chicago Plan Commission is urging that the present rigid laws regulating land sub-division should be changed. To illustrate the advantages of the modern approach as opposed to the old rectilinear block arrangement, it has made studies of the same (now vacant) area treated in both ways. Left, according to the existing sub-division code. Right, the same area planned for a community of about 26,000 people, organized into five neighbourhoods of individual character. It has five miles less of streets. See item 1297.

MATERIALS

1298 Book on Concrete

AN INTRODUCTION TO CONCRETE WORK. *H. L. Childe.* (*London Concrete Publications*, 144 *pp.*, 116 *illustrations*, 1*s.* 6*d.*). Elementary description of the components of concrete; influence of water content, mixing, transport, placing, curing, shuttering, surface finish, precast concrete, testing.

The book has been written primarily for students at technical schools, apprentices in the building industry, etc., and should be of much value to many architects. It gives a general idea of how concrete is made and how concrete structures are erected. Every process from the

selection of the materials to the finishing is clearly described. The theory of reinforced concrete and the properties of its components are explained in a very simple way. The author is not content only to say how the different operations are carried out, but gives the reasons why. Good work will be achieved if those doing the work take an intelligent interest in it and know why it is so important that the engineer's instructions should be carefully followed. The book contains a number of useful tables and memoranda and a bibliography. It can be recommended to all who wish to acquire an elementary knowledge of concrete and reinforced concrete.

1299 *Cellular Concrete*

CELLULAR CONCRETE. *L. J. Pond.* (*Architectural Design and Construction, July*, 1943, *pp.* 141-2). Use of concrete without material finer than $\frac{3}{8}$ in. in walls of houses. Special system of steel shuttering allowing quick progress and any room dimension in multiples of 4 in.

Cellular-concrete is made of aggregates of $\frac{3}{4}$ in. to $\frac{3}{8}$ in. without any material finer than $\frac{3}{8}$ in. It has been used in walls of houses built by the Scottish Special Housing Association. It is honeycombed, and damp therefore cannot be conveyed through the wall by capillary movement. The dead air spaces formed throughout the wall give better thermal insulation than dense concrete. An 8 in. solid cellular concrete wall is equivalent to an 11 in. cavity brick wall. To preserve the cellular nature of the concrete, only just sufficient cement in the form of freely flowing paste is used.

A cellular concrete wall gives no trouble from condensation. The surface texture affords an excellent key for plaster. It is customary to plaster or roughcast direct, i.e., without backing or other preparation. Normal two-storey buildings have outer walls of 8 in. solid thickness; all internal partitions are 4 in. thick.

A special system of steel shuttering has been developed for this type of work. It consists of a series of T-shaped posts of full storey height, set face to face on opposite sides of the wall or partition and kept the correct distance apart by metal spacers. Each pair of posts is spaced from the next by a distance equal to a module of 4 in. The spaces are filled with pressed steel panels rigidly but detachably fixed to rebates of the posts. These panels can be removed about 24 hours after pouring the concrete of a storey leaving the posts in position to support the shuttering of the storey above to which the panels can be immediately transferred. This shuttering can be used on any building the rooms of which are multiples of 4 in. Door and window frames are placed within this shuttering and concreted in. The whole storey from D.P.C. to first floor or from first floor to roof, including all partitions and chimneys of a normal block of four houses of four apartments each, is poured in one working day of eight hours.

Cellular concrete is not a weight-carrying material. Point loads should be avoided. It calls for special knowledge and experience, and it is difficult, for the time being, to see the advantage of its use as compared with concrete made of light-weight aggregates.

HEATING and Ventilation

1300 *Office Air Conditioning*

AIR CONDITIONING OF OFFICE AND LOFT BUILDINGS. (*Architectural Record, April*, 1943, *p.* 82.) A general survey of factors to be considered when air conditioning is to be used.

The decision as to whether air conditioning is to be employed should depend entirely on whether it pays. Air-conditioned space may cost $4 per sq. ft., as compared with $1 for ordinary office space. Consequently air conditioning is often limited to parts of the building. The plant will require a large volume of space which, if otherwise rentable, should be charged to operating cost. The water supply requirement will be considerably increased.

When large areas are to be conditioned the building is usually divided into zones. The zoning may be horizontal in low buildings or vertical in tall buildings. Re-circulating fans in each zone may be supplied with conditioned air from a central plant.

In the installation as few compromises as possible should be made to physical or structural conditions since success or failure often depends on the care taken in installation. Distance between plant and conditioned space requires consideration. The smaller the distance the cheaper the installation but the greater the possibilities of noise.

Operation of the plant may result in condensation of water vapour necessitating provision of waterproofing and drainage. Access must be provided to cooling coils, eliminators and filters and to the bearings of moving parts. Any part of the system subject to deterioration and damage may need to be removed and replaced.

1301 *Library Air Conditioning*

HEATING AND AIR CONDITIONING: LIBRARY INSTALLATION: HOUGHTON LIBRARY OF RARE BOOKS, HARVARD UNIVERSITY. *Perry Shaw and Hepburn, Architects.* (*Architectural Record, July*, 1943). General description of building includes very brief note of heating and ventilation.

Air made dust-free by ionizing process as it enters building. Temperature and humidity remain absolutely steady. Air quantities and velocities are controlled. All gaseous products which tend to discolour books are removed by passing the filtered air through metal absorption canisters perforated and filled with activated carbon. There is a space of one inch between the back of the bookcase recesses and the wall, to allow for the circulation of air. The warm transformers for the Neon lights are placed in accessible panels above the shelves to induce a gradual circulation of conditioned air up through the exhibits from the baseboard grilles.

1302 *Gas Industry in War Time*

THE GAS INDUSTRY IN WAR-TIME. (*PEP Broadsheet, No.* 210, *August* 17, 1943.) Brings up to date PEP 1939 Report on the gas industry and forms part of material for a later report of fuel policy.

A review of the gas industry in wartime, including Government steps taken to advise, help or control the industry. The need for more research, both technical and economic, is mentioned. Wages have risen less than in other industries and war burdens have been considerable. The estimate of the proportions of total gas output shows 65 per cent. for domestic purposes. This is an interesting point for architects as it shows how important the use of good installations with efficient fittings is to the country. This will still be true in peace-time although in this Broadsheet fuel economy is mentioned chiefly in its relation to the war. Sections on coal supplies and by-products show how essential it is for the country to have a fuel policy which relates to all types of fuel, for example, during the war high gas output in some areas led to a surplus of coke. Improvements in the control of quality of coke are recorded in the increased practice of selling it in graded sizes. The possibility of using pitch as a liquid fuel has been explored with fairly satisfactory results, but so far it has not been widely utilized for this purpose.

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.*

1303 *Architects' Registration*

Q *Can an Architect who resides in Eire register at the Architects' Registration Office in London, if he has an office in Great Britain or Northern Ireland as well? Can an Architect who resides in Eire register if he has no office in Great Britain or Northern Ireland? There are some Registered Architects in Eire. Where did they register?*

A An Architect who has passed one of the examinations approved by the Architects' Registration Council, 68, Portland Place, London, W.1, is eligible for registration. An architect resident in Eire with the above qualifications can be registered. It is not necessary to be a Registered Architect to practise in Eire.

1304 *Books on Old Cottages*

Q *I have a 400-years-old cottage and should like to make it a little more convenient without altering its old-world charm. Can you suggest any books which I could read up on the subject of 16th century cottages?*

A We give below a list of publications which might be suitable. We rather think that the first of these would give most assistance.

1. *The Cottages of England*, Basil Oliver (Batsford).
2. *Repair of Ancient Buildings*, A. R. Powys (Dent).
3. *Small Country Houses, their Repair and Enlargement*, Sir L. Weaver (Country Life).
4. *Old English Country Cottages*, edited by Charles Holme (Studio).
5. *Report on the Treatment of Old Cottages*, pamphlet by A. M. Powell (Society for the Protection of Ancient Buildings).
6. *An Old Cottage Saved*, pamphlet by A. M. Powell (Society for the Protection of Ancient Buildings).

1305 *Steel Reinforcement*

Q *Is the steel in reinforced concrete work subject to collapse through rust if the 1½ in. concrete cover is exposed to the elements? What is the estimated length of life of steelwork encased in this way?*

A Reinforcement, if covered by 1½ in. concrete, will not collapse through rust if exposed to the elements. The life of the steel stanchions and rods so encased is not, therefore, limited by this factor.

1306 *Miners' Welfare Commission*

Q *Can you tell me the address of the Architects' Department of the Miners' Welfare Commission, Mr. C. G. Kemp, A.R.I.B.A., Chief Architect?*

A The address of Mr. C. G. Kemp, A.R.I.B.A., is: Chief Architect, Miners' Welfare Commission, Ashley Court, Ashtead, Surrey. Phone: Ashtead (Surrey) 3262.

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.

EVENING STANDARD

Walter Elliot

On November 18, the following article, HOMES FOR ALL—CAN IT BE DONE? OF COURSE IT CAN, by The Rt. Hon. Walter Elliot, M.P., appeared in the *Evening Standard*. We reprint it here because it expresses in a dynamic way what we believe to be the right attitude to the housing problem. It should be read in conjunction with this week's leading article.

This year, next year, some time, never. That is the children's rhyme. That is the actuarial table by which youth measures prospects of any benefits from anything. Year One—yes. Year Two—yes. Year Three—perhaps. Year Four—nothing doing.

That is the table which reformers, and in particular housing reformers, should hear beating in their heads like the tick of a clock. Tell a young married couple that they will have a house this year. Or even next year. You will raise their hopes. If you deliver the goods you will earn their gratitude. Tell them—a house in three years. They will scarcely trouble to look up. Tell them—a house in four years. You will be lucky if you escape with your life.

The Prime Minister has set down his immediate post-war objectives for Bill Everyman and Madge Everygirl. They are food, a home and a job. The Prime Minister is right. Beveridge for pensions. Keynes for currency. Uthwatt, Barlow and Scott, for Scott, Uthwatt and Barlow. The Lord made them all in six days and rested on the seventh—and saw that they were all very good. But all this complex machine will be driven and serviced and fuelled and manned by Madge and Bill. Bed, breakfast, a door to slam and a job to go to. This year? Next year? Sometime? Never?

Very well. Homes first. Somewhere to lay your head. Somewhere to put the wife—away from her relations who have lodged her so long. Half a million houses are needed now, starting from scratch, to house the half-million or so new households set up in Britain in the five years of the war. (The actual number is round about 470,000.) But we are not starting from scratch. There was the blitz. Two million houses, we are told, have been damaged. Perhaps a quarter of those have been smashed. Half a million. Half a million behind scratch. Add half a million more. That's a million. Is that all? No—by thunder!—no. There were the slums.

The local authorities laid down a programme for nearly half a million on that count before the war; and, believe me, when the local authorities had a house listed for slum clearance before the war in the industrial North, in Scotland, or in South Wales, it was not the sort of place to be improved by five years of further use under war conditions. Or any conditions. Add another half-million.

Grand total—a million and a half. That is no over-estimate. It is reckoned, after a careful count, that half a million are needed in Scotland alone. There's a third of the total earmarked already.

Now before the war we were building about a thousand houses a day, Sundays not counted. About 300,000 a year. Phenomenal. Magnificent. But divide this figure into a million and a half, and you will find it goes, not four times but five. Five years. And that is *starting* at 300,000 houses a year. Which, as Euclid would say, is absurd. I hope we do better than we did after the last war. The average then was only 60,000 a year for the first four years. But whatever happens, let's face it. Year One and Year Two, counting from the outbreak of peace, will see a very small inroad made by the orthodox methods upon this colossal figure.

We have not yet mentioned the other 1,500,000 houses—the damaged ones. They will need attention. Nor have we mentioned the Minister of Education's schools. Nor the Minister of Health's clinics or sanatoria. Nor a new cinema, nor a new hotel, nor a new dance hall, nor a new civic centre—things which have a way of getting themselves built, shortages or no shortages. There are always steel beams that cannot be used for cottages, terrazo workers whose particular skill would go unemployed, firms and workmen to whom these special jobs are daily bread. And this is right. Half the problem of the industrial towns is their howling ugliness, that makes young men and women, with their way to make in the world, flee them as though they were in title what they are in fact—the City of Desolation.

Dispersal is a crying necessity, if industry and populations are to be planted about our island, with room to grow. You will never get dispersal if there is no decent theatre in the kingdom except somewhere round Shaftesbury Avenue. All building is necessary.

This year—next year. Let us make it half a million houses a year, then, after the next armistice, instead of three hundred thousand. That would wipe off the deficit, under full blast, in three years, instead of five. Say four years, taking a year to get into our stride. Then what? Then we could get on with housing. For the new households will not have stopped coming in that four years—not if the other two factors, the meals and the jobs, have been moving along regularly. And if they have not, well, there will be internal disturbances that will make the blitz look like an afternoon tea-party. The bill will come in for repairs, if we have failed in new construction.

Nor will the deterioration of old property stop, old property which keeps slipping into slums year after year. There will still be plenty to do.

Can it be done? Of course it can. But it cannot be done by orthodox methods alone. It will need a Supplementary Programme, a reinforcement—an extra engine to push the train up the bank. The fact that this extra engine can be uncoupled then, and run away to take part in other tasks, is an additional advantage, not a disadvantage. The building industry needs a lift, to get it over the hump. It does not want to be saddled for all time with all the extra plant—and men—that are required for a 50 per cent. increase, which by the nature of things can only be temporary, for all its post-war years.

The name of the supplementary programme is Prefabricated Houses. Half America lives in prefabricated houses. Sweden. Denmark. Not bad houses. Good houses. Not cheap and nasty. Homes. Why not? The suites in the Queen Mary are prefabricated houses. The Royal Train is a prefabricated house. Solomon's Temple was a prefabricated house. There is no moral law that says a house can only be made on the site, by laying brick upon brick, or stone upon stone, and then getting in the plumbers and carpenters. For anyway, let me repeat, the plumbers and the carpenters, at any rate for Year One and most of Year Two, will be unprocurable. They will be up to the eyes in the 1,500,000 damaged houses that have been screaming their heads off for attention for years. And all the others.

Houses to let, houses to hire-purchase, houses to buy outright—all these things are dependent on one prime consideration—that the houses should be there. Not merely figments of a dream—or blue-prints on a board—both equally irritating when you try to go to bed in them. To get the building societies going, to get the local authorities going, to get private enterprise going—all that depends on taking the crushing, choking weight of the war-accumulated burden—the blitzes, the breakages, the inhuman overcrowding—off the backs of the people. And it has to be done in Year One and Year Two. The way to do that, and the only way to do that, is by the Supplementary Programme.

A great slogan has been unloosed. Food—a home—a job. At the Mansion House: The very name is a challenge. The new demand, by the New Triphibians, the people who want three lives—not to live by bread alone, but also by a fireside, and in their work. And whatever else this generation is determined to do, it is determined to live.

This year. Next year. . . . Tick. Tock. Tick. BANG!!!

AA

Marc Peter

November 9, at 36, Bedford Square, W.C.1. Ordinary General Meeting of the Architectural Association. Lecture with slides on DEVELOPMENTS IN AMERICAN SMALL HOUSE CONSTRUCTION by Marc Peter, Jnr., M.ARCH., A.I.A., the Boston architect. Chairman: A. F. B. Anderson, F.R.I.B.A., S.A.D.G., PRES.A.A.

Marc Peter Jnr.: I do not think that it is sufficiently realized that the United States has had, since the Colonial days, an indigenous tradition which is not a European tradition though it has its roots in it. But since the Federal period American domestic architecture has developed along a different line from the European tradition, and I should like, very rapidly, to run through four or five decisive influences which have helped to develop this American tradition and without a knowledge of which our modern development cannot be fully understood.

The first is a natural influence and that is the weather. We have a climatic condition which is characterized by extremes. These extreme conditions—cold in winter and hot in summer—are important. For example, in Salinas, in 1810, the tradition was that a brick house was unhealthy. If you have a masonry house you have a condition which favours condensation where the climatic conditions are such that a change in temperature of between

30° and 40° can take place in a few hours and where humidity is likely to change 50 per cent. from day to day. Because of that our type of house has been developed in a way best suited to meet the weather conditions. It has also had a bearing on the development of plumbing and heating, and in the placing of the heating element.

The second element is a technical one partly derived from the first and is the development of frame technique. This framing technique allows the fitting of any insulating material and is one of the explanations why we have gone to steel rather than reinforced concrete. Framing is a very rapid method of working, and there are examples of churches or meeting houses as early as the middle of the eighteenth century of which the walls were put together on the ground and then hoisted into place as we do now for prefabrication.

The third element is an economic one. It is that there has been a scarcity of building labour throughout the history of America; the cost of labour has consequently been high and there has been a tendency to increase the productivity of labour by machinery.

The fourth element has been the lack of domestic help—which is, of course, a social element—so that you will find a rather effective and efficient type of planning.

The traditional house of the late seventeenth and early eighteenth centuries is a compact house in the form of a square box with the heating element in the middle and then the stairs. That has developed into the plan which is now a standard one in the $10,000 house and which is this: square house, stairs, kitchen, dining-room and living-room. This, therefore, is the background. A square house, weather conditions forcing a rather efficient type of building, windows fitting rather closely, and central heating—even in the eighteenth century house the heating element was in the centre and was really the same thing whatever the type of heat.

Against this background you will now, I think, understand more easily what we see developing in the United States towards modern architecture. It also gives us an insight into the shape of things to come and seems to me to be a good indication of how the United States is going to transform the modern movement into something indigenous rather than something European. Tradition is not only a matter of style, but is very much bound up with people's social habits, tastes and acceptance of the built-up symbols which architecture means in the minds of the people at large. Thus, if the traditional technique is as I have indicated still satisfactory, or at least there is no large gap between what the technique produces and what comfort it gives, then it seems to me obvious that such a profound change as is being wrought by the adoption of the modern creed must depend for its complete acceptance on the development of an easily recognizable vernacular understandable by all. This acceptance is very gradual and any sign of its maturing is very significant.

Up to the beginning of the war—or up to 1940—the modern vernacular was rejected by a large number of people in spite of the real technical and planning advantages which it offered. It must be realized that in America the greater proportion of domestic building was in the hands of private industry, and for the last 20 years there has been a very big development in suburban areas. Private industry has put up thousands, if not millions, of small houses and on the whole they are fairly well built and efficient in planning. They tend to be rather over-decorated but it is interesting to note that in spite of this over-decoration the planning is the same in all of them and is efficient. The efficiency of the bad stylist house will make it rather harder for the good and sound modern stylist expression to replace the small details which people seem to love.

Private industry has made some rather important contributions to building technique. One of these is the standardization of utilities. The second contribution is the degree of efficiency which it has reached in the use of machinery. Private industrialists use machinery because it builds much faster and more efficiently.

Private industry is also responsible for that development peculiar to our times called "prefabrication" which is causing so much terror in many quarters and which is so much misunderstood. May I say in passing a few words about it, since I find that the words "Chicago prefabricator" have already been publicly used in this country as a bogy to warn the building industry against any reasonable attempt to use the facilities of modern industry for its benefit. Prefabrication is an attempt to use production line methods and increase the productivity of labour by using industrial methods of control. People were apt to think at first that it meant selling houses like cars. But when they consider that 30 per cent. of the price of a car can be attributed to marketing expenses and if they compare that 30 per cent. with the 8 per cent. profit of the speculative builder it is obvious that the prefabricated house stands no chance. In fact, in the early days of prefabrication there was a good deal of money lost, and the first application of large-scale housing where prefabrication has been used has shown very decidedly that the largest savings come from site fabrication rather than manufacturing at a central point. This gives a very definite chance for various uses of standard units and local architectural adaptation. Site fabrication, furthermore, needs only proper machinery installed in a temporary shed, or even in a circus tent.

Competitive conditions of private industry have had another interesting result. It has not only taken the small cheap house out of the architect's hands, but has invaded the field of the 10, 15 and even 20,000 dollar house and it has forced the architectural profession in America to be very much more cost-minded and technically efficient in order to survive. This may be considered a detriment to the profession, but I do not believe that it is, since the result has been extremely beneficial and has brought the architect very much closer to the industry, which is now beginning to realize the full value of the architect's services. During the last five years the number of good designs which have been done in the field of the small house is amazing.

The multi-family building is gradually changing from an expression of small units to the expression of a larger unit with a corresponding quiet and standing of the street. I am not sure that we shall arrive at a concept of the street as it is in Bath through standardization, but it is something very badly needed and I think we see in the war-time development some hope for it.

Discussion: Mr. Grey Wornum said that he had expected that Mr. Peter would just refer a little to the type of cellar in which the heating plant was put, and also to the laundry room—because the laundry room was an important side of American life and must affect planning quite a lot.

Mr. Arthur Kenyon said that in comparison with the American the English small house seemed rather over-planned. The reason for that might be that our small house had come down from the big house with long passages and many stairs, and English people are rather apt to feel that they must have every room separate. Generally speaking, he did not know whether that would have been accepted in this country before the war, but since the war there had been difficulty in getting domestic help—a difficulty which he thought would continue—and therefore some move towards simplification in planning would have to be made. He thought it better in a small house to feel that one was living in the whole of the house instead of in separate parts of it as English people did.

It seemed to him that standardization and prefabrication must play some part in reconstruction after the war in this country because our present methods of building were not quick.

Mr. John Markham said that it seemed that what dictated the type of planning was the way in which the heating service was going to be done. If one had central heating one was set free to a considerable extent regarding planning. But we had to consider flue construction and we could not copy the American planning exactly without altering our system of heating.

Mr. Marc Peter, in reply, said that with regard to the laundry room it was true that there was usually one in the basement but in the latest Government plan there had been a new element called the utility room. The utility room was where the laundry was done and it meant running a very short pipe through the ceiling to the washing machine. That had been found quite useful, and in fact there had been a demand for the extension of working space.

With regard to durability and maintenance it was quite true that the maintenance of wood was a question of painting. In the USHA project, because the cost of maintenance had to be kept down, brick interiors were used so that they did not have to be painted every five years. But he did not think that if the houses were painted at regular intervals the wood house would be less durable. It must be realized that when 4 ft. of ground was frozen hard every year the house was subjected to considerable "push and pull" and certainly no brick wall would stand that force as a fully framed house would, whether in wood or in steel.

The type of speculative house was usually a frame house with boarding and 4 in. of brick. That was how the speculative builder got over the question of maintenance. He built a wood frame house and then built a skin of brick.

With regard to the question of roofs, if one could have any kind of roof which was low it would be a cheaper roof. The house he referred to had battens supporting a sheet of cellotex which gave both weather covering and insulation. A flat roof was usually covered with 2-, 3-, or 4-ply and that was called "grading to Barratt's specification," so that one referred to a 15-year, 20-year or 25-year roof. It was nothing but paper with bitumen in layers. Most of the American cities were built with flat-roofed buildings and so far they had never been regarded as a major point of difficulty.

Regarding speculative building, in America they had a Federal organization called the FHA. The FHA made an analysis of the plan of a house and having valuated it up to a maximum of 90 per cent., one then took the proposition to any bank which would then lend against the FHA's valuation at a prescribed rate or lower. Of course the FHA was very particular about the type of construction.

Regarding steel, he had already mentioned steel framing. He could only say that as far as the possibility of using steel was concerned, America had got far beyond the experimental stage. There was a system called "strand steel," and whereas the US army used wood, thereby wasting it somewhat, the US navy were building with strand steel. He was not very familiar with the system but it was a simple system of a joist which allowed one to nail any boarding to the interstitial space which was like a spring and held a nail. It had proved fully as good and as cheap as wood. He would not say that it was the best technical solution, but it was an example which showed that steel could be used in a framed house.

As to the supply of wood, it was quite true that America would run short eventually, but it must be understood that during the war they were being rather wasteful, and the war statistics should not be taken as necessarily disclosing the true state of affairs.

ANY ANSWERS?

A Session Not Broadcast last Tuesday

QUESTION MASTER: This week we continue our technical series. Our resident members are looking—er—rather grim and determined. Dr. Treat M. Roughly, Professor Noad-Hall, Captain Campstool and, once again, our anonymous expert, who appears more encyclopædic and sphinx-like than ever. I can see that I shall need an iron nerve to handle such a tough trust. Well—here's the first question. Miss Dorothy Hopple-blossom, a land girl working in Much Digging, Yorkshire, asks: "What is the best size and shape of window to have?" Noad-Hall?

Professor Noad-Hall: That depends upon where you want the window. I don't have windows of the same size and shape in, say, my study and my stable. I should say the best size would be the smallest area of glass suitable to allow the required amount of light to enter the room.

Question Master: Or the stable.

Professor Noad-Hall: Yes—or, for that matter, the potting shed.

Captain Campstool: But surely this does not always apply. Look at the Crystal Palace——

Question Master: Er—Roughly?

Dr. Roughly: It seems to me that Noad-Hall has begged the question brilliantly. Of course there must be a direct relationship between the size—and, yes, the shape, too—of a window and the amount of light you want to admit. But that's the whole point. What *is* the required amount of light?

The Expert: May I remind the company that a window has a two-way purpose. It lights the room, and it enables us to see out. To meet both these needs abundantly, generous window space must be provided. So far as *size* is concerned then, the *a priori* case is for the big window.

Captain Campstool: But doesn't that make the house cold and draughty? I know that the settlers in the western provinces of Canada——

Question Master: The question comes from Yorkshire—not Canada.

Captain Campstool: But—what I mean is—there's a fuel shortage.

The Expert: People seem to have a peculiar bias about windows making rooms cold. Why are tomatoes grown under glass? Glass acts as a sun-trap, because glass allows short-wave heat rays to pass through. These rays enter a glasshouse and are absorbed by the plants and other objects in the house. These objects re-radiate the heat in the form of long waves which cannot pass through glass. The same applies, of course, to rooms in dwelling-houses. Hence the snugness of a glass-enclosed verandah on a cold but sunny spring day—and the universal preference for windows having a southern aspect. True, we have to set against these advantages the fact that a little greater weight of curtain fabric and a little extra coal may be needed in the winter.

Professor Noad-Hall: Which brings us back to fuel shortage.

The Expert: But fuel shortage belongs specifically to wartime when there are no houses being built anyway. I submit, therefore, that the point does not arise. The fact is that big windows give us all the benefits, not only of the sunshine of high summer, but of all those sunny days we get in spring and autumn.

Question Master: That dispenses admirably with the question of window size. Now what about shape? Roughly?

Dr. Roughly: Shape is purely a matter of personal preference.

Captain Campstool: Yes. I love those high, narrow windows—nothing more than slits, some of them—that you see in Morocco and Southern Spain.

The Expert: Once again, I must disagree. The higher the window, the more light it lets in per square foot. On the other hand, if we are to see out, our windows must come down below eye level. This is, I think, a conclusive argument against the architectural fashion for horizontal windows.

Question Master: Thank you, Mr. Expert. I am sure we shall all be thinking vertically from now onward. Our next question comes from a gentleman of Lesser Scaffolding, signing himself "Draughtsman." He asks, "What is the length of life of window glass, and why does it sometimes turn purple in old houses?" Roughly?

Dr. Roughly: Just what is the longevity of glass I cannot say, but there are no instances, so far as I know, of glass having deteriorated, except in transparency.

Captain Campstool: Might not the change of colour denote a weakening in the glass? I remember, as a child, how soap bubbles always turned purple before they burst.

Question Master: I think, this is a question that only the expert can cope with.

The Expert: Barring breakages, the life of glass is indefinite. When an old building is pulled down, the glass is found to be as good as on the day it was put in. Glass always has a greenish tinge in it, and in the old days, they tried to overcome it by adding manganese, which counterbalances the green with a faint pink colour. However, when exposed to sunlight for a long time, the greenish tint fades, becoming yellowish, and this allows the purplish colour of the manganese to predominate. The amount of fading depends on the exposure, and I have seen in old cottages, panes of a variety of colours, according to age and exposure. But we have no need to add manganese these days.

Question Master: Well—without this able answer, we might have assumed any number of colours by now. Before closing, I must give special thanks to our eminent expert, who, I may say, is from Pilkington Brothers Limited, of St. Helens, Lancs. They were blowing glass as long ago as 1826—even before Captain Campstool began blowing bubbles.

WIN

Cottage Competition

Mr. Darcy Braddell, assessor of the Competition promoted by the Women's Institutes of Northamptonshire, for a pair of cottages for rural workers has issued the following answers to the questions he has received from competitors. Particulars of the competition —sending-in day is January 31 next— were published in the JOURNAL for October 14, page 365. Premiums are design placed first, 75 guineas ; second, 50 guineas ; and third 50 guineas.

1. *Q.* Total floor area not to exceed 1,000 superficial feet. What exactly does this mean ?

A. The intention is that this is to refer to the total floor area of each cottage which is to be measured exclusive of space occupied by external walls and internal partitions.

2. *Q.* If "fuel," etc., is placed under the main roof and not in one of the out buildings, may its floor area be excluded from the 1,000 superficial feet ?

A. Yes.

3. *Q.* May the scullery or washhouse be placed among the one-storey buildings ?

A. No hard and fast ruling is made. The conditions of this competition were drawn up with the deliberate intention of giving competitors as free a hand as possible, but their attention is drawn to the implications contained in the first paragraph of the conditions headed "Object," wherein it is stated that the prevailing standards of comfort, space and seemliness shall be sensibly but in no way extravagantly raised.

4. *Q.* Is the site to be assumed north or south of the east and west road ?

A. This is left entirely to the discretion of the competitors.

5. *Q.* What are the building facilities of the County ?

A. It is expected that intending competitors make their own inquiries.

6. *Q.* May a competitor submit more than one scheme ?

A. Yes.

7. *Q.* In view of the shortage and difficulty of obtaining suitable packing materials, may drawings be submitted rolled ?

A. *Yes.*

NFBTE

Leslie Wallis

Speaking at Liverpool on November 18, to the Liverpool Builders' Association, Leslie Wallis, J.P., President of the National Federation of Building Traders Employers, said that builders are considering a scheme of qualitative registration.

Leslie Wallis : What we are aiming at, is not a closed or protected industry, but a qualified one. You cannot practice as a doctor, or a solicitor, unless you are qualified. Why should anybody who thinks he can make money be allowed to start building with little knowledge and no experience ? It would not only be a great advantage to the public who have work to be done to be assured that by going to a "registered builder" they would get the job done properly and fairly, but it would raise the standard of building. No firm would be admitted to the register unless it could be shown that it was capable of and actually did good sound quality work.

While we want to see the back of all controls as soon as possible, I am convinced that certain controls must remain for at least a while after the war. I want to see the price control of materials continued so as to avoid prices soaring as they would otherwise. I feel, too, that a system of licensing of building would be all to the good. One control I would like to see done away with as soon as possible is the control and direction of labour. I am sure that we shall have far greater contentment among our operatives when they can work near their own homes.

We are at present talking over with the operatives the question of a guaranteed week. All reasonable employers agree that it has been a hardship on our men to have to lose time and wages due to the weather. I am sure we shall be able to devise some scheme whereby the operative is sure of a pay packet with something in it at the end of the week irrespective of the weather.

I have many times wished I were Minister of Works, but I don't wish that now. It doesn't matter how good a business man you are, the hereidtary red tape just ties you up in knots. Business and politics don't mix, and I am sure that but for the political aspect of things we should have had even more assistance than we have had from Lord Portal to make the contribution of our industry towards the war effort really worthy of us.

CHANGE OF ADDRESS

The National Smoke Abatement Society has moved to Chandos House, Buckingham Gate, Westminster, S.W.1. Telephone : Abbey 1359.

OBITUARY

We regret to record the death of Mr. Alexander McKechnie, Chairman of Messrs. McKechnie Brothers Ltd.

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

Six lines or under, 8s.; each additional line, 1s.

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

COUNTY PLANNING DEPARTMENT.

Applications are invited for the appointment of one Temporary Senior Planning Assistant.

The salary will be either £312 or £364 per annum plus war bonus (now £33 16s. per annum) and travelling allowances according to County Council scale. The higher salary will be paid to the successful applicant who has passed the examination of the Joint Planning Board and is an Associate Member of the Town Planning Institute.

The successful applicant will be required to pass a medical examination and to contribute to the superannuation fund.

Applicants must be above military age or not liable for service on medical grounds.

Applications stating age, qualifications and experience should reach the County Planning Officer, St. John's Lane, Gloucester, on or before the 30*th November*, 1943.

GUY H. DAVIS,
Clerk of the County Council.
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CITY OF LEEDS EDUCATION COMMITTEE.

LEEDS COLLEGE OF ART.

THE LEEDS SCHOOL OF ARCHITECTURE.

Applications are invited for the post of Lecturer in Architecture. Applicants should be Associate Members of the R.I.B.A., and have been trained in a recognised School of Architecture. Salary in accordance with the Burnham Scale, with allowance for professional experience, and war bonus. The appointment is temporary in place of a lecturer on War Service, but may become permanent.

Further particulars and forms of application, which should be returned by the 30th November, 1943, can be obtained by sending a stamped addressed envelope to the Director of Education, Education Offices, Leeds, 1.
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Architectural Appointments Vacant

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

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

ARCHITECTURAL AND SURVEYING ASSISTANT required for West Riding Office, must be good draughtsman and able to work from sketches. Reply with full details of age, experience and salary required to Box 204.

JUNIOR ASSISTANT required by architectural department of City property company. Preference given to applicants with experience in preparing drawings on linen and ability to carry out building survey work. Applicants should be under military age or ineligible for essential work. Write for appointment. Box 986.

ARCHITECTURAL ASSISTANTS required in London by Main Line Railway Company. Reply stating qualifications, age, experience and salary required, enclosing copies of two recent testimonials, addressed to Box 989.

Architectural Appointments Wanted

REGISTERED ARCHITECT. Total exemption from all services, requires senior position with commercial company. Experience includes Brewery and Public House work, Hotels, Chain Stores, Domestic Maintenance, etc. Used to organising and Office Staff control, Final Accounts, Specifications, etc., and all Supervision of Works. Salary by arrangement. Box 163.

ARCHITECT (special qualifications for post-war planning and design) desires post shortly. Experienced, having sole charge contracts from initial interview to completion, including drawings, specifications, estimates, etc. London only. Box 167.

SURVEYOR'S ASSISTANT (36), recently engaged on schedule of condition and war damage surveys. Experienced in land surveying and levelling, including theodolite. Registered architect. Seeks engagement on work of national importance. Apply Box 174.

ARCHITECTURAL ASSISTANT (Chartered Architect) requires senior position. London district. Wide experience of housing and planning. State salary offered. Box 177.

SOUTH-WEST ENGLAND. ARCHITECT AND SURVEYOR with own office in Bristol seeks free lance or part-time work. Experienced in all branches of the profession, especially in hospital, factory, brewery and war damage work. Speedy and accurate draughtsman with high capabilities in design and construction. Telephone Bristol 43746. Box 178.

SURVEYOR, ARCHITECT (qualified) **and Property Manager** desires position, long experience, over 30 years, theoretical and practical, expert knowledge of profession, and all trades; not liable for military service, rendered War Service 1914-18 Supervision all classes of Buildings and Public Works to £230,000, including War Damaged Properties; excellent testimonials, etc. Please apply Box 186.

CHARTERED ARCHITECT AND SURVEYOR with own London office, offers assistance to other practitioners in the preparation of post-war schemes, surveys, war damage, etc. Terms by arrangement. Box 181.

REINFORCED CONCRETE ENGINEER requires spare-time design and detail work. Calculations submitted. Any type of precast or *in situ* structures. Box 187.

Classified Advertisements continued on page xxxvi

ARCHITECT, 17 years' experience, requires home evening work to assist in preparation of drawings. Can arrange appointment during day-time. Write Box 963.

ARCHITECTS' SENIOR ASSISTANT, prepared to undertake spare time work, working drawings, etc., Birmingham area. Box 191.

KEEN AND ENTHUSIASTIC STUDENT of Architecture seeks position as junior assistant in architects office, Epsom district; experienced in scales from ½ to 3 in. and full size; have prepared sheet drawings, small knowledge of perspective; experience in use of colours and of printing; 13 months' experience in architect's office; firm now moving back to London. Box 192.

CHARTERED ARCHITECT (51), desires engagement. London or near preferred. J. L., 71, Allerton Grange Way, Leeds 7. 193

ARCHITECT'S AND SURVEYOR'S ASSISTANT age 22 years, totally exempt from military service, desires post in the North Midlands, preferably Manchester or Leeds district. Seven years experience including three years as Quantity Surveyor's Assistant. Fully competent to perform all usual duties. Salary £300 per year or by arrangement. R. Cooper, c/o. Miss Bird, Oak Street, Fakenham, Norfolk. 194

ARCHITECT ASSISTANT, age 25, ex-service man, requires position in London; 8 years practical experience on various types of work, including factory (R.C. and steel) design, layouts of housing estates, site supervision, specifications and bills of quantities. Box 195.

CHARTERED QUANTITY SURVEYOR, P.A.S.I., requires work on housing, post-war reconstruction, town planning schemes or war damage. Fully experienced. Studying for final T.P.I. exam, 1944. Box 196.

JUNIOR requires post in architect's office (London area), keen and willing. At present attending Municipal College and School of Building. Box 197.

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(The Architectural Press, Ltd.) War Address: 45 The Avenue, Cheam, Surrey
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