DELHI UNIVERSITY
LIBRARY

DELHI UNIVERSITY LIBRARY

Cl. No. N1:1U3:N4 HG

Ac. No. 43543 Date of release for loan

This book should be returned on or before the date last stamped below. An overdue charge of 5 Paise will be collected for each day the book is kept overtime.

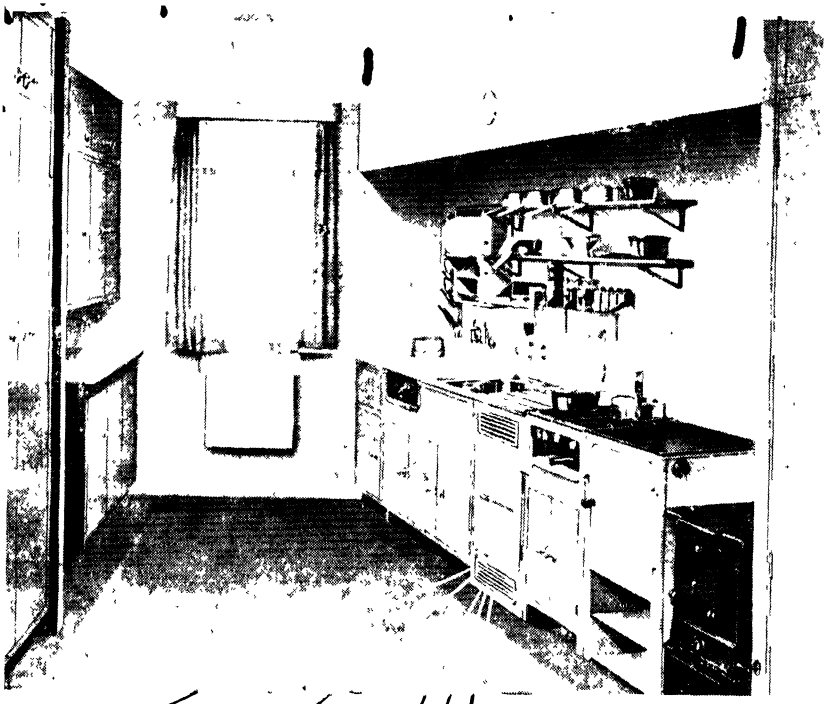
PLANNING AND RECONSTRUCTION

1946

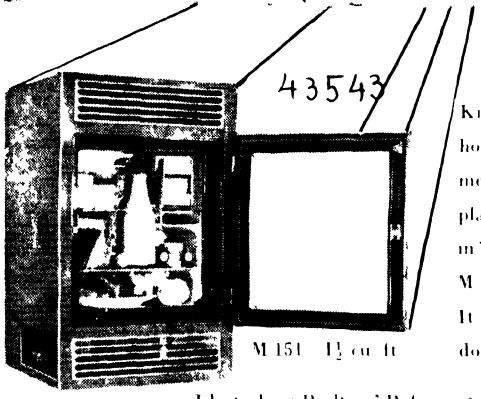
Advisory Editor
F. J. OSBORN

TODD PUBLISHING COMPANY, LTD.
LONDON AND NEW YORK

Sole British Distributors :
GEO. G. HARRAP & CO., LTD.
182, High Holborn, London, W.C.1
AND AT TORONTO, BOMBAY AND SYDNEY



Post-war Kitchen Interior by courtesy of MESSRS RADIATION LTD



M 151 1½ cu ft

Kitchen equipment must satisfy the housewife's needs and, by its adaptability meet the requirements of the kitchen planners. That is why Electrolux 'built-in' refrigerators are so popular. The M 151 shown fits in to any kitchen design. It is noiseless, has no moving parts, and does not interfere with wireless recepti

Electrolux 'Built-in' Refrigerators operate equally well by Gas or E tricity. Free Standing Models operate by Gas, Electricity or Paraffin

ELECTROLUX

LIMITED

Works: LUTON, BEDS.

'Phone: LUTON 4020

REFRIGERATOR MAKERS
To H M THE KING

BY APPOINTMENT

SUCTION CLEANER AND REFRIGERATOR MANUFACTURERS
To H M QUEEN MARY

ANNUAL REFERENCE BOOKS

Planning and Reconstruction

Air Transport and Civil Aviation

Health and Social Welfare

Farming and Mechanised Agriculture

Industrial Research

TODD PUBLISHING CO. LIMITED
49 Park Lane, London, W.1
Grosvenor 8811

TODD PUBLISHING CORPORATION
37 Wall Street, New York
Hanover 2 1970

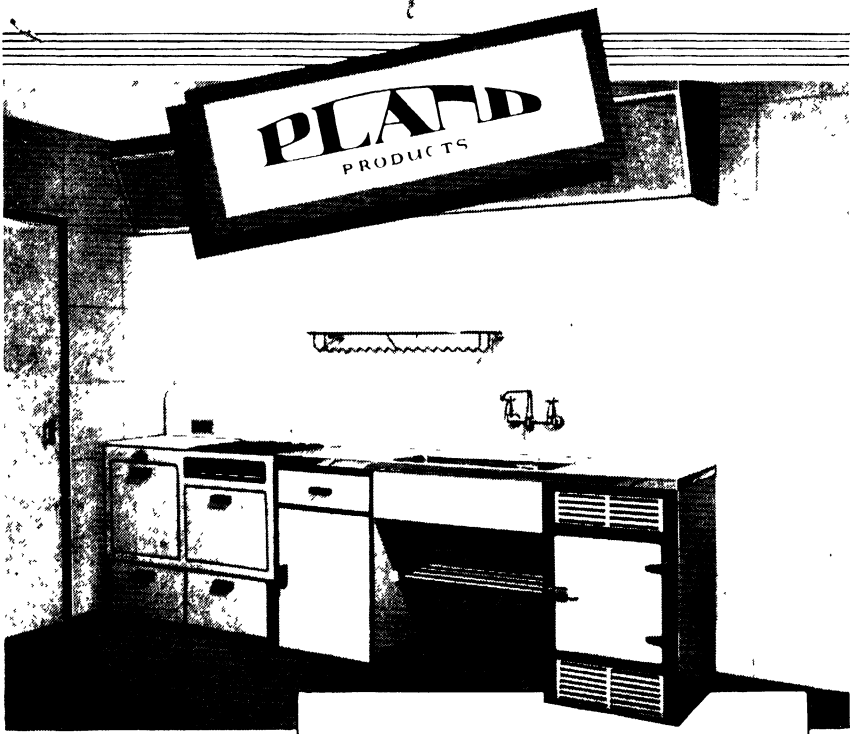
Represented in Johannesburg, Toronto, Sydney and Bombay

●

EDITOR: T. TODD
MANAGING EDITOR: GEOFFREY SUTTON
North American Editor: Frances Sharp
Senior Editors: Bernard H Kerby, Sybil C. Topham
Editorial Assistants:
Elizabeth Pearson, C. J. Lukins, Elma Mitchell, M.A., Valiant Fouracre
Art Editor. H. T. Bruce
Contributing Editor: Isabella Williams, M.A.
Publisher: Clifford H. Warskitt
Director of Advertising: Roland G. Teakle
Special Research Editor: Cecil A. Barry
EXECUTIVE DIRECTOR: C. F. O. LISTER

●

Sole British Distributors
GEORGE G. HARRAP & CO., LTD.
182 HIGH HOLBORN, LONDON, W.C.1



In co-operation with our associate company, The Talor Rustless Fittings Co. Ltd., we are now able to commence deliveries of tasteful stainless steel architectural fittings such as door plates and handles, banister rails, bathroom fittings, etc. Within a short space of time we hope to be able considerably to improve deliveries and extend the range of these products.

"BEAUTILITY"

...the last word in modernism

Beauty plus utility describes in a nutshell the Pland Stainless Steel Sinks. Beautiful because of their modern lines and bright and clean appearance. Useful for the great part they play in hygiene and labour saving.

Now available in steadily increasing quantities.

Write for details of deliveries.

"Pland" sinks are supplied with plain drainers which have the added advantage that they provide a clean hygienic surface for the preparation of foods, etc.

THE STAINLESS STEEL SINK COMPANY LIMITED

RING ROAD, LOWER WORTLEY, LEEDS, 12
Tel: Leeds 38711

Also at 14 GT. PETER STREET, WESTMINSTER, S.W.1
Tel: Abbey 1575

The RUBEROID Co., Ltd.

LONDON, MANCHESTER, BIRMINGHAM, NEWCASTLE-ON-TYNE, NOTTINGHAM, GRANTON, BELFAST AND DUBLIN

★

Contractors to all Government Departments for the Roofing of buildings of all types

STAREX — REGD TRADE MARK

TRADE MARK — RUBEROID — REGISTERED

TRADE MARK — PLUVEX — REGISTERED

MANUFACTURERS:

Bitumen Roofing

Ruberoid Standard Roofing
Ruberoid Super Roofing
Ruberoid Slate Surfaced Roofing
Ruberoid Astos Roofing
Starex Roofing
Pluvex Roof Felt

Slates

Ruberoid Slates, octagonal or square butt, standard or rustic red, green or blue

Slaters' Felts

Zylex Reinforced Slaters' Felt (untearable)
Zylex Bituminous Slaters' Felt
Astos Asbestos Slaters' Felt

Dampcourses

Astos 100 per cent Mineral Dampcourse.
Pluvex Pure Bitumen Dampcourses
Ruberoid Pure Bitumen Dampcourses
Astos Membrane Tanking for Underground structures, basements, etc
Ruberoid Rock Cavity Filling
Pluvex Bridge Insulation

Building and Insulating Papers

"Giant"—"Building"—"Hercules."

Plastic Compound

Pluvex Plastic Compound.

Roof Paint

Ruberine Roof Paint.

CONTRACTORS FOR:

Ruberoid Built-up Roof Specifications

For all types of wood or concrete roofs, laid complete in any centre by our Contract Department
1 Smooth finish
2 Grit or gravel finish
3 Ruco Ruberoid (Ruco Mastic Asphalt)

Ruberoid Insulated Steel Roof

A light, rigid form of steel roof, capable of carrying regulation superimposed loads over economical spans insulated and weatherproof in accordance with standard specifications

MANUFACTURERS OF:

Contraction and Expansion Jointing

Ruberoid "C & E" Jointing
Ruberoid Bitumen Jointing

Concreting Papers

Ruberoid Concreting Papers
Safe-N-Dry Paper

Pipe Lagging

Felted Canvas Pipe Lagging.

Pipe Wrapping

Bitumen Pipe Wrapping and Enamel

Electrical Insulating Materials

"P & B" Insulating Paint
"P & B" Insulating Tape

Agents in all the Principal Cities throughout the World.

★

233, COMMONWEALTH HOUSE, NEW OXFORD STREET, LONDON, W.C.1

GRANWOOD
(REGD.)
FLOORING
(BRITISH THROUGHOUT)

DADOES, COVE SKIRTINGS STAIRS, TRENCH COVERS

★

Proved and tested in countless buildings over the last thirty years

"GRANWOOD"

FLOORING

Non-magnesite Composition Blocks 6″ × 2″ × $\frac{5}{8}$″, in five colours, Light Oak, Dark Oak, Mahogany, Black and Green. Patterns and Borders available They are fire-resisting, damp proof, warm, hard wearing and have no expansion or contraction. They can when necessary be fixed on 24-hour-old concrete subfloor.

STAIR TREADS, RISERS AND STRING

'Granwood' nosing blocks are 6″ square and the three Ferodo strips are fitted in after nosings are fixed, so avoiding butt joints.
Risers formed with cove angle to Treads
String pieces fitted to girth of Tread and Riser.

COVE SKIRTINGS

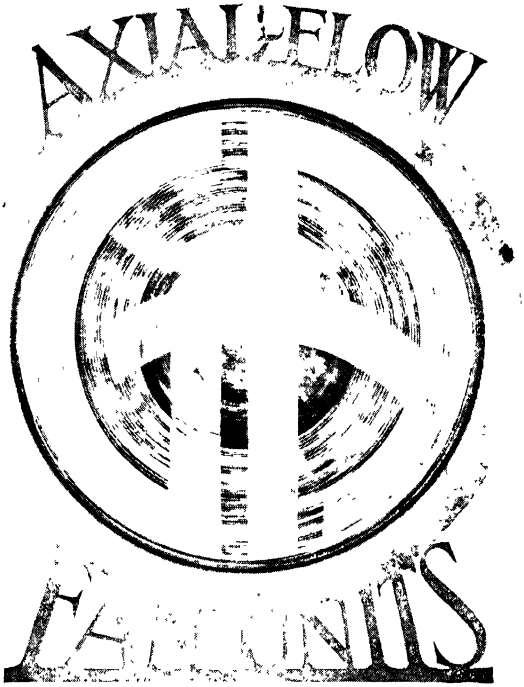
sizes 3″ and 5$\frac{1}{2}$″, make a splendid finish between wall and floors, easy cleaning, no dust corners, no painting required, and consequently no unsightly marks caused by cleaning

UNDER-FLOOR WARMING

(EVANS SYSTEM). FLOORS AT SUMMER TEMPERATURE IN WINTER—is the modern outcome of eighteen years' close association with Under-Floor Heating and is already installed in fifty-odd Schools and various hospitals. No "Stuffiness," just an equable room temperature of 60 to 65°, and all connections easily accessible. Please write direct, or through your Heating Engineer, for particulars.

GRANWOOD FLOORING CO. LTD., Riddings, Derbyshire

Telephone No.: Leabrooks 122 3. London Office closed for duration. Telegrams: "Granflor Alfreton."



GREENWOOD-AIRVAC

MANUFACTURERS OF FAN UNITS, VENTILATORS.
COMPLETE VENTILATING SCHEMES PROVIDED.

WEATHERPROOF FAN UNIT EXTRACTORS AND INDUCERS FOR WALLS AND WINDOWS

STATIC AND MECHANICAL ROOF VENTILATORS

TRUNKING AND DUCTWORK

DIRECTIONAL AND DIFFUSING INLETS AND WEATHERPROOF INTAKES

MULTI-UNIT LOUVRED VENTILATING PANELS

FIXED OR MOVABLE LOUVRE VENTILATORS

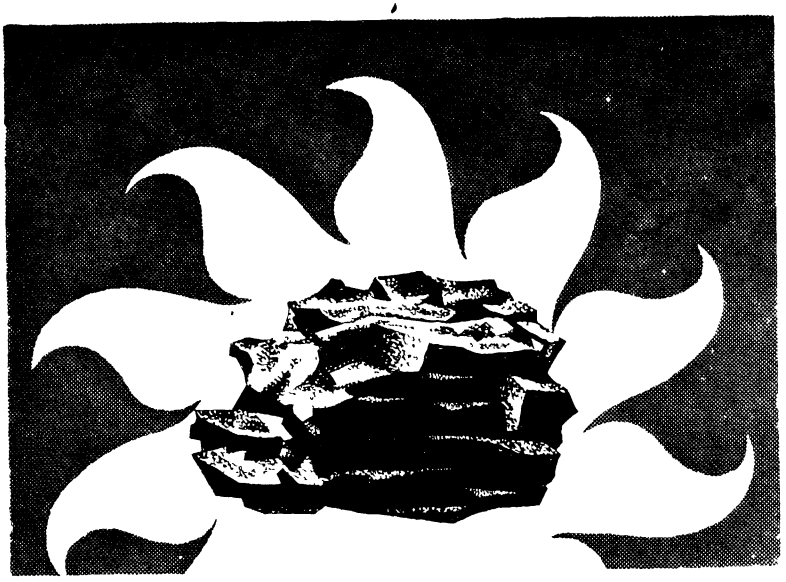
CUPBOARD AND DOOR VENTILATING PANELS

HIT AND MISS VENTILATORS

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD.

BEACON HOUSE • KINGSWAY • LONDON, W.C.2

AIRVAC, LONDON CHANCERY 8135/6/7



The coal situation— and Celotex

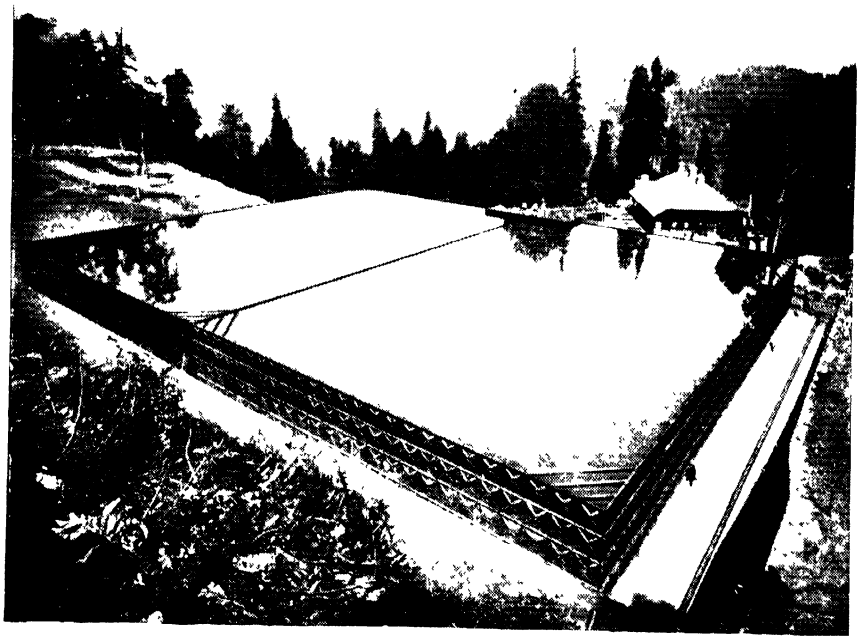
Difficulties in the production and supply of coal will not necessarily end now that the war is over. All the more urgent therefore is the argument for Celotex insulation in houses and industrial premises of the future. Celotex insulating board — used in walls, roofs, floors, ceilings and partitions — means in effect much more warmth per unit of fuel consumed. It may well make the whole difference between comfort and discomfort on the coal supplies likely to be available. Even when there is no longer a coal problem, Celotex insulation will be essential to working comfort, and efficiency in heating.

CELOTEX *Insulating Boards*
Building Boards
Hard Boards

CELOTEX LIMITED · NORTH CIRCULAR RD. · STONEBRIDGE PK. · LONDON, N.W.10

MEMBERS OF THE BUILDING BOARD MANUFACTURERS ASSOCIATION

PRESSED STEEL TANKS



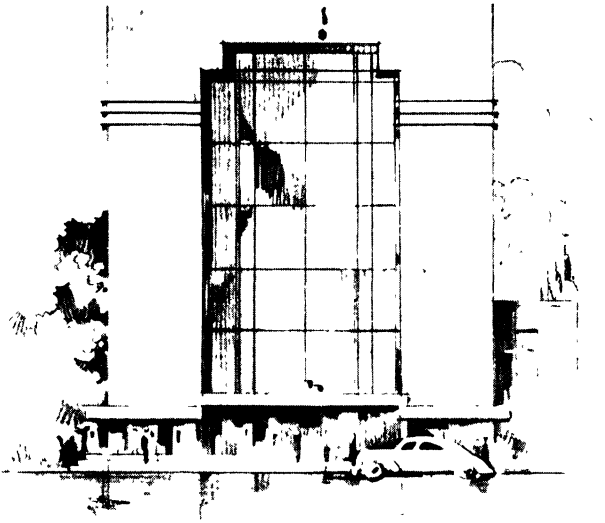
BRAITHWAITE & CO

ENGINEERS LTD

Temporary London Office.

Telephone: Whitehall 3993

KINGS HOUSE HAYMARKET LONDON S.W.1



WINDOW WISDOM-

Choosing the most satisfactory type of window for modern buildings becomes a simple matter when you have full details of the extensive range of BEACON METAL WINDOWS. In constructional details and fittings BEACON windows carry the stamp of over a century of fine engineering craftsmanship. They allow a wide latitude to the designer and possess a high strength-to-weight ratio. The standard to which they are built is constantly rising and the post-war product is a substantial improvement on its pre-war counterpart.

Future planning and building development will demand modern ideas in design and construction. We are ready to meet these demands—may we have your enquiries?

JOHN THOMPSON

BEACON

METAL WINDOWS

JOHN THOMPSON BEACON WINDOWS LTD
BEACON WORKS • WOLVERHAMPTON

Telephones: BILSTON 41944/7 (4 lines) Telegrams: WINDOWS, WOLVERHAMPTON
London Office: IMPERIAL HOUSE, KINGSWAY, W.C.2 Telephone: TEMple Bar 3216 (3 lines)

PROTOTYPE CITY

Welwyn Stores

● Abercrombie has found in Welwyn Garden City's example the solution for London's ills.

● Industry and population must leave the congested inner ring BUT

● Londoners who make this new start in life must not be too far from their old haunts and old friends.

● In 25 years Welwyn has acquired an unrivalled wealth of experience in all that concerns the development of a planned community.

● It is placed unreservedly at the disposal of the men who will build the towns of the future.

Are you planning for reconstruction?

We are responsible for heavy Civil Engineering work of all kinds, including **DOCKS, HARBOURS, ROADS, BRIDGES, RAILWAYS, CUTTINGS, EXCAVATION & TUNNELLING**

Contractors to H.M. Government · the Railway Companies - - and large Industrial Undertakings

DOW MAC REGISTERED TRADE MARK

DOWSETT ENGINEERING CONSTRUCTION LTD.,
TALLINGTON STAMFORD LINCS.
Telephone: PETERBOROUGH 4051.
and at LION HOUSE, RED LION STREET, RICHMOND, SURREY.
Telephone: RICHMOND 4801 (6 Lines).

18 YEARS' SPECIALISATION

IN ACID-PROOF & NON-ACID

FLOOR & WALL SURFACES

FOR EVERY CONDITION

IS YOUR GUARANTEE OF A FIRST CLASS JOB EVERY TIME

FOR HEAVY DUTY

"Ferrogran" Steelfaced flags

"Consol" Steel anchor floor plates

Etc, etc

OUR ADVISORY SERVICE IS AT YOUR DISPOSAL *FREE OF CHARGE*

FOR MEDIUM DUTY

Granolithic — all types

"Diamonite"— hardened grano

Prodordur machine faced floor titles

Etc., etc

PRODORITE LTD

Head Office :
EAGLE WORKS
WEDNESBURY, Staffs.
Telephone : 0284 (four lines)

London Office ,
ARTILLERY ROW, S W.1.
Telephone :
Abbey 1547-8

FACTS ABOUT GLASS

Where and how different types of glass are used in modern building concerns all technicians who are interested in the building industry We have a technical department at St Helens, Lancashire, which is always available for consultation, also a London office and showroom at 63, Piccadilly, W 1, where advice and information may be obtained on all questions relating to the properties of glass and its use in building

PILKINGTON BROTHERS LIMITED
Glass Manufacturers, St. Helens, Lancs.

The Place of Glass in Building

Edited by John Gloag, with contributions by
Professor Lionel Budden, F.R.I.B.A., and G. A. Jellicoe, I.R.I.B.A.

This book is a practical, illustrated guide to the principal types of glass manufactured in Great Britain, and includes descriptions of their properties and appropriate uses. Architects, Engineers and Surveyors will find this a useful and handy work of reference.

Revised Second edition **7/6** *net*

GEORGE ALLEN & UNWIN LTD., 40 MUSEUM ST., LONDON, W.C.1

SOUND, HEAT, HOT & COLD WATER AND PURE AIR CAN BE

Controlled by

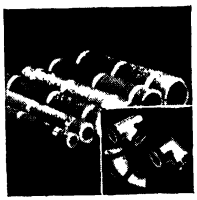
VERSIL

Glass Silk

INSULATION

In all Modern Buildings

FOR INSULATING BOILERS, CYLINDERS AND CALORIFIERS. Versil Glass Silk Blankets, enclosed in galvanised wire netting, finished with cement and painted, makes an efficient and lasting insulation.

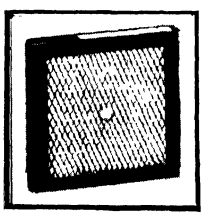


FOR INSULATING PIPE LINES.

Versil Rigid Sections provide an ideal covering for all pipe services, being easy to fit, light in weight, of high mechanical strength and giving maximum efficiency.

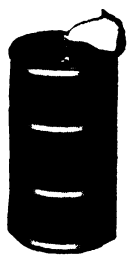
FOR SOUND INSULATION.

Versil Acoustic Blankets are incombustible, vermin proof, odourless and non-hygroscopic. They possess outstanding acoustic properties and are unequalled for reducing sound transmission through walls, floors and ceilings.



FOR AIR FILTRATION.

Versil Glass Silk Replacement Type Air Filter Cells have an extremely low air resistance and very high dust collecting efficiency over long periods. Light and easily replaced.



FOR DOMESTIC HOT WATER CYLINDERS. Versil Domestic Cylinder Covers can be supplied in a variety of attractive colours. They are easily fitted, conserve hot water supplies and save fuel.

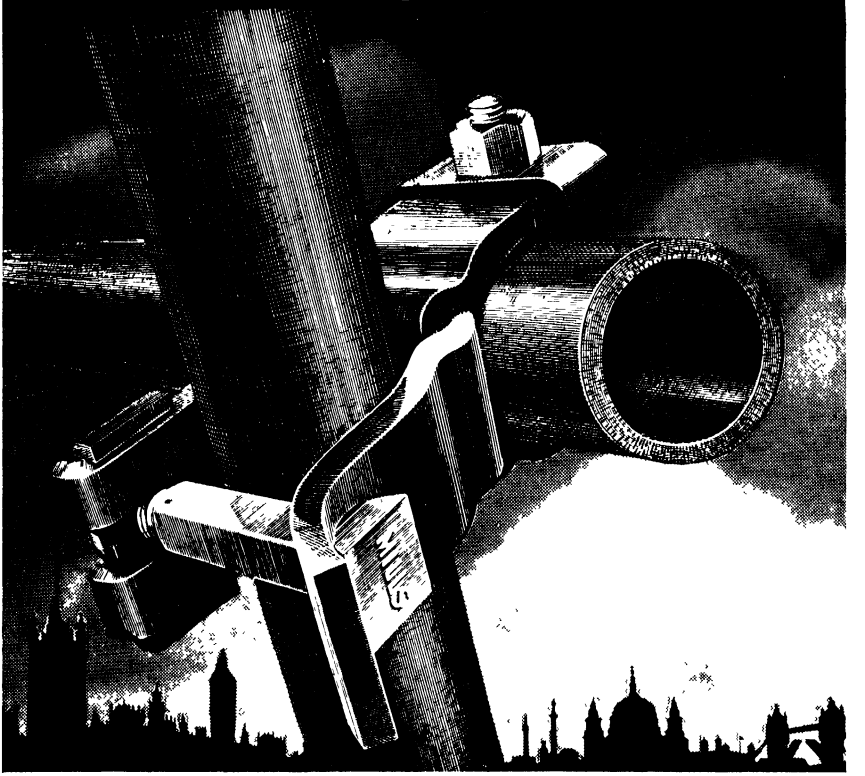
Versil Ltd., Rayner Mills, Liversedge, Yorks.

Tel. Cleckheaton 640

MILLS

STEEL SCAFFOLDING

above all for speed and service



Telephone your nearest depot

LONDON
Riverside 5026-9

BIRMINGHAM
Smethwick 0594

BRISTOL
Bristol 57646

CARDIFF
Cardiff 5413

MANCHESTER
Woodley 2231

NEWCASTLE
Gateshead 71725

SOUTHAMPTON
Southampton 2683

GLASGOW
Murrays (Scaffolding) Ltd. Douglas 7191

N. IRELAND
James P. Corry & Co. Ltd. Belfast 23671

SOUTH AFRICA
Hunt, Leuchars & Hepburn

INDIA
Guest, Keen, Williams, Ltd.

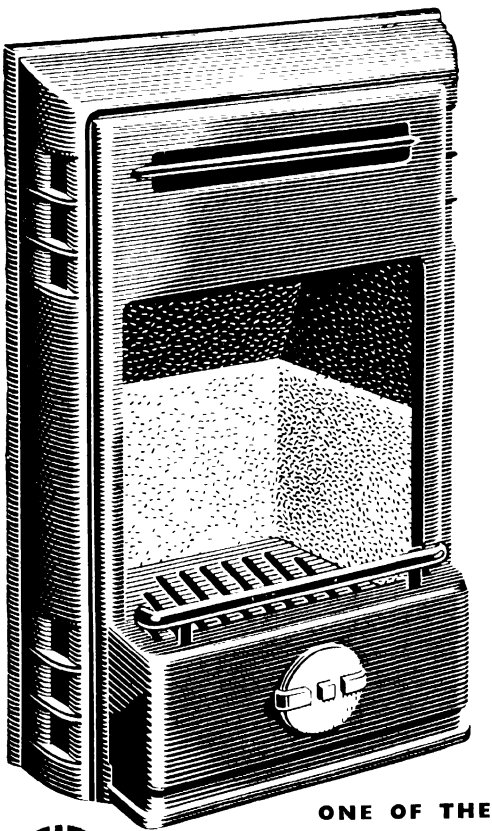
MILLS SCAFFOLD CO. LTD.

Trussley Works, Hammersmith Grove, London, W.6.

NEW-FASHIONED VISIBLE HEAT

EXAMPLE — **A.I "PROJECTOR" HEATING UNIT**

SPECIFICATION: This is a self-contained interior grate, with double casing, which gives warmth on the convection principle. By carefully arranged air inlets and outlets in the sides and top of the unit, the heat from the fire is projected over the whole area of the room.



SIZES Overall sizes:

Nos. 1 and 2.

20½" wide x 25½" high x 12" fire. Minimum size of existing fire opening required: 16" wide x 22" high. Clearance from underside of projecting lintel (if any) over fire opening to level of hearth must be at least 26".

FINISHES Vitreous Black or Mottled Beige Enamel. Alisheen Black or Bramble Enamel.

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

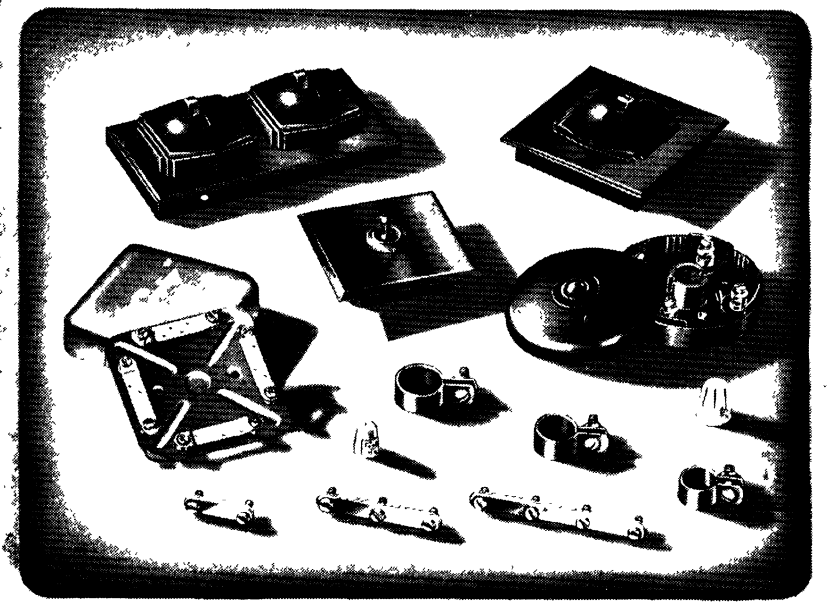
ONE OF THE MANY CONTRIBUTIONS TO THE POST-WAR HOME THAT WILL BE MADE BY

TRADE MARK

ALLIED IRONFOUNDERS LIMITED

Mortimer House, 37-41 Mortimer Street, London, W.1

Tenby



Tenby ELECTRICAL ACCESSORIES are right in line with the current trend—to build and rebuild with those materials which assist speediest construction without any sacrifice of the soundest quality or the longest service.

Manufactured by

S - O - BOWKER - LIMITED

HEAD OFFICE AND WORKS
WARSTONE LANE, BIRMINGHAM, 18
Phone: CEN. 3701

RP—583

REG TRADE MARK

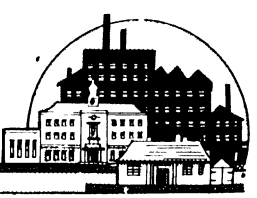
PLAN PROTECTION WITH PENFOLD

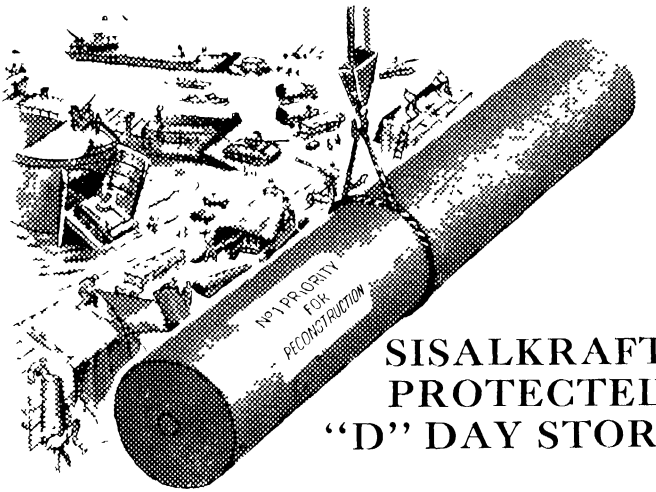
Fencing is an important factor in the reconstruction of a nation after six years of depletion and non-production. Where security of enclosure plus good appearance are essential Penfold Protection will be endorsed by architects, engineers and builders.

PENFOLD Products include Chain Link Diamond Mesh, and Hinged Joint Fencing made from Brylanised wire, Vertical Iron Railings, Continuous Flat Bar, Strained Wire, Gates, Stiles, Structural Steelwork and Reinforced pre-fabricated Concrete components. All products are made to approved technical standards Full particulars on request.

Penfold Fencing Ltd.

Imperial Works, Balmoral Road, Watford. Phone: 2241
Also at Cardiff and Chester





SISALKRAFT PROTECTED "D" DAY STORES

Huge dumps of ammunition, food and medical stores all the paraphernalia of a modern army landed on open beaches protected against rain, dirt and dust by thousands of Sisalkraft tarpaulins . another Sisalkraft war-job

Soon Sisalkraft will be needed for Britain's reconstruction programme To seal porous subsoils ensure even hydration of concrete-mix . provide efficient sarking for roofs act as a damp-proof lining under floors . . . protect work in progress and as a damp-proof covering for materials in transit

Sisalkraft is not an emulsion-impregnated sheet of brown paper It is an unusually strong material (practically untearable), a fusion of pure bitumen and two sheets of extra-tough Kraft paper reinforced with crossed Sisal fibres, that is why Sisalkraft is consistently used by Government Departments, Municipal Authorities, and Public Works Contractors Remember Sisalkraft Standard Grade for post-war use

Write to-day (enclosing 1d. stamp) for full technical details.

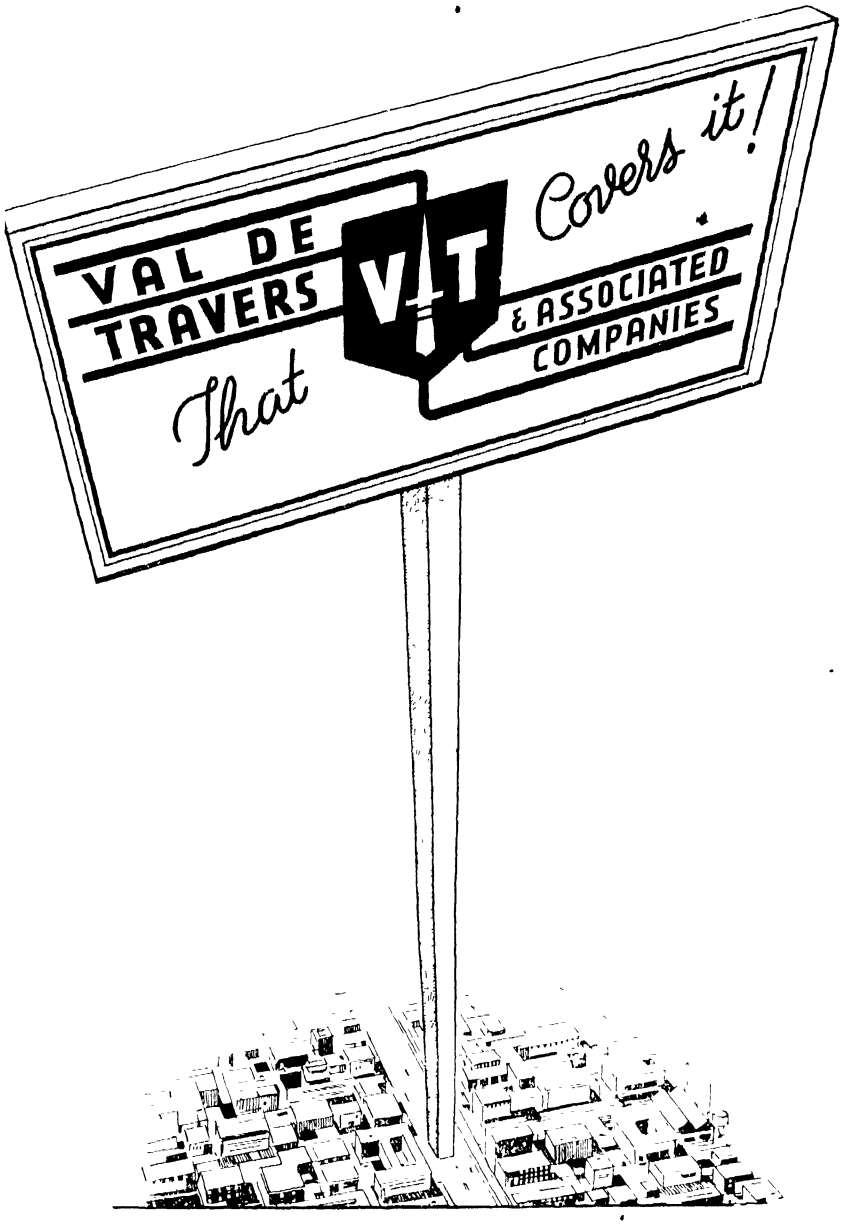
SISALKRAFT
TRADE MARK

J. H. SANKEY & SON, LTD

Sole Distributors for British Sisalkraft Ltd

ALDWYCH HOUSE ALDWYCH LONDON WC2

Telephone HOLborn 6949 (14 lines) *Telegrams Brickwork Estrand London*



THE VAL DE TRAVERS ASPHALTE PAVING CO. LTD.

VAL DE TRAVERS HOUSE, 21-22 OLD BAILEY, LONDON, E.C.4

BRANCHES THROUGHOUT THE COUNTRY

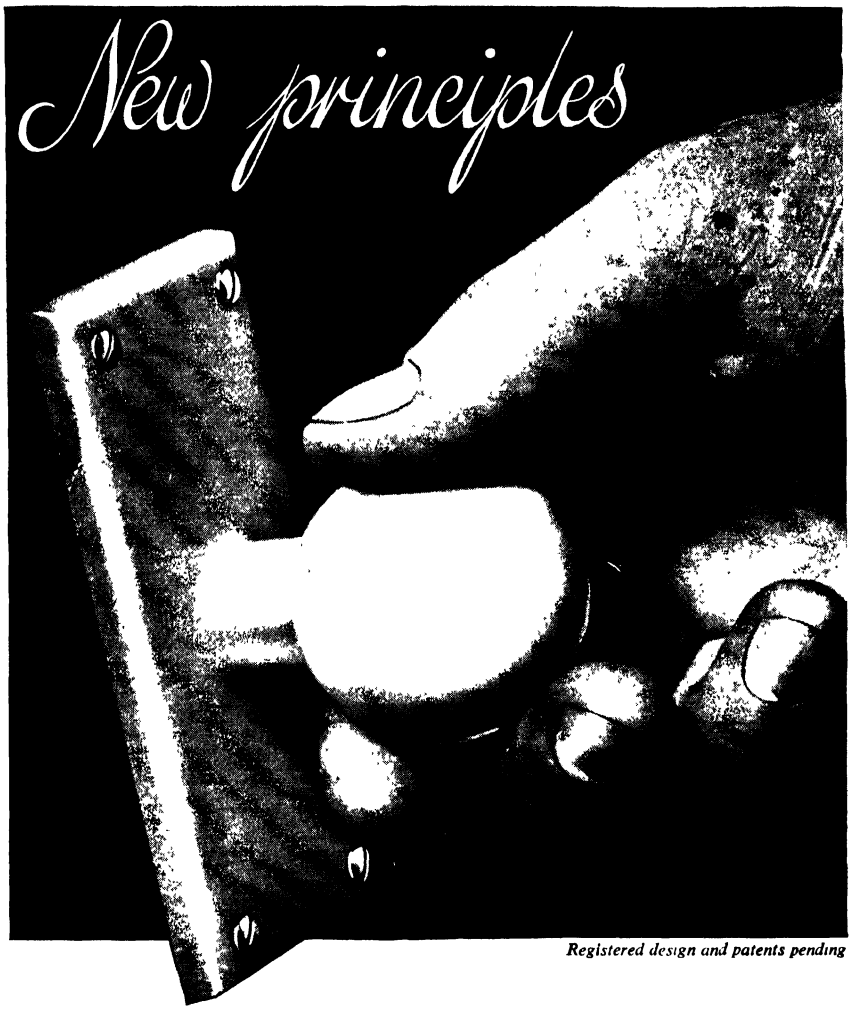
THE BUILDING USES OF CAST IRON

TECHNICAL FACTS AVAILABLE FOR ARCHITECTS & BUILDERS

The use of cast iron in modern building technique and equipment has been specially studied by a department opened for that purpose by the British Cast Iron Research Association. Known as the Building Uses Department, it is available for dealing with enquiries from architects and builders about the various uses of cast iron.

Mr. Derek L. Bridgwater, B.ARCH., F.R.I.B.A., is architectural consultant to the department.

Enquiries should be addressed to the Building Uses Department, British Cast Iron Research Association, Alvechurch, Birmingham



Registered design and patents pending

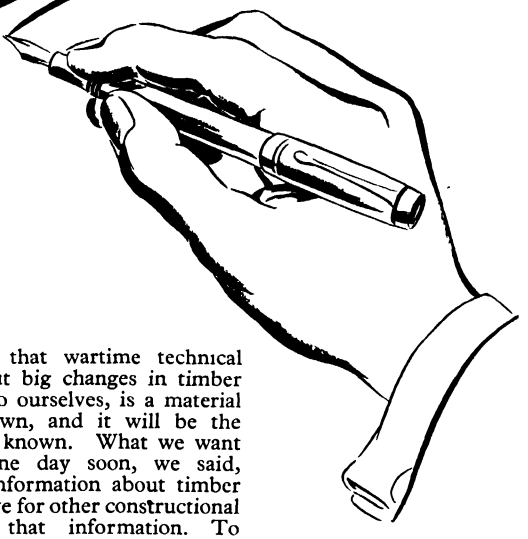
The new Lacrinoid plastics door furniture is made on new principles. No grub screws are needed and the spindle "floats"; the fit is exact and permanently free from looseness and rattle. These new models are very good looking too, in a modern way; the perfectly spherical knob rotates on the neck which is moulded in one piece with the back plate or rose.... The price is low, full advantage being taken of mass production economy.

LACRINOID

Enquiries to LACRINOID PRODUCTS, LTD., 90 REGENT ST., LONDON, W.1. Regent 5001

WOULD YOU LIKE TO KNOW WHY WE SIGN OURSELVES

"Technicians in Timber"?



We saw some time ago that wartime technical advances could bring about big changes in timber usage. Timber, we said to ourselves, is a material much used but little known, and it will be the merchants' job to make it known. What we want is a technical policy. One day soon, we said, people will want precise information about timber on the lines they already have for other constructional materials. We'll supply that information. To help them use timber more effectively and at less cost will be bringing the timber trade dead into line with modern usage.

That policy has brought us many valued friends. If our unique service attracts you—and whether you have any present timber problems or no—write to our Technical Consultant and get him to explain more fully how we can help you.

TRAVIS & ARNOLD
Technicians in Timber

Timber, Plywood and Fibre-board Merchants

ASTOR HOUSE
ALDWYCH
LONDON, W.C.2

Telephone:
HOLborn 5322

HEAD OFFICE: NORTHAMPTON. Branches at Cambridge, Cromer, Eastleigh, Lymington, Newbury, Northampton, Peterborough, Rugby, Southampton, Sutton Bridge (Lincs.).

HOLLIS FLOORS AND POST-WAR PLANNING

NO matter what the trend of post-war constructional design may be HOLLIS FLOORS must remain one of the indispensable interior floor finishes.

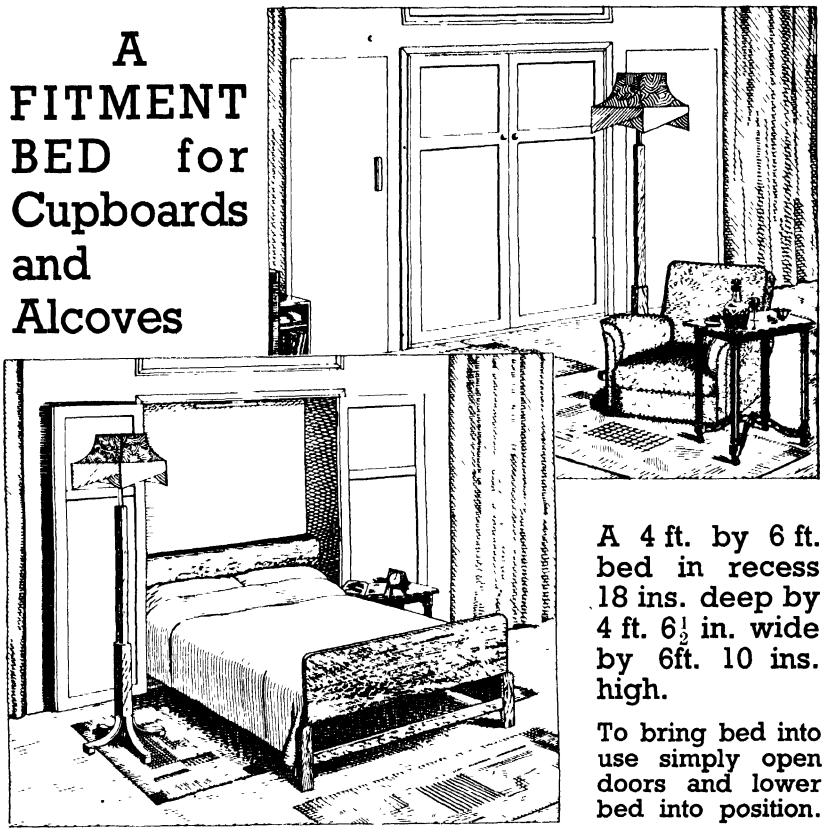
WOOD-BLOCK AND HARDWOOD STRIP FLOORING WILL ALWAYS COMBINE THE DESIRABLE PROPERTIES OF WARMTH, DURABILITY, APPEARANCE AND HYGIENE.

• Furthermore, such flooring is the most readily adaptable for installation in any type of Building.

HOLLIS BROS. & CO. LTD.

HULL · LEICESTER · LONDON

A FITMENT BED for Cupboards and Alcoves



A 4 ft. by 6 ft. bed in recess 18 ins. deep by 4 ft. $6\frac{1}{2}$ in. wide by 6ft. 10 ins. high.

To bring bed into use simply open doors and lower bed into position.

Manufacturers of Folding and Recess Beds, mechanical devices and steel stampings for furniture makers.

GREAVES & THOMAS LTD.

CLAPTON, LONDON E.5.

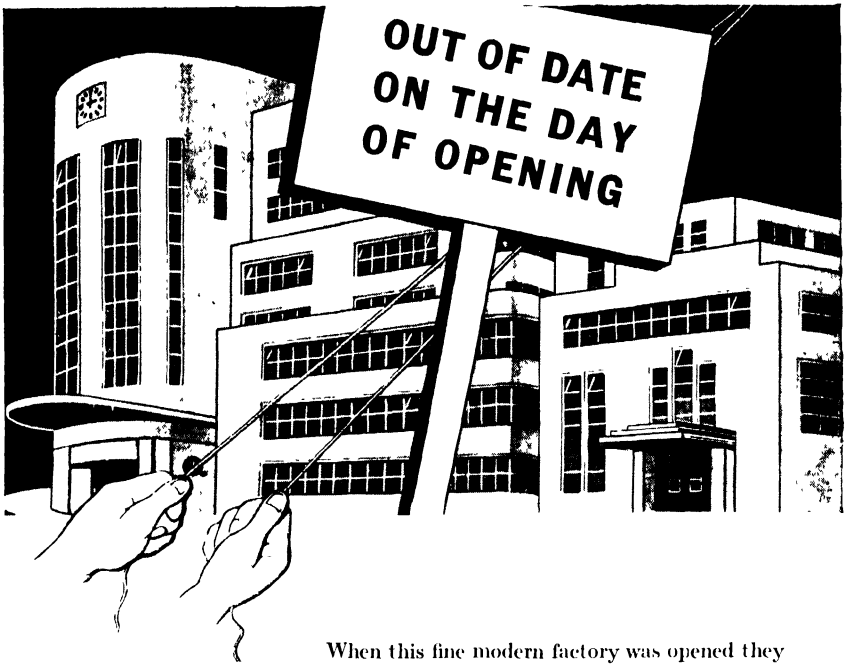
BRITISH AND EUROPEAN AGENTS FOR
THE SENG COMPANY CHICAGO
ILLINOIS

The oak in the photograph is at least 800 years old! This sturdy disregard for time and the elements is a feature of good woodwork too; and modern science has done much to add to wood's natural resistance to wear and tear.

The Midland Woodworking Company Ltd

MELTON MOWBRAY

Craftsmen in Domestic Joinery



When this fine modern factory was opened they were very proud of it. Nearly the whole gamut of modern technology had been brought into play. Now it was filled with plant the most skilful and advanced engineers could design. Labour saving devices of every description were installed, modern discharge-tube lighting . . . everything an up-to-the-minute factory could have. Everything, that is, except one thing. The board of directors had not paid sufficient attention to the problem of opening and shutting windows. The architect had suggested there were certain admirable methods in keeping with the factory's modernity. The directors were not interested in such a trivial, obscure factor, not until they discovered the amount of time wasted opening and shutting windows. They could have had Arens Remote Controls and their factory would not have been "out of date on the day of opening." Of course, architects know all this but we just wanted to remind them that Arens Remote Controls are still the best and get better every year.

ARENS CONTROLS LTD.,
TUNSTALL ROAD—EAST CROYDON
SURREY

Telephones: Addiscombe 3051/4
Telegrams: Unicontrol, 'Phone, London.

831/3, Warwick Rd., Birmingham, 11
Telephone: ACOCKS GREEN 0786

ARENS

Regd. Trade Mark

REMOTE CONTROLS

Covered by Patents

TYPICAL CINEMA AND THEATRE CONSTRUCTION

STEELWORK

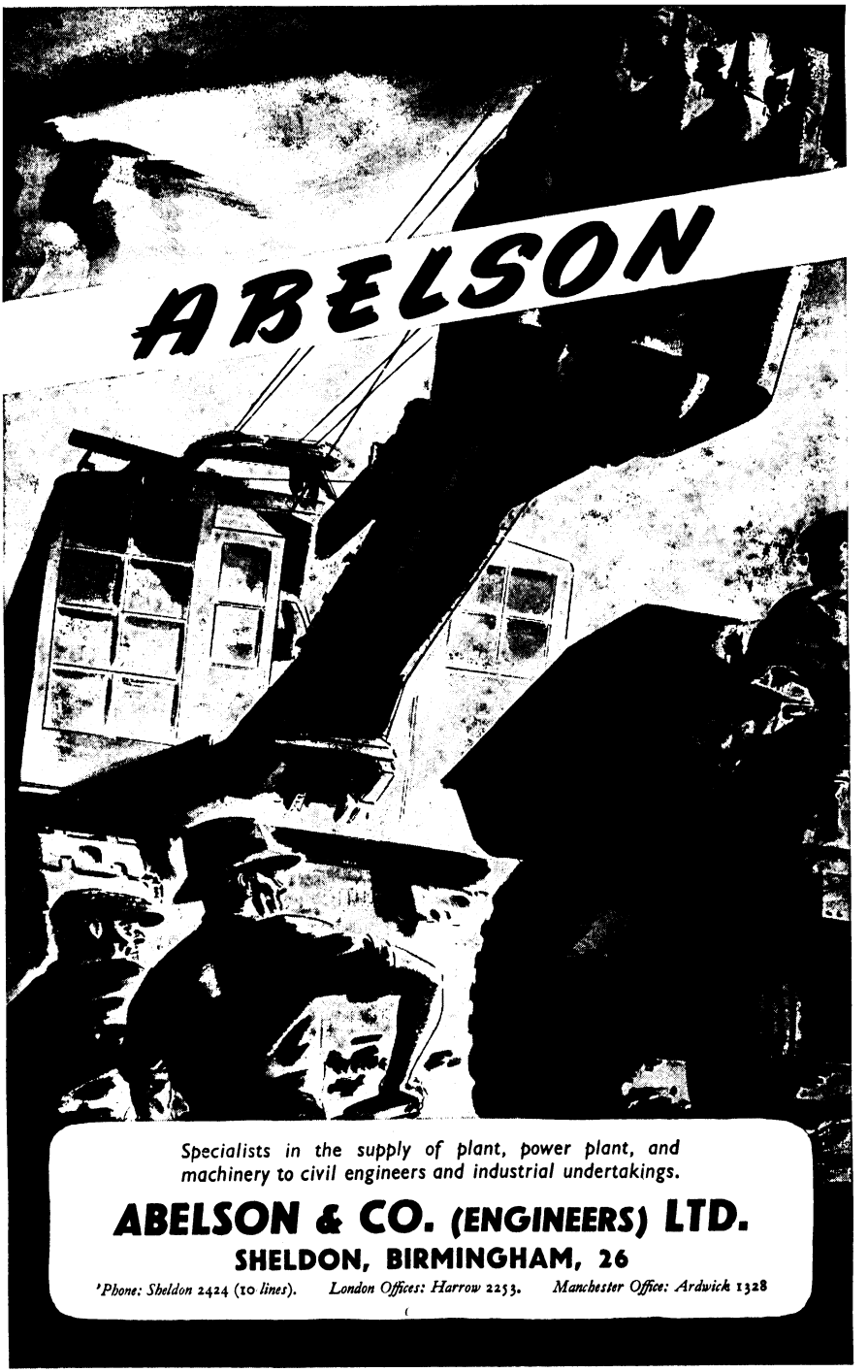
Dawnays specialise in the design, fabrication and erection of steel framed buildings of every kind. Workshops and factories, tanks, silos, storage bins. Cinemas, hotels and office blocks, hangars, sheds. Bridgework. Riveted and welded platework, &c., &c.

DAWNAYS

STEELWORKS RD. S.W. 11

TELEPHONE :— BATTERSEA 2525

LONDON - NORWICH - SWANSEA - CARDIFF
AND WELWYN GARDEN CITY



Specialists in the supply of plant, power plant, and machinery to civil engineers and industrial undertakings.

ABELSON & CO. (ENGINEERS) LTD.

SHELDON, BIRMINGHAM, 26

'Phone: Sheldon 2424 (10 lines). London Offices: Harrow 2253. Manchester Office: Ardwick 1328

"I'm no Architect..."

but I know a good kitchen when I see one. Those gas kitchens certainly are what we'll hope to find when we get back to Civvy Street. See what I mean about cooking with gas? Just give me one of those slick, coloured enamel cookers with automatic heat control and I'll be happy. And while you're about it put me down for a gas water-heater ... and a refrigerator too. Not much dirt and drudgery about that little lot. Trust the Gas Industry for that. Right up to date as usual"

THE BRITISH GAS COUNCIL, 1 GROSVENOR PLACE, LONDON S W 1.

RECONSTRUCTION.

For the collaboration necessary to the building of a better England we are always at your service.

BUILDING · DECORATION
HEATING · LIGHTING
PANELLING · PLASTERWORK
ETC.

HAMPTONS

HAMPTON & SONS LTD.

PALL MALL EAST, LONDON, S.W.1

WHITEHALL 1020

CONTENTS

PAGE

Publishers' Foreword 71

Introduction by F. J. Osborn 73

SECTION 1

The Planning Act 1944, and National Policy — *The Rt. Hon. Lord Balfour of Burleigh, D.L., J.P.* 75
New Towns for a New Age—*Sir Eric Macfadyen* 94
Country Towns in National Planning—*Geoffrey Clark, L.R.I.B.A.* 100
Regional Planning and Local Authorities—*The Rt. Hon. W. S. Morrison, M.C., K.C.* 103
Land Settlement and Planning—*A. C. Richmond* 108
The Location of Industry—*M. P. Fogarty* 112
Man, Society and Towns—*F. J. Osborn* 118
Facing the Future—*Jean Mann, M.P.* 123
Together We Learn—*George Letchworth Reed* 127
Compensation and Betterment—*J. D. Trustram Eve, F.S.I., F.I.A.S., F.A.I.* 130
Planning and the Landscape—*Robert H. Mattocks, Dip.C.D., M.T.P.I., F.I.L.A.* 135
The Architecture of Pleasure—*Clough Williams Ellis, M.C., F.R.I.B.A., M.T.P.I.* 139
Existing Building in Redevelopment—*Walter H. Godfrey, F.S.A., F.R.I.B.A.* 145
Diffusion of the Arts—*Mary Glasgow* 148
The Greater London Plan—*William A. Robson, Ph.D., LL.M., B.Sc.(Econ.)* 152
The City of Manchester Plan, *R. Nicholas, B.Sc., M.Inst.C.E., M.T.P.I.* 158
The General Aspect of Planning and Reconstruction—*George Hicks, M.P.* 163
Housing—Temporary and Permanent—*R. L. Reiss, M.A.* 166
Prefabrication in Housing—*Frederic E. Towndrow, F.R.I.B.A.* 173
An Appraisal of the Tennessee Valley Authority's Research in Prefabrication—*Carroll A. Towne and Woodruff H. Purnell* 178
Steel and Concrete in the Building Programme *Felix J. Samuely, B.Sc.(Eng.), Lond., A.M.I.C.E., M.I.Struct.E., F.I.A.S., M.I.W.* 186
Planning for Lower Maintenance—*Lewis Mauger* 190
The Licensing Planning (Temporary Provisions) Act, 1945—*J. P. Rhys, F.S.I., M.T.P.I.* 196

VENESTA PRODUCTS

For nearly half a century, we have been manufacturing all kinds of plywood; for nearly a quarter of a century we have also made Plymax, the metal-faced plywood.

These well proved materials will soon be again available for use in the building industry, and particulars of them and of other products may be obtained from our head office at Vintry House, Queen Street Place, London, E.C.4

CONTENTS

PAGE

The Future of Building Societies—*R. Bruce Wycherley, M.C., F.C.I.S.* 200
The True Commemoration —*Joseph Hudnut* 202
Training the Planner—*Jaqueline Tyrwhitt, A.I.L.A., A.M.T.P.I.* 209
Natural Ventilation of Buildings— *R. O. Kohner, A.T.I.* 213
Applications of Aluminium and its Alloys in Building—*E. G. West, Ph.D., B.Sc.* 215
Utility Furniture—*Gordon Russell, M.C., R.D.I.* 219
Here is Ordered Shelter—*Mary Gilbert* 222
UNRRA and Housing —*A. J. Kelsey* 226
Town and Country Planning in Scotland— *R. H. Matthew* 228
Planning in the United States —*Christopher Tunnard* 232
Post-War Housing Policy in the United States— *John B. Blandford, Jr.* 240
CIO and American Housing—*R. J. Thomas* 242
Soviet City Planning —*Hans Blumenfeld* 250

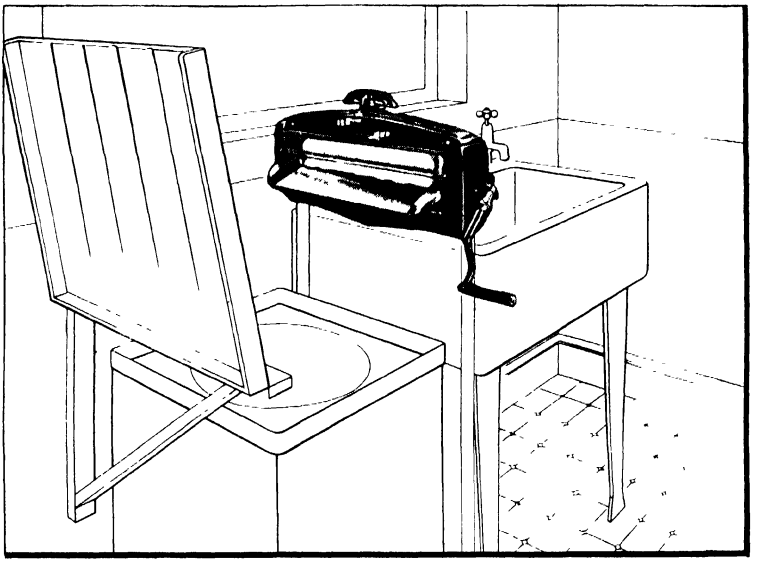
SECTION 2 Legislation and Policy 261

SECTION 3 Official Directories

MINISTRY OF TOWN AND COUNTRY PLANNING 319
MINISTRY OF WORKS 320
MINISTRY OF EDUCATION 322
MINISTRY OF HEALTH 322
BOARD OF TRADE 323
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH (D.S.I.R.) 323
MINISTRY OF AGRICULTURE AND FISHERIES 324
MINISTRY OF LABOUR AND NATIONAL SERVICE 325
MINISTRY OF SUPPLY 325
SCOTTISH OFFICE 325
DEPARTMENT OF AGRICULTURE FOR SCOTLAND 325
DEPARTMENT OF HEALTH FOR SCOTLAND 325
GOVERNMENT OF NORTHERN IRELAND 326
CENTRAL ELECTRICITY BOARD 327
CENTRAL VALUATION COMMITTEE 327
COAL COMMISSION 327
COMMISSIONERS OF CROWN LANDS 327
CONVENTION OF THE ROYAL BURGHS OF SCOTLAND 328
COUNCIL OF INDUSTRIAL DESIGN 328
DEVELOPMENT COMMISSION 328

★

Fairy Tales brought bang up-to-date



"*WHY GRANDMOTHER — what a bent back you have!*"

"*Because for years I stooped over a sink much too low for me, my dear.*"

"*Why Grandmother — what a bad skin you've got!*"

"*That comes from a lifetime's toiling away on washdays, with a huge fire in the hottest weather to boil up my copper, my dear.*"

"*Why Grandmother — what rough, red hands you have!*"

"*If you used the huge, heavy mangle I had to use, you'd have rough red hands, too, my dear.*"

But no. Grand-daughter is going to have no ugly hands, no bent shoulders, no ruined complexion. For she will run her new home in a new world. A world which plans kitchens for its housewives as it plans the most up-to-date factory for its workers.

A recent survey which has given careful thought to this question lays down the minimum requirements of a home-keeping woman. A sink of the worked-out correct height and depth, a removable or hinged draining board, a wash-boiler adjoining the sink and under the draining board. It lays stress, too, on the importance of always making space for a rubber-roller wringer, which ensures a perfect wash, with no aching backs or sore cramped hands. That means, of course, the finest of Wringers — the Acme.

A plan for a post-war home which did not include as its most important part kitchen-planning would be a poor plan. And kitchen-planning which did not give careful attention to the home laundry, would not be kitchen-planning at all.

Home laundry conditions are laid stress on in surveys accepted and supported by Ministries and local authorities. One primary condition is that space should always be provided for a rubber-roller wringer. The wringer the housewife herself knows from experience is the best, is the Acme. That is the cleanser-wringer she will demand as part of the sink-unit in her future kitchen.

If your work brings you any problem in connection with the fixing of wringers, please get in touch with us for advice or assistance. We will have much pleasure in helping you.

ACME

ACME WRINGERS LTD · DAVID STREET · GLASGOW · S·E

CONTENTS

PAGE

ECCLESIASTICAL AND CHURCH ESTATES COMMISSIONERS 328
ELECTRICITY COMMISSION 328
FORESTRY COMMISSION 329
FORTH CONSERVANCY BOARD 329
H M. LAND REGISTRY 329
LEE CONSERVANCY BOARD 329
LONDON COUNTY COUNCIL (L.C.C.) 329
LONDON PASSENGER TRANSPORT BOARD (L.P.T.B.) 330
METROPOLITAN WATER BOARD 330
NATIONAL BUILDINGS RECORD 330
NATIONAL FEDERATION OF HOUSING SOCIETIES 331
NORTH OF SCOTLAND HYDRO-ELECTRIC BOARD 331
PORT OF LONDON AUTHORITY 332
ROYAL FINE ART COMMISSION 332
ROYAL FINE ART COMMISSION FOR SCOTLAND 332
THAMES CONSERVANCY 332
WAR DAMAGE COMMISSION 332

OVERSEAS SECTION

AUSTRALIA 334
CANADA 336
INDIA 337
NEW ZEALAND 337
SOUTH AFRICA 338
SOUTHERN RHODESIA 338
UNITED STATES OF AMERICA (U.S.A.) 339

SECTION 4 Official Statements

MINISTRY OF TOWN AND COUNTRY PLANNING 341
MINISTRY OF WORKS 342
MINISTRY OF EDUCATION 342
MINISTRY OF HEALTH 343
BOARD OF TRADE 345
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH (D.S.I.R.) 346
BUILDING RESEARCH STATION 349
FOREST PRODUCTS RESEARCH LABORATORY 352
FUEL RESEARCH STATION 354
ROAD RESEARCH LABORATORY 356
WATER POLLUTION RESEARCH LABORATORY 358
GEOLOGICAL SURVEY 359
MINISTRY OF AGRICULTURE AND FISHERIES 362
MINISTRY OF SUPPLY 364
MINISTRY OF LABOUR AND NATIONAL SERVICE 364
SCOTTISH OFFICE 364
DEPARTMENT OF HEALTH FOR SCOTLAND 364

constant flow ventilation constant flow ventilation constant flow

Air Change
without draught

THERE IS A
COLT
CONSTANT FLOW
VENTILATOR
FOR EVERY TYPE
OF HOUSE

SILENT, AUTOMATIC,
NON – MECHANICAL

Information sheets 20/21
from

Dept.
PR/C.F.
Colt
VENTILATION LTD.
SURBITON, SURREY.
TEL. ELMBRIDGE 6511 (4 LINES)

constant flow ventilation constant flow ventilation constant flow

CONTENTS

PAGE

GOVERNMENT OF NORTHERN IRELAND 365
CENTRAL ELECTRICITY BOARD 366
CENTRAL VALUATION COMMITTEE 366
COAL COMMISSION 367
COMMISSIONERS OF CROWN LANDS 367
CONVENTION OF THE ROYAL BURGHS OF SCOTLAND 368
COUNCIL OF INDUSTRIAL DESIGN 369
DEVELOPMENT COMMISSION 371
ECCLESIASTICAL AND CHURCH ESTATES COMMISSIONERS 372
ELECTRICITY COMMISSION 373
FORESTRY COMMISSION 373
FORTH CONSERVANCY BOARD 374
H.M. LAND REGISTRY 375
LEE CONSERVANCY BOARD 376
LONDON COUNTY COUNCIL (L.C.C.) 376
LONDON PASSENGER TRANSPORT BOARD (L.P.T.B.) 378
METROPOLITAN WATER BOARD 379
NATIONAL BUILDINGS RECORD 380
NATIONAL FEDERATION OF HOUSING SOCIETIES 382
NORTH OF SCOTLAND HYDRO-ELECTRIC BOARD 384
PORT OF LONDON AUTHORITY 385
ROYAL FINE ART COMMISSION 386
ROYAL FINE ART COMMISSION FOR SCOTLAND 387
SCOTTISH SPECIAL HOUSING ASSOCIATION 388
THAMES CONSERVANCY 388
WAR DAMAGE COMMISSION 390

SECTION 5 Unofficial Statements

ASSOCIATION FOR PLANNING AND REGIONAL RECONSTRUCTION 393
ASSOCIATION OF PUBLIC LIGHTING ENGINEERS 394
BOURNVILLE VILLAGE TRUST 394
BRITISH COAL UTILISATION RESEARCH ASSOCIATION (B.C.U.R.A.) 395
BRITISH COUNCIL 397
BRITISH ELECTRICAL DEVELOPMENT ASSOCIATION (E.D.A.) 398
BRITISH GAS COUNCIL 399
BRITISH ROAD TAR RESEARCH ASSOCIATION 400
BRITISH STANDARDS INSTITUTION (B.S.I.) 402
BUILDING CENTRE 404
BUILDING INDUSTRIES NATIONAL COUNCIL 404
BUILDING SOCIETIES ASSOCIATION 404
BUILDING SOCIETIES INSTITUTE 405
CENTRAL COUNCIL FOR THE CARE OF CHURCHES 406
CENTRAL COUNCIL OF CIVIC SOCIETIES 407
CENTRAL COUNCIL OF POOR MAN'S VALUER ASSOCIATIONS 408
CHARTERED SURVEYORS INSTITUTION 408
COMMONS, OPEN SPACES AND FOOTPATHS PRESERVATION SOCIETY 410

HOPE'S WINDOWS

simplify

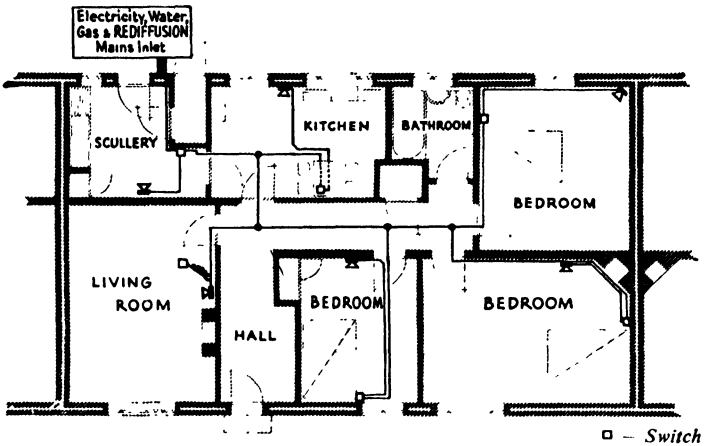
Planning and Reconstruction

Henry Hope & Sons Ltd., Smethwick, Birmingham
and 17 Berners Street, London, W.1

CONTENTS

PAGE

COUNCIL FOR EDUCATION IN APPRECIATION OF PHYSICAL ENVIRONMENT (NOW COUNCIL FOR VISUAL EDUCATION) 411
COUNCIL FOR THE PRESERVATION OF RURAL ENGLAND 412
COUNCIL FOR THE PRESERVATION OF RURAL WALES 413
DESIGN AND INDUSTRIES ASSOCIATION (D I A) 414
DESIGN RESEARCH UNIT (D.R.U.) 414
DOCK AND HARBOUR AUTHORITIES ASSOCIATION 416
ELECTRICAL ASSOCIATION FOR WOMEN 417
ENGINEERING INDUSTRIES ASSOCIATION 418
HOUSE-BUILDING INDUSTRIES STANDING COMMITTEE 419
HOUSING CENTRE 419
ILLUMINATING ENGINEERING SOCIETY 420
INSTITUTE OF BUILDERS 421
INSTITUTE OF FUEL 422
INSTITUTE OF HOUSING 423
INSTITUTE OF LANDSCAPE ARCHITECTS 424
INSTITUTE OF THE PLASTICS INDUSTRY 425
INSTITUTE OF WELDING 426
INSTITUTION OF CIVIL ENGINEERS 427
INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS 428
INSTITUTION OF SANITARY ENGINEERS 430
INSTITUTION OF STRUCTURAL ENGINEERS 431
INTERNATIONAL FEDERATION FOR HOUSING AND TOWN PLANNING 432
LAND SETTLEMENT ASSOCIATION 433
MARS GROUP (MODERN ARCHITECTURAL RESEARCH) 434
METROPOLITAN PUBLIC GARDENS ASSOCIATION 435
NATIONAL ALLOTMENTS SOCIETY 436
NATIONAL COUNCIL OF SOCIAL SERVICE 437
NATIONAL COUNCIL OF WOMEN OF GREAT BRITAIN 438
NATIONAL FARMERS UNION (N.F.U.) 439
NATIONAL HOUSING AND TOWN PLANNING COUNCIL 441
NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH 441
NATIONAL PLAYING FIELDS ASSOCIATION 442
NATIONAL ROAD TRANSPORT FEDERATION 444
NATIONAL SMOKE ABATEMENT SOCIETY 446
NATIONAL TRUST 447
NUFFIELD COLLEGE 449
P.E.P. (POLITICAL AND ECONOMIC PLANNING) 449
PLANNING FORUM 450
REINFORCED CONCRETE ASSOCIATION 451
RESEARCH ASSOCIATION OF BRITISH PAINT, COLOUR AND VARNISH MANUFACTURERS 452
ROYAL ACADEMY OF ARTS 453
ROYAL INSTITUTE OF BRITISH ARCHITECTS 453
ROYAL SANITARY INSTITUTE 454
ROYAL SOCIETY OF ARTS 456
RURAL RECONSTRUCTION ASSOCIATION 457
SCOTTISH DEVELOPMENT COUNCIL 458
SCOTTISH NATIONAL HOUSING AND TOWN PLANNING COUNCIL 459
SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS 460
SOCIETY OF WOMEN HOUSING MANAGERS 460
TIMBER DEVELOPMENT ASSOCIATION 461
TOWN AND COUNTRY PLANNING ASSOCIATION 463
TOWN PLANNING INSTITUTE 464
WEST MIDLAND GROUP ON POST-WAR RECONSTRUCTION AND PLANNING 466
WORKERS TRAVEL ASSOCIATION 467



A PLAN for radio of the future

JUST as the social services—water, gas, and electricity—are brought to your home, distributed within it, and are always ready for use, so, it has been predicted by experts, will broadcast entertainment be "laid on" in homes of the future.

Not only will this radio service be part of the normal wiring circuit of the house, and therefore safe from damage and failure in the home itself, but it will come all the way from either the studio, or, in the case of foreign programmes, from special receiving stations, entirely by wire.

Programmes direct from the studio will be indistinguishable from the actual studio performance, as there can be no distortion or fading, and all electrical interference will be carefully eliminated. Foreign programmes will be received over aerials designed to cut out fading and distortion, and beamed on all the best programmes that the world can offer.

This service is already in action in many towns in Britain, as well as in Malta and Trinidad. Subscribers to Rediffusion have, for many years now, been able to switch to the best entertainment that the world of radio can offer, just as easily as they turn on their bathroom taps.

The weekly subscription rate is extremely low and the system is maintained in perfect order free of charge.

Rediffusion also equips factories for paging and factory music

REDIFFUSION

BROADCAST RELAY SERVICE LTD.

CARLTON HOUSE, REGENT ST., LONDON, S.W.1

operates in the following areas:

BANGOR (CO. DOWN), BARGOED, BARROW, BLACKPOOL, BROADSTAIRS, DARLINGTON, EXETER, GATESHEAD, HULL, KENDAL, LANCASTER, MAIDSTONE, MARGATE, MERTHYR, MORECAMBE, NEWCASTLE, NEWPORT (MON.), NORTH AND SOUTH SHIELDS, NOTTINGHAM, PLYMOUTH, PONTYPRIDD, RAMSGATE, RHONDDA VALLEY, ROCHDALE, ROTHERHAM, ST. HELENS, STRETFORD, SUNDERLAND, SWANSEA, WALLASEY, WALLSEND, WHITLEY BAY, WOLVERHAMPTON, and also in MALTA and TRINIDAD.

CONTENTS

PAGE

SECTION 6 Officially-Appointed Committees and Reports

ROYAL COMMISSION ON THE DISTRIBUTION OF THE INDUSTRIAL POPULATION 469

COMMITTEE ON LAND UTILISATION IN RURAL AREAS 470

EXPERT COMMITTEE ON COMPENSATION AND BETTERMENT 473

MINISTRY OF EDUCATION
REPORT ON COMMUNITY CENTRES 475

MINISTRY OF FUEL AND POWER
COMMITTEE OF INQUIRY INTO THE GAS INDUSTRY (HEYWORTH) 477
PANEL ON THE SEVERN BARRAGE SCHEME 479
TECHNICAL ADVISORY COMMITTEE ON COALMINING 480
REGIONAL COALFIELD SURVEY REPORTS
DURHAM 482
KENT 484
MIDLAND 485
NORTH EASTERN 486
NORTH MIDLAND 487
NORTH WESTERN 489
NORTHUMBERLAND AND CUMBERLAND 490

MINISTRY OF HEALTH
COMMITTEE ON THE RESTORATION OF LAND AFFECTED BY IRON ORE WORKING 491
LOCAL GOVERNMENT BOUNDARY COMMISSION 494

CENTRAL HOUSING ADVISORY COMMITTEE 494
SUB-COMMITTEE ON AMENDMENTS OF THE HOUSING ACTS AND ON STANDARDS OF FITNESS 494
SUB-COMMITTEE ON THE CONVERSION OF EXISTING HOUSES 495
SUB-COMMITTEE ON THE DESIGN OF DWELLINGS 495
SUB-COMMITTEE ON THE MANAGEMENT OF MUNICIPAL HOUSING ESTATES 497
SUB-COMMITTEE ON PRIVATE ENTERPRISE 495
SUB-COMMITTEE ON RURAL HOUSING 499

MINISTRY OF LABOUR AND NATIONAL SERVICE
THE STAGGERING OF HOLIDAYS INQUIRY 501

MINISTRY OF TOWN AND COUNTRY PLANNING
ADVISORY COMMITTEE ON BUILDINGS OF SPECIAL ARCHITECTURAL OR HISTORIC INTEREST 503
CENTRAL ADVISORY COMMITTEE ON ESTATE DEVELOPMENT AND MANAGEMENT 503
LONDON REGIONAL PLANNING COMMITTEE 504
NATIONAL PARKS COMMITTEE 504
REPORT ON NATIONAL PARKS IN ENGLAND AND WALES 504

MINISTRY OF WAR TRANSPORT
COMMITTEE ON THE DESIGN AND LAYOUT OF ROADS IN BUILT-UP AREAS 506
COMMITTEE ON ROAD SAFETY 507

FOR structural and decorative use in building, Aluminium possesses several inherent advantages — low weight, good appearance and high conductivity. Research and practical experiment have produced a wide range of Aluminium Alloys which combine a high strength-to-weight ratio with excellent resistance to corrosion. They are easy to fabricate by all the usual methods.

These alloys are, therefore, highly suitable materials for all forms of structural engineering—wherever strength-to-weight ratio, durability and low maintenance cost are dominating factors.

The Association provides expert technical information on the properties and uses of Aluminium Alloys, and advice on any specific problem.

Copies of Information Bulletins already published will be sent on request.

ALUMINIUM DEVELOPMENT ASSOCIATION

UNION CHAMBERS,
63 TEMPLE ROW, BIRMINGHAM, 2
Telephone. MIDLAND 0847
Telegrams. Lightaldev, Birmingham, 2.

CONTENTS

PAGE

MINISTRY OF WORKS

ADVISORY COMMITTEE ON BUILDING RESEARCH 509
BUILDERS REGISTRATION ADVISORY COMMITTEE 510
BUILDING APPRENTICESHIP AND TRAINING COUNCIL 510
CODES OF PRACTICE COMMITTEE 513
COMMITTEE ON THE BRICK INDUSTRY 513
COMMITTEE ON CEMENT PRODUCTION 515
COMMITTEE ON THE PLACING AND MANAGEMENT OF BUILDING CONTRACTS 517
EXPERT MISSION ON METHODS OF BUILDING IN THE U.S.A. 519
REPORT ON THE TEMPORARY HOUSING PROGRAMME 520
STANDARDS COMMITTEE 521
SCIENTIFIC ADVISORY COMMITTEE 522
UNITED KINGDOM OPENCAST COAL MISSION TO THE U.S.A. 523
NATIONAL BRICK ADVISORY COUNCIL 524
ALLOCATION SUB-COMMITTEE 524
CARE AND MAINTENANCE SUB-COMMITTEE 524
HAULAGE RATES SUB-COMMITTEE 524
POST-WAR ORGANISATION SUB-COMMITTEE 525
PRICES SUB-COMMITTEE 525
QUOTA SUB-COMMITTEE 525
TECHNICAL RATES SUB-COMMITTEE 525
NATIONAL CONSULTATIVE COUNCIL OF THE BUILDING AND CIVIL ENGINEERING INDUSTRIES 525
ADVISORY PANEL ON REGISTRATION OF BUILDERS AND CIVIL ENGINEERING CONTRACTORS (ENGLAND AND WALES) 526
ADVISORY PANEL ON REGISTRATION OF BUILDERS AND CIVIL ENGINEERING CONTRACTORS (SCOTLAND) 526
BUILDING PROGRAMME JOINT COMMITTEE 526

POST-WAR BUILDING STUDIES
NO. 1 HOUSE CONSTRUCTION 526
NO. 2 STANDARD CONSTRUCTION FOR SCHOOLS 529
NO. 3 PLASTICS 530
NO. 4 PLUMBING 531
NO. 5 PAINTING OF BUILDINGS 531
NO. 6 GAS INSTALLATIONS 532
NO. 7 STEEL STRUCTURES 533
NO. 8 REINFORCED CONCRETE STRUCTURES 534
NO. 9 MECHANICAL INSTALLATIONS 535
NO. 10 SOLID FUEL INSTALLATIONS 536
NO. 11 ELECTRICAL INSTALLATIONS 537
NO. 12 LIGHTING OF BUILDINGS 538
NO. 13 NON-FERROUS METALS 539
NO. 14 SOUND INSULATION AND ACOUSTICS 540
NO. 15 WALLS, FLOORS AND ROOFS 541
NO. 16 BUSINESS BUILDINGS 542
NO. 21 SCHOOL BUILDINGS FOR SCOTLAND 542

OFFICE OF THE MINISTER OF RECONSTRUCTION

REPORT ON HOUSING 544
WELSH RECONSTRUCTION ADVISORY COUNCIL 546

INTER-DEPARTMENTAL MINISTRY OF HEALTH AND DEPARTMENT OF HEALTH FOR SCOTLAND

COMMITTEE ON RENT CONTROL 550

EJMA windows

CERTIFICATION TRADE MARK

are pleasant windows

For particulars of the EJMA Standard Wood Casement Windows and Doors, apply:

The English Joinery Manufacturers Association

Sackville House, 40, Piccadilly, W.1 - Regent 4448 - [Incorporated]

CONTENTS

PAGE

MINISTRY OF TOWN AND COUNTRY PLANNING AND THE SECRETARY OF STATE FOR SCOTLAND
- NEW TOWNS COMMITTEE 553
- REPORT ON THE CONTROL OF LAND USE 553

FORESTRY COMMISSION
- NATIONAL COMMITTEES 555
- NATIONAL FOREST PARK COMMITTEE (HARDKNOTT) 555
- REPORT ON POST-WAR FOREST POLICY 556

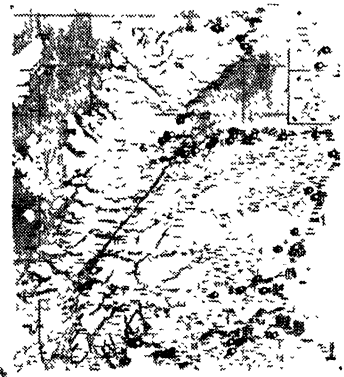
HOUSE OF COMMONS
- SELECT COMMITTEE ON NATIONAL EXPENDITURE-1944-45
  - REPORT ON RELEASE OF REQUISITIONED LAND AND BUILDINGS 558

SCOTTISH OFFICE
- CENTRAL AND SOUTH-EAST SCOTLAND REGIONAL PLANNING ADVISORY COMMITTEE 559
- CLYDE VALLEY REGIONAL PLANNING ADVISORY COMMITTEE 560
- COMMITTEE ON HYDRO-ELECTRIC DEVELOPMENT IN SCOTLAND 560
- COMMITTEE ON UTILISATION OF LAND IN THE RURAL AREAS OF SCOTLAND 560
- EAST CENTRAL SCOTLAND REGIONAL PLANNING ADVISORY COMMITTEE 561
- DEPARTMENT OF AGRICULTURE FOR SCOTLAND
  - FARM BUILDINGS COMMITTEE 562
  - SCOTTISH LAND SETTLEMENT COMMITTEE 563
- DEPARTMENT OF HEALTH FOR SCOTLAND
  - SCOTTISH HOUSING ADVISORY COMMITTEE 565
    - SUB-COMMITTEE ON THE DISTRIBUTION OF NEW HOUSES IN SCOTLAND 565
    - SUB-COMMITTEE ON MODERNISATION OF HOUSES 567
    - SUB-COMMITTEE ON OWNER-OCCUPATION 567
  - SCOTTISH NATIONAL PARKS SURVEY COMMITTEE 568
- SCOTTISH HOME DEPARTMENT
  - SCOTTISH COALFIELDS COMMITTEE 569
  - SCOTTISH RATING SYSTEM COMMITTEE 570
- SCOTTISH COUNCIL ON INDUSTRY
  - COMMITTEE ON THE FORTH-CLYDE CANAL 571
  - COMMITTEE ON MATERIALS AND FITTINGS FOR HOUSING 572
  - COMMITTEE ON PREMISES AND FACILITIES 572
  - COMMITTEE ON THE TOURIST INDUSTRY 572
  - COMMITTEE ON TRANSPORT 573
- NORTH OF SCOTLAND HYDRO-ELECTRIC BOARD
  - AMENITY COMMITTEE 573
  - FISHERIES COMMITTEE 573

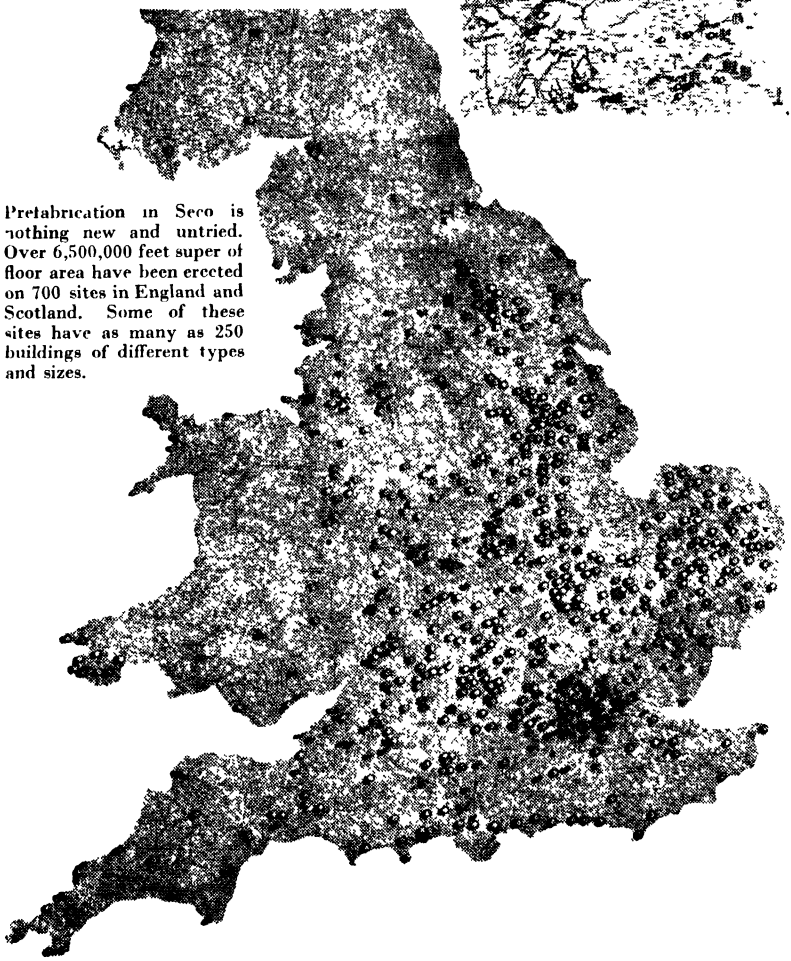
GOVERNMENT OF NORTHERN IRELAND
- MINISTRY OF HEALTH AND LOCAL GOVERNMENT
  - PLANNING ADVISORY BOARD :
    - SUB-COMMITTEE ON AMENITIES 573
    - SUB-COMMITTEE ON HOUSING 574
    - SUB-COMMITTEE ON LOCATION OF INDUSTRY 576
    - SUB-COMMITTEE ON RURAL PLANNING 577
    - SUB-COMMITTEE ON TOURIST DEVELOPMENT 578
    - SUB-COMMITTEE ON TRANSPORT 579
    - SUB-COMMITTEE ON WATER AND SEWERAGE 579
  - PLANNING COMMISSION : PROPOSALS FOR THE BELFAST AREA 579

SECO

HAVE EXPERIENCE



Prefabrication in Seco is nothing new and untried. Over 6,500,000 feet super of floor area have been erected on 700 sites in England and Scotland. Some of these sites have as many as 250 buildings of different types and sizes.



"Seco" and "Uni-Seco" are the Registered Trade Marks.

UNI-SECO STRUCTURES LIMITED

25, Upper Brook Street, Park Lane, London, W.1 Mayfair 9080

Stoneham & Kirk

CONTENTS

PAGE

SECTION 7 Area and City Replanning 583

ABERDEEN
BELFAST (SEE SECTION 6)
BIRMINGHAM
BRADFORD
BRIGHTON
BRISTOL
CANTERBURY
CARDIFF
CLYDE VALLEY
COVENTRY
CUMBERLAND, WEST
DOVER
DURHAM
EDINBURGH
EXETER
FIFE
GLASGOW
GREAT YARMOUTH
HUDDERSFIELD
HULL
KEIGHLEY
KENT
LEEDS
LEICESTER
LINCOLN
LIVERPOOL
LONDON, BLOOMSBURY
LONDON, CHELSEA
LONDON, CITY OF
LONDON, COUNTY OF
LONDON, "STAR" PLAN FOR THAMES SOUTH BANK
LONDON, TOWER HILL
LOUGHTON, ESSEX (L.C.C.)
MANCHESTER
MERSEYSIDE
MIDDLESBROUGH
NEWPORT
NORWICH
OXFORD
PLYMOUTH
PORTSMOUTH
RICHMOND (SURREY)
RICKMANSWORTH
SHEFFIELD
SURREY (NORTH EAST)
SWANSEA
TAUNTON
TODMORDEN
TUNBRIDGE WELLS
TYNESIDE
WALES, SOUTH
WINDSOR
WOLVERHAMPTON
YORKSHIRE, WEST RIDING

SECTION 8 Regional Planning Authorities

JOINT TOWN PLANNING ADVISORY COMMITTEES 631

JOINT TOWN PLANNING EXECUTIVE COMMITTEES 632

SECTION 9 Directory of Organisations Interested in Planning and Reconstruction 637

SECTION 10 Careers in Profession Asssociated with Planning—*Isabella Williams, M.A.* 657

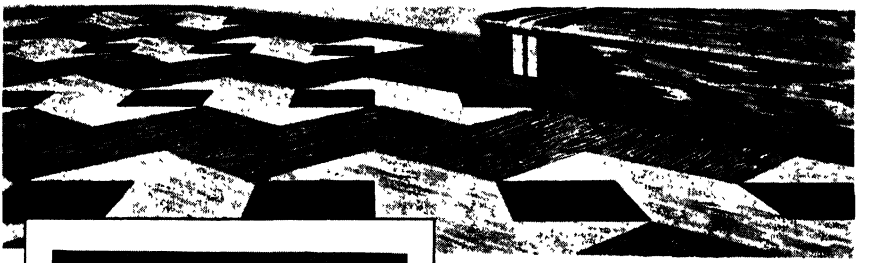
SECTION 11 Statistics and Tables 673

SECTION 12 Books, Periodicals and Films 695

BOOKS
PERIODICALS
FILMS

SECTION 13 Who's Who in Planning and Reconstruction 745

Classified Index to Advertisers 761



NORTH BRITISH RUBBER FLOORING gives the architect full scope for the development of decorative idea. The range includes continuous permanent coverings for wide floor areas; removable runners for passage ways; treads, nosings and risers for stairways; loose mats and matting.

Architects engaged on plans for future development are invited to write for particulars, colour schemes, etc

NORTH BRITISH RUBBER FLOORING

THE NORTH BRITISH RUBBER COMPANY LTD. EDINBURGH AND LONDON

F 5A

PUBLISHERS' FOREWORD

IN presenting the Fourth Edition of this annual reference book, *Planning and Reconstruction,* the Publishers feel that it comes at a particularly opportune moment. Planning for post-war reconstruction is now a matter of the utmost urgency and importance.

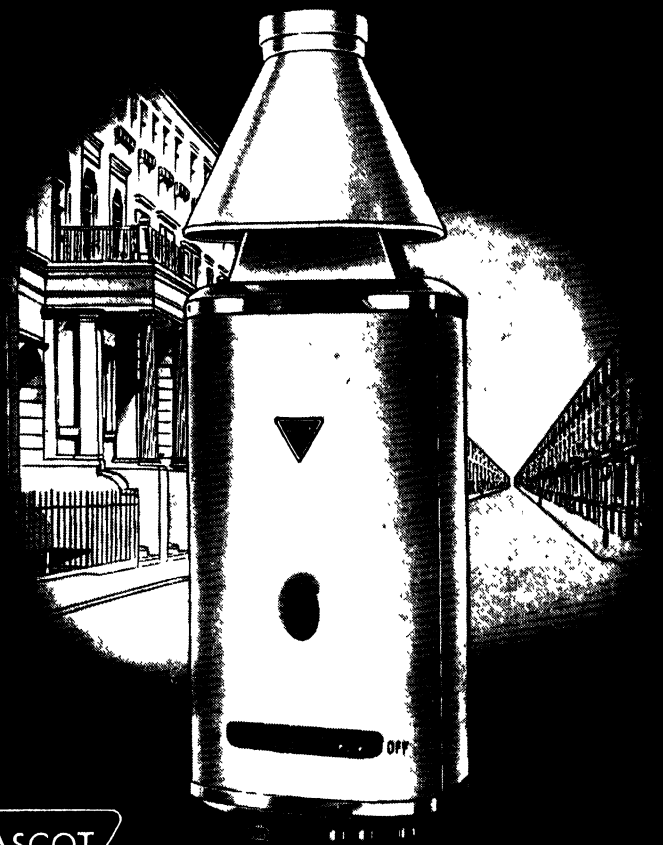
During the war years planning was of necessity merely a " blue print " and nothing else ; now comes the time for the plans and the blue print to be translated into reality.

Controversy still rages on many projects dear to the planners' hearts, and many difficulties of money, men and materials have somehow to be overcome. But those who have vision and enthusiasm refuse to allow such obstacles to dim their faith or thwart their determination to curb the untidy sprawl of unplanned building around our big towns ; to rebuild much that is war-damaged, unsightly or unworthy ; and to ensure that our English countryside remains for all time a green and pleasant land.

As we go to press several Ministries are still in a state of flux due to reorganisation consequent upon the transition from war to peace, and we regret, therefore, that in one or two instances, information on planning topics which we should have liked to include has been unavoidably either not forthcoming or incomplete.

Once again we must express our grateful thanks and appreciation to Mr. F. J. Osborn for his valuable advice and unstinted assistance as Advisory Editor. To the Ministries of Town and Country Planning, Health, Agriculture and Fisheries, Works, Education, the Scottish Office, the Government of Northern Ireland, the various Dominion, colonial and foreign Governments, the Forestry Commission, the Department of Scientific and Industrial Research, and to Mrs. E. G. McAllister, M.A., Editor of *Town and Country Planning,* our thanks are due for their generous help and co-operation in supplying information for this edition.

KEY TO CONVERSION



ASCOT

CONVERSION OF EXISTING PROPERTY
Your Hot Water Problems Solved
INSTANTANEOUSLY BY GAS

INTRODUCTION

BY THE ADVISORY EDITOR

SINCE the 1944-45 issue of this reference book World War II has ended, and after victory Great Britain has been settling down to the immense task of changing over from a war-time economy to a reconstruction economy. The thought given under great difficulties during the war to planning and rebuilding problems has done much to guide post-war legislation and the beginning of action. But when peace came there was much lee-way to make up and, as many planners had predicted, the urgency of housing and of industrial rehabilitation has to a certain extent caused the first steps in urban reconstruction to continue in directions conflicting with the best planning principles. Consciousness of this exists at the highest levels, and there is good hope that the situation may be retrieved by the time building development gets into its full stride.

The Town and Country Planning Act 1944, and the parallel Scottish Act of 1945, are now seen to be immensely important additions to planning machinery, and in many cities large areas are being scheduled for acquisition and redevelopment as a whole under these Acts. The Distribution of Industry Act 1945 was also an important measure, and its operation is already bringing new hope to areas which experienced mass unemployment between the wars ; but the clause in the original Bill restricting the location of industry in over-concentrated areas, which, imperfect as it was, embodied a principle important for planning, was regrettably dropped in Committee. Location policy still appears to take too little account of the accepted principle of decongestion and dispersal, but there are signs of more attention to that aspect.

The Greater London Plan 1944 was a notable advance in regional planning, and its acceptance in principle by the Government early in 1946 gives a new direction to Metropolitan policy which will have world-wide influence. The setting up of the New Towns Committee in October 1945 was a sign of the determination of the new Government to operate positively the dispersal policy ; and the decision to introduce a New Towns Bill early in 1946 comes as further evidence to that effect. New Towns have become a topic of popular conversation, and though only a small part quantitatively of the reconstruction programme they are rightly regarded as the key to its pattern and inspiration.

The Housing Act 1946 and its Scottish counterpart have passed through their final stages as we go to press. Though certain details are open to serious criticism there is unanimity that the subsidy problem has in the main been handled boldly. Meanwhile, the first houses are coming off the production line, and the dissatisfaction expressed at the slowness of the start is perhaps the best guarantee that the output will be accelerated with all possible speed. It is for planners to see that before long the houses go to the right places instead of the wrong ones.

F. J. OSBORN.

The Rt. Hon. Lewis Silkin, P.C., M.P.
Minister of Town and Country Planning

The Planning Act 1944, and National Policy*

The Right Hon. LORD BALFOUR OF BURLEIGH, D.L., J.P.
Deputy Chairman, Lloyds Bank Ltd.

I. A NEW CONCEPTION OF TOWN AND COUNTRY PLANNING

SINCE 1940 the conception of town and country planning in this country has undergone a change—almost a revolution. It has become clear, that what passed for planning between 1919 and 1939 will not do after this war. In those days we were concerned about local zoning, about street lines, and about avoiding the most atrocious forms of ugliness in building. We also worked hard, under the Ribbon Development Act, to turn narrow half-inch ribbons into one-and-a-half-inch ribbons with two broad selvedges. We were unable to stop suburban sprawl—at most we tried to guide it a bit. We had hardly started on the re-planning of built-up areas—and there was no consensus of opinion as to whether we were going to try to rehouse all the people in the congested cities where they were, or whether we were going to organise their migration to still more suburbs.

There was a strong movement in the country districts and in Parliament for trying to stop the scattering of the dwellings of escapists from the cities all over the prettiest parts of the country near the big towns and along the coasts ; and also to check the reckless taking of the best market gardening and farm land for building. Without deprecating this important sentiment in any way, it is fair to say that at that time it was entirely negative, and further that no one had the least idea how this sort of sporadic development was to be stopped without compensation for building value, or where the compensation could come from if it was to be paid. The advocates of countryside preservation almost seemed to think that the people in the town could be induced to stay put. Some architects produced brilliant exhibitions which tried to show that if you built fifteen- and twenty-storey flats, both the surburban sprawl and countryside spoliation could be avoided. It was all very academic, and although many interesting books were written and any amount of ideas were floating around, there did not seem to be the smallest prospect of an agreed policy which would reconcile the interests of the overcrowded town-dweller with those of agriculture and lovers of the countryside. As a matter of fact, the vast mass of town-dwellers (80 to 85 per cent. of the people) were not touched by these planning ideas at all. They still thought of a house in the suburbs as the ideal, went for it as soon as they could get it, and were aided in this by the colossal finance of the building societies and the insatiable energy of the speculative builder.

* Based on an address to the National Housing and Town Planning Council at Central Hall, Westminster, on 1st March, 1945.

For remember that the housing problem—that is, the actual shortage of sanitary and convenient dwelling accommodation—was well on the way to solution by the building of vast numbers of houses for middle-class people. They were exporting themselves wholesale to the suburbs, especially of the big towns. Over a million houses were built in the three years 1936-1938 in England and Wales, and of these nearly 800,000 were built by private enterprise—80 per cent. of them for sale—and only 225,000 were council houses. This meant that the poorer people were being rehoused—for the most part, by moving into houses abandoned by the middle-class—which was a usual process all through the nineteenth century. If we had gone on at that rate for another two or three years, there would have been no housing shortage in a numerical sense, but the suburbs would have gone out another mile or two round all the big towns, with all the disadvantages we have lately come to realise, and without any substantial rebuilding of the old worn-out centres. In other words, the nation was housing-minded, but it had not begun to be planning-minded.

What is the position now? The public has become more planning-minded. In planning circles, the suburban movement is right out of favour. It is doubtful whether this sentiment has yet got a strong hold on the public, but certainly they are beginning to have doubts about suburbs and travelling long distances to work. In planning circles, too, the idea of community or neighbourhood development is the height of fashion. On this the public is interested but not yet soundly convinced. The public is still mainly housing-minded; it wants as many houses as possible as quickly as possible. It is certainly becoming more planning-minded, in that it is now really interested in planning, and sees that good housing is somehow bound up with good planning. But, the public is not by any means as clear-sighted about the right sort of planning as it is about the right sort of house. It feels that what happened between 1919 and 1939 was wrong, but it does not yet see plainly what is right.

There is a very great danger in this. The danger is that in the effort to make good the housing shortage re-created by war-bombing and the increase in families since 1939, we shall start the whole business of suburban extension over again, increase the load on suburban transport, and eat further into the green belts of our big towns. The policy of the Ministry of Health in pressing Housing Authorities to resume house-building in proportion to their pre-war programmes, definitely encourages a continuance of city growth on the old lines. At this date it is difficult to reverse the decisions taken. But it makes it all the more urgent for Planning to take hold of the situation, and turn some part of the emergency housing programme, as well as the whole of future policy, in a new direction.

Public support could and must be gained for a new policy. The new policy has in fact been accepted in principle by the Government, and the new Planning Act assumes it and makes a certain amount of provision for it. But the powers and the machinery are not yet complete, and I fear that many of the men in key positions are still unconverted. I want to consider how far we have got with the powers and the policy, and what remains to be done to make a real success of future development.

II. DEVELOPMENT OF THE PRESENT SITUATION

Public opinion has been awakened to some of the possibilities of town planning by war experience—evacuation (which has educated both town-dwellers and country-dwellers to many concealed facts), air-raids, wartime controls—and above all by the Barlow Report of 1940 and the discussions arising out of it. This new interest has turned planning reports, formerly neglected, almost into best sellers, and even planning inquiries are now top-line news.

The Coalition Government was gradually moved along by all this discussion to acceptance of national planning, the broad idea of " decongestion and dispersal " of population and industry from overcrowded cities, guidance of the location of industry, large-scale redevelopment in which local authorities will play a new and important part, and some sort of national compensation and betterment fund. Legislation to implement these accepted principles has begun, but it is not yet by any means complete. Much depends on the actual terms of the further legislation promised and now under consideration.

Let me remind you of the stages by which the Government committed itself to a new planning policy.

On 21st October, 1940 (during the first series of great enemy raids), Lord Reith was appointed Minister of Works and Buildings, and was personally charged with responsibility for reporting to the Cabinet on methods and machinery for reconstruction of town and country after the war.

On 2nd January, 1941, the Government accepted the Barlow Report recommendation to set up an Expert Committee on Compensation and Betterment, and Mr. Justice Uthwatt's Committee was appointed.

On 26th February, 1941, the Government accepted the principle of national planning, and of a Central Planning Authority, which was to proceed on " a positive policy for such matters as agriculture, industrial development, and transport," the machinery to be national, regional, and local. In announcing these decisions Lord Reith said the defects of pre-war planning were : that planning had been local ; that the unordered growth of huge towns had produced too high a central density and traffic congestion ; that buildings had sprawled indiscriminately over the countryside ; and that the procedure of planning had been criticised as too slow.

In June, 1941, came the Interim Report of the Uthwatt Committee, recommending the adoption of the value of land at 31st March, 1939, as the " ceiling " for public acquisition or control ; the setting up of a Central Planning Authority ; and the definition of " reconstruction areas," within which no rebuilding should be permitted, except under central licence, until reconstruction schemes had been prepared. On 17th July, 1941, the Government accepted the Uthwatt Interim recommendations, with certain qualifications. In October, 1941, Lord Justice Scott's Committee on Land Utilisation in Rural Areas was appointed to consider the rural repercussions of the Barlow Report policy of " decongestion and dispersal."

On 11th February, 1942, the Government announced its decision to

establish a Central Planning Authority. The Ministry of Works and Planning (thus renamed) would take over the planning functions of the Ministry of Health. The Scottish planning administration would be unchanged. The Barlow Report policy of decongestion and dispersal, and of securing industrial balance and diversification in the regions of the country, would be " reviewed," and methods of reaching these objectives would be studied.

On 15th August, 1942, the Scott Report appeared, making numerous recommendations relating to rural planning, housing and development. It laid special emphasis on avoiding building on the " good," " better," or " best " farm land (all these terms were used) and preserving such land adjoining towns and villages as green belts. New villages and extensions to existing villages should be made as compact as possible, and new urban developments in the countryside should be directed as far as possible to new or existing country towns or villages. On balance the introduction of industry into towns in the countryside would be beneficial. New towns and villages should avoid the good farm land, and should be built off rather than on the main roads. Local planning should be compulsory, and all existing plans should be reviewed. National zoning should supplement local zoning. An interesting Minority Report by Professor S. R. Dennison was more emphatically in favour of industrial dispersal as beneficial to the rural areas, and proposed that the onus of proof should be on agriculture as against building development, rather than on building development as against continuance of land in agricultural use.

The Scott Report was criticised as leaning somewhat against the Barlow policy of dispersal. But in fact it accepted that policy, even if the safeguards for agricultural land which it proposed betrayed some degree of over-anxiety, due to the experiences of the inter-war years of wasteful use of good land.

On 20th September, 1942, came the Final Report of the Uthwatt Committee, with what is universally agreed, and acknowledged by the Government, to be " a masterly analysis " of the problems of compensation and betterment in relation to planning. Its main recommendations were :

1. The State acquisition of development rights of all land outside built-up areas, with fair compensation on a " global " basis in ratio to market values at 31st March, 1939. Such land to be compulsorily acquired at the residual agricultural value if and when needed for development, and to be granted to the developer on leasehold only.
2. All land to be deemed from a fixed date to be covered by a Planning Resolution.
3. Planning Authorities to be given powers to purchase war-damaged and obsolete or unsatisfactory built-up areas needing redevelopment as a whole, for development by the Authorities themselves or by private enterprise. All land so acquired to be leased, not sold outright.
4. The betterment problem to be dealt with by a periodic levy (of say 75 per cent.) of the increase of annual site values of all developed land, whatever the reason for such increase of values, the values

to be assessed quinquennially by the machinery in being for rating purposes.

5. The procedure for compulsory acquisition of land to be speeded up.

6. The Rules for assessing compensation for compulsory acquisition, and injurious affection under planning schemes, to be revised; the element of value resulting from public demand to be eliminated in valuation; a limit of "life" to be placed on obsolete or non-conforming buildings, and valuation to have regard to that "life"; and the "1939 ceiling" to be retained until the periodic levy comes into operation. (The principle of fair compensation to owners was reasserted by the Report.)

On 4th February, 1943, the Minister of Town and Country Planning Act came into Force, transferring the central planning powers from the Ministry of Works and Buildings (again renamed) to a new Ministry charged with the duty of "securing consistency and continuity in the framing and execution of a national policy with respect to the use of land."

On 22nd July, 1943, the Town and Country Planning (Interim Development) Act 1943 came into force. It provided that, as from 22nd October, 1943, all land not already subject to a planning scheme be deemed to be subject to a Planning Resolution. In effect this brought all such land under the "interim planning control" of the main Town and Country Planning Act of 1932, with certain strengthened powers to local planning authorities. The Minister's powers were also strengthened, in that he could now require any application, or class of application, for permission for interim development to be referred to him. He was also given powers to constitute joint planning committees without a request from any of the authorities concerned. An important Section in this Act (especially in war-time) was the Section enabling local authorities to give permission for temporary buildings with a condition that they must be removed at the end of a fixed period without compensation.

In May, 1944, came the White Paper on Employment Policy. This made the most important statement that the Government accepted as one of their primary aims and responsibilities the maintenance of a high and stable level of employment after the war. Among the interlocked series of proposals for preventing unemployment were measures which have a direct bearing on land-use planning, *i.e.*, the measures to secure "a balanced industrial development" in areas formerly vulnerable to unemployment. The Government proposed to encourage new enterprises in the "development areas" by influencing the siting of new factories or factories transferring from one area to another. The methods would include: (*a*) Prohibiting the establishment of a new factory enterprise "in a district where serious disadvantage would arise from further industrial development"; and (*b*) "using Government influence to steer new factory development into areas which call most urgently for further industrial diversification." In exercising this influence, account would be taken of "strategic, as well as industrial and social, considerations." The inducements specified included: (*a*) Priority licences for factory building and extension in "development areas"; (*b*) placing Government contracts with regard to the needs of such

areas ; (*c*) facilities for obtaining capital ; (*d*) good public services and roads in such areas ; and (*e*) organising research as to types of industry suitable for location therein. A number of Departments, especially the Board of Trade, Ministry of Labour, Ministry of Town and Country Planning, and the Scottish Office, being concerned with the distribution of industry, steps would be taken, at the centre and regionally, to co-ordinate them in executing the policy as a whole. The " channel " for the expression of Government policy in this field would be the Board of Trade, which would be suitably strengthened for the purpose.

On 7th June, 1944, Mr. H. Dalton, President of the Board of Trade, in the House of Commons accepted on behalf of the Government the Barlow Report's " main ideas " of " decongestion and dispersal."

On 23rd June, 1944, there appeared the first comprehensive statement by the Coalition Government of its planning intentions : the White Paper on Control of Land Use, issued jointly by the Minister of Town and Country Planning and the Secretary of State for Scotland. This begins by saying : " Provision for the right use of land, in accordance with a considered policy, is an essential requirement of the Government's policy of post-war reconstruction." This White Paper is interesting for what it includes, what it avoids, and what it skilfully skates round.

The chief aims of planning, as listed in this White Paper, are : Harmonising the claims on land for housing, industry, agriculture, national parks, roads, and airfields ; new lay-outs for bombed and obsolete areas ; avoidance of waste of " good " agricultural land and of sporadic and unsightly building and ribbon development, and the road accidents and excessive cost of services connected with bad layout ; avoidance of loss of time and traffic congestion due to long journeys to work ; and the relief of " overcrowding."

Conversely, the defects of pre-war planning listed in the White Paper are : first, that planning was purely *local* in character, local authorities not being required to think of anything outside their immediate areas and the Ministers not having powers to " secure modification of local schemes in order to meet regional and national interests " ; and second, the use of planning powers was *optional*. " Local authorities were under no obligation to use them, and many did not." (This last defect was corrected by the Act of 1943.)

The Land Use White Paper went on to foreshadow the terms of the Town and Country Planning Act 1944. It is important to note that it adds " there will still remain to be corrected what is generally agreed to be the defect which *most of all prevented or distorted good planning* before the war " (my italics) ; namely, the state of the law regarding compensation and betterment. There follows a summary of the Uthwatt Report's " masterly analysis " and of its main recommendations. It is then stated that the Government accept in principle the Uthwatt proposals as to public acquisition of areas needing redevelopment as a whole (and this acceptance has, of course, since resulted in the Act of 1944). The White Paper did not, however, accept the detailed Uthwatt proposals on compensation and betterment, but put forward for public discussion

(without committing the Government to it) an alternative scheme, which I briefly summarise:

1. All development rights to be subject to a statutory restriction, so that they cannot be exercised until planning approval is obtained. (This is now substantially the position under Interim Procedure.)

2. On any permission to develop or redevelop land for a different use (this is understood to include a different scale of use but only where difference in scale amounts to difference in kind, *e.g.*, houses into blocks of residential flats), whereby the value of land is materially increased, the owner to pay a betterment charge of 80 per cent. of the difference of value due to such permission. (This differs radically from the Uthwatt periodic levy, which was to apply to any increase of value, whether it was due to a change of use or not, and was to be re-assessed every five years and not only when planning permission for change of use is given.)

3. On any refusal of permission to develop or redevelop, the owner to be paid fair compensation for any loss of a value that had existed at 31st March, 1939, such " fair compensation " not to include the element of " floating value." (In principle this resembles the Uthwatt proposal, but it is less fully worked out, and the Uthwatt limitations—the exclusion of " public demand " and a " life " for old or non-conforming buildings—are not applied.)

4. Land which had no development value in March, 1939, not to be eligible for compensation for refusal to develop. (This agrees with Uthwatt.)

5. The " precise formula " for fair compensation to be settled at the end of five years after the new legislation. (This is a new and perplexing idea. The theory is that in five years the Government will know more about the value of development " likely to take place," and thus will be better able to assess the element of floating value. But as the relevant value is market value in 1939 it is not easy to see how putting the subject into cold storage for five years will help in ascertaining what was the true value at that date, or in deciding how far market values at that date were inflated by an undue expectation of the total amount of development.)

6. Compensation and betterment to cease to be the responsibility of local authorities and to be centralised in a national " Land Commission."

For the purpose of the White Paper Scheme, land would be divided into three categories: (*a*) " Green " land (rural land which had no substantial development value in 1939); (*b*) " white " land (all other unbuilt-on land); and (*c*) built-on land. Holdings of all " white " land would be valued as at March, 1939, with an estimate of the period within which development was at that date likely to take place. " Green " land would be assumed to have had no development value at March, 1939, and built-on land would be assumed to have no enhanced value for redevelopment, unless in either case the owner puts in a claim that it had; in this case a valuation as at March, 1939, would be made. An expert Committee is proposed to be appointed before the end of five years to advise the Government on the formula for compensation, taking into account the " likelihood of development " in general and in individual cases, and the prospects of the income from the betterment charge. On this formula compen-

sation would be paid at the end of the five years to any owners of " green " land who have established a claim ; and this payment would be final. In the case of all other land (" white " and built-on land) compensation would, under the White Paper scheme, normally only be paid when an application to develop or redevelop (with a proved serious intention) is refused or prevented. (I cannot help feeling that the intended estimate of the period within which development was at March, 1939, likely to take place would give the Government the information they need for assessing the floating value element, because any variation of the likelihood since must surely be due to planning or other circumstances irrelevant to market values at March, 1939. For this reason the White Paper proposal is far more erratic than the Uthwatt proposal of a " global " valuation based on the best estimate possible of the total amount of development which could have been anticipated in 1939, with planning law and practice and the national situation as it then was.)

The White Paper (para. 35) makes a valuable proposal for special arrangements when an owner enters into an agreement with a Planning Authority permanently restricting the use of his land. In this case, if the land is subsequently acquired for public purposes, the owner would have the option of compensation at the value for its existing use, or at the March, 1939, value, and his taxes would be at the value for existing use.

III. THE TOWN AND COUNTRY PLANNING ACT 1944

In the main this is a Land Acquisition Act rather than a Planning Act, and it has been criticised on this account. But the Act, which I think was improved in its progress through Parliament, does contain some very useful planning provisions and the new powers and procedure for land acquisition, which are based on some of the recommendations of the Uthwatt Final Report, are necessary and important powers ; they can fairly be described as the beginnings of a new instrument of planning of a more positive kind than the control of land use we have hitherto had. It is true that the power given to local planning authorities to purchase whole areas and to redevelop them is limited to war-damaged areas and areas of bad layout, and the areas necessary for providing for " overspill " from those areas. But this is a good start, because these classes of area are the ones to which it is most urgent that positive planning should be applied. And though other powers are necessary and must be obtained, the powers in this Act, if boldly used by authorities with full support and wise guidance by the Ministry, could set a new and better pattern for future development.

The new idea in this Act is this. Local planning authorities, with the consent of the Minister, can obtain powers to purchase compulsorily : (*a*) Areas of extensive war damage and land adjacent thereto, if they can show that such areas need to be laid out afresh and redeveloped as a whole (Section 1) ; (*b*) areas where, although there may not have been extensive war damage, a similar need arises because there are " conditions of bad layout and obsolete development "—and in this case also the powers can extend to adjacent land (Section 9) ; (*c*) land required for

" overspill " from both the former classes of area (war-damaged and bad layout) (Sections 1 (2) and 9 (2)); and (*d*) any other land required for development of a class needed to get " a proper balance of development," or for open space, or generally for good planning, for " overspill " or for persons and businesses formerly located in a crowded area which ought not to go back there (Section 10).

On these various powers there are certain limitations, about which there was a good deal of argument in Parliament. But taking them by and large, if the authorities and the Planning Ministry really mean business and act with vision, the powers may cover in principle all the classes of land the acquisition of which is needed for a positive planning policy.

To me the second paragraphs of Sections 1 (2) and 9 (2), which got into the Act by Ministerial amendments during its passage, are very important, because they indicate the way in which the Act can be used to carry out the Barlow policy of " decongestion and dispersal." These paragraphs define " relocation of population or industry " as meaning, in relation to a war-damaged area and an area of bad layout :

> " Rendering available elsewhere than in that area, whether in an existing community or in a community to be newly established, accommodation for residential purposes or for the carrying on of business or other activities, together with all appropriate public services, facilities for public worship, recreation and amenity, and other requirements, being accommodation to be rendered available for persons or undertakings who are living or carrying on business or other activities in that area or who were doing so but by reason of war circumstances are no longer for the time being doing so, and whose continued or resumed location in that area would be inconsistent with the proper planning thereof."

That definition points towards the creation of new towns, or the addition of complete neighbourhood units to existing country towns, or the building up of outlying units of development into complete and well-furnished social and economic communities with their own basis of local employment. It is a vast advance on the old conception of a housing estate or one-class dormitory suburb which was the main feature of local authority development before the war, and which still seems unhappily to dominate the minds of some authorities.

Another new thing is that the Act opens the way to collaboration between authorities in providing for the " overspill " from redevelopment. Under Section 12 the power of compulsory purchase for " overspill " may be exercised, with the consent of the Minister, by a planning authority other than the authority of the area from which industry and population are displaced.

Thus an authority having a decongestion problem may enter (as " promoting authority ") into an agreement with an authority in whose area the displaced industry or population is to be relocated (the " area authority ") " as to any matters relating to the carrying out of the purpose for which the purchase in question may be authorised, and in particular, in the case of a purchase for the purpose of providing for relocation of population or industry in the course of the redevelopment of a part of the area of the promoting authority, as to the layout and

manner of use of the land to be purchased, and as to rendering accommodation provided therein available for persons or undertakings from the area of the promoting authority."

Such an agreement may be negotiated between the two authorities, and the Minister has powers to see that it is carried out; and the terms may be varied later by mutual consent or by the Minister at the instance of either authority.

There seems to be nothing in the Section which precludes financial arrangements between the two authorities if the Minister consents. In fact there is here a most powerful and elastic instrument for constructive partnerships between large-town authorities on the one hand, and small-town and county-district or county authorities on the other hand, in dealing with relocation without regard to local government boundaries. If the large-town authorities can forget the idea that they have a sort of proprietary right in their present quota of population and industry, and if small-town and rural authorities can moderate their fears of the immigration of population and industry, some of the difficulties of transfer can be by-passed. The job is being done under planning control, and both authorities having a say in the method and speed of it, there should be great benefits at both ends. The congested area gains the space which it needs for really good redevelopment, and the country town or rural area gains by new blood and the possibility of improved local services.

As to the powers given to local authorities to deal with land acquired, the general principle implied is that building and rebuilding, other than housing and schools, will continue to be done by private enterprise. But there is one new departure. The Act is based on the Uthwatt recommendation that the land acquired by local authorities will not be sold outright but leased for not more than 99 years (Section 19). The consent of the Minister is required to any disposal or appropriation of the land acquired, and only in exceptional circumstances can he consent to its being sold outright or leased for more than 99 years (Section 19 (5)).

On the other hand, the local authority is restricted in its powers to build on the land, and the Minister himself is limited by the Act in his power to consent to such building. In general, the Act only enlarges the powers of local authorities to provide actual buildings for letting, in cases where private enterprise is not able and willing to do so. But the Minister can give his consent if in his opinion such building ought to be done by the local authority "in order to enable them to balance their expenditure in connection with the project as a whole." (Section 20 (3)). This exception may be of great importance in redevelopment areas where the interest on the whole cost of the local authority's work may not be covered by the ground rents created, because it is likely that in some such cases the actual building of shops, factories, and commercial premises for letting direct to traders would be more remunerative than granting building leases.

On this I want to utter a word of warning. Estate development and management are a highly-skilled business. Not all authorities have handled even housing estates in a really first-class way in all aspects,

including construction, architecture, layout, planting, amenities, and subsequent management. All-round community development is a still bigger, more complex job than housing development alone. Unless an authority has, or can engage, fully qualified people for development and management, it will often be better to pass the job over to competent private enterprise, because the authority will not be able to get a satisfactory return by direct building without employing people of skill and experience.

The Act provides (Section 20 (7)) for an intermediate course between direct building by the local authority and leasing to ordinary commercial enterprise. By consent of the Minister arrangements can be made with an " authorised association "—a company or society with a limit on profits—to take over an area or part of one for development as a whole, or to undertake any sort of building therein. This seems to me to hold valuable possibilities. It may be that some of the former owners or groups of local business men, able to provide a proportion of the capital necessary, would form such associations and carry out development and building with the aid of loans from the local authority, on agreed plans, any surplus of revenue on the schemes being earmarked for public amenities.

In any case, the local authority will remain the ground landlord of all land acquired under the Act. It has therefore a new instrument of control, at once stronger and more elastic than the statutory planning scheme for the area. The best large-scale development in this country so far, whether public (as in the case of Liverpool and Manchester), purely private (as in the case of the great " ducal " estates), or of the public utility type (as at Letchworth, Welwyn, Bournville, Earswick, etc.), has been done under leasehold control. The Act makes possible controlled private enterprise and public utility enterprise under public leaseholds. Authorities must be ready to profit by the experience already gained on public and private leasehold estates.

A word on the financial provisions of the Act. Under Section 47, the Public Works Loans Board may make loans to any planning authority or county council for the acquisition and development of land under the Act. Under Section 5, the Minister may make grants equal to the charges for two years on the cost of purchase and clearing of land in war-damaged areas, and for three years for the related " overspill " land. Where war-damaged land remains out of use for a long period, the grant may be extended by the Minister to ten years, and in exceptional circumstances, with the concurrence of the Treasury, to a total of fifteen years. No similar grant is available for obsolete or badly laid-out areas acquired under Section 9, the theory being that such land is not out of use for any long period. Under Section 8 the Minister may require a five-yearly statement of the finance of the redevelopment scheme, and if the authority has received grants in excess of its loss on the scheme the amount of the excess will be repayable.

These provisions do not deal with any financial deficiency the planning authority may suffer by reason of a permanent reduction in the value of land where it has to be redeveloped at substantially lower density, or its use is changed under the plan from a high-value to a low-value use (as, for example, from business premises to housing), or it is reserved

for open space. With this class of financial " loss " the Act, of course, is not designed to deal. It is really part of the wider problem of land-value compensation under Planning, a problem which arises not only where the local authority is itself the developer, but also where a planning scheme changes or restricts the future use of land or reduces density in redevelopment by private land-owners. Further legislation has been promised on this by the new Government.

The obvious principle that ought to inform such legislation is that : (*a*) The Ministry should lay down national standards of density that must not be exceeded in redevelopment, and also minimum standards of open space ; and (*b*) to the extent that on redevelopment the value of land, by reason of these national standards, falls below the cost of acquisition, or the value prior to redevelopment, compensation should be paid out of the proposed Land Commission's National Fund to the authority or the private interest, as the case may be.

I suggest that this is essential, whatever it may be found practicable or expedient to do about the recovery of betterment by a charge on increases of value of land elsewhere. There is no possible doubt that the reduction of density or reservation of open space in any area will create a bigger demand for land somewhere else. But under the new conception of planning, the increase will not necessarily, nor even as a rule, be within the area of the same authority. The responsibility must therefore be national, and it is one that we cannot shirk if the policy of decongestion is to be made a reality. In the long run, the State should be able to collect a considerable amount of betterment as an offset to the compensation. But it would be fatal if the fund for compensation were, in the reconstruction period, limited to the amount of betterment immediately collectable, as the White Paper at first seemed to suggest ; Lord Woolton gave an assurance in the House of Lords on 29th September, 1944, that so short a view will not be taken. This is clearly a case where the State should take its courage in both hands and make an investment, taking into account not only the deferred financial return in betterment elsewhere, but the return in better public health (which will be partly financial) and the even more important return in industrial efficiency and the amenities of home life and community life.

We must uphold the principle of the right of compensation for restriction of user, but a definite limit must be placed on the period during which the right will be admitted. A relevant fact is that land tax, a liability in perpetuity, is redeemable on the basis of twenty-five years' purchase. I cannot feel that injustice would be done should a period of twenty years from the present time be fixed for the purpose—that is, over twenty-five years from 1939. A provision to this effect would enable the Treasury to take the long view in finding the money for the national investment which is so essential, and would encourage the local authorities to plan boldly for the future.

The procedure for acquisition of land is speeded up in the case of areas scheduled as war-damaged or obsolete. It still appears very complicated, but this may be inevitable in view of the large number of interests that must be considered where you are dealing with land. As to what extent of areas can be scheduled, much depends on the policy of the

Minister. Almost the whole of the central areas of our large cities, and of many of our smaller ones, need replanning as a whole ; the authorities should include in their schemes as much land of the classes provided for as they can hope to tackle in the next twenty or thirty years.

They should consider the redevelopment of these areas, not in isolation but having regard to the planning of the whole city, and indeed of the region of which it forms part, not hesitating to revise any existing planning schemes in the light of the new policy. I am glad to see that a number of cities (notably Manchester) have already calculated what displacement of population will be involved in a 20–30 years' redevelopment at a proper standard of density, and what dispersal of industry and business will be necessary in order to balance the employment in the town, and in the " overspill " communities, with housing space on proper standards. This is a difficult task, and involves many problems, but it is clearly one that every city must face with courage and imagination. It is good also to see some authorities producing plans indicating where the new communities should be which are to take the " overspill," and calculating the amount of land that will be required for industry, housing and other purposes in those areas.

I will not spend time on the vexed question of the price to be paid for the land. The Act fixes this at the 1939 value, with supplements in the case of owner-occupiers and for improvements made since 1939. The decision has been made by Parliament. It can be attacked from both sides, as imposing hardship on owners, or as being too generous to them. I prefer to regard it as a closed issue—except for the matter of compensation for changes in the nature and scale of future use, to which I have already referred.

The Act contains a number of other provisions on which I can touch only briefly, though some of them are important. Section 14 provides certain safeguards for open spaces and common land ; where land for such purposes is taken for development, other land must be substituted. Section 15 makes provision for dealing with licensed premises. Section 21 gives powers for construction of new highways and for grants thereon in connection with schemes under the Act. Section 23 gives the Minister power to approve the suppression or diversion of public rights of way as an alternative to the former cumbrous procedure before Quarter Sessions.

Section 30 makes very important provisions for dealing with displaced persons in advance, and enables either an authority or a Minister to pay the removal expenses of persons or businesses displaced, and compensation to businesses for loss by disturbance.

Section 31 binds an authority to observe an existing planning scheme or interim development order in its own development, unless it can obtain consent of the Minister to any development in conflict therewith, but the Minister has full power to lift any such restrictions. And under Section 33 the Minister can suspend any planning scheme and impose interim development control.

Section 40 enables the Minister to set up joint planning committees for any purpose under the Planning Acts, including the variation of schemes of constituent authorities.

Section 41 brings agricultural buildings, hitherto exempt, under full planning control.

Sections 42 and 43 provide for the scheduling by the Minister of buildings of special architectural, or historical interest, and the local planning authority may prohibit the alteration, as well as the removal, of any such building. Under Section 44 a scheme may provide for an appeal to the Minister, instead of to a police court or special tribunal, against the decision of a planning authority on design or external appearance.

Section 45 extends the period after which an owner has no right to compensation for refusal to rebuild after destruction of a building, which was two years under Section 19 of the Act of 1932, to two years from the end of the war in the case of buildings destroyed during the war. Section 46 strengthens the existing powers for requiring the removal of temporary buildings erected during the war and enables an authority to grant an extension of the period without incurring liability for compensation.

Section 48 makes the housing subsidies under the Housing Act 1938, available for the rehousing of persons displaced under this Act. This establishes an important principle, though we all agree that the rate of subsidy provided for in the Act will have to be revised for the immediate post-war period.

Under Section 55 the powers relating to acquisition of land for war-damaged areas and their " overspill " can be exercised by a county council to whom a county district has relinquished its planning powers, or by a joint planning committee. But these powers do not seem to apply to obsolete and badly laid-out areas.

There are also in the Act a number of Sections referring to : The special circumstances of statutory undertakings (in regard to which other Ministries will exercise control in conjunction with the Minister of Town and Country Planning) ; the obligation of an authority to purchase war-damaged land when development permission is refused ; the suspension and relaxation of byelaws ; and a number of other technical matters with which I have not space to deal. There are also eight schedules relating to the procedure for compulsory purchase and the assessment of compensation.

The Act of 1944 is now law, and it only remains for everyone to do his best to work it and get everything possible out of it. I may perhaps be permitted to say that I think a better plan would have been for the Exchequer to acquire and retain the freehold of all land required for " low return " public purposes, such as housing and open spaces, letting it on 99-year lease to the local authorities at rents corresponding to the user.

It should be added that regulations have still to be made by the Minister on many matters under the Act. A good deal depends on the actual framing of these. What degree of war-damage, or what criterion of obsolescence or bad layout, will enable an area to be scheduled under Sections 1 and 9 of the Act ? By what standards will the Minister be satisfied that such an area, and an area of adjacent land, should be redeveloped as a whole ? It is to be hoped that the Minister will take broad views on these points. Niggling or over-cautious definitions might greatly reduce the value of an Act, which can be made a powerful weapon for a bold policy of decongestion and dispersal.

IV. REMAINING PROBLEMS: COMPENSATION AND BETTERMENT

Let me return to the problems which call for legislation. I have dealt with compensation for decongestion, and only repeat that this must be based on considerations of national policy and should be largely a charge on national funds. There is also the problem of compensation for preserving rural or unbuilt-on land around cities and towns, land which has (or had in 1939) potential building value, reflected in its market value, and is liable to be used for building unless that is prevented by firm and indeed wholesale planning reservations. The problem must be dealt with as a matter of urgency. As between the Uthwatt solution of a " global " compensation settlement, and the White Paper proposal of a settlement by a new Expert Committee after five years, we may not be so unanimous. At present there seems a disposition to put this issue into cold store as too difficult and controversial. We must repeat and insist that it cannot possibly be shirked. We need at the earliest date definite operative planning schemes, reserving as country belts great areas of fringe land ; because we must place our " overspill " beyond the country belts, in country towns and new towns which must be themselves surrounded by similarly protected green belts so that they do not straggle. This is obviously impossible of achievement unless a solution of the compensation issue is found and passed into law without further delay.

V. THE STANDARDS OF DENSITY

We are embarking on a long-term plan to make our cities fit for all classes of our people to live in. It seems in some cities a herculean task to achieve the degree of reduction of density of population necessary. In my own Borough, the Royal Borough of Kensington, for instance, we have many more people than could be properly rehoused on the spot. We know that even at present the majority of the Borough's working-class folk want houses with gardens, but it seems almost inconceivable that we can, in such an area, meet their wishes. Yet can we imagine building for all these people blocks of high flats to last for a hundred years ? And what will be the effect on the family and the birth-rate if we do ? I am right up against this problem at the moment. My Council has to decide which way it will go, and we have to think, not merely of what we are going to do about the urgent housing shortage, but what sort of Kensington we are planning for all time. We cannot solve the problem by ourselves.

I see no solution except in a national standard of maximum living density which Kensington and other authorities responsible for congested areas should be under obligation to work to, coupled with two further measures : National compensation for the cost of land we have to buy over its value for low-density housing ; and the transfer out of such cities as London of some part of the industry and business which produce the excessive local demand for housing.

As to the standard of density, the *Housing Manual* proposes a "normal" density for central urban areas of 100 persons per housing acre. But it also says that a 3-bedroom house should be regarded as accommodating

5 persons, and a 2-bedroom house 4 persons. On this basis the density of 100 can be translated as 20 3-bedroom dwellings, which would in itself be all right, as you can build, fairly decently, 18 two-storey houses per acre in an urban area; so that 20 dwellings per acre would only mean that 20 per cent. of them need be flats—16 houses to 4 flats—a proportion that Kensington people would accept. In practice, however, this 20 dwellings per acre, if the houses were occupied by one family each, would house, not 100 persons, but about 70 persons per acre, because our small families of today only average about 3½ persons each. Maybe if the birth rate recovers, the number of persons per family will increase, but I cannot imagine that it will rise above an average of four, which brings out 80 persons per acre.

Is it not obvious that the *Housing Manual* density of 100 per acre, on the assumption that it means an actual 100 and not the average human contents of 20 3-bedroom houses, is an unsatisfactory target for long-term planning? And how can we contemplate, over substantial central areas, the proposed higher density of 120 on the same assumption?

Will the people be content with any such density in the course of the next twenty or thirty years? Will not the great majority, with a rise in the standard of living and full employment, insist on at least the kind of family house that has become accepted as the national housing standard? I feel sure that if we try to work on higher densities than about 20 dwellings per housing acre for large numbers of people, we are making inevitable a continuance of the movement to the suburbs, because, much as people hate long daily journeys, they will pay even that price to satisfy their idea of a decent family home. We face, therefore, the prospect of blighted and derelict areas in our cities unless we anticipate the movement and turn it into a better direction by planning. Hitherto the movement of people out of central areas, which has of course been substantial in the last thirty years, has been accompanied by an expansion of industry and business in these areas, and this has prevented the fall in values which otherwise would have occurred. But industry and business would in the long run tend to follow their workers out, and the war will probably have accelerated this trend. Thus the authorities and the landowners cannot expect in future to make up for the loss of residents by increased central business development.

VI. LOCATION OF INDUSTRY

That brings me to the other great issue of the control of the location of industry. The Distribution of Industry Act 1945 gives the Board of Trade important new powers to provide trading estates and improve public services in certain specified areas of the country. This is all to the good. But a clause in the Bill giving powers to restrict factory building in areas where serious disadvantages would arise from further development was dropped, and though the clause as drafted was inadequate, it embodied an essential principle.

Unfortunately the Distribution of Industry Act seems to take control of location only as a means of avoiding unemployment in certain areas. That is important. No less important, however, are the planning considerations and the policy of decongestion and dispersal. The policy

for location of industry must, therefore, provide for factory building in " overspill " communities ; for restriction of extensions of factories in congested towns ; and for encouraging the transfer of firms within a region as well as between regions. This is not a matter that can wait. Dispersal involves the highest priority for building industrial and other business premises, as well as housing, in the " overspill " communities ; and not only for new firms, but for firms who would otherwise have to return to the congested centres, and for firms who could be induced to move out. Unless high priorities are given for such building, housing will be forced into the wrong places, and we shall add to our future problems.

The conception of guidance of location of industry, therefore, needs broadening out. The location of areas or zones for industrial development is surely a matter primarily for the Ministry of Town and Country Planning after consultation with all the other Ministries concerned with development in specific aspects. The Board of Trade may be the right body to advise individual firms, but they should do so within the framework laid down by national, regional, and local planning, which alone is adapted to balancing the industrial, social, and strategic factors. If the Ministry of Works remain the body to grant permits for building, their policy in doing so should similarly work within the national planning framework. In fact, the pre-war Cabinet machinery must be so adapted as to ensure that decisions about particular districts or regions, which involve economic and social issues wider than the Ministry of Town and Country Planning by itself can determine, are taken at the right time and with full knowledge of all the relevant departmental points of view.

The issue of priorities for building will arise not only in connection with factories and other premises providing employment, but with schools, community centres, and other indispensable buildings in the communities catering for dispersal. Housing is number one priority, but to make a satisfactory job of housing without repeating the mistakes of the past there must be priorities for certain other buildings as well, and especially in new communities.

VII. LOCAL GOVERNMENT BOUNDARIES

I can only mention briefly the question of Local Government Boundaries. The White Paper of 1944 on the subject makes the irritating but not untrue point that while all agree that the present set-up is illogical and chaotic, every type of authority has a different idea as to the right set-up. Here I am only concerned with town and country planning considerations, and therefore with boundaries only so far as they effect planning. The White Paper refers to one of the problems in the following passage (page 14) :

> " A system of organised dispersal of large bodies of population presents a new situation, since an application for borough extension at the planning stage can be examined with an eye to the future rather than the past. Moreover, if the case proves to be one in which an extension of the borough is justified, the operation can be effected with much less disturbance to county and county district finance and administration if it is timed to take place while the development

> is still in the future and the necessary services still remain to be built up. Such a course has the additional advantage of securing that most or all of the services of the area are from the outset planned by the authority which will administer them. On the other hand, *the new conception of dispersal may well involve the development of new centres at a distance from the parent borough*, and this in itself disposes of the idea that the borough has an automatic right to retain jurisdiction over its former inhabitants by extending its boundaries." (My italics.)

In the light of this " new conception of dispersal " it is of interest to consider the effect of the process on rateable value in the areas of authorities which both lose and receive population.

RATE LOSS ON DISPERSAL. At first sight it seems plausible that if you reduce the number of people and factories in an area you thereby reduce rateable value. But that is not certain. You may so enhance the desirability of the area, and its business efficiency, that values per head will be higher. On balance, however, it must be faced that in some areas actual rateable value will be lower after proper redevelopment than before. That does not necessarily mean that the rate poundage will be higher. The running costs of services for the reduced population will be less, though the costs per head may be higher.

Consider, too, capital expenditure. If you entirely rebuild an old congested area at former density, the services for the same population will mean much additional capital expenditure—*e.g.*, for water supply and drainage if every house has a bath and a proper number of taps and lavatories. This will tend to send up the rates, even if the population of the congested area is maintained. It may be that rates will be up *anyway*, whether you rebuild at high density or moderate density. It is of no use comparing the future position with the past position. It is *not* obvious that rate poundage will be higher if good redevelopment is done than if high density redevelopment is done.

Let us suppose there is a " rate-loss "—that is, either a reduction of rateable value or an increase of expenditure in excess of the increase of rateable value—in the centre, in whatever manner you rebuild. The public will get better value for their higher rates. It is part of the general rise in the standard of living, and not a thing of which to be unduly afraid.

On the same supposition— a " rate-loss " in the rebuilt centre—what is the justification for the belief that an authority can compensate itself for the loss by extending its boundaries to include the " overspill " area ? It is odd that some county authorities fear " overspill " because they think it means extra cost to them, whereas some boroughs want to incorporate " overspill " in their boundaries because they think they can recover some of their central " loss " on it. This is due really to a fact both overlook—that the whole business of redevelopment is an *improvement*, which on balance means increase of rate-expenditure. Each wants, naturally, to avoid it, and each uses it as an argument in the boundary question.

The boundary question ought to be considered on its administrative merits. Country towns in outer areas of large centres of population may be better units with a larger population and increased rateable value.

They will reasonably want to keep their autonomy, and will have a stronger case for it as their financial basis improves. If authorities of decongested towns are really embarrassed by loss of rateable value, that ought to be dealt with by a development of the block-grant system, as national considerations are involved. In some cases, no doubt, boundary revision will be necessary, but, as the White Paper says, it ought not to be assumed to be always the right thing for " overspill " areas to be incorporated into the " decongested " area.

In the past, it was the " best elements "—the best-off artisans and the middle-class and the expanding industries, employing younger people—which went out. This tended to leave the poorest families and aged people in the middle ; even when the authority built working-class housing suburbs, it was the youngest and most enterprising who migrated. With more open planning, we should get a better balance of population in the centre as well as in the " overspill " areas. We must face the fact that rates are likely to rise anyway, and we must seek our return for this in the improved standards of public health and amenity.

VIII. A NATIONAL OUTLOOK

Finally, I refer again to the question of national versus local planning. In the White Paper on Land Use one of the chief defects of past planning is thus described :

> " Planning schemes were purely local in character. They were primarily the responsibility of local authorities who were not required to pay regard to considerations outside their immediate areas, and the powers of the Ministers responsible for exercising central supervision were not such as to enable them in practice effectively to *secure modification of local schemes* in order to meet regional and national interests." (My italics.)

But " securing modification of local schemes " will never amount to regional and national planning. The Government, and in particular the Ministry of Planning, must use their constructive powers of initiation. No " new conception of dispersal " can possibly become effective unless the powers and policy of the Government are operated positively. Over and above all its powers, both those which it already possesses and those with which it still has to be provided, the Government must have the men and the will to give a lead for a truly national policy.

This article is concerned exclusively with town and country planning. I emphasise that my interest in planning derives mainly from my conviction that the only hope of achieving satisfactorily the third of the late Prime Minister's three objectives, food, work, and homes, lies in a vigorous measure of national planning. In other words, we can only get homes for our people in the right places and of the right kind through the accepted policy of " decongestion, dispersal and redevelopment of the big urban aggregations," vigorously applied by the Minister of Planning with the full backing of all Government Departments and the active support of all local authorities, great and small.

For this, four things are still required :

(*a*) A practical solution of the land compensation problem to be agreed

between the political parties and passed into law at a very early date ;

(*b*) an adequate measure of control of industrial location ;

(*c*) establishment of a national standard of maximum living density for redevelopment and also standards of open space ; and

(*d*) suitable building priorities for the indispensable adjuncts to housing in the new and extended centres of population.

The war has given us a miraculous opportunity for a new start in housing ; have we the vision to grasp it, even at this late stage ? That, for me, is the most important domestic question of the day.

New Towns for a New Age

Sir ERIC MACFADYEN
Chairman, First Garden City Ltd.

IT was the late Ebenezer Howard who first had the vision and the courage to envisage the founding of new towns in an old country—towns designed from their inception for good living. He gave his ideas to the world in a short work entitled *To-morrow*, published in 1898 and, later, reissued as *Garden Cities of To-morrow*. This highly original little book is less an argument than a vision : the vision of an England whose towns were each not a " conurbation " but a community possessing its own individuality and a core of common purpose ; each sited in a country environment. From the turn of the century onwards the influence of this day-dreamer has steadily grown in every western land and beyond the Atlantic ; even in his own country, where the garden cities of Letchworth and Welwyn have proved the practical soundness of his conceptions, he has been a prophet not without honour. Every town and country planner today is a disciple of Ebenezer Howard.

To-morrow was given to the world at a timely moment. The physical pattern of nineteenth century Britain had been shaped by the Industrial Revolution. Coal was the universal source of power ; and coal must be hauled by rail. Factories must congregate by railway sidings and their " hands " must live near them, or in suburbs served by workmen's trains. Increasingly the big centre exercised its centripetal force and the countryside was deserted. Monstrous wens, to use the word applied to London by old William Cobbett, continued and continue to creep over the fair face of Britain. Today four out of five of us are town dwellers and half of us dwellers in towns unduly congested for mental or physical comfort and too large to be in any real sense communities ; aggregations of bricks and mortar which condemn their populations to overcrowding, squalor, and too often to stunted physique.

A PIONEER GARDEN CITY

Now the habits of communities, like the habits of individuals, are broken only by conscious effort ; it was Howard's happy destiny to

challenge, at a critical moment, the logic of this secular process of centralisation. To experiment with his idea a small Company was formed, in 1903, under the name of First Garden City Ltd. which acquired, for its purpose, an area of farm-land at Letchworth, 34 miles from London, just off the great North Road. A branch of the L.N.E. Railway runs through the Estate; some hundred feet below ground a good water supply exists; apart from these two potential assets a building speculator would have found literally nothing to attract him in the site. The land was not even bought cheaply; the Company was under-capitalised and for long was viewed with disfavour by the hard-headed investor. Its Directors had little to guide them in their enterprise but faith in their hypothesis. But the validity of that hypothesis proved to be such that the place has grown into what Professor Abercrombie in his *Greater London Plan* describes as " the obvious industrial centre for this part of the region." Letchworth is now a thriving town of balanced activity; with heavy industry represented by an important steel works and, for the rest, a wide selection of mixed industries, the combination of which during the 1930's offered effective resistance to the blight of general unemployment. It comprises now 5,111 dwellings or, as I prefer to put it, homes, 182 shops, 4 hotels, 139 factories, 18 places of worship, 2 cinemas, a hospital, a maternity home, 3 secondary and 7 elementary schools, an adult educational centre, a public library, a public museum and so on. For the countryside beyond its own borders, Letchworth serves as a centre of cultural life as well as a valuable market. It is not a satellite still less a dormitory town. Its corporate life is marked with vigour, public spirit, and independence. For 15 years now it has been ruled by its own Urban Council, which shares with First Garden City Ltd. the credit for what has been achieved.

The population target aimed at for Letchworth is 35,000. Two wars have slowed down its growth but the next decade should see the target attained. It was part of Howard's original conception that a town should not exceed a certain suitable size and that this should be kept in view throughout its development; that it should end somewhere and be clearly distinct from its neighbours—not continue to sprawl indefinitely. This conception has not been lost sight of and Letchworth is surrounded by a green belt of varying width reserved in perpetuity for agriculture. The whole area owned by the Company is now 4,562 acres. The Company lets land for building, generally for 99 years, on leases containing covenants in conformity with its general objects. House building has been carried out by private enterprise, by the Urban District Council, and through housing subsidiaries of the Company More than half the homes of Letchworth have been built without subsidy. Power, gas, water, and other services have been supplied by the Company; as were the roads, sewers, etc., before the Urban District Council was constituted. To provide for the present population of rather over 20,000, some 1,358 acres of the Estate have so far been developed. When the future increment of population has been provided for, the town area is likely to amount to well under half the whole area owned; the agricultural belt which occupies the remainder is likely to be extended under the plans of neighbouring authorities.

OPEN INTERNAL DEVELOPMENT

No part of residential Letchworth has over 12 houses to the acre—which means that each house has a garden of about the size a family can make good use of; allotment gardens are further available for the land hungry. During the war its gardens have rivalled its farms in the production of food. The open spaces—recreation grounds, football fields, tennis courts, bathing pools and so on—are ample. The factory area is compact and grouped round the power station. The Company builds small factories to let to small businesses—which tend to grow into large ones. Residential areas are handy but separate from the factory area. People walk or cycle to their day's work. All Letchworth can go home to dinner. There is a variety of employment available. The record of Welwyn has in some respects surpassed that of Letchworth; I take the earlier of the two Garden Cities as my example because it is the one I know best.

The limitation of housing density guarantees the citizens a suitable measure of privacy—an essential ingredient in happiness for most of us. Few of us would choose to live on top of one another, in blocks of tenement flats—any more than in endless rows of uniform brick boxes. The family man, at any rate, wants his own front door and his own back garden. The main desiderata of civilised life—regular work under decent conditions, leisure and the chance to use it in our own fashion, worship, play, art, study, entertainment—these things do not demand very large aggregations of population. Man's nature in fact is built on rather a small scale. Most of us will best cultivate our tastes, and develop our personalities, in an environment not so crowded but that each may count for something; each find some scope in whatever it may be that interests him—social life, politics, games, gardening, or what not—and not merely look on at things or read about them happening in the paper. In a democracy which is to be justified of its children the citizen is no mere voter, no mere ratepayer but a personality. Now a community of 35,000 souls is an ample environment for the good life. Twice that number can be generously accommodated in a circular space of about 3,000 acres, the centre of which—the Town Square let us say—is within half an hour's walk of the perimeter in all directions, while the homes of the people are close to open country. 70,000 people preponderatingly wage earners, with their quota of professional men, and women, and their proportion of retired workers, who have earned their right to be a leisured class—linked by economic and social ties with the farmers and smallholders of the countryside surrounding their town—afford a pretty complete cross-section of contemporary society. Such a community will be large enough to maintain its own repertory theatre, athletic clubs of different standards of skill, political parliaments, literary societies, scientific groups, art and music circles—institutions of every type to foster every variety of human interest.

THE OPTIMUM SIZE FOR NEW TOWNS

I would myself put the optimum size for a unit of common life at from 30,000 to 70,000 at the most under the conditions of today. There is plenty of room for experiment within (or, for that matter, beyond) these

limits. The one postulate that should not admit of compromise or further experiment is that the town should be finite, with a physical identity of its own, capacious enough for the population it is designed to accommodate, and limited to that. There must be hard and fast rules both for internal development and for external spread.

If then the cities of the future are not to go the way of the conurbations of the coal age, the circumscribing country belt must be sacrosanct. The filling up of the town space will confer upon the farmland around it a tempting potential building value ; the temptation to cash in on it must not be yielded to. The country belt must neither be eaten into from within nor encroached on from without. Once your town reaches the green belt it is time to build another. At Letchworth it was appreciated from the start that the ownership of the town space and the country surround must be in one hand. In the then condition of legislation as to land—and this still remains true pending some solution of the problem of compensation and betterment—there was no other means of safeguarding the essence of the project.

It is for this reason that it has been necessary for First Garden City Ltd. to hold for agriculture an area twice the extent of the town space. To the financial bearings of this I allude lower down. The bearings of this open development upon public health, and the future of the race, may be deduced from the following statistics taken from the Registrar General's Reports. For 1942 Letchworth's birthrate was 16·6 per thousand as against 15·8 for England and Wales as a whole ; the death rate 9·06 against 11·6. The infant mortality rate (which to the expert is the most significant of demographic barometers) was 14 per 1,000 live births against 49. A public opinion which is becoming alive to the importance of population statistics should ponder the implications of these figures.

While we are preponderatingly today a town-bred people, the love of the soil and of nature's processes is an instinct deeply implanted in us. By its marriage of town and country the Garden City does for the common man what those who could afford to have always done for themselves ; for there never has been a time when the well-to-do did not seek green fields and fresh air. When Howard was writing his book the motor car was in its lusty infancy ; the germ of the electric grid was perhaps just stirring here and there in the mind of a pioneer of the power industry. The internal combustion engine and electrical power had between them the faculty of revolutionising the physical layout of the home of man. If Howard's conception could straightway have gripped the interest of the practical politician—if there had been votes in it and it could have found its way on to the statute book—we might have been spared the suburban sprawl which has been steadily eating up first-rate agricultural land for the intervening 40 years and which has condemned another two generations to grow up, in an environment of unparalleled social frustration, into a race of disillusioned strap-hangers. We might have seen new life revitalising our picturesque old country towns and scores of new towns, the smallest of them as big as ancient Athens, developing their special characters and aptitudes for civilised life.

This was not to be yet. But it is now widely appreciated that nothing less than the future of our race depends upon the progressive urbanisation

of our society being arrested and the centralisation which has been in progress now for two centuries being reversed ; and further that the key to a better order is the rational location of new and, to some extent, the decentralisation of old industries. Only so will the maldistribution of population in the established centres be corrected. A part of industry of course is tied to its present sites ; the situation of ports is settled by geography and that of the extractive industries by geology. But the electric grid sets power foot-loose. The lighter industries comprise an ever-increasing proportion of the whole and are under no compulsion to conform to the pattern of the coal age. Cheap sites, low cost of living, and the availability of women's labour are attractions to be found in many small towns and even large villages. The very best proposition, although admittedly the most exacting in its demands upon foresight, public spirit, and initiative, is the modern town planned *de novo* as a community unit ; zoned in advance for homes, for factories, for community buildings and shops ; and safeguarded firmly against the risk of unlimited conurbation. If the next great campaign, the campaign against population decline, is to start with a fair chance of success, our civilisation must be built around the home, and healthy and happ homes demand a life not wholly divorced from nature.

A BUSINESS PROPOSITION

The advocate of Howard's social philosophy is accustomed to being told that he is legislating for Plato's Republic and not for cynical twentieth century humanity. I affirm, on the contrary, that planned new towns are the soundest of business propositions. Developed as it has been under the handicaps I have described, Letchworth has demonstrated that new towns can be had at no cost to the public. First Garden City Ltd. has erected the town I have described and has paid its shareholders the 5 per cent. per annum to which its dividend is restricted by the Company's Articles. It earns over 5 per cent. as an urban landlord, supplying its tenants with public utilities—water, gas, electricity and so on. As an agricultural landlord it earns a bare 1½ per cent. It employs most of its capital in the former capacity and it robs Peter to pay Paul. A concern starting today, and raising its money on the Stock Exchange, would hardly repeat this experience because it is not now open to a newcomer to enter the field of electricity undertakers ; whereas the very efficient power station at Letchworth has been run at a profit. Without that contribution to its budget First Garden City Ltd. would not have been able to balance its accounts as early as it did. On the other hand a new concern entering the field to-day would presumably be placed in at least as favourable a position as a local authority from the point of view of raising capital ; and the availability on proper terms of public credit would mean savings in interest, as compared with our experience, far more important than our modest trading profits. A new concern, moreover, would not be entering an uncharted sea ; it would learn useful lessons in the navigation from those who have already made their landfall. Briefly—there is an inevitable time lag in the maturing of any property investment and this should be allowed for in the terms on which

finance is arranged. Subject to that the business of developing new towns can, with the public credit behind it, be made self-supporting and in the long run self-liquidating.

A NATIONAL PLAN

What then is required in order that the dispersal of industry and population may be canalised into new communities of a type to fit our contemporary civilisation? It is first of all necessary that there should be an overhead authority on the national level to stimulate and to co-ordinate the programme on a country-wide basis. That authority is available in the Minister of Town and Country Planning provided the Ministry has adequate powers and is qualified to secure the co-operation of older government departments which otherwise may crab its activities. The Minister will find that three main lines of attack upon his problem are open, all of which should be vigorously pursued.

Most obvious is to encourage the existing great centres of population to develop their own satellite town to take some of their own overspill. A number of local and regional plans are in the field—notably those for Greater London, for Manchester, and for Plymouth. What is needed at this stage in order that golden opportunities may not be lost is dynamic leadership at the national level.

Next the Minister should stimulate the replanning and extension of many small country towns which were by-passed by the industrial revolution but under modern conditions can renew their claim to participate in national progress.

Most economical of all, if I am right, is the promotion of many wholly new towns planned *ab initio* for the optimum conditions of life and work; most economical because here no loss of capital has to be faced. Here and there a new town may be attached to certain of the great war factories, though probably not in many cases.

The Ministry's files contain ample material for a comprehensive national programme on these lines. The formation of *ad hoc* executive bodies should be encouraged wherever possible, subject to official control and with official aid in finance. But *ad hoc* bodies will not meet the need by themselves. A public corporation should be organised in close liaison with the Ministry of Town and Country Planning to initiate the establishment of units of various sizes in suitable situations throughout the country. The Corporation would no doubt operate in the main through specially constituted intermediary bodies locally established; though direct action should not be excluded where appropriate. The satellites, the expanded country municipalities, and the brand new towns, of whatever size, should conform to the general type represented by the finite unit, designed to accommodate an integral community of human souls, and in extent deliberately related to the site on which it is to be built.

If the homes of our people are to be happy and healthy and their children to grow up in contact with the processes of nature and, at the same time, as members of a public-spirited human community, Britain's finest hour will still lie in the future. We have the best of human material in these Islands—brave, kindly folk, readily touched to fine issues. Are

we to contemplate the prospect that generations yet unborn shall grow up in the drab and formless environment with which we are only too familiar—and all for the lack of the necessary imagination, foresight, and administrative initiative at this critical moment?

Country Towns in National Planning

GEOFFREY CLARK, L.R.I.B.A.
Planning Consultant, Dorset County Council

IN a primitive world there are no towns; in an agricultural civilisation, such as the England of the fifteenth to the late eighteenth centuries, there were many country towns conveniently spaced to serve their neighbourhoods with, in addition, certain administrative centres such as York, Norwich and Exeter and towering above them all in stature the great capital city—London. It is a simple pattern and it is well to keep it in our minds when considering the future of our country towns.

The nineteenth century introduced the mechanised factory, with its concentration of population in certain areas, to be followed later by an escapist movement by the more well-to-do to the salubrious coastal regions of the south and west. Railways linked the industrial regions to their ports and through them to the outside world and the country towns languished with their agricultural neighbourhoods. With the advent of the twentieth century the motor has brought them back into the national picture though, until the two wars had reminded us that agriculture was of more than picturesque importance, it was rather as architectural scenery than as economic units. Today their function is to act as both.

In other words, in a country in which the greater part of the population lives and works in surroundings detached from the influence of nature the function of the countryside is twofold—it must produce protective foods to the uttermost of its capacity and it must retain a landscape of the greatest charm. The country town is part of this landscape and in addition is the centre of a rural neighbourhood economy. It is the shopping centre for this neighbourhood; it is the administrative centre where the Council meets, and where the law is administered; and it is the market where the sale of produce takes place. It is the weekly meeting place of friends, where they can eat and drink together. It is the place where one sees the lawyer, the doctor, the dentist—and has the children fitted with shoes. In short it is the keystone of the rural arch.

Modes of transport have tended to alter the distance between country towns. If the farmer and his family drive behind a horse to market and his cattle are driven on their own legs he will prefer a shorter distance than when he motors and his cattle are carried in lorries. Because of

the motor certain market towns have ceased to function and are now once again villages. Because of the motor there has been a tendency, checked by the war and the petrol shortage, to use the major markets and this tendency will no doubt return again. But the fact remains that there must be a neighbourhood centre to which the rural population can go within the compass of a morning and that means a grid of country towns approximately twenty miles apart—in fact our well established rural pattern. Furthermore in national planning it will be wise not to interfere with this pattern in such a way as to disturb the dominant influence of agriculture. If I am right in thinking that it is essential for an industrialised nation to have at its doorstep a real, living, earth-understanding population from which it can draw new blood and to which it can go for re-creation both physically and mentally, then I am right in demanding that no attempt shall be made to turn the small country towns away from their true function to become minor industrial centres. I do not mean by this that there is no place for industry in the small country towns—far from it; there is a real place for suitable industrial development but it must not be large and it should, in general, deal with the processing of agricultural products or the production of quality and not quantity goods. For the real industries of the countryside (and these towns are part of the countryside), apart from the natural mineral workings, are agriculture and the tourist trade. These are complementary, for the agriculturalist maintains the living beauty of the landscape and the tourist brings wealth into the pockets of the countrymen. The tourist also comes to find beauty and if the country town is to enjoy his patronage it cannot afford to lose its charm. Nationally too we cannot afford to suburbanise our whole demesne or we shall destroy a balance which happily was struck in the last century when industry was concentrated in certain areas, leaving the rest of England untouched and able in due time to assist in the process of reinvigorating the townsfolk.

It comes to this therefore—the true function of a country town in the national plan is to be the shopping, administrative, and in general terms, business and amusement centre of a rural neighbourhood. In addition, if it has considerable architectural and historic interest, it must preserve this in order on the commercial plane to attract the tourist, and on the spiritual plane to assist the nation to know itself. A regiment without its uniforms, its traditions and its colours would be a mere collection of men, and a nation without its historic background merely so many million people. The industrial areas are bound in their very nature to destroy or at least to overwhelm their ancient beauties. It is up to them to create newer and grander beauties of their own. But they are beauties which reduce man himself to the scale of the insect. To become himself again he must leave the metropolis and live for awhile among the hills and the fields and the small country towns where man is still on top of the machine and where Devon still smiles at Dorset and Cornwall laughs at them both. For the real ills of this modern world of ours come from the sorry fact that we have forgotten the happy way of living. We make money and buy pleasure and think it the aim and object of life. Nature forces the countryman to gain his pleasure largely through the quality of his craftmanship and that is the kind of pleasure which does not leave a nasty taste or a hang-over.

So far this article has been concerned with the essential difference between industrialised areas and rural areas. It may be useful at this stage to look a little closer at country towns themselves. To do this I propose to take four examples—towns which I know comparatively well, Tewkesbury, Wells, Yeovil and Shaftesbury—and examine their characteristics and suggest their proper functions in a national plan.

Tewkesbury is English history in brick, half-timber and stone. It is, in general, unspoilt and although on the east it has suffered from wartime development, thanks to the Severn and the Avon, its main aspect is that of a medieval town. Here indeed is a paradise for the tourist and the proper function for such a town is to retain and reinvigorate its fine buildings even as the Office of Works reinvigorates our ancient monuments. Since, however, there is also a strong industrial flavour brought about by evacuated war factories near Ashchurch Junction, it would seem wise to create a new Tewkesbury some distance from that beautiful monument to our history, where the noisier forms of modern life could be carried on without disaster to the ancient mother city. The Tewkesburies, therefore, of our countryside I suggest should become places of pilgrimage both for the normal shopper and for the lover of beautiful towns and all modern additions should be sited in self-contained units near but not too near their parent city.

Wells again is an historic city with its glorious cathedral and unsurpassed setting, but it also is a lively market town and a most definite centre for its neighbourhood. History surrounds the Close, but towards the station a new town is growing up attached to the old Wells but so sited as not to interfere with the unity of the cathedral and the older market quarter. Wells, unlike Tewkesbury, is a pilgrimage centre in its own right in that the cathedral is a living part of the religious organisation and people do not only go there to look at its architectural beauties but also because it is the living centre of religion in that district. The function of Wells, therefore, is to retain its beauty and to add to its stature in such a way as not to interefere with this spiritual function.

Yeovil, another country town in the same county as Wells, is a complete contrast. Here, although there is an old nucleus centering on the fine church and its graveyard, the emphasis is decidedly away from history towards modern industrial development. In spite of this the country town aspect has been fully retained and some of the housing layouts are models of their kind. Trees play a great part in retaining the feeling for space and rurality, if I dare use such a word, which is common to most of our old established country towns, whether planted in those fine walled gardens of the eighteenth century or in those spacious market streets such as may be seen at Burford. Yeovil has used trees with imagination in many of the new streets and the garden-loving Englishman has done the rest. The secret of success in such a case must be one of emphasis ; industry must not overwhelm the town's proper function of being a country neighbourhood centre, but must be an incident, possibly a very important incident, in the town's economic pattern.

Shaftesbury is an entirely different case. Here you have a town, perched high on its well-known hill, which was once a famous pilgrim centre. The remains of St. Edward the Martyr resting in that magnificent Benedictine nunnery attracted the earlier form of tourist—the

pilgrim—in great numbers. At the dissolution of the monasteries this form of traffic was entirely stopped and Shaftesbury dwindled to being a quiet market town and has remained so till the present day. The motor has restored to some extent a tourist traffic—on the whole a fleeting one—and the question now is whether or not it would be wise, in the national picture, to attempt to enlarge Shaftesbury by adding an industrial "incident" to its market make-up. The two nearest population centres of any vitality are Salisbury 21 miles to the east and Yeovil 22 miles to the west. It was felt locally that there really was a case for a stronger population group at Shaftesbury. In addition the physical nature of the town's site lends itself to the creation of an industrial suburb which would in no way destroy the character of the old town, but would most probably make it possible to add to the general well-being by helping to support better shops and better entertainments. Provided the planning was done carefully it was felt that nothing but good would accrue for the whole country neighbourhood.

So there you have four concrete examples of English country towns, each differing in character, and each with a real and vital function to perform in any national plan. England has a wealth of such towns. They are part of her heritage. Each has its own particular problem both local and national. The only generalisation that can safely be made has been emphasised by me in the earlier part of this short article—the country towns are part of the country pattern and this pattern is precious to the whole nation.

Regional Planning and Local Authorities*

Right Hon. W. S. MORRISON, M.C., K.C.
Late Minister of Town and Country Planning

IN this country planning has grown up very largely as a function of local government. That is an historic fact. Many of the problems which now beset us transcend local boundaries and demand solution on a wider—sometimes on a national scale. Vast problems, long perspectives confront local government and central government on every side; and when we pause to take stock of them, we must do so from a high and impartial level. Anyone who would understand the machinery of planning as it exists, and who is desirous of getting the best out of it, must start with a realisation of the extent to which local authorities have played the part of pioneers in this field. It should never be forgotten, for instance, that the local authorities of South Lancashire and North Cheshire began to group themselves together on a regional

*Based on a speech made at the opening of the Manchester Planning Exhibition, 20th July, 1945.

basis for planning purposes soon after the last war, and that already in 1922 they produced a report under the auspices of what was then known as the Manchester and District Joint Town Planning Advisory Committee. The result is that today there is an Advisory Committee for the South Lancashire and North Cheshire area, based upon a series of joint executive committees whose members are in turn representative of some eighty boroughs and district authorities. This is an organic growth of a highly characteristic and valuable kind. It is no doubt capable of much further development. But whatever extensions and modifications may be introduced, let us never forget that the existing system of local government showed itself capable of adaptation to this extent, and that those responsible for local government showed the initiative and foresight of pioneers.

This organisation is regional in the widest sense. That is its salient feature. The South Lancashire and North Cheshire Advisory Committee embraces an area of well over half a million acres, in which there dwells a population of over three and a half million persons. It stretches north to Rawtenstall, and south to Macclesfield. This vast conurbation, of which Manchester and Salford together form the centre, requires to be considered as a whole, and must in turn be related to the surrounding areas upon which its influence impinges. As a planning proposition it is without strict parallel except in Greater London, where closely analogous problems now confront us.

At the heart of this large area lies the densely populated inner ring—metropolitan, industrial and suburban—which is the specific province of the Manchester and District Regional Planning Committee. This includes not only the County Boroughs of Manchester and Salford, but the various important municipal borough and urban districts, extending to Worsley in the west, Middleton in the north, and Audenshaw in the east. It contains within itself a population approaching one and a half millions. If an analogy were to be sought in London (though care must be taken to avoid pushing any analogy too far), it might be said that this bears to the area of the South Lancashire and North Cheshire Advisory Committee a relationship comparable to that borne by the London County Council Area to the area of the Greater London Plan. The various local authorities who have come together to exercise planning functions in this inner area have for long shown qualities of vision and leadership. They have, indeed, provided some of the impetus which reflects itself in the activities of neighbouring joint executive committees further afield.

It was to be expected that the Manchester Regional Committee and the Town Planning and Buildings Committee of the Manchester City Council, with which it works in close concert, should feel an increasing concern lest the return of peacetime conditions should find it without an up-to-date plan for its area. A draft scheme was, indeed, already in existence, but its shortcomings, in the light of changed conditions and changed conceptions of planning, were generally admitted. To have proceeded in due form with the preparation of a new draft scheme, in consultation at every stage with every interest concerned, would have been unduly time-taking, and might, indeed, have proved wholly impracticable. In these circumstances it was felt that one person might

with advantage be charged with the task of preparing a set of tentative proposals covering the whole inner area of Manchester and District; that such proposals ought then to be offered, in published form, for discussion and criticism by all concerned, including citizens at large; and that only then could the Committee gain a balanced view of future needs, on which a programme could eventually be based with confidence.

The person chosen to prepare these tentative proposals was the Honorary Surveyor to the Committee, Mr. Nicholas, working in close co-operation with his neighbouring colleagues. His labours, and those of his assistants and collaborators who form the Technical Committee of the Manchester and District Regional Planning Committee, have now reached a point at which they can be given to the public in book form, and we hope that very soon now they will appear for sale.

The Ministry of Town and Country Planning is constantly in touch with this work and its technical standard is regarded as very high.

It is obvious that we are about to receive a most important contribution, not only to the solution of local problems, but to the new planning literature which has recently sprung into being in the shape of redevelopment proposals for individual towns and cities.

What are the main problems that confront the authors of this forthcoming plan? There is, of course, one constant underlying problem —that of the right relationship of dwelling-places to work-places. This raises first the fundamental question of the right use of land; second that of communications to serve those uses; and third the question of housing. Not only is it necessary to reconcile as far as possible the need for rapid construction to meet the immediate housing shortage, with the need for proper neighbourhood and community development; but also to look further ahead, beyond the emergency housing period, to the time when the normal tide of building development will be flowing freely once again. And this brings us to the fourth problem—or rather to a fourth aspect of the one basic problem—that, namely, of congestion at the centre.

It must be borne in mind that in the area of this Committee we are dealing with a metropolitan and suburban inner ring, which shares the characteristics common to all such urban areas under modern industrialised and mechanised conditions. It is overcrowded. Not, that is to say, overcrowded to an equal extent everywhere, but in concentrations and patches, some of which are large enough in point of population to be regarded as considerable towns in their own right. Mr. Nicholas has done some remarkable work on this question of density of population in relation to living space, and we await his findings with the keenest interest. No doubt they will be to some extent controversial; experience shows that this is one of the subjects on which the planning doctors are most apt to disagree in detail; but, as in the case of inner London, there will in all probability be no serious disagreement in principle as to the need for some measure—and that a fairly substantial measure—of decongestion.

The export of population from an area like this raises big issues. We must be on our guard against the assumption that when planners talk about decongestion they are coolly proposing to shift people about in masses, like so many head of cattle. Of course, nothing of the kind

is meant. What is meant is, that as the normal processes of organic growth and change in the physical development of an area take place, they should in the ordinary course of things be steered and directed in certain directions and certain patterns. This is a long-term conception, and it implies some far-sighted decisions at the present stage. On a short view, a good deal can, and no doubt will, be done within the comparatively restricted area of the Manchester Regional Committee, to provide for urgent housing needs, and to redistribute population on a more balanced basis. But sooner or later the local authorities will have to face a wider problem. If they are to reduce the congested populations in accordance with the planning standards now widely accepted, it is certain that provision must be made for the ultimate transference of considerable numbers beyond the limits of the Manchester Regional Committee. This means in effect, that the plans for the populous inner area cannot be considered in isolation. If people are to go out, they must, in fact, go into the wide hinterland, which is the province of a number of neighbouring joint planning executive committees grouped for consultative (but not, be it noted, for executive) purposes in the South Lancashire and North Cheshire Advisory Committee. The problem of the Manchester and Salford overspill must be considered regionally in this wider sense.

Wide powers are now available under statute to local authorities for dealing with the problem of decongestion. The Town and Country Planning Act 1944 contains powers, not only for redevelopment of the congested area, but for the purchase of land for the accommodation of the displaced population ; and, moreover, contains provisions regulating the price at which land for both purposes shall be acquired. It is, of course, necessary that the land for the displaced population should be in the right places. That means a good plan. The land between the new communities and the old should remain open and preserved against the encroachment of building development. For this, the authorities are dependent on their neighbours. These are sometimes deterred from the true course of planning by the problem of compensation. Admittedly, more remains to be done in legislation before this can be finally dealt with. In the meantime, however, there are strong powers of interim development control, which, wisely used, will secure that the main object is not prejudiced.

The second great issue of national policy that lies implicit in all proposals of large-scale overspill is that of local government structure and organisation. The planned extension of existing communities, and more particularly, the formation of new satellite communities in areas formerly rural in character, are seldom likely to fall neatly within the pattern of existing local boundaries. The local government machine has great resilience and adaptability. Given time—and also a proper sense of the value of time—local authorities in this country are fully capable of working out their own salvation. That they can stand up to the shock of a sudden emergency has been proved by our experience in this war, and they are doubtless equally capable of organising for peace. It is certain that if great centres are to decide on a policy involving the planned decentralisation of a considerable proportion of their population, some new expedients and combinations must emerge.

The Ministry is giving close attention to this widespread problem, and among local authorities everywhere much constructive thought is being devoted to it.

Now, in this matter, central and local government are reciprocally dependent on each other. Local government looks to the centre for a lead on the main lines of policy, and for the authority to carry out that policy, but in the meanwhile the Government must look to the local authority for a clear statement of its practical aims, based on a full knowledge and understanding of local needs. The machinery of planning is important ; but it is, after all, only machinery, and the end for which the machinery exists is the health and well-being of the community. In which direction does that lie ? And by what standard is it to be judged ?

It will not be enough for the Manchester and District Regional Planning Committee to make recommendations, however well founded, for the decongestion of the inner area, unless there is also available a complementary set of proposals, closely dovetailed with the others, for the whole South Lancashire and North Cheshire region. There must be, in fact, a Greater Manchester Plan, if the Manchester and District Plan is to have a valid setting.

Such a plan is now being produced, under the auspices of the South Lancashire and North Cheshire Advisory Committee. So urgent and of such importance is this plan that it will need the combined skill, knowledge and goodwill of all concerned for its furtherance. The Committee's guiding principle must be to discover, by reference, not to short and narrow views of expediency, but to the highest public interest and the best standards of planning technique, what shape future development ought to take.

The question of large-scale overspill into the Cheshire County area or elsewhere should be treated as a problem far transcending in importance the interests of any one local authority or group of authorities. Let us endeavour to establish an authoritative view as to where the exported population ought to go in the best interests of planning, and irrespective of boundaries. That is the first pre-requisite of any detailed consideration of the machinery which will make practicable its dispersal.

Whatever proposals may be made—whether for the extension of existing communities, or for a new satellite, or both—there is bound to be some controversy. One of the great merits of producing a plan for publication is that controversy is brought to bear on clear-cut, positive issues, and so leads to constructive results. In fact, a plan that gave rise to no criticism would at once be suspect and if discussion is on the right plane, it constitutes in itself a vital part of the planning process.

Realism demands that the plain needs of the region as a whole should be put first, and not sacrificed to those of any particular section. Once a discussion of this kind descends to the plane of a mere boundary dispute or a struggle for rateable values, then we can say good-bye to planning in the true sense. Any interpretation of the responsibilities of local government which would tend to promote in individual authorities the defensive and acquisitive attitudes of sovereign states is too narrow to be maintained for long under modern conditions. The independence of local government is a priceless thing, but we should remember that it

has been founded and maintained by a willingness to adapt means to ends. If authorities were to pour their energies into a mere intransigent border warfare, each intent on an illusory consolidation or aggrandisement of itself, then means would have become the end. It is not by such methods that the system has grown and flourished and survived all vicissitudes.

The approach to this problem should then be first and foremost a planning approach. Some consensus of authoritative technical opinion as to where this overspill should go must be arrived at. This has not been done yet, and until it is there is not much hope of achieving agreement on questions of machinery. The required machinery—and the importance of machinery must not be underrated—will be created, but no solution to the administrative problem will ever be reached until a set of planning proposals which, purely as planning, command a wide measure of technical and lay assent throughout the whole of the wider region, have been put on the table and thrashed out. Of course, there will never be absolute agreement on every point, even at the tentative, abstract stage of proposals and blueprints. However, there can and must be produced a picture people can look at and say either " That's all wrong," or " That's broadly sound and on the right lines generally."

In painting such a picture the technical experts need all the help they can get from modern methods of display, and that is why exhibitions are so valuable. Planning affects the life of the ordinary man intimately. If it is to be a success, he must be given a chance to understand what is going on. The local planning authorities in many parts of the country have made admirable efforts to take the public into their confidence, and in spite of crippling staff shortage, and the extreme difficulty of getting materials under present conditions, local proposals have been in several cases presented in the form of attractive illustrated books, supplemented by exhibitions. It is but to be expected of Manchester that it should make a contribution commensurate with its own great civic importance.

Land Settlement and Planning

A. C. RICHMOND
Vice-Chairman and Controller, The Land Settlement Association, Ltd.

THERE are three methods by which people can be settled on the land. The State can acquire land ; rent it or sell it in plots to selected tenants and leave them to make a success or failure ; or it can establish colonies of smallholdings and so plan them as to promote and facilitate co-operation between the occupiers of the holdings ; or it can promote the establishment of co-operative farms on which the workers are members of the society which directs the economic life of the farm.

Agricultural policy is now being framed. By common agreement between all political parties that policy must aim at enabling the industry to be prosperous ; to provide food at a reasonable cost and to yield a satisfactory income to all those who are dependent on it for a living. In framing this policy an answer must be found to the question whether land settlement should constitute one element of the agricultural structure. The issues to be considered are both social and economic. Do we want to increase the population that is dependent on agriculture for a living ? Do we want to open the door for men who enter the industry at the bottom to pass on to become independent producers on their own account or, alternatively, to attain the kind of independence which is represented by membership of a co-operative farming community ?

With regard to the first question, it is highly doubtful whether it is either possible or in the national interest to adopt a policy of increasing the number of people who are dependent on agriculture for a living. There are, in effect, no large areas in this country which are now unoccupied which could be brought into cultivation by the establishment of settlers upon them and could provide a living for any considerable number of people ? So far as existing farms are concerned, mechanisation seems on the whole likely to result in the employment of fewer and not of greater numbers of men. In some areas there could be a greater intensification of production in connection, particularly, with market gardening and although that would mean that in those areas more men would be employed per 100 acres, the amount of land involved would not be large nor the additional number of persons employed make any appreciable addition to the total number of people who derive a living from the land.

In so far as it may be desirable—and there is no doubt that it is—to bring workers in factories and other urban occupations into closer contact with the land, the solution is to be sought not so much in what is ordinarily called land settlement as in the redistribution of industry and of population, so that fewer people spend their lives pent up in streets and isolated from the country and more can take up country pursuits or cultivate a plot of land in their spare time.

Assuming, then, that a policy is impracticable in this country of establishing a larger or substantially larger number of people on the land, is it desirable to give agricultural workers facilities to become independent producers either as smallholders or as members of a co-operative farm ? There is no doubt that it is the ambition of a large number of agricultural workers to have a holding of their own. The idea of a co-operative farm is still too novel, and the number of such farms at present is too small, for it to be known whether it would make any wide appeal to countrymen. Many of them would not be attracted by the idea of the co-operative farm—yet others certainly would, and this form of organisation might with advantage be developed on a more extensive scale than it has been hitherto. There then remains the problem of the smallholding. Should the scheme for the provision of such holdings which existed before the war be revived, and if so, in what form ?

The objections to smallholdings are both economic and social. It is contended on the one hand that they do not provide for the most economic

and efficient use of the land and, on the other, that frequently the smallholder is able to earn no more than a bare living at the cost of excessive labour with the result that the standard of life of himself, his wife and children is often deplorably low. The National Union of Agricultural Workers have for this reason hesitated to support a smallholding policy and consider that were such a policy adopted it should only be on the basis of co-operation in buying and selling, etc.

While these objections are strong, the fact remains that there is a considerable demand from agricultural workers and others for smallholdings and that recent evidence suggests that higher wages tend rather to increase that demand than to reduce it. In the first place then, here is a social factor that, in a democracy, must be given proper consideration. To ignore it or refuse to provide the means of satisfying it is to create a sense of frustration and injustice. The human impulse for independence is as worthy of respect as the productive and economic aspect of smallholdings.

But the issue is a wider one than that of the satisfaction of personal ambitions and desires. If the agricultural industry in Britain is to attain the high degree of technical efficiency needed to meet the demands that will be made upon it and to hold its own in a competitive world it will have to attract men of intelligence and adaptability at each of the three levels—that of the landowner (whether he be a private person, the representative of a corporation or of the State), that of the farmer and finally, that of the paid worker.

For a long time past the conditions of employment of the worker have been unsatisfactory. For many years there has been a steady exodus from the industry. This, in itself, was to some extent inevitable and is not necessarily to be regarded as a major misfortune. Its serious aspect is that, owing to the unsatisfactory conditions of employment, many of the most intelligent men were leaving the industry and that it was an occupation which many country parents did not wish their children to enter. If the industry is to be able to compete in the labour market with urban industries on approximately equal terms it is of real importance that measures should be taken to correct the disadvantages which have been depriving it of those whom it most needed to attract. To some extent this is being done. Wage rates have been improved and the countryside is being promised better houses, better water supplies and better social services. But all these things will be slow in coming and moreover, human beings have an inconvenient way of not being satisfied by material comforts alone. The desire for independence may often express itself irrationally and unwisely, but it is a very strong instinct and its strength grows as the prospect of realising it becomes clearer and more defined. Improved education too is having its effect in stimulating ambitions which in former times could hardly come into consciousness, so great were the difficulties in the way of satisfying them. While many men can find complete satisfaction in the work of a paid employee and scope for the full exercise of responsibility and skill, others cannot do so. It seems indeed probable that the demand will be greater in the future for a scheme to enable the wage earner to obtain a holding ; to borrow on reasonable terms such capital as he must have if he is properly to develop and operate it when he has got it ; and to afford the maximum

assurance possible of a reasonable standard of life for him and his family. Such a scheme would have an effect in increasing the attraction of agriculture as a career and in correcting the heavy disadvantage under which the industry has in the past laboured in competition with many other occupations. It would benefit the farmers, because it is to their interest that agriculture should be able to attract and retain the best human material and it would benefit the community generally both socially and economically, for it is of the essence of a contented and prosperous people that the individual needs of men and women should find the satisfaction which their natural aptitudes and temperaments seek.

Nevertheless, there are great difficulties to be overcome if the conditions of a successful scheme are to be met.

While many smallholders have succeeded in earning a good living, in accumulating capital and going on to take a larger farm, it would not be true to say that the standards of husbandry of smallholders in general or their economic and cultural circumstances of life have been such as would justify a continuance of the scheme by which county councils were able before the war to provide smallholdings. Assuming that the principle is accepted by the Government of the need for a smallholding policy then the existing scheme needs very considerable revision.

The national food production policy must be based on the principle of producing in this country those kinds of foodstuffs for which our land and climate are most suitable. This means that our smallholding policy should be governed by the same principle, and the holdings planned to fulfil a definite function in the scheme of production by concentrating on those forms of husbandry for which they are best suited. This implies that a great measure of control should be exercised in future over production plans adopted by smallholders.

It is generally recognised that the small unit of production is at a serious economic disadvantage in comparison with the larger undertaking. If a smallholding scheme is to achieve its purpose measures should be taken to minimise this handicap. The solution lies in co-operative action so that a number of units can, by combination, put themselves on an economic level which is comparable with that of the larger unit. A national smallholding scheme should, therefore, include provision for the active promotion of co-operative methods in buying and selling; the use of machinery; the control and breeding of stock, etc.

The adoption of methods of this kind is possible only if the holdings are grouped in reasonable proximity to one another. Consequently, county authorities should be required to develop their smallholding schemes on the basis of grouped holdings of such size as would justify and facilitate co-operative action.

The small producer is necessarily recruited from a section of the community which has not enjoyed the opportunity of acquiring extensive technical knowledge. This again is a serious handicap. If he is to play his full part in the business of food production he must be able constantly to call upon expert technical advice and to be kept abreast of the results of research.

If those conditions are satisfied, smallholdings should be able to maintain a high standard of production and yield to those who depend

upon them for a living a good standard of life. Socially they would provide a means of advancement for those who enter agriculture at the bottom in a form which many wage earners earnestly desire. Economically they would be an asset to the industry, both by raising the status of agriculture as a career, and thereby helping to attract and retain in the industry those men for whom it has a special need, and by the contribution they can make to the supply of the kinds of food for which they are adapted.

The Location of Industry

M. P. FOGARTY
Official Fellow of Nuffield College

PROBLEMS of industrial location have come to the fore in recent years for two main reasons. In the first place, there have been the depressed or potentially depressed areas. Every county in Wales experienced unemployment above the national average in the 'thirties, and in North and South Wales together nearly 100,000 more insured workers (16 per cent. of the total) were out of work in 1937 than if unemployment had been at the level of London and the South-East. The North and West of Scotland, the North-East Coast, West Cumberland, Merseyside, the weaving and mining districts of Lancashire, and the shipbuilding and textile districts of Northern Ireland suffered almost as much. A net total of a million and a quarter people were forced by depression to leave their homes in the North and West of Great Britain and move South between 1923 and 1936 alone. There were smaller isolated pockets of acute depression—Dundee, the Potteries, the Cornish mining and engineering district, and the Forest of Dean are some examples. There were also a number of areas where depression, though not so acute, was equally persistent. Most of rural Britain fell into this category. Agricultural depression reflected itself, if not in unemployment, at any rate in low wages, poor living conditions, and a steady drift of the younger workers to the towns.

Secondly, there is the need to redistribute the population and industry of some of the older industrial areas in the interests of good town planning as well as of industrial efficiency, and to disentangle the industrial and general development of the big towns. The greatest problem here is presented by London. It is possible to argue interminably whether Birmingham and Manchester are or are not too large. In the case of London there is no serious question that the built-up area has grown beyond all reasonable bounds ; and there is equally little doubt that the reason for its growth in recent years has been its attraction both for industry and for service trades. As the Barlow Commission pointed out, Greater London obtained five-sixths of the net increase in the number of factories in Great Britain between 1932 and 1937 ; it is not surprising to find that London and the Home Counties, starting in 1931 with barely a quarter of the people in Great Britain, obtained over 60 per cent. of the

increase in the population between 1931 and 1938. As a main step in reconstruction, the Greater London Regional Plan proposes the removal of rather over a million inhabitants from the densely built-up districts of Central London. It recognises as an essential condition both of this dispersal and of the general relief of congestion that about one-third of the existing industry in the centre should be re-located in the suburbs or outside Greater London altogether, involving moves in some cases of fifty miles or more—right away from contact with a firm's original district. Enough people will not move, or at any rate move far or willingly, unless they find places of work near their new homes ; and only the decentralisation of industry and office work can bring permanent relief to London's transport problem.

Certain secondary location problems are also beginning to receive their share of attention. Even where there is no actual depression or bad living conditions, there are always minor adjustments to be made. Industrial and housing developments need more careful co-ordination than in the past. Action is needed in some areas to forestall a possible decline in employment which as yet has scarcely shown itself. In a number of cases employment, whether or not adequate in total amount, needs to be better adjusted to the capacity of the available labour force. Northamptonshire was a prosperous county before the war ; but the dominance of the boot and shoe industry meant that the choice of jobs available over large parts of it was regrettably narrow. It was unsatisfactory for Dundee to offer in 1937 (proportionally to population) twice as many jobs for women as Great Britain as a whole, while South Wales and the North-East Coast offered barely half as many. Nor was it reasonable that an average man working in the main industry of his district should be able to earn half as much again in Birmingham, Coventry, or the shipbuilding towns as in central Lancashire. All of these pre-war problems reduce to variants on the two main types. They were due either to lack or unsuitability of employment or to the need to improve town and country planning.

The first serious attempt to deal with localised unemployment in Great Britain—Ulster has its own legislation—was made in the middle 'thirties. The Ministry of Labour scheduled all areas of serious unemployment, and these areas were granted a certain preference in the allocation of government contracts and the issue of permits for the establishment of industries by foreign refugees. Their surplus workers, or some categories of them, were helped to migrate to more prosperous districts. Powers were later given (in 1937) for the Treasury to finance the development of sites and the establishment of new firms wherever unemployment was particularly heavy. The assistance given was roughly graded according to the needs of different areas ; and, most important of all, Parliament in 1934 defined four Special Areas for which further and altogether exceptional powers were made available. Commissioners were appointed for the Special Areas respectively in England and Wales and in Scotland. Loans were offered to new industries through a Treasury Fund and the semi-official Special Areas Reconstruction Association. A small subsidy was offered to help new firms with their charges for rent, rates and taxes. Government trading estates were set up in each of the four Areas, and substantial grants were made for

research and publicity on their behalf and the improvement of social services.

Encouragement was also given to local efforts at self-help both inside and outside the Special Areas. In each of the main depressed areas a Development Council was formed by local authorities and business and labour interests to carry on publicity and research and to improve industrial facilities. These Councils received official encouragement, and in the case of the Special Areas were helped with large grants. A good deal of other voluntary help to the Special Areas was also stimulated by the official spot-lighting of their problems. A stream of voluntary social service was directed into them. On the industrial side, a few firms were persuaded to settle in the Areas out of sympathy for their difficulties or in response to the pressure of public opinion ; the most important case was the location of a steel strip mill at Ebbw Vale by Richard Thomas and Company. The Nuffield Trust for the Special Areas offered loan and share capital to help in establishing new plants, with considerably more effect than the official and semi-official capital funds.

There was little formal co-ordination of this public and private machinery. But in practice the comparatively few key individuals—the Commissioners for the Special Areas, the organisers of the capital funds and Development Councils, the directors of the trading estates—worked in the closest personal contact, and there was a good deal of interlocking membership of boards and committees. The co-ordination achieved in this way was remarkably effective. An industrialist who came in contact with one part of the machinery was quickly introduced to the rest, and the different inducements were brought to bear in whatever way seemed appropriate to the circumstances of his case. The best illustration of the way the system worked is the use made of the offer of a subsidy towards the cost of rent, rates and income tax. It was unimportant in itself, but it proved a very effective bait, particularly for luring the larger firms within range of economically more powerful inducements.

The pre-war system achieved a good deal. It broke the ice, and put areas like South Wales or Cumberland definitely on the map of growing industries. The employment which it secured for the Special Areas, though not enough to solve their problem completely, ran into tens of thousands. Admittedly, there were serious defects. There was no effective provision for co-ordinating town planning and industrial development. No effective help was given outside the Special Areas, whose definition was distinctly arbitrary. Even as applied to the Special Areas, the system required a great deal of detailed modification. If, nevertheless, more was not done—if most of the net annual increase in the number of factories in Britain continued to accumulate round London—the reason was not that the approach adopted was radically wrong. The trouble was partly that the pre-war organisation was new—it reached its full development only between 1937 and 1939—and partly that two basic conditions for its success were absent.

Its fundamental assumption was that enough industry could be got into the depressed areas without using a degree of compulsion incompatible with the continuance of private enterprise. This involved, first, that there should be full employment, causing a real shortage of men,

premises, and other facilities in the more prosperous areas. Secondly, since business decisions are not necessarily based on a survey of all relevant factors, it would have been desirable to compel firms by a licensing system to consider their position fully and to present a reasoned case before receiving permission to settle a new plant in (say) London or Birmingham.

Neither of these conditions came near fulfilment before the war, except in relation to refugee firms, which were subject to a licensing system. What might have been achieved under more favourable conditions has been shown by recent experience. War and its aftermath have enabled the two basic conditions to be fulfilled and, helped out by public policy, have created a real margin of preference for the former depressed areas. Labour and facilities have been available for new plants in recent months there and nowhere else. At the same time, control of the location of industry and the idea of a site in a former depressed area are no longer terrifying novelties in the eyes of industrialists ; experience of the pre-war Special Areas policy and of wartime dispersal has corrected a good many misconceptions. At the end of 1944 the Board of Trade set out to exploit this situation in the course of industrial reconversion. The results have been phenomenal. For some months before the time of writing there have been far more applicants for depressed area sites than can possibly be satisfied, at least in the short run.

If these conditions continue the problem of localised unemployment should practically disappear, and without the help of migration. It was often argued before the war that there was no economic reason against taking work to the workers in depressed areas—apart, perhaps, from a few completely derelict mining villages—instead of compelling them to leave their homes ; the new policy, and for that matter pre-war and wartime experience, have proved this contention correct. But will the basic conditions continue ? General full employment should certainly remain. Licensing of development in congested areas is more doubtful. Permanent powers to license industrial development were proposed in the Bill which preceded the Distribution of Industry Act of 1945, but were dropped in Committee in the face of opposition from the then Conservative majority. It remains to be seen whether they will be restored by a Government of a different complexion.

In less important respects this Act merely extends the old Special Areas policy. The Areas have been widened and renamed Development Areas ; it is now possible to add areas to the list or remove them by a simple procedure ; a pledge was given in debate to consider fully the claims of districts not on the list ; there are new powers to make grants for the development of industry and basic services ; the Commissioners for the Special Areas have been abolished, and their powers transferred to the Board of Trade ; and it is laid down that the Board is to be notified of all important industrial developments. The Act is open to some detailed criticism, and there is ground for suspecting that in its practical application too little attention is being paid to the needs of districts outside the Development Areas. But, provided that this is corrected, and that the two basic conditions continue to be satisfied, the extension of pre-war policy on these lines should prove effective enough.

While the problem of depressed areas is nearing a solution, it is doubtful whether as much can yet be said on the side of town planning. In one sense, of course, the town planning problem is simple enough: it is merely a matter of controlling the location of new plants within a district by zoning. But there is also the much bigger problem, reaching its greatest scale in London, of reshaping the existing industries of badly developed areas in accordance with town planning considerations. This is in some ways a stiffer proposition than the relief of depressed areas; for, whereas depressed areas are helped primarily by influencing firms which are in any case on the move, town planning reform may involve persuading established concerns, and often also their workers, to tear up their roots and migrate at serious cost in money and convenience. A firm's connections frequently ramify all over a district, and its workers may be drawn from a wide area; a move is no simple matter.

Something can no doubt be done by offering facilities and better premises in close proximity to housing and social amenities for workers, as on the Liverpool Corporation's estate at Speke or in Birmingham's proposals for Duddeston. But, especially in the extreme case of London, more is certainly needed. The most hopeful approach might perhaps be to enlist the voluntary co-operation of industry. Discussions between local authorities and individual firms, including workers' representatives, backed by substantial grants towards the cost of moving,* might well achieve more than sweeping measures of a more general type. The pressure of public opinion has been a vital factor in getting something done about the depressed areas. In the case of town planning reform the pressure of public opinion is much weaker, particularly where reform involves the redistribution of population. If public opinion is to be made effective in this field it needs both to be stimulated by propaganda and to be brought to bear on the individuals and firms concerned in a more direct and pointed way than has been necessary in dealing with unemployment.

If the right method of tackling the town planning problem of industrial location could be found, there would still remain the question of the best organisation to apply it. The Board of Trade already has its responsibility, with the backing of the Government departments and outside agencies, for getting new industries into potentially depressed areas. Is there a correspondingly clear responsibility, backed with adequate powers, for dealing with the town planning problems of location either in depressed areas or in London and other prosperous districts in need of redevelopment? To this may be added a wider question. Historically, the town planning and employment problems of the location of industry have been dealt with (if at all) in separate compartments. In fact, of course, they are not separate. They cannot be dealt with by separate agencies; it would be absurd, for example, to attempt to plan the location of industry in London without the participation of the Board of Trade. They both affect the same areas: South Wales or Durham needs drastic replanning as well as the introduction of new industries. The two types of problem also affect each other; residential development depends on the location of industry, while the choice of

* Now are revised by S. 90 of the Town and Country Planning Act of 1944.

industrial sites is at least partly determined by housing conditions and the presence or absence of social amenities. Does there now exist machinery to ensure the necessary co-ordination and to give control of the location of industry its due place in a policy of national, regional and local development?

A great deal of progress has undoubtedly been made since the general outlines of the machinery needed were worked out in the Barlow, Scott, and Uthwatt Reports. The Ministry of Town and Country Planning has been set up to take care of town planning problems at the national level, so far at least as England and Wales are concerned. Central machinery has been set up to co-ordinate industrial location and town planning policy for the country as a whole, and to work out more detailed plans for certain areas. Regional Distribution of Industry Committees bring together the local representatives of the Government departments chiefly affected, and there is some national and regional co-operation over research. Co-operation among central departments could no doubt be improved; but at least there has been a good start. It is at a lower level that the chief deficiences of the present machinery are found. The main problems of the location of industry must naturally be settled at the national or regional level. That, however, does not imply that they must be settled solely by officials of the central Government. There is room in both the formulation and the execution of policy for voluntary and elected regional bodies. At the moment, both types of body appear to be largely excluded. The voluntary regional Development Councils seem rarely to have retained or recovered the position which they held before the war. Elected regional planning and development authorities, with or without executive powers, are ineffective or absent in several important areas, including London. The present machinery for planning and controlling the location of industry is in fact overweighted on the side of the central Government. In the interests both of efficiency and of democracy, the part to be played by locally elected bodies and by individuals with practical industrial experience should be carefully reconsidered.

There is also room for considerable improvement in the field of research. In many areas the basis of factual knowledge which should underlie any policy of national, regional, or local development is lamentably lacking. A useful beginning of research has been made by the Board of Trade and the Ministry of Town and Country Planning, and in some areas, notably the West Midlands and the South-West, the universities have also been increasingly active. But there are serious gaps and a good deal of overlapping; much more needs to be done even by these agencies, in the way both of fundamental and what might be called "administrative" research, before their contribution to the knowledge underlying policy can be regarded as adequate. As in the case of planning and administrative machinery, the main deficiency is at a lower level. Not nearly enough research has yet been done from the regional, as apart from the national or academic point of view. The point of view of the people actually living in a region, and of its local authorities and private interests, has as good a right to be represented in research as the equally (though differently) biassed views of Whitehall and the universities; but at present the machinery for representing it does not exist. The work done by certain Development Councils is a step in the

right direction. It needs to be extended by the creation of regional research institutes, primarily to support the administrative work of regional and local authorities, but also to carry on fundamental research on their own and to co-operate with the Government and the regional universities.

Man, Society and Towns*

F. J. OSBORN
Hon. Secretary, Town and Country Planning Association

THE more I look at towns and their history the more impressed I am by man's power to subjugate to ideas not only things but his own pleasure and comfort. And far too often towns show in their layout or structure the dominance of one-track, occasionally two-track, obsessions—special to a time or class, yet not reflecting the true balance of interests even of that time or class, and not coming in sight of meeting the requirements of the citizens at large. This would be depressing were it not also interesting. Certainly it leaves no room for a materialist interpretation of events. It shows up man as what he always has been, and is now, a blinkered idealist, driven by the whip of his insatiate energy into one narrow yard after another when the meadows of the world are open to him.

Of course, the laws of nature and economic necessities do limit the whimsicality of man. He cannot lift himself by his own bootlaces—in spite of all the time he spends dreaming about doing so. But town-history illustrates how persistently he concentrates on the pursuit of single purposes, sometimes even half-understood abstractions, to the neglect or prejudice of plain, decent self-interest.

Social man is far more prone to this lack of ethical perspective than is individual man. It is only a small fraction of individuals who, of self-generated resolve, act in reckless or heroic disregard of their " material " interests—who, for example, starve or mutilate themselves for the sake of some philosophic ideal, or shut themselves up in Carthusian cells when desirable family residences are within their resources. The majority of private men seem to arrive at a creditable balance between indulging their spiritual and sensual caprices—good and bad—and keeping themselves and their dependents fed, clothed and in good health. It seems odd that when the private man of I.Q.100, bunches himself with others as a nation, an urban community, or a "movement", he loses his sense of proportion and descends to an I.Q. of about 60.

The phenomenon is obvious enough when we think of the Trojan War, the building of the Pyramids, the Kingdom of God in Munster, the Doukhobors, the Ku-Klux-Klan, Italian Fascism, Hitlerite Nazism, or other group manias with which we do not happen to sympathise. To

* Reprinted from *The Plain View*, July, 1945.

me it is just as obvious when I think of the growth of London, Glasgow and New York—indeed, of past and present town-development all over the world.

For long stretches of time social and political man takes no interest whatever in the shape and structure of his towns—is blind to a piece of man-made apparatus that affects the character of his daily life more immediately and powerfully than almost any other thing. And when, at rare intervals, he does take an interest in towns, he centres his attention on some isolated factor of their structure to the prejudice of other factors of equal or greater importance. I quote a few cases.

The Greek, Roman and medieval military rulers built or transformed towns with their minds fixed on defence. The resulting pattern is well-known—grid-iron plans with roads running straight to the fortified gates ; squares in which troops could be massed for action ; state buildings, and in religious times temples, in impressive positions ; but dwellings, and trading premises, left to site themselves. The dominant idea, no doubt vital, excluded others that were important even when the towns were built ; and there was no foresight. Expansion was neither provided for nor prevented.

Towns built by cultured aristocracies in times and countries free of local wars, as in 18th century England and France, showed a different but equally narrow prepossession : visual appearance—architectural grandeur or harmony. The houses of the great were well placed and handsome outside and in. The houses of the respectful classes were pleasing externally when in sight of the mighty ; hence the orderly mews and village streets on the great estates. But again the planning of these periods forgot industry and trade, which fitted themselves in as best they could.

Sometimes the military and architectural motives coexisted. Baron Haussmann's Paris of 1850-1870 is an example. The confused and narrow streets of the city were an ideal setting for the much-feared repetition of the Bastille-storming of 1789 and the mobs and barricades of 1848. Therefore, Haussmann drove wide boulevards and avenues through the city, with intersection points from which insurgent masses could be mown down by artillery. This being a large-scale state enterprise, architectural harmony could be added to military efficiency, and thus emerged the monumental Paris that visitors (and citizens) admire. But behind these fine façades is still the old confusion, worsened indeed by added population and congestion. Central Paris is a city of apartment-dwellers. Its attractive café-life is in part a reflection of its deplorable housing standards.

The prepossession that made the typical cities of England was another one : that of industrial productiveness. Again it was valid in itself ; the enthusiasm for mechanical progress was the beginning of the immense output of goods and services on which we now count for a high standard of life. But because nothing but this was thought of when our industrial cities were expanding, the most appalling housing conditions resulted. Houses were crammed close together and as near to factories as possible. Open spaces were altogether forgotten. Even the 18th century aristocrat's concern for the look of things did not extend to the towns from which, in many cases, he derived new wealth.

Our own age has produced another in this series of single-track approaches to town-building : the housing preoccupation. It is a good one. If we are doomed to proceed for ever on one idea at a time, housing is more important than any other. Also it is broad-based. The swing of the accent from defence or industry to dwelling is a sign that the direct interests of the masses have to be taken notice of. States are taking more and more part in housing for the workers. The form the housing takes is a rough index of the nature of the government of a state. Aristocracies tend to build uniform but still rather human cottages in groups ; dictatorships, painfully symmetrical villages and blocks of flats ; democracies, one-family houses, as detached and varying as resources permit. But, whatever the type of housing, concentration on housing alone cannot produce good cities. In the U.S. and Great Britain the popular desire is for the one-family house, and the standard desired steadily rises. But, no other aspect of town-planning being thought of, these houses are being wrongly placed ; mostly on city fringes. We live further and further from work, and spend more and more of our earnings and leisure time on the daily journey. Getting one thing we want (this time a really important thing) we lose other things we want.

The numerous bad consequences stir different reactions in reforming minds. Here we light on new illustrations of the unsuitability of single-line thinking to a complex subject. Movements spring up which focus on one symptom of the town-development muddle and propose remedies which if applied would bring about another unsatisfactory pattern.

An instance of this is the movement to save England's green and pleasant land from further building. There is a very sound feeling underlying this. All round our cities, and all along our coasts, buildings have been allowed to sprawl in a disorderly way. It is natural, and seems meritorious, that lovers of rural scenery should band themselves together to stop these desecrations. Yet when the idea becomes a single-track obsession it is dangerous. It leads high-minded men to urge that no further building should be allowed in the countryside, and to argue that our congested cities should be rebuilt at their existing high density by means of lofty blocks of flats in order to economise land. What that would mean in terms of the lives of millions of men, women and children in the cities is forgotten when two or three are gathered together under the banner of an aesthetic ideal—in itself a fine one and important to the immured millions.

I could quote many instances of such lack of balance in the sectional movements that have grown up as the result of bad town and country development. Every such movement has genuine validity. But almost any one of them, if it secured exclusive possession of the public ear, and dominated governmental planning policy in the future, would lead to an unsatisfactory town and country planning pattern. One-track planning has proved itself bad planning in the past. There is demonstrable need of social or governmental action if we are to have good towns and a generally unspoiled countryside. The possibility of such action depends on the building up of a consensus of public opinion, which, unlike all the public opinions of the past, is based on a proper balancing of many factors. There are some signs that this is beginning to happen. But a

much wider spread of interest is necessary, and soon, if the forces now mobilised to produce a socially injurious town and country pattern are to be controlled in time.

Paradoxically enough, the most dangerous force at the moment is state housing policy, pushed on by the passionate pressure of the bombed-out and newly married for any kind of decent house, anywhere within travelling distance of work, and quickly. This demand must be met. Unless there is a new awareness of town structure it will be met, as it was between 1919 and 1939, in the main by suburban extensions to towns which are too big already, and to a less extent by multi-storey flat-building in centres which are heavily congested. Both these methods are bad. But at present the effective national policy is for each local authority to build at the utmost speed and on the scale of its pre-war programmes. The broad result must be, if this continues, that most building will take place in the urban areas where most building was going on between the wars. It means that the bigger city-agglomerations will get still bigger, and the small country towns, long at a standstill or declining, will continue so. This is the exact opposite of what is in the national interests ; and the exact opposite of what will give people what they most want—good family homes and neighbourly communities in pleasant surroundings.

Public fixation on housing alone will more and more present city dwellers with the lamentable choice of the worker in central London—a good house and garden miles out in the suburbs, with wearisome and costly daily journeys ; or a tenement-flat or part of an old house nearer to his work. The pressure on the inner areas will be maintained, and provision of open space there will remain next to impossible. Community life will be further weakened by the divorce between homes and work-places and the sheer size of the continuous built-up areas. Traffic congestion will increase. And the green country, already difficult to reach from the inner areas, will be pushed away by the outward advance of the suburbs.

Now the right course for the correction of these disastrous trends is in principle easily grasped. But it does require the proper balancing of a number of factors. Of these the most important for the ordinary citizen are :

Good homes in pleasant open surroundings (basic to his family life).
Efficient working conditions for industry and business (on which he depends for a rising standard of living).
Adequate local services and community buildings (making possible what he may desire in social and cultural life).
Convenient arrangement of all these (so that he may really be able to benefit by them without long journeys).

This is a mere outline, but it is the sort of outline to start with if we are to have any hope of generating the dynamic that will give us better towns. I believe that a handful of sincere and well-informed writers, speakers, and political leaders could quickly get large sections of the public to broaden their view from a one-track to at least a four-track view. Similarly, the specialised interests must come to terms with each other and with the public.

Actually the planning policy accepted in principle by the Government

during the last few years would meet all the main popular and sectional enthusiasms. But the public, though much interested, is still unable to visualise the policy in the clear, almost pictorial way necessary for common action. No Minister and no Party, so far, has given any lead towards positive enthusiasm and drive for anything but a one-track housing policy exactly on the inter-war lines but speeded up a bit. And yet, I repeat, the Coalition Government, with all solemnity and deliberation, did accept in principle a far more enlightened policy: that recommended by the Barlow Royal Commission in 1940.

I need not summarise the Barlow recommendations. Let me convert the policy they imply into the sort of picture that could arouse a political dynamic.

We are entering a period of rebuilding rather than expansion. Of the 13½ million dwellings in Great Britain, 9 millions date from before 1914. We built 4½ million houses in 20 years between the wars, and we are still perhaps 1 to 1½ millions short. Under a full employment regime it is no extravagant programme to catch up the 1½ millions shortage in, say, five years, and then replace, say 6½ millions of our worst dwellings in a further 20 years. The working force of 1½ million builders which it has already been agreed we should have by the fourth year of peace could easily build or rebuild 8 million houses in 20 to 25 years. This we ought to aim at. It is not a disproportionate use of man-power and materials to provide our people with good homes in good communities, for these are the bases of all happiness and culture.

The greater part of this task is the rebuilding of our existing cities. Most of them have desperately congested areas, and on rebuilding must be opened out, and their populations reduced, in order that the majority who will still live in them may have acceptable housing conditions—including a predominance of single-family houses. It is probable that to reach a decent standard of housing and open space four or five million people should move out of congested areas in this 20 to 25 years. These should be reaccommodated in new towns and by carefully planned extensions of existing country towns—not in further suburbs. Thus the unbuilt-on areas around the big cities could be saved from further encroachment, to the immense benefit of the dwellers in these cities. The new towns and older country towns ought similarly to be kept within planned limits; in general, the aim should be to build them up to a population of a certain size (say 30,000 to 50,000, which would provide for all ordinary industrial needs and for a good community life and culture) and then stop. In this way we should work towards a pattern of reasonably-sized and well-distributed towns—towns in which the majority of people would both live and work—on a background of permanently safeguarded agricultural country.

No very great additional area of rural land would be required for this programme—not more than about 350,000 acres of the 33 million acres of lowland farms and woods, and none at all of our 18 million acres of moorland and heaths. But by enabling the overcrowded people to have ample space for living in planned towns, the casual sprawl which spoils far more land than it uses could be prevented.

Three new instruments of policy are, however, necessary. The location of industry must be guided, so that further settlement in congested

or overgrown towns is restricted—in fact, only permitted when it can be proved to be absolutely necessary—and settlement in new towns and country towns encouraged. This does not mean dictation either to industrial firms or industrial workers. In fact, the new pattern is so much in the interests of both that the provision of the right opportunities would result in much free movement in the desirable directions.

Second, there must be firm public control of land-use ; in particular, there must be maximum density standards in rebuilding as there already are in new development—and effective power to stop the suburban sprawl of buildings over farm land. This is why a national compensation-betterment system is indispensable, as the Uthwatt Report showed, and the Government White Paper on Land Use agreed.

Third, we need positive agencies for promoting new-town building and country-town extension where (as is often the case) such large schemes are beyond the strength of existing local authorities or private enterprise. The agencies need not all be public ; though the sites must usually be acquired compulsorily, owing to their size, private enterprise, or limited-dividend associations, could take as much part as desired in such developments.

There would be immense scope for structural and architectural variety in the new towns, for sympathetic adaptation of the new to the old in country-town extensions, for re-creating local community life in the reconstructed parts of the great cities. I can imagine no sort of enterprise in which a larger number of people could take a personal interest and an effective part than town-building and town-rebuilding. Yet among the public-spirited, the enlightened, and the idealists, who lead the public, the subject is still a cinderella subject. It is thought of as something for the future, something that can wait ; whereas, in fact, no subject is more urgent, for by neglecting it we are really deciding that towns shall be rebuilt badly and to the injury of family and social life for many generations to come. When our other political successes and failures are forgotten, men will bless or curse our times by reference to the town and country pattern we leave them.

Because at the moment we face a danger of going wrong more rapidly than ever, we have also a chance of a really great rebuilding policy. Can we take it ? As a student of the technics of the subject, I say : Yes, easily. As a student of the hierarchy of social thought and politics, I am more doubtful ; at all levels there is too much one-track idealism. Still, I say : Yes, but we must hurry up.

Facing the Future

JEAN MANN
Member of Parliament for Coatbridge

THE delayed action bomb has been exploded. The Minister of Town and Country Planning, jointly with the Secretary of State for Scotland, has appointed a New Towns Committee ; and Lord Reith—" Plan boldly

and comprehensively "—is back in the saddle. That, surely, is top place news for planners. Some indication that the new Government meant action was obvious in that the compensation and betterment problem was included in the King's Speech at the opening of Parliament. The clamour for action on a multitude of problems and promises raised during the Election might well have delayed " Compensation and Betterment " for another session. We are delighted that it has been chosen for the first session and that Mr. Silkin's pronouncement is made so timeously.

The Committee will consider " the general question of the establishment, development, organisation and administration that will arise in the promotion of new towns in furtherance of a policy of planned decentralisation from congested urban areas, and suggest guiding principles on which such towns should be established and developed as self-contained and balanced communities for work and living."

The Government's policy on Town and Country Planning, detailed in *Housing and Planning after the War* and in the *Speakers' Handbook* during the General Election, sets forth boldly for decentralisation and dispersal. The Labour Party adopted the four proposals of the Barlow Commission :

1. To redevelop congested urban areas and decentralise the largest towns.
2. To decentralise and disperse industry and population from such areas.
3. To promote a regional balance of industrial development.
4. To promote within each region diversification of employment as a safeguard against chronic economic depression.

Drive and action are the keynotes of policy, and the statement is made that : " The Labour Movement believes in town planning for two reasons. First, because town planning is needed to make this Country a better place to live in. Secondly, because we believe profoundly in democracy. The aim of town planning is to create communities with strong local roots and an active local life, and that is the foundation stone of democracy."

It is suggested that " exhibitions, discussions of planning in schools, local political parties and organisations of all kinds will provide the information and help to build up the drive and enthusiasm which successful planning requires." All will agree with this declaration, but Lord Reith's Committee may find that the greatest obstacle to bold and comprehensive planning lies with the local authorities themselves, who fear the diminution of their power and authority under a policy of decentralisation and dispersal.

The education, information, and propaganda for drive and enthusiasm will require to start with the local authorities. In this they are far behind the general public, whose attitude mainly is summed up thus : " Yes, we agree. We hate congested towns. We think we get too much transport expense, confusion, and travel. We want green belts and open spaces. We think you ought to consider our work when you build our new homes. But it's up to you to get on with the job. We want these things and we look to you to give us them."

That, generally, is the strong impression derived from years of experience of addressing audiences, including the Forces, on this subject.

POPULATION

" Get on with the job." But the local authorities are reluctant. The wee ones fear the problem of building up beyond their own particular needs, and the big ones will not face losing ratepayers. For them ratepayers have become a vested interest. One of them put it to me thus : " We would be parting with the people who claim least from the rates." It does not occur to him that their departure would greatly reduce the necessity for the levy of a two million pound public health rate ; that the housing operations of a local authority are chiefly concerned with those who claim most from the rates. The others look after themselves. They decentralise to the outskirts without consulting the local authority.

Other arguments against moving the people out from the congested areas include that one about uprooting. " The people will object to being uprooted and transplanted elsewhere." What are the facts? Take an M.P.'s letter bag as an example. Here are all the problems of uprooting, transferring and resettlement. Let no one say at this period in our national or local history that we have a static population who object to being uprooted ; especially if uprooting means a house with a garden, and a job nearby.

" Several hundred thousand young men are marrying several hundred thousand young women," said Mr. Churchill, "and they will have one of a family—to start with." Do the councillors flatter themselves that these young people will insist on living in the same city as the old folks? The fact is, they have had so much of living with the old folks that some of them now want to get as far away as possible. " Homes and jobs," they cry ; and a new start in a well planned new town would seem like a dream come true for most of them.

Again let me refer to my mail bag. It's the old age pensioner this time. It is quite wrong to assume that the pensioners want to stay in the cities. They would consider themselves lucky to be offered a cottage in the country. Why not? Land is cheaper there ; and there's no need for them to live in the city to be near their work! If our New Towns Committee planned for young couples and elderly people, many more besides would want to move out to be near them. And is not our great need for new houses occasioned by families uprooting themselves in marriage?

INDUSTRY

Industry should be prevented from starting or restarting in certain congested areas. The Labour Government will have to grasp this nettle firmly, for since some of its leaders toured the distressed areas in February, 1937, the Party have promised industry, light and heavy, for these areas. Thus we have Mr. Hugh Dalton (Chairman, Distressed Areas Commission—1937), as President of the Baord of Trade, perpetuating the large cities by directing industry there, whilst the party policy is to reduce the size of the city. Reducing the size surely cannot mean removing the people elsewhere whilst maintaining the industries within and increasing them. The New Towns Committee will need to consider industry as well as people, so a new approach must be made to co-ordinate homes with jobs, from the old to the new towns.

It is urgent that the question of the creation of industry throughout the country be dealt with immediately as a national problem, *e.g.*, on the lines laid down by the Barlow Report. The people of the distressed areas are not tied to these black spots ; but they are tied to their homes and jobs, wherever these may be, and if housing and industry can be provided for them in new towns, then the problem of redevelopment of the old becomes lighter. There will be more open spaces for playgrounds, more parks and green belts for those who remain.

The members of the Labour Government have constantly, on platform and in writing, deplored the industrialism that blackened the face of nature and caused the drift to the towns. They must not perpetuate these conditions by directing mobile industry into the black spots. A great opportunity is afforded now to direct industry and population to new towns and new life.

EDUCATION

" It is suggested that exhibitions, discussion of planning in schools, local political parties and organisations of all kinds will provide the information and help to build up the drive and enthusiasm which successful planning requires." I have seen the exhibitions, heard the discussions, and am convinced that Government guidance, help and direction are the pre-requisites of planning.

What audience does not agree with life as depicted in a cottage in a garden city? Why, the popular song of the troops was : " I've got a plan for a cottage built for two." Questioned further, however, they wanted it " near their work ", and they wanted amenities. If all three could be had they would be more than satisfied. So we are past the stage of education to get drive and enthusiasm. We have reached the stage when the local authorities have to be directed, guided, and helped financially to redistribute their populations and industries into these new towns, or to smaller towns that lend themselves to expansion and further development.

The problem of the transferred ratepayer is not insurmountable. There has been for many years a part of the population that moved from town to town. They were born in one parish and lived in another. When, in the big cities, they became chargeable to the rates (Public Welfare), the accountants of the city sent the bills to the various parishes. It is a matter of accountancy between towns. Houses cannot move about like persons, and the accountancy, therefore, should be easier. We adjust our system for the person who takes up his bed and walks from parish to parish ; why not for those who wish to settle down permanently to work?

A final word to those who assume that planning delays housing operations. Most delays are caused by settlements. Patchwork planning involves more settlements and more delays. " Plan boldly and comprehensively " was good advice for rapid building of houses, factories, schools, social centres and open spaces. No afterthoughts, no bits and pieces, involving endless adjustments in the committee rooms with the departments and with the various owners.

By planning boldly and buying largely in terms of land for new towns, we can proceed with our new buildings on a long term policy of continuity of building. All hands on deck ! We can accomplish our double purpose in one effort, and establish the new town whilst relieving the congestion of the old. If housing is important, planning is imperative.

Together We Learn

GEORGE LETCHWORTH REED
Housing Consultant, United States Embassy, London

THE effective use of the atomic bomb was not necessary to convince us of the tremendous possibilities for progress that exist when a nation can draw on the combined intellectual and physical resources of the whole civilised world. Few would doubt that much of the success of the western Allies can be attributed to the rapidity with which their problems have been solved when approached in the spirit of collaboration, each bringing to the problem all their brains, energy, and experience. It is to be hoped that this co-operation in meeting the technical and professional problems of the war can be continued into the ensuing peace on even a broader scale. One needs but review the progress in legislation and practices in the public housing field alone in the several nations of the western world to realise how much each has drawn on the others in drafting their measures and carrying out their programmes in recent decades. There is little reason to doubt that in the domain of housing and urbanism the development of even more complete technical and professional intercourse will be as profitable as it has proven itself during the war years.

As one step towards ensuring that these relations will continue effective, at least in one field of peacetime problems, the United States Department of State has attached to the London Embassy a Consultant on housing and urbanism. This new member of the " Attaché " group will closely follow housing developments in Britain and stimulate interchange of thought, experience and techniques.

Britain may, at this time, well be considered an advance-stage laboratory in housing and urban redevelopment. All of the social pressures and physical scarcities which make for housing problems exist here in aggravated form, and the awareness of the people and government to these conditions gives reason to expect prompt and determined solutions. Facing, as it also does, the greatest housing programme of its history, the United States can hardly afford to miss the opportunity of following every move, legislative, financial, technical and social in this alert and active laboratory.

In this laboratory the new struggle between factory and field construction forces for the house-building job is going on. Perhaps some answer to the problem as to what degree dwellings or housing components can be effectively completed in the factory, will soon be evolved here.

The scientist seems to have come into his own in housing, not only in developing materials, where he has always been an important participant, but also in the planning and building of the consumer goods, the houses where he is at work, and his contributions are evident and well accepted. The public in Britain have come to a definite realisation of the need for urban planning and the evolution of a new profession is under way—that of the planner, or better, the town planner, who uses the skills of the sociologist, engineer, economist and the architect. While the architect, scientist and builder are struggling with the problems of more durable material and more satisfactory design, protecting the householder against early depreciation or obsolescence, the urban planner, financier and legislator are evolving ways of protecting their overall arrangements, services and facilities, cost and equity. They are studying rents, interest rates, subsidies and control of rents as well as sale prices of houses during the emergency period. Many of these problems are common in one way or another to many countries, and workable, effective solutions to them will be delayed if each seeks the answer in the isolation and secrecy of his own camp.

There are many instances of the time and effort wasted through working at such problems in separate compartments. A man (named Hays) in California has developed an aerated concrete, light in weight, cheap to produce, suitable for house walls. Two very promising foam and aerated concrete schemes, if not more, are being developed here in Britain. According to a recently returned investigator of technical targets in Germany, Hitler would not allow the German builders to use the Swedish type foam concrete. The Germans had to duplicate all the Swedish experimental work and arrived at the same conclusions. Here are four countries who have gone over identical technical ground and arrived at the same technical product. Surely some of this duplication and wasted effort could be avoided.

As the good farmer looks over the fence to see his own errors, so in this important social field of housing frank and open international interchange can jar us each out of our own ruts of thought and errors of practice. British town-planning students returning from the United States feel that recent city plans rather seem to be collections of piecemeal projects without enough study on the basic ends and purposes. The plans tend to be solutions to individual, urgent, local problems of traffic and service facilities, or housing, without much of a thought-out framework of a town or regional plan upon which these details would logically fit. The feeling is that there is much expensive, vigorous survey energy directed into matters which do not contribute much towards the plans. Some American observers, on the other hand, feel that planners here tend to ignore the cost factors and do not seem adequately to inform the public in detail on the economic soundness and cost of good planning. Such observers feel that this will result in delay and disappointment when the public come up against the real cost burden, and that such delay may allow the housing push and other urban pressures to defeat good planning. There are also some American housing people who feel that Britain might have saved herself some disappointment regarding the temporary or emergency housing policy by looking over the fence at the war housing programme of emergency shelter which was under way in the United

States, where prefabricated bungalows were to a considerable extent abandoned as a solution after the first rush of war housing got under way.

The rest of the world can now look to Britain for experience in prefabrication of both temporary and durable housing, as this art seems more developed here and for several reasons is more likely to develop further. Scarcity of lumber which is easily fabricated in the field and shortage of experienced construction labour for field operations are among the most important factors. But Britain must look elsewhere to see her own domestic plumbing systems in a reasonable light—seven sizes of pipe, and as complicated as a Lancaster cockpit, to supply less hot and cold water, when compared with simpler domestic plumbing arrangements used elsewhere in the world. Nevertheless, although obviously in the early stages of development, the pre-assembled mechanical core of the small house or flat, the kitchen-bathroom unit now in production for the United Kingdom's temporary house programme, is probably the most forward step in domestic plumbing anywhere.

Investigators of domestic heating on both sides of the Atlantic have made considerable progress in recent years, but if there is a useful conclusion at this stage it is that neither in the United States nor in Britain is there good enough understanding of what conditions accomplish acceptable comfort or a healthy environment for the human animal at varying ages and activities. As he who investigates a matter last has frequently the least to " unlearn " and consequently may make the most startling advance, one might be more amused than surprised if British studies in " background " and high temperature radiation taught the Americans something valuable about domestic heating.

It would be folly to suggest that exchange of information and experience and ideas has not been going on continuously ever since travel and communication of any kind were feasible. There can be no question of the value of the several international and Anglo-American organisations which have for many years been promoting professional and technical co-operation in housing and urbanism. To a considerable degree, our continuing progress in housing and planning matters must be attributed to many such individuals and organisations which have contributed towards the exchange of information and experience. Of course, the responsibility and contribution of the general and technical press in this activity have been enormous. The purpose of the Housing Attaché would certainly not be to supplant any activities of private or public bodies which have contributed so much of importance in the past to this valuable interchange. It should be his purpose to stimulate and facilitate and expand all phases of public and private enterprise in this field. These phases of technical and professional intercourse which have been suppressed during the war must be reactivated, and new devices for collecting and analysing information as well as the dissemination of it must be developed.

It seems likely that the exchange of information in this line can be better planned and more effectively directed, duplication may be reduced, skimpy material supplemented, and mistakes may be avoided. The short-time visiting investigator sometimes does not get the whole story. Sometimes visitors do not have time to correct erroneous first impressions. To accomplish this is the province of the Housing Attaché.

The whole tempo of change and development is increasing and we must learn faster than in the past. The housing push is on us and if we do not solve our planning problems quickly, if we standardise on types of houses or components too soon, we may put millions into houses which will become obsolete too quickly. If each country is determined to give its own people the best houses, in the best and most convenient surroundings at the lowest costs or rents, we must study closely what our neighbour nations are doing and learn together.

Compensation and Betterment

J. D. TRUSTRAM EVE, F.S.I., F.L.A.S, F.A.I.
Past President, Rating Surveyors' Association

THE Uthwatt Committee was an expert committee set up to make an analysis of the subject of compensation and betterment and to advise what steps should be taken to prevent work of reconstruction being prejudiced, in particular to consider means of stabilising the value of land required for development or redevelopment and of acquiring land for public purposes on an equitable basis. Its final report was published in September, 1942.

The Government's White paper on the Uthwatt Report was not published until June, 1944, and contained, not the settled policy of the Government, but suggestions for public discussion to discover what measure of support they might command.

The long gap between the publication of these two documents is a measure of the difficulty of finding an agreed basis for compensation and betterment due largely to the desire of many to cut down the cost of good planning and at the same time to endeavour to salve their consciences that owners of property are still to receive fair compensation.

THE UTHWATT REPORT

The Uthwatt Committee made suggestions in regard to developed land of a non-revolutionary nature; but their development rights scheme for undeveloped land gave the appearance of being revolutionary in character though in fact only two of its features were new. The scheme was to acquire the development rights in undeveloped land as at 31st March, 1939, and pay immediate compensation to the owners. Thereafter the land retained only its undeveloped value. When development was to take place the Government would acquire the freehold at undeveloped values as at the date of acquisition and lease it to a developer.

The two features in the scheme that are new are firstly the immediate payment of compensation to owners and secondly the leasehold system under Government ownership on development. Strip the scheme

of these two features and we are back at the old and still current inter-development procedure, under which owners can only develop with consent and if refused can claim compensation at the appropriate time.

The leasehold development feature is not essential to the scheme in any way ; it could just as well be worked by the payment by the owner to the Government of a betterment charge when development is permitted. The immediate payment of compensation must be an advantage since it follows the well-known principle to buy your land ahead of requirements to save increment.

Then why has there been so much controversy over the Uthwatt Development Rights Scheme ? The reason is that the Report gives it the appearance of being a revolutionary scheme, new in all its aspects, and this has misled many into disliking it at first reading. Further, there is widespread dislike of the leasehold system in rural areas, especially under the ownership of a Government department. But finally the Uthwatt Committee in an endeavour to fulfil their terms of reference to the utmost and save public money, recommended that a global sum should be calculated and distributed amongst landowners as compensation for their development rights, resulting, as the Committee confess, in a loss to the owner of a half to two-thirds of what they would receive under the present law.

THE GOVERNMENT WHITE PAPER (CMD. 6537)

The White Paper in effect accepts the Uthwatt Development Rights Scheme, and extends it to cover developed land on redevelopment and change of use ; but has discarded from the scheme leasehold development and the global sum. In place of the former it suggests a lump sum betterment payment by the owner of 80 per cent. of the increase in value due to the consent to develop or redevelop. In place of the latter it suggests setting up a committee to decide in five years' time what compensation should be paid and further that in all but exceptional cases compensation shall not be payable until the owner can show that he is both able and willing to develop, and even then no more than the 1939 prices shall be paid. Under this scheme the Government would have the best of both worlds ; by accepting the Uthwatt recommendation that compensation should be payable as at March, 1939, thus chopping off the increment thereafter and by not paying for it until the land is ripe for development (which may be never, if new planning diverts development from it). Nor is there any provision for the payment of interest on the compensation money. This is clearly an inequitable arrangement and one which can be supported only by those who have lost sight of the principles of compensation.

FUNDAMENTAL PRINCIPLES OF COMPENSATION

This losing sight of principles started with the Uthwatt Report, for this Committee's argument in favour of the global sum was based on the fact that they considered no more than the global sum would be fair to the community, thus discarding at one stroke the funda-

mental principles on which compensation has been paid throughout the ages. These principles were :

1. That the owner of the land should be compensated in the full amount of his loss.
2. That the loss could be measured only by the market value of the land at the date of the acquisition, or its depreciation in market value at the date of the imposition of any restriction.

These principles are given effect to in the Acquisition of Land (Assessment of Compensation) Act 1919, which is the basis of compensation for all public acquisitions. Before that Act was passed the Lands Clauses Consolidation Act 1845 was the covering Act and this laid down that the loss to the owner was represented by the value of the land to the owner and not its value in the open market. This led to the practice of adding 10 per cent. to the market value of the land in the case of compulsory purchases. There were also certain advantages to the acquiring authority in the Lands Clauses Act in that it prevented an owner from basing his claims on the value of his land to the purchaser, which in the case of, say, a railway passing through a rural area might have resulted in very much larger compensation to the owners. It is interesting to note, however, that now that it is an advantage to the acquiring authority to pay no more than the value to the purchaser the Uthwatt Committee were moved to suggest in their Development Rights Scheme that this would be fair to the owners.

FLOATING VALUE AND COMPENSATION

The reason advanced by the Committee for their contention that it was fair to pay less than the market value to owners whose land under the Development Rights Scheme was to be restricted to its undeveloped value was that the element of floating value has caused the prices paid by purchasers for development land throughout the country to amount to a greater sum in the aggregate than is warranted by the development that is likely to take place within measurable time. The Committee's otherwise able analysis of the subject of floating value suffers from two defects. Firstly, they have made it appear that floating value in itself is an element that should not be paid for, and it is quite clear from the language of the White Paper that its authors have been so misled.

It should be made clear that floating value in itself is a perfectly proper element in valuation. The only possible argument against its being paid in full as compensation to owners is that owners may have overbid for the floating value and it is only the over-valuation of floating value which might be eliminated and not the floating value itself. Individual overbids would not be payable as compensation under the present law, for the arbitrator under the Acquisition of Land Act could properly hold that a particular sale was not representative of the market value generally. But the Uthwatt Committee allege that owners generally throughout the country have paid too much for land on which there is floating value. While this in itself may be open to argument, nevertheless, even assuming that it is true, this is no argument against the individual owner being compensated at his full loss, namely, the

market value of his land, even if it includes some element of general overbid for floating value.

The analysis of floating value by the Uthwatt Committee suffers, however, from another defect. They have based their analysis on a Victorian outlook on the development of land, namely that a speculator buying land sits still and waits to see when and whether development will settle on that land. In modern days this is very far from the truth, which is that the live builder and developer goes out to buy the best land he can get and then forces development to come to it. He does so by his own skill and expenditure of money on development and publicity. In these days of motors it is possible thus to develop almost any suitable site and that is why there is so much sporadic development in rural areas throughout the country. The developer, therefore, in buying building land does not enter a game of pure chance but backs his own skill and capabilities of bringing about the development. It is this element more than any other which has led to the cases of overbidding for floating value.

CENTRALISED PAUPERISATION

It must be remembered that the only reason for all this fuss and bother about compensation and betterment is to prevent bad planning being excused by local authorities; fear of large sums for compensation for restriction on development; in so far as the compensation is beyond the resources of a particular local authority to meet it, it should of course be borne from other sources. It is, therefore, a welcome feature of the Government's White Paper that the transference of the whole burden of compensation from the local authorities to the broader shoulders of the Exchequer is recommended and this has been approved also by the present Government. This transference would at one stroke of the pen remove any excuse of the local authorities to go in for cheap planning and also there would cease to be any excuse on these grounds for the cheese-paring of compensation to owners when their rights are removed or restricted.

It would be a great mistake, however, to imagine that all bars to good planning would be thereby removed. The interim development procedure of the 1932 Act has now been extended over many years in most areas and has proved itself unsuitable for such a prolonged period with its *ad hoc* and unco-ordinated planning consents, with consequential secrecy and lack of uniformity of decision and with no compensation to owners. A new Act is needed with quick procedure for arriving at a complete plan for each area and an arrangement for periodic revision of each plan in the light of changing circumstances. Such a system would result in confidence in owners to develop along certain foreseen lines and certainty for local authorities and the Exchequer as to future compensation commitments and betterment collection.

THE COLLECTION OF BETTERMENT

Both the Uthwatt Committee and the Government's White Paper abandoned the attempt to collect betterment and instead each advocated a form of taxation on the increase in value of property. The Betterment Scheme of the Uthwatt Report has been almost universally condemned

on purely technical grounds, some of which are set out in the Government's White Paper which in turn advocates an 80 per cent. tax on increase in value due to change in use or change in the scale of use of a property. True betterment, however, should be collected only on the increase due to community planning and not on the increase due to the change in the value of money or to individual efforts of the owner of the land or of adjoining owners. It was the Uthwatt Committee's opinion that no differentiation could be made between the causes of the increase in the value of land. They drew attention to the fact that no betterment has been collected under the Town and Country Planning Act, 1932, and drew the conclusion that it was, therefore, impossible to collect. It would, of course, be somewhat surprising if much had been collected in view of the very long time it has taken to put that Act into effect and of its provisions for the postponement of the collection of betterment. It would be equally true to say, that virtually no compensation had been paid under the 1932 Act ; but that is no argument against paying compensation. It should be made perfectly clear, however, that if it is widely accepted that true betterment cannot be differentiated from other increases in value (a view with which I venture to disagree) the only alternatives are either to make no attempt to collect betterment or to have a tax on all increases in value ; and then it is only a question of what form that tax should take and how and when it should be collected. Before deciding that such a tax should in fact be put on, it is very important to see what effects that tax would have on the initiative of the private owner in developing his property. If the whole of the increase in value due to his own efforts are to be taken away in taxation it is apparent that something will have to be substituted for the present private enterprise in development. At present there is no substitute ; for there is no Government or municipal department competent to or, within measurable time, capable of taking the place of such private initiative.

If this is true then great care should be taken to see that no tax should rob private owners of their initiative and enterprise in development. There can be no halfway house between private initiative and nationalisation. The former must not be throttled unless the latter can be fully installed. Until it is considered proper to introduce complete nationalisation scope for making profits should be left to private individuals, otherwise development will not take place efficiently or in time. It would be better by far to abandon all theories as to the community's sharing in the increase in values due to planning and make no attempt to collect betterment than, at this vital moment, to stifle private efforts towards efficient and rapid development.

RESERVE POWER OF PUBLIC ACQUISITION

There are many other aspects of the Uthwatt Report and the White Paper which are sufficiently important to be dealt with at length. There is space, however, for mentioning one other only, which seems to be of the greatest importance. The White Paper calls it the reserve power of public acquisition. It has been obvious for a long time that true positive planning of development cannot be achieved merely by a local authority telling owners that they may not do a particular thing in a

particular place. If they are to have the reserve power suggested in the White Paper they will be able to say to a developer " you may not develop those fields but you shall develop this one which we will acquire for you under our reserve power if you cannot acquire it yourself."

A great deal of the ribbon development and the patchwork and leap-frog development which has taken place in recent years has been due to the inability of the developer to develop the particular land, which in strict planning sequence should be the next for development, because the owner of the land had other ideas about it.

This suggestion for a reserve power for acquisition in certain cases must be regarded as the most revolutionary ever put forward in planning and, if properly used, it could be the cure for all planning evils. Like all remedies, however, there is a risk of improper use which could lead to the complete robbing of initiative from private owners with disastrous effect on the development of town and countryside.

Planning and the Landscape

ROBERT H. MATTOCKS, Dip.C.D., M.T.P.I., F.I.L.A.
Lecturer in Landscape Design and History of Town Planning at Leeds School of Architecture

THERE is a tendency for people to think of Country Planning in terms of preservation, yet everyone must have noticed the increased beauty which the countryside has acquired during the war, not from preservation but from intensive use.

Most of the beauty we are so anxious to preserve is the result of conscious development for agriculture and sylviculture. Brown, Repton, and other members of the Landscape School of Garden Design, who produced most of this beauty, had definite ideas on planning the landscape which we might profitably follow in adapting the landscape to modern conditions. For instance Loudon divides the effects a planter may aim at into three : (1) To give beauty and variety to general scenery ; (2) to give form and character to a country residence ; (3) to create a particular and independent beauty or effect as in planting large woods unconnected with any other object, and forming avenues, glades, etc., in the interior. As to the first he writes : " The choice of the situation must always be relative to other objects ; as, for example, in ornamenting general scenery, to fields and enclosures, buildings, roads, etc. Some tracts of country, or those parts of an estate exterior to the park, may be deficient in woodiness ; there trees may be introduced in masses on elevated sites, on the sides of hills, in groups connected with buildings, in thinly scattered trees, in pastures, by brooks, in rows in hedges, and by other fences or roads."

" All plantations by arable land should, as much as possible, be bounded by straight, or at least not very irregular lines, and connected

with the other fences or other hedges already existing ; few single trees or groups of trees should be planted in the area of such fields. In pastures, the worst soils and most exposed positions should be chosen, and such forms adopted as may shelter the stock from all quarters, but especially from the storms and winds which more generally prevail. In short, the planter, for effect, should never lose sight of utility, or plant in opposition to it."

Conditions have changed considerably since those days and much of the planting done then has been sacrificed to the exigencies of war. The problem of landscape planning is now more difficult as an examination of it under the following heads will show :

1. Types of Rural Areas.
2. Conflicting interests.
3. Population growth and distribution.
4. Possible harmful influences.

TYPES OF RURAL AREAS

We are apt to talk about rural areas as if they were all alike, but actually, many distinct types can be found each needing its own special treatment, as, for instance :

(*a*) Those areas near rapidly growing towns, near blighted villages or hamlets, or on certain parts of the sea coast. In such areas we want green belts round our towns, the clearing up of blight, and, at the seaside, the full application of powers to control camps and shacks.

With the population nearly static there is little reason why, with the controlled siting of industry, there should be any great expansion of either towns or cities after the present needs have been met. The knowledge we now possess, as to the areas required for each type of user in a well-planned town, makes possible a reasonable fixing of the inner boundary of the green belt.

Many roads between towns and even in the open country are given a semi-urbanised appearance by the scattering, at frequent intervals, of derelict mining and industrial villages and hamlets. The collection of the population of these villages into proper urban units and the clearing and return to rural uses of their sites could restore much lost amenity.

(*b*) The normal humanised landscape, outside the above area, in which agriculture and sylviculture are the principal business of life and where the beauty of the landscape depends largely on the well-doing of what needs doing. Here a human interest is desirable but it should depend in the main on the villages and market towns, not on scattered development.

(*c*) The areas of special landscape and scenic value, these are of two types :

(i) The landscape which owes much of its value to the conscious work of the eighteenth century landscape architects. For instance most of the matured timber in the area round Windermere lake was planted for effect during that period.

(ii) The wilder, natural landscape, where the only sign of man is an occasional farm-house snuggling down in some sheltered corner and, for practical reasons, making itself inconspicuous. In some

of these areas even planting on a large scale may be destructive of amenity.

(*d*) Areas which have become semi-derelict through mining and similar operations, where treatment has to be specialised with a view to restoring lost amenity.

CONFLICTING INTERESTS

It is in types (*a*) and (*b*) above that the conflicting interests are found at their worst, but all rural areas have them. There are, for instance, the interests of the townsman who wishes to have a country cottage or camp for week-end visits, which conflict with those of the agriculturalist who says with Lord Phillimore : " Agriculture requires to be free of the intrusion of town life. . . . Every villa dotted about the fields ; every isolated field sold for development by some impecunious farmer, adds to the short furrow and the picket corners, or the Alsatians that worry sheep, or to the bye-laws that hamper farmers, or to the non-understanding who break down their fences.

" In my view it is of importance to the agricultural community that it should be free from the intrusion of urban life. It is important that it should be set apart in solid blocks."

Again, the interests of the water boards and game preservers conflict with the desires of those who think there should be free access to all moorlands and mountains.

Even in such a thing as afforestation there is the conflict between the planting of uninteresting but remunerative conifers and of the more artistic but more slowly maturing hardwood trees which have proved so useful during this war or, in the case of water catchments, between conifers which do not foul the water and deciduous trees which do. Or again between afforestation and sheep farming, where plantations are placed on the lower fields needed by the farmer for winter grazing.

POPULATION DISTRIBUTION

Since 1918 there have been two outstanding destroyers of rural amenity : (1) The misplacing of buildings as in ribbon and sporadic development ; (2) the poor design and character of individual buildings which has emphasised the damage due to misplacing.

A few figures will illustrate why this is so. A garden city for 50,000 people complete with shops, industries, etc., and an agricultural belt would occupy a site little more than 2½ miles square, but the houses only for such a population, developed along main roads at an average frontage of 30 feet, would occupy 32 miles of single frontage or 16 miles of double frontage. In the first case the people live near the country and also have full social amenities, in the second the unspoiled country retreats as they advance. If the same people are housed sporadically the damage is extended to an immeasurable extent.

The introduction of buildings into a landscape is not necessarily harmful to amenity. Many a landscape owes its chief charm to the inclusion of a beautiful old village which gives it the right human touch. Even the buildings needed to meet the present shortage, if arranged in well designed and properly organised group development or in suitable

additions to existing centres of population, could be absorbed and leave plenty of unspoiled country. Indeed many towns are developed in such a sprawling manner that most of their housing needs could be met by filling in the gaps in the urbanised portion.

POSSIBLE HARMFUL INFLUENCES

Badly placed buildings of poor design and materials are not the only destroyers of rural amenity, another type of building development which is capable of ruining the landscape if uncontrolled is the holiday camp ; these may be objectionable on account of their appearance and also because of the behaviour of the people who stay in them. The need for holiday camps will increase, but it is unlikely that, apart from those at the seaside, the camps will be large and care must be taken to fit these smaller camps into the landscape.

Some of the wartime camps may be adaptable for school or holiday uses, of these some may be well sited, whilst others may necessitate taking the advice of a landscape architect on the steps needed to harmonise the camp with the landscape.

Many of the arterial roads made during the inter-war period were sound from an engineering point of view but were artistic monstrosities, the hard crude lines of their embankments and cuttings refusing to blend with anything. In such cases nature's method should have been followed, the top of the cut being rounded off and the soil deposited at the bottom so as to create an ogee curve, planting being added where necessary.

The working of minerals has been unnecessarily destructive of amenity and has created two problems for the planner namely :

(*a*) Large areas of land ruined by pit mounds, quarry dump, abandoned gravel pits and brick fields, surface workings for iron ore, flooding due to subsidence etc. The efforts made to cope with this destruction have barely touched the surface of the problem. If there is an unemployment problem after the war it would surely be better to do some tidying up in these areas, planting some pit mounds and derelict sites, and using other mounds to fill adjoining deep quarries or flooded land, thus improving both the appearance of the district and the health of the inhabitants.

(*b*) The control of new surface workings is important but can only be done under the powers of an Article 5 Order made under the new General Interim Development Order. The difference which proper control can make was demonstrated in the model made of Mr. Jellico's scheme for Messrs. Earle's Cement Works at Hope in Derbyshire. The control of underground mineral workings has unfortunately gone, is it too much to hope that when the mines are nationalised some attention will be paid to their effect upon the surface, and some money spent on underground stowage to prevent large tracts of agricultural land becoming lakes and spoiling other good land by covering it with spoil heaps?

The need for stronger control of advertising is so obvious that it need not be stressed here.

From the agricultural point of view there is no doubt that a more even distribution over the land of towns of moderate size would be a great

advantage, as each provides a local market for home-grown food which can be sold there to better advantage.

Just as the city may have its satellite towns so the small town may have its satellite villages to which mobile industries sited in the town could bring prosperity by creating, at easily accessible points, centres providing work for those members of the village families not engaged in agriculture. Rehabilitation of these country towns to the position they once held in the countryside should be considered before plans are made for many new towns.

Then there is the question of the large village too remote to benefit by industries established in the small town; the introduction of a small milk processing factory has been known to restore the economic and social life of such a village.

Where the villages are all small and not too widely scattered the Cambridge Village College idea can be applied and provide a centre for adults and senior scholars. For instance, the Impington College serves ten villages and provides a centre where all forms of social activity can be enjoyed, without, as in the small village, drawing from too limited a number of leaders.

The question of national parks is being carefully examined by the Government. Mr. John Dower submitted a report to the Minister of Town and Country Planning and now the Minister has appointed a Committee to go into the matter in more detail. Whether regional or national, these parks are not intended for preservation as museum pieces, but for the satisfactory blending of their present uses with increased use by holiday makers, special attention being given to the preservation of amenity.

I commenced by mentioning the great importance of agriculture, let me end on the same note. A healthy agriculture properly protected from sporadic development will, with the help of trees planted to shelter the stock, keep the average countryside beautiful in spite of its lack of areas of special beauty. On the other hand, no amount of saving of isolated pieces of scenic beauty will be of any value if they are framed in a neglected countryside.

The Architecture of Pleasure

CLOUGH WILLIAMS-ELLIS, M.C., F.R.I.B.A., M.T.I.P.
Chairman, Council for the Preservation of Rural Wales

THE illogical and quite indefensible feeling that seemly architecture and a gracious landscape are sufficient ends in themselves, self-justified, regardless of their social implications or the conditions that have produced them, or even of their repercussions on humanity (treating mankind as a mere foreground to inanimate beauty, as figures in a landscape) cannot be intellectually defended. No sensible person is likely to concern

himself about visual beauty, its creation or preservation, save with reference to its human values. This more reasonable view might be stated somewhat thus: "That the mere existence of beauty is of no importance, it is only its enjoyment by man that signifies." It follows that, admitting so much, one must go yet further and allow that what really matters is that the appreciation and enjoyment of beauty shall be as widely diffused and shared as possible—for the greatest happiness of the greatest number. So far as outdoor visual beauty is concerned, whether natural or man-made, that philosophy must, in England at any rate, lead to certain pretty definite conclusions and lines of effort, to attempts at popularising and democratising the enjoyment of such beauty, to making lovely buildings and lovely places generally accessible, without thereby impairing their distinctive characters.

With the overwhelming mass of our teeming population townbred, barbarously reared in far other than splendid cities, having had little contact with beauty of any kind and, therefore, knowing or caring little for it, the introduction is a hazardous one, for we are unlikely to respond appropriately when presented with the hitherto unknown. Yet it is a risk that must be taken. We must perforce put up with the inevitable misunderstandings and gaucheries that will mark the first contacts of the uninitiated with their hitherto unrealised heritage.

But in order that the very heritage itself may be spared and shall not dissolve utterly away at this unaccustomed touch, this overdue presentation must assuredly be made, for it is altogether too dangerous that the vast majority of its heirs should be insensitive to its intrinsic loveliness, ignorant of its pleasure-giving potentialities or its historical value, that they should still be without pride in its possession and careless of its preservation. To ensure that at any rate our chief national treasures, both of landscape and architecture, shall survive these difficult transitional times, that they may give pride and pleasure to our possibly more civilised successors, they must now attach to themselves a general popularity and appreciation—a wide democratic goodwill that will protect them from injury and maintain their integrity when their traditional guardians are perhaps no longer able to defend them.

HOLIDAYS IN THE LANDSCAPE

It is in terms of the ramblers and hikers, husky youths and maidens tramping over the Pennines towards the sunset and their promised land—their leader, their Moses, Dr. Joad—that we must think chiefly when considering our wilds and solitudes, our national parks and coastal belts. It is these vigorous, nomadic, modern figures that some of their elders find alarming, especially the indigenous natives of holiday areas (whether coast or mountain—South Downs, Chilterns, Wales, the Lakes, the Peaks, Cotswolds), who may think apprehensively in terms of newly-coined and horribly appropriate, ironic place-names—"Frolic-in-Wensleydale" or "Binge-in-the-Wold". But there is no need to worry; there is room for all who want different sorts of holidays, in different places, at different times. One of the most difficult, but most hopeful things about the human race is its endless variety and the wide differences in its tastes and desires and we must try so to plan that there will be scope for all. There are all sorts of places, designed by nature and man, ideally situated

to provide just what is wanted by everyone, but both places and people must be sorted out and identified, and it is just as important for places as for people to make up their minds exactly what they can do and what they cannot do, what are their limitations and their long suits. There seems, for instance, to be a tendency for Beaumaris to think it could become Blackpool, and for Bude to ape Brighton, which is not only silly, but against the public interest and their own.

HOLIDAY CAMPS

Luckily most of us are gregarious and like being surrounded by our fellow creatures, but everyone wants to forget home when on holiday and experience something gayer, more comfortable and more exciting. The big holiday camps thoroughly understand this ; they *are* gay, and bustling with activity and social events all day and half the night. They are what a large proportion of people want, and those who shudder at the bare idea of such a holiday should surely be humbly grateful that most of their fellows like multitudes and will leave them their solitudes. It must be remembered too that these camps are new and should not be too harshly judged by their present form, which will doubtless be greatly improved. They will grow up, become more civilised, less intent, perhaps, on pure amusement and athleticism and social occasions, and become more alive to their cultural opportunities, with good music and drama, a good library, debates and conferences, and, generally, pass on from the realm of ENSA to that of CEMA. Architecturally too they will improve, though any holiday camp, which is usually a compact and orderly layout, if rather uninspired and mechanical, is infinitely better than the little holiday shacks run up at Winchelsea Beach, Hunstanton, Kinmel Bay, and Peacehaven by their inmates. At present holiday camp "functionalism" is quite primitive and mechanical. It should now develop and evolve on to an altogether higher plane where, to efficient arrangements for eating, sleeping, drinking and washing, and, of course, dancing and swimming, are added such graces and æsthetic amenities as only imaginative designing can give.

Only so can come the " Stately Pleasure Dome ", only so the truly efficient spiritual de-lousing station where work-a-day obsessions with the purely practical, the immediately useful and prudently economical, in short, with minimum amenities, can be gloriously forgotten, if only for a fortnight, in another transformation-scene world of other values. Vulgarly done such a place might be the most ghastly thing on earth. But there is no need to assume vulgarity ; rather should we think of the Tivoli Gardens outside Copenhagen, of Heilbronn near Salzburg and of the Field of the Cloth of Gold.

NATIONAL PARKS

To the average urban Englishman (and nearly nine out of every ten is a town-dweller) the word "Park" inevitably suggests a somewhat limited enclosure surrounded by a wall or spiked railings, asphalt paths meandering amongst setpieces of well-groomed landscape gardening, a profusion of seats, kiosks and wastepaper baskets, cast-iron conveniences

for ladies and gentlemen, notices, and gates that are locked from sunset to dawn.

The national park is nothing like this. Nor is it a holiday camp nor a fun fair nor a nature reserve (though it may well contain such), nor Hampstead Heath nor a desert. It should perhaps be described thus : " Wild and beautiful tracts of country that are protected by special Act of Parliament from inharmonious change ; yet where all who find refreshment in nature are provided for and made welcome." A large area of at least some two hundred square miles would seem desirable to give a real feeling of untrammelled freedom, and adequate holiday facilities, particularly for walkers and campers, should be provided, such as hotels, hostels and camp sites all located and built with the greatest discretion and care. Special reservations for the protection of rare plants or animals should find a place within the park perimeter. Finally, the casual wayfarer traversing a national park should be aware of nothing unusual, save its exceptional graciousness and laudable absence of any cause for offence, whether intrusive bungalow or bill-board, garish garage or fly-blown café, derelict works or urbanised speedways, or any single thing at discord with the dignity and mellow peace of a noble countryside.

Clearly, this code of special good manners must not stop short abruptly at the park frontiers, but must be extended outwards, though no doubt with diminishing intensity, by the co-operative vigilance of the local authority concerned, which will be responsible for discipline where the National Park Commissioners' own high responsibilities cease. Otherwise unscrupulous exploitation might well ruin the approaches and end by fringing our dreams of loveliness with nightmare. Happily the National Trust already guards a number of key positions, particularly in Snowdonia and the Lakes, and is but one of many large landowners eager to see these and other regions made wholly secure for ever by national dedication.

PLANNING THE SEASIDE RESORT

The prosperity of a seaside resort results from its ability to provide happy holidays. This, in turn, largely depends on intelligent and imaginative planning by all who are engaged in its tourist industry—from the town planner and landscape architect to the conductor of the local orchestra, and the ladies who serve such superb coffee and cakes from eleven o'clock to one at the camera obscura. But some places are still so benighted that they have not consulted a town planner or a landscape architect, have no orchestra, no camera obscura, have never tasted nor even smelt good coffee, and such places, in the long run, are as doomed to well-deserved extinction as were Sodom and Gomorrah.

Planning of the seaside resort should be for one purpose and one purpose only : the efficient provision of a gracious and acceptable setting for the relaxation, happiness and health of people of all sorts. This is quite a different problem and needs quite a different approach from that of ordinary planning for ordinary housing and normal living, and this difference needs to be imaginatively understood, emphasised and exploited.

In ordinary housing one of the aims is that people shall be near to their work. In a holiday resort everything should be contrived to make them forget it—forget the shop, the office, the bench and the desk and the 8-15 ; forget, too, the shopping queue, the stew-pot and the mangle. Forget the accustomed and perhaps not very exciting street and neighbours, the prudent domestic budgeting, and for one short glorious, extravagant fortnight at least live recklessly above our incomes.

It is the planner's job to set the stage appropriately for the efficient and acceptable performance of this most important national drama—this PLAY, the vital importance of which has, at last, been recognised as essential to productive work, as necessary as vitamins in our diet if we want a happy, healthy, successful, worth-while social life. That has now been fully recognised by industry and the state, and the new deal of holidays with pay is going to make prodigious new demands on all the holiday facilities throughout the whole country and at every level. It is a challenge to which every one in any way concerned with holiday resorts must vigorously respond, from the chairman of the Savoy, Berkeley, Claridge's Hotel group to Mr. Butlin, from Thomas Cook and the Big Four Railways to the beach boatman, the donkeyman and the winkle stall.

With so many places long established, we shall, generally, have to make the best of what is already in existence, which in some cases will mean trying to make silk purses out of sows' ears. Even so, there are almost certainly many dull and stagnant places where, say, £1,000 imaginatively laid out would add £10,000 a year to their total receipts and much enjoyment to their patrons. This expenditure showing one thousand per cent. profit would seem to be a sensible investment for any community to make. And it is not always the most expensive things that are lacking, though some attractive trimmings are admittedly expensive ; a planetarium, a good concert hall, a pier that is something more than an ironmonger's exhibition. . . . The things that skilled and imaginative planning can provide for next to nothing are the most important things of all : Intimacy without sacrifice of ample light and air ; variety without discord and with everything fitting into a carefully composed pattern and picture, both for convenience of use and elegance of looks ; plenty of trees of the right sorts in the right places—not merely properly planted, but properly tended afterwards ; more grass and less asphalt ; no railings and no shrubs ; plenty of flowers, both private and public—not silly, snobbish little Alpines, interned in dusty rockeries, but gay and lusty, colourful, common flowers, that will ramp and thrive and enjoy themselves with a minimum of attention, according to the soil, climate and aspect. And plenty of colourwash on the buildings in a variety of light, soft, pastel shades, from a full and joyous palette, that will camouflage the more dreary and banal façades and compose an attractive picture full of synthetic sunlight, transforming November into May. There is hardly a building or even a whole street, however drab and dour, however aimlessly vulgar, that could not be transformed into something positively attractive—an asset instead of a liability—by a little beauty doctoring, a little lime-wash and paint of just the right shades, a little natural greenery, judiciously disposed. Thus can the best be made of a bad job. Here and there, however, it is possible to

have the advantage of a fresh start, more or less, as at Farringford, Freshwater, where plans have been proposed for something between a normal hotel and a special type of holiday camp. There are certain amenities at Farringford, both natural and man made, and it is essential that these should not be tarnished, but increased and exploited to the full with utmost ingenuity. Stock must first be taken of all the possible assets that nature and man have already provided as the raw material and then, and not till then, should careful plans be made with an eye to the special contribution those amenities can afford, missing no chance they may offer for achieving some agreeable and unusual effect.

At Portmeirion, where I am an hotel owner as well as an architect, I did little more than guide the place while it built itself. I gave what it seemed to ask for, where it seemed to want it. But I had two guiding beliefs :

1. That architectural good manners could be proved to be good business ;
2. That a place, even a very beautiful and exceptional place, could be developed and exploited without thereby necessarily being spoiled and that (given sufficient imagination and skill and sympathetic care) its original beauties could actually be greatly enhanced.

The quite unexpected and, indeed, absurd financial success of this little experiment in owner development, seems to show there is something in these beliefs.

The planner may start off with a properly thought-out scheme of treatment based on a thorough diagnosis of what he has to work with and accurate knowledge of the final results desired, but he must remember, too, that conditions and ideas are always changing and that a rigid plan and programme, looking *too* far ahead, is impracticable. Plans must be kept fluid and flexible, so that the year-to-year carrying-out of the scheme may be modified whilst the first imagined master-plan and objective are always kept steadily in view.

Given this open-minded and pliable outlook, every accident, each new slant of the wind can be turned to good account and, with reasonable luck, and understanding support and co-operation, the ultimate achievement should be even better, more interesting and more alive than anything set down in cold blood on a drawing board and adhered to mechanically through thick and thin. The same applies to buildings and most certainly to streets, and though too much paper planning is not a civic defect we are likely to suffer from in England, there are individual buildings that smell too much of the office, that simply drip drawing board. We must be aware of too much T-square, of committing ourselves to plans simply because they make a neat pattern on paper. Paper can be a snare. The land, the actual ground itself, with all its little folds and accidents and incidents of every sort—that is what we must make the uttermost use of, if we are worth anything at all.

It has been suggested that in the Atomic Age it will be possible to manipulate the landscape—upraise an Helvellyn, or excavate a Windermere by a series of controlled explosions, and as the climate would of

course conform to the new mountainous character of the district, it is claimed that the Sahara could exchange its present climate for that of the Lakes. Be that as it may, it is certain that man owes nature some intelligent manipulation as compensation for the wicked and wasteful folly that has produced mangy patches of sterility all over the world, where once was flowering fertility, such as the American Dustbowl. If we cannot grow trees and groves and forests and build towns, cities, villages and houses in the landscape that do not embellish and enhance their background, then we are poor things indeed, and I do not believe we are poor things. I believe we can do anything we choose to do. Said the dying Artist in Shaw's "Doctor's Dilemma"—" I believe in Michael Angelo, Velasquez and Rembrandt ; in the might of design, the mystery of colour, the redemption of all things by Beauty everlasting and the message of Art that has made these hands blessed." May what *we* choose to do be blessed.

Existing Building in Redevelopment

WALTER H. GODFREY, F.S.A., F.R.I.B.A.
Director and Secretary, The National Buildings Records

THERE are many problems connected with existing buildings in redevelopment areas and much will depend not only on the principles adopted in their solution but on the practical wisdom with which they are applied. Section 42 of the Town and Country Planning Act (1944) aims at protection for buildings of architectural and historic interest, a description that we are promised will not be narrowly interpreted. The charm of the many old towns in England does not come in the main from buildings of special archaeological interest but from scores of simple well-constructed houses of the 18th and early 19th centuries. They are not only well-proportioned and eminently serviceable under modern conditions but they are generally skilfully assembled and planned and give a character to the street which is not easy to replace. The same can be said of the cottage in rural areas.

There is a growing feeling in the country that this fine architectural inheritance of ours should be cared for and that we should not lightly part with buildings of practical as well as aesthetic value. But if this is to be accomplished we must see that legitimate development is not halted and that preservation as an end in itself is always accompanied by adaptability to modern uses. Happily this is possible in the great majority of cases, so much so that in many places the fine buildings of Georgian character are at a premium because they possess such obvious advantages. At the present time when resources are straitened and seasoned materials are far to seek, it is only prudent to make full use of the gifts from an earlier and less embarrassed age.

The appreciation of the qualities of Georgian building and its cousinship to the best in modern design have been fairly recent discoveries and there is little doubt that the buildings of the immediate future will proceed on these simple and dignified lines. The most difficult problem that confronts our town authorities concerns the streets where the products of the intervening period—the commercial vulgarities of the 19th century —predominate. Where such buildings are few and the older, decorous architecture is sufficiently frequent to maintain the old character, it will be a legitimate aim to endeavour to remove or transform the intruders one by one. But whole streets of Victorian business premises will have to be tolerated for many years to come, until our banks and stores can rebuild in a manner more in consonance with the times.

In our older towns it is very much to be hoped that a wise disposition of main and relief roads will be possible so as to divert through-traffic and restore the streets to the use of the public, whether engaged in shopping or entertainment. The old streets are quite naturally unfitted for the volume of modern traffic, but are still ample for the pedestrian. On the solution of this problem will depend the degree in which a town can keep its character and its citizens enjoy their lives without continual and violent disturbance. Traffic is bound to increase progressively and if it is allowed to continue its unimpeded course through built-up areas it will only be a matter of time for them to become uninhabitable.

The preservation of buildings for aesthetic, and also in these days for economic reasons, needs knowledge and the expenditure of careful thought. Neither the knowledge nor the capacity to recondition these buildings effectively is necessarily the possession of the owner. People who are not conversant with the subject, especially if they are embarrassed financially, are often ignorant of the value an old structure may possess. Houses need intelligent maintenance, just as does the machine or the human body, and if they are not cared for they soon deteriorate. But the old builders used sound construction and age-proof materials and superficial dilapidation does not by any means indicate that the structure is not still strong. One sees, however, in many old towns buildings that their owners have evidently despaired of and that they have not the means to repair properly. As matters get worse the street gets a poor character, depreciation of values sets in and everyone loses. If money could be provided to arrest this downward movement, the place would soon recover its prestige and rateable values would be enhanced instead of being lowered. These are cases where the municipal authority could do great things if it were more generally accepted that public money is as well spent in the maintenance of the houses that make the town as in the paving of the streets and the provision of essential services. The usual procedure of waiting till the building is beyond repair and then serving the owner with a demolition order is not only wasteful, it accelerates decay instead of preventing it.

The reconditioning of buildings should be thorough. It must be remembered that many structures have not been properly overhauled since they were built, and this cannot be done unless the actual structure can be examined and seen that it is secure at all points. It is advisable to have all floor-boards up, and plaster, whether on walls, partitions or ceilings, should be removed, if it is perished, together with the laths.

Where there is ornamental plaster or good cornices these should of course be safeguarded, but there is nothing so beneficial to an old building as letting the light and air into all the parts which have been shut up for so long. It is then possible to examine the framing, the beams, joists, lintels and rafters and see that everything is sound and up to its job. This essential overhaul discloses not only the defects of age and accident, it also will show where the fabric has been cut away to put a pipe here, a wire there, without enough thought for its stability. In most cases the roof will need a similiar examination by stripping its covering and investigating all gutters and flats. The covering of roofs and the internal clothing of walls and floors are not the essential structure of a building, they have not the same life and they are susceptible of renewal or making good without any detriment to historic character. We must get behind them if we are to be sure that the main parts are in good condition, that the timbers are sound and of sufficient strength and that their joints and their bearing are undisturbed. Such a process aids the re-equipment of the building with modern services and fittings and helps its adaptation to new uses. But while commonsense is essential in dealing with these practical aspects we must beware of destroying in any way those characteristics that come from the skilful methods of the old craftsmen who gave their work the charm which we all recognise. Unfortunately the builder with modern training cannot invariably be trusted with old stone and brickwork, or the treatment of oak timbers ; with the best intentions in the world he can ruin work of great beauty and turn its survival into a pathetic memorial of his lack of perception. The mistakes to be guarded against are too numerous to mention here, but they can be avoided by the study of the buildings themselves if we realise that every detail in them was carefully thought out and that the effect we admire was so well calculated that any change in treatment is bound to disturb it. Perhaps the most important thing to avoid is the use of cement in the jointing of stone and brick, the tone and colour of which depend so largely on the lime mortar employed, but this is only one among many possible errors. In all cases of importance it is wise to consult the Ancient Monuments Department of the Ministry of Works which has studied the matter in all its aspects and is always ready to give useful advice.

Some of the problems that will be encountered in redeveloping urban areas will concern buildings of interest that have been mutilated or are in fragmentary form. In general, one should resist the temptation to replace anything of any size by a modern restoration, unless it is so important that it calls for perpetuating the design and is of sufficiently modern craftsmanship to be capable of rebuilding. For instance a building by Sir Christopher Wren could be usefully reconstructed but medieval work would be merely travestied by reproduction. In cases of doubt, the simplest modern structure should be utilised and it will set off the old work better than any revival that can be attempted.

It is desirable, as a general rule, to avoid the bodily removal or setting-back of an old building, unless there is no other alternative, to effect the preservation of an outstanding example of craftsmanship. So much of historical and topographical interest is lost when a building is removed

from its ancient site that it is better not to attempt it. But in such cases and indeed wherever alterations and redevelopment are contemplated, full records by drawings and photographs should be made for future reference.

In rural areas the reconditioning of cottages has proved well worth while and nothing is more valuable in maintaining the beauty of the countryside. But what has been said of town buildings has even greater force in the matter of cottages, which more than any other class of building require a thorough turn-out and spring-cleaning. It is also nearly always necessary to consolidate their foundations, damp-proof the footings and see that the lower floors are underlaid with concrete. The simpler the house the more care is needed to avoid disfiguring it by using the wrong materials in repair. Viewed practically, whether in space, roominess or comfort, the old cottage has much to its advantage compared with its modern rival, and all it needs, beyond repair, is to be properly equipped and fitted with conveniences.

Wherever new cottages are required in an old village or hamlet care is needed in siting them and it may be found that they will fit in more satisfactorily into spaces between the old ones than in a separate site set aside for them. It takes time for a new colony to mature its hedges and gardens and to become a natural part of the scene. If the newcomers can take their place among the earlier buildings in a neighbourly way it solves many questions and helps the continuity of village life.

Whether in town or country there is no invariable rule to be followed in deciding the survival of existing buildings or their manner of incorporation into new schemes. Their value varies greatly, both in their individual beauty and usefulness and their relative significance judged from their surroundings. It can be quite confidently said, however, that no time is wasted in considering the possibilities of combining the old with the new and where, as often, this is successfully contrived we not only avoid the wastefulness of destruction but we gain by linking the future with the past and secure for ourselves and our descendants no small degree of pleasure and satisfaction.

Diffusion of the Arts

MARY GLASGOW
Secretary-General of the Arts Council of Great Britain

CENTRALISATION is good or bad according to the context; and degrees of centralisation vary from country to country, from time to time and from subject to subject. This essay deals with the arts in Great Britain and to what extent they are or might be "de-centralised".

Between the wars, the most successful theatre was highly concentrated in London's West End. Music, on the other hand, flourished in many other cities and it is noteworthy that at present far and away the finest modern concert hall is in Liverpool. The visual arts varied oddly for,

while they have long enjoyed municipal recognition and our towns are commonly provided with galleries housing permanent collections, it is still hardly possible to buy pictures outside London, where nearly all the dealers and their showrooms are to be found.

It is certainly true that, except in the big cities, there was little real knowledge of the professional arts in this country. Before 1939, the situation was getting worse, not better, and the tendency to demand, even in the cities, the label " made in London " was becoming yearly aggravated. With it went the star-mongering fashion, which meant that only known names were accepted and, to take an example, a provincial concert could hardly be a success unless it could " feature " a famous soloist. The small-town repertory theatres were a gallant exception ; and a few festivals, Glyndebourne, Stratford-on-Avon, Malvern, the Welsh National Eisteddfod, won world-wide reputation. There were annual events like the Three Choirs Festival in the cathedrals of Worcester, Hereford and Gloucester ; and there were particular collections of paintings to be seen in their home settings, like the Crome and Cotman pictures at Norwich.

On the other hand, art in Great Britain was practised widely and successfully by amateurs. They were vigorous, often distinguished, and they had long traditions behind them ; but they bred a tradition of their own which disregarded art as a career, spoke disparagingly of the commercial theatre, and made it possible for educated audiences in the 1940's to ask musicians of national standing what they " did during the day ", and what a symphony concert was " in aid of ".

With the second World War, there came a sudden change and, out of evil, a new opportunity. The routine of play and concert giving was inevitably broken. The professions needed help, just when the people needed entertainment. In 1939 CEMA (the Council for the Encouragement of Music and the Arts) was founded, with the main purpose of spreading the arts among the small towns and country places. It was done partly as a means of preserving the arts themselves, at a time when continuity was broken and standards threatened, and partly in order to bring refreshment to a scattered population of war-workers and evacuees.

The response which greeted CEMA's early efforts far exceeded the limits of its own original programme. Every kind of building was brought into service by the community for the presentation of plays and concerts and the hanging of exhibitions ; and with every performance, the demand grew. In 1940, the Old Vic and Sadler's Wells, driven from their London homes, began to tour the country, whetting an appetite which seemed to be as universal as it had been underestimated. For five and a half years, the appetite grew and, with it, much local initiative. Many new ventures were started and experiments, begun with outside help, became self-supporting and independent. Many local authorities, some of them for the first time, became interested in the arts and began to make plans for sponsoring them.

Now that the transition to peace has begun, it may be possible to assess what has happened and to discover how far wartime diffusion can be of permanent value. Much that was done during the war years was uneconomic. It was right, in that time of crisis, for first-class

companies to visit small halls where the seating capacity could never give an adequate return, right that war-workers should be admitted to performances at low prices; it was right, too, that artists should accept low fees for what was, in an excellent sense of the term, National Service. In normal times, the guiding principle should be one of economics, and it should be applied to all the parties—artists, audience and landlord. Prices of admission should be suited to the pockets of those who come and should be reasonably graded. The takings should produce enough money to pay all connected with the presentation adequately and, in fact, to make the show self-supporting.

To strike this kind of balance, the first necessity is proper accommodation, and that is still rare in the towns of England, Scotland and Wales. Buildings for the arts have been damaged or taken for other purposes. All too often they have never existed. Yet, supposing they did exist, what would be the best way of spreading the knowledge and enjoyment of music, theatre and painting?

London is not England. In his own interests, every artist should travel widely, if only that he may the better appreciate a metropolitan audience when he gets it. By the same token, every citizen in the land has the right to see the finest works of art which exist. What matters is that these should be suited to the places they visit, physically, artistically and financially.

It is plainly impossible to fit an orchestra of eighty on to a platform measuring 20 feet x 20 feet; or to ask a ballet company to dance on a stage where there are no wings. A powerful singer could, but clearly should not, be heard in an over-resonant room. A small, intimate exhibition could be, but were better not seen in a gallery designed for trade displays. Plays for small stages may be as surely ruined by being played in large theatres as elaborate pageants are impossible to produce in crowded quarters. Delicate music is as ineffective in large spaces as massed choirs are absurd in drawing-rooms. It should be equally obvious that a company which needs £100 to "get out", or pay all its expenses, is out of place in a hall when the capacity cannot exceed £70; and that, on the other hand, with the best will in the world, a community of 10,000 cannot support a theatre seating 2,000.

The conclusion is clear and logical. No symphony concert for the market town of 20,000 with a concert hall holding 800; rather a string orchestra, a quartet or a piano recital. If this seems hard on those of the 20,000 who want to hear full orchestras, should it not be within the scope of the concert organisation in the nearest large centre to arrange transport from the smaller to the larger, as part of the cost of admission to the 2,000 concert hall? It seems reasonable to hope that the halls of the future may be planned on some such network, with small centres serving their allotted country districts, and larger centres again serving groups of these.

What is needed now is expert advice about the planning of centres. What kind of buildings are wanted for different-sized communities, and how far can the practice of the different arts be combined? How far, too, can amateur and professional work flourish side by side? And how far can the second and third best be used?

The words Arts Centre are already popular. There are many places where music, plays and pictures can be enjoyed in one building and this is good sense. The amount of information now available about their building and equipment, with the growing interest of local bodies, gives good hope that they may be successful.*

There are many pitfalls to be avoided. The theatre or central hall must be large enough to fulfil its purpose—for any professional play or concert up to string orchestra size, it should seat 800. If a restaurant is provided, it must be efficiently segregated—otherwise noise interferes with the performances in the theatre and social activity cuts fatally across artistic endeavour. Above all, the centre should form part of a convenient geographical group, for the exchange of material with other centres.

Round some such plan as this a vigorous diffusion of the arts in Great Britain might develop. In addition to it, as background, there is a special plea to be made for the festival. It is like an adornment on the main fabric, arbitrary, seasonal, yet greatly enriching the whole. It grows up by virtue of a particular tradition, probably also because of the energy of a particular individual. It must combine beauty and interest of surroundings with artistic excellence of a special kind. Malvern and Stratford and Glyndebourne have already been quoted. A more recent example is the Hampton Court Concert series, which already bids for international reputation, combining a setting of interest and summer pleasure with music purposely chosen for it. There is no reason why other festivals should not be consciously planned and launched up and down the country as stimuli to national enterprise and illustrations of national achievement for visitors from abroad.

The last word is a word for London. Much has been said about spreading the arts and the duty of the artist to roam the country, and that is the doctrine behind this essay. Now, it is tempting to remind readers that London is, after all, a great capital. It is fitting that London should be able to show to our own people, to audiences and artists of the Empire and of the world, the finest examples of British art, matured from all over the country. London is now, in 1946, woefully deficient in accommodation. If the programme I have outlined for the provincial arts is realised, its counterpart must be a lively, enterprising London, a permanent festival of the arts.

**Plans for an Art Centre.* Lund Humphreys, 1945. 1s. 6d.
Community Centres. H.M. Stationery Office, 1945. 1s.
Village Halls and Social Centres in the Countryside.
The National Council Social Service, 26 Bedford Square, W.C. 1. 3s. 6d.

The Greater London Plan

WILLIAM A. ROBSON, Ph.D., LL.M., B.Sc. (Econ.)
Member of Council of T.C.P.A.

THE planning of the metropolis has a significance which far transcends its local interest. The design and appearance of a capital city has for long been regarded as a matter of national importance. As the Commissioners appointed to consider the most effectual means of improving the metropolis remarked in their first report in 1844 : " The point to which in every kingdom a native looks with pride, and a foreigner with curiosity, is undoubtedly its metropolis. Other cities may be the especial depositories of learning, of science, of the arts, of manufactures, or of commerce, but the foreigner expects to find these all more or less represented in the chief city of the kingdom ; and no enlightened native considers his acquaintance with the country complete till he has visited her capital."*

No other capital city compares with London as regards the high proportion of the population which it contains. At the last census (in 1931) the inhabitants of Greater London† numbered 8,203,942 and those of the administrative county 4,397,003. By 1936 the total was estimated to have risen to 8,575,700. This amounted to about a fifth of the population of Great Britain, and was larger than the entire population of any one of 15 separate European nations.

Moreover, the planning of London is certain to have immense influence on what is done—or not done—in other parts of the country. For the metropolis is indubitably a region ; and the treatment accorded to regional problems in London will in large measure determine the method of dealing with them elsewhere.

For planning purposes the metropolis, like ancient Gaul, has been divided into three parts. There is the Forshaw-Abercrombie plan for the Administrative County ; Sir Patrick Abercrombie's plan for Outer London ; and the City Corporation's plan for the ancient City. Each of these plans has been separately commissioned by, and separately prepared for, a different authority. The collaboration of Sir Patrick Abercrombie with Mr. Forshaw in the County plan in addition to his sole responsibility for the Outer London Plan should not lead us to believe that for all practical purposes these two areas were treated as one. This was not the case. The County plan was commissioned by the London County Council, with all that that implies in terms of a special interest in the population, rateable value and general development of a relatively small section of the metropolis ; while the Greater London Plan was sponsored by the Minister of Town and Country Planning, who intervened in an attempt to overcome the helpless confusion and parochial outlook of the 150 local planning authorities in the area. This article is concerned only with the Greater London Plan.

The administrative aspects of planning are so important, and so little recognised, that it is necessary to call attention to them at the outset.

* *B.P.P. Reports from Commissioners (1844)* XV p.3.

† The Greater London of the census is the Metropolitan Police District. It is quite a different area from the area covered by the Greater London Plan.

Town and country planning is not only an applied science or art practised by technically qualified planners, engineers, surveyors and other professional men; it is also a new problem of Government. Until its nature is better understood, we shall not make the fullest use of the opportunities which lie before us in the task of reconstruction.

Good planning requires the proper organisation of planning authorities at three separate levels: national, regional and local. The central planning authorities, consisting either of the Ministry of Town and Country Planning or of the Departments responsible for particular functions, should determine matters which must be settled on a national basis. These would include, in the metropolis, the vital question whether industries shall be permitted to start in, or migrate to, London, or whether restriction or prohibition shall be imposed. The Barlow Commission advocated a prohibition of industrial development extending to London and the Home Counties except in special instances. The present Government has not yet announced a definite acceptance of this principle. Mr. Dalton, speaking as President of the Board of Trade in the Coalition Government, told the House of Commons on the 7th June, 1944, that the Government did not accept the Barlow recommendation as it stood but would consider each case on its merits. They recognised that London was not one of the areas in urgent need of factory development. Sir Stafford Cripps, who succeeded to that office in the Labour Government, in a speech to the National Union of Manufacturers in November, 1945, said that the mistake of over-concentration of industries in confined districts of London must not be repeated. A much more positive assurance of adequate control is required to clarify the position.

Another matter which requires decision by the central Government is the future of the Port of London. Hitherto there has been no national policy for ports and harbours and each one has been developed regardless of the others. This is a wasteful process and there is a clear need for national planning in this sphere. Such a plan would indicate the probable future of the Port of London, though this admittedly depends in part on general factors of international trade which are hard to predict.

Sir Patrick Abercrombie has been left without guidance on these two essential factors. In its absence he makes the acceptance of the Barlow recommendation, prohibiting further industrial development in London, *Assumption I* of his plan. It is greatly to be hoped that this assumption will be justified by events, for without the most stringent control over industrial location there is not the slightest hope of transforming the unsightly muddle of London into a coherent and practicable design for living. He further assumes that the Port of London will continue to be one of the world's great ports. This is far too vague as a basis for planning.

The Greater London Plan is essentially a regional plan, apart from the fact that it does not deal with the dense core of Inner London, which was covered by the Forshaw-Abercrombie plan. It deals, however, not only with regional matters but also with a large number of factors which properly fall within the province of local planning. This is an advantage from the standpoint of enabling the public to appraise the plan as a whole, since it gives a bird's eye view of the scheme in its entirety. From a functional point of view, however, it is necessary to

distinguish between regional and local factors in the planning process and to ensure that responsibility for each is conferred on suitable authorities. This has not been done.

The Greater London Plan has several conspicuous weaknesses in respect of administrative organisation. The author dismisses the governmental and financial aspects of his vast scheme in 2½ pages. He makes a perfunctory proposal for a Planning Board to administer planning in the whole metropolis, including Greater London, the County of London, and the City. The Minister would have the task of creating a master plan for the metropolis out of the three plans which have been presented to him for these areas, unifying and amending them for that purpose as he thought fit. The Planning Board would then be required to implement the master plan. For this purpose it would have full powers and duties of a positive kind. It would be charged with producing whatever physical changes might be required. It would be authorised to buy and sell land, to utilise such land for agricultural and recreational purposes, to create trading and housing estates, to construct roads and buildings of all kinds.

The Planning Board would be constituted by Act of Parliament. It would consist of a small number of eminent men of affairs. It would be responsible to the Minister of Town and Country Planning and would presumably be appointed by him. It would have its own technical and administrative staff. It would act as a Regional Open Spaces Board and Park Authority, as a Housing Corporation to procure housing and construct satellite towns, as an Industrial Controller to regulate the location of industry and the development of trading estates, as a Regional Public Cleansing Department and as a Regional Transport Authority.

The important feature of this complex proposal is that the Planning Board would be an organ of the central Government. It would be entirely unrelated to the machinery of London Government. It would not be responsible to the people of London, either directly or indirectly, or to Parliament. It would therefore be politically irresponsible.

The local government of London is in dire need of reform ; and some form of democratic regional organisation is badly needed. Merely to superimpose an authoritarian structure of this kind on the existing chaos of areas and authorities would be a serious mistake ; for only if a powerful public opinion is canalised and harnessed to the essential principles of the plan can the best results be obtained from a great scheme of this kind.

We can now turn to the substance of Sir Patrick Abercrombie's work. Here we at once find ourselves in a realm where the imagination and creative genius of our most eminent town planner can be seen at their highest point of achievement.

The Plan aims at three main objects. First, to halt the haphazard sprawling growth of London. Second, to effect a substantial measure of decentralisation within the metropolis. Third, to control development of housing, industry and communications. Interwoven with the attainment of these ends is the provision of open spaces and amenities on an unprecedented scale and comprehensiveness.

The area comprised in the Plan covers approximately 2,600 square miles. This is much larger than the Greater London of the census, which is the Metropolitan Police District. It extends outwards from

the L.C.C. boundary to a distance of about 30 miles from Charing Cross. At some points it goes much further, touching such places as Haslemere, Bishop's Stortford and High Wycombe. The population of this area was 6¼ millions in 1938. By comparison, the combined areas of the Administrative County and the City comprising 118 square miles were estimated to contain slightly over 4 million persons in 1938.

This Greater London area is broken down by the Plan into four main belts; (1) The Inner Urban Ring; (2) The Suburban Ring; (3) The Green Belt Ring; (4) The Outer Country Ring. The first of these is not really a ring at all, but an irregular and incomplete semi-circle situated almost entirely North of the Thames.

The first objective of the Plan—stopping the haphazard growth of London—would be effected by control over the location of industry. Sir Patrick Abercrombie assumes that a national policy relating to industrial location will be adopted and that under this policy the Greater London area will normally be banned to new industry and only minor extensions of existing enterprises permitted. Such a policy will prevent a further drift of population from the so-called Special Areas and elsewhere to Greater London. He also envisages the maintenance of a sufficiently high standard of living in agriculture to prevent a further drift of population from the villages and rural towns in the region to the larger industrial centres.

On these assumptions there would be no considerable increase of population in the metropolis, unless the net reproduction factor rises above unity. On this basis and on no other the problem of arresting the haphazard and elephantine growth of London could be solved. Without a reasonable assurance of stability of population, it is futile to attempt the planning of the metropolis.

The second object of the Plan is decentralisation, which brings us to its most important proposals.

The Forshaw-Abercrombie plan provided for the removal from the L.C.C. area of 618,000 persons, or a larger number if the density of the inner core were reduced from 136 to 100 persons to the acre. The present Plan adds a further 415,000 persons to this figure, making a total of 1,033,000 inhabitants to be moved. About three quarters of this number will be decentralised within or near the region. The remaining quarter will be dispersed outside the metropolis.

The detailed destination of these Londoners would be as follows:

About 125,000 persons will be accommodated in the quasi-satellite estates forming part of the immediate post-war housing and building programmes of the L.C.C. and Croydon.

261,000 persons will be absorbed in additions to existing towns in Greater London, mainly in the outer county ring. Among them are Luton, Dunstable, Amersham, Beaconsfield, High Wycombe, Romford, Dorking, Leatherhead, Loughton, and Ashstead.

383,000 persons are expected to settle in eight new satellite towns outside the green belt ring—the largest single group.

These three categories will remain within the region. Of those who are to be dispersed, it is estimated that 100,000 will go sufficiently far away to be wholly outside the influence of the metropolis, while 163,750 souls will be absorbed in additions to existing towns

outside the Greater London area, mostly between 40 and 50 miles from Charing Cross. They include such places as Aylesbury, Basingstoke, Ashford in Kent, Didcot, and Sawston.

The boldest and most excellent feature of the Plan is a proposal to create eight new satellite towns outside the green belt ring. They will presumably be of the garden city type, though an infinite variety of civic design and architectural treatment is possible in applying the garden city idea. Several possible sites are suggested : White Waltham in Berkshire ; Chipping Ongar, Harlow and Margaretting in Essex ; Stevenage, near Redbourn, and Stapleford in Hertfordshire ; near Meopham in Kent ; Crowhurst and near Holmwood in Surrey. The population will in no instance exceed 60,000.

The third main object of the Plan is to control the development of housing, industry and communications. Control over housing forms an integral part of the decentralisation scheme. There is also a large number of special problems relating to the provision of dwellings which are dealt with in Chapter 12 of the Plan.

The proposed densities are 30 per acre for new sites, 50 for the suburban ring, 75 and 100 for the inner urban ring. Up to and including the figure of 75 persons per acre, all dwellings could consist of houses, while at a density of 100 to the acre 80 per cent. of families can be accommodated in single houses and 20 per cent. in flats. Since over 20 per cent. of the households consist of only one or two persons, we are assured that even at the maximum density of 100 per acre no family with one or more children need be given a flat if they prefer a house. The author estimates that when his decentralisation proposals have been carried out, there will be in Outer London a population in excess of 6½ millions of which all families with children can live in single family houses with direct access to a garden. A small residue of 180,000 persons who are either unmarried, or childless couples, would have to live in flats if they continue to reside in the high density boroughs.

These standards are an immense improvement on those proposed in the County of London plan, which provides for 1,368,000 persons to be rehoused in flats at densities ranging from 100 to 200 per acre as compared with 1,932,000 persons in houses.

Sir Patrick Abercrombie is fully aware of the need to correlate the housing programme with the population structure of the community. The urgent need for a true census of families, he rightly insists, cannot be over-emphasised when it comes to allotting housing accommodation. He raises, but does not attempt to answer, many other housing questions, such as what sizes and types of dwellings should be built ; under what agencies they should be constructed ; how long the programme will take to realise ; what the cost will be, and so forth.

The Plan's approach to industrial location is inevitably and rightly a complex one. Assuming the Barlow recommendations are accepted the problem is essentially one of decentralisation, redistribution and orderly development. But these are only words—though full of meaning. The difficulty begins when one asks where, when, how ; but Sir Patrick Abercrombie faces these questions fairly and squarely. He regards the removal of an appreciable amount of industry and commerce from central London as essential ; and he considers that, north of the Thames,

no further industrialisation should be permitted within the inner urban and suburban rings, except in the Barking–Dagenham area on the east side of outer London. South of the Thames the industrial ban would apply throughout the inner urban and suburban rings except in the neighbourhood of Mitcham and Croydon, in Erith and in the Cray valley.

It is essential that industrial development should be guided into the new satellites and those existing towns in the region which are scheduled for industrial expansion. In no other way can they become prosperous centres of work and residence capable of absorbing the population to be decentralised.

New factories should not be admitted to other market, residential and dormitory towns unless they can make out a special case on economic or technical grounds and can satisfy the Planning Board that none of the sites in the categories mentioned above are suitable.

Rural villages would be barred to industrial development except that which is associated with agriculture or with small-scale craft industries dependent upon local materials. The open countryside would be entirely prohibited save in the most exceptional circumstances.

It is impossible to do more than summarise the leading principles concerning industrial location which the Greater London Plan lays down. They are amplified in much greater detail and with many examples of how they would work in practice. In general, the Plan constitutes a notable advance on any previous discussion of the subject.

A long chapter on communications forms another major feature of the Plan. It deals with roads, aerodromes, inland waterways, railways and markets. Here, too, the treatment is detailed, but as it requires for its comprehension frequent reference to the maps and charts with which the plan is lavishly illustrated, no attempt will be made to discuss this chapter here. It is much superior to the survey made by Sir Charles Bressey before the war, mainly because communications are considered in relation to planning as a whole instead of in a vacuum.

The remaining feature which must be mentioned is the chapter on outdoor recreation. This is a masterly conspectus of the requirements of the region in regard to open spaces and natural amenities.

The subject of open spaces is dealt with most adequately, and it is clear that this is a matter which the author of the Plan cares about deeply. The Plan envisages a wide green belt in which building will not normally be permitted. Beyond this green belt there will be a brown agricultural belt. Similar girdles on a smaller scale are contemplated for the separate towns and communities, whether old or new, within the region. The Plan proposes that the present green belt, which consists merely of a series of discontinuous wedges, shall be extended and made into a connected system by means of footpaths, parkways, riverside walks, bridle paths and green lanes.

There are numerous detailed recommendations which deal with the preservation of the general countryside; the protection of areas of special scenic beauty; old parks, both public and private; amenities connected with the Thames and lesser rivers and waterways; the construction of parkways and footpaths, bridle and bicycle tracks; rest gardens, children's playgrounds, recreation and sports centres,

town squares and town parks. Playing fields are a most important item in this comprehensive scheme. The total open space recommended is ten acres per thousand population. Of this, three acres should be attached to schools, one acre should be in parks, four acres in public playing fields, and two acres in private playing fields. In the more densely populated parts of the region all the open space would be publicly owned. It is only in the outer areas that private playing fields would be permitted.

It can be seen from this short description that the Greater London Plan is a document of the first importance. It is, indeed, a great State Paper of a new kind, at once sociological, aesthetic, practical, and humane. It is a blue-print of the Britain of to-morrow, embodying many of the best ideas which have been germinating in the minds of a small group of pioneers in the planning movement during the past 30 years.

The City of Manchester Plan

R. NICHOLAS, B.Sc., M.Inst.C.E., M.T.P.I.
City Surveyor and Engineer, Manchester

MOST of Manchester has been built or rebuilt in the last half-century ; but because the process went on unplanned the city is not a great improvement on the Manchester of 50 years ago. With or without a plan most of Manchester will again be gradually rebuilt in the course of the next half century. If, in its every stage this process of reconstruction is made to conform with a master plan, the Manchester of the future will be a city transformed ; if not, it will still be as ugly, dirty and congested as it is today.

The proposals have been built up on a firm foundation of solid factual knowledge. Every possible source of information has been used in preparing them. Since any scheme for the reconstruction of a largely built-up area must take into account the existing pattern of development, the preparation of a redevelopment scheme must therefore be preceded by a systematic study of layout, of traffic and communications, of the age, use, height and condition of existing buildings, and of the economic, geographical and other factors which have made the city what it is. The composition of the present population and its family units have been analysed. Past and present shifts and trends have been examined and, by studying their causes, a forecast of their future influence on the size and structure of the population, on the character and distribution of work-places, on the means of moving about and on domestic and social ways of living, has been attempted.

POPULATION AND FAMILY STRUCTURE

The population trend in the course of the next fifty years is the basis upon which nearly every aspect of the plan is founded. Past birth- and

death-rates have been studied, together with the migration statistics, from which future trends have been projected. By applying the results of these investigations it is estimated that the population figure of 704,550 in 1941 will fall to 659,300 in 1961 and to 483,350 by 1991. Since the first concern must be to see that the citizens are properly housed, the structure of the future population is no less of importance than its size.

A declining birth-rate will mean that families will continue to get smaller, whilst the declining death-rate will continue to increase the proportion of family units consisting of old people living alone or in couples. The number of Manchester family units of each size has been obtained from the national census figures and from the wartime billeting survey. From these, future trends in family size have been projected. In the past the population has been increasing and the number of persons per family unit decreasing, so accentuating the need for more dwelling accommodation. These conditions will continue until 1951 after which the decrease in population will more than balance the effect of still smaller family units, and this, combined with the attraction of outside development, will cause an accelerating decrease in the number of Manchester families.

DEVELOPMENT STANDARDS

The plan proposes that residential neighbourhoods should in general be developed in conformity with one or other of three main standards —designated as " maximum," " close " and " normal."

Dwelling houses should be available in all neighbourhoods for all families with young children. The standards differ only in respect of the proportions of the other family groups to be accommodated in houses, and in other types of dwelling which are considered appropriate to their particular needs.

The " maximum " standard is intended to be applied to the redevelopment of the inner, congested residential areas of the city, the " close " standard to the outer, congested residential areas, and the " normal " standard to new development. There is also a fourth category—the " open " standard—intended for application in the ultimate redevelopment of some parts of the city at present occupied by large old houses. It should also be adopted on small sections of new development neighbourhoods in order to make them fully representative of all income groups in the community.

ZONING

The zoning of land use is divided into : (*a*) Residential ; (*b*) industrial—general, special, light and domestic ; (*c*) commercial, comprising the city centre ; and (*d*) the cultural, educational and hospital precinct.

HIGHWAYS

As a result of an exhaustive comparison of traffic growth in this country and the United States, the conclusion has been reached that the traffic in this country will increase to a maximum of about double the 1938 capacity, and that this will be reached by about 1970. This conclusion,

and the road and junction capacities, which have been obtained from tests and observations, form the basis of the highway proposals.

The highway plan is of the "spider's web" pattern, removing by means of link and ring roads that through-traffic which has no need to pass through or near the city and regional centre. The plan envisages the ultimate removal of all frontage development from major traffic roads throughout the city.

TRANSPORT SERVICES

The railway passenger transport proposals envisage the amalgamation of main line facilities, at present provided in three terminal stations, in one new station. The goods station proposals provide for the removal of all goods stations from the central area of the city and for the provision in substitution of two new stations—west and east—each situate between the inner and intermediate ring roads.

The plan proposes an east and west bus station providing services to opposite sides of the city, together with north and south rush hour bus stations.

The future development of Ringway as a trans-continental airport is one of the essential proposals contained in the plan.

INDUSTRY

The industrial survey is in all probability the most comprehensive that has been undertaken by a planning authority. An attempt has been made to calculate the space requirements of the industrial structure of the city on the basis of future trends. A gross area of 2,200 acres has been zoned for industrial purposes, representing about 4·6 acres per thousand of the ultimate population.

PUBLIC OPEN SPACES

A standard provision of 7 acres per thousand population has been adopted, comprising 4½ acres for organised games, 2 acres for ornamental parks and gardens and half an acre for children's playparks. These standards cannot always be realised in the redevelopment of congested residential areas, and in these cases a proportion of the areas for organised games and ornamental parks are placed outside the redevelopment neighbourhood.

HOUSING STANDARDS

For the purpose of calculating the dwelling accommodation which can be made available in the City, prototypes of post-war houses and flats have been prepared by the Director of Housing with room sizes generally conforming with those recommended in the *Housing Manual, 1944*. Net densities have been calculated by the need to secure the adequate daylighting conditions established in the report on *The Lighting of Buildings. Post-war Building Studies No. 12.* The combination of houses, cottage flats, flats and maisonettes, single person's flats and old people's flats in the ratios proposed in the four standards of develop-

ment provide the following net residential densities in dwellings per acre for a hypothetical neighbourhood of 10,000 persons.

Maximum	Close	Normal	Open
18·51	17·82	13·26	6·8

The residential zones have been divided into neighbourhoods, the boundaries of which, wherever possible, coincide with the major traffic routes provided in the plan. The plan proposes that the neighbourhoods shall be provided with their own infant and junior schools, health sub-centre, branch library, shops, churches, a community centre, children's playparks, organised games, etc. The result of considerable research points to a population of about 10,000 or a little over as the most suitable unit. The standards of gross neighbourhood density in dwellings per acre, including all the facilities just mentioned, are as follows :

Maximum	Close	Normal
13·96	12·99	9·18

Residential development has been further grouped into districts comprising five neighbourhoods or 50,000 persons, a population able to support a wide range of amenities such as a district hall, main health centre, public baths, a main library, cinemas, etc. The district is intended to provide a link in the social and civic structure between the neighbourhoods and the city centre and civic authority. It is regarded as a provision of vital sociological importance.

The standards of gross district density in dwellings per acre, including all the above-mentioned facilities, are as follows :

Maximum	Close	Normal
9·3	8·87	6·68

If redevelopment were wholly in the form of flats, the gross district density would only be increased to 10·97 which shows the fallacy of high residential densities. Furthermore 100 per cent. flats in redevelopment areas would only increase the gross city density by 10 per cent. over that proposed in the plan.

REDEVELOPMENT

Some 121,000 houses, of a total of 201,000 in the city, are crowded on the ground at densities in excess of 24 to the acre. 68,000 houses, unfit for human habitation, must first be demolished and replaced, after which time a further 53,000 houses will be ripe for demolition. Redevelopment on the scale required can only be undertaken in stages, and detailed plans have been prepared showing how these stages can be planned so that the social and economic life of the city may not be seriously and irrevocably disrupted.

OVERSPILL AND THE SATELLITE

All the land within the city that is now available and zoned for housing will have been used up by 1949 ; thereafter, old houses must be demolished so that new ones can be built in their place and their present occupants must be first rehoused. To accomplish this, the provision of houses outside the city must commence in 1949 or thereabouts, and then in 11 or 12 years about 43,000 houses would need to be built outside the city. After this, if the pre-war birth trends persist, no further overspill would take place.

ABOLITION OF SMOKE

The plan proposes that there should be an adequate control of industrial uses of coal, an improvement in domestic appliances for burning solid fuel and the installation of district heating in new and redeveloped residential and industrial areas.

THE CITY CENTRE

The centre of Manchester was developed largely at a time when the pursuit of commercial profit was given a free run, and land was considered far too valuable to be wasted on parks and gardens. Yet this overcrowding of ground space is not economical even in the narrowest sense, for the methods of construction used in the 19th century restricted the height of the buildings to such an extent that an equal, or even greater, capacity of floor area could now be secured for redevelopment on far more spacious lines.

The task of getting some form and character into this amorphous mass, to bring light, air and easy movement into the dark maze of streets, presents a problem which at first sight seems almost insuperable. However, the proposals for the city centre divide into several clear-cut phases: First, the provision of such highways as are essential to ease the flow of traffic; second, the definition of zones into which buildings used for specific purposes may be grouped as their reconstruction becomes necessary; third, the establishment of certain focal points (such as the Cathedral precinct, the combined Courts of Law, the Civic Centre, the Piccadilly Amusement Centre, etc.) which would give coherence and architectural balance to the city centre and by their example raise the standard of quality in all forms of development; fourth, the improvement of passenger transport facilities by rail and road.

With regard to the highway problem the most effective solution is the provision of a city circle road. This would leave the inner core of the city—which includes most of the more valuable business premises—free from disturbance until such time as normal redevelopment takes place. After the alleviation of the present housing shortage this is probably the most urgent post-war need. By long term widenings in the inner centre, the tangle of criss-crossing streets could be rationalised as normal redevelopment takes place.

CONCLUSION

The plan for Manchester is technically feasible; its execution can be made administratively possible.

The Town and Country Planning Act 1944 gives local authorities the powers of compulsory acquisition necessary to secure satisfactory redevelopment in blitzed and blighted areas. We may expect legislation at least equal to the proposals contained in the White Paper on the Control of Land Use, but we still require legislation which will help us to forestall future decay, to make our City's layout efficient, to keep its buildings up to date, or otherwise to plan ahead and give our children the benefit of our foresight.

It is in the integrated long-term redevelopment of extensive areas that forward planning can secure the greatest benefits. These areas

will in any case be largely redeveloped, with or without a plan, in the course of the next 50 years. Obviously, means must be found to prevent labour and materials from being wasted, either by the rebuilding of property, scheduled for early clearance, in any way contrary to the detailed planning proposals, or by the renovation of existing structures to last a longer period than is contemplated in the redevelopment programme. Land costs must also be related to values based on a realistic limit of net density to be permitted in post-war housing redevelopment, and in commercial and industrial areas to values governed by codes designed to secure proper daylighting, breaks between buildings and adequate space for car parking and for loading and unloading.

The General Aspect of Planning and Reconstruction

GEORGE HICKS, M.P.
Former Parliamentary Secretary to the Ministry of Works

THE time has come for positive action in respect to planning and reconstruction. The period of experimentation and speculation has passed. The immense task of refashioning and rebuilding Britain immediately confronts us with an urgency which will no longer brook delay.

In the structural sense we have to decide the future Britain—the homes of its people, the planning and rebuilding of its villages, towns and cities, the entire material environment of the nation. Never before, during all our island history, were we presented with such a mighty undertaking, such a glorious opportunity, such a wonderful adventure.

We have the chance to effect a renascence in building, and a revolution in the living conditions of our people ; to transform the basic circumstances under which we work and play ; to become fully abreast of progress in industry, science and art, and to modernise and equip our country for its part and place in the brave new world. We have that chance if all the understanding men and women in the land will realise it, grasp it, and be big in thought, vision and action towards its achievement. Particularly have we that chance if all those having power, part and lot in planning and reconstruction—the Government, the local authorities, the architects and town planners, the directive men in the building industry and the building craftsmen and labourers are imbued with the knowledge and spirit, the energy, drive and imagination, to devote themselves wholeheartedly to its practical realisation.

Obviously there are two leading factors which will determine whether Britain is planned and rebuilt in accord with progress, with our needs and desires, our hopes and dreams : the people and the Government.

Everybody is conscious of the need to rebuild Britain, but we are a long way from having a properly informed public opinion, or one that is imbued with the keenest urge to enforce reconstruction on the right lines. There is much housing discontent, and an increasing knowledge among growing numbers of citizens of their local needs in regard to dealing with the blitzed and badly-built areas in their communities, but there remains a vast field of education to be covered before an enlightened, irresistible public opinion will be brought into existence. Such a public opinion is a primary requisite of all real advance.

Only a people with knowledge of what can be done can motivate and inspire the Government and public authorities generally. This, however, is mutual. The Government, and public authorities, in their turn, can do much to spread knowledge and inspiration. It is their duty to do so by assiduously supplementing the efforts of all those individuals and associations which are carrying on educational work in respect to planning and reconstruction.

Always we are compelled to look to the Government. The Government is the supreme authority. Only the Government has over-riding power in industry and social life. Only the Government can command the resources and capacities of the nation. The Government is the great determinant. It is the provisioning and organising factor—the fountain-head—the leader. If the Government fails to exercise its fullest power, consciously, systematically, boldly, with insight and vision, towards the most efficient, most progressive, most worthy reconstruction, it is clearly failing in its duty. It is permitting the existence of obstructive factors, deterrents of all kinds. It is creating weaknesses and difficulties incalculable in their consequences.

The Government must be the dynamic centre where concrete decisions are made and directives given, and from which the energising forces radiate—to the local authorities, the building industry, the building materials manufacturers, the building construction firms, the building professions and the mighty army of building workers—and among the public.

At this juncture it is imperative that the Government should do what no Government has ever done. It should lift itself above the everyday battle, as it were. It should wrest itself away from the welter of interests, look intimately upon and into the national scene, and proceed to will and to act in every way essential to the best rebuilding of Britain. It should say, in effect: Here is our green and pleasant land; here are the 47 million men, women and children constituting the population; here are the 12 million to 13 million dwellings in which they inadequately, and for the most part wretchedly, live; here are the villages, towns and cities which have haphazardly developed since the dark days of the Industrial Revolution and which have been severely battered during the war—ill-planned, ugly, congested, largely obsolete; here are the factories, mills, shops and offices to house the industries, the schools and colleges, the halls and institutes, civic centres, theatres, and cinemas, mostly out-of-date and inefficient in the light of progress. How can we—the Government—set to work to transform all this building mess? How can we proceed, now, at once, tolerating no hindrance, to engage in the enormous task? The resources of the nation—in manpower, in know-

ledge and capacity, in wealth, in industry—are available to the Government to devote to this purpose. How can we in actual practice, make the best use of these resources, planned in the most systematic and progressive manner?

The Government must have a national plan of reconstruction into which regional and local plans are fitted as into a mosaic. And it must possess the fixed resolution to put that plan into operation despite all obstacles and difficulties. The needs, ideas and spirit of the times insist on the eminent practicability of such a plan. Other countries, especially Russia, have shown the way. Indeed, the common assumption is that the Government have such a plan: four million new houses in the next ten years, and so on. But the aspect presented, as regards its out-working and fulfilment, hardly justifies that assumption. There is a weedy growth of interests which has a suffocating effect. Only some of the local authorities evince interest in rebuilding their towns. The others are cursed by inertia. Zoning and planning is desultory. Much land has yet to be acquired for building sites. Building is in a jungle. The building industry is in a low condition. The production of building materials is haphazard. There are deficiencies in the output of internal fittings of houses, for instance—stoves, sinks, baths, etc. There is no point in erecting the walls of houses and then waiting months for inside equipment.

The Government has a storehouse of knowledge and experience provided by the Coalition Government, its Ministries and Departmental Committees. Therein are to be found all the ingredients of the national plan. The Government has given greater freedom to the local authorities to acquire land for sites, place contracts and control building work. Speedier demobilisation is expected to ensure a total of 905,000 building craftsmen and labourers by June, 1946. The army of construction is gathering and falling into line. Such progress has been made with war-damage repairs that the situation has become generally easier. It is more possible now to be precise in the determination of priorities—war-damage repairs, ordinary repairs and maintenance, slum clearance, new housing, and vital industrial and public construction (schools, etc.)—than prior to the defeat of Japan. In that respect the way is clearing for large-scale practical work.

The situation is ripe to give consent to a national plan for the whole country as a single entity which must aim for the best ordering of both town and country. It is good to know that we have a Ministry of Town and Country Planning active in pursuit of this.

Man does not live in houses alone. He lives in communities. This has been overlooked in respect of many of the new housing estates. They are troublesome and dreary beyond words. They consist of houses and nothing more. Shops, schools, public houses, places of recreation and amusement, etc., are some distance away. Community centres have not been thought of. A model community—a community just the right size and truly representative of social life—needs to be conceived so as to evoke the maximum civic interest and pride, and to be generally developed. Most of the big towns are ugly, congested, wasteful, ill-conditioned. The plan must envisage large-scale dispersal from the overcrowded cities, the provision of more open spaces and green belts,

the adjustment of the roadway system to motor traffic. An end must be put to the hideous ribbon development so destructive of the beauty of the countryside. Instead, new towns must be built in accord with modern needs and values ; spacious, clean and beautiful. It would be a tragedy if the presence of the housing emergency tended to obstruct, delay, or prejudice in any way good town-planning, and the most careful preservation of the rural areas.

There must also be a better ordering of the forces recruited and organised to carry out this plan to imbue them with energy and drive. In 1941, there were 61,928 firms in the building and civil engineering industries. By November, 1942, this number had fallen to 43,434, and by October, 1943, was further reduced to 40,931. The probability is that by now the number has risen to about 60,000. Reconstruction will largely rest on these firms. Some review of all these firms, big and little, is necessary. There is great scope for rationalisation in the building industry, to ensure the use of the most efficient plant and machinery, and thus prevent wastage of manpower and check unworthy building, and make certain that the various units are the best for the work they undertake.

There is great scope, also, for a re-valuation of the part of those who will do the actual work—the building operatives. A new outlook is abroad among the craftsmen and labourers, which the prospect of permanent employment, the guaranteed week of 32 hours, part payment for loss due to inclement weather, and improved welfare conditions, will hardly meet. Wartime experience of works organisation and production committees has inspired them with the conviction that they should have a voice in the management of the building jobs, and the industrial environment to which their lives are committed. Only by conceding this right will necessary improvements in working morale be achieved and will the workers be imbued to give of their best labour and skill.

Such is the general aspect presented of planning and reconstruction. It remains for all of us to do whatever lies in our power to change this aspect by contributing living purpose, zeal and inspiration to the rebuilding of Britain.

Housing— Temporary and Permanent

R. L. REISS, M.A.
Vice-Chairman of Welwyn Garden City Ltd., and of Hampstead Garden Suburb Trust

FOR some time before the conclusion of the war, it was realised that the housing shortage was becoming extremely acute, and that the rate of production of dwellings would be dominated by the supply of labour. The efforts of the Ministry of Works, which under the Churchill govern-

ment was charged with the duty of arranging for the constructional side of housing, were mainly directed to two ends. First, to devising some form of constructing dwellings, whether temporary or permanent, which would use less skilled building-trade labour than the traditional brick house ; and secondly, to laying plans for increasing the supply of skilled labour.

The supply of labour will remain a dominant factor in the solution of the housing problem for some years to come. In the years 1936–38 the annual production of houses was greater than at any period since the beginning of the century, averaging about 350,000 dwellings per annum. During the six years of war the available supply of building-trade labour fell rapidly, because :

1. A considerable number of operatives joined the Forces, and a number more went into various classes of munition production.
2. Very few lads were apprenticed to the building trade, and many who had been apprenticed just before the war were called up into the Forces before completing their training.

At the conclusion of the European war, there were only 340,000 building-trade operatives actually engaged in the building trade as compared with about 1,000,000 in 1939. Moreover, the overwhelming majority of those available were still engaged on repairing war damage. At the time of writing (January, 1946) a large proportion of the building-trade workers are still engaged upon war damage repairs and carrying out ordinary deferred repairs, and these are likely to employ many of them for several months to come.

The following steps have been taken to increase the supply of labour :

(*a*) The building trade has been included under Scheme B for demobilisation, and the conditions of Release under Scheme B have been improved, as the result of which, it is anticipated that more men will accept such release than was at first thought likely. Moreover, the acceleration of demobilisation under Scheme A, and the demobilisation of the munition industries will also help to make available the majority of those already trained in the building industry.

(*b*) In addition to the fully trained men being demobilised, there were some 60,000 young men in the forces whose apprenticeship was interrupted. These can also be demobilised under Scheme B, and steps have been taken to enable their training to be rapidly completed.

(*c*) By arrangements made between the Government, the building-trade employers, and unions, a campaign has been started to increase the number of apprentices to the trade.

(*d*) Training Centres are also being set up to train men for the building trade who have not been in it before.

It is now agreed that, as soon as possible, the output of permanent houses must be brought up to 500,000 annually, and it is calculated that, taking into account the other classes of building which will have to be proceeded with, the total building-trade labour force must be rapidly built up to 1,250,000. As this is 20 per cent. higher than it was in 1939, it will probably be at least three years before the full force is available.

This fact was fully recognised before the war ended. Hence, the efforts to devise some form of construction which would utilise less skilled labour than the traditional house.

In this connection, it is important to keep quite distinct three categories of construction :

(i) The so-called " temporary " house, designed to last for ten or fifteen years.

(ii) The purely " temporary hutment ", designed to last for two or three years.

(iii) Alternative methods of constructing the " permanent " and really satisfactory house.

THE TEMPORARY HOUSE

Many forms of temporary housing have been devised, in varying degrees " pre-fabricated ", but it cannot be said that any have been proved really satisfactory. Most of the types of construction involve the house being one-storied. As a consequence, they take up much more land and thus involve longer runs of service mains and more work in sewer and water connections. Moreover, it must be borne in mind that the time schedule for the construction of the traditional permanent house before the war was approximately :

Foundations and service connections	15 per cent.
Constructing the walls and roofing in	30 per cent.
Internal finishing and fittings, etc.	55 per cent.

In the temporary, as compared with the permanent, house, the only real savings in time and skilled labour are in the second of these stages. The foundations and service connections take as long, and use as much labour as in the permanent house, and economies in time and skilled labour in the finishings and fittings can be made almost equally as well in the permanent house.

A large number of such permanent houses were erected for wartime purposes in the United States during 1942–43. The American experience showed that there was very little economy in this method of construction and that dwellings produced were mostly unsatisfactory. In May, 1943 the Commissioner of the Federal Housing Authority in the U.S.A., who was responsible for the construction of most of the temporary houses said :

> " Temporary houses, which have been recently built by the Federal Public Housing Authority with the particular view towards saving time and critical materials, are definitely sub-standard homes, and we know it. . . . The houses must come down, or the Federal Government will have built the slums of ten years from now."

Even before the end of the war the late Government recognised that temporary houses would not prove satisfactory and the present Minister of Health (Mr. Aneurin Bevan) has definitely decided to limit the number of temporary houses to 150,000.

TEMPORARY HUTMENTS

There is a substantial difference between a house designed to last from 10–15 years and a purely temporary hutment designed only to last

quite a short time, and which is frankly regarded as merely a " make-shift ".

Particularly in the London area, a number of Nissen huts and similar hutments have been erected on the scattered bombed sites with the minimum of labour and material, and have been accepted by people as a " make-shift " measure, better than having no dwelling at all, on the assumption that they will not have to live in them for more than a year or two.

ALTERNATIVE METHODS OF BUILDING THE PERMANENT HOUSE

The fact is, that if a dwelling is to be occupied for more than two or three years, it should be built in such a way that it will last for sixty. Much the greatest hope of speeding up the construction of houses is to find methods of constructing walls and roofs in a permanent fashion without employing so much skilled bricklayers' and tilers' labour, and secondly to mass-produce satisfactory fittings for permanent houses whether built in brick or other material, using in their manufacture other classes of labour than the normal skilled building-trade operatives.

Among the most hopeful of the methods of building permanent walls without using bricklayers' labour is the " no fines " poured-concrete construction. As the result of research, it has been shown that a completely dry house can be produced in poured concrete, provided care is taken to use only a coarse aggregate mixed with the cement. This method of construction requires care and supervision, but can be carried out by relatively unskilled labour.

But perhaps the greatest speeding-up in the construction of permanent houses can be effected by the factory manufacture of fittings and particularly of kitchen and bathroom equipment. Here there is a lot to learn from America. The entire kitchen equipment for the small American house, including kitchen cabinet, shelving, etc., is manufactured in factories, usually in steel, and arrives on the site ready painted, and can be fixed in a very short time. In this way carpenters' labour is very much reduced, and by factory manufacture of plumbing units, the work of plumbers and fitters can be substantially reduced. Not merely is less skilled building-trade labour used, but the time of finishing is also shortened. Whereas in British small house construction before the war, one trade had to wait on another in the finishing of the kitchen, which took a substantial period of time, in America the kitchen can be finished very rapidly.

BUILDING COSTS

It may now be stated definitely that the policy of the Government from 1946 onwards will be to produce permanent houses. At any rate, for the next few years it is practically certain that much the largest proportion of houses will be built by municipalities for renting. Obviously, the rents must be within the range of the average worker.

Whilst speed of production will be the principal aim, financial considerations are vitally important. In any event, the houses will have to be subsidised, and the burden falling upon the tax-payer and rate-payer

will be substantial. It will be supremely important to keep the cost of building at a reasonable level.

The best measure of the cost of houses is that adopted by the Ministry of Health, *viz.* the cost per square foot of floor space within walls. The average cost of Council houses per square foot from 1913 to 1945 was as follows :

		s.	d.		s.	d.
1913–14		5	6			
1920		20	3			
1922–30 ..	from	9	0	to	11	0
1931–38	from	8	0	to	9	0
1945	about	21	0	but in many areas substantially higher than this.		

It will thus be seen that the effect of the recent war has been similar to that of the last. Some method will have to be devised to bring down the cost. Space does not permit of detailed suggestions as to how this is to be done, but among the methods to be adopted should be: (*a*) Continuity of building employment; (*b*) skilled organisation of labour; (*c*) mass production of standardised fittings. The method which should *not* be adopted is to cut down the quality of the construction and the fittings.

SUBSIDIES TO MUNICIPAL AND PRIVATE ENTERPRISE

Over 4 million houses were built in Great Britain between the wars. Of these about one-third were built by Councils and were almost all let at subsidised rents. The remaining two-thirds were built by private enterprise, mostly for sale. Some of these latter, if built in the early years after the last war, were subsidised. But, whether subsidised or not, experience has shown that comparatively few working-class families were able to purchase them. Their construction helped in the solution of the problem of housing the " black-coated " worker, but did not touch the real working-class problem. Even if the private-enterprise houses were built for letting, they were mostly outside working-class means unless built by societies formed by public-spirited individuals.

The general result of the inter-war effort was largely to satisfy the middle-class demand and to enable most well-paid weekly wage earners to be properly housed. But it left a large working-class demand unsatisfied, and a number of slums still in existence.

The policy of the present Government is likely, at any rate during the next three years, to concentrate on the building of council dwellings for letting, as it is for these that the greatest need exists. This Council Housing will be subsidised, and the amount of the subsidy will necessarily depend upon costs and interest. It is practically certain that Parliament will not provide subsidies for private-enterprise houses built for sale, though it is possible that, subject to definite conditions as to rents, there may be an annual subsidy for private-enterprise houses built for renting. (At the time of writing the amount of the subsidies and the conditions attached have not been announced. If before the proofs are finally corrected an announcement is made it will be inserted at the end of this article.)

So long as the shortage of building labour remains—and it will do so for many years to come—building is likely to be controlled, and licences will have to be obtained for the building of private-enterprise houses. The present arrangement, by which the licence is only given if the cost is under a certain figure, will probably continue. Subject to this, private enterprise will be able to build for sale, though the houses will probably not be subsidised.

THE PLANNING OF RESIDENTIAL AREAS

One of the principal criticisms which can be levelled against the development of housing estates, between the wars, whether by councils or private enterprise, was that they were developed too exclusively for housing purposes alone. With some notable exceptions, inadequate provision was made for "neighbourhood unit" facilities. No real consideration was given to reserving adequate sites for local shops, community buildings, open spaces and all the other facilities required for the new community.

It is now generally recognised that this error must be corrected, and that in future, residential areas should be planned as complete "neighbourhood units" accommodating from 2,000 to 10,000 people.

The *Ministry of Health Housing Manual* gives suggestions as to the desirable allocation of land for normal residential "neighbourhood unit" accommodating 10,000 people.

Housing area	333 acres (roughly 30 persons to the acre)
Primary schools	17 acres
Open space	70 acres
Shops, etc.	9 acres
Community centres, churches and public buildings.. ..	4 acres
Service industries and workshops	7 acres
Main roads	35 acres

This gives a total of 482 acres, and a "neighbourhood unit" density of 21 persons per acre.

FLATS, HOUSES, AND THE PROBLEM OF DENSITY

There is no subject on which there has been more recent controversy than on that of the density of residential areas. Two figures are now usually given in town planning proposals: *viz.*, that for the development of new residential areas, and that for the redevelopment of existing built-up areas. In both cases suggested figures are given for "net residential" density; *i.e.*, of the purely housing areas including their internal roads, and that of "neighbourhood unit" density, covering the residential area as a whole. Whilst in most cases relatively low densities are proposed for the new areas, based upon the assumption that most of the dwellings will be houses, there are wide differences between the proposals of one town and another with regard to redevelopment areas.

These wide discrepancies raise in an acute form the issue as to the

extent to which families can rightly be housed in flats. There can now be no question that if the best living conditions are to be provided, families with children should be accommodated in houses rather than in flats. On the other hand, flats are a convenient method of housing single persons, a certain proportion of married couples without children, and, provided the flats are not more than two or three storeys, some families where there is only one adolescent or adult child. In fact, it is desirable that only those persons who wish to live in flats should be so accommodated.

Probably taking an average, the proportion of flats to houses should not be more than one to ten in an urban area as a whole, though in the central areas of large towns, it might be one to five.

Based upon the assumption that the *Ministry of Health Housing Manual* standard is the desirable one if circumstances permit, the real question is how far can circumstances be altered by a bold town planning policy so as to enable these densities to be achieved as nearly as possible.

In the small and most medium-sized towns, there is no necessity to have any lowering of this standard in the new development areas and there should not be net residential densities higher than 50 persons per acre in any of the redevelopment areas.

Two examples of published plans for medium towns may be quoted : Middlesbrough (pop. 138,000) proposed net housing densities, 41–50 in the central areas ; 31–40 in the middle areas ; and 21–30 in the outer areas. At Norwich (pop. 121,000) the local authority instructed the town planner not to exceed even in the central areas a maximum net housing density of 60 (providing for 15 per cent. of the dwellings to be flats). The town plan provides that in the new development areas the net housing density shall not exceed 28.

In the large towns and conurbations, reasonable housing densities can only be achieved in the redevelopment areas if there is a substantial decentralisation of industry and population. The planning proposals so far published for large towns all provide for some decentralisation. Despite this, however, the London Plan provides for the net housing densities in many of the central areas to be as high as 136–200. Liverpool, Birmingham and Glasgow councils are also considering very high densities. These high densities can only be achieved by all or nearly all the dwellings being multi-storied flats. Moreover, the high net housing densities are accompanied by a cutting down of the areas reserved for schools, open spaces, etc. This can only be prevented by a much larger decentralisation than that so far proposed.

A lead has been given by Manchester, however, where the council has adopted the recommendations of its officers that, even in the central areas, the net housing density shall not exceed 60 persons per acre, and that even there the overwhelming majority of the dwellings shall be houses. The Manchester plan has been based upon this assumption, and practical proposals are made for decentralising industry and population to a degree necessary to achieve it.

One point often overlooked in discussions on the issue of flats, as against houses, is that the building of multi-storied flats is much more costly per room than building houses. In fact, the published figures of the Ministry of Health show that in the years immediately before the

war, the cost per square foot of building multi-storied flats was on the average nearly twice that of two-storied houses.

Thus the building of multi-storied flats is not merely less desirable socially, but much more uneconomic. It is, therefore, worth exerting every effort, as Manchester is doing, to decentralise industry and population to an extent necessary to enable houses to be the general rule even in the most central areas.

Latest information (1st March, 1946)

(1) The Housing (financial, etc.) Bill 1946 fixes subsidies for Council dwellings at :

Exchequer	*Normal* £16 10 0	*Agricultural population* £25 10 0	
Local Authority	£5 10 0	£1 10 0 plus £1 10 0 by County Council	

Payable for 60 years. In special cases (*e.g.* multi-storied flats on expensive sites ; heavily rated areas) the Exchequer subsidy is higher.

(2) White Papers (Cmd. 6744 for England and Wales ; Cmd. 6745 for Scotland).

Housing Progress at 31st Jan., 1946 ; England and Wales

Temporary houses	*Under Construction*	13,600	*Completed*	12,025
Permanent. Local Authority	,,	16,765	,,	352
Permanent. Private	,,	5,000	,,	1,116
Rebuilding of war destroyed houses ..	,,	2,726	,,	441
Total new accommodation	,,	38,091	,,	13,934

Between 1st April, 1945, and 31st January, 1946, 70,223 unoccupied severely war damaged houses were made fit and 411,000 war damaged occupied dwellings repaired. In Scotland 1946 temporary and 8592 permanent houses were under construction and 726 temporary and 1665 permanent were completed.

690,800 Building workers were employed in Great Britain at 31st Jan., 1946, as follows :

On new dwellings 89,650 ; war damage repairs 198,000 ; other repairs and conversions to dwellings 147,750 ; making a total of 435,400 on all kinds of housing. 255,400 were engaged on other classes of buildings and Civil Engineering.

Prefabrication in Housing

FREDERIC E. TOWNDROW, F.R.I.B.A. formerly Controller of Experimental Building Development in the Ministry of Works, now Consulting Architect to various organisations including Precision Building (Research & Development), Ltd.

THE PROBLEM

THE problem of housing is a mighty one. There is no easy solution. It is largely a problem of building production. The simple fact is that he building industry, as it is constituted, is incapable of producing the

number of houses required, unless the methods of production are vitally changed. The basic economic facts are these :

1. That in the twenty years 1919–1939, the average production of housing from the industry, building by traditional methods, was only two hundred thousand per annum. About one-third of the industry was occupied in housing, one-third in other building, and one-third in maintenance, repairs, jobbing, etc. The output of housing was not sufficient for replacement of obsolescent dwellings as well as for houses for new family units. Now the Government's programme for the next ten years is at least four million dwellings—including flats and replacements on existing sites ; *e.g.*, slum clearance. This gives an average of four hundred thousand per annum. It will take several years before we can reach a production of four hundred thousand, so that if we are to average out on that figure for the next ten years, the peak production in say five years' time will have to be six hundred thousand per annum, tapering down after the seventh year.

2. The normal building industry before the war had about a million operatives. Now it is proposed that the industry, in respect of its site operatives, shall be increased up to the ceiling of one and a quarter million. Therefore, if most of the increase is put into housing, the possible increase in house-building operatives in the industry is about sixty per cent. But we want to increase production over pre-war by one hundred per cent. Here I do not want to dwell on the simple fact that, with our limited population and with all the other pressing demands on man-power (*e.g.* export trade), it is doubtful if the country can afford a larger building industry than one and a quarter million (counting site operatives alone), as we must not forget that for every one man-hour spent by an operative on the building site, there are about one and a half man-hours involved in the labours and occupations of others in all the multifarious activities that go to make buildings, such as the work of materials manufacturers and their workmen, merchants, distributors, architects, engineers, surveyors, and the thousands of others who get their living or part of their living out of building in one way or another. All this is a charge upon man-power.

3. Therefore, in line with the trend of modern production, the belief is that if we can bring our limited man-power under controlled conditions in factories, *i.e.* prefabrication, we shall get greater output per man-hour. But the great question is whether with the given limited man-power we can increase the rate of production by one hundred per cent. In other fields, with the aid of machinery, production has been increased enormously. Can the same hold good for building, which is a bulky business involving heavy transport costs and large quantities of material ? And even when we have solved the specific problem of building and reduced its cost, we may not be able to get down to economic rents because we still have the cost of land, and interest on money, and local rates to contend with. But that is another matter.

PREFABRICATION OR NOT?

So far as building costs are concerned, is prefabrication the answer? The word " prefabrication " in regard to house-building is much used and much abused. The word is of course ambiguous. It may mean different things. It is used for the Government " temporary " bungalow which is almost entirely factory-made, and it is used for many methods involving a high degree of site-assembly. Prefabrication is not a new thing in building. We might argue, as some do, that the ordinary brick-built house is largely prefabricated in the sense that bricks are a highly standardised product made away from the site and transported to it. But this is stretching the word too far. Better examples of normal prefabrication are factory-made staircases, doors, windows and kitchen fittings, which nowadays are rarely made on the site.

In my opinion the word ought to be restricted to those types which are largely pre-assembled off the site, such as the Government temporary bungalows. These are all made in the factory to a standardised plan and vary only in respect of their carcasing materials. This type of house is clearly prefabricated. The fact that it is called " temporary " is purely a legalistic limitation imposed for political rather than structural reasons. Its life is limited by statute and not by facts of durability. Oddly enough, this temporary bungalow has inside it a splendid factory-made kitchen and bathroom unit, giving a standard of workmanship and efficiency higher than any to be found in ninety-nine per cent. of permanent houses. But it is, as everyone knows, a costly job. Here we have a production which is only supposed to last ten years ; and side by side with this we have similar productions, but slightly larger, called " permanent prefabricated houses ", which are supposed to last at least sixty years. These are eligible for sixty-year exchequer loans to local authorities. This class of permanent prefabricated houses, now being developed under the auspices of the Ministry of Works, not only includes types which are largely factory-made, it also includes many which will require almost as much site labour as pre-war traditionally built houses of bricks and mortar, *e.g.* types employing poured *in-situ* concrete for walls. So much for the words " prefabrication " and " temporary ".

PRECISION-BUILDING

As a general word for speedier methods of building, I have adopted the word Precision-building, which includes both factory assembly and precise methods of site-assembly for all types of construction and all kinds of materials—including, for instance, brick for external walls. Precision-building implies organised production from the assembly of the smallest unit to the major assembly of the final product on the site. It includes such important matters as the organisation of transport and site labour. It is a more inclusive word than prefabrication, which, unfortunately, implies a temporary or novel method of construction. ' Precision-building is concerned as much with precise building method as with the invention of new construction. It is basically concerned with the reduction of the total man-hours which go to make a product. And in these costs it is vitally concerned with overheads and management costs. Hitherto, in most prefabrication methods these are too high. In my

opinion there is more room for economy in changing the methods for site assembly than in radically changing the methods and materials of construction. There is still the mistaken idea that somebody's brain-wave for a new gadget or a new material will produce houses of twice the size at half the cost and half the time. So far it hasn't happened. There is also the mistaken idea that if you set up an enormous plant employing fewer workmen, but with hundreds of highly paid scientists, managers, and government officials buzzing round it, the total cost of the product will be lower. Obviously it won't—unless the overhead cost ratio is low. In ordinary traditional house-building it is now very low—compared with other industries.

It is fairly obvious, when you come to think of it, that the methods employed for low-priced speculative house-building before the war were, taking all things into consideration, the cheapest possible at that time. They had to compete fiercely on the open market. They were like a biological species. Every farthing of their costs had to go into the price of the article on the market. House-building had hundreds of years' trial and error experience behind it, and I prefer to pursue this line of evolution—but accelerated evolution. Just as necessity is the mother of invention, so change in biological growth is caused by major economic disturbance. The war and its aftermath have thrown up a set of new, and partly new, conditions, mainly in serious shortages in certain kinds of labour and materials. Some of these conditions are likely to last for a few years, some for ever. Thus new techniques are forced into existence. For instance, lattice-welded steel frames for houses, which speed up the assembly and provide a precision job, are likely to be a permanent feature in future housing. But cost will decide it, one way or the other.

POSSIBLE SOLUTION

There is no simple solution to the problem of housing production, but pursuing our line of accelerated evolution, it seems clear to me that we can, upon the basis of precision-building, save considerably in total man-hours by the following six lines of action :

1. Standardisation of house plans for fifty per cent. of new dwellings. Say thirty different basic types, each with about ten variations for external appearance and internal planning, making a total of about three hundred types, half of these to be designed by official architects and half by private architects outside the official ranks. Thus, really giving more variation than ever existed before, because a building estate can have a great variety of types without having to pay extra for them as " specials ".
2. Unification of bye-laws, water regulations, gas regulations, and electric supply regulations. In this tiny little island what is to prevent our having a complete National Building Code which is the same for Penzance as it is for Aberdeen ? The parish pump mentality must be swept aside. Canada, which is about 45 times the size of Great Britain, has a National Building Code. Here we have nearly 1,500 separate local authorities—each wanting something different from the other.

3. Standardisation and quantity production of components, such as doors, windows, staircases, kitchen fitments and wardrobes. A great deal of work has already been done in this direction, especially under the Standards Committee of the Ministry of Works and the British Standards Institution. Already the production of windows and kitchen fitments has been standardised. This is a good example of accelerated evolution. Incidentally, the Government may now institute the bulk purchase of such components. I pray that the prices to the consumer will be lower.
4. Detailed descriptive particulars (*e.g.* precise drawings, specifications, schedules) and detailed cost analysis for each standarised type, including proper time and motion studies of all operations on and off the site.
5. Absolute freedom for private enterprise to compete with Government and municipal agencies on the same terms, *i.e.* the same standards of planning and construction, the same priorities for labour and materials, the same subsidies (if any) and the same (or similar) finance facilities : the Government and municipal agencies to include in their final costs all the direct and *indirect* overheads involved in the production so that their overheads are not " hidden " in other accounts for which the taxpayer has to pay. Private enterprise obviously has always to include all the costs involved.
6. Pre-assembly of the less heavy and more complicated parts of houses. The factory production of these sub-assemblies should show a saving in total man-hours. Factory-made domestic engineering units could include one or other of the following : hot water installation, space heating, gas or electric runs and meters, plumbing (according to a national code for plumbing), bathroom and kitchen fitment assemblies.

Perhaps the most notable of these developments is the " All Purpose Unit " which has been designed by Mr. R. A. Duncan and his associates and is now in pilot production. This is a pre-assembled and transportable " Tower " containing apparatus for space-heating, water-heating, hot and cold water services, warm-air heating, electric installation, the main pipes for the plumbing and connections to kitchen, bathroom and water closet.

Already one or two promoters in this field are experimenting with complete factory-made transportable kitchen units. There is one being produced for the John Howard House which is a complete kitchen made in the factory, transported by lorry to the site, and lifted by crane into the house. It so happens that a company with which I am associated are working on a similar principle, *i.e.* a sub-assembly, not of all the containing walls of the kitchen and bathroom, but all the " works " of it, including bathroom fittings, kitchen fittings, hot water services, plumbing and the fireplace in the sitting-room.

There is, of course, the factory-made kitchen and bathroom unit (the Ministry of Works " K.B." unit) which is incorporated in the Government's temporary bungalow, and of its kind this is a remarkably interesting job. But in my opinion, it is too involved in its production with so many Government departments having a hand in it.

An Appraisal of the Tennessee Valley Authority's Research in Prefabrication

CARROLL A. TOWNE and WOODRUFF H. PURNELL

DURING the past decade the Tennessee Valley Authority has built eighteen large dams to control floods, promote navigation and produce power on the Tennessee River and its tributaries. Many of these dams were built in locations remote from existing communities and required the construction of houses, dormitories, and related facilities near the dam sites in order to insure recruitment of workers. As the construction period at each dam lasted only two or three years, and as the dams were built in sequence, the desirability of mobile housing that could be moved from a completed to a new project at low cost was obvious.

In 1941, after several years of intermittent study, the TVA built its first mobile house. Mobility was the primary goal, and the fact that prefabrication might be related to mobility was almost completely overlooked at that time. This accounts for the TVA's somewhat novel entrance into the field of prefabrication.

The basic scheme adopted for making a house mobile was very simple ; it was built in large sections, each of which was a load of width, length and height that would permit its safe transportation over a highway. Section lines bore no particular relationship to the floor plan of the house, except to avoid door and window openings. One-third of a room might be in one section, the other two-thirds in adjacent sections.

The scheme worked very well in the first experimental houses built by TVA. It proved entirely feasible to pre-finish the sections completely, even to the point of installing all plumbing, wiring, fixtures, and trim at the point of fabrication, before shipment. As the house sections were also pre-painted, only a small percentage of the work was left to be done at the building site. With very little bracing on the open sides of sections, virtually no wracking was experienced in transit, and house sections fitted together as well at the building site as they had before leaving the point of fabrication. No breakage of glass or fixtures occurred, and plumbing connections remained tight.

This initial experiment was so promising that it led to a number of succeeding ventures, each of which contributed to the fund of experience with sectional houses, and to a growing conviction on the part of the TVA staff that techniques of considerable value to prefabrication were evolving.

The first modest experimental project was followed by the construction of 150 one-, two-, and three-bedroom houses having respectively,

three, four, and five sections. These houses were conventional in construction and appearance, except that they were separable into sections, and had pitched roofs which could be folded down flat to permit transportation over highways.

This project was followed by one involving the construction of one hundred one-bedroom, two-section houses and three twenty-two section dormitories for TVA workers at a dam construction project. These units, like those previously constructed, were built by TVA forces in a primitive outdoor plant set up in a vacant field. Unlike the previous efforts, however, this one was marked by the adoption of some industrial construction techniques. The units were designed so that floors, walls, partitions and roofs could be built as panels on jig tables. These panels were then put together on the adjacent assembly lines to form sectional units, which, after wiring, plumbing, trimming and painting had been finished, were ready for shipment. They were shipped three hundred miles from the point of construction to the point of their first use.

Since the date of original shipment, some of the units have been moved once, and some twice, to new locations. This saved the TVA a considerable amount of money and time as compared with that required to build new units at each of the locations where housing was needed. It also eliminated a great deal of house-building activity at points where all available labour was urgently needed to start dam construction.

The opportunity to observe the construction, shipment and erection of some 250 sectional houses of varied design and under a wide variety of conditions provided the TVA staff with considerable experience and a number of ideas. It was increasingly evident that fabrication of sectional houses in a factory would be practical from a technical point of view, and that it might, under certain conditions, be superior to other prefabrication methods from the economic standpoint.

This led the staff to design a one-bedroom, two-section house, suitable for factory fabrication. In order to reduce the weight, to conserve materials, and to facilitate shipment and field erection, plywood was chosen for the principal material. To secure the maximum advantage from use of this structural sheet material required detailed calculations, coupled with a creative attack upon the problems of structural design. It was also necessary to design the house so that it could be efficiently produced by modern assembly-line practices.

In order to learn about factory conditions, the TVA arranged for each of two private companies to build two experimental houses from TVA design. The experiment was successful, and provided the necessary experience to permit the redesign of one of the four experimental units for quantity production. One of the companies then elected to accept a contract for the construction of one hundred houses. These were built in a factory and shipped 600 miles to a TVA dam construction project, where they are now occupied by TVA employees.

This co-operative project with a private manufacturer marked a major advance in the TVA's research in prefabrication. A number of highly significant conclusions were reached, among which was the discovery that the design of a prefabricated house requires the combined creative talents of the architect, the structural designer, and the manu-

facturer, working in close harmony to secure the maximum contribution of the skill of each, consistent with the objectives of the others. This concept of a creative attack by a co-ordinated group of skills upon the problem of design for prefabrication was the framework within which the TVA staff approached its next assignment: the design of a two–bedroom, three–section house, and a three–bedroom, four–section house.

As a background for this effort, which was conducted as a research project in design for prefabrication, the staff agreed in advance upon certain points. Because it had acquired considerable knowledge and experience in the use of plywood, this remained the principal material. Because the advent of war had created serious housing shortages in areas where war materials were being produced, it was agreed that the designs should meet the current requirements for emergency housing, rather than the vague aspirations of post-war housing.

A somewhat arbitrary formula was adopted for establishing a common ground on which the architect, the structural designer and the manufacturer could meet. It was proposed that the designs would incorporate maximum possible standardisation of individual pieces of material, but that the arrangement of these pieces to form panels, cabinets, and other elements might be varied. It was the intent of this formula to limit the architect (who seeks freedom from inhibitions in freely expressing his design concept), at the least damaging point, and at the same time to satisfy the manufacturer's demand for a degree of standardisation that could lead to maximum production efficiency.

The structural designer was to operate as the interpreter of both the architect's and the manufacturer's requirements. This proved to have considerable merit, as the leavening influence of a structural calculation to demonstrate the effect of a proposal from either party was most effective. In order that each viewpoint in the technical group might receive full expression, and yet not infringe on the others, a co-ordinator with no technical training in any of the fields, but with an acquired understanding of each, acted as the director of the work.

The resulting designs were sufficiently stimulating to cause another government agency to use them in awarding contracts to six manufacturers for the production of several thousand houses required for war-workers at war production centres. The TVA acted as consultant to these companies, by interpreting the designs, explaining the production techniques assumed as a basis for design, and by drawing on its observations of previous work. At the peak of production, the smallest plant was delivering four two–bedroom houses a day, the largest seventeen. The combined peak production capacity of all the plants amounted to about 55 two–bedroom houses a day.

The enterprise was a success, and a number of the companies remain interested in continuing with TVA-developed methods in the post-war period.

This rather sketchy history of the TVA's research in prefabrication offers an opportunity to appraise its significance to the future of the industry. This can be most conveniently expressed under a series of headings.

DESIGN

The group attack upon design proved highly successful, provided the co-ordinator remained vigilant in preventing incorporation of design features not concurred in by all participants. Whenever this happened, it was usually necessary to eliminate the offending innovation, and to start in again with a group attack upon the problem. Frequently the result was almost identical with the discarded scheme, which leaves the impression that the net result was to satisfy the personal whims of the individuals involved. The final product effectively disproved this theory, as it attained a distinction in appearance, livableness, and production efficiency that is generally regarded as outstanding.

The formula for design proved a very useful device, although some of the assumptions did not appear very important in the construction of the houses. As an instance, careful analysis indicated it was structurally unnecessary for a certain framing member to fit exactly between two other members, thus making it possible to dimension the piece so that it was identical with several others. This was hailed as a real contribution by the design staff, but in one plant the factory foreman, charged with incorporating that piece in a panel, objected because it gave the impression of poor workmanship and affected the morale of his crew ! In another factory it was regarded as a dimensional error and was " corrected." However, it has been pointed out by one manufacturer that minor production advantages that would be eagerly sought under highly competitive conditions are brushed aside in the urgency of pushing the work ahead to meet wartime emergencies. As a means of establishing an effective working relationship between those concerned with amenities and those sensitive to cost, the formula was very effective, because it was agreed upon in advance. This reduced the area of debate, and tended to focus the group's attention upon specific problems. A different formula might have served as well.

An interesting by-product of the design effort was the development of somewhat novel working drawings. The first two drawings in the set were used to delineate the individual framing members and plywood sheets that made up the whole house. Concentrated study was given to securing maximum standardisation of the pieces shown on these two drawings.

The next group of drawings delineated the various floor, roof, wall and partition panels to be assembled from the pieces shown on the first two drawings. Extensive use was made of pictorial isometric projections, and the need for repetition of dimensioning was largely eliminated by keying members shown to previous drawings. Then came a diagram showing how the panels were assembled, followed by diagrams of plumbing and electrical installations, miscellaneous features such as shelving, door schedules, window construction, millwork details, and the like. Also included was a complete set of drawings delineating in similiar manner the fabrication of all the kitchen cabinets, and most of the furniture included in the house. (The houses were designed to leave the factory completely furnished.)

In practice, the drawings proved to be popular with the manufacturers, because they were so arranged that quantity and cost estimates could

be made with great speed and accuracy. They were so detailed that they served as shop drawings in most factories. It proved difficult, however, to check panel dimensions, both in the stages of plan preparation, and in the layout of jigs in the factory. It also developed that at least one manufacturer desired to sub-contract individual panels, which required fragmentary use of several drawings.

The staff is now engaged in reorganising the drawings. The new arrangement will provide a complete delineation of each panel or element on a separate drawing, but with the information arranged in the same sequence that originally applied to the whole house. The preliminary results are most promising, and have excited favourable comment from the manufacturers. One interesting result has been to stimulate the architects to regard each element in the house as three-dimensional. This may lead to the design of complete closet units instead of panels to make up closets, of bookcase or other furniture units to replace partitions, and of exterior walls in which the fenestration is set back from or projected beyond the plane of the wall itself. This in turn may lead to a much more lively architectural expression in small structures, and also opens up a field for varying the design of prefabricated houses by combining interchangeable elements in a number of different ways. This is not, of course, a particularly new idea, except as it is made to fit in with the general concept of sectional houses.

FACTORY PRODUCTION

The houses as designed proved satisfactory in production. One manufacturer indicated inability to apply quantity production techniques because panels were varied in size. Detailed examination of this plant revealed that the variety of individual pieces was considerably greater than would be the case if panels had been standardised to four by eight feet. This created a problem in distribution of pre-cut pieces from the saws to the jig tables and required considerably more work by stock clerks and foremen to keep the output from the saw tables balanced with the stock piles at the jig tables. The increased variety of saw cuts did not appear to be a problem, nor did the increased storage space at jig tables. The problem seemed to centre around keeping the inventory, which was almost automatic with standard panels, but required some paper work and considerable checking with varied panels.

Another problem in this plant, which was accustomed to highly mechanised production techniques involving a continuous flow of work through the plant, was created by the large floor, roof, and exterior wall panels. Careful examination of this problem revealed two major difficulties. The overhead conveyor system in the plant was so arranged that panels 24 to 28 feet long and suspended by one edge, could not turn corners without infringing on essential floor space, and a special machine designed accurately to dimension finished panels would not take units over eight feet wide.

These detailed points are mentioned to illustrate an important fact : no two factories face the same problems or view them in the same way. For this reason the staff has concluded that it is unsafe to accept generalities on production techniques as a guide to design. It is apparently

essential to examine production problems created by a particular design in detail, and to trace the consequences of each problem through the whole factory procedure, even into the book-keeping, in order to determine whether it is of major significance. Frequently careful analysis reveals that a design detail that appears complicated, or indeed a whole design concept that appears unstandardised, creates production problems of such small consequence that the price of the product is hardly likely to be affected. In true perspective, the choice of a period over which the capital investment in the factory is to be amortised may have a far more profound effect on the price of the house than the choice between a perfectly standardised and relatively unstandardised version of the same house design. The question is one of degree, of course, and cannot be answered except by rather precise determination of the facts.

A general criticism of the sectional house idea has been that it requires considerably more factory space to pre-assemble panels into sectional units than does a system which fabricates only panels, which are shipped to, and assembled at, the building site. Examination of several factory layouts indicates that the area devoted to assembly of panels into sections averages about 1½ per cent. of the total floor space for each two-bedroom house produced per day. Thus, a factory producing ten two-bedroom houses per day would require about 15 per cent. of its total floor space for assembly of panels into sections. The charge for use of this floor space would account for less than one half of one per cent. of the retail price of the house.

SHIPMENT

Several thousand sectional houses have now been shipped over public highways for distances up to 600 miles. Four houses were recently shipped over 2,000 miles by rail. In no instance has the shipment resulted in structural deterioration, except for accidents involving collision or upsetting the load. In spite of the bulky nature of the loads (somewhat similar to a large furniture-moving van) the accident frequency has been extremely low. In a number of cases, sections that have been overturned in transit have been so slightly damaged that they have been used with only minor repairs. Sections open on both sides will wrack out of plumb as much as two inches unless they are well braced before shipment. This amount of wracking apparently does no permanent damage, but requires more work at the building site to secure a proper fit between sections.

Sections have been transported singly on light trucks, extending up to four feet beyond the truck bed. They have been hauled on specially designed two-wheel trailers, towed behind light trucks or heavy passenger cars. Two sections have been hauled at one time by loading one on a truck and towing the other on a trailer, or by loading both on a large semi-trailer. Of the various methods, the combination of a truck and trailer, handling two sections at a time seems most promising, although for small shipments in level country, a single section on a trailer, towed by a passenger car, may prove the most economical.

The cost of shipping, including loading at the factory, covering each section with a canvas tarpaulin to protect it from road grime and dust,

trucking, permits from highway departments, and unloading at the building site, amounts to less than five per cent. of the retail price of the house for each one hundred miles it is transported. This percentage does not increase at the same rate with increased distances, as loading, protection and unloading costs remain the same for all distances.

It is possible to transport a prefabricated house in panel form in about half the space that is required to ship it in sections. Panel type houses specially designed for compact shipment may occupy only a third of the space required for sectional shipment. Thus, the shipment of a house in panels may cost from 1½ to 2½ per cent. of the retail price of the house for each 100 miles it is hauled, as compared with 5 per cent. for the same house in sections. As will be discussed in more detail later, however, the cost of assembling the panels, installing plumbing and electrical work, trimming and painting at the building site will account for at least thirty per cent. of the total price of the house, as compared with less than five per cent. for the house if it is delivered in sections, with most of this work completed before it leaves the factory. The cost of installing plumbing and electrical services, trimming and painting, if done in the factory, is considerably less than if done in the field. In fact, it is sufficiently reduced to pay the excess cost of transporting the house in sections for a distance of at least 200 miles. These statements are approximations, as precise costs on panel houses are not available. But the assumption that a house can be delivered in sections at a lower cost to the purchaser than it can in panel form within a 200 mile radius of the factory seems fairly well substantiated by the somewhat fragmentary evidence available.

FIELD ASSEMBLY

Various schemes have been used in transferring sections from trucks or trailers to building foundations. Foundations can be of any design suitable to the superstructure and to the site conditions. It is entirely feasible for sectional houses to be assembled over full or partial basements.

Two basic methods for unloading the house sections are in current use. In the early stages of development, the transfer of sections to foundations was regarded as a major problem, requiring the use of special transfer tracks, complicated dollies to run on these tracks, and the like. Experience proved, however, that the problem was much less difficult than had been visualised, and more recent practice has eliminated most of this paraphernalia. Where the volume of work warrants the use of heavy equipment, the best method for unloading involves the use of a crane mounted on a tractor. A crane with a boom forty-five feet long, and capable of making a 180° swing, is required. This unit, together with a simple sling composed of two pairs of cables, each pair attaching to a three-inch angle bar eight feet long, and suspended from the boom, permit four men to engage the angles on the ends of a section floor panel while it is on the truck or trailer. The section is then lifted by the crane and swung into position on the foundation. A skilful crane operator and crew can perform the whole operation in a few minutes, and place the section within fractions of an inch of its correct location. Succeeding sections are placed a few inches away from the first one in order to permit the sling to be disengaged.

After all the sections have been placed on the foundation, they are skidded together with the aid of jacks, pipe clamps, or similar devices. As an average section weighs about 4,500 pounds, the problem of skidding it on a smooth surface is not very great. When the sections have been moved together and aligned at the floor level, they are bolted to each other at the floor and roof. The roof joints are capped with metal cover strips, and battens are applied to cover the joint lines on exterior walls and interior partitions and ceilings.

Current practice results in joints that vary from absolutely tight up to as much as one-quarter inch open. Under normal conditions, when speed is less essential, this tolerance can be cut in half by more care in levelling and aligning sections at the building site. (Dimensional controls in the factory appear entirely adequate. In fact, sections are now built separately, yet go together perfectly when fitted for the first time at the site.) It is essential, of course, that foundations be level ; if they are not, sections must be shimmed until their vertical edges are parallel. If they are not, they will wrack out of shape when bolted together, and details like window sills and trim that are supposed to come together at section lines will not match.

The cost of field assembly, mentioned above in connection with transportation costs, is significant in two respects. It illustrates the feasibility of removing 90 per cent. of the prefabrication process to the factory, as compared with about 60 per cent. for other methods. It also makes demountability a practical reality from the standpoint of cost. For the cost of dis-assembling the structure approximates that of assembly, and these combined costs are so low that it becomes feasible to dis-assemble and ship sectional houses up to a thousand miles from one location to another at less cost than would be required to dis-assemble and ship the same house in panel form.

What conclusions pertinent to the future of prefabrication can be drawn from this experience with sectional houses ?

There is conclusive evidence that the idea is technically practical.

There is fairly conclusive evidence that it offers economic advantages over other prefabrication techniques within limits of some distance from the factory. This distance will vary with local conditions ; it remains significant if it exists at all.

The effect upon prefabrication can be profound, because of the greatly increased opportunities to apply shop practices through the retention of 90 per cent. of the work at the factory.

It is not at all clear that these conclusions lead to another ; namely, that the prefabrication industry should decentralise to cut distances from factories to markets. What may be indicated is a product so designed that it can be shipped either in panel or in sectional form, and which can be assembled out of panels as a complete house at the building site, or as sectional units either at the factory or at a conveniently located warehouse where panels are stored.

Cost figures available to date indicate slight prospect that the price of housing to the consumer will be drastically reduced through prefabrication. It is true that the ratio of labour to materials costs has

been reduced from about 50 per cent. to as low as 20 per cent. by removing the work from the field to the factory. However, current methods of financing the manufacture of products result in the accumulation of indirect costs which reduce the combined cost of materials and labour to about 50 per cent. of the retail price of the house. For this reason, the reduction of labour cost by use of quantity production techniques is only half as significant as it might appear. On the basis of figures given above, the experience to date records a reduction of 15 per cent., which is offset to some extent in conventional construction by low plant investment and management costs.

There is, however, a notable opportunity to improve on the quality of housing by building it in a factory. Refinements of detail, finish and the like which are perfectly practical in a factory cannot be duplicated in field construction. It is also true that it is much more convenient for a prospective purchaser to acquire a prefabricated house than to have one built.

It appears that prefabrication must make its way for the immediate future on the basis of quality and convenience rather than price, unless new methods of financing are developed which increase the advantage of factory production. If that develops, prefabrication will really come into its own, and the sectional house will play an important part in the development.

Steel and Concrete in the Building Programme

FELIX J. SAMUELY, B.Sc.(Eng.),Lond., A.M.I.C.E., M.I.Struct.E., F.I.A.S., M.I.W.

Lecturer-in-charge in Structural Engineering, Architectural Association School of Architecture

THE MATERIALS

THE extensive building programme of the next few years, to which, we all look forward, will embrace not only houses and flats, but all those accessory buildings that, either directly or indirectly, are so necessary to everybody—schools, libraries, market halls, theatres, cinemas, garages (for both public and private vehicles), railway buildings, restaurants, swimming pools, administrative and civic buildings and churches, etc. In these buildings can be used that wide variety of materials that are not always suitable for ordinary housing and this will result in the recruiting of a great number of people into the orbit of the building trade.

Materials differ in their qualities and each should be used where its own particular qualities are most advantageous. This seems to be obvious but a survey of what has been done during the last few decades shows that habit and a misunderstanding of principles have often led to the complete misuse of building materials. In the next few years

the capacity of the building trade will be strained to the uttermost and any misuse will cause a serious shortage.

In former times brickwork and timber were the standard materials for all building. They are reasonably adequate for all general purposes, without being outstandingly efficient in any particular one.

Development during this century has tended towards segregating the functions of building components and using, wherever possible, the material which best suits each one of them, not one material for all. The larger a building or building programme the easier it is to differentiate according to function. A wall, column, beam or slab in a building has various functions, for instance to carry loads (strength), to be weather-proof, heat-proof, sound-proof, have a good appearance and so on. A certain group of materials has exceptional strength and to this group belong steel and other metals, and concrete. They are, however, not weather- or heat-proof and it requires considerable effort to give them a good appearance. Great care has also to be taken to make them sound-proof. Under these circumstances it might be expected that, in an enlightened building programme, these materials will be used mainly where strength is the first consideration.

The conception of the skeleton frame building is not new but it is the prime example of concentrating strong material at the points where loads are to be carried, leaving the remainder to be filled in with other materials, less strong but capable of fulfilling their own particular function. While before the war the application of skeleton frames to administrative buildings was still the exception rather than the rule, it can be expected to become common practice for all buildings of not less than three storeys, and more than a possibility for smaller buildings, like shops where large openings in the walls are required. In addition there is, of course, the large field of prefabricated buildings, most of which require a definite skeleton frame.

In the past there has been considerable competition between steel and reinforced concrete for framed buildings and it is to be expected that this competition will continue as long as each retains its own particular advantages. As bylaws require that steel be encased in concrete everywhere except for one-storey buildings, *e.g.*, garages, small factories, film studios, market halls, etc., there is no difference between the two in finished appearance and any idea that one or the other is the more efficient from a sound-proofing point of view is mere prejudice. Nor is there any great difference in the weight and dimension of the framework. Where very heavy loads are to be expected, say for a column carrying twenty storeys, steelwork gives slightly smaller dimensions, but for smaller loads, as in ordinary three or four storey domestic buildings, those of concrete are the smaller. In actual fact, however, steel encased in concrete and reinforced concrete should be regarded as the same combination of materials, using both steel and concrete, but in a slightly different way.

Strictly speaking a skeleton frame consists of beams and columns only, but in a modern building the floor slabs, which also have to transmit loads, are usually considered part of it. The tendency, during the last twenty years, has been to space columns as far apart as possible as, except for purely domestic buildings, columns can be very much in the

way inside a building. It is often very much easier to lay out a building where there are no, or very few, internal columns. It also allows the inside layout to be changed around at will. In the case of factories internal columns are very often an impediment to production and just how objectionable they can be inside an entertainment building can be seen in some of our older theatres.

In order to avoid a large number of columns, however, deeper beams are required to span the increased distances. This great depth leads to considerable waste of building height, which often reduces the number of storeys that can be erected on a particular site. Again, however, modern design allows the depth of beams to be reduced up to 50 per cent. or even more in exceptional cases, by using an increased amount of steel, but such a reduction is expensive and adds to the cost of the building. In many cases it is possible to hide beams in walls, or use the walls themselves as beams, and both these arrangements are useful and economical.

Where there is plenty of height available, as for roofs, latticed constructions are the most economical because they use steel to its best advantage and none is allowed to go to waste. Whereas beams and columns are almost identical in both steel and reinforced concrete construction, the latticed roof construction (trusses) is different in both cases, the reason being that steel is equally good in tension and compression but reinforced concrete is somewhat deficient in taking pure tensile stresses. While a steel truss shows the familiar triangulated construction a reinforced concrete truss is more like a rigid frame with a steel tie member. The latter type, however, has also been used recently for steelwork.

Concrete is the paramount material for solid and fireproof floor slabs but, because of its weight, it is often combined with lightweight hollow tiles which are placed in those parts of the slab that do not have to take heavy stresses. These tiles are usually made of clay, but all kinds of substitutes, which are even lighter, are being developed using many materials from metal to cardboard.

In the case of roofs reinforced concrete is usually much more expensive than the older methods like tiling or covering with cement asbestos. All the same, the fact that concrete is fireproof has made it applicable to roofs so that now both concrete roofs and concrete floor slabs can be used in conjunction with either steel or reinforced concrete skeleton frames.

Whether or not concrete is a suitable material for walls is a very debatable point. It would make for uniformity of production and all-round economy if suitable concrete walls could be developed, but concrete is so deficient in the matter of weather resistance, heat insulation and appearance, and requires so much additional attention that many people refrain from using it for walls and prefer brickwork or masonry.

MATERIALS—APPLICATION

One of the remarkable features of pre-war housing development was that, apart from the actual houses, only very small shopping centres arose, containing perhaps a cinema, but no larger community centre

resembling that of say Welwyn Garden City. The cinema thus became the only architectural feature in many suburbs and the only place where construction, in the shape of steel or reinforced concrete, was important.

In the centre of London, however, owing to the tendency to keep to existing buildings, there has not been much opportunity for demonstrating the benefits of large-span constructions. The only exceptions to this practice were some of the large west-end shops. There is hope that this will be different in future and that it will become architectural practice to leave the structure more visible than in the past. In this way people may become more " structure minded ".

Due also to the attention that has been given in town planning to neighbourhood units and community centres, there will be more buildings giving scope for steel and reinforced concrete. In every public room, whether people are gathered together merely to eat, or for entertainment, intermediate columns are unwelcome and their elimination provides a special task for the engineer and the architect. In many cases the ideal solution is the frame construction which, being visible, gives a room definite features without over-emphasing itself.

One field in which there should be more opportunity for people to appreciate construction will be that of new transport buildings—railway and bus stations. Most of the existing railway stations are so out of date that they have very little attraction and new buildings carried out during the ten years before the war show how much the appearance can be improved by an interesting steel or reinforced concrete structure. Stations like Leeds City and the suburban Uxbridge are cases in point. Here again, a more enterprising policy than that prevailing in the past may perhaps lead to the complete rebuilding of all our old stations.

Famous examples of remarkable constructions are aircraft hangers. Today the general public is not very familar with them, apart from illustrations, but with the increase in air traffic they will become a part of everyday life.

Interesting concrete structures have been erected for entertainment purposes. For instance, grandstands, diving boards for swimming pools, etc. Here, modern construction allows shallow cantilevers which neither obscure the view nor look clumsy, as did the old-fashioned framework. Large indoor swimming baths have been the occasion for interesting arched constructions and other buildings, like covered sports grounds, will follow this example.

The foremost application for both steel and concrete, however, will remain the industrial one. The practice of " making do " has been responsible for the most surprising factory growth, every little bit added when needed with no proper organisation, with the result that production overheads have soared. New factories, particularly those erected during the war, usually have large spans and it is becoming more and more apparent that the extra costs of this type of construction are more than compensated for by the advantages that accrue. The old Fink truss is often replaced by more modern systems or by rigid frames. Reinforced concrete has developed its own features and roofs shaped in such a way that beams and trusses are completely superfluous are increasing in popularity.

Planning for Lower Maintenance*

LEWIS MAUGER
Supervising Engineer, Brown, Wheelock, Harris, Stevens, Inc., Chairman Research Committee, Real Estate Board of New York

AN apartment building is a sound investment only if it can rent in competition with other buildings in its class and neighbourhood, if it will retain its usefulness over an extended period of time, and if it can be maintained and operated at a figure low enough to provide a wide margin between the rental income and operating costs. Out of this margin must be taken expenses for taxes, financing, and amortisation. In many instances, the amount by which the maintenance and operating costs can be held down is a large item in the net profit.

THE DESIGN

The design affects both rentability and ease of operation. Design and plan plus materials and equipment form the basis for the expense of maintenance. There is always some clash between the renting and operating departments as to how many gadgets and how much specialised equipment should be provided. A balance between these two phases must be found. Generally speaking, from a maintenance point of view, the fewer excess items and the simpler the type of equipment, the lower the maintenance. On the other hand, simplification to the extent of requiring more manual operation would increase the operating labour required.

In general, the layout of a building should provide as much flexibility of operation as possible. If there are two or more elevators, the apartments should be designed so that if, for any reason, one elevator is closed down, another elevator will be accessible. Whenever possible the main lobby should be connected by passageway to the service entrance so that if an entrance door is out of order, or if an elevator is out of service, passengers may go from one lobby to the other without going out of the building.

ELEVATORS

Flexibility in elevator provisions includes the installation of self-service features, whether or not it is intended to keep an operator on the car at all times. This dual control has often proved its desirability when an operator is not available, or after midnight when it is often not necessary to have a man in attendance. The push-button control has become so widely accepted in recent years that it is possible that during the life of a post-war building it will become a general practice to use the self-service elevator. It should be noted, however, that self-service cars

* Reprinted by permission of *Architectural Record*, October, 1944.

have more complicated controls and must be maintained by mechanics who understand the specialised circuits and are trained to make the necessary adjustments.

LOBBY AND CORRIDORS

From a maintenance, as well as from a construction angle, main lobbies and corridors should be limited in size, but not to the extent that it becomes difficult to move furniture and other materials through them. Right-angle turns should be avoided, both because of the difficulty of access and the difficulty of maintaining the corners which are readily chipped and are discoloured by fingermarks.

WINDOWS

From a purely maintenance point of view, the fewer the windows, the lower the maintenance cost, because windows require repairs, painting, cleaning, and because they admit draughts and air which add to the heating load during cold weather. Bent frames and broken panes add to maintenance costs. Double-hung windows can usually be kept fairly tight. Casements are more subject to wind damage if tenants are careless. From the tenant's standpoint it is desirable to have a light-weight sash, and from the operator's standpoint it should be heavy enough to stand up under continued use. A non-corrosive metal is more desirable than a corrosive metal or wood, since it does not require periodic scraping and repainting. All windows should include some type of permanent weather stripping.

MAIN ENTRANCE

The main entrance to a building should have either a double set of entrance doors, or a revolving door, to keep out excessive draughts and to prevent cooling of the lobbies, elevator shafts, etc. If swing doors are used, and it is wise to have them open automatically, an electric eye can be used. While this may make it unnecessary to have a doorman on duty, the introduction of door controls and motors adds additional items for maintenance.

MASTER ANTENNAE

Such a system should be installed in all apartment buildings to eliminate the indiscriminate hanging of wires on the exterior and roof. Many building operators are taking advantage of wired musical programmes as a renting feature, and are having the connections made through the master antennae system. This involves little maintenance and avoids static which may be generated by some of the building electrical equipment or by outside sources.

COMMUNICATIONS

In all higher-type apartments, inter-communicating phones between the apartments, main lobby, superintendent's office, motor rooms, boiler room, and shops, should be built-in equipment. The phone system will save a considerable amount of time for the building employees

during the life of the building and will also appeal to tenants. If there is a regular attendant in the main lobby at all times, the phone system may be operated from a board in the lobby. Otherwise, an automatic system should be installed. Except in the hotel type of building, this system should have no connection with the regular outside telephones.

HEATING

Answering heating complaints often consumes a substantial amount of an employee's time. It is important that the heating system be adequate, so designed and installed as to require the least possible attention and to make it accessible for quick maintenance and repair.

Warm-air heating, with humidification and the possibility of future cooling units, is not practical for larger buildings because of the space required for ducts. Hot-water heating, although providing an excellent medium for controlling temperatures, requires large pipes and radiators. It is probable that steam-heating systems, with convector-type radiators (and possibly heating panels), will still remain the standard for apartment houses.

Except for relatively small buildings, one-pipe systems should be avoided because of the nuisance of air valves and the lack of controls. Best results seem to be obtained with either vapour or vacuum-type, two-pipe systems, with packless, modulating radiator valves and thermostatic traps. Radiator enclosures should be designed so that the traps are accessible for repairs and replacement of parts.

The wall behind the radiator should be well insulated to prevent abnormal escape of heat. A reflective surface behind the radiator increases its efficiency. A properly designed enclosure, with large openings top and bottom, acts as a convector and increases the effective circulation of warm air.

Steam boilers may be either of the cast-iron or steel type, with preference for the latter since there is less danger of damage due to adding cold water too rapidly. Steam can usually be generated more quickly and efficiently and submerged type hot-water heating units can be added readily. The use of such hot-water coils, without storage tanks, reduces the space required for hot water generation and keeps down the original cost of the system. It also eliminates the maintenance expense for the hot-water tanks, and numerous tests have shown that it increases the efficiency of a plant. The fuel required for domestic hot water is often 25 to 35 per cent. of the total fuel burned and instantaneous coils may reduce the consumption of hot water by 10 to 20 per cent. so that this represents a substantial item over a period of time.

At least two boilers should be installed, unless steam is obtained from an outside source. This arrangement provides flexibility in operation since, in mild weather, one boiler is sufficient to carry the load. Also, service is maintained if one of the boilers is being cleaned or repaired. If the boiler is fired automatically with a stoker, oil burner, or gas jet, full automatic controls should be installed. These will include a sensitive pressurestat which can be set within a few ounces, an aquastat for control of boiler-water temperatures (to generate domestic hot water) and a low-water cut-off. It should also include a modulating device so that fuel

may be burned at less than full capacity, and some type of timing device so that the burner may be closed down for periods of time. Heating controls are considered essential to provide tenant comfort, and for fuel economy with a minimum of attention by the building employees. The room thermostat is the simplest device, but involves the difficulty of finding a location which will represent the average of all sections of the building. An exterior thermostat is preferable, providing it is connected with a well-designed regulating apparatus, since it can be set so as to provide the proper proportion of heat called for by the outside temperature, and since it will anticipate temperature changes before these changes will affect an interior room. A further refinement of this can be effected by balancing the outside thermostat against a thermostat on a key radiator in such a way that the control will call for heat only when the key radiator temperature is below that required for the actual weather conditions. A less complicated control may be arranged by a time clock which is manually set to burn the fuel intermittently with the on-and-off periods determined by the operator; or the "on" period may be the time required for the boiler to reach the pressure required for full steam circulation in the building, and the "off" period may be varied at the discretion of the operator. Manually-set controls are a considerable improvement over no control, but the thermostatic type is preferable as being both the most accurate and the most economical. The thermostatic regulator may function to turn the steam on and off intermittently, as called for by the outside temperatures, or it may operate to vary the pressure in the system, although normally maintaining a continuous circulation. The first arrangement is satisfactory if the cycles are relatively short so that the entire system does not ordinarily cool down between cycles, and a tenant does not have to wait for a long period after turning on a radiator valve before the next cycle begins. The modulating type is superior from a comfort standpoint since there is not the continuous variation of radiator temperatures and since there is less expansion and contraction throughout the heating system. Individual room or apartment control, which can be effected by means of room thermostats controlling a steam supply to radiators, is appreciated by tenants as their requirements vary. A type of radiator having a built-in regulating device may be available after the war. With either form of local control, a constant steam pressure would be maintained whenever heat might be required. A local control system has the advantage of supplying any temperature desired by the individuals occupying the space, and this type of control will probably have a renting appeal. It naturally increases the installation cost and might increase maintenance cost. If tenants open windows without turning down the thermostats, there will be increased steam consumption.

Traps for drips from heating mains and risers should be the ball-float type, with or without a thermostat element, rather than a straight thermostat type. It is desirable to keep the return lines from the drip traps separate from the radiator return lines because of the differences in temperature and pressures.

Expansion joints on risers and returns should be accessible; an access door should be provided so that the packing can be renewed or replacements or repairs can be made when necessary. Great care should be

exercised in the installation of all horizontal lines, especially radiator branch run-outs, to make certain that they are properly pitched and will remain pitched, after allowing for expansion of the lines and settlement of the building.

AIR CONDITIONING

Just as central refrigeration systems have been superseded by unit refrigerators, so central ventilating and air conditioning systems will probably give place to room units which can be installed at a window. The individual unit gives greater flexibility of control and can be installed at the tenant's option. The operating expense is usually carried by the tenant rather than the landlord, except in cases where electric current is not paid for by the tenant.

In making the installation of a unit, provision should be made for closing the air supply tight during the cold weather to eliminate draughts and prevent waste of heat. Recirculated air should be used to as great an extent as possible. Provision should also be made for opening the window so that the window cleaner may have access to the exterior.

PLUMBING

Wherever there is a possibility of corrosion, as indicated by an analysis of the water supply, non-corrosive metal pipe or tubing should be specified for hot and cold water supply piping. Because of dezincification, which often takes place in yellow brass, the copper content should be at least 85 per cent. if brass pipe is used.

Flush valves of a good design, with silencing features, are satisfactory for water closets and save bathroom space even though, in some cities, codes require a separate water supply.

In showers, under no circumstances should there be a valve that will shut off the shower head since this may make it possible for water to pass between the hot and cold water systems if the shower supply valves are open. A thermostatic control, which will prevent scalding in a shower, is good insurance.

Non-crazing tile for the lower section of the wall and hard-trowelled, water-proof cement for the upper section have proved satisfactory. The finish may be a gloss paint or water-proof paper.

Separate control valves for the individual hot and cold water risers and mudlegs at the bottom of the risers are helpful in the maintenance of the system.

Forced circulation of hot water in a large building, either by means of a pump or an injector fitting, will assure immediate hot water service at all taps and will make it possible to supply hot water from the generator at a lower temperature.

If central exhaust fans are used for ventilating interior bathrooms, kitchens, or corridors, the individual registers or ducts should be adjusted and the fan's speed should be varied so that the amount of air exhausted may be reduced in cold weather. Power consumption will be lower if the fan motor continues to operate at a constant speed and the reduction is made in the change in pulley ratios by shifting a belt.

UTILITY SPACE

In any building large enough to have maintenance work performed by building employees, provision should be made for shops for painters, carpenters, and plumbers. The paint shop should have good ventilation and a sprinkler system. A large slop sink should be installed in an accessible place in the basement and, in buildings with large branch corridors on the upper floors, additional sinks upstairs will save considerable time for the cleaners.

A storeroom which can be kept locked is required for building supplies, in addition to storage spaces which are provided for tenants' use.

If laundries are installed in the basement for the use of tenants, less space is required if they are public laundries instead of private. The public laundries also lend themselves to the use of coin-type washing machines and centrifugal dryers, both of which should be included as standard equipment.

LIGHTING

Sufficient lighting outlets should be supplied to illuminate all public areas to at least two foot-candles to prevent accidents. Lights should be so placed that any one light which burns out will not leave any areas without some illumination. If there is a possibility that bulbs may be stolen, they may be enclosed in a locked wire basket, or may be locked in place by means of one of the patent lamp locks. Left-hand screw bulbs may be used if desired.

Elevator lighting should always consist of more than one lamp and it is preferable that the lamps be set so they cannot be broken by material which is carried into a cab. If cove lighting is used, fluorescent bulbs will throw off less heat than incandescent lights.

In lobbies, if the bulbs are concealed, they should be readily accessible and the lamp spaces should be ventilated. Interior steps in a lobby should have spot illumination to prevent tripping.

FINISHES

Walls separating apartments should include some sound insulation to prevent noises and voices being heard in adjoining apartments. Soundproofing should be an inert, fireproof material. Walls should be properly keyed to prevent cracking at corners and ceilings.

Wall finishes in service areas which have proved most satisfactory are glazed tile or brick, or similar material which does not require painting and which is not easily defaced. In branch service areas plaster, finished with gloss paint, light in colour and with a darker mottled dado, is satisfactory.

For entrance lobbies precast stone or marble are most desirable. If the expense for these materials is too great, painted walls, preferably with a glazed finish, are accessible but these have to be redecorated at regular intervals, an added maintenance item. Main lobby floors of precast stone, tile, marble or terrazo are easy to maintain, especially if they are treated with a hardening process to prevent undue wear and to fill the pores. In service areas, hard-trowelled coloured cement wears well and is attractive.

For elevator enclosures, wood or enamelled metal have both stood up fairly well. It may be that some of the newer plastics may prove to be well suited for this service. Black plastics have already been used with satisfaction in service elevators.

Elevator floors of asphaltum, rubber, or linoleum tile have good wearing qualities, but the recent trend toward the use of carpet in high-class apartments tends to keep the upper floors cleaner and drier since the carpet takes much of dirt and moisture from shoes. Where carpet is used, it should be removable and a duplicate set provided.

Wall finishes within an apartment are ordinarily renewed every two or three years and colours are subject to the whims of the occupants. The paints which are applied should not build up unduly or tend to flake or scale after several coats. Most uniform results seem to be obtained by the use of ready-mixed paints obtained from a reputable manufacturer. Wherever possible, a washable paint should be used so that the appearance may be renewed between scheduled paintings, by either hand or machine washing.

The protection of exterior metal by means of red lead and a good coat of aluminum, asphaltum or house paint, is important to prevent rust and the need for frequent repainting. This also applies to mechanical equipment such as pumps and metal in laundries.

Elevator shafts should always be painted to prevent dusting of the mortar due to the suction caused by the movement of the elevator.

Cylindrical iron water tanks may be protected inside by low-soluble cement linings and rectangular tanks may be coated with one of the special bituminous products developed for that purpose.

Boilers and steam piping and stacks may be painted with heat-resistant aluminum paint. If the pipe system is complicated, it is desirable to paint plumbing and heating pipes in colours to designate the use of the pipes.

The professional managers of investment buildings welcome the opportunity of co-operating with architects in the designing of a building and in the specification of materials so that low maintenance and operating costs will be assured. Experiments in the use of new materials should be carried on jointly in the hope that improvements in design and equipment may be included in future structures.

The Licensing Planning (Temporary Provisions) Act 1945

J. P. RHYS, F.S.I., M.T.P.I. (*Special Diploma, Town Planning*)

IN the earlier air raids on this country so many premises licensed for the sale of liquor were destroyed or damaged as to create a problem of their own. Obviously they could not all be rebuilt on their original

sites. Questions of re-siting, perhaps far away from their old locations, arose and the existing law was ill-adapted to sweeping changes, while movements of industry and population were possible. Redevelopment of badly bombed areas might be on very different lines from the original layouts, dating back perhaps upwards of 100 years. On the other hand, the importance of the public house as a social centre, as well as a resort for food and drink, became more apparent.

On August 20th, 1942, the Home Secretary appointed the Morris Committee " to consider what will be the best means of ensuring when rebuilding is practicable that the provision of licensed houses in the place of those destroyed or damaged by enemy action shall be planned with due regard to local requirements and in harmony with proposals for redevelopment and reconstruction." In particular, the Committee were to attend to questions of reducing and redistributing licences and of co-ordinating the functions of the separate authorities dealing with reconstruction and redevelopment, licensing and compensation.

The Morris Committee issued their Report * on January 14th, 1944, and on March 28th, 1945, the Licensing Planning (Temporary Provisions) Act 1945 came into force. Substantially, this Act embodies the recommendations of the Morris Committee. Its importance can be judged from the fact that no less than 1,600 public houses in some 25 of the largest towns had been destroyed up to the end of 1943, before flying bombs and rockets began to fall on this country.

The Act provides for the declaration of " licensing planning areas " by the Home Secretary, each with its " licensing planning committee ", consisting of equal numbers of licensing justices for the area and of representatives of local planning authorities, with a chairman appointed by the Home Secretary.

A licensing planning area may consist of a licensing district or two or more contiguous licensing justices. Such an area must have sustained extensive war damage, either to the whole or part of it. Before declaring the area the Home Secretary must be satisfied that, owing to the occurrence of the damage or its consequences, including redevelopment which has taken place or is likely to take place, it is desirable to put the Act into operation in the area. If so satisfied, he may declare the area after consulting the local licensing justices and planning authorities.

The whole of the administrative County of London is deemed by the Act to be a licensing planning area, while the City of London is to be treated under the provisions of the Act as a county borough.

Obviously these provisions do not by themselves provide for transferring licences to satellite towns or new suburbs. Such transfers are essential if the full benefits of the Act are to be enjoyed. The Act, however, does provide facilities for transfers to satellite towns or new suburbs. The initiative lies with the licensing planning committee. If such a committee applies to the Home Secretary, he may, after such consultation with other authorities as he thinks fit, include in the licensing planning committee's area " any licensing district to which, or to any part of which there has been, or is likely to be, a substantial transfer of

Report of the Committee on War Damaged Licensed Premises and Reconstruction, 1944. H.M. Stationery Office. Price 1s. net.

population, of industry, or of other activities " from the area, and the area to be so included need not be contiguous. Provided, therefore, that the committee takes the initiative and the Home Secretary approves, the Act can be used to facilitate transfers of licences to new centres of population and industry, even if far from their original locations.

The general duties of licensing planning committees are set out in the Act. They are " to review the circumstances of their area and to endeavour to secure, after such consultation and negotiation as they think desirable and by the exercise of the powers conferred on them by this Act, that the number, nature and distribution of the licensed premises in the area, the accommodation provided thereat and the facilities given thereat for obtaining food, accord with local requirements, regard being had in particular to any redevelopment or proposed redevelopment of the area."

A licensing planning committee may make proposals from time to time for a new kind of removal, a " planning removal ", to enable licences to be transferred from premises in its area to other specified premises, or to premises on specified sites in its area. If the premises to which an on-licence is to be removed are about to be constructed or in course of construction, the justices must give provisional authority for the removal provided they are satisfied with the plans. They may also formulate proposals for the surrender of existing licences in the area, subject to such conditions as they may specify. But these particular proposals can only be made with the agreement of the persons interested in the premises.

The committee's proposals, whether for planning removals or for surrender of existing licences, are to be submitted to the Minister of Town and Country Planning and advertised with particulars as to how objections are to be made. If no objections are made, or if any objections made are withdrawn, the Minister may confirm the proposals, if he thinks fit, either with or without modification. Otherwise, he must give objectors an opportunity of being heard by a person he appoints, or if he considers the matters to which an objection relates call for it, he must cause a public local enquiry to be held and consider the objections and the report of the person presiding at the enquiry before confirming the proposals.

When the Minister has approved proposals for a planning removal, the justices in the district to which the licence is to be removed must authorise the removal if they are satisfied that the premises are fit and convenient for the purpose, that the applicant is a fit and proper person, and that any conditions specified in the proposals have been complied with.

Ordinary and special removals are suspended in licensing planning areas, and no new licence may be granted therein unless the licensing justices are satisfied that the licensing planning committee have no objection. The reasons for substituting the new planning removal for ordinary or special removals were made clear by the Morris Committee. An ordinary removal may be granted on any grounds but only to premises in the same licensing district or in the same county, and these removals may only be granted once a year at Brewster Sessions, subject to certain conditions. A special removal may be granted only to and from premises in the same licensing district on the grounds that the premises to which

it is attached have been made unfit for business by fire, tempest or other calamity, or because they have been, or are about to be, pulled down for public purposes.

Removals to temporary premises while the old premises are rebuilt are also authorised by the Act and should provide a convenient means for carrying on business in the interim. Arrangements were of course already in operation before the Act was passed, providing for the suspension of licences, temporarily discontinued as a result of circumstances directly or indirectly attributable to the war, on a certificate granted by the Commissioners of Customs and Excise. Such suspended licences do not require annual renewal.

Surrenders of licences take place by virtue of the Act, provided all the relevant provisions have been complied with and the proposals confirmed by the Minister of Town and Country Planning, but the Act deals specially with renewals of licences in certain circumstances.

Renewals of old on-licences (that is those in force on August 15th, 1904, including licences granted by way of renewal of licences then in force or already provisionally granted and confirmed) can only be refused in a licensing planning area on certain limited grounds. The grounds on which renewal may be refused are those specified in the Licensing (Consolidation) Act 1910, Second Schedule, Part II, and may be described very briefly, in the case of old beer house licences, as disreputability of premises or licensee, or that the latter is not duly qualified. In the case of other old licences the grounds again can only be disreputability of premises or licensee or because a renewal would be void.

Accordingly, questions of renewal of such licences will not be referred to the compensation authority and no payment shall be made out of the compensation fund under the Housing Act 1936 (Section 47) or the Town and Country Planning Act 1944 (Section 15). The provisions of these Acts under these headings are similar. Shortly, they enable the acquiring authority to undertake before purchase to pay to the compensation authority towards the compensation that will be payable if renewal of the licence is refused such contribution as may be specified in the undertaking. Any sum thus payable will be treated as part of the expenses of acquiring the land. If the acquiring authority advise the licensing justices that they are willing to surrender the licence, it may be referred for compensation. Provided the compensation authority is satisfied that the licence could have been dealt with as a redundant licence they may contribute a sum not exceeding that payable under the Licensing (Consolidation) Act 1910. It follows that compensation levy will not be chargeable on an old on-licence renewed in a licensing planning area.

The new Act, if properly applied, should do much to obviate conditions so strongly criticised by the Morris Committee, particularly the lack of proper licensed facilities in new housing estates and the superfluity of too small units in congested town areas. But the Morris Committee did not encourage the idea of substituting a few very large houses for a number of smaller ones. In fact, they strongly discouraged it on various grounds, not least because it does not fit in with public requirements, though they admitted there was scope for some large premises catering specially for recreation and social functions.

The Future of Building Societies

R. BRUCE WYCHERLEY, M.C., F.C.I.S.
Chairman of the Building Societies Association

ANY attempt, however guarded, to estimate the nature and extent of the future activities of building societies inevitably forces one to assume reluctantly the prophetic mantle, and there can be few who, having donned that awesome robe, have not subsequently repented of their rashness. With this prominently in mind, the present article does not do more than attempt to indicate future possibilities, with such assistance as we can gather from the past and from the circumstances of today.

To begin at the beginning, it is necessary to record that the first known building society was founded in 1781 in Birmingham and that the very early building societies did in fact undertake the building of houses for their members, but that actual construction has long since passed out of their hands, and is indeed against the laws under which they work.

By 1836 building societies had grown of sufficient importance to require special legislation to define their powers. They progressed steadily and, we may believe, usefully until 1874 in which year was passed the main Act of Parliament under which they derive their chief statutory powers. This Act gave considerable stimulus to building societies, for their total assets which in 1870 were only £18 millions, had by 1890 grown to £51 millions.

The early years of the present century witnessed steady progress by building societies, but they were not to develop with rapidity until after the first World War. Between the two World Wars about 4 million houses were built in this country, three-quarters of that number by private enterprise and the remainder by local authorities. Of the three million houses built by private enterprise two million were purchased by their occupiers with the help of money advanced by building societies. This is the measure of their contribution towards the solution of the housing problem after the first World War, and this contribution is of more social importance than the fact that during the same period their total assets grew from £77 millions to £773 millions.

In viewing the situation of today we must couple, with this historical background, a shortage of all kinds of houses unknown in our long history, and the immediate future of building societies is largely governed by the answer to the question " What contribution can they make to relieve the present housing shortage? ".

Building societies are commonly believed to be almost slavishly wedded to the policy of home-ownership. It is undoubtedly true that the majority of their funds have been in the past, and probably will in the future be used to assist occupiers to become also owners ; that is their traditional function and the need which they are best fitted to supply. At the same time building societies are prepared to advance money for the purchase

of houses to let, both to private investors and to housing associations, employers, or other bodies or persons undertaking to provide houses in fulfilment of a public duty.

The building societies have stated that they are prepared to lend up to £150 millions a year for the purchase of houses, and this is, in fact, very little more than their total annual advances during the years just before the second World War. This implies a considerable degree of confidence on the part of the 2¾ million investors who provide their funds, but this confidence has some justification behind it in the experience of the building societies during two great wars, in neither of which did their investors show any diminution in their steady faith in the soundness of building society investments.

The funds needed to assist borrowers are available and building societies are ready to play their part. They are, however, anxious that their funds should not be used to finance houses which are not up to present-day standards of site planning and construction. To this end the Building Societies Association has announced that, in its opinion, all houses purchased with the help of a building society should comply with the following requirements :

(*a*) The site planning should be approved by the Ministry of Town and Country Planning.
(*b*) The design and planning of the houses should be approved by the local authority.
(*c*) The local bye-laws, enforced by adequate supervision, should be complied with.
(*d*) The quality of the workmanship and materials should be certified by the National House-Builders' Registration Council, as expressly constituted for its wider functions and provided it is given statutory authority.

In a report presented to the Building Societies Association in May 1944, it was stated that " it would appear that houses for letting will have priority in the post-war period as compared with the erection of houses for sale to individual purchasers ". This forecast is borne out in the statement on Government Housing Policy recently made by the Minister of Health, although it appears that the Government will, right from the start, allow a subsidiary place in its programme for the building of houses for sale. Building societies have no politics and they are fully prepared to assist in the solution of the housing problem in the way the Government thinks best. They can certainly offer funds to assist in the building of houses to let and, of course, for the limited number of houses to be built in the immediate future for sale.

The Government's plans are announced for a period of about four years ahead and by that time one hopes that conditions in all departments of life will once more be approaching normal. If this is true, it may be that local authorities will in due course be able to concentrate their housing activities more closely on the interrupted campaign to abolish slums and overcrowding and to add to the numbers of houses available to let at low rents. In that event, a greater proportion of houses above these levels will probably be provided by private enterprise, and if the past is any guide to the future, we may expect that building societies

will play a large part in assisting occupiers to become owners, both of new houses and of those built some years ago.

To give the best service at the lowest cost should be the aim of every building society, and it is the latter factor which is so difficult to control. The Government hopes to keep interest rates at their present moderate level and those who recall the scramble for money after the first World War will hope that the Government may be successful in this aim. If it is, borrowers from building societies will be among those who will benefit, because the societies' aim is to lend at the lowest possible rate at which they themselves can borrow and meet their management expenses. In this connection it must be borne in mind that the societies pay income tax on the interest paid to investors. The current rate on advances is 4 per cent., the lowest it has been for many years, and it is not likely to rise above that figure unless the general price of money rises.

Such then are the main factors likely to affect building societies in the years immediately ahead, but like most individuals, the societies are not masters of their own destinies and their future is largely bound up with the general conditions of life in this country.

The True Commemoration*

JOSEPH HUDNUT
Dean and Professor of Architecture, Harvard University

FOR many years my special field of study being the history of architecture, I have taken more than a casual notice of monuments—a term which connotes all those forms that architecture assumes when it seeks eternal life. With the war at an end, these invite an interest more immediate than that of a historian. Now, when the seeds of a million war memorials are warm in our soil, we ought to examine monuments more curiously than hitherto ; and especially we should take note of those familiar strange shapes set up on village green and city square after each of our wars, which address the future in the commingled languages of architecture, sculpture, and letters. Shall we again entrust to these the memory of our soldier dead ? We should ask our philosophers to speak of these matters : to tell us what monuments are, why we build them, and if we ought to build them.

In the midst of an evolving and fragmentary world, we are forever searching for permanence and completeness. The endless pattern of change perplexes us, deprives our lives of importance, frightens us as we stand each day nearer to eternity. Therefore we have taken eagerly to ourselves whatever appeared to be enduring, anchored, and yet apposite to human life. We see the hills, solid and firmly set upon the earth, but the continuity which these proclaim is not our own. Not so the pyramid, which, smaller in bulk, is yet infinitely larger in human effort.

* Reprinted by permission of *Atlantic Monthly*, September, 1945.

Stable, balanced, incapable of collapse or fracture, of change or of growth, co-existent with the mountain after which it was patterned, the pyramid, most perfect of monuments, shares the energy of the mountain and yet announces our energy. Whoever builds a pyramid collaborates with the gods, perfecting their work with a model more conformable to our desires. They were most nearly gods who placed three pyramids side by side.

We have searched also for definition and finality—and we have discovered these also in the monument. Symphonies, poems, and philosophic pantologies console us with promises of order and completeness ; they are walled Utopias having each its gate and secret key ; and yet they may lift us out of this our uncongenial world with a force less compelling than that of the great obelisk which commands the Washington Mall or the arch which crowns the Avenue des Champs-Elysées.

Lost in the jungle where no thing arrives at more than a momentary perfection, where even the systems and the suns must submit to the caprices of nebulæ and comet, the mind clings to such symbols. The monument —geometric, arbitrary, and self-sufficient—stands before us evident and complete, accessible to the intelligence. Pure of form, like a sonata, the monument solicits our disinterested vision ; we follow the lines, the plans that answer or oppose each other, the sequences and the harmonies, some of which reveal themselves subtly and after a sustained experience ; we are for that moment free.

These are the first and philosophic gifts of the monument ; but we demand a wider utility. We ask for shelter. The primeval monument was a heap of stones protecting the body of a departed hero ; from that time to this we have tried to give such dignity to useful space. We ask for praise. The house of a god must be tall and more nobly built than that of his worshippers ; from that source flowed the stream of architecture confirming through long generations the majesty of gods and kings, of democratic legislatures, and of the Pennsylvania Railroad. We ask for pleasure. The monument, clothed in anecdote and peristyle, decorates the city ; steeped in history, it is the last refuge of the Academy. We ask also that the monument should remember.

This need for remembrance added effigy and picture to the monument. The gods were the first to ask that favour of the monument. Although they were well served by architecture, which worships them even in the meanest house, they were yet not so confident of eternity as to rely wholly upon an art of abstractions. They had need also of statue and story explicitly to confirm their authority. The autocrats, the conquerors, and the great kings, who always aspire to be gods, then extended their dominions into time by the same device. Like the gods, they loved monuments as simulacra of that ordered world which is the natural home of the absolute mind, a passion they shared with philosophers, themselves a species of autocrat—but they could not rely merely upon solidity and harmony of form. The monument must set forth more patently the nature and the causes of their grandeur. Queen Hapshepsut explains and warrants her temple with the story of her birth carved on the granite walls of Dier-el-Bahari, and the renown of the Emperor Trajan, secure in the magnificent sequences of his Forum, must yet be defended by a ribbon of his soldiers wound around a marble column. An infatuation

with monuments is the common trait of Pharaoh, Philip, Cæsar, Napoleon, and Hitler.

The people, to whom monuments are presumably addressed, do not understand abstractions, and care for them less. They will look for picture first and for architecture after the story is told. When monuments are big enough they will astonish the people ; when they are old enough they may capture the people's romances ; associated with the dead they are pegs for the people's piety (there are many who mistake a monument for a tombstone) ; but without picture the people will not love them. Monuments must enact history ; as does Liberty, for example, enlightening the world in New York Harbour, or Farragut, in Madison Square, swept by the breezes of Mobile Bay.

These are actors on a wide stage. The excitement they occasion as picture, the emotion they provoke as symbol, have little to do with form or taste or provenance, still less with their architectural harmonies. Rare indeed are the instances of popular approval of a monument " for its own sake," a work of art valued for that contemplative delight which we are told is the essential of the æsthetic experience. For that sort of thing we build museums.

The people want to see their heroes and to see them at the moment of their heroism. Saint Sebastian is not summoned to the people's mind by the slender shaft which leans against the abbey wall ; they must see the cruel arrows bristling from his beautiful body. So Nathan Hale must look proudly into the British rifles, and Stonewall Jackson flourish the sword of Seven Oaks above the Atlanta tulips ; and so must the men of Guadalcanal ride their tanks over fronded marble. To the people a monument is a frame for these pictures in three dimensions which they mistake for sculpture. Architecture is a means for giving permanence to these pictures.

Architecture also confers dignity. Sometimes we approve monuments without liking them, because they appear to give importance to our history. The people, as every politician knows, like to usurp the homage due the gods. The symbols of autocracy are translated into symbols of democracy with surprising facility. We know how Thomas Jefferson, himself an architect, fills the round imperial Pantheon with democratic sentiment : the two had made an appointment in heaven to meet again on earth.

In like manner the statue of Abraham Lincoln, consciously awkward, is prefaced with that same peristyle which once promised us, not Lincoln, but the thearchy of Athena. A popular success necessarily arises from the fusion of themes so dear to the people with the cadences of an old and aristocratic art. The equivocal nature of this dignity will not offend those who know little Latin and less Greek.

Architecture has this advantage over sculpture : its absurdities are evident only to those who love it. A sculptor once unclothed Washington and gave him, in a heroic statue confronting the Capitol, the nude grandeur of a Roman god (the costumes of gods being ever a sculptor's dilemma), and we know that the renown of Washington might not have survived that apotheosis had not Congress wisely sequestered Greenough's masterpiece in the unvisited halls of the Smithsonian Institution. Such mummery is less often rebuked in architecture.

This then is the people's memorial. Raised by the gods to assure men of eternal life, the monument also illustrated in picture and statue the legends which sustained their theocratic power. The conquerors, who walk the stage of history less remotely than the gods, made that symbol their own and, in order that the gods might not claim them, covered their monuments with the picture and inscription which recited the stories of their conquests. The people, persuaded of the immortality of the memories entrusted to monuments, adopted the tradition. The people's heroes, the energies of their spirits and the story of their wars, were thenceforth described in bronze and set in frames of architecture. A popular ritual of diuturnity is established.

Shall we ask now what it is that we have thus immortalised and what may be the nature of this immortality.

No picture, not even a thousand pictures, can show us war. Pictures are at best peepholes revealing the merest fragments of reality. The most candid of cameras—and of motion picture cameras—selects, arranges, and distorts. There is no realism which can compass war, this horror and madness, this confusion, pain, filth, and waste ; neither is there any symbol which will invoke the smallest part of it.

How then shall we portray our heroes ? The warrior without war ? That is precisely what the conquerors have shown us. In their monuments we see war, as Perseus saw Medusa, in a mirrored shield. We are shown the glamour, the adventure, the movement and heroic posture, but not the cruelty which gives these meaning ; nor is there any realism of attitude, costume, or facial expression which can move these from behind the footlights. We know, for example, how Wolfe died at Quebec and Nelson at Trafalgar, their officers grouped picturesquely about, and every visual circumstance given emphasis by the sanctions of the Academy. We hear the music of the cannon ; we see the sunlight on the stage ; only war is missing. Not men, but sawdust fantoccini, are torn by the confetti shrapnel of Meissonier.

On his elegant horse, led by a delicate Victory, General Sherman rides out of Central Park. His cape falls in studied folds, carefully adjusted in a Parisian studio. What was it that Sherman said of war ? Who was the better witness, the general or his statue ? Where now are the endless marches under the Southern sun, the blackened villages, burned fields and uprooted gardens, white columns wrapped in red flames, the hatred and anguish and despair spread over half a nation ? They are not on the monument—and neither, let me add, is Victory. They who have seen Victory give quite a different account of her.

High over Monument Avenue on his rococo pedestal rides General Lee, wrapped in his beautiful legend. We do not see around him the casuistry which provoked four years of useless and unnecessary conflict, the ungenerous rancour which sent him and the gallant men who followed him into their cruel struggle and more cruel disillusionment ; nor do we find one hint of the ruin and bitterness which these scattered over the land. What is there here of war ? A gentleman rides his horse on Monument Avenue.

It will be interesting to note how the sculptors of our day will represent generals, now that our generals no longer ride their horses. Marshall answering the telephone ? Doolittle at the controls ? Probably we

shall not show them at all : in art, generals have gone out of fashion. The Column of Trajan and the Arch of Titus are classic precedents, if such are needed, for describing in sculpture and in terms sufficiently ingenuous the common soldier, certain to be the hero of this present war. Colonel Shaw, cast in bronze on Boston Common, rides his horse against a panel of infantrymen ; it will be the colonel now who will fill in the background.

We have seen in Times Square the sculptures which tell us how the Marines raised the flag over Iwo Jima : a prophetic work heralding a population of marble soldiers. The sculptor, without being conscious of it, was as economical of war as were those who cast the equestrian generals. You have not seen the flag raised over Iwo Jima until you have seen the black smoke and red flames of our guns, the terrible swift descent of our bombers, the enemy tortured by tank and flame-thrower, the emergency operation, the noise and stench, the loneliness and desolation which covered that narrow island.

The sculptors will fill our parks and squares with faithful presentiments of our soldiers, explicit of helmet, bayonet, and button, and no homely circumstance slighted. They will try to bring the grim business to your doorstep in a democratic guise. They will not suceed. The war will hide its head behind the common man quite as easily as behind the trophies of conquerors. Do not ask the monument what is hidden. The monument does not remember.

We acknowledge the need to commemorate, to build some witness to this sacrifice and to our gratitude. If not the monument, what then ?

Whatever continues and sustains that for which our soldiers fought is a commemoration more eloquent and enduring than the loftiest monument. That man is most remembered whose endeavours are most imitated ; whose words and deeds are published by the words and deeds of other men ; who lives in the lives of those who follow him, their spirits kindled by his spirit. Lincoln is less honoured by those who caricature, however lovingly, his gaunt figure and quaint costume than by those who repeat his generous soul ; and Washington, I am sure, would give his obelisk to have a few pounds of his steadfast courage under the iron dome on Capitol Hill. So the Salvation Army youth, beating his drum on the sidewalks of the Bowery, continues William Booth ; so the Scout leader continues Robert Baden-Powell ; and so the nurse in the alien Solomons continues and honours Florence Nightingale. Art cannot attain so just an expression.

Four hundred monuments, it is said, burden the field of Gettysburg ; and yet they add no single leaf of laurel to those who died there. Gettysburg is transfigured, as we all know, by a briefer dedication infinitely less facile.

Now I do not suggest that we should let this present moment pass without some gesture which shall translate our hearts. I am for some act, immediate and unequivocal, repeated in every town and village, which will attest our faith in the cause for which these men have made so great a sacrifice. The flags and bunting will come down, the band will play for only a day, the bravest toasts are speedily drunk, and even the speeches will end at last. Our lives will resume their even rhythms,

and the new war will be hurled each day backward towards Chateau-Thierry, Appomattox, and Yorktown. Let us not turn to our ledgers without some durable achievement which shall give added life to that for which our soldiers have fought.

I do not know what our soldiers have fought for if it is not to guard and to nourish the spiritual energies of the people among whom they were born and among whom they hope to live. The Four Freedoms? Freedoms are opportunities. When we have won the Four Freedoms, we have won only the freedom to build whatever theatre for our lives we may wish to build.

Let the stones of that theatre honour those who defend its foundations. Build no monument, but a civilisation fit for free men. Build something that is simple and considered, useful to the community, unaffected and full of a present happiness; some fine thing that we cannot afford and yet will afford. Do not wait for a completed plan of a city; take now the first utilitarian steps. A park in a neighbourhood which is now a waste of asphalt and brick; a playground where children have only the streets; a schoolhouse to replace that dreary box so long overtaken by the progress of the art and science of teaching; a music hall, a theatre, a library, a church accessible to all faiths. The role of these continues through the years; they are not static; they are not make-believe; they serve; and they are always beautiful.

People tell me that in these buildings purpose and use will obscure the dedication. Our memories must be brief indeed if they are so readily distracted. People tell me that in building useful memorials we are exploiting the soldier, building in his name the things which suit our convenience. He is bankrupt of argument who calls me knave. Clearly I am thinking, not of conveniences, but of that service to the spirit which gives meaning to useful things. I am not for Memorial Convention Halls or Memorial Baseball Fields or Memorial Waterworks—although it may be that my judgment of these matters is more a judgment of taste than of principle. There is no serviceability which does not give dignity to architecture, but there are degrees in serviceability as there are degrees in dignity. There are buildings which lift the communal life out of the narrow business of getting and spending. These I would illumine with that renewed purpose and hope which our men will surely draw from their ordeal by fire.

It is that purpose and hope which I would commemorate—not war, for that is glorious only to conquerors and the ancient gods; not war, for that can never be recorded. If our soldiers remain anonymous in our useful buildings, that is because they are already anonymous, being inseparable from the nation out of which they sprang. How then can one give them added life except in the life of that nation. The monument recites names, dates, events, and our own piety, but never the spirit. That also the monument does not remember.

I should like now to return to the beginning of this paper and to remind the reader of the basic nature of the monument which I noted there: I mean the monument as an essay in permanence and completeness. I should like to consider not so much the appearances of the monument as the quality *monumentality*. I would have the monument address us once more in the language of architecture, disencumbered of picture,

legend and conventional piety. Will it then have some meaning for us—and perhaps some quality apposite to the spirit of our soldiers—which in my comments on the more popular memorial I have overlooked.

It will not be easy to imagine such a *pure monument* so overlaid are architectures with alien shadows and reflected suns. How shall we imagine the Invalide without Napoleon, Versailles without Louis? How shall we imagine Mont-Saint-Michel free from the cadences and colours of the *Chanson de Roland*, now that Henry Adams has made these inseparable? And if we could disentangle the Colosseum from Rome and set it down like the Yale Bowl all crisp and shining at the edge of New Haven, would it not *be* the Yale Bowl? The crater of the Bowl has as majestic a sweep; only it does not, as it happens, contain the blood of Christian martyrs—well, at any rate, not so much of it.

Within the variable and uncertain meanings which time lays on architecture there are enclosed architectural *ideas* which are constant, and universal among these the idea of the monument. If the obelisk, free of Washington, stood before us a pure mathematical creation of the spirit, if it no longer decorated the city, conclusion and crown of the great Mall, it would nevertheless speak to us. What then would it say? It would reaffirm, I think, precisely that which the pyramids promised us: stability and finality.

Why it is that this message has had power over our imaginations? Is it not because we believed in and desired the peace that is promised us? Suppose that we came in the course of time to find less oppressive than hitherto the ideas of impermanence and change; if we were indeed to accept the actuality of a universe in evolution, of a mankind borne forward on a great tide whose distant end and present values are inaccessible to our imaginations; if we were to accept this actuality without fear and without rebellion; should we not then find somewhat less persuasive the story told us by the monument?

Thus made modern-minded—less wistful of eternity, less enraptured of symmetry—we might cling less tenaciously to its consolations. Perhaps we should conclude that the monument, considered as philosophic expression, belongs definitely to the civilisation out of which it developed: I mean the classic world-picture to which nature was finite and man the measure and fixed pole of the universe. It is not by accident that our monuments are so often dressed in the Doric mode.

These considerations will appear less fantastic if we will acknowledge first the principle of architecture as an art of expression (a principle somewhat reluctantly recognised in our present practice), and second the necessity in architecture, so often affirmed and so little heeded, of a relevance to the genuine culture of its time.

If with these principles in mind we were to examine the American scene, we should, I think, discover a surprising dissonance between our present thought and the monument—a dissonance which began with the Greek Revival and continues to this day. A people in continuous and accelerated change covers its land with fixed and static symbols. Our giant and unpredictable energies, which admit no impediment in science, in technologies, in social progress, or in war, submit in art to the imprisonment of an arid ritual. Our techniques multiply; our powers widen; new patterns of thought and conduct, of valuations and loyalties,

come crowding upon us ; we are free men and the world draws near us—and we give outward form to our thought and feeling with quaint adulteries of Greece and Rome.

It should be understood that I do not reproach the innocent men who raised the Washington obelisk. They were speaking Greek without understanding it. They had returned in their dreams and in their oratory to the glories of antiquity ; a coquetry with Rome seemed appropriate to a republic governed not by a parliament but by a senate ; and the future tinge of democracy in the fabric of government could not have been then discerned. They expressed not themselves but their doctrines, architecture being a dead art.

There must be many of us who, knowing the latent power of architecture for human happiness, wish for an architecture which is no longer a dead art. We should like to relate our architecture to ourselves in order that it may have meaning for us. Living in the midst of a becoming and an unfolding, conscious of change and of the necessity of change, of the end of old systems and thoughts and usages even when we love them ardently, opening our arms to an unpredictable future, we, too, desire a symbol. That symbol, if it is to command us, must be founded upon our own thought. We do not ask for escape.

Useful buildings—useful in the sense that I have described—will satisfy us with an ordered pattern which, if we understand it, must be inherently more eloquent than any monument : not from a dignity of service merely, but from the share it assumes in the march of our civilisation. That relevance completes the pattern which otherwise lacks the faith essential to all finality ; and if these buildings pretend to no eternity, but like ourselves are clearly to be dissolved into the stream of history, it may be that that, too, will bring them closer to our hearts. Long life is no virtue either in man or in his constructions.

Our soldiers will understand our faith. They fought for it. They will know that whatever we build for the happiness of our people—of their people—honours them ; that we continue them in the structures which serve the ends they served. They will see that we believe in that which they believed in ; that we have made the freedoms they defended the bases of new freedoms ; that we have taken to ourselves their spirit and merged it into the crescent civilisation which we share. This land is their immortality.

Training the Planner

JAQUELINE TYRWHITT, A.I.L.A., A.M.T.P.I.
Director of Research, Association for Planning and Regional Reconstruction

THE planner—is he a man who thinks in terms of a plan, who conceives, works out or who operates plans ? What sort of plans ? What, indeed, is a planner ? The reply generally varies according to the profession of the answerer. To the architect, the engineer, the surveyor, a " planner " is a " town planner "—a member of one of their professions, who has,

in addition, passed the final examinations of the Town Planning Institute.

These are the official "town planners", responsible for preparing the town plans of Britain. But there are almost as many town plans that have not been prepared by town planners, as there are houses that have not been designed by architects. The reason is, however, not entirely the same. Some people are chary of employing an architect on financial grounds: the builder will be cheaper (in the short run!). Others honestly believe that architects are only suitably employed on grandiose buildings that require "a bit of architecture about them". On the other hand, no other professional man (except an occasional engineer) would step forward and state that he was perfectly competent to undertake the design and construction of a major building. It is generally recognised that such work requires certain specialised training. Competence to prepare a town plan has, however, often been claimed, not only by the ubiquitous engineer, but also by many architects and surveyors who have not undertaken any specialised training. At the same time, each of the three professions is apt to decry the assumption of the others to competence in this field: though they remain, sometimes stridently, certain of their own.

Does the town and country planner really require a special training? To answer this, his job must be defined: not just the day-to-day functions of a town planning officer of a county borough (or a county planning officer of a county council), but the purpose of a planner.

A planner must be able to see the social life of a town and its physical pattern as one related whole. He must know exactly where the social life has outworn its physical garment, or is being cramped by it, or where the social circulation is too small at the shivering extremities and requires more clothing of houses and amenities to keep the place warm and alive. He must also know the effect of any change in one part of the town upon the life of the whole. Not only must he know this, but he must be able to anticipate how the town will grow or alter, and, for each rub, each ailment, each development, he must have prepared an appropriate plan that will not only solve the immediate problem, but will form part of a general scheme, whereby, in the course of a few years, the town will find itself in perfect health, able to breathe freely and conduct its business, in clothes that not only fit easily and comfortably, but still retain an individuality of style.

Is this included in the training of the architect, the engineer or the surveyor? Does it even require the basic technique of the qualified architect, engineer or surveyor? It is obvious that the synoptic vision of a planner must be the outcome of a mature education of post-graduate standing. In order to survey, analyse and prepare a plan for the life of a town, the planner must himself be adult: he must know life. In so far as a town is composed of buildings and streets, he must be able to read and to draw plans and maps and know the major structural requirements of buildings and services. But *The City is the People* (to quote the title of Henry Churchill's new book), and he must, as importantly, know their requirements. Further, town and country are interlocked, and the planner must know the way of the land, its rhythm and its needs. Finally, a plan is a design and the planner must

be a designer ; not the stage designer who presents an illusion, but the creative artist who not only sees what is in terms of what could be, but has the power to set this down in such a manner that his vision is shared and understood by others.

All this must be included in the training of a planner, and, from this summary, it would seem that the basic training—if the post-graduate status is continued—could equally well be in any of the four fields ; the technical sciences—architecture, engineering, surveying ; the social sciences—sociology, medicine, economics, social geography ; the physical sciences—landscape architecture, agriculture, forestry, physical geography ; the graphic arts.

Since the golden dawn of the Italian Renaissance, it has seemed impossible that one man should be a master in all these fields. There has been no alternative between the dilettante and the specialist, and the former is as dangerous in the planning field as in any other. Most men seem to require the discipline of professional competence in some one subject to acquire sufficient integrity of thought to prevent them dabbling too much in matters outside their real knowledge. Also it is rare for a man to gain easily the respect of other professional men unless he has had some solid background training that they recognise entails a period of systematic study.

It appears to follow that no single person is likely to be a fully qualified planner, fully competent in all four fields, and it is evident that a plan requiring equal weight to be given to each of these aspects would best be worked out by four people, each with a primary specialised training ; and each with a common training as a planner. This principle of group work seems the only practical method of obtaining properly balanced planning. The actual composition of professional skills within the team and the numbers of persons would vary according to the size and nature of the problem. Also the profession of the leader or chairman of the team should be guided partly by the project and partly by the personalities of the team members. Only two matters are really important : the first that all four aspects of planning should be represented in each team, and the second that the training of the team members should enable each of them to understand and appreciate the contribution of the others.

For small projects one or two well trained men can combine all the four qualities ; for large projects a team of eight or more may be necessary. It is, however, useless just to throw members of different professions together and assume that an integrated planning team will result. The specialist training of each profession makes it impossible and almost unethical for each man to see the job as a whole. The only workable scheme with such a team is to divide the project into specialist fields and work on a system of " passed to you " whenever a borderline is reached. This civil service method does not lead to imaginative creative work, and we can only achieve the modern expression of the Renaissance ideal of the complete man by some training that will develop a " composite mind ". This can probably only be done by training together a group of people, each with fully developed professional skills, who, by their experience of a period of common training in planning, will

afterwards each be able to understand what the other is driving at when they meet as collaborators on planning jobs.

No mention has yet been made of the administrative and legal aspects of town planning that, in effect, occupy the major portion of the time of the local government town planning officer. A general knowledge of these must form part of the common training in planning just suggested, but, as most professional men taking such a training would do so in order to become useful members of planning teams rather than administrative town planning officers, it need not be taken in very great detail. An addition to the course, especially designed for the prospective local government officers, would have to be available, and only those taking this part should be eligible for full membership of the Town Planning Institute.

This separation of the detailed study of methods of operating the Town Planning Acts from a general course in planning would not only greatly shorten the course, but also make it vastly more attractive to members of the varied professions whose co-operation is essential for the creation of integrated planning schemes.

Recently an emergency three months' course in planning has been devised by the Town Planning Institute for the special purpose of enabling partly trained planners in the armed forces to complete their education in planning as speedily as possible. Special examinations at the end of the course will be conducted by the Institute, and those who pass will be admitted as full members (subject to a year's practical experience).

This course will die with the end of demobilisation, but may there not be a case for some similar course, open to many professions, which would carry with it, not professional membership of the Town Planning Institute, but a form of co-operative membership that would mark the holders as people who had learnt something of the composite mind.

It is not feasible to suggest that a two-year post-graduate course in planning should be taken by any except those who wish to practise professionally in this field—mainly as local government officers. It is also idle to suggest that the life of a local government official is likely to attract the most creative minds. The days of the omniscient town planning consultant are numbered ; the most renowned already work as syndicates. The great man, the good publicist, the man who can get his ideas across, will always leap to the foreground ; but how are his back-room boys to be trained ?

The Ministry of Town and Country Planning has an increasing research department. How are its personnel recruited ? The Ministry has found that the official town planners—architects, engineers and surveyors with their one or two years' extra work for the Town Planning Institute final examination—are not the men it needs. It wants specialists in many fields. But these men know nothing of planning, and gradually, laboriously, while the country waits, some men in cubby-holes off the corridors of St. James's Square are learning that their profession is not enough. It is difficult for them because their whole training has taught them to resist temptation to meddle in the other man's field of work. The lesson of combined operations in the war and

wise guidance in the Ministry will help—but is it wise to leave the next generation to be recruited in the same haphazard and inefficient fashion?

Our chief need in training for planning today would seem to be to find an efficient and attractive method of imparting knowledge of planning to the potential collaborators in planning teams rather than to concentrate only upon training the administrative planning official.

Natural Ventilation of Buildings

R. O. KOHNER, A.T.I.
Northern Technical Manager, Colt Ventilation Ltd., Surbiton

THIS subject has received very little of the attention it deserves. It has been considered merely as a troublesome and unregulated feature of all buildings, except those few in which the provision of adequate and controlled natural ventilation was a factor in the original designs. Moreover, ventilation is often understood to imply the extraction of vitiated air, and this is in the majority of cases considered possible only by employing motive power. The architectural influence in factory design and house-building has heretofore not been given its due, and provision for natural ventilation has consequently been introduced without any systematic consideration of the site, of the influence of wind, or of heating.

It will, therefore, be readily appreciated that when any badly ventilated building came into occupancy, the discomfort felt led either to the improvement of existing available natural ventilation, or to the installation of additional mechanical ventilation methods. In the latter case, the efficiency of the mechanical appliances was seriously impaired by the continued existence of the original inlets or outlets.

When any such interference occurred, discomfort of varying degrees was experienced. The most important example in recent history has been the blackout, which was imposed on every building in these islands, with the result that practically all existing systems of ventilation suddenly failed, and a most serious situation developed. It was at this stage that, more than ever, the possibilities of natural ventilation of buildings were seen from a new angle, and owing to the enormity of the problem and the limitation of supplies, these possibilities were, for the first time, studied, not only to the advantage of those specialising in systematic natural ventilation, but also for the general benefit of the entire ventilating and heating trade.

The reactions of human beings to the unventilated conditions were intense and the valuable experience gained during the blackout has brought about a most interesting development of natural ventilation, and linked it more closely than ever to mechanical systems.

In previous times, natural ventilation was dismissed briefly as having too many limitations and too many disadvantages. The modern

industrial hygiene engineer (whose business it is to analyse atmospheric conditions in a building, so that the engineer may prepare a suitable system of ventilation) has learned how many of these disadvantages and limitations can be eliminated or reduced, and it is obvious that discomfort is caused not by natural ventilation, though it may derive its power from the wind, temperature gradients, convection currents, and other qualities of air, but generally by lack of control. The architect, therefore, provided with such data, can plan ventilation for a building he designs with the assurance of a reasonable level of good results.

In many industrial buildings in Great Britain, overcrowding and the age of the buildings are very serious problems. The question whether air-conditioning should be adopted on a wide basis is often discussed, and after the fullest consideration the conclusions reached are that full air-conditioning is not within immediate financial reach at the moment, neither do buildings as we have them now lend themselves to the exploitation of this principle. Human comfort can, however, be established by other methods, and natural ventilation is particularly suited to our much-criticised English climate. The main requirements for comfort are summarised in these brief words ; it is more important to supply reasonably fresh air than to endeavour to extract vitiated air, which cannot be done efficiently unless air is supplied.

The supply of fresh air, however, must be such that no unpleasant draughts are felt, and that the cooling effect on the human body is not too great. This can be achieved non-mechanically, and with this principle of control one of the major objections of inefficiency and discomfort is overcome, and in the majority of cases an adequate air flow will result. This should be designed in connection with the heating system, whether it is a house or a factory. The vitiated air will find its way out of a building, or provision can be made for the egress ; again with the full knowledge of the influence of wind currents on the building and its contours. The process that is responsible for heat, whether it be a kitchen stove or a furnace, creates much increased air movement which needs only to be found, but needs no assistance. If, however, there is unpleasant vitiation, mechanical aid may be necessary, although it does by no means rule out the fact that natural inlets should be provided. As regards the extraction of vitiated air from buildings by natural means, the known practice has been to provide, spaced at regular intervals, square or round openings in a roof which, in connection with bulky looking equipment, was designed to serve this purpose. The more modern principle, however, is that, instead of these apertures (which may not conform to the layout of the plant below, may at times be an annoying source of heat loss, and at other times leave completely unaffected pockets of stagnant air in the roofs), it is better to deal with irregularly spaced areas in the roof, and with equipment that is neither unsightly nor of too high an extraction capacity. Thus pockets in roofs can be eliminated, and the building up of layers of " stuffy or vitiated air " prevented.

Wherever such methods are employed, whether it be as the complete system or in connection with other equipment, the advantage of permanent ventilation is gained which, in many cases, is now lacking.

The factory may be excellently ventilated during the day, but when workers leave in the evening, the building is more or less sealed up, and all equipment, unless it has provided for natural ventilation, is ineffective. Consequently, the morning temperatures and qualities of the air tend to be unpleasant. There is no reason why ventilation—natural ventilation—should not continue during the night, and, if it is thermostatically controlled, the heating engineer will still provide a comfort temperature in the morning, but with a considerably better quality of the atmosphere. A similar principle is the ventilation of a bedroom in a dwelling-house.

It is essential that whilst a person is at rest he or she should breathe relatively fresh air, and a sufficient volume should be available to allow the body to recuperate. In a bedroom where there are flues, some such ventilation may result, although the quality of air entering may not be too good, particularly if, due to inclement weather, windows have to be kept shut and curtains are drawn. In houses now being constructed, particular attention is being paid to this problem whereby draught-free ventilation of controlled volume will continue during the night whether or not the bedroom is fitted with a flue.

The industrial rebuilding of Britain, and the general industrial efficiency of the country, is closely linked with the state of the nation's health. Ample literature is available on the effects of bad ventilation, and on the effects of stuffiness, and the demands made by research workers can be met so that it is possible to provide adequate comfort and healthy conditions for those at work, and make sure that when returning home there is every opportunity for further recuperation.

Applications of Aluminium and its Alloys in Building

E. G. WEST, Ph.D., B.Sc.
Technical Director, Aluminium Development Association

IN the light of the properties of the aluminium alloys it is useful to consider some of their existing and proved applications in the building industry. They were, of course, widely used pre-war for decorative purposes chiefly in public buildings, ocean liners and the like. The combination of easy working properties and high corrosion resistance has made them particularly suitable for—to quote some of the recent applications—temporary prefabricated houses, shop fronts, window frames, counters, grilles, balustrades and handrails, lift-gates, shop and bar fittings, doors and door furniture, direction signs, and wall panels. Quite apart from the purely decorative aspects, the ultimate economy effected by aluminium wall panels, etc., is worth consideration. There are obvious possibilities of such applications in bathrooms and kitchens for example, where conditions are most severe. Maintenance costs are

negligible, and aluminium alloy wall coverings, cupboards, bath panels, ducts and cabinets certainly give superior service to that given by the painted plaster and wood of conventional usage.

HOUSING

Past attempts in the prefabrication of houses have indicated that commercial success depends on mass production being possible, but to the architect the problem is how to arrange for maximum flexibility in design whilst keeping the number of components to a minimum. Not only must the design be suitable for simple repetition large-scale manufacture but it must also be of pleasing appearance.

The aluminium alloys enable large units to be handled with comparative ease through all the stages of manufacture, transportation and erection. The great advantage in manufacturing large units is that site jointing is reduced, much of which can be more efficiently dealt with in the workshop.

Wholly prefabricated house systems appear to fall into two main groups—one in which complete rooms or portions of rooms are factory made in their entirety for assembly on the site, and one in which the walls, roofs, floors, etc., are transported as flat panels to the site. In each case the panels may be composed either of skeleton structural framing and infilling, or of panels only, capable of carrying sufficient load to dispense with framing.

The aluminium temporary bungalow, designed to the standards laid down by the Ministry, is made in four sections in a factory and is taken direct to the site, secured in position and all service connections made in a matter of a few hours. There is no doubt that aluminium alloys are suitable materials for many components of both temporary and permanent houses.

Roofs: The fitness of aluminium alloys for roof coverings has been established by trial and the considerable saving in weight must be stressed; it will be found to range from 20 per cent. to over 60 per cent. by comparison with other materials. A further advantage is the non-inflammability of the all-aluminium roof; while the high strength-ratio renders the alloys suitable for structural roofing members.

Aluminium alloys may be employed for tiles, for seamed sheet roofs (flat, domed or pitched), and for composite roofing slabs or boards.

The facts that aluminium-alloy sheets may be obtained pressed or corrugated to any pattern and that they possess great ductility so that they can be bent and shaped, ensure a wide scope to the designer. As with other ductile metals, joints may be welted when employing flat sheets, but less expensive methods are possible, such as lapping the ends and sides; turning the sides up and providing special junction cover-strips or turning the sides down into a channel formed in the aluminium-alloy extruded support, and filling up the channel with a bituminous material. Site welding is also practicable and the use of plastics for jointing is worthy of exploration by the enterprising architect and engineer.

GUTTERS AND SPOUTING : Rainwater goods are preferably of aluminium alloy where this material is used for the roof, and are already assuming importance for all types of building. Aluminium gutters and down-pipes may be manufactured in the same manner as other metals, but greater lengths may be readily handled. Maintenance is lower than with ferrous materials and there is no risk of staining due to corrosion products.

FLOORS AND PARTITIONS : Floor framework may be made from extruded sections or formed aluminium-alloy strip. Partition wall framework may also be readily constructed with aluminium sheet covering riveted or welded to the structure, and again the use of plastics for jointing may well be explored.

The high thermal insulation of aluminium alloys is advantageous in these structures and may be further improved by filling the panels with an insulating material such as cork, light-weight aerated concrete and similar materials giving insulation superior to that provided by a standard nine-inch brick wall. Aluminium foil arranged inside the panels provides another excellent material for thermal insulation.

BATHROOMS : In bathrooms the application of colour-anodised aluminium-alloy panels to the walls and ceiling is especially attractive in view of the variety of finishes possible and the ease with which the surfaces may be cleaned. The all-aluminium bathroom presents a very attractive proposition for further design and development.

Considerable benefits are derived from the use of aluminium alloys for doors and door frames because of their ease of opening and shutting, high resistance to corrosion, and the fine range of finishes which are available. These benefits are particularly applicable to doors of schools, shops, offices, hospitals, hotels and other public buildings, and especially to exterior doors of all kinds.

Hinged doors may be of hollow construction with features formed by pressing and the space inside filled with an insulating material. Each side of the door may be pressed from a single sheet, the edges bent and welded edge-to-edge forming the thickness of the door. Door-frames have been successfully constructed from aluminium-alloy sections, and all-aluminium doors made by spot-welding sheets to frames built up from extrusions. A light-alloy frame, glass-panelled door will weigh at least 20 per cent. less than the comparable conventional structure in wood. Lintels and sills are economically produced as extruded sections or formed from sheet or strip.

WINDOWS AND GLAZING BARS : For some years prior to the war aluminium alloys were used for windows and roof glazing bars in many notable buildings and recent examinations of them have encouraged the extension of their application to all types. The maintenance of aluminium-alloy windows is low even in very damp or polluted atmospheres. If it is considered that the alloy window frames should have some further protection than that afforded by the protective film which forms on exposure, anodising or chemical oxidation may be specified or the metal may be painted. Window surrounds of pressed aluminium-

alloy sheets are now made in considerable quantity and are normally finished by painting.

Sliding windows and sashes in which lightness is desirable call for the application of aluminium alloys which can be used either in the cast or extruded form. The value of extrusion in the rapid production of glazing bars of the desired form is well known and allows easy competition with other materials for this purpose.

CANOPIES : Canopies provide an instance where five properties of aluminium alloys—light weight, high strength, high corrosion resistance, pleasing appearance and ability to extrude almost any section—may be used to advantage. These qualities are found together in no other material used for canopies.

With aluminium alloys no added covering to the structure is required, the structure, roof covering and all other features being combined and treated homogeneously. The reactions of such cantilevered canopies in aluminium alloys are, of course, considerably reduced on account of the much lower weight involved.

Another great advantage is the considerable reduction in maintenance cost as compared with canopies constructed from older materials.

DOMESTIC EQUIPMENT

Parallel with the tremendous interest lately concentrated on the construction of houses a keen sense has developed of the importance of the amenities desirable within a house in order that it may provide a reasonable standard of working conditions. At present many kitchen schemes are being critically reviewed and new materials tried out. Aluminium alloys are playing a very important part in the construction of kitchen units and several all-aluminium kitchens have been designed and constructed for use with electricity or gas services.

Because of its non-toxic nature aluminium is admirably suited to the construction of food lockers, storage bins and cupboards. For the same reason aluminium alloys are used extensively in many forms for food packaging and the manufacture of dairy, preserving and brewing equipment.

Cupboards or lockers constructed from this material are easily kept perfectly clean whether the metal is anodised or in its untreated condition. A wide range of attractive finishes is available if so desired. In refrigerators the insulating properties of the alloys can in addition be utilised with success. Suitable alloys are obtainable which resist corrosion by most of the refrigerants.

GAS AND ELECTRIC COOKERS : In the construction of gas and electric cooking appliances, aluminium alloys are being increasingly used. Latest designs show that anodised aluminium may be used for the casing or panelling, as well as for the general structure.

OTHER APPLICATIONS : All-aluminium clothes washers and boilers are now successfully made and used, as also are portable or permanently fixed gas and electric fires. Attractive finishes to blend tastefully with

the decorative scheme are available and full use of high heat reflectivity may be made, the polish of the reflector being easily maintained. Gas and electric light fittings are also very attractively produced in aluminium alloy, and other interesting minor applications are mirrors and Venetian blinds.

ALUMINIUM FURNITURE

The suitability of aluminium as a material for the manufacture of furniture is now being recognised and it will rapidly extend its scope to take a high place in post-war supplies.

Opportunities for both designer and fabricator are almost unlimited, either alone or in combination with plastic materials or by veneering with the older and more conventional materials, such as oak, walnut or mahogany, etc. Very attractive bedroom suites, tables, chairs, chests of drawers, sideboards, fire screens, etc., have been designed and constructed.

In addition to its pleasing appearance furniture constructed from aluminium alloys has the advantages of being light, which enables the housewife to move the furniture with ease, non-inflammable, splinter proof, and easily cleaned with the minimum amount of effort.

The aluminum alloys should be regarded as complementary to the older-established building materials rather than as competitors. The fall in price of aluminium, together with the large stocks available, plus the skill and knowledge in working the material that manufacturers now possess, will result in their playing an important part in the post-war building programme.

Utility Furniture

GORDON RUSSELL, M.C., R.D.I.
Chairman of Design Panel, Board of Trade

WHEN, in June 1942 I received an invitation from the President of the Board of Trade (Mr. Hugh Dalton) to sit on a committee he proposed to set up, I felt sure it would be an interesting job. For it was to be known as the Utility Furniture Committee and its terms of reference were to advise him " On specifications for the production of utility furniture of good, sound construction in simple but agreeable designs for sale at reasonable prices, having regard to the necessity for the maximum economy of raw materials and labour."

The Committee, under the able chairmanship of Mr. (now Sir) Charles Tennyson, got to work quickly. A number of designers nominated by various bodies were asked to submit designs. Those of Mr. E. J. Clinch and Mr. H. T. Cutler were chosen as suitable ones from which prototypes could be made and the furniture went into production towards the end of 1942. It was good, simple stuff. The designers ought to have been able to spend more time on it, but the

matter was most urgent. As far as construction was concerned it was made to a much higher specification than most furniture before the war. There was a great shortage of raw materials, especially timber, plywood, springs, webbing, cellulose, etc., which necessitated the use of some substitutes, but in spite of this the furniture has given very little trouble, either in production or use. After all, that is the real test, and public reaction has been favourable.

In 1943 the President decided to set up a Design Panel to carry out research in design and to advise the Utility Furniture Committee on all problems of design that might arise. He took a great personal interest in the design of utility goods. These, he felt, might well set standards which would be of lasting benefit to the public. He paid me the compliment of asking me to be chairman of this Panel which was to be small and was to be prepared to investigate the design of many materials beside wood—plastics, metal, textiles, leather-cloth and so on. Mr. Clinch and Mr. Cutler joined the Panel at once and have given devoted part-time service from the inception of utility furniture. By arrangement with the Foreign Office, Mr. Ian Henderson put in a month or so. Mr. R. D. Russell, R.D.I., and Mr. Eden Minns served for a short time, but were called on for special work in the Services. Then a Czech architect, Mr. Jacques Groag, was appointed. He has a good sense of design and has given valuable help. Recently he has been joined by Mr. R. G. Goodden. Mr. Anthony Hunt and Miss Enid Marx, R.D.I., have done much valuable work on textiles. Since the Panel was formed there has only been one designer working full-time until recently.

May I try to say what our problem was and is? In the first place there is no doubt whatever in my mind that control of furniture was essential, and will remain so until supply catches up with demand; and I am sure the Committee was right in saying that the only way to ensure control was to have standard designs and rigid specifications. Without this the Board of Trade's inspectors would have had a hopeless task in trying to settle all sorts of borderline problems, many of them of a very complicated technical nature.

Before the war a furniture designer worked for a firm controlled, as a rule, by a board of directors in close touch with the business and able to make quick decisions if necessary. The designer knew exactly how the firm's production unit was organised and designed accordingly. The firm sold in one market only—it might be high, medium or low. It was possible to rely on constant supplies of exactly the type of raw materials desired. Transport, generally by road, was simple and goods could be sent to any area.

Now look at our problem. We advise the Utility Furniture Committee, composed of very busy men and women who meet about once a month. They have a wide knowledge of the problem and have been most considerate and helpful, but in the nature of things it is not possible to maintain the closest contact. The Utility Furniture Committee advises the President. But the Board of Trade is not a trading organisation and its hard-worked officials have to deal with a vast range of problems, many of them peculiar to the abnormal times in which we live. The making of prototypes and the carrying out of research into materials and methods is normal procedure with most companies, but is much

more difficult in a government department. "It is impossible for us to design with any one production unit in mind and utility furniture is made by about 700 firms of widely differing standards in technical ability, machine equipment, type of labour, size, adaptability, outlook and integrity. Moreover, new firms are constantly being designated and, to economise in transport, a system of zoning was introduced. In a highly-concentrated trade like furniture making this meant inevitably that acute problems arose. For some areas were so short of productive capacity that the selection of suitable firms was difficult. It was essential, too, that the range of designs should be very limited, so as to produce in as large runs as possible. But this restricted range had to cover every market. Think how different are the requirements of say, a jute-weaver in Dundee, a stevedore in Limehouse, a doctor in Derby, a farmer in Wales, a miner in Newcastle or an accountant in Liverpool. And as for material we have never known for more than a few weeks ahead what might be available. The war effort had, of course, an absolute priority and a slight and quite unavoidable change in the demand from the Services might wreck our plans. At one time it was even suggested that we might have to go right over to softwood—a most revolutionary step involving a new designing approach. Fortunately this did not become necessary.

But many of these problems will be cleared up in the near future. The large and well-equipped firms coming off aircraft can be given a special range of furniture suitable for mass production. This might well be lower in price, slightly smaller and with less plywood in it, so saving a rare raw material. At the same time more should be produced for a given amount of labour and material, so that the shortage should be eased. It is most desirable that more coupons should eventually be made available to more groups. It is also planned that a slightly higher-priced range, using block board for flush doors as it becomes available, shall be put into production. All sections of the trade would then be employed to full capacity and at the same time a wider range of choice would be given to the public—a most necessary step. Such range or choice could be further extended by increasing the number, colour, texture and design of textiles both in cotton and wool. Handles, too, might well be made in wood, plastics and metal. Steel is being used for some bedsteads and possibly for other things. Wicker and cane will return soon, we hope, and it may well be that light metal alloys and moulded plywood—both developed so greatly for aircraft during the war—will help on the solution of this great national problem. But, you may say, will people accept such solutions? Doesn't everyone want to get back to normal—back to 1939—as soon as possible? Look for a moment at housing. Furniture is one facet of the housing problem, for houses are of little use without furniture. There has never been a time when people were so interested in housing as to-day. Not only the conventional solutions in brick and tile, but all experiments whether in steel, aluminium, concrete, timber or what not. This is very healthy. Scarcity and coupon buying in furniture and other things have forced people to think more of use and less of show. Habits are altering, and it doesn't take much imagination to realise that you don't need a bedroom suite in a house with built-in wardrobes.

The next year ought to show many interesting developments. Indeed, it is by no means impossible that historians will record that the utility scheme made simple, well-constructed and well-designed machine-made furniture available to the masses for the first time in this country. It is an odd thing, they may add, that a world war should have been necessary to achieve anything so elementary, so obvious and so necessary !

Here is Ordered Shelter

MARY GILBERT
British Electrical Development Association

SOMEWHERE in the nineteen-thirties, Wells Coates wisely said—" Reduced to its simplest elements, architecture is the art of providing ordered shelter for a multitude of human activities." Now, as we stand at the starting point of what must be a world-wide housing drive of mammoth dimensions—if we are to make good the devastations of war—we might well add the rider " Electricity in home planning is the 'energy' that maintains order and promotes an ever-widening circle for human activities," for undoubtedly the home of the future will have to be fully electrified.

Housing must, in the post-war period, meet two apparently opposing needs. Primarily, homes must cater for a full return to family life, but they must also provide opportunities for leisure, and that social intercourse within the community which men and women have found in the comradeship of war. Only by interchange of ideas and social expression can citizens make their real contribution to the evolution of a newer way of life.

When Carl F. Boester, American housing research expert, forecast the design of future homes in the States, he defined the family as our basic unit of civilisation. " But," he went on to say, " there are no experts qualified by experience, by training, or least of all by right, to determine how you and I are going to live. There are, however, people who by training can try to solve the problems of our living habits and requirements. . . . Let us remember that housing requirements are greatly affected by living habits, and that our habits change frequently." For British families in the age just ahead, it is safe to say that wired homes, with full electrical amenities for fuel, light and power, will be the best and most economical proposition for freeing the family for a more satisfying and unifying use of leisure.

HOW ELECTRICAL PLANNING AFFECTS THE FAMILY

The housewife, freed from much drudgery by electrical planning, has leisure and energy to devote to widening interests, while the material results of electrical routine can be clearly demonstrated in raised standards of living at reduced relative costs. Let us look at the facts.

First come cleaner homes. Partly, of course, this is due to smoke-freed air outside, which now shows satisfactory contrast to the deeper

gloom of fuller-fuel days and smoke-ridden cities. Scientific research on solid fuels, coupled with the urgent national need for highest economy in combustion method, has effected some reduction in smoke-pall over our cities, though 2½ million tons of soot still fall on Britain every year. For the future, with electricity offering the most economical expenditure of the nation's coal, the all-electric home becomes the logical answer.

LESS CLEANING WITHIN THE HOME

Within the electrified house, not only decorations, furnishings and fittings remain clean and fresh for an astoundingly longer time, but to a woman the "maintenance" of cleanliness is a far better approach to housekeeping than concentrated cleaning. The complete extraction of dust, for instance, by electric vacuum suction, compared with the old time broom sweeping and dusting, is infinitely more satisfactory. Nowadays no one can afford to tolerate needless toil.

Facts and figures speak louder than forecasts. Here, for example, is the way the washday works out in two cities—Manchester and Harrogate. Manchester housewives find their "whites", curtains, and the rest, take at least an hour longer to wash than do the Harrogate housewives on washday. In fact, from a survey taken just before the war, Manchester housewives were wasting in one year about 5,580,000 hours, or 668 years in needless tubbing-time. For the Manchester housewives this cost each household 7½d. more each week, making an annual debit of £1.12.6d. For the 112,616 families living in houses at 11 shillings per week rental and under, where all the washing was done at home, the total loss was reckoned at £183,000 per annum; and for the 36,742 families living in houses over 11 shillings a week rental, the total cost of extra washing entailed appeared as £242,705 for the year. For curtains alone, the extra cost involved for Manchester homes each year approximates to £37,340, and even that figure does not allow for fretting and wear from gritty deposits and soiling, or the coupon-pull involved, for the estimate is pre-war.

Soon, perhaps, we may see universally installed both air conditioning and humidity control which will cleanse every cubic foot of air-play entering our homes. Surely such detailed hygiene must inevitably reflect in positive family health.

REFRIGERATION AND NATIONAL NUTRITION

Again, the raising of standards in the storage, preparation and cooking of food will play a big part in improved national nutrition. The retention of vitamins in foods through refrigerated home storage, the fresher service, and the speedier cooking facilities electricity now can give, are all going to make their contribution to national good health and fitness. It stands to reason, that if the household fails to maintain the high standards now set by modern methods of transportation, wholesale depot and retail shop cold storage, it is merely dissipating all the good work by allowing perishables—meat, fish, vegetables, or fruit—to rest in poorly ventilated larder or store without means of pegging-down or regulating temperature to the "temperate zones" of the Fahrenheit forties. Vitality is thus lost long before the food reaches the table, no matter

how carefully the ship-to-shop journeys have been steered. Our war-time experience of queues, coupled with increased scope for long range food purchasing, makes electrical refrigeration rank high on home priority lists now.

THE FATIGUE FACTOR

One of the most vital aspects of modern housing is the anti-fatigue factor in planning. Electricity, properly applied, is a powerful energy-producing medium, and by shouldering what is normally manual work is a potent labour-sparing one. Modern light-toned surroundings and height-planned surfaces, as well as the more flexible disposition of working equipment in modern electric kitchens all play their part too in countering fatigue in a more positive way than is generally realised.

We have discovered a good deal about the effects of workrooms and factory surroundings on workers during this war, but the psychology of light has been recognised clinically for some considerable time. To quote Dr. R. Veitch Clark, recently Medical Officer of Health for Manchester, " There can be no doubt but that the segregation of the population into densely packed communities has seriously affected our individual welfare. Many factors enter into this—bad housing, poverty . . . bad working conditions, overstrain, and worry of modern life, etc., all contribute towards a diminution of the normal healthy vigour of a people. . . . There is nothing more profoundly ingrained into the psychology of our being than the beauty of light and the hateful ugliness of gloom. Everyone feels the stimulating effect of a fresh and sunny summer morning, and it is few indeed who do not react in the other way to the depression of atmospheric dinginess. This psychology of light is an enormously potent factor, and its actual material results have been demonstrated by the Industrial Fatigue Research Board in that the output of work was found to be definitely diminished when light conditions were bad. . . ."

MECHANISATION IN THE HOME

Through lightening the daily routine for women, fatigue—the biggest bogey—will be laid. Mechanisation, the proved method for war, must now become the pivot for the peacetime home plan. All the heavier manual work when tackled by motor-driven appliances ceases to be labour, as we know it, and ceases to be costly.

Using a vacuum cleaner continuously for ten hours would draw only 2½ units in current which at ½d. a unit seems negligible ; and, even at 3d. a unit, the cost provokes no second thought, especially when the work achieved is compared with extended manual labour with comparative time or money costing. But in tackling a heavier job, like pumping or sawing for ten hours, which a quarter-horse power motor can shoulder equally well, ten hours' manual labour would produce only the working equivalent of half a unit of motor running. Manual results cannot compete with mechanisation, and the worker always pays both in energy and time.

Due to absence of domestic labour pre-war, nine million British women had to manage their housework and cooking single-handed. Today, labour conditions are worse.

Surveys show that the average time taken in meal preparation and washing-up alone averages 22 hours, or over three hours a day. Present conditions, of course, rate considerably higher.

But—this routine work of home-running is reduced substantially if equipment is placed on motion-study lines and duties are mechanised by intelligent use of electrical appliances. In the preparation of a full-course breakfast, for instance, working time has been reduced "on test" from 18 to 11 minutes, with resultant reduction of floor pacing from 199 to 55 ft., an energy-saving difference of 144 ft.!

In home washing, too, striking labour cuts can be achieved. Here is the evidence of a housewife using an electric washing machine and iron, who now reflects with some detachment on the old energy-sapping routine:

> "I claim to be able to clear my washing of roughly 30 to 40 articles in an hour and a half. The old method of washing used to occupy five or six hours, and I used to be dead tired after finishing, but now I can iron the clothes or carry on with any work I choose. I use about four units of current at ⅝d. per unit. The old way of washing I used about ½ cwt. of coal costing 10d."
>
> (Recalling that about ten gallons of electrically heated hot water would be needed here—the extra cost would amount probably to 2½d. or 3d. for most districts.)

Incidentally, the latest automatic "Home Laundry" now in production here works entirely by time switch from the pre-soak-through washing, triple rinsing, to the damp-dry stage, leaving the linen just right for ironing. Only six minutes of personal attention is demanded for the fifty minutes' run of the full wash.

Some 400,000 of these machines are installed in American homes at the present time, and fabric-wear tests already prove a substantially lengthened fabric life, clothes lasting from twenty-five to fifty per cent. longer because of the gentle "tumble-action" in the machine.

During the wartime years, preoccupied as we have been, we have still had plenty of opportunity to watch new methods, and plan for peace. To quote President Truman when the time came for international acceptance of the United Nations Charter at San Francisco, "There is a time for planning, and a time for action, and the time for action is NOW!" We have all watched and read of different ways of living and closely studied housing plans of other countries. Now the war has fused our interests and aims inextricably for the future pattern. Everything points the way forward—to fuller freedom in the family home, and wider contribution to the community and the State.

Dwelling on the international plan in his book, *Making a Better World*, Carl Becker concludes on community lines—"Certainly nothing can be gained without knowing what we want and planning for it. It is no longer a question of planning or not planning, but a question of good, bad, or indifferent planning, and the essential point is that no plan for a new (international) world can succeed unless it is in some fashion integrated with measures taken in the principal countries for the organisation of a new and better social world." What our women here, together with the women of Canada, our Dominions, U.S.A., and

continental countries, have learnt through their partnership in the war experience, will inevitably colour their aims in the peacetime plan.

At the end of their full but eminently satisfactory days, women of the post-war mechanised homes will be freed for the real business of living—family life, through which cultural pursuits as well as the joys of craft work can be experienced in leisure hours with minds that are fresh to enjoy them. It is in full freedom such as this that individuals make their real contribution to citizenship, men and women alike—but first we must ensure that freedom. It seems that current holds the key.

UNRRA and Housing

A. J. KELSEY
Chief of Construction Repair Section, Industrial Rehabilitation Division, UNRRA

THE three basic necessities of existence are food, clothing and shelter. It is these which UNRRA is attempting to provide in the devastated countries ; not at a pre-war level, not even at a desirable level, but at a level of bare existence. This must be kept clearly in mind in any discussion of UNRRA's relation to housing. UNRRA is concerned with the elemental aspect of shelter rather than with housing as it is generally understood.

The temporary camps operated by UNRRA through which the millions of people uprooted by the war pass on their way back to their native lands are easily understood by everyone. What becomes of the repatriate after he crosses the border of his native country ; to what he returns is less easily understood. The simplest thing to do, of course, would be to segregate these returned citizens by age and sex and to house them in temporary barracks. Even if this were politically feasible, which it probably is not, it would pose grave economic problems for a country already suffering from a disrupted economy and a shortage of productive labour.

The problem faced by these countries, then, is to re-establish their people where, by helping themselves, they also can best help the whole nation. In this they are assisted by the natural instinct of people to return home, to take up again the trade or occupation which they pursued before disaster overtook them and to rebuild their houses as well as their lives. But while they are rebuilding they must be provided with the basic necessities of existence. Food, until they can grow their own ; clothing, until they can make their own ; shelter, until they can build their own.

It is difficult to conceive of the conditions in some of the devastated areas. Damage by bombing has been widely publicised—it is dramatic and easily comprehended. But the devastation left by retreating armies—the wanton destruction of the means of production, of the very means of existence itself—is harder to comprehend. The pattern of Nazi occupation appears to have been the appropriation and shipment to Germany

of anything which might be useful there—the destruction of everything else. Where time or facilities were lacking to dismantle or destroy large machines, vital parts were removed, even though the machine had no military significance whatever. Bridges were destroyed with such consummate engineering skill that only a mass of tangled, unsalvageable steel remains. Furniture piled in the centre of stone-walled houses and set afire destroyed floors and roof as well; explosives might have left some scraps which a desperate people could have used to start life anew.

It is the tools, materials and equipment to replace these scraps which UNRRA is providing—roofing paper to repair roofs, glass substitute to close in windows, hinges for doors, nails, screws—the hundred and one things whose availability we take for granted. With the basic materials must go the basic tools—hammers, saws, chisels, augers, etc.—for these, too, are lacking. And where the replacement of destroyed production equipment will make local basic materials available, UNRRA has to supply that lack.

With these materials, tools, and equipment, crude repairs can be made to damaged buildings, and guide shelters built to house those whose homes were utterly destroyed—not all, by any means, but at least a substantial enough fraction to ease acute distress and to help the people get started again on a self-supporting basis.

In order to meet the emergency, preliminary studies on the possible requirements for emergency shelter were begun in the winter of 1943–44. These studies were based on research by the office of Foreign Relief and Rehabilitation, the Office of Strategic Services, Foreign Economic Administration and the National Housing Agency and fragmentary reports received from their field agents. From these statistics a plan was drawn up and procurement begun for a stock pile of critical items which could be sent into the devastated countries immediately upon their liberation. This stock pile was procured mainly in Great Britain in order that the materials could be transferred to the various countries with as little shipping as possible.

In addition to this UNRRA stock pile, a stock pile for Balkan civil relief had been established by the armed forces in the Near East. This stock pile, besides food, clothing, transportation equipment, etc., also contained a minimum amount of those items which would be necessary for emergency shelter and emergency repair of public utilities.

The financial responsibility for the entire Balkan stock pile has been assumed by UNRRA as well as the physical distribution of those materials still remaining at the end of May, 1945.

In accordance with the preliminary plans, immediately upon the liberation of a country and the signing of an agreement with UNRRA, a Mission was organised and sent into that country to determine the need for relief supplies as well as to supervise their distribution. With the aid of these Missions, the recipient governments have surveyed their needs for shelter and a programme has been prepared to meet those needs in so far as UNRRA's authority and funds will permit. The limitations of funds particularly, and the scarcity in world markets of the critical materials for shelter have made the re-establishment of local building material industries imperative so that through normal trade between countries, many of the urgent needs can be met. Where this has not

been possible, it has been necessary to furnish from the supplying countries the critical materials for minimum elementary shelter.

In Greece, for example, materials were provided to re-roof rural dwellings by stretching chicken wire over log rafters, cementing roofing paper together over that, and over the whole putting mud or thatch to keep it from blowing away. True, it will have to be replaced in a comparatively short period, but in the meantime farmers can start producing food.

In Yugoslavia the lumbering industry, before the war the most important in the country, was 95 per cent. destroyed. Logging and saw-mill equipment is being provided in order that she may produce lumber not only for herself but also for others as soon as her own most urgent needs are met.

It is in these terms that UNRRA is assisting in the housing problems of the devastated countries. Housing, as it is generally understood, is not only beyond the scope of UNRRA's authority but also far beyond its funds. Advice on technical problems is available for any country desiring it but it is believed that the recipient countries are fully capable of solving their own housing problems, given even a small start on the way to recovery and stability. It is this small start which UNRRA is endeavouring to provide.

Town and Country Planning in Scotland

R. H. MATTHEW
Chief Planning Officer, Department of Health for Scotland

MACHINERY

THE Planning Minister for Scotland is the Secretary of State. The legislative framework consists of the Town and Country Planning (Scotland) Act 1932, the Town and Country Planning (Interim Development) (Scotland) Act 1943, and the Town and Country Planning (Scotland) Act 1945. These Acts are the counterparts of the corresponding English enactments of 1932, 1943, and 1944. The local planning authorities are the County Councils and the Town Councils of large burghs, and of the small burghs of St. Andrews and Thurso. The Town Councils of these two small burghs were granted separate planning powers by a special dispensation of the Secretary of State under the powers conferred on him by the 1932 Act.

The central administration of the Planning Acts is one of the responsibilities of the Department of Health for Scotland under the Secretary of State, who is in a specially favourable position to influence and direct the planning of Scotland in that, in addition to his functions as Planning

Minister, he has directly under his charge such important matters as agriculture, education, fishing, forestry, health, housing and water supply. Special arrangements have been made to ensure that planning is taken into account in all operations initiated or sanctioned by any of the Secretary of State Departments. Proposed housing sites are carefully examined from a planning point of view before they are approved, and up to 30th November, 1945, sites had been approved capable of accommodating 163,285 houses.

There is the closest liaison between the Secretary of State and the United Kingdom departments whose functions directly affect the physical planning of the country, *e.g.* the Ministry of War Transport as regards roads, railways and docks ; the Ministry of Fuel and Power as regards coal, gas and electricity ; the Board of Trade as regards industry generally and the siting of trading estates and individual factories in particular, and the Ministry of Civil Aviation as regards civil airports. In addition there is close liaison with the Ministry of Labour and National Service. Special steps have already been taken in conjunction with the Departments concerned to deal with the immediate special problems of the Scottish development area.

Standing Advisory Committees on such matters as housing, agriculture and education, advise the Secretary of State on important aspects and problems arising in connection with these matters. The reports of the Scottish Housing Advisory Committee on the Planning of New Homes and the Distribution of Houses in Scotland have assisted materially in deciding upon the planning standards and principles in connection with location, layout and type of houses in Scotland. The Report on Distribution of Houses stressed the importance of linking housing programmes with industrial development and trends, on a national basis, so that housing and industry would develop in harmony. A special committee has recommended a number of areas for consideration as National Parks. A committee which was set up by the Minister of War Transport in consultation with the Secretary of State to consider the whole question of the future of the Clyde ports, has recently made its report.

In so far as the Secretary of State's wider interest in questions relating to economic development in Scotland is concerned, a number of committees were appointed to investigate important questions affecting Scotland ; such as hydro-electricity, hill sheep farming, hospitals, the herring industry and Scottish coalfields. Most of these committees have now reported and the results of some of their work may be seen in the Hydro-Electric Development (Scotland) Act 1943, and the Herring Industry Act 1944.

The Scottish Council on Industry, which was formed in 1942 for the general purpose of safeguarding, stimulating and assisting Scottish industrial development both during and after the war, has also been responsible for the appointment of numerous committees of inquiry covering a wide range of important subjects, such as : Light engineering ; the extent to which materials and fittings for the post-war housing programme in Scotland can be produced in Scotland ; the plastics and chemicals industries ; industrial premises and facilities ; canning and other methods of food preservation ; the utilisation and disposal of Scottish wool and the crofter woollen industry ; transport conditions ;

the white fishing industry; the tourist industry; and the Forth and Clyde Canal.

The Department of Agriculture for Scotland have appointed a number of Land Utilisation Officers to deal with land questions, with particular reference to the use of agricultural land in relation to existing or proposed development, including development of local authorities for housing purposes.

ORGANISATION OF SCOTTISH PLANNING DEPARTMENT

On the technical side the planning staff of the Department of Health falls into three main sections:

(*a*) THE REGIONAL PLANNING STAFFS. Scotland is divided into three Regions for planning, namely, North, West, and East. The Regional planning officers and their staffs are centred in St. Andrew's House, Edinburgh. Their work includes advising the local planning authorities in the preparation of planning surveys and of outline plans, guidance on their administrative arrangements and conducting inquiries into planning appeals. The Regional planning officers report to the central department all important development proposals in the Regions, and in particular on the siting of housing and industrial developments.

(*b*) RESEARCH (PLANNING TECHNIQUE). The work of the research staff covers the examination of typical planning problems, such as the setting of standards for building densities, open spaces, etc., the design and layout of residential areas for towns and villages, and the development of a technique for planning survey. In the latter connection a series of typical surveys has been issued from time to time by the Department for the guidance of local planning authorities.

A modelling unit has recently been set up to prepare models illustrating the work of the research staff, and some of these have already been on exhibition in various parts of the country.

(*c*) NATIONAL MAPPING AND RESEARCH SECTION. In order that the Secretary of State can competently exercise his functions as Planning Minister he must be furnished with all necessary information about the physical, economic and social conditions existing in the country today. Research has accordingly been carried out by officers of the Department of Health into these matters both on the national and the regional scale. The Department, in association with the Ministry of Town and Country Planning and the Ordnance Survey Office, are preparing a series of national maps on a scale of 10 miles to the inch. These maps depict the geological and physical structure of Scotland, land use, mining and mineral resources, industry, population, communications, etc. A number of the maps have now been published and are on sale, while a considerable number more are in process of production. Not only will the maps be of the greatest importance for planning purposes, but they will also be valuable for educational purposes and even of considerable interest to the public generally. The maps section is responsible for co-ordinating the mapping of all basic information required for planning, and is in process of building up a central body of planning information which will be used by local authorities, regional committees and the central planning

Department itself. Arrangements have also been made to institute an aerial survey and establish a library of aerial photographs which will be available for the use of Government departments, local authorities and others in Scotland.

REGIONAL PLANNING

In the sphere of regional planning much has already been done. Three Regional Planning Advisory Committees have been set up—for the Clyde Valley, the Central and South-East Scotland and the East (Central) Scotland areas—for the purposes of considering the major planning problems in their region and of preparing an outline plan into which the schemes of the individual planning authorities will dovetail. There is close liaison between these committees whose constituent authorities number 38 out of the 57 planning authorities in Scotland, and they embrace within their areas some four-fifths of the population and industry of the country.

The Clyde Valley Regional Planning Advisory Committee, for whom Professor Abercrombie is the Planning Consultant, produced an interim report on housing within a few months of commencing operations in 1944. The Committee expected to have the typescript of its final report completed by the end of February 1946, with the actual publication of the report some time later.

The Committee for Central and South-East Scotland, for whom Dr. F. C. Mears is the Planning Consultant, started work at approximately the same time and has also been making much progress. It has issued an interim report dealing with the population trends in its area and the final report will, it is anticipated, be published in the course of 1946.

The third Committee, *i.e.* that for the East (Central) Scotland region, has only recently appointed a Planning Consultant (Mr. Gordon Payne). The preparation of its outline plan is expected to take about three years.

LOCAL PLANNING

The local planning authorities, on whom the work of planning mainly falls, are proceeding actively with the initial survey work which is required to give them the necessary background of information for the planning of their areas. These surveys are being carried out generally on the lines of the Department's model surveys. In some cases this stage has been completed and they are engaged in the preparation of draft outline plans.

Recently the City of Edinburgh published the report of its Advisory Committee on City Development, setting out the general considerations governing the development and redevelopment of the city as the Capital of Scotland, and the preparation of planning schemes in relation thereto. Professor Abercrombie has been appointed by the city to prepare an outline advisory plan in conjunction with the City Engineer.

The planning committee of the City of Glasgow has now published its First Planning Report, prepared by the Master of Works and City Engineer.

Several smaller burghs are undertaking social surveys in conjunction with the Scottish Council for Social Service, as a basis for local planning

policy. The planning authorities are, moreover, scrutinising all development proposals so as to ensure that nothing is allowed which is likely to prejudice their long-term plans or to injure amenities in their areas. State intervention in the administration of local planning authorities will only take place where it is in the public interest of the country as a whole that individual projects should be dealt with on the national level.

Planning in the United States

PROFESSOR CHRISTOPHER TUNNARD
Department of Architecture and City Planning, Yale University

" The matter of advance planning is one in which I have always had a close personal interest."

(President Harry S. Truman to the House Appropriations Committee, November 7, 1945.)

AMERICA has passed the stage when planning rested almost exclusively in the hands of private individuals, builders and speculators, traction companies, real estate operators and giant corporations. In some degree there is now planning, or the power to plan, at all levels of government as well. This indicates that the nation, through its elected representatives, is beginning to take more interest in its surroundings, health, education and security. Moreover, people are beginning to see only too clearly what neglect of social planning has cost on the human balance sheet and are seeking a solution which will guarantee the country against the too familiar contrast of prodigal waste and abject misery in the future.

The solution may not be as clear to many people as the need, least of all sometimes to the planners themselves, but the pattern of their efforts to find one may, with some certainty, be sketched in from the actions of the more recent past and the conflicts of the immediate present.

THE PROBLEM OF THE CITIES

When an American speaks of " My country," he often has the mental image of the town or city which has been his home. This is not only because 56 per cent. of all Americans live in urban centres of over 2,500 people but because in many states the entire land area is divided into townships, so that people live in the " Town of This " or the " Town of That ", even though their home is a farmstead or a country house. Further, since the time of the Revolution, when the English landlords were swept away, the law against primogeniture has made the founding and holding of large country estates extremely difficult and has tended to create a nation in which all sections of the population are urban-minded, if not urban-housed. Since the Civil War this tendency has

been accelerated by the tremendous growth of cities and by the urban ideal held up by the press, the motion pictures and the philosophy of business enterprise.

This urban-mindedness might lead the observer to expect a single-minded concentration upon civic problems, but this, where it exists, is a comparatively recent manifestation. American cities are no better and no worse than European cities. That they look somewhat different is due to their own peculiar pattern of speculation (an American talent fashioned on English and French precedents in the 18th century) and to the fact that they are without a feudal heritage ; but on the whole they have similar problems of overcrowding and blight, inadequate social services, snarled traffic conditions and lack of community facilities. The United States has its grimy Manchesters in Pittsburgh and St. Louis, its Birmingham in Detroit, its Glasgows in Philadelphia and Chicago. On another scale, it has its Sunningdales and Ascots on Long Island and in Westchester County, its Harrogates and Brightons at Hot Springs and Atlantic City, its Letchworths and Welwyns at Forest Hills and Radburn. If there is nothing here to compare with London, it may at least be said that New York and Washington combine the functions of that unique city. Differences lie mainly in the greater size of most urban agglomerations and in the administrative pattern, with its unique federal-state-city relationships.

Apart from the building of new towns, which has been going on throughout America's history, the attempts to improve existing conditions is about as old as the reform movement in England. Tenement house reform, municipal sanitation, a public park movement and other charitable work occupied well-meaning Americans from the time of the first official reports on slums in the 1830's until the late 80's. During this time the remarks of Lord Shaftesbury about the poor and destitute were feelingly quoted and in the Draft Riots and the struggles of labour for shorter hours and higher pay the poor themselves were making their demands known. Then, in the 90's, Americans set about rebuilding the central core of their cities, largely as a business enterprise. Daniel Burnham, planner of the new Washington, Cleveland and Chicago, fired commercial groups into promoting the City Beautiful by his speeches on its value for trade. At about the time the English housing movement was becoming soundly established, the City Beautiful idea was translated into the term Municipal Art, and with the first national conference of American planners in 1909, modern city planning may be said to have got its start.

Born with the aeroplane, the city-planning commissions soared high above the sea of local politics, protected by the conditions of their establishment from any contact with its murky depths. In a time of corrupt civic administration, they were created as "independent boards of experts", usually unpaid, so that no taint of favouritism or graft should mar their policies. The result was, and still is, that their decisions are apt to be ignored by those who have the power to implement them and their work has been largely of a research or advisory nature. As the dean of American planners, Dr. C. E. Merriam, has pointed out, the only successful city planning has been carried out in places where there has been close co-operation between city-planning commissions, civic

groups, and the men who run the city. So that, in spite of the excellent studies that some city-planning boards have made, it is as well not to be too impressed by the fact that there are now over twelve hundred local planning agencies and that in some states they are compulsory for towns of over ten thousand people. This may mean, as in Massachusetts, that they are established by law and then given a trifling sum with which to operate, rendering them ineffectual even as research organisations. Against this, however, must be set the fact that during the war just concluded, when cities could not spend their funds on road-making or public buildings, larger appropriations for city-planning commissions were sometimes made than at any previous time.

From 1917 on, another tool in the planner's hands has been the zoning ordinance, which defines areas for business and industry and different types of residences, and sometimes controls height, bulk, and area of buildings. Although zoning cannot be considered anything but a long-term method of improving cities, and no solution to the immediate and pressing problems which beset them, it nevertheless has already had a stabilising influence on residential property where it has rigorously been enforced. Considering that American cities derive 92 per cent. of their income from the real property tax, zoning should not be condemned out of hand as a restrictive rather than a creative planning measure. There is no doubt, however, that unless backed by an intelligent master plan, zoning can sometimes perpetuate an unfortunate *status quo* and prevent a logical development of planning. New York City, for instance, is still zoned to allow for some three hundred million inhabitants in its commercial districts, or more people than in the Western Hemisphere. A progressive master plan for New York, which has been lacking since the days of Rexford Tugwell, would remove such an extraordinary concession to operators in New York real estate and provide for better land use in that overcrowded city.

HOUSING

To the Englishman, with his cities laid waste on every side, it may seem impossible that the need for new homes could be as great in the United States as it is in Europe. Yet, although no bombs fell on American cities, this is undoubtedly true, and the need has increased during the war, in spite of the provision of a small quantity of excellent war housing.

Just as Britain is about to start on a post-war temporary housing programme the United States is preparing to tear down temporary units which housed her war-workers. Many have urged that these be re-erected in areas where the housing shortage is acute. In New York, a city which has no vacancies, there will be for the next two years, at least, a tremendous housing shortage, complicated by the demands of thousands of veterans who are returning every week. As yet, reliance is being placed solely on private building and new permanent housing projects, which will take two years to build, and on reconditioning of old apartments which is proceeding at a snail's pace due to lack of material.

An example like the above only serves to point up the issue of more

and better housing. America has been slow to inaugurate a large-scale housing movement, but now that it is under way its excellent standards have been paying dividends. Ten years later than her British cousins, the United States started with the New Deal's Public Works Administration and built 57 projects from 1934 to 1937. In the latter year, a great impetus was given by the creation of the United States Housing Authority, which started building public projects for those whom private building could not afford to house. Under the 1937 Act, 585, " housing estates " in about 250 localities were built. At the same time, the Federal Housing Administration was guaranteeing mortgages for private housing, and the Farm Security Administration was coping with the problem of migratory farm workers, in rural communities which are a model for planners everywhere.

During the war, under a new housing agency, the National Housing Agency, and by mobilising existing space without recourse to billeting, shelter was made available to some nine million war workers, the total of new and reconditioned dwelling units provided being 1,886,000. Although it fell short of the demand, America's wartime record in housing is indeed a proud one. Moreover, in many places the projects took the form of complete new towns, with all community facilities provided. Here was an exercise for planners ! Vanport City, with its 35,000 Kaiser shipyard workers, Oak Ridge, the " atom bomb " community, Channel Heights and Marin City, are examples of these new towns. The last named, built for San Francisco shipyard workers, achieved the happy distinction of mingling its white and Negro-American residents, an unusual practice in this country of Harlems and Black Belts. The results, as recorded by social workers, were more than satisfactory, and it is all the more unfortunate that at a time when the area is still overcrowded and is likely to remain so, Marin City is due to be razed by the Act of Congress which limits the life of temporary war housing. Throughout the country, the permanent housing which will remain stands, with the great dams and other projects, as a monument to the planning inaugurated by the Roosevelt administration.

LOCAL PLANNING ACTIVITY

The problem now exercising far-sighted Americans is how to co-ordinate all planning activity to make it tell the same story. At present, the following planning processes are going on in cities :

1. PUBLIC WORKS PROGRAMMES. Apart from housing, these comprise bridges, roads, tunnels, schools, hospitals and the like. In most cities, such projects result in " spot " building, unrelated to a master plan. New York City has a billion dollars worth of these projects blue-printed on its shelves, but in order to cushion unemployment, work should be started immediately, and the city has not yet obtained funds from the Federal government to match its own share of the costs. Although it has shown no great discrimination in such matters in the past, Washington may well prove cautious in pouring Federal funds into such channels, if they are not backed by sound planning programmes.

2. HOUSING PROJECTS, PUBLIC AND PRIVATE. Progress on housing projects will be slow until manpower and material shortages improve.

There is too little interest on the part of most city governments in the vital work of local housing authorities. Also, until the Wagner-Ellender Bill, now before Congress, is passed, there will be no comprehensive housing law for the country. Private housing has run into the worst material shortage that it has ever faced, and instead of building for the need is only too naturally catering for those who can afford to pay top prices.

3. CITY PLANNING AND ZONING COMMISSIONS. Discussed above.

4. URBAN REDEVELOPMENT PROJECTS. It is claimed by some that these will answer the need for the co-ordination of planning and large-scale rebuilding of American cities. Briefly, by passing new legislation several of the states are encouraging large corporations like the life insurance companies to invest their surplus funds in low or medium cost housing. Inducements in the form of gifts of land (discontinued streets), ten to twenty-five year periods of tax exemption, and exercise of eminent domain to make large-scale land assemblage possible, are being offered to the companies. Metropolitan Life has already begun demolition for its Stuyvesant Town project in New York (see illustration), and in other cities similar developments are contemplated.

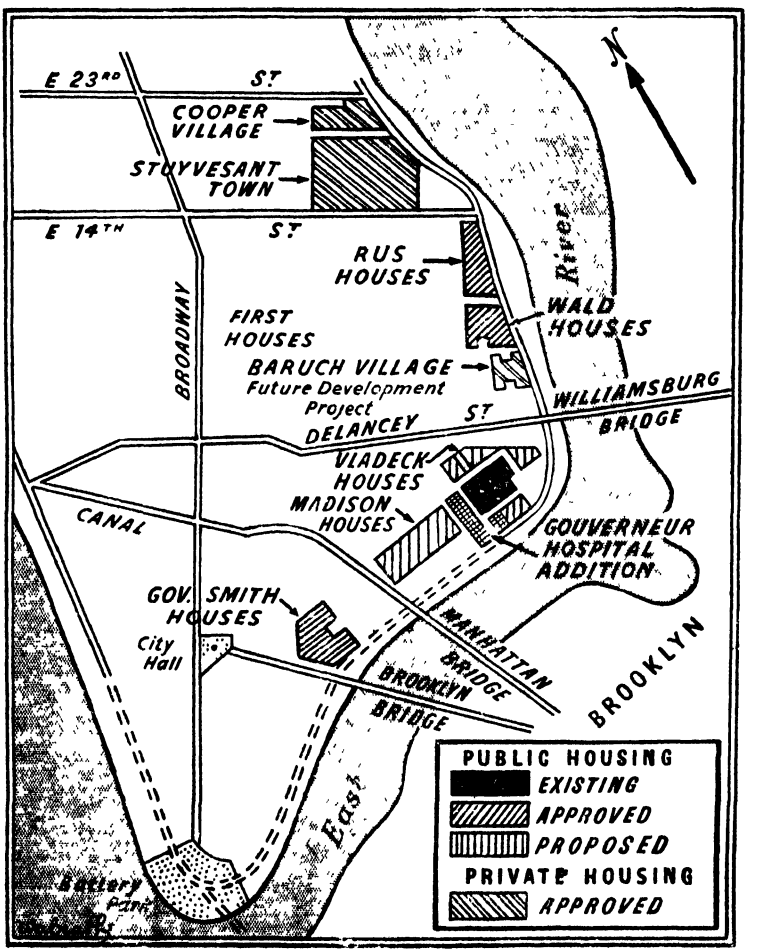
From a planning point of view, the advantage of these schemes is that large areas of the cities will be rebuilt quickly on a superblock or precinct pattern. The disadvantages, if we take Stuyvesant Town as an example, are these : (*a*) The population of the area will be trebled to a density of somewhere between 450 and 600 persons per net acre ; (*b*) there will be a lack of new community facilities and schools ; (*c*) 25,000 New Yorkers will be cooped up within a " walled city " ; and (*d*) Metropolitan Life has announced a policy of excluding Negroes. (After a storm of controversy, New York has passed a law forbidding this practice in future where the city is involved in the project.)

It would seem from the above that while corporations should be encouraged to enter the housing field and help to rebuild America's outworn cities, stringent controls by the public are necessary to prevent abuses and the return of 19th century paternalism in town planning.

5. PLANNING BY " EXPERTS." Some cities are still buying plans from designers, who are now offering streamlined airports and highways as well as the old Beaux Arts civic centres. Portland, Oregon, started the ball rolling with Robert Moses, New York's energetic Park Commissioner, who, for the sum of $100,000, provided plans which largely duplicated the efforts of Portland's city-planning commission for some years past. This exponent of " planning with limited objectives " then produced a plan for Baltimore. The industrial designer, Norman Bel Geddes, followed with a quarter-million dollar 61-foot scale model of Toledo, Ohio. As the Chicago *Sun* remarked, " The trouble with the Toledo plan is . . . that it lacks the understructure of basic thinking which would make it a true master plan," implying that nobody had charted a course of legislation, negotiation, procedure and financing which would make it realisable. (Citizens of Plymouth, London, Hull, Cardiff and others might take note.)

6. PRIVATE BUILDING. Since over-all planning controls are lacking, the construction industry will continue to do the bulk of rebuilding, and

on a "Spot" basis. Plans have been filed for at least four new sky-scrapers in the mid-town area of New York, doing nothing to help the unwelcome congestion brought on in that area by the existence of Rockefeller Centre. All over the country new homes are about to go up, offering small value for their high prices. In recent months the chief activity of the real estate lobby in Washington has been to persuade the government to lift all controls on building as soon as possible. The majority of these are now off, and the chief result in a period of shortages will inevitably be the building of expensive houses for the upper-income group. This eases matters for builders and speculators, but is unhealthy for the nation's economy, and only helps planning in so far as some of these houses will be grouped in sub-divisions or estates. Due to the



See opposite page

lack of adequate controls for sub-divisions however, and except for the mild requirements in the case of those financed under the Federal Housing Authority's aegis, such developments will offer small consolation to those who wish to see planning principles applied.

7. Civic and Professional Groups. Hundreds of organisations for the promotion of planning exist in the United States, ranging all the way from professional bodies, like the American Society of Planning Officials, to the rank and file housing committees of the Congress of Industrial Organisations and the American Federation of Labour. Many, like the United Auto Workers—Congress of Industrial Organisations, have published valuable literature on the subject and have been instrumental in getting more housing and planning in the sore-spots of the nation. In the long run it is their voices, and the work of representative groups in towns and villages all over the country, which will bring about comprehensive planning legislation for cities, both economic and physical. To suit Americans, all planning must be democratic and based on large-scale participation of the people. There is much fear of regimentation and ignorance of the advantages which democratic planning brings; this will only disappear when people can learn, through experience in planning matters, that they have everything to gain from democratic action. Until they can see the close relationship between employment and social security legislation and a controlled physical environment, we may expect continued efforts on the part of planners, groups, individuals, and certain of the government agencies, but little planning of an over-all nature or of a kind that will guarantee America's future.

This picture of planning activity in cities is complicated by the existing relationships between them and their states. Although the population of the big urban centres may outnumber that of the rest of the state and their needs be correspondingly greater, the state may exercise supreme control over the borrowing and police powers of the city, under which many planning activities function. The states sometimes withhold funds collected in taxes and due to the cities, necessitating cuts in their school or recreation programme, limit the amounts the city wishes to borrow to construct housing, and uphold covenants and agreements which are against the general planning interest. There is also an overlapping of functions among states, counties and cities which needs clearing up before rebuilding along planning lines can be undertaken. Many of the best minds in the country are working on this problem, the most extreme views being in the form of recommendations for Metropolitan Tennessee Valley Authorities, with autonomous planning authority to be exercised over entire urban units and their rural surroundings. While it would be better to effect planning measures through the existing authorities, we may yet see this principle applied to cities in distress if the situation deteriorates to the point where the Federal Government is forced to come to their aid. This would be but a step further than in the past, since Washington has helped cities out of difficulties before. New York's parks and parkways would never have been built if the Federal government had not provided necessary funds during the depression. It should be made clear that Washington will await the cities' call before taking action.

NATIONAL PLANNING

Twelve years have passed since the late President observed : " The country needs, and, unless I mistake its temper, the country demands bold, persistent experimentation." His solution of the planning problem is now familiar all over the world in the housing, public works, regional and power programmes which made up the portfolio of the New Deal. Some of the agencies established then will stay ; many are casualties, including the National Resources Planning Board, America's first venture into the over-all concept of planning research.

The temper of the country is somewhat different to-day. On the one hand are great numbers of industrial workers who have absorbed planning ideas during a convulsive war and listened to comments on President Roosevelt's Second Bill of Rights on the radio ; many of them subscribe to labour's own programme of expanding production and a rising standard of living. In sum, they say, what is needed is job guarantees, construction programmes, and health and security legislation, in order to increase purchasing power, expand production and create a better environment. It is assumed here that Great Britain is on the way to obtaining these things and it should be pointed out that President Truman, Secretaries Wallace and Ickes, Senators Wagner, Kilgore and many other forward looking people in government subscribe to a similar programme.

On the other hand are employers, salaried operatives, white collar workers and others not immediately affected by wage cuts and the prospect of longer hours, who can easily be tempted to sit back after a job well done and accept things as they are. With some exceptions, the slackening off of interest in public affairs is quite noticeable among this group. At the top is a Congress, pledged to the carrying out of Roosevelt's programme (which included the right of every family to a decent home and the right to medical care, a good education and a remunerative job), but bitterly divided among itself on both domestic and foreign issues. The majority of congressmen reflect the attitudes and aspirations of the second group—at least this view is being borne out by its actions. Planning legislation for full employment, medical care and housing, new Tennessee Valley Authorities and the St. Lawrence river seaway, which should have been passed immediately after the ending of the Japanese war (it was then late enough) has, at the time of writing, either been shelved or stalled in committees. In several cases, the personal intervention of President Truman has failed to get it on to the House or Senate floor. Although Truman's announced programme has been almost ignored, the Congress has shown a patent eagerness to pass cuts in taxation for business, aimed ostensibly at speeding reconversion, and to occupy valuable time in fixing the blame for the Pearl Harbour disaster. It has shown a myopic view toward the very real problem of unemployment, for without the prospect of a large-scale housing, power, and river valley programme which could employ millions of people for a generation, the situation may well be critical by early summer.

There is hope, however, that America will not wait for another disaster comparable to the one she faced in the early 30's before instituting sound

planning legislation. Americans have seen during the war that it is possible to mobilise public effort behind worthwhile objectives. They have seen that industry, government and labour *can* work together for a common cause, and therefore are impatient at the present maladjustment between these representative groups. Great social forces are at work here as elsewhere, and events will never settle back into the comfortable tempo of the 1920's. Given a bad situation, the way has been found to cure it, and although there is at present too much reliance on agency, industrial or group planning, and not enough understanding of the need for *continuous* national planning as opposed to makeshift remedies to cure depressions, the planning idea is stronger now than at any previous time. Work on the foundations of planning in America was begun early and is sound, and the materials are at hand. When they are fitted together, and shaped by the national will, we may expect to see a proud and magnificent edifice. But " the swift seasons roll " and the " stately mansions " are as yet the American dream.

Post-War Housing Policy in the United States

JOHN B. BLANDFORD, Jr.
Administrator, National Housing Agency

THE subject of housing—of providing good shelter—is in a sense symbolic of the whole range of post-war goals, dedicated to raising the condition of living of all people and bringing to bear on this condition the full benefits of modern technology and industrial resources.

Housing is in the spotlight today as it has never been before. The war resulted in shortages and pent-up demand for the thousand-and-one products which go to make up an adequate peacetime standard of living. But in no case are the shortages and the demand more apparent than in housing.

In the United States, millions of new families, returning veterans, families living doubled-up or in substandard houses and slums, and others who have outgrown their present quarters, are ready to translate a higher peacetime standard of living into better homes in which to live. Our cities are hoping to rebuild their worn-out sections with sound new housing, thus checking the spread of slums and blight. Industries are looking to housing construction as a major outlet for materials and equipment. And the volume of jobs that would be created by a full-scale housing effort is at the core of all plans to achieve full employment in our peacetime economy.

We have estimated the need for housing over the next ten years a about 12,600,000 new dwellings, assuming the full replacement o1 clearly substandard housing is spread over a 20-year period. This would be about double the annual residential building rate in the three years preceding World War II and about 80 per cent. above the average

rate during the 1920's. With accompanying repairs and farm-house construction, we estimate it would create annual new investment outlets for $6 to $7 billions, and provide jobs for more than 4,000,000 workers on and off the building sites.

This is the opportunity afforded by housing and the challenge it presents.

In all its plans for the post-war period, the National Housing Agency has proceeded on the basis of two fundamental propositions : first, that peacetime housing is primarily a community responsibility ; and, second, that the main focus of a post-war housing programme is to assist private enterprise to do a maximum housing job—a constantly expanding and improving job.

However, it is the position of the National Housing Agency that although the main responsibility for a full post-war housing development rests with private enterprise, it is a proper and vital function of the Federal Government to act in a supplementary role to aid and stimulate private enterprise and communities in meeting the full housing needs of the American people.

It is in this spirit that the Congress, where comprehensive post-war housing legislation is pending, is approaching the question of extending Federal aids to housing in this peacetime era.

In this country a new field for extending such aid lies in the redevelopment of slums and areas of blight. The spread of housing blight in most cities is not only a threat to the solvency of municipal treasuries and to the well-being of millions of families ; it is equally a threat to stable values in neighbouring areas. A system of Federal financial aids such as long-term loans to enable cities to acquire blighted tracts, to clear them and make them available for redevelopment is currently under consideration.

Serious consideration is also being given to two additional forms of Federal assistance to help the housing industry build within the means of the great bulk of American families who in the past have been financially unable to buy or rent new houses.

One is an extension of the system of government mortgage insurance to enable builders to produce lower-cost housing for sale. The other is the establishment of a government system of yield insurance to guarantee a minimum return on invested capital, and thus facilitate direct investments by large financial institutions in new rental housing at lower rents than are possible through conventional methods of financing.

We believe there is also the need for continued Federal aid to communities in providing low-rent public housing for families in the lowest income brackets. For the lowest income groups, experience indicates that long-term loans at very low interest rates, substantial local tax exemptions and regular annual Federal contributions are necessary and we have recommended that Congress strengthen and extend the low-rent, public housing programme.

There also are other Federal measures which we believe will help private enterprise and communities to do a maximum job—such as encouragement and assistance to communities in establishing and maintaining competent systems of local housing market analysis, aimed at making available at all times up-to-date information on the housing

need and the housing market in every important locality. Furthermore, we believe there should be Federal encouragement of a long-range programme of technical research, aimed at achieving lower costs and thus creating a decisively broader market for housing.

These policies of the National Housing Agency which I have outlined were laid many months ago before committees of Congress which, in subsequent reports, have accepted many of our recommendations.

Hearings soon will start on the legislation which I mentioned earlier —legislation which likewise embodies our recommendations regarding post-war policy in this country which is aimed at an ultimate goal of providing decent homes for all American families.

CIO and American Housing*

R. J. THOMAS, President, UAW-CIO

AT this time when we are experiencing the effects of cutbacks and the reconversion of our economy from a wartime to peacetime basis, I feel that discussion on the relationship between housing and jobs is opportune. It is vital that we concentrate our attention upon the problem of housing at this time, because the degree of success which we, as a nation, attain in solving our housing problems will, in a large measure, determine the progress we will make in solving our total social and economic problems. This is our last opportunity to survey the field and to chart our course before the rush of action begins. Make no mistake about it ! When the rush gets under way and our course of action has been crystallised by the laws that govern our national housing policy, then, for good or bad, our national course of action will be determined for many years. It is *imperative* that, as a nation, we set our sites in housing *high*.

The CIO, representing some six million workers in the basic industries of our country, including more than a million and a quarter members who are either now serving or have served in the armed forces, at its last convention in Chicago, re-affirmed again its strong conviction that an economy of full production, full employment and high national income, can and must be achieved in America if our present economy is to survive. It is generally recognised that housing and community development can and must play a major role in achieving our objectives of full employment, full production and an expanding economy of abundance. Recently, President Truman emphasised this fact in his message to Congress.

*Excerpts from an Address by Mr. R. J. Thomas, before New York CIO Industrial Union Council, October 20th, 1945.
CIO — Congress of Industrial Organisations.
UAW — United Automobile Workers.

No over-all plan for full production and full employment is complete or even possible without the inclusion of a large scale, long-range programme of housing and community development based on continuous operation of the building industries.

From one end of the world to another there is a desperate need for new homes. Wherever one looks there is wreckage : the wreckage of war, the wreckage of time, and the wreckage of greed. In England, France, Holland, Belgium, Germany, Italy, Greece, Czechoslovakia, Poland, Russia and the other countries of Europe thousands of whole communities, large and small, have been completely destroyed during the war. Likewise, thousands of whole communities, large and small, in China and the Islands of the Pacific, including those of Japan, have been completely destroyed. The millions of people who lived in these communities and who were not killed in their destruction have been driven to seek shelter amid rubble and broken walls. Over a large surface of the earth, nations are beginning to plan the rebuilding of their devastated areas and in countless communities they must start from scratch. Bankrupt as are all of these countries, nevertheless, their communities will be rebuilt—clean and well-planned. The horrors of war will eventually be blotted out by slumless, healthy new communities which will contain not only buildings, but healthy, happy family life and good citizenship.

As we did after the last war, except on a far greater scale, America will help the nations of the world rebuild their devastated communities. Our technicians of all kinds, our materials and our money will help heal the wounds of war. But what of our own communities ? It is true that they have not been destroyed by war. Our people have not been driven from their homes by aerial bombing or machine guns and bayonets in the streets. But the effect of the twin factors of greed and time, while not as dramatic as war, has brought most of the communities throughout the country to the brink of social and economic bankruptcy. Millions of our citizens live out their lives, from birth to death, in appalling slums, and millions more wrestle every day with the baffling problem of a place to live. With no other segment of our population is this problem of finding a decent place to live and raise a family more clearly revealed than with the young men and women who are now returning from our armed Services.

During the war we came more and more to realise that the living environment of great masses of our people has become increasingly bad. The need for better housing and living environment is unprecedented in the history of our country, and presents unprecedented opportunity for employment, investment, and the social and economic betterment of our country. The National Housing Agency conservatively estimates that 16 million new homes will be needed to be built in this country during the next ten years. This need of 16 million new homes includes the replacement of 7 million that were recognised as sub-standard five years ago in 1940 ; the replacement of those dwellings that will become sub-standard during the next ten years, and the provision of facilities to meet the requirements of new families, particularly those established by returning servicemen.

While the National Housing Agency finds that 16 million new homes will be needed during the next ten years, it also warns us that we can

expect "realistically" —they use the word realistically—to build only 12,250,000 houses between now and 1955. That kind of "realism" is what the writers of depression years called stark realism. Spelled out, that kind of realism means that the National Housing Agency believes that we will not exceed a house production programme that falls so far short of meeting the need that it will condemn more than 16 million families, or about 65 million children and adults, to live in houses which the government *says* are indecent and insanitary, for periods ranging from 2 to 15 years.

Psychologists tell us that in its first two years, the child gets many of the impressions and habits which govern its behaviour for the rest of its life. And 15 years means the whole of many childhoods spent in a disease-breeding and socially wasteful atmosphere. That is what that kind of "realism" means and these calculations do not include farm homes which, as a general thing, are worse than city homes. Obviously we must do better than that.

Compared with the National Housing Agency's house production goal of 1½ million new houses annually, I am convinced that a production of 1¾ million new dwellings per year for the next ten years is necessary if we are to meet our housing and employment needs. Such a programme could employ some 2½ million full-time on-site workers, and 4,900,000 off-site workers employed in the production of materials that go into the construction of houses such as lumber, steel, glass, concrete, brick, tile, rubber, paint and other building products. Our annual house production goal calls for a total full-time-year-around employment of a little over 7 million workers. *This*, in my judgment, is *realism.* It is the kind of realism that doesn't attempt to evade the facts of life—the facts that we must have new living facilities and new employment in unprecedented amounts if our system of economy and way of life is to remain healthy and survive. It is not the "*stark realism*" that condemns millions of our people to live in debased and debasing surroundings while, at the same time, millions of workers are walking the streets looking for jobs. If we are to solve the twin problem of housing and employment for our returning servicemen and our unemployed war production workers, an annual production goal of 1¾ million houses per year is the kind of realism that we not only *must* strive for but *must* attain.

As you all know, the building industry in the past has fluctuated widely. It is notoriously a *boom* and *bust* industry. In 1925 (our peak house production year) 937,000 new non-farm dwelling units were built. But by 1933, only 93,000 or less than 10 per cent. of that peak was produced. In the 17-year period from 1920 to 1937 the home building industry averaged less than half a million new dwellings per year. We must more than triple that production if we are to have a socially, physically and economically healthy nation. And we had better not waste much time in getting at it.

House production has never been related to need. It has varied, depending upon the general economic climate and the amount of purchasing power available for rent expenditures and home ownership.

Now, where can be found the mass market necessary to sustain and to make possible the production of 1¾ million houses per year? I believe that an investigation of the family incomes will throw some light upon

this aspect of the problem. In the war year of 1942, nearly 7 per cent. of the families in this country had incomes of less than 500 dollars a year ; nearly 14 per cent. had incomes of between 500 dollars and 1,000 dollars a year ; nearly 15 per cent. with annual incomes between 1,000 dollars and 1,500 dollars ; and another 15 per cent. had yearly incomes of from 1,500 to 2,000 dollars. The significance of these figures is that in 1942, with incomes increased because of the war production programme over 35 per cent. of American families had incomes of less than 1,500 dollars a year. This group of 35 per cent. of our families represents the most acute area of our national housing problem. And yet, during the pre-war year of 1939, the last year before the war of normal house building activity, less than 4 per cent. of Federal Housing Administration insured mortgages were made to borrowers with incomes of less than 1,500 dollars per year. The five million families immediately above this group, as far as economic status is concerned, with yearly incomes in 1942 of 1,500 to 2,000 dollars, and containing approximately 15 per cent. of all the families in this country, also fall within the critical problem area. In other words, a little over *half* of *all* American families in the year of 1942 had yearly incomes of less than 2,000 dollars. If we are to serve the market phase of our housing problem, we must begin to think in terms of a housing programme that will provide decent and safe new living accommodations for slightly over *one-half* of our American families with incomes of not over 2,000 dollars a year. In no other way can high volume production and high employment in the home building industry be reached and sustained. So important is the market economics of housing to our production that I should like to express it in another way.

According to the 1940 Census, 28 per cent. of the total number of American families occupying dwellings other than farm houses were paying less than 15 dollars a month. Another 35 per cent. were paying between 15 dollars and 30 dollars a month. And another 16 per cent. were paying between 30 and 40 dollars per month. Only the remaining 21 per cent. were able to pay more than 40 dollars a month.

These are some of the economic facts of housing and they are not generally recognised. Until we have wide public recognition of these facts, no adequate housing programme will be developed in this country. A major part of our work must be to stimulate public recognition of these facts and their relation to a sound housing programme.

In isolated communities there have been experiments in planned community development ; in co-operative housing projects ; in mutual home ownership projects, and in other large-scale private housing undertakings, all pointing to the fact that there has been a beginning of public recognition and demand that something be done to provide the kind of decent shelter and stimulating living environment for the families of America which our economic system and way of life make possible and necessary. However, in the past, when we tried to create the legislative tools to correct the housing problems we proceeded on a piecemeal basis. Most of our housing measures were of an emergency type. Almost always, at least to a limited degree, these measures were good, and steps in the right direction, but, of course, they did not meet the full needs and they did not fit together.

In recognition of these well-known facts, new housing legislation has been under discussion and study in this country during the last few years and now, finally, a new housing measure, S.1342, was recently introduced into this last session of Congress.

While this bill, as introduced, in some respects represents a milestone in housing progress, it doesn't, in my opinion, contain adequate tools or formula to provide housing for *all* segments of our people. From this standpoint, therefore, it was not completely satisfactory. It is my understanding that, as a result of discussion with various groups, including labour, amendments are being drawn destined to improve the bill and correct its deficiencies. It is my fervent hope that this new improved bill will be based on the following criteria :

(1) A sufficient volume of housing and related community facilities to enable the construction industry to make its maximum contribution to an economy of full production and full employment ; (2) An increase in the total housing supply sufficient to wipe out existing housing deficiencies, and to bring about the earliest possible realisation of a healthful and sound living environment for every American family without regard to race, creed, national origin, or economic status ; and (3) elimination of our urban and suburban slums and blighted areas and their systematic development and redevelopment in such a manner as to insure and advance the growth, wealth and security of our communities.

In order to attain these objectives, it is my opinion that a national housing policy must be established that will : (1) Encourage private enterprise and local communities to undertake to serve as much of the total housing need as they can on their own initiative and with their own resources ; (2) where feasible, provide Governmental assistance to enable private enterprise to serve a greater part of the total need by serving larger and lower segments of the housing market ; and (3) provide governmental aid to local communities to meet that part of the need for decent housing which cannot be provided through private enterprise or by local communities without such aid.

To attain the objectives I have stated, and to implement this policy, it is my firm conviction that any over-all housing Bill must, of necessity, provide the following tools and formulæ : First, and very important, there must be created a permanent National Housing Agency under whose direction and supervision the activities of all existing and future government agencies concerned with housing and related community development would be consolidated. The Bill recently introduced, while providing for a National Housing Agency, does so by merely perpetuating the existing agency as established by executive order, during the war emergency. This arrangement, of course, is wholly unsatisfactory, due mainly to the fact that the administrator has no direct control or authority over the constituent divisions. While the autonomy of the constituent divisions, from an operations standpoint, should be maintained, the administrator of the National Housing Agency, however, should be vested with positive authority and responsibility to co-ordinate the functions of the constituents and to supervise their administration in the interest of economy and efficiency in carrying out the total over-all programme.

I believe that standards in the planning and building of our homes must be brought up to date. And that the benefits that would be made available to the home building industry through a National Housing Research Bureau are essential to the success of a national long-range programme of housing. If we have progressively higher standards in housing and community development, a co-ordinated programme of research in design, planning, construction, land uses, financing, marketing, management and community services must be carried out. If the Government is to provide useful technical services to local communities and the building industry, its agency should be empowered to initiate and carry out a comprehensive programme of research. The aim of such research should always be to get better housing at less cost. While the new Bill, S.1342, to which I have referred earlier, creates a research division, it provides no funds for its operation. An authorisation of at least 75 million dollars should be provided.

Another vital element that should be contained in a progressive housing Bill—and without which no over-all Bill would be complete—is a provision for encouraging and assisting local communities to analyse their total housing needs, and to prepare plans for better land use and for community development. We all know what a tremendous effect the 1940 census had on the people of this country when it exposed the great need and serious state of affairs in our communities. With funds to analyse the need and to prepare plans for the future, communities will grow increasingly aware of their own backyards, and labour and other interested progressive groups will have an opportunity to mobilise support for programmes which will correct the evil that these studies will expose.

It may be said by some that local communities should be able to provide their own funds for such work, but we know that even in those few communities where funds could be raised, there is often lacking the spark-plug to start the ball rolling, and citizens as a whole are not yet sufficiently aware of the need to insist and demand long-range planning. Even our enlightened labour groups must too often mobilise public support for emergency remedial measures. We, ourselves, have participated too little and too late in the early development of programme planning which would prevent crises. The Federal Government, in my opinion, must provide the necessary incentives and aids to communities to start the ball rolling toward planned community living.

New ways must be devised for financing large-scale undertakings, either by large contractors, groups of small builders acting co-operatively, or by consumer co-operative and labour groups. Federal aids must be devised to assist each of these groups to function most effectively. For instance, sufficient credit must be made available to builders to assure them of adequate construction money at low cost, some assurance of long-term commitments beyond a single building season, and some reduction in their marketing risks. Risk insurance should be considered in all phases of construction beginning with marketing, operating phases, straight through to the point where the structure is finally removed to make room for more constructive use. Government insurance of mortgage risk should be liberalised and expanded, to protect the home owner during the stress of unemployment. Special safeguards

should be provided to guarantee the home owner a high quality of product.

I do not foresee such improvements in economic conditions in the immediate future as to cause me to believe that all family incomes will permit the purchase or rental of decent new housing supplied at a profit. I, therefore, believe that a large segment of our families, whose incomes are so low that decent new living facilities cannot be provided for them at a profit to private enterprise, must be housed in publicly subsidised new living quarters.

As I pointed out, earlier in my remarks, nine million or 28 per cent. of American families in 1940, other than farm families, were paying less than 15 dollars per month. The total amount of housing provided by the government to date for this group since 1937 has been about 690,000 units. In view of this, I am puzzled at the continuous attacks on public housing by private building groups. Certainly it is difficult to understand why labour groups such as CIO have been subjected to criticism for their support of public housing, when it is a well-known fact that the vast majority of our members are not eligible for occupancy because their wage levels are too high. Our support is motivated by the fact that we believe that if our goal for America is a good house for every family (and we now have the resources to make such a goal possible), certainly we must continue to provide housing with whatever subsidy is needed to enable these lowest income families to leave the degraded un-American slums.

It is not enough in our housing activities that we merely help sustain a high level of employment and produce a large number of houses. In fact, if such a programme were not directed toward general improvement in another direction, the realisation of such a large building programme might well increase some of our other serious problems. The plans of growth of our cities, or, more correctly, the lack of such plans, were crystallised in a manner that has made most of them far out of date with present developments and present living standards and requirements.

Certainly if we set out to build a new city today, we would not build it as our cities are now built. This in itself discloses our own judgment of our cities. The general cost in private life as well as in business and government is so heavy in our cities, that our local governments can hardly carry the load.

All activities in our housing programmes must contribute to the *economic* and social stability of our communities.

By building planned communities on low-cost land and operating continuously on a large scale, it will be possible to provide safe and healthy shelter for residents of slum houses. With slum populations rehoused in more desirable communities, it will then be possible to acquire, at its new use values, these slum and blighted areas for redevelopment on a sound social and economic basis.

Rural housing is adequately provided for in S.1342. It provides facilities under liberal terms for the improvement of housing on the farm to be carried out under the direction of the Secretary of the Department of Agriculture. It also provides for the extension of the Government's low-rent housing activity to small communities in rural areas. This

assistance by the Government for the improvement of rural housing is long over-due and should have our vigorous support.

In disposing of permanent war housing, in my opinion, present occupants and veterans should be given first preference. Some projects will be especially well-suited for disposal to co-operative or labour groups. Before disposal, the amenities in planning and construction sacrificed in the interest of war need should be replaced and the housing made acceptable for long-term occupancy. Community facilities, where inadequate or non-existent, should be provided in order to insure a future healthy community character to the project. All repairs and replacements should be project-wide, rather than on a unit basis. When permanent war housing projects are disposed of to groups, these groups should have an opportunity to lease with an option to buy, rather than be forced to make an outright purchase. Legislation should be drawn to permit the sale of permanent war projects to local housing authorities for the use of low income families if it is in the interest of both the local community and the Federal government. It is my understanding that under existing law this is prohibited except through a separate Act of Congress dealing with each specific project.

Temporary war housing which was built as emergency shelter should be removed as soon as the need for it no longer exists. It should not be permitted to remain as a substitute for the development of new and better housing. In certain communities, however, where a shortage of decent rental housing exists and where the temporary housing is better than that which would otherwise be available for low income families, every effort should be made to improve the temporary war housing and permit its use until better housing can be provided. It would be fantastic to insist on tearing down publicly owned housing, bad as it is, where such action would force families to move into worse slum dwellings, and add to the general overcrowding in the community.

I am sure you will all recognise the absolute importance of this programme and that its adoption is vital to the health and welfare of our country. As consumers, we in labour have a great stake in a programme of this sort. Also, we in labour have a great stake in legislation concerned with housing, from the point of view of the employment potentials that it represents, especially as regards employment in the industries that supply materials needed in the various building operations.

Labour alone, however, cannot secure passage of this kind of legislation. In every community labour *must* secure the strongest possible co-operation from all types of civic, social, economic and political groups who have a recognised interest in housing or who need to be awakened to the stake which they have in the welfare of their community and our nation.

The active support of all war veterans' groups should be mobilised behind this type of programme. Many hundred thousand of our members have served, or are serving, in the armed services, and from none of them have I ever heard that they wanted a special place in civilian life. Their primary desire is to become *average* citizens as soon as possible. I know of nothing that would enable veterans to acquire desperately needed homes in which to live and raise their families than adoption by Congress of legislation of the type I have described.

This legislation is designed to benefit the lives of all Americans and

only through the co-ordinated efforts of all progressive groups who know that the attainment of decent housing and steady, profitable employment for all American citizens is the business of all Americans can we win this fight.

Our peacetime production goal in housing and community development must, therefore, be defined in terms that will make it possible to harness this new and ever increasing productivity of the American worker to the number one task of providing everyone with constantly improving places in which to live, work and enjoy the fruits of our boundless national resources. This steadily increasing productivity, as all enlightened American business and labour recognise, is the way that high wages can be maintained for the worker, fair profits assured for business and industry, and an ever expanding economy of abundance made possible. This will be reflected in ever growing market demands for better housing, better health, better transportation and greater improvements in all the facilities and services which make up community life.

Soviet City Planning

HANS BLUMENFELD

Former member of the Russian State City Planning Institute, now associated with the Philadelphia Housing Association

AS Soviet territory is liberated by the Red Army, the people are faced with the tremendous task of rebuilding their cities. Nearly half of them have been severely damaged ; many are totally destroyed.

Liberation is immediately followed by the first steps towards reconstruction. While those British communities which have suffered most severely from bombings, like Coventry and Plymouth, are only now working out master plans for their future, the rebuilding of Soviet cities follows plans which had previously been developed and confirmed.

The cities had adopted these plans to guide the transformation brought about by the industrialisation of the country, in conformance with legislation enacted at the beginning of the first Five-Year Plan. This law obliges every city to control its physical development by a master plan, which is legally binding once it is confirmed by the executive committee of the province soviet (council). The legislation was implemented by the creation of several organisations which undertook to work out master plans on the basis of contracts with municipalities with industrial organisations placing factories in rural areas.

It was the good fortune of this writer to participate, from 1930 to 1933, in the work of one of these organisations, the State City Planning Institute of the Russian Soviet Federated Socialist Republic (*Giprogor* RSFSR). While great progress has been made since that time, the basic approach has remained the same. An example of this work, replanning of the city of Vladimir, may therefore be of interest.

Following the precedent of the Ukraine, which had set up its own *Giprograd*, the Russian Republic in 1930 created *Giprogor* by merging

the map publishing service and the central architectural project office, both of which had already branched out into city planning. The new organisation had three departments : surveying, architecture, and city planning. The last-named section began functioning with a staff of about 100 men and women—architects, draftsmen, and economists—assisted by a number of part-time consultants in such fields as location of industry, agriculture, transportation, sanitary engineering, landscape gardening, public hygiene, and education.

These consultants, as well as the leading members of the full-time staff, had all been persons of high professional standing under the old regime. Most of the younger employees also came from families of the former middle class or intelligentsia, but they had received most of their education in Soviet schools. Surprisingly, no member of the Communist Party was employed in this rather important department when it started its operations, but during the following years several joined the staff after completing their professional training. At first no foreigners worked in *Giprogor ;* however, I was soon joined by several American, German and Czech architects, most of whom later became Soviet citizens.

The department was divided into groups of about 10 to 12 architects, technicians, and draftsmen. Each group, called a brigade, was headed by a senior architect—the brigadier. A project was assigned to a brigade by agreement between the management and the brigadier, who in turn allotted the work to the members of the brigade. Economists, organised as a special group under the general direction of the Chief Economist, were attached to the various brigades for specific projects.

RESPONSIBILITY OF BRIGADIER

The brigadier was responsible for completion of the work within certain limits of time and cost. Before a project was submitted to the client—usually a city council—it had to be approved by the *Giprogor* Technical Council, consisting of *Giprogor* consultants and a number of other experts. Following open discussion in which many members of the staff usually participated, the Council passed judgment on the basis of presentation by the brigadier and of a critical evaluation by another member of the organisation, serving as reporter.

Vladimir is situated 120 miles east of Moscow in rolling country on the river Klyazma, about two miles above the mouth of a small tributary, the Rpen (see small map and plan A). One of the historic cities of Russia, in the 12th century it was the capital, succeeding Kiev and preceding Moscow. However, the Tartar invasion broke its power, and not until the 18th century did it regain some importance as an administrative, commercial and cultural centre.

The original fortress or *Kreml,* two Romanesque churches, and several Empire style buildings surrounding a small park remained as the administrative and cultural centre. West of this nucleus, and founded only a few years later, was the commercial city, with a large market (hollow square on plan A) and with shops lining the main street up to the medieval " Golden Gate." Both the " Kreml city " and the " merchants city " retained their old earthen walls, transformed into green boulevards.

The city developed east and west along the main street, which became part of the highway from Moscow to Gorki (formerly Nizhny-Novgorod). The street follows the ridge of a bluff which towers steeply above the Klyazma while it slopes down gently toward the north and east into the valley of a small creek, the Lybed. Crossing this main axis, a road coming from Yuryev, to the northwest, follows the boulevard between the two sections of the original city, then descends steeply to the river to traverse it by a floating bridge.

Except for some two- and three-story brick buildings in the centre, the city consisted of wooden dwellings hidden in gardens. With the white walls of its historic buildings rising picturesquely out of the green of its famed cherry orchards, Vladimir lived the quiet life of a provincial city. The brick works on Yuryev Road (1 on plans), built on rich beds of clay, were the only big industrial enterprise; in 1931 they employed 1,200 workers. In addition there were about 2,400 men working on the Moscow-Gorki railroad, craftsmen, civil servants, and people employed in the service trades. The total population in 1930 was 42,000.

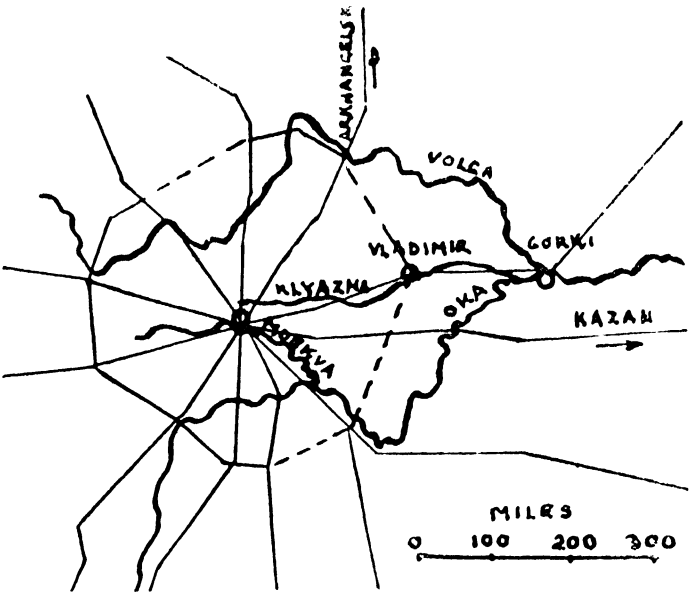
Plans for the city had been made in 1925 and again in 1928. Both plans were based on the assumption of a slow growth on the basis of the traditional occupations. The first had provided for additional residential quarters of a garden city type; the second attempted to improve the interior organisation of the city by providing for a modern system of streets and utilities.

PLASTICS AND AVIATION PLANTS

The programme of industrialisation initiated by the first Five-Year Plan called for the creation of many new industries, including one of the USSR's first plastics factories. Vladimir was selected as the site for plastics production for a number of reasons. Near-by peat bogs supplied one of the main raw materials, while the road and railroad from Moscow to Gorki provided good transportation to the automobile works, then under construction in both these cities, which would be the principal consumers of this output. Moreover, the nearness of Moscow facilitated co-operation with scientific institutes. Labour with a background of skills acquired in cottage industries could be recruited in Vladimir and in the surrounding countryside. Finally, a new building erected to house a textile factory had become available through shifts in that industry's plans, and a sufficient supply of water was easily available (2 on plans).

In 1932, with additional buildings still under construction, 1,600 workers were already employed in plastics production. At full capacity, the factory was to employ 10,000.

A factory for the making of aviation instruments, which would utilise some of the products of the plastics works, was also assigned to Vladimir because of the locational advantages mentioned above. Plans for this factory were completed and the site was being prepared for construction (3 on plans). Upon completion, the instruments plant was to employ 8,400 workers, with further expansion possible to a maximum of 12,000 employees. A railroad spur which would serve the old brick works as well as the new factories was also under construction.



Communications due east from Moscow (Moskva). Straight lines indicate railroads operating when Vladimir plan was drawn; dotted lines show planned railroads.

Contrary to the practice adopted later, the sites had been selected by the industries concerned before a new city plan was worked out. Only after construction was well under way did the city of Vladimir commission *Giprogor* to develop a new master plan for the anticipated increase of population caused by these two factories.

The factory administrations made available fairly accurate information as to the number of workers, the consumption of water, power, and heat, as well as to the average and maximum tonnage of road and railroad traffic which they would generate. Data on the planned expansion of the city's cultural institutions, and on the services required and furnished by the surrounding countryside were obtained from the planning departments* of the City and County Soviets.

A meat-packing plant employing 600 was planned for the general neighbourhood of Vladimir, and might be built in the city. Vladimir was also being considered as a possible location for a big automobile body factory to be started toward the end of the second Five-Year Plan. The workers of these five big plants, together with those to be employed

* Such departments, which exist in every unit of government as well as of industry, are concerned with social-economic planning—*planirovannoya*—as distinct from *planirovka* or physical planning.

in construction and transportation and in some smaller plants, might reach a maximum of 30,000. On this basis, the future population of the city was calculated at 109,000.

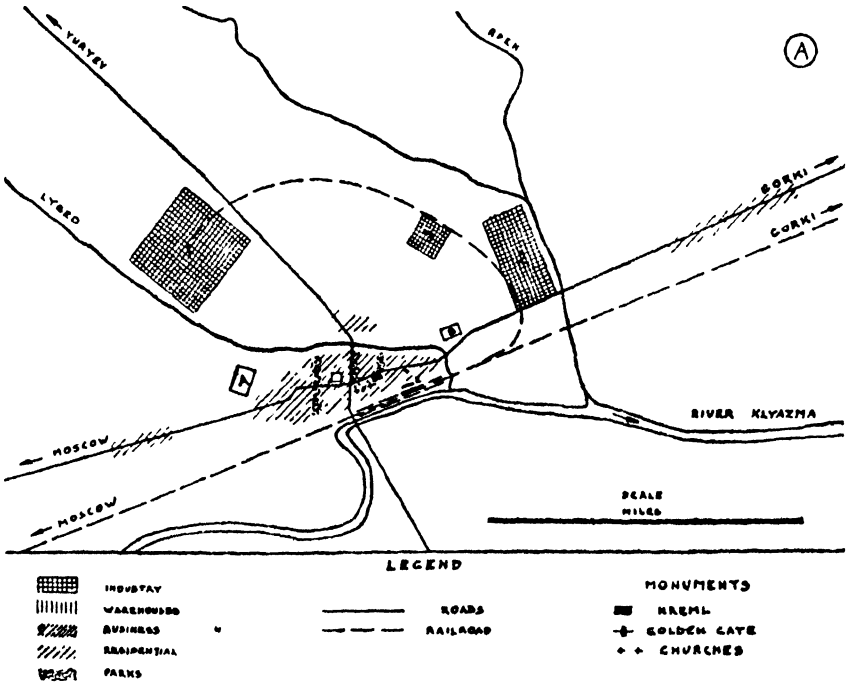
Further development would depend largely on plans for the river Klyazma and for the railroads. Information concerning these perspectives was obtained from the province, state, and national planning departments as well as from those of the road, railroad, and river administrations.

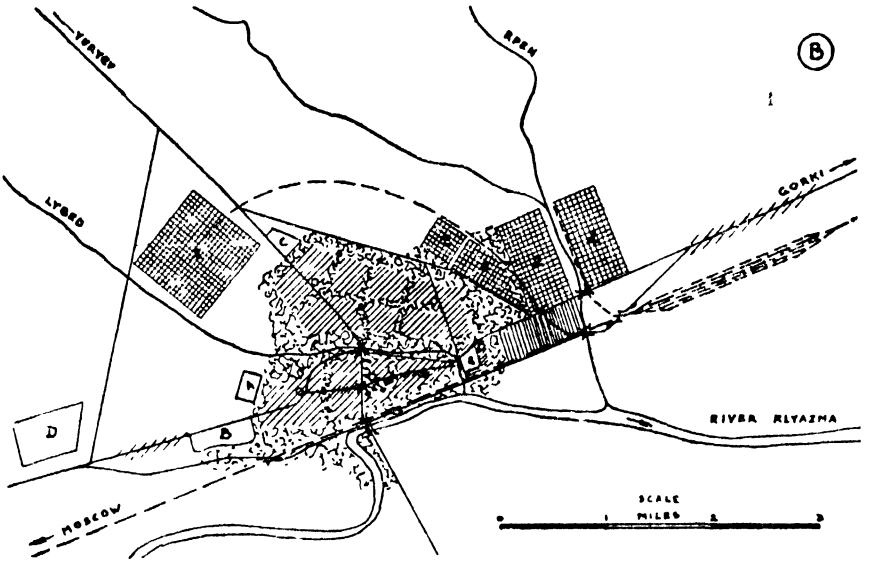
The railroads planned to complete the eastern half of the circle which connected the lines radiating from Moscow (see small map). Vladimir would thereby become an important junction for branch lines connecting the line to Gorki with those to Archangel and to Kazan.

THREE POSSIBLE SOLUTIONS

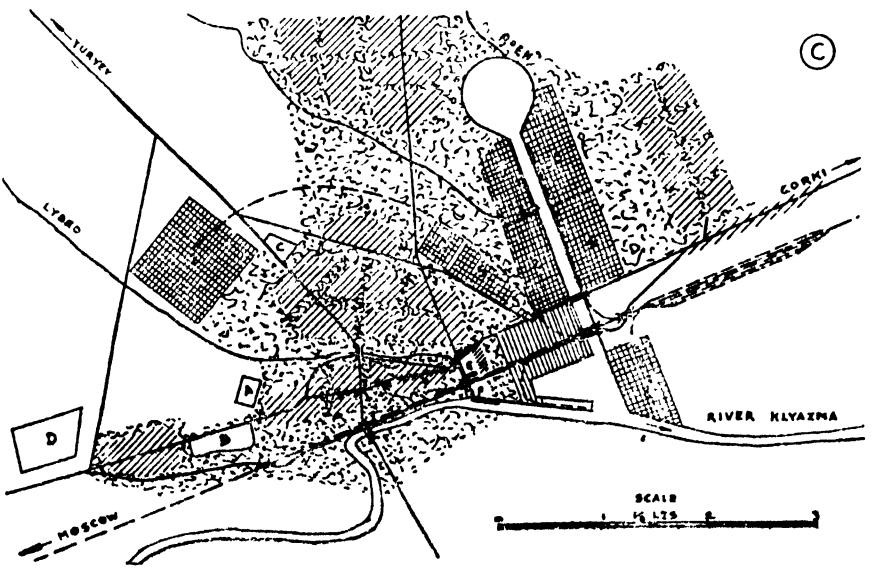
It had also been decided that Moscow should be connected with the Volga by a waterway navigable for sea-going ships. Three possible solutions were under discussion (see map). The existing connection through the winding Moskva and Oka rivers could be deepened ; a canal could be built from Moscow to a point to the north on the upper Volga (this was the plan finally adopted and carried out a few years later) ; or the Klyazma, which flows from the northern suburbs of the capital due east to Gorki, could be transformed into a deep waterway.

If this third solution were adopted—as seemed likely at the time—





Plan A on opposite page is of Vladimir in 1931, when there were 42,000 inhabitants. Plans B and C constitute the two-stage reconstruction schemes developed, B for a city of 109,000, and C for a possible ultimate population of 170,000. Legend under A refers to the three plans, on which numbers denote factories and letters denote institutions.



Vladimir would become the point of intersection of the circumferential railroad with all main connections between Moscow and the East, by water, rail, and road. It was to be expected that so favourable a location would be chosen to develop a harbour and warehouses, a shipyard, and various factories both for light and heavy industries, with a future population up to 170,000 persons. Because of these as yet undecided questions, two schemes were worked out, one for a first stage with 109,000 inhabitants, and one for a possible ulterior stage with a population of 170,000. This method of planning for two stages constituted a rather novel approach at the time, for while it was not unusual to present several schemes, these were considered as alternatives, not as consecutive steps.

In essence these schemes were land-use plans, designating various parts of the city territory as industrial, residential, or recreational areas (plans B and C).

The level eastern part of the city along the river Rpen is allotted to heavy industry, the high level ground to the west to residential sections. Thus, industrial sewage is released into the river below the city and, western winds predominating, smoke and smells are driven away from the residential sections. The banks of the Klyazma and the valleys of the streams are given over to parks. For added protection a green belt, two-thirds of a mile wide, is interspersed between the area of heavy industry and the residential sections. This belt is interrupted only by the factory of aviation instruments and the railroad spur serving it.

To be served by this same spur and a projected road for heavy traffic is an area for other non-noxious industries (5 on plans B and C). A site opposite the plastics factory, on the river Rpen, was selected for the meat packing plant (4 on plans B and C). The area between the railroad and the road from Moscow to Gorki is reserved for warehouses.

Should the Klyazma become a deep waterway, the warehouse area would be expanded into a triangular harbour district between the railroad, the Klyazma, and the Rpen (see plan C). The site on the other side of the mouth of the Rpen would be reserved for a shipyard (6 on plan C). Other sites on either side of the Rpen (7 and 8 on plan C) would be available for other industries, and the Rpen would be transformed into a navigable canal. At the upper end of the harbour area, adjacent to the river park, a pier for passenger steamers and pleasure boats would be provided (F on plan C), close to the new railroad station (E on plans B and C).

THE FIRST STAGE

A new central square was to be created in the first stage. Situated between the railroad station and the main street, it would replace the old market square as a site for mass meetings, demonstrations, and the like. Around this square, equally accessible to all parts of the city and to arrivals by railroad or boat, Vladimir's most important buildings were to be erected. Stores and offices would extend along the main street from the square to the old city centre. The square and street together would correspond roughly to an American business centre. It was not anticipated at the time that the use of the individual automobile would

become as general as it is in this country, so serious parking problems were not expected.

In addition to the city's industrial, commercial, residential, and recreational areas, space had to be allowed for several special uses.

The barracks (A on plans) with their adjoining training grounds restrict the expansion of the city to the west. However, as plenty of suitable residential territory was available closer to the main places of employment, it was decided to confirm their existing location as permanent.

The county jail and a mental hospital were to be removed to the countryside, in conformance with general policy. The general hospital, situated on low land close to the future traffic centre and to heavy industry (B on plan A), was to be transferred to high wooded ground at the western end of the city (B on plans B and C).

An agricultural college then occupied the buildings of an old monastery (indicated by cross in eastern part of old city). It was suggested that these buildings be reserved for the school of chemistry which was to be established in connection with the plastics factory. The agricultural college was to be transferred to territory adjacent to its experimental fields on Yuryev Road (C on plans B and C). Lack of suitable burial grounds had long worried the city authorities. A high, sandy field west of the city was selected as a cemetery site (D on plans B and C).

A site for an airport was earmarked on Yuryev Road, about 10 miles from Vladimir.

A new residential area was developed north of the old city, on a plateau between the two creeks. It was divided into 10 superblocks, each averaging about 50 acres and separated from the others by highways and interior green boulevards. Building was to proceed from east to west, starting with the block closest to the two new factories.

DENSITY REDUCTION

Density within each superblock was to equal 100 persons per acre in the ultimate stage. It was anticipated, however, that residential building would lag behind the rapid growth of population for 10 or 15 years. During this period, with overcrowding of dwellings continuing, density would be about 150 per acre. Thus, the new residential *rayon* (district) was to house 70,000 persons in the first stage, but only 46,500 ultimately. Because of the housing shortage, moreover, the old city was to be left unchanged at this stage, except for the most urgent improvements to streets and utilities.

Reduction of density was to start with the addition of another superblock north of the road, and to continue with the development of a third residential district on the plateau farther north and with the transformation of an old village west of the hospital into a modern residential district (see plan C). Simultaneously, the old city would be reconstructed, with historic buildings preserved, and the territory reorganised into seven blocks, divided by the existing main streets and the historic earth wall-boulevards. Scattered buildings on the slopes and in the valleys were to be torn down and their sites included in the parks.

At a density of 100 persons per acre, and with normal occupancy of

each dwelling, the old city would house only 18,000 persons instead of the previous 35,000. Together with the three new areas, it would be able to accommodate the population of 109,000 anticipated for the "first stage."

Should further growth take place, the northern district would be extended by four additional blocks housing 20,000. Finally, a new district for 40,000 persons might be developed on high ground east of the Rpen valley, after elimination of smoke and noxious gases from the industries. Both districts would be relatively close to the area provided for industrial expansion.

In addition to dwellings, each superblock was to contain a small community building, a restaurant, and a grocery store, and also nurseries and kindergartens. Since it was known that at least 50 per cent. of the workers in the two new big factories would be women, and that both plants would work in three shifts, it was decided that nursery schools and kindergartens should be built immediately for at least 35 per cent. of all children in those age groups, a percentage considerably higher than usual in 1931. With the subsequent lowering of density, and with an anticipated relative increase of the older age groups, these institutions would be able to take care of 60 per cent. of all children.

The theory which regards the elementary school as the central element of the superblock, strongly advocated at the time by the German architects of the Ernst May group working in Russia, and today generally accepted in this country, has never won wide support in the Soviet Union. The schools were grouped at various points at the edge of each residential district, in connection with playfields included in the surrounding park strips, and could be reached without crossing traffic streets.

The local parks were to be supplemented by the city park on the banks of the Klyazma, with a bathing beach located just above the bridge.

ALLOCATION OF CLUBS

The residential districts also were provided with their own shopping centres, medical centres, and clubs. Vital centres of the social and cultural life of the Soviet people, the clubs serve the entire population of the neighbourhood, but are usually attached to big plants and run by their shop committees. This was taken into consideration in determining their location (small circles on plan B). The existing club in the old city was to be run by the municipal workers. The club on the new central square would become the new central club, serving the workers of the plastics factory, in addition to the railroaders and, eventually, dock and shipyard workers. At the western end of the old city would stand the House of the Red Army. Clubs in the new northern region would be attached respectively to the aviation instruments works (3) and to the agricultural college (C). The location of the cultural centres of other areas was to be decided when they became ripe for development.

The general plan of the city was closely related to the pattern of roads and railroads.

The passenger station (E on plan A) and the freight yards were situated on a narrow strip between the hill and the river. Only one very steep

and winding street connected the station with the town. Because of lack of space the railroad administration was considering transfer of the railroad yards to the east.

This intention was confirmed by the plan, which provided for a new freight yard east of the Rpen. The transfer facilitated the elimination of the grade crossing of the existing spur and the building of additional spurs to service future industries and docks. In addition, the territory of the old railroad station and yards could be included in the city park, connecting the city with the river.

The passenger station was to be transferred to the new central square (E on plans B and C). From this square a new road was to be built to the aviation instruments works and later to be extended to the northern residential district. Another street, starting near the central square and following the valley of the Lybed creek, had already been planned in 1928 in order to deflect through traffic from the main street.

OTHER TRAFFIC PLANS

Yuryev Road also carried a considerable amount of through traffic to the centre of the old city. In addition, the grade from this point down to the river was dangerously steep. It was decided to carry this street on a new bridge across the river and the railroad, then in a tunnel under the main street—utilising the bed of the old city moat—and again on a bridge across the Lybed creek and the projected valley road, thus levelling out the grades and eliminating three grade crossings. Moreover to relieve the city streets, two diagonal roads, branching off near the brickworks, were to connect Yuryev Road with the highways to Moscow and Gorki. The most complicated problem was presented by the main road from Moscow to Gorki. In addition to funnelling the Moscow-bound traffic of a territory of almost 10,000 square miles through the whole length of Vladimir, this road was to become part of a great transcontinental *autostrada* from Moscow to Siberia. It was proposed that this traffic be carried around the city between the railroad and the river, underpassing the railroad above and below the city.

Work on the scheme had started early in October 1931, and it was submitted to the Technical Council of *Giprogor* at the end of December. After lively discussion, the project was approved by this council, and subsequently presented to the Mayor and City Council of Vladimir in public session.

The next step in the sequence of events will sound oddly familiar to American readers. Since the contract with *Giprogor* had been signed, an election had taken place in Vladimir. The new mayor had come in on an "economy" platform. After having thanked the planners for their fine work, he remarked that the work would have to be discontinued for the time being because of lack of funds. As a result, few questions were asked and the decision was deferred to a late date. About half a year later the work was taken up again ; however, this writer lost track of further developments because he had meanwhile left Moscow to work in the Gorki branch office of *Giprogor*.

The normal procedure at the time was to present the scheme for discussion by public meetings in the main plants and institutions.

Thereafter the *Giprogor* brigade which had worked on the "Scheme" elaborated it further to present a very detailed " General Plan." This after final confirmation became the mandatory master plan of the city.

PROCEDURE SIMPLIFIED

This cumbersome two-step procedure was later simplified. The original scheme is now supplemented merely by detailed plans for the main architectural features of the city and for the areas to be developed during the next three to five years. Detailed plans for later developments are made as and when they are needed.

The cities have sufficient legal powers to enforce the plan once it is adopted. They are entitled, and indeed obliged, to refuse a building permit to any project which violates the plan. They dispose of the entire city territory, and every piece of land must be allotted to its user by the land department of the city or county council.

Legal powers alone are of little avail, however, if those holding them do not understand the importance of using them. In the early thirties, city planning was little understood by the general public, and the few available specialists were concentrated in the big cities. Local administrations, lacking expert advice, were inclined to give in to pressure from the administrations of industries and institutions, and to allot land and to issue building permits in violation of the accepted plan.

Since that time great advances have been made. Many cities now have their permanent city-planning departments, which are able to guide the physical development of their cities. Even in smaller communities, the city engineers have acquired sufficient knowledge to translate the plan into terms of day-to-day work. Local governments, having become aware of their responsibility in guiding the overall physical development of their communities, are responsive to expert advice. Especially since the inauguration, in 1933, of the widely publicised plan for the reconstruction of Moscow has public opinion become increasingly conscious of the importance of city planning.

Today the Soviet Union is well prepared to meet the tremendously challenging task of rebuilding half her cities. A wide sphere is opening up for an exchange of ideas and experience between American and Soviet city planners.

The Electric Home Plan commences with Kitchens

As we plan our post-war housing it is well to remember that the modern woman knows what she wants and why she wants it. Her views and wishes cannot be ignored.

When the Women's Advisory Housing Council conducted a survey of women, workingin 98 different occupations, it was found that 55 per cent wished for all-electric cooking. Again, when 1300 women in the Services were asked, in interviews, to indicate the type of home they wanted, 809—or 62 per cent—stated that they wished it to be all-electric, with one coal fire in the living room.

The British Electrical Development Association, a non-profit making organisation, exists for the sole purpose of promoting the greater use of electricity, and offers general and specialised information and unbiassed advice, without regard to proprietary articles or systems, to all engaged on Home Planning. The Association has paid special attention to the fullest use of Electricity in the home, and its Kitchen Planning Service, for new and reconditioned houses, has been in operation since 1937. The advantages of the all-electric home are many. There is, for example, a constant supply of hot water, though current is consumed only if water is drawn off; glowing fires appear instantly and can be placed just where they are required, but operate only when needed; there are power points in every room to which vacuum cleaners, polishers, radio and many other appliances can be connected; toast and coffee can be made without moving away from the table. But it is the carefully planned, well lighted (shadowless) labour-saving kitchen that means so much to the housewife in terms of ease of working, efficiency and cleanliness.

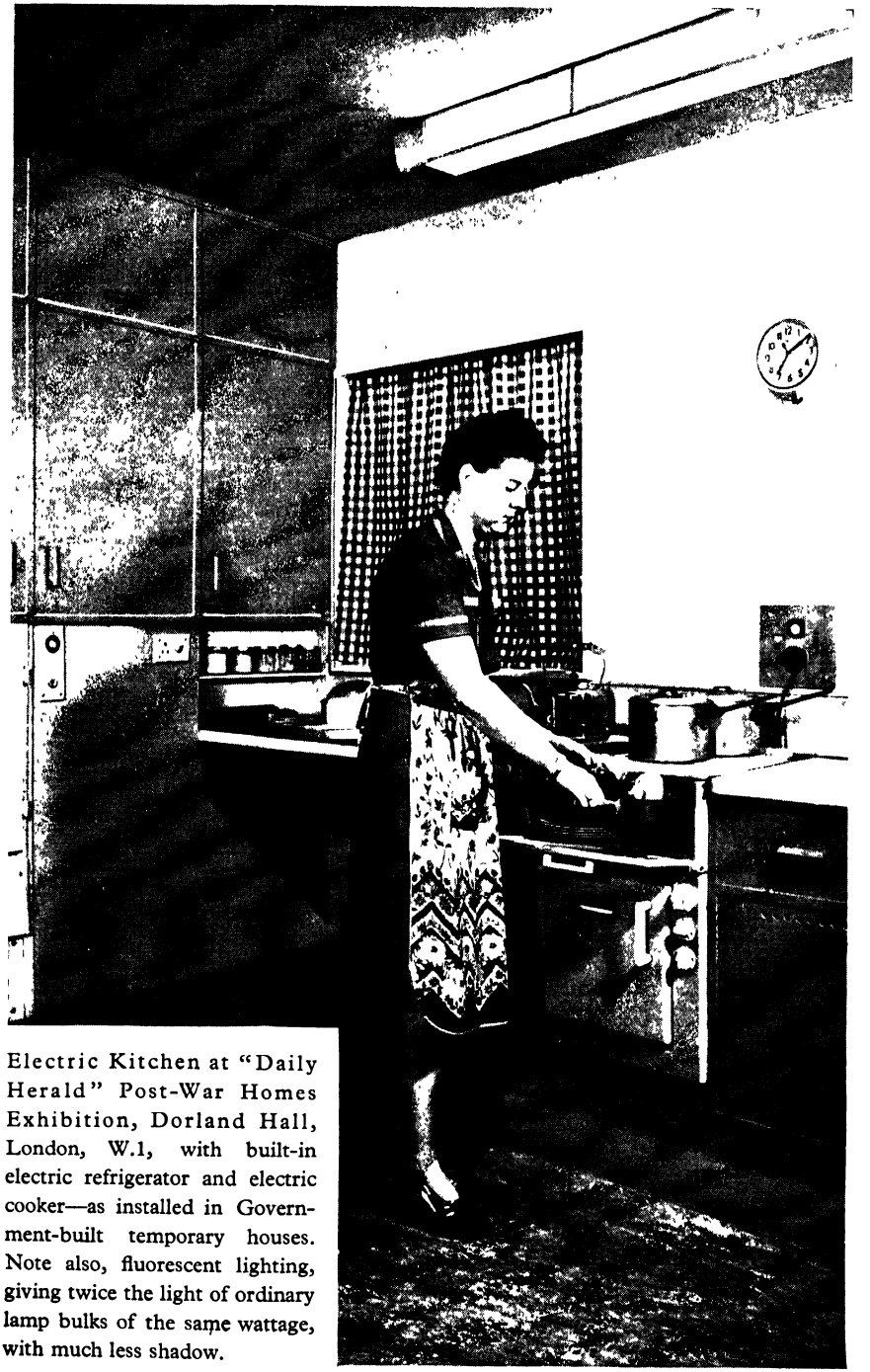
Various types and features of all-electric kitchens, for houses and flats, are illustrated and described in the following pages; their layout is so planned that stooping is almost entirely avoided, and the preparation, cooking and washing up of meals carried out with the minimum of movement.

Every kitchen is fitted with a built-in refrigerator, as it should be, for the modern woman regards it as a necessity. By keeping food—milk, meat, fish, salads, etc.—fresh and wholesome the refrigerator not only prevents waste; it makes a direct and important contribution to the health of the family, and, therefore, of the nation. The electric water-heater, installed under the draining board, is another important feature. It fills a corner space which would otherwise be of little value; being close to the sink, hot water runs at once. It is of 20 gallons capacity, of the new double heat type and supplies hot water to the whole house.

Many of the kitchens shown on the following pages were tested by experienced women under working conditions; that is to say, meals were cooked and prepared, and home laundry work, ironing, were carried out in them with satisfactory results.

These kitchens were, of course, planned for houses that are yet to be built. If however, it is desired to convert the kitchens of older houses to electricity, local Electrical Supply Authorities will co-operate in every way. The technical staff of the British Electrical Development Association—2 Savoy Hill, London, W.C.2—is ready at all times to assist with practical advice and suggestions on replanning kitchens or existing houses so that they may have the advantages and benefits of electricity.

[*Advt.*]



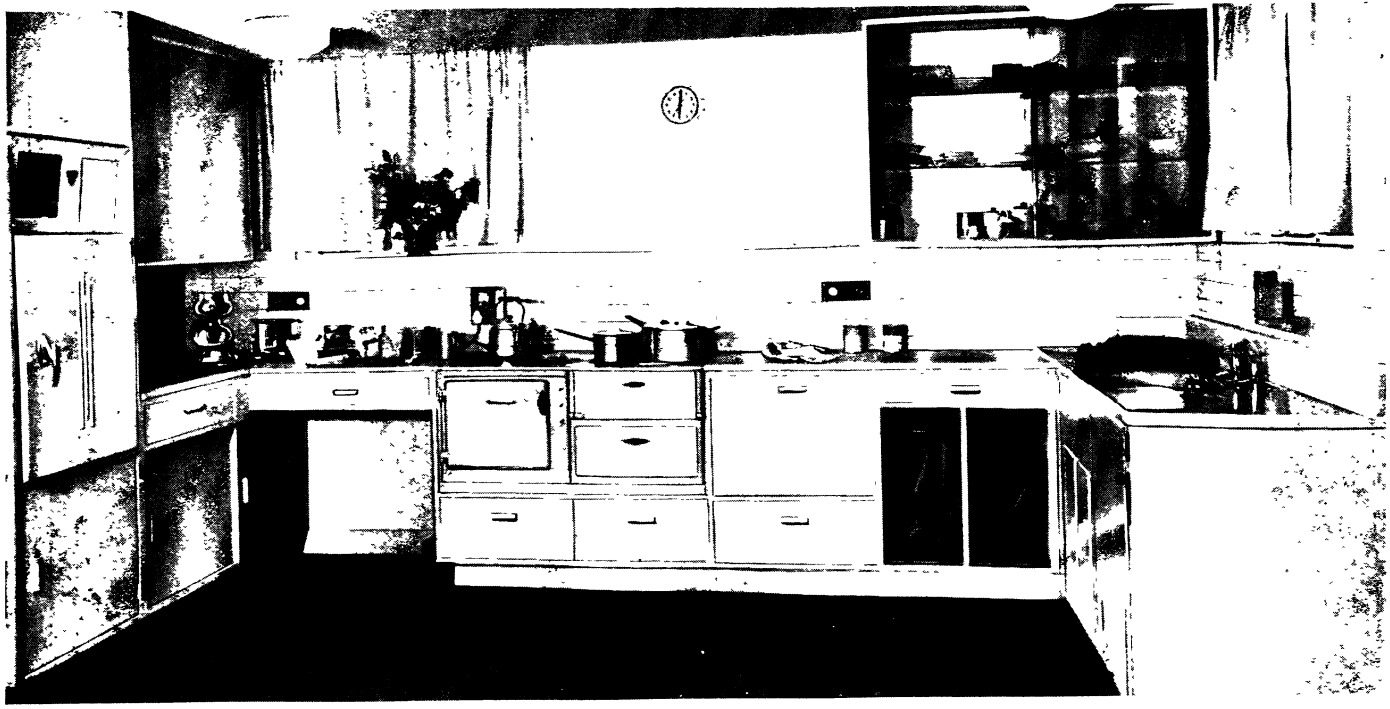
Electric Kitchen at "Daily Herald" Post-War Homes Exhibition, Dorland Hall, London, W.1, with built-in electric refrigerator and electric cooker—as installed in Government-built temporary houses. Note also, fluorescent lighting, giving twice the light of ordinary lamp bulks of the same wattage, with much less shadow.

(*Left*) The family size electric refrigerator recommended for post-war use is of adequate capacity and of the built-in type so that it can be fitted at a comfortable height from the floor.

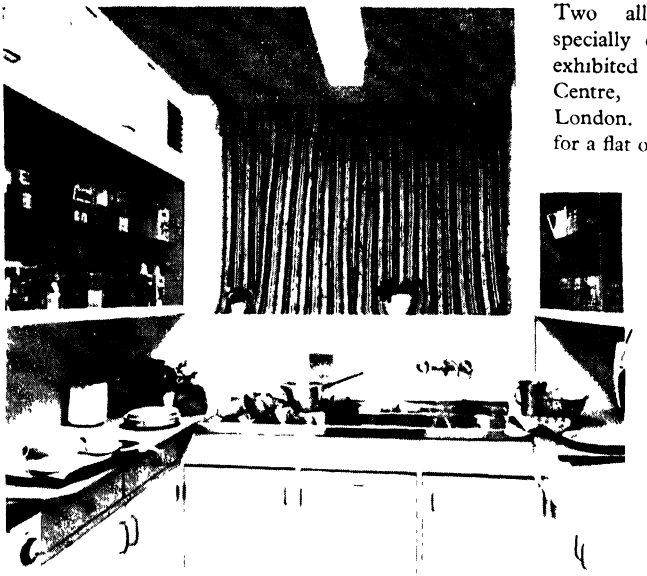
(*Below*) A well planned all-electric kitchen with refrigerator and other food stores close to preparation table.

(*Bottom left*) In the modern all-electric kitchen, drawers and cupboards are conveniently placed, and a radio set as well as a telephone can, of course, be included easily in the fitments. Plenty of socket outlets should be provided so that full advantage can be taken of the wide range of portable electric appliances.

(*Right*) In the comfort, cleanliness and cool freshness of an electric kitchen—toast and coffee almost make themselves—even the flowers flourish

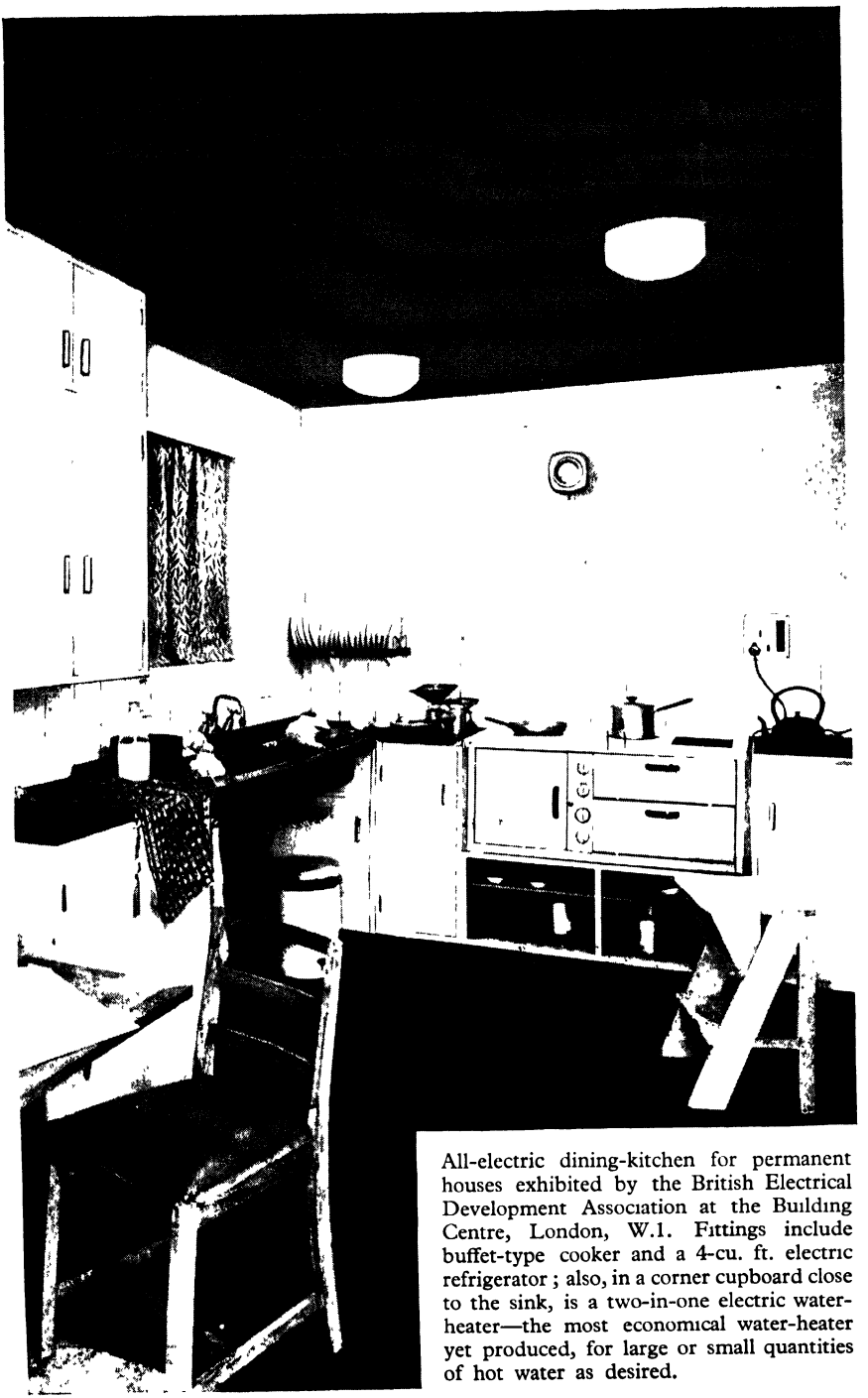


This all-electric kitchen was shown at the Arts Council of Great Britain (formerly C.E.M.A.), "Design-at-Home" Exhibition. It will be seen that food storage and work table on the left lead in logical sequence to meal preparation and cooking sections to the centre. Service and washing-up are carried out on the right. The sink unit also includes built-in washing machine and two-in-one water heater. The Electric cooker is of the buffet type with a raised oven that makes stooping unnecessary. Note, between cooker and sink, two compartments (a) for drying tea-towels by means of a low-temperature electric heater and (b) for trays. An important feature is the number of plug-points provided for the many labour-saving appliances that will be used in post-war kitchens.

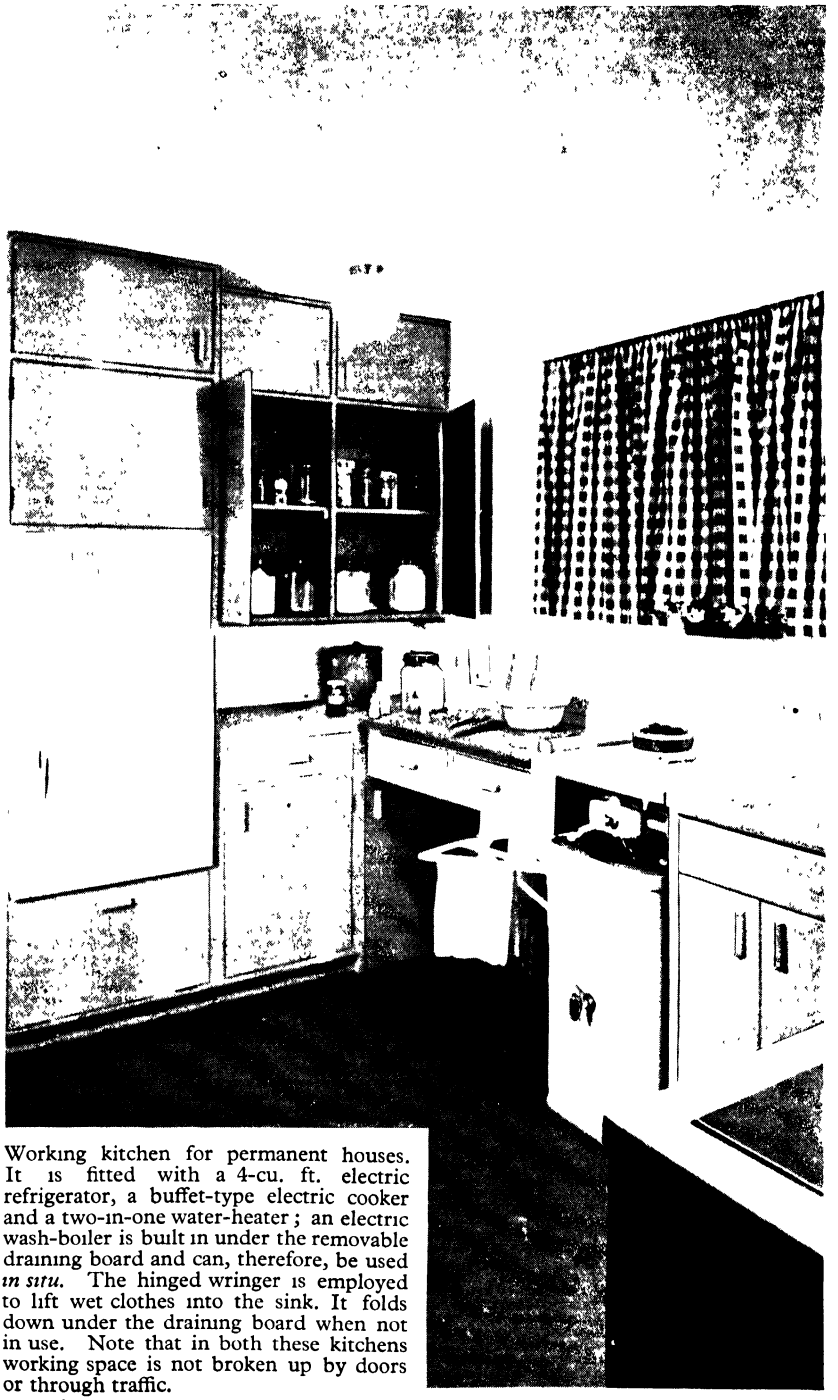


Two all-electric kitchens specially designed for flats, exhibited at the Building Centre, Maddox Street, London. (*Left*) A kitchen for a flat of medium rental in which space is at a premium. Meals are taken in an adjoining dining-room and are served through a hatch in the right-hand wall. China cupboard and drawers are of two-way design and accessible from both kitchen and dining-room

For low rental flats it is a great convenience for meals to be taken in the kitchen especially if members of the family leave home or return at different hours.



All-electric dining-kitchen for permanent houses exhibited by the British Electrical Development Association at the Building Centre, London, W.1. Fittings include buffet-type cooker and a 4-cu. ft. electric refrigerator ; also, in a corner cupboard close to the sink, is a two-in-one electric water-heater—the most economical water-heater yet produced, for large or small quantities of hot water as desired.

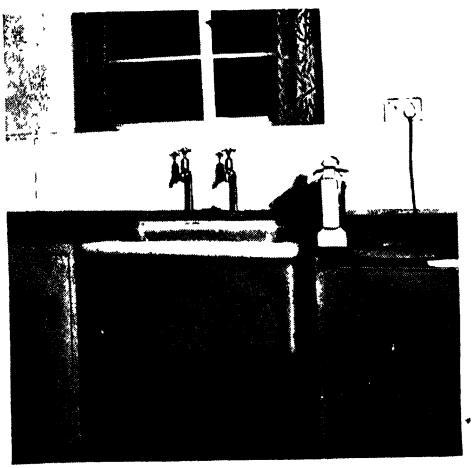


Working kitchen for permanent houses. It is fitted with a 4-cu. ft. electric refrigerator, a buffet-type electric cooker and a two-in-one water-heater; an electric wash-boiler is built in under the removable draining board and can, therefore, be used *in situ*. The hinged wringer is employed to lift wet clothes into the sink. It folds down under the draining board when not in use. Note that in both these kitchens working space is not broken up by doors or through traffic.

(*Below left*) A deep laundry tub is fitted in this Laundry-Utility room, with electric washing machine alongside; the electric wringer can be swung back against the wall when not required. The built-in electric drying-cupboard (*Bottom right*), in which a full family wash can be conveniently dried within a day, makes the housewife independent of the weather.

Home Laundry in the all-electric home (*below*) means trouble-free washdays. The built-in electric washing machine may be of this type or (*top right*) the type with motor-driven wringer which, when not in use, is kept in the cupboard below.

The tap in the centre cupboard is fitted with a telescopic extension for the filling of buckets, etc., with hot water from the electric water-heater built in under the draining board.



Planning Legislation and Policy

Planning Legislation

SOME acquaintance with the development of legislation affecting planning, and, in particular, with the provisions and limitations of such Acts as are at present in force, is essential to all those concerned with physical reconstruction, whether professionally or as lay members of public bodies. The following brief summary is intended to be of use to the former as a reminder of, and to the latter as an introduction to, the main enactments in this field. Much important detail is necessarily omitted. A few textbooks for further reference are mentioned in the list of books in the Section *Books, Periodicals and Films.*

It should be noted that the Housing and Town Planning Acts have special adaptations for Scotland and that in that country they are administered by the Secretary of State for Scotland.

EARLY HOUSING AND PLANNING LEGISLATION

The earliest modern legislation relevant to the subject represented attempts to ameliorate the appalling conditions among the working classes in urban areas during the years which succeeded the industrial revolution of the late eighteenth and early nineteenth centuries. Its primary concern was the state of public health, and its chief objects were to restrict, if not actually to prevent, the use of unsuitable structures as dwellings, and to clear and improve insanitary areas.

The earliest Public Health Act was passed in 1848. It was followed in 1851 by *Lord Shaftesbury's* two Acts, which gave powers for the public provision and inspection of common lodging-houses. In 1868 and 1879 came the two *Torrens Acts*, which laid upon the owner of a house the responsibility of maintaining it in proper habitable condition, and gave the local authority power to compel him, in his default, to repair or demolish the house ; and in 1875 and 1879 were passed the *Cross Acts*, which empowered local authorities to clear and reconstruct unhealthy areas. These Acts introduced and developed the important conceptions of compulsory purchase and restricted compensation.

The great *Public Health Act 1875* included among its provisions power to local authorities to make building by-laws, regulating, not only the quality of construction of houses, but also the space between them—the germ of density control. Increasing use was made of these powers in subsequent years, and a number of amending Acts were passed. Cellar dwellings could also be prohibited under this Act, although these powers were not fully used.

The *Housing of the Working Classes Act 1890* unified previous housing legislation, and remained the principal housing Act until 1925. Part I, based on the Cross Acts, provided for slum clearance and improve-

ment schemes by the local sanitary authority, with the payment of compensation, and made the local authority responsible for the rehousing of at least half the original inhabitants of a cleared area. Part II incorporated the Torrens Acts, and provided further for the removal by the sanitary authority of obstructive dwellings in order to carry out improvement schemes. Part III—the most important—was adoptive. It was modelled on the Shaftesbury Acts, which had proved less effective than they deserved. It empowered the sanitary authorities of London and other urban areas to erect workers' dwellings independently of clearance schemes, and gave the right of borrowing and of compulsory purchase of land for this purpose. The powers of the Act were extended by the Housing Acts of 1894, 1900 and 1903.

Many Acts of the Victorian age introduced elements which later became part of the broad and still widening conception of town planning. The *Metropolitan Board of Works Act 1855*, for example, set up an authority to carry out street improvements and drive new highways through London. It was the parent of much legislation providing for the construction and layout of streets and roads, private and public. The *Commons Act 1876* was one of the earliest of a series of enactments empowering local authorities to acquire and lay out open spaces, parks and cemeteries. Local Acts, promoted by particular cities, were sometimes in advance of general legislation, a notable example being the Glasgow Improvement measure of 1866, followed ten years later by the Birmingham Act under which Corporation Street was constructed.

TWENTIETH CENTURY DEVELOPMENTS

The *Housing and Town Planning Act 1909*, sponsored by Mr. John Burns (then President of the Local Government Board), was the first to introduce town planning in Great Britain, and to place housing in perspective as but one feature of the general development of the physical fabric of towns. Part II of this Act was the most important, its provisions enabling all urban local authorities and rural district councils to prepare schemes for the control of development in areas in course of development or likely to be developed (these schemes needing, before their adoption, the approval of the Local Government Board, or, later, the Minister of Health), with the general object of securing proper sanitary conditions, amenity and convenience. The housing powers of the third part of the 1890 Act were made to take effect without adoption and were extended to rural areas.

Dr. Addisons's *Housing and Town Planning Act 1919* dealt mainly with housing, introducing important new principles. Its object was to accelerate the provision of the large number of small houses required after the war of 1914-1918. For the first time, it was made a positive duty of local authorities to meet the housing needs of their districts to the extent that private enterprise was not doing so. For all schemes under the Housing Acts, a maximum density standard (with certain exceptions, twelve houses per acre in urban and eight in rural areas) was set up. Government subsidies were provided to meet the loss occasioned by building at a cost which would normally have rendered capital investment unprofitable. By a second Housing Act of 1919, the housing subsidy was extended to

private builders and provision was made for the acquisition of land for the purpose of garden cities or town-planning schemes. The acquisition of land for housing schemes was simplified and expedited by the *Acquisition of Land* (*Assessment of Compensation*) *Act* of the same year.

Building conditions in 1919 were abnormal, and the subsidy had necessarily to be varied with the costs in particular areas. This was, of course, unworkable as a permanent scheme. Unfortunately, the substitution of a subsidy of a fixed type, with the restoration of local financial responsibility, was not effected until after a period (in 1923) of alarm at the cost and of restraint in housing activity.

The Act of 1919 also required urban areas with a population exceeding 20,000 to prepare planning schemes by 1926 for the undeveloped portions of their districts. It also enabled local authorities to form joint town-planning committees, and many joint committees were formed under these powers, most of them at first advisory. Later, executive joint committees were established in many areas. The advisory committees produced a series of regional planning reports, which remain of considerable factual and research value. The first set of Model Clauses, in 1923, was made under this Act.

In 1923 was passed the *Chamberlain Act* " to amend the enactments relating to the Housing of the Working Classes, Town Planning, and the Acquisition of Small Dwellings." Under this Act, a fixed grant per house was made, and local authorities were accorded a greater measure of control. They were empowered to augment, from local revenue, the national grant to private builders, to make loans on a more extensive basis than formerly to house-owners and housing societies, and to guarantee to building societies the repayment of loans advanced by them. A small but important step forward in town-planning law was included in the same Act by the extension of planning powers to areas of æsthetic or historic interest, whether developed or not.

The *Town Planning Act 1925* was the first to deal exclusively with town planning, and consolidated previous legislation on the subject.

The special requirements of rural areas had been acknowledged by the *Housing* (*Financial Provisions*) *Act 1924*, known as the *Wheatley Act*. The main object of this Act was the provision of houses to let to the working classes at low rents, and in contradistinction to the Chamberlain Act, it looked primarily to the provision of houses by local authorities. Further efforts to improve housing conditions in rural districts were made by the *Housing* (*Rural Workers*) *Act 1926*, which enabled county councils and county borough councils to assist by grant or loans the improvement or conversion of existing houses for the use of agricultural workers ; the *Housing Act 1930*, known as the *Greenwood Act*, which among other things empowered county councils to grant financial assistance to rural district councils ; and the *Housing* (*Rural Authorities*) *Act 1931*, which authorised additional financial assistance to rural district councils.

The subsidies for normal housing were discontinued in 1932 ; but a " rehousing " subsidy was reintroduced by the Housing Act of 1935, which dealt especially with the relief of overcrowding, and set up for the first time a legislative standard therefor.

The *Local Government Act 1929* extended the powers of county councils to participate in the preparation and administration of town-planning

schemes through membership of joint committees, and made it possible for county councils to take over the responsibility for preparing such schemes by voluntary relinquishment of functions by district councils.

The preservation of places of natural beauty and of buildings of historic or architectural interest, which is of particular importance in national planning as well as in relation to many local schemes, was the subject of legislation in 1907, when the *National Trust Act* provided for the acquisition and maintenance of such places and buildings on behalf of the nation.

Under the *Town and Country Planning Act 1932*, planning powers were enlarged and extended to built-up areas and completely rural areas. All previous Acts relating to town planning were repealed. The town-planning sections of the 1929 Local Government Act were incorporated in the new Act, which became the primary controlling enactment for all planning development.

The 1932 Act, and the regulations made under it by the Minister of Health, including the Ministry of Health (Town and Country Planning) Regulations, 1933, and the Town and Country Planning (General Interim Development) Order, 1933—which have the force of law—view planning in its widest aspect. The first section of the Act provides that: "A scheme may be made under this Act with respect to any land, whether there are or are not buildings thereon, with the general object of controlling the development of the land comprised in the area to which the scheme applies, of securing proper sanitary conditions, amenity and convenience, and of preserving existing buildings or other objects of architectural, historic or artistic interest and places of natural interest or beauty, and generally of protecting existing amenities whether in urban or rural portions of the area."

The Minister responsible for the administration of the Act was until 1942 the Minister of Health; but in June of that year the *Minister of Works and Planning Act* transferred this Authority (except as to certain minor functions under Sections 32, 51 and 55 of the 1932 Act) to the Minister of Works and Planning; and on February 10th, 1943, this Ministry was renamed the Ministry of Works, and the powers exercised under the 1932 Act were further transferred to the new Minister of Town and Country Planning by the *Minister of Town and Country Planning Act 1943*. Local planning authorities are the Common Council in the City of London, the London County Council in the County of London, and Borough and Urban District and Rural District Councils elsewhere. County Councils may become planning authorities by relinquishment, under agreement, by District Councils of all or any of the powers conferred upon them under the Act. Powers and duties under the Act may be assumed jointly by two or more authorities, whether District or County Councils, and a joint committee may be appointed by the central authority on the request of one local authority or more, at the discretion of the central authority after an inquiry has been held.

The procedure in regard to the preparation of town-planning schemes is considered by many planners to be too complicated and prolonged. A resolution to prepare a scheme is passed by the local authority, and approved by the central authority. Then follows the interim development phase, in which a developer may proceed with the development

of the whole or part of the area, or of more than one area, with the consent of the local authority or authorities concerned. The local authority, within two years after the approval of the original resolution, should prepare and adopt the draft scheme ; and within nine months more the scheme should be drawn up. The central authority then approves the scheme, and the latter is laid before both Houses of Parliament. If the scheme is not challenged within twenty-one sitting days in Parliament, or, subsequently, on legal grounds within six weeks by appeal to the High Court, it comes into operation.

In regard to planning schemes generally, the central authority can compel a local authority to prepare a scheme. A local authority may, with the approval of the central authority, revoke a resolution, as also may the central authority after a local inquiry if such action is requested. A local authority whose scheme embraces land beyond its own boundaries must consult with the authority in whose district that land is situated. One, two or more areas covered by resolutions may be included in a single scheme ; or more than one scheme may be prepared for different parts of the same area, or of combined areas. Due notification of a resolution and its effect must be given in the Press and served on each occupier (according to the Income Tax Schedule A list) of any hereditaments in the area.

Except in numerous cases specified in the Act, compensation may be claimed by any person whose property, or trade, business or profession carried on in such property is injuriously affected by provisions contained in a scheme, or by the putting into effect of a scheme. On the other hand, betterment—to the extent of 75 per cent. of its assessed value—may be claimed by an authority from an owner whose property is enhanced in value by reason of the carrying out of a scheme. (The difficulty in practice of claiming betterment is dealt with very fully in the Final Report of the Uthwatt Committee, 1942.)

Land required for the purpose of a scheme may be acquired by agreement or compulsorily, and land needed for the accommodation of an owner so displaced may be acquired by agreement, but not compulsorily. Provision is made for the acquisition of land by the central authority on behalf of a local authority or authorised association for the development of an area as a garden city.

A local authority may contribute towards the expenses of owners who prepare a scheme which is adopted by the authority; and a County Council may incur expenses in assisting a District Council to prepare a scheme.

Model Clauses re-issued by the Ministry of Health in 1935 and amended in 1937-39 for the guidance of (but not for universal adoption by) planning authorities deal with the reservation of land for open spaces, etc. ; streets and building lines ; building restrictions and the use of land ; general amenity ; maintenance, use, alteration, extension and replacement of existing buildings; plans, approvals, and appeals; and miscellaneous matters. Numerous memoranda and circulars for the guidance of local authorities were also issued by the Minister of Health, who was advised by an Advisory Committee which he had appointed.

The Ministry of Works in 1942 appointed regional planning officers, with headquarters in the principal cities and towns, to assist local plan-

ning authorities in an advisory capacity. These regional planning officers are now responsible to the Minister of Town and Country Planning.

The *Restriction of Ribbon Development Act 1935*, which is administered by the Minister of Transport, prohibits the erection, except with the permission of the Minister, of any building other than an agricultural building within 220 feet of the middle of any road " classified " on May 17th, 1935 (that is, of any " A " or " B " road). This restriction can be applied also to an unclassified road by resolution of the highway authority, approved by the Minister. The Act authorises local authorities to maintain parking places and to acquire land to gain access to parking places.

Under Section 7 of the *War Damage Act 1941* the War Damage Commission is required, when making payments in regard to the restitution of war damaged property, to take into account the public interest in regard to town and country planning.

The *Town and Country Planning (Interim Development) Act 1943* was passed on July 22nd, 1943, its object being " to bring under planning control land which is not subject to a scheme or resolution under the Town and Country Planning Act 1932, to secure more effective control of development pending the coming into operation of planning schemes, and for purposes connected with the matters aforesaid."

The Act provides that, after three months from the passing of this Act, all land not already subject to planning schemes or resolutions shall be subject to a resolution to prepare a scheme under the 1932 Act, which shall be deemed to have been passed by the local authority and approved by the Minister.

Under this Act, an interim development authority may postpone consideration of any interim development application unless the applicant can satisfy the authority that the development would be carried out immediately. This amends the Town and Country Planning (1932) Act, which required that applications under an interim development order had to be dealt with within two months and to be granted in certain cases.

Where an interim development application has been granted for a limited period only, any building, work or use is not regarded as " existing " for the purpose of a scheme under the Town and Country Planning Act 1932.

Provision is made under Section 4 for the revocation or modification of any development under an interim development application which appears expedient to an interim development authority, having regard to the proposed provisions of a scheme being prepared under the 1932 Act.

The interim development authority may remove or pull down any building or work, or, in the case of use of land, may prohibit that use, if the development is not in accordance with the terms of an interim development order granted while a resolution to prepare or adopt a scheme under the 1932 Act is in force.

The Minister has power to require that any interim development application shall be referred to him for decision if it appears expedient, provided that, if desired, an opportunity is given to the interim develop-

ment authority and the applicant to be heard before a person appointed by the Minister.

A person is entitled to compensation for expenditure on any work carried out under an interim development application made before the resolution to prepare or adopt a scheme under the 1932 Act and subsequently refused or granted subject to conditions.

An interim preservation order " may be made by any interim development authority if it appears expedient, to preserve trees or woodlands where it is proposed to make provision in a scheme under the Town and Country Planning Act."

Joint Committees may be empowered by an interim development order to deal with applications for interim development.

Approval by the Minister has to be given in respect of any agreement made after the commencement of this Act under section 34 of the Town and Country Planning Act 1932, for restricting the planning, development or use of any land.

The Minister possesses power to revoke or vary any order he has made under the 1932 Act or this Act by a subsequent order.

This Act also provides that notice shall be given by the London County Council to the Council of a Metropolitan Borough concerned, where an interim development application is referred to the Minister. Any representations made by the council of the borough to the L.C.C. shall be taken into account by the Minister.

This Act does not extend to Scotland or Northern Ireland.

The *Housing (Temporary Provisions) Act 1944* received the Royal assent on August 3rd, 1944. Its purpose is " to extend the making of contributions under section one of the Housing (Financial Provisions) Act 1938, as respects new housing accommodation provided by local authorities before the first day of October, 1947 ; and to suspend temporarily the holding of local inquiries in respect of certain compulsory purchase orders."

The *Town and Country Planning Act 1944* became law in November 1944. Its purpose is to make provision for the acquisition and development of land for planning purposes ; for amending the law relating to town and country planning; for assessing by reference to 1939 prices compensation payable in connection with the acquisition of land for public purposes, and as to the rate of interest payable thereon ; and for purposes connected with these matters.

In the first part, dealing with town and country planning, the Act empowers the Minister of Town and Country Planning to make an order declaring which land has sustained extensive war damage and requires redevelopment as a whole, to be subject to compulsory purchase. He is also empowered to make such an order in the case of land which ought to be made available for the purpose of providing for relocation of population or industry, or for the replacement of open space, in the course of the redevelopment of an area of extensive war damage. A local planning authority may be authorised to purchase compulsorily such land, while local highway authorities may be authorised to purchase compulsorily land required for highways in connection with such areas ; such land may also be purchased for the public service or the Post Office. Provision is made for Exchequer assistance to local planning authorities

for the purchase and clearance of this land, by means of grants representing amounts equal to the loan charges which the authority is liable to pay for the first two years of borrowing (with the possibility of extension, in cases where damaged areas remain incapable of being brought into use, up to a maximum of fifteen years in all). Local planning authorities are empowered to contribute towards the expenses of highway authorities in acquiring land and improving roads authorised by the Act, and to receive grants for this purpose from public money.

The first part of the Act also contains provisions for the compulsory acquisition by a planning authority of land for the redevelopment of areas of bad layout and obsolete development; for certain planning purposes such as to secure a proper balance of development and for open space; and for the obligation on the part of a local planning authority to purchase war damaged land where development permission has been refused.

Provision is made for the disposal or appropriation by a local planning authority of land which has been acquired for these purposes specified in the Act, while the authority is empowered to carry out development with the consent of the Minister and in conformity with planning control, despite easements and restrictive covenants, subject to payment of compensation. A local highway authority is authorised to construct new roads, and power is given for the extinguishment of public and private rights of way and rights as to apparatus over and in land purchased for the purposes of the Act. Special provisions are made respecting the land of statutory undertakings and commons and open spaces.

General amendments are made to the Town and Country Planning Acts, especially in relation to interim development control in the case of statutory undertakers, and planning control is extended to agricultural buildings.

Joint committees established for planning purposes are empowered to prepare planning schemes varying or supplementing those relating to constituent authorities. The Minister may designate buildings of special architectural or historic interest for the guidance of local planning authorities in effecting their preservation, which is permitted by the Act.

The second part of the Act deals with compensation in connection with acquisition of land for public purposes. This is to be fixed by reference to prices at March 31st, 1939, with provision for additions in the case of owner-occupiers of dwelling houses or agricultural land or buildings, and for improvements. Interest on compensation may be paid where the acquiring authority enters before completion, at a rate to be fixed by the Treasury.

The *Town and Country Planning (Scotland) Act 1945* makes similar provision with respect to Scotland, for the acquisition and development of land for planning purposes; for amending the law relating to town and country planning; for assessing by reference to 1939 prices compensation payable in connection with the acquisition of land for public purposes, and as to the rate of interest thereon, and for connected purposes.

The *Requisitioned Land and War Works Act 1945* authorises the acquisition of certain land used or dealt with for war purposes and makes other provision as to such land; it removes doubts as to the powers of certain Ministers to acquire land under the Defence Act 1942, and amends

certain of the enactments relating to compensation in respect of land.

The War Works Commission will be appointed to report on the matters and decide on questions covered in the Act.

Land affected by Government war work or damaged by Government war use may be acquired by the Ministers who have power to acquire land under the Defence Acts, together with the Ministers of War Transport and Works and the Postmaster-General. Where there are Government war works on the land, powers of acquisition will apply if the works were constructed at the expense of the Crown and ought to be preserved or properly utilised and maintained, in which case adjacent land may also be acquired. Power of acquisition will also be exercisable where the value of the land has depreciated as a result of Government war work or damage by Government war use, if it is considered desirable in the public interest to rehabilitate the land, and will extend to adjacent land where necessary. Provisions are made as to easements and other rights, including compensation, and as to the procedure of acquisition and functions of the Commission in considering proposals which may be referred to them. Special provisions prevent the acquisition of commons or open spaces except with permission of Parliament unless other land is available to provide equal facilities. These powers will apply for two years from the end of the war period.

The third part of the Act provides that where any highway has been stopped or diverted the Minister of War Transport may authorise permanent stopping or diversion if that is considered to be in the public interest. An order may provide for the establishment of a substitute highway and its repair ; similar provisions are made respecting trunk roads, cables, and the provision of costs of work involved and compensation for stoppages and diversions. Provision is also made for the retention of a railway, tramway, cable, etc., placed for war purposes. Any such proposals must be published within two years of the end of the war period.

Provisions as to telegraphic lines are included in the fourth part of the Act.

Temporary procedure is given for the acquisition of land by local authorities. Part VI contains temporary provisions as to maintenance, use, and removal of works and continuance in possession and restoration of land.

The Act provides that in assessing compensation on the acquisition of land, adjustment shall be made so as to offset any increase or diminution attributable to damage to the land while it was in possession of a Minister, or to work done since the beginning of the war period, or to any restriction imposed in the exercise of emergency powers on work on the land. The Compensation (Defence) Act 1939 is amended in respect of rental compensation (which may be increased to the level obtaining on 31st March, 1939), in respect of removal of works or machinery or plant, and in respect of lump sum compensation, where land is not restored by the Crown.

Other powers include powers of Ministers to defray the cost of rehabilitating the land in certain circumstances, to provide land in exchange for land acquired under the Defence Acts.

The Act applies to Scotland and Northern Ireland, with certain modifications.

The *Housing (Temporary Accommodation) Act*, passed in October 1944, is designed to make provision for temporary housing accommodation, and for purposes connected therewith.

Provision is made to enable local authorities to provide temporary housing accommodation, under Part V of the Housing Act 1936. The Minister of Health may make structures (by arrangement with the Minister of Works) for use by any local authority, up to 1st October, 1947. Provision is made for the removal of these structures under agreement with the local authorities, and after ten years at the request of the local authority.

The terms on which structures may be made available include provision for the making of a payment, by the local authority, to the Minister for each financial year during which the structure remains on the land (with special arrangements in the case of land of exceptionally high value), and provisions for the use, management and maintenance of the structures, and for the execution of any works in connection with their erection or any other matter.

Certain provisions of the Housing Act 1936, under Part V, are adapted to relate to structures made available under this Act.

Power is given to local authorities to enter on land to ascertain whether it is suitable for the erection of these structures, with provision for compensation in respect of any damage.

Provision is made whereby local authorities may, between the date of the passing of this Act and the end of 1945, obtain possession of land for use as sites for structures to be made available.

These provisions are applicable to Scotland.

Financial provision is made to the extent of sums not exceeding £150 million* out of which the Minister of Works will meet the cost of manufacture, construction and erection under arrangements made in the Act.

The *Housing (Temporary Accommodation) Act 1945*, passed in June 1945, authorises the use of open space during a limited period for temporary housing accommodation.

The Act empowers the Minister of Health to make an order authorising a local authority to use, for the purposes of the Housing (Temporary Accommodation) Act 1944, land vested in it or at its disposal, which is, or is part of, an open space. This is to be effective for two years only from the date of the passing of the Act.

Authorisations will require the consent of the Minister of Town and Country Planning, and will be for a period of not longer than ten years. Provision is made for compensation payable by local authorities if any other land is injuriously affected by the execution of works, and for reinstatement of the land and removal of the houses when the authorisation ceases to be in force, *i.e.* after not more than ten years.

The Planning Minister will not give a certificate of approval for such erections unless he is satisfied that the use of the land is expedient in the public interest in the present emergency, and until a special survey has

*This sum is increased to £200 millions under the Building Materials and Housing Act 1945

been made of all classes of unbuilt-on land in the area and he is satisfied that there are no alternative sites available, having regard to sound planning.

The Act is applicable to Scotland.

The *Housing (Scotland) Act 1944* is designed to extend the making of contributions under Section 1 of the Housing (Financial Provisions) (Scotland) Act 1938, as respects new housing accommodation provided by local authorities before October 1st, 1947, to suspend temporarily the holding of local inquiries in respect of certain compulsory purchase orders, to provide for grants and advances to the housing association, and to make provisions with regard to the superannuation of the employees of the housing association.

The *Licensing Planning (Temporary Provisions) Act 1945* is designed to make temporary provision as to justices' licences in war-damaged areas and certain areas related to war-damaged areas.

A licensing district which has sustained extensive war damage may be declared by the Secretary of State to be a licensing planning area. For every licensing planning area there will be a committee, consisting of a chairman appointed by the Secretary of State and equal numbers of members appointed from amongst the licensing justices of that area and by the appropriate local planning authorities. Provision is made for including in the area any licensing district to which there has been or is likely to be a substantial transfer of population, of industry or other activities from the districts included in the area; for excluding any licensing district formerly included; and for revoking an order declaring an area to be a licensing planning area.

The duties of the committees are to review the circumstances of their area and to endeavour to secure that the number, nature and distribution of the licensed premises in the area, the accommodation provided, and the facilities for obtaining food, accord with local requirements, regard being had to any redevelopment or proposed redevelopment of the area. A committee may from time to time formulate proposals for removals of licences from premises in the area to other specified premises, and for the surrender of existing licences, such proposals being submitted to the Minister of Town and Country Planning. A committee may agree to business being carried on in temporary premises by the holder of a licence for premises in the licensing planning area.

Special administrative provisions are made for London.

The Secretary of State may make regulations with respect to procedure to be followed and fees to be paid in connection with applications, procedure of committees, time and manner of making objections to the committees' proposals, accounts, and for prescribing anything which is authorised by the Act.

The Act will expire five years from the date when the Emergency Powers (Defence) Act 1939 ceases to be in force.

The *Building Materials and Housing Act 1945* makes financial provision for the purpose of facilitating the production, equipment, repair, alteration and acquisition of houses and other buildings, and makes provision for limiting the price for which certain houses may be sold and the rent at which certain houses may be let.

The Treasury is empowered to advance money (up to £100 million) out of the Consolidated Fund, up to September 1950, to the Minister of Works to meet his expenses in connection with bulk purchasing of building materials and permanent equipment for buildings, arranging for the production and distribution of such materials or equipment; and for housing work done by him on behalf of a local authority in connection with its powers to provide housing accommodation.

The Building Materials and Housing Fund will be established, under the control and management of the Minister of Works, for the purposes of carrying out these provisions, and in connection with prefabricated houses payments will be made to it by the Minister of Health. An additional allowance is made to increase to £200 million the sum available under the Housing (Temporary Accommodation) Act 1944 for the provision of prefabricated temporary houses.

The powers of local authorities to give financial assistance towards acquisition, construction etc., of houses are extended to include houses at a market value of £1,500.

The rent and purchase price of houses constructed under a building licence are limited for a period of four years from the passing of the Act.

The Act also provides for the registration of conditions imposed by building licences, and makes it the duty of every local authority to enforce the Act relating to permitted prices and rents in its area.

The Act applies to Scotland, with certain modifications, and to Northern Ireland except for the provisions relating to temporary houses, extended subsidies, registration and the duties of local authorities to enforce the sections dealing with permitted prices and rents.

The *Rural Water Supplies and Sewerage Act 1944* followed the Government White Paper on National Water Policy. This Act provides powers whereby the Minister of Health, in any case in which it appears desirable, may contribute towards the cost of providing rural water supplies and sewerage. The contribution will be in the form of a lump sum, payable either as a whole on completion of the works or the transaction, or in instalments on completion of parts of the works; but it may also be in the form of sums payable from time to time within a period of 20 years in a case where a local authority's liabilities arise in that way under a lease or hiring agreement or contract. The constitutions, which may be withheld or reduced in the case of unsatisfactory works or default, are to be defrayed out of moneys provided by Parliament, and must not exceed a total of £15 million.

The appropriate county councils will contribute amounts as agreed with the local authorities concerned.

When a local authority submits proposals to the Minister of Health with a view to securing a contribution, it must first submit particulars to the appropriate county council, and report the observations of the county council to the Minister.

The Act makes it obligatory for every local authority to provide a supply of wholesome water in pipes to every rural locality in its district in which there are houses or schools, provided that this is practicable at a reasonable cost, and the Public Health Act 1936 is amended to make it possible for the Minister to transfer to himself the function of an

authority declared to be in default in connection with water supply or sewerage.

Statutory water undertakers must accept guarantees from local authorities to make it financially possible to bring water to a rural locality where the owner or occupier of any premises can require statutory water undertakers to provide water, if the aggregate amount of water rates payable annually will not be less than a prescribed fraction of the cost incurred. All expenses incurred by a rural district council in connection with sewers or sewage disposal works or a supply of water are declared to be general expenses.

The Act is applicable to Scotland, with certain modifications, but not to Northern Ireland. The total cost of contributions for Scotland is not to exceed £6,375,000.

The *Water Act 1945* gives legislative form to the greater part of the policy proposals contained in the White Paper, *National Water Policy*. It states that it is the duty of the Minister of Health to promote the conservation and proper use of water resources and the provision of water supplies in England and Wales and to secure the effective execution by water undertakers, under his control and direction, of a national policy relating to water.

The Central Advisory Water Committee will be appointed, for the purpose of advising upon matters connected with the conservation and use of water resources, and the provision of water supplies, and any question referred to it, including the administration of enactments relating to these matters.

For any area where it is thought to be necessary, the Minister may constitute a Joint Advisory Water Committee, to consist of a chairman appointed by the Minister, members appointed by statutory water undertakers, and members appointed by local authorities concerned. The duties of these Committees, to be prescribed by the Minister, may include surveys of consumption and demand for water supplies; surveys of available water supplies; estimates of future water supply requirements; formulating proposals for meeting existing or future requirements; advising statutory water undertakers and local authorities in the preparation and co-ordination of schemes relating to water supply; furnishing relevant information to the Minister, statutory water undertakers and local authorities; and the submission of reports. A Committee may require information respecting existing or proposed waterworks, consumption of and demand for water supplies, and water resources from statutory water undertakers and local authorities represented on the Committee.

The Minister is also empowered to require local authorities and statutory water undertakers to carry out surveys and formulate proposals, and to require records and information from persons abstracting water. Any person proposing to sink a well or borehole to a depth of more than 50 feet is obliged to furnish information regarding water to the Committee of the Privy Council for Scientific and Industrial Research, which should have free access and power to inspect.

The second part of the Act deals with the local organisation of water supplies. An order made under the Public Health Act 1936 allows for

the constitution of joint water boards. The Minister may make an order providing for combinations of undertakers and the transfer of undertakings by agreement or compulsorily; may make an order varying their limits of supply; may authorise certain statutory undertakers to supply water to premises outside their limits of supply; and may provide for the supply of water in bulk. In cases of failure to comply with duties by any authority, the Minister may institute an inquiry, and make an order declaring it to be in default. If the body fails to remedy the default, the Minister may transfer to himself or to the county council any of the functions of that body.

The third part of the Act deals with the conservation and protection of water resources, and makes provision for control of abstraction and prevention of waste in certain areas; for preventing waste, misuse or contamination of water; and for preventing pollution of water. Provisions include power to make by-laws, penalties for polluting water used for human consumption, and powers for statutory undertakers to acquire land and execute works for the protection of water.

The fourth part deals with the powers and duties of local authorities and water undertakers. These include the construction of works and acquisition of land and water rights; the duty to supply water for non-domestic purposes; the duty to provide water supply to houses and schools. In the latter case, the appropriate section of the Rural Water Supplies and Sewerage Act 1944 is declared to cease to have effect, and it is stated that it is the duty of every local authority to ascertain the sufficiency and wholesomeness of water supplies in its district, to provide a supply of wholesome water to every part of its district in which there are houses and schools (a piped supply wherever practicable at reasonable cost). The Public Health Act 1936 is amended in respect of requiring new houses to have a piped supply of water, and occupied houses to have a supply of wholesome water in pipes. Provision is also made for modernisation of the waterworks code, by powers given to the Minister to apply to any water undertaking any appropriate provisions contained in the third schedule to the Act, and to repeal and amend local enactments on the application of any undertaker. Miscellaneous provisions in this section deal with temporary discharge of water into watercourses, power to supply water fittings, the duty of statutory water undertakers to accept guarantees from local authorities, the duty of undertakers to provide domestic supply for new buildings, liability for and recovery of water rates, and financial and other matters.

The final part deals with general matters such as compensation to officers of statutory water undertakings, inquiries, entry to premises, etc. The Act came into operation on 1st October, 1945.

The *Distribution of Industry Act 1945*, passed in June 1945, provides for the development of certain areas, and for controlling the provision of industrial premises with a view to securing the proper distribution of industry.

The Act states that in a "development area" the Board of Trade may, for the purpose of providing industrial premises, sites and means of access to them, acqire land by compulsory purchase if necessary and erect such buildings and carry out such works as appear expedient.

Financial assistance may be provided to trading or industrial estate companies in development areas; for improving the basic services in development areas; and for industrial undertakings (in development areas) which have good prospects of being able to carry on successfully without further assistance.

Provisions for dealing with derelict land in development areas include acquisition of the land by the Board of Trade, who may then carry out work to bring it into use or improve the amenities of the neighbourhood; and grants by the Board of Trade to any local authority or company (which does not distribute profits), towards the cost of carrying out work on derelict land in development areas. Any buildings or works erected by the Board of Trade must not contravene Town and Country Planning Schemes.

Alteration of the schedule of development areas may be considered from time to time by the Board of Trade, and shall be considered three years from the passing of the Act; provision is made for adding and removing areas to and from the schedule.

The Special Areas (Development and Improvement) Acts 1934 and 1937 are repealed.

The erection of buildings of more than 10,000 square feet of floor space for new industrial units must be notified to the Board of Trade, which may exempt from this condition any class or description of industrial building.

The Act is applicable to Scotland but not to Northern Ireland.

The first schedule contains a list of development areas, in which the former "Special Areas" are enlarged to comprise economic regions, namely the North-East, West Cumberland, South Wales and Monmouthshire, and the Scottish industrial belt.

The *Forestry Act 1945* makes provision for the reconstitution of the Forestry Commission and as to the exercise of the functions of the Forestry Commissioners, the acquisition of land for forestry purposes and the management, use and disposal of land so acquired. It amends the Forestry Acts 1919 to 1927, and certain other enactments relating to the Forestry Commissioners.

The reconstituted Forestry Commission is to consist of a Chairman, and not more than nine other Commissioners, appointed by His Majesty, and will exercise its functions under the direction of the Minister of Agriculture and Fisheries in England and Wales and the Secretary of State for Scotland in Scotland.

The Commissioners will appoint committees for England, Scotland and Wales, to which they may delegate any of their functions.

The provisions of the Forestry Act 1919 relating to acquisition of land for forestry purposes are repealed, and powers to acquire land are transferred from the Commissioners to the appropriate Minister. Powers of compulsory purchase extend to land held by the National Trust, and all land vested in the Commissioners at the date of the passing of the Act is vested in the appropriate Minister. Such land may be managed, planted and otherwise used by the Commissioners, who will own any timber produced on the land. Any land not placed at the disposal of

the Commissioners may be managed and used by the appropriate Minister, let or sold.

These powers of compulsory acquisition do not apply to land which is the site of an ancient monument or other object of archaeological interest ; land which forms part of any park, garden, pleasure ground or home farm attached to a mansion house ; or to any land which is the property of a local authority or which has been acquired by statutory undertakers.

Capital payments made in acquiring land will be defrayed from the Forestry Fund, and expenses incurred by a Minister in managing and using land not placed at the disposal of the Commissioners will be defrayed from moneys provided by Parliament.

The Commissioners will submit annual accounts, and an annual report in such a form as the Minister may direct.

The Act is not applicable to Northern Ireland.

The *Local Authorities Loans Act 1945*, passed in March 1945, prohibits the borrowing of money by local authorities otherwise than from the Public Works Loan Commissioners, amends section five of the Public Works Loans Act 1941, and makes further provision with respect to local loans and the borrowing powers of local authorities.

A local authority may only borrow money from the Public Works Loan Commissioners, unless Treasury approval is secured, until December 31st, 1950. The power of the Public Works Loan Commissioners to make loans is to include loans to any local authority for any purpose for which the authority has power to borrow. The Treasury may, instead of raising the required sums by the creation of local loans stock, issue them to the local loans fund out of the Consolidated Fund of the United Kingdom.

Provision is made for postponing the repayment of loans or interest. The Act gives power to local authorities to carry loans to consolidated loans funds and loans pools, and to use, for any purpose for which the authority has a statutory power to borrow, any moneys forming part of any capital fund established by the authority, subject to certain provisions as to repayment.

The Act applies to Scotland.

The *Local Government (Boundary Commission) Act 1945* provides for the establishment of a Local Government Boundary Commission, to make further provision for the alteration of local government areas in England and Wales exclusive of London, and embodies the main recommendations of the White Paper on *Local Government in England and Wales during the Period of Reconstruction*, issued in January 1945.

The Commission will have the duty of reviewing the circumstances of the areas into which England and Wales (excluding the administrative county of London) are divided for the purposes of local government, and will exercise the powers of altering those areas as conferred by this Act.

The Minister of Health is empowered to make regulations (after consultation with local authorities' associations) prescribing general principles for the guidance of the Commission, which will require parliamentary approval.

The Commission is empowered to alter or define the boundaries of a county, county borough or district, to unite local authority areas, to divide up counties and urban and rural districts, to constitute a borough a county borough, to convert a county borough into a non-county borough, to constitute a new urban or rural district, or convert an urban or rural district, and to alter parish boundaries, unite and divide parishes, and constitute new parishes. No part of the County of Middlesex is to be constituted a county borough.

Regulations are given for the exercise of the powers of the Commission. Procedure will be prescribed by regulations made by the Minister and approved by Parliament. These will make provision for opportunities for objection to proposed orders and local inquiries. The minimum population required for a borough to be converted into a county borough is raised from 75,000 to 100,000. An annual report is to be presented to Parliament. The Commission will consist of a chairman, deputy-chairman, and three other members appointed by His Majesty.

The *Hydro-Electric Undertakings (Valuation for Rating) (Scotland) Act 1945* amends the law of Scotland with regard to the valuation for rating of hydro-electric undertakings and for related purposes.

The Assessor of Public Undertakings (Scotland) is to value all lands and heritages of the North of Scotland Hydro-Electric Board, to which the Lands Valuation (Scotland) Act 1854 will apply. Generating works forming part of a hydro-electric installation are to be valued according to provisions laid down in the Act. Any undertakers whose rateable value is reduced as a result of this Act shall apply a sum equal to the difference between the amounts, in accordance with directions given by the Electricity Commissioners, to the development of their system of distribution or for the benefit of their consumers.

RECENT LEGISLATION

The *Water (Scotland) Bill* was introduced in October 1945, and is intended to come into effect on 16th May, 1946. It makes arrangements for Scotland similar to those provided for England and Wales in the Water Act 1945. The Secretary of State for Scotland has the duty of promoting the conservation of water resources and the provision by local authorities of adequate water supplies. He is responsible for the collection and dissemination of information relating to water resources and supplies. He is given powers to effect these responsibilities similar to the powers of the Minister of Health.

Local authorities may carry out their duties by providing a supply of water themselves, or by securing its provision by another local authority, or by a joint water board, or otherwise. Every local authority is responsible for providing domestic water supplies, and in some cases supplies for agriculture, industry and other non-domestic users.

Similar machinery is provided for securing the combination of authorities, for empowering local water authorities to supply beyond their statutory areas, for bulk supplies, for the acquisition of land and water rights. Authorities are given powers for the execution of works, acquisition of undertakings, breaking open of streets, laying of mains and pipes, provision of public wells and fountains, control of polluted sources of

supply ; powers to regulate water charges, and to borrow. The modernised water-works code again may be applied by order of the Secretary of State.

The fourth part provides similar measures for the conservation and protection of water resources and the prevention of waste. The fifth part deals with legal machinery.

The *Building Restrictions (War-Time Contraventions) Bill* presented in May 1945 is designed to make provision as respects works on land carried out during the war period, and uses of land begun during that period, which do not comply with building laws or planning control.

The Bill provides that works and buildings erected during the war may remain after the war, subject to the approval of the appropriate local authority, even when they do not comply with building laws or planning control. The right of local authorities to enforce the law is protected, and owners and others interested will be able to ask the local authority to clarify and determine the position. There will be right of appeal to the Health Minister against a local authority's decision.

A Government Department will be able to seek clarification in the same way as an individual, in cases where a sale or long lease is in prospect and there is a possibility that building law or planning control has been contravened.

The Minister of Town and Country Planning may direct that an application to a local planning authority must be referred directly to the Minister of Health, who will then make his decision in consultation with the Minister of Town and Country Planning.

The Bill is applicable to Scotland and Northern Ireland, with the necessary modifications.

The *Acquisition of Land (Authorisation Procedure) Bill* presented in December 1945 is designed to amend the law as to the authorisation of the compulsory purchase of land for purposes for which the purchasing authority has power to purchase land compulsorily under existing enactments ; to make temporary provision as to the procedure for the compulsory purchase of land, in urgent cases, and to provide for notifying purchases of war-damaged land to the War Damage Commission.

A compulsory purchase order in accordance with the provisions of the First Schedule shall confer the authorisation of any compulsory purchase of land by a local authority, where there is a power in an existing public general Act (except certain special enactments) to authorise it to purchase land compulsorily and by the Minister of War Transport under certain enactments. In general it is contemplated that a compulsory purchase order would be confirmed by the appropriate Minister without reference to Parliament.

During a period of five years from the passing of the Act, an authorisation for compulsory purchase of land by a local authority may be given by the confirming authority in writing, instead of by way of compulsory purchase order, if it is satisfied that the land is urgently needed in the public interest, and if the acquiring authority could be authorised under any enactment to purchase the land compulsorily for the said purpose. At any time within three months of the authorisation, the acquiring authority may enter on and take possession of the land, and afterwards

proceed with the purchase as if it had been authorised by a compulsory purchase order ; it cannot withdraw and must complete the purchase. Speedy procedure is also made available in cases of urgency to the Minister of War Transport for highway purposes, and to the Board of Trade for the purposes of the Distribution of Industry Act 1945. The period of operation of this clause may be extended from year to year by order in council.

The third clause provides for notification to the War Damage Commission of purchases of war-damaged land.

The first schedule sets out the procedure for authorising compulsory purchase, the second schedule contains common form provisions for the incorporation of the Lands Clauses Acts, and parts of the Railway Clauses Consolidation Acts, and for the application of the Acquisition of Land (Assessment of Compensation) Act 1919. The third schedule sets out the procedure for authorising the speedy acquisition of land in urgent cases.

The Bill applies to Scotland with certain modifications.

The *Trunk Roads Bill* introduced in October 1945 is designed to amend the law relating to trunk roads. The main object of the Bill is to supplement the national system of routes for through traffic by adding to it other roads (including roads within areas hitherto excluded from the trunk road system) forming an interconnecting system of principal routes between various parts of the country. The new trunk roads will be those connecting the chief centres of industry and population with each other and with the most important ports, and roads connecting the more important food producing districts with their markets.

The Bill provides for the addition to the existing 4,500 miles of trunk roads, which were vested in the Minister of Transport by the Act of 1936, of a further 3,685 miles of road (including certain selected roads in county boroughs and large boroughs which form links in the trunk road system) which will become trunk roads on 1st April, 1946. The Minister is given general powers to reorganise the trunk roads system by the inclusion of existing roads and new roads constructed by the Minister, or by the omission of existing trunk roads. The Minister, in exercising these powers, will consider the requirements of local and national planning, including agriculture.

Where one-way traffic is necessary, a second road serving points on the trunk route may be included in the trunk road system. Provision is also made for the construction as trunk roads of cycle tracks and footpaths for use in connection with a trunk road but separated from it by intervening land.

Provision is made for remodelling junctions and intersections of trunk roads with other roads, and to stop up junctions of other roads with trunk roads, providing alternative connection where necessary, in the interests of safety.

The Minister is given the powers, in relation to trunk roads, now exercisable by a local highway authority, of acquiring land adjacent to the road for the preservation of amenities. He is also enabled to make orders providing for the construction, as part of the trunk road system, of bridges or tunnels over or under navigable waters, while

privately owned and maintained bridges carrying trunk roads will be transferred to him.

Amendments made to the existing law are designed to extend the Minister's present powers to delegate his functions of maintenance and improvement of trunk roads to other highway authorities, and to confer on him in respect of new trunk roads the powers for road drainage enjoyed by other highway authorities.

Expenses incurred by the Minister under the Bill in the construction, maintenance, repair and improvement of roads and other matters dealing with roads shall be defrayed out of the Road Fund, while other expenses of the Minister under the Bill shall be paid directly out of moneys provided by Parliament. The cost of maintaining the roads to be transferred is estimated at £2,500,000.

The *Furnished Houses (Rent Control) Bill*, presented in November 1945, makes provision with respect to the rent of houses or parts of houses let at a rent which includes payment for the use of furniture or for services.

In each district in which the Minister of Health orders the Act to be effective (after representations by or consultation with the local authority) a tribunal, consisting of a chairman and two members, will be appointed. Either party to a contract covering the letting of a house or rooms and use of furniture or services, or the local authority, may refer the contract to the tribunal. After conducting an inquiry and hearing, the tribunal may approve or reduce the rent. Moreover, where rent has been entered in the register, it may be referred to the tribunal for reconsideration on the ground of change of circumstances, and may be reduced, approved, or increased by the tribunal.

The local authority will be required to prepare and keep up to date a register containing entries of the prescribed particulars with regard to any contract referred to the tribunal, a specification of the premises concerned and the rent as decided by the tribunal.

It will be illegal to exact premiums or make any charges in excess of the rents registered under the Act.

In general the Rent and Mortgage Interest Restrictions Acts 1920 to 1939 are unaffected by the Act.

The Minister of Health is empowered to make regulations regarding tenure of office of members of tribunals, proceedings before tribunals, for prescribing any necessary conditions and generally for effecting the provisions of the Act.

The Bill applies to furnished lettings, and to furnished or unfurnished premises let with services, but does not cover premises let at a rent which includes payment for board. It applies only to England and Wales; similar provisions have been in force in Scotland since 1943. It will remain in force until December 1947.

The *Local Government (Financial Provisions) Bill*, introduced in November 1945, provides for the payment of additional Exchequer grants supplementary to the General Exchequer Contribution, towards local government expenses.

The contributions, known as the " Interim Supplementary Exchequer Contribution ", will be paid for three years from April 1945, and will amount to £10 million for 1945-46, £11 million for 1946-47, and £12

million for 1947-48. It will be apportioned among the counties and county boroughs in accordance with the provisions of the Bill, the poorer and highly rated areas receiving the greater relief, amounting in some cases to the equivalent of a rate of 2s. 9d. in the £.

The *Housing (Financial and Miscellaneous Provisions) Act* and the *Housing (Financial Provisions) (Scotland) Bill* were introduced in February 1946, to supersede the Housing (Financial Provisions) Act 1938. The Act for England and Wales provides an annual Exchequer subsidy of £16 10s. and an annual rate contribution of £5 10s. for each house, to be paid for 60 years. A special scale for agricultural workers' houses gives an Exchequer subsidy of £25 10s. per year for 60 years and a rate contribution of £3, to apply to all houses built in areas with a population of low rent-paying capacity and where housing puts an undue burden on the rates. Exchequer assistance may be made to private persons building houses to be owner occupied by or let to agricultural workers, to the extent of £15 a year for 40 years. The Act makes provision for special subsidies for houses and flats on expensive sites, for lifts in flats, and for houses on land liable to subsidence. Additional Exchequer assistance is provided for highly rated areas, and for meeting the excess costs of approved non-traditional houses. Power is given to the Minister of Health to form state-controlled housing associations, and the Scottish housing association is to be reorganised. The scales cover all houses completed in England and Wales since the war, and in certain cases since December 31st, 1939, and in Scotland since March 7th, 1944. The Government has worked out a "national" rent as a general guide; this amounts to 7s. 6d. a week for a three-bedroomed house in a rural area, 10s. in urban areas, and 12s. 6d. in London, excluding rates. The capital value of the proposed subsidy is £594 per house at 60 years' purchase and it is estimated that the annual cost on each 100,000 dwellings will be £2,050,000 to the Exchequer and £615,000 to the rates. These amounts will apply to all houses completed by local authorities by June 30th, 1947, but at the end of 1946 a review of building costs will be started in readiness for reduction or limitation of the amounts if thought expedient.

POWERS OF THE MINISTER OF HEALTH

Although town and country planning in general is now supervised by the Minister of Town and Country Planning, the Minister of Health continues to administer such Acts or sections of Acts of Parliament as relate specifically to the subject of housing.

Chief among these is the *Housing Act 1936*, which consolidated previous Acts and now controls housing conditions and provides facilities for the building of houses by local authorities and by private persons. The Act covers the abatement of overcrowding, in accordance with the standards laid down in the Housing Act 1935; the demolition of unfit houses, including slum dwellings; and the repair, maintenance, and sanitary condition of residential properties of all kinds. It confers on local authorities the power to inspect properties; to requisition repairs in the best interests of tenants and landlords; and to provide accommodation where it is not provided by private enterprise. It also empowers local authorities to assist in the provision of houses for agricultural

workers and authorises Exchequer subsidies for such houses and for houses built for the working classes.

Certain sections of the Housing and Town Planning Act 1919, the Chamberlain Act of 1923, the Housing (Rural Authorities) Act 1931, the Housing Acts of 1914, 1925, 1930 and 1935, and the Small Dwellings Acquisition Acts, 1899 to 1923, have not been repealed by the 1936 Act, and consequently remain in force. Still in force also are the Housing (Rural Workers) Acts of 1926 and 1931, and the *Housing (Rural Workers) Amendment Act 1938*, which authorises grants up to two-thirds of the cost of reconditioning rural cottages, with a maximum of £100 per house, provided that the house is occupied for twenty years, from the time of reconditioning, by an agricultural worker or person of similar economic status; and the *Housing (Financial Provisions) Act 1938* which allows a grant of £10 for forty years in respect of each new house provided for agricultural workers, subject to conditions governing the rent that may be charged.

Some clauses in the Public Health Acts 1875 to 1936, including 108 Sections of the 1875 Act, continue to be applicable in connection with planning in general and housing in particular. Some of these are important, empowering local authorities to make by-laws relating to the level, width and construction of streets, the space round buildings, and the drainage, sanitation and construction of buildings. There are provisions to secure proper entrances and exits, means of escape from fire in buildings more than 20 feet in height, proper lighting and ventilation, sanitary conveniences, the supply at a controlled charge of water, the prevention of the waste of water, the cleansing of verminous premises, the restoration to habitable condition of dilapidated buildings, and the demolition of dangerous buildings.

Recent legislation covering Housing and Water Supply has been described in the previous paragraphs.

REPAIR OF HOUSES

After consultation with the Ministries of Works, Supply and Labour, arrangements have been put in hand by the Ministry of Health to facilitate the release of essential materials and the use of labour for the repair of houses. CIRCULAR 2828A, dealing with the *Repair and Maintenance of Buildings*, was issued on June 25th, 1943, to local authorities. With the object of overcoming difficulties in areas where vital maintenance work cannot be undertaken because of the volume of less essential work being carried out, the scheme provides that a special priority may in certain circumstances be assigned to: (1) Works of maintenance or repair which are the subject of a statutory notice issued by the local authority either under the Housing or Public Health Acts, or (2) works that are otherwise authorised by the local authority as essential to avoid danger to health or grave deterioration of structures. This does not make provision for obtaining additional labour or for the transfer of men from one employer to another.

CIRCULAR 2871, *General Scheme for Repair of Houses, etc.*, was issued on October 11th, 1943. This scheme was designed, after consultation with

the Ministries of Labour and Works, to implement the Government's policy that, after the demands for war purposes have been met, housing should have the first call on immobile building labour. The following categories of work are covered :

(1) Essential work on the further repair of war-damaged houses.
(2) Work in respect of which a local authority issues a statutory notice for the execution of works of maintenance and repair to a house under either the Housing or Public Health Acts.
(3) Works of repair or maintenance which the local authority certifies to be essential to avoid danger to health or grave deterioration of structure.
(4) Works of repair, adaptation or conversion certified by the local authority as essential to bring into use for housing purposes accommodation not at present used for that purpose, so as to relieve an urgent housing need in the district.
(5) Works certified by the local authority as necessary for the completion of partly built houses which the authority is satisfied will be brought into occupation so as to relieve an urgent housing need in the district.

In all cases, works should not exceed £250 per house, or £200 in the case of flats. An appendix contains an explanation of the machinery by which the scheme should operate in relation to finance, authorisation, materials, labour, and form of contract.

CIRCULAR 2885, *Labour for Repair of War Damaged Houses*, was issued on November 8th, 1943. This states that only for the " post-blitz stage," for a period of 14 days, may repair work have overriding priority in labour, after which borrowed labour may be withdrawn by the Ministry of Labour and returned to the sources whence it came. During the first-aid-repairs stage, limited to two months after the completion of the " post-blitz stage," repairs will have WBA priority, but at the end of that time the local authority must dispense with labour from other districts. For subsequent repairs, no automatic priority exists.

CIRCULAR 9144, *General Scheme for Repair of Houses*, was issued on January 29th, 1944. The limits of permitted expenditure for repair, conversion and completion of houses were raised to £500 per house or £400 per tenement, in order that as much work of this nature as possible should be carried out immediately, so that when the time comes there can be maximum concentration on the provision of new houses. In special cases proposals for higher expenditure will be considered by the Minister. This scheme applies to private owners as well as to local authorities.

CIRCULAR 156/45 covered arrangements for the re-building of houses destroyed during the war.

CIRCULAR 203/45, dealing with the repair of war damage to local authorities' property, was circulated by the Minister of Health in December 1945. This accompanied a memorandum prepared by the War Damage Commission regarding the conditions under which the repair of war damage to buildings owned by local authorities should be carried out ; it is not applicable to public utility undertakings or to dwellings.

CIRCULAR 138/45, issued in July 1945, included arrangements for the repair of war damage in excess of £250.

CIRCULAR 231/45 (December 1945) announced certain relaxations of procedure. Local authorities undertaking work of war-damage repair in excess of £250 are no longer required to obtain the prior approval of the War Damage Commission before beginning work. The issue of licences to private owners applying to do work of war-damage repair, which fits in with the local authority's programme, should not be withheld pending consultation and agreement with the War Damage Commission.

CIRCULAR 236/45 deals with the repair of war-damaged houses and other housing works in the London Civil Defence Region. It states that the two main tasks of house repair are : (*a*) The large number of dwellings so heavily damaged as to be uninhabitable ; and (*b*) to finish work of repair to the standard decided by the local authority in accordance with Circular 219/45 on houses which so far have not yet been repaired beyond the emergency standard. Plans for these works must be integrated with plans for adaptation or conversion of large houses for multi-family occupation, for the provision of temporary houses, and for the building of new permanent houses, as well as the re-erection of " cost-of-works " houses totally destroyed. It is suggested that local authorities should draw up a programme for 1946 on a given basis. The regional architects of the Ministry of Health will visit local authorities for informal discussions on a provisional programme for 1946.

Planning Policy

PROGRESS OF PLANNING SCHEMES

In August 1941, schemes had been prepared or were in course of preparation for about 28⅓ million acres of the 37⅓ million acres of England and Wales—rather over three-quarters of the whole. This compares with 9⅓ million acres at April 1st, 1933, when the present Town and Country Planning Act came into force. While only a comparatively small area (1,734,659 acres) is as yet under completed and approved planning schemes, the whole of the rest of the country was brought under planning control by the Town and Country (Interim Development) Act 1943. Of 1,441 authorities with planning power, 1,021 are now members of 179 executive Joint Planning Committees.

THE WAR AND PLANNING POLICY

In recent years the problems of policy in planning administration most discussed by authorities and technical planners have concerned the zoning or reservation of wide stretches of country land from building development ; the control of the external appearance of buildings, and the place of panels of experts in that control ; the application of planning to built-up areas ; and the creation of more effective planning areas by the grouping of authorities into executive joint committees or by the assumption of planning powers by county councils. The war has centred public interest on an issue related to all these, but of special urgency and difficulty—that of the planned redevelopment of heavily-damaged city-

centres and urban areas, particularly in cases where such areas were (as many were) over-concentrated and in need of drastic opening-out and re-arrangement. The Report of the Royal Commission on the Distribution of the Industrial Population (The Barlow Report), published in January 1940, was, by a coincidence, closely relevant to this newly emphasised issue, because it recommended, on long-term social and economic grounds, the decentralisation and dispersal of industry and population from the congested and overgrown cities, the study of methods of promoting new towns and trading estates, and such guidance of the location of industry as will ensure a better balance of industry and population in the various regions of Great Britain.

Appointment of Lord Reith

As an essential means to these ends, the Barlow Commission recommended the setting up of a National Planning Authority. This recommendation came under the serious consideration of the Government later in 1940, and as a result Lord Reith was appointed (on October 11th, 1940) as Minister of Works and Buildings, and was personally charged with the responsibility of studying and reporting to the Cabinet upon the appropraite methods and machinery for dealing with the reconstruction of town and country after the war.

On January 29th, 1941, Lord Reith announced that the Government had accepted a recommendation of the Barlow Commission that the extremely difficult subject of compensation and betterment in planning should be remitted for expert examination. An Expert Committee was accordingly then appointed under the chairmanship of Mr. Justice Uthwatt. (See Section *Officially Appointed Committees.*)

First Statement of Government Policy

A further step was taken by Lord Reith on February 26th, 1941, when he announced the establishment of a Consultative Panel on Physical Reconstruction, to which he said he attached great importance, and the beginning of an examination of the planning problems. He also stated that the Government had accepted these assumptions: (1) That the principle of planning would be accepted as national policy and that some central planning authority would be required; (2) that this authority would proceed on a positive policy for such matters as agriculture, industrial development and transport; and (3) that some services would require treatment on a national basis, some regionally, and some locally. Lord Reith added that the importance of maintaining the character and independence of local authorities was recognised, but that it would probably be necessary to readjust their present functions to enable certain of their powers to be exercised on a wider basis. Immediate work fell into three groups: (1) Preventing, during the war, action which would prejudice reconstruction; (2) research into resources, suitable regional planning units, cost of different types of urban redevelopment, and building methods and materials; (3) examination of existing machinery and legislation required. Reference was made to the valuable criticism and information in the Barlow Report. Planning, said Lord Reith, had hitherto been local. The unordered growth of huge towns had produced

too high a central density and traffic congestion. Buildings had sprawled indiscriminately over the countryside. Procedure was criticised as being too slow. Probably new legislation would be needed ; if so, it would be promoted.

Second Statement of Policy

The (Uthwatt) Committee on Compensation and Betterment, in its Interim Report (Cmd. 6291 of 1941), recommended that March 1939 values of land should be regarded as the " ceiling " value for purposes of public acquisition or control, that a Central Planning Authority should at once be set up and given powers to control all development by reference to national considerations and to prevent any prejudice to reconstruction, and that " reconstruction areas " should be defined, and rebuilding not permitted within them, except under licence from the Central Planning Authority, until reconstruction schemes can be prepared. On July 17th, 1941, Lord Reith announced that the Government had accepted the Committee's recommendations, with certain qualifications (of procedure rather than of principle). The Government had accepted the view that all necessary steps towards the working out of a national plan should be taken as soon as possible, to secure that local development and re-development may proceed in conformity with national requirements with the least possible delay after the war. Lord Reith retained special responsibility for long-term planning policy in the sphere of physical reconstruction, within the framework of the general study of post-war problems then under the charge of Mr. Arthur Greenwood, M.P., Minister without Portfolio. To co-ordinate forward planning with current planning administration, a Council of Ministers was set up—consisting of Lord Reith as Chairman, the Secretary of State for Scotland, and the Minister of Health. The two latter Ministers remained responsible for planning administration pending the creation of the central planning authority in its final form.

In October 1941, Lord Reith, in consultation with Mr. Hudson as Minister of Agriculture, appointed a Committee on Land Utilisation in Rural Areas, under the chairmanship of Lord Justice Scott. (See Section *Officially Appointed Committees.*)

Decision on Central Planning Authority

On February 11th, 1942, Lord Reith announced the Government's definite decision to establish the Central Planning Authority. The Minister of Works and Buildings would become the Minister of Works and Planning, and take over from the Minister of Health the powers of the central government under the Town and Country Planning Acts. The Secretary of State for Scotland was to remain responsible for the exercise of these functions in Scotland. The Minister of Works and Planning and the Secretary of State would be assisted by a Committee of Senior Officials representing the other Departments of State whose work would be affected ; and questions which could not be settled by the Committee would be dealt with by a Committee of Ministers under the Chairmanship of the Minister without Portfolio. The Council of Ministers set up on July 17th, 1941, would be dissolved.

At the same date it was stated that the Government would review, having regard to subsequent developments and experience, the following recommendations of the Barlow Report:

(*a*) Continued and further redevelopment of congested urban areas, where necessary.

(*b*) Decentralisation or dispersal, both of industries and industrial population, from congested areas.

(*c*) Encouragement of a reasonable balance of industrial development, so far as possible, throughout the various divisions or regions of Great Britain, coupled with the appropriate diversification of industry in each division or region throughout the country.

It was added that the Government would study and concert, in the light of the review, the steps that should be taken to reach these objectives. They would seek to avoid measures that would interfere with the overriding aim of the highest possible standard of living; would give due regard to existing capital equipment and public services, and not wantonly countenance the break-up of old and valuable industrial concentrations; and would seek to avoid diversion of "productive agricultural land" to other purposes if "unproductive or less productive land" was available.

Later Developments

Very shortly after this announcement, Lord Reith was succeeded at the Ministry by Lord Portal, and Mr. H. G. Strauss, M.P., was appointed as an additional Parliamentary Secretary to the Ministry, to deal specially with the Ministry's planning functions. Sir William Jowitt, K.C., M.P., was appointed as Paymaster-General, and took over from Mr. Greenwood the general study of post-war problems above referred to.

The Minister of Works and Planning Act 1942, transferring to the Ministry of Works the central planning powers from the Ministry of Health, came into force on July 1st, 1942.

Lord Justice Scott's Committee reported on August 15th, 1942, and the Final Report of Mr. Justice Uthwatt's Committee appeared on September 10th, 1942. (See Section *Officially Appointed Committees.*)

Mr. H. G. Strauss stated in the House of Commons that the Government would carefully study both these Reports before announcing any decision. In reply to a suggestion that prejudicial action might be taken before legislation was introduced, Mr. Strauss stated that legislation would, if necessary, be made to apply to conditions as they existed at the date of the Reports.

On February 4th, 1943, was passed the Minister of Town and Country Planning Act, which established a new Ministry to take over the planning functions of the Ministry of Works and to be concerned solely with planning. The new Minister is known as the Minister of Town and Country Planning; and the appointment of Mr. W. S. Morrison, P.C., M.P., to this post was made on February 6th, 1943. The principal effect of the enactment is to free the Central Planning Authority from the necessity of dealing with matters other than planning pure and simple, without disturbing the present planning policy. The powers under the 1932 Town and Country Planning Act, which had been

vested in the Minister of Works by the 1942 Minister of Works Act, were transferred in their entirety to the Minister of Town and Country Planning as from February 10th, 1943.

On July 22nd, 1943, was passed the Town and Country Planning (Interim Development) Act to bring under planning control from an "operative date" (October 22nd 1943) land which is not subject to a scheme or resolution under the Town and Country Planning Act 1932; to secure more effective control of development pending the coming into operation of planning schemes; and for purposes connected with these matters.

In the House of Commons on March 2nd, 1944, Mr. Morrison gave the following reply to a question raised in regard to the extent to which local authorities were dealing with their planning problems through joint committees in co-terminous areas, and the scope and method of this operation:

"At present 862* out of 1,396 planning authorities are carrying out their planning duties through 158 joint executive committees, and the number of such committees is likely to increase. Any two or more local authorities may be formed into a joint committee, either by their own desire or by an order made by me. A joint committee may have conferred upon it all or any of the planning powers of a local authority except the power to borrow money or to levy a rate. Such a committee will be responsible for the preparation of a scheme covering the areas of the constituent local authorities, and for this purpose will normally employ a planning officer, or consultant, who will be in close touch with my Regional Planning Officer for the area. In the preparation of their scheme a joint committee consults each of the constituent authorities and considers their observations before submitting the scheme to me for approval. In addition to the joint committees referred to, an operative scheme may provide for a joint body specially constituted to enforce or to carry into effect the provisions of the scheme."

Official Circulars and Orders

Circular 1 of the Ministry of Town and Country Planning, dated March 30th, 1943, confirms and endorses Circular No. 1 of the Planning Department of the Ministry of Works and Planning, dated July 21st, 1942, which was addressed to all local authorities and Joint Town and Country Planning Committees in England and Wales, and which called the attention of all such authorities to the Minister of Works and Planning Act 1942. Under that Act the functions hitherto exercised by the Minister of Health under the Town and Country Planning Act 1932, were transferred to the Minister of Works, with the exception of those exercisable under Sections 32, 51 and 55 of the Act. (The new circular points out that the planning functions thus transferred to the Minister of Works are now exercised by the Minister of Town and Country Planning.)

(2) The object of the Government's policy (the original circular states) is to secure the right use of the land of the country for all purposes. The

*Figures revised by Lord Woolton in the House of Lords on September 28th, 1944: 1,021 out of 1,441 planning authorities in 179 executive joint committees.

Minister has accordingly been charged with the task of guiding the formulation by local authorities in England and Wales of town and country planning schemes which will adequately reflect the national policy of urban and rural development. Further legislation will be introduced in due course, in order to improve the present system and to give effect to this wider scope of planning ; but in regard to current administration the orders, circulars and memoranda already issued by the Minister of Health will continue to apply.

(3) In order to facilitate collaboration with local authorities, the Minister will appoint Planning Officers, with headquarters at convenient centres, who will be available to help and advise them. Each of those officers will keep the Minister informed of the problems of the authorities in his area, and will keep the authorities informed of the requirements of national policy as it is developed.

(4) Surveys form the groundwork of planning. Many local authorities and joint committees have already collected and are collecting a good deal of information in maps and reports. The Ministry is itself engaged in assembling the material required to provide a comprehensive view of factors affecting development and conservation in relation to the country as a whole. This information will be made available to local authorities in due course.

(5) The Minister recognises that war has laid many extra burdens upon local authorities and has depleted their staffs. Nevertheless, it is important that they should make as much progress with the work of survey and planning as they can.

When the war began, a number of local authorities and joint planning committees were working on planning schemes, some in an advanced state of preparation. The time, thought and money spent on these should not be wasted, but the schemes will need to be reviewed in the light of changing conditions. Planning authorities should seek to carry their work to the stage of provisional conclusions, though it will generally be impossible during the war to make progress with the formal stages of statutory schemes. Plans should show comprehensively the best practical form of development, whether that development is to be carried out under a planning scheme or otherwise.

(6) Particular attention should be paid to the following matters :

(*a*) The war has shown the importance of agriculture in the life of the nation, and it is essential that careful consideration should be given to the effect of planning proposals on agriculture. Planning authorities should bear in mind the Government's expressed intention to seek to avoid the diversion of productive agricultural land to other purposes if there is less productive land that could reasonably be used for those purposes. The Minister of Agriculture proposes, in due course, to appoint Regional Advisers on Rural Land Utilisation. In the meantime, any information or advice that may be required should be obtained either from the Ministry of Agriculture Headquarters, or from County War Agricultural Executive Committees.

(*b*) The case for large planning units has been increasingly recognised by local authorities. Some of them have already grouped themselves in joint committees and others have relinquished

to county councils their powers to prepare schemes. There are, however, still areas where co-operation is inadequate and the boundaries of some existing combinations could, with advantage, be enlarged or adjusted to form more effective planning units. The Minister hopes that the appropriate method of co-operation will be worked out to the fullest possible extent.

(*c*) Many towns are congested and require replanning. The problem is particularly urgent in the case of towns that have suffered war damage and contain areas which must be reconstructed at the earliest practicable moment. In this connection the provisions of Section 7 of the War Damage Act 1941 should be borne in mind. The existence of provisional plans of reconstruction will greatly assist the Commission in deciding upon the type and extent of the appropriate "specification," and in exercising its powers to impose conditions when making payments.

In dealing with the problem of congestion in the centres of towns, the aim should be to secure adequate room for carrying on such activities as have their proper place at the centre. It will inevitably cause some displacement of other activities for which appropriate provision must accordingly be made elsewhere. As a result, neighbouring authorities may be involved and, if so, they should be taken into conference at an early stage.

(*d*) It is necessary in all planning schemes to consider not only health and convenience, but the future appearance of town or village. Architectural advice is therefore essential. From an early stage, thought must be given to such matters as the practicable size and shape of building blocks, the relation between streets, buildings and open spaces in respect of height and scale, and the appearance of new developments seen in association with, or as a contrast to, the old.

The value of architectural advice taken at an early stage will amply prove itself when rebuilding takes place; and no planning scheme can be regarded as satisfactory which does not provide opportunities for good building in every area in which building is contemplated.

(7) Planning and reconstruction of town and country are matters of immense importance to the well-being of the nation. If they are to be well done, early thought must be given to the many problems involved. In this great task the Minister intends to collaborate with local authorities, and is confident that he can rely on their cordial co-operation and support.

CIRCULAR 2 is concerned with the Town and Country Planning Act 1943, and is dated August 11th, 1943.

Attention is drawn to the main features of the Act, so far as it affects local authorities, who are informed that the Ministry will send out memoranda explaining the combined effects of the 1932 and 1943 Acts, describing the amount of survey and other work essential for the exercise of planning control during the war, and suggesting the best use of available technical staff under wartime conditions.

The circular states that "the preparation of local planning schemes must be primarily the responsibility of the appropriate local authorities,

normally acting together in suitable groups." The Minister's powers in relation to interim development applications have been increased in order that these schemes should be viewed in perspective ; and in exercise of those powers the Minister's object will be to ensure that suitable provision is made in local schemes for matters of other than local importance, and that no planning authority should prejudice the interest of its own or adjoining districts.

The Minister is stated to have arranged for a review of those areas in which local authorities have not formed or joined joint planning committees, and where voluntary arrangements are not made he will arrange for suitable forms of co-operation.

CIRCULAR 3 is accompanied by Memorandum A, which contains general notes on planning schemes and comments on the 1932 and 1943 Acts. In general, it is stated that interim development control is deemed to exist as from October 22nd, 1943, in all areas where it has not hitherto applied, and that a new interim development order will be made. The Model Clauses issued by the Ministry of Health in 1939 are to be sent to each authority newly concerned with planning, while copies of the Town and Country Planning (Additional) Regulations 1943 are to be sent to all local authorities. Comments on the two Acts consist in an examination of the 1932 Act, in relation to the 1943 Act, and deal with the scope of planning schemes, local authority definition for the purpose of the Act, joint committees, schemes, interim development, supplementary orders, general development orders, compensation and betterment, acquisition of land, powers of public departments to make agreements in connection with schemes, power of authorities and owners to enter into agreement restricting the use of land, acquisition of land for garden cities, powers of the Minister, regulations as to procedure, local inquiries, appeals to quarter sessions, statutory undertakers, consultations with the Commissioner of Works, land in the neighbourhood of royal palaces and parks, works below highwater mark, saving for the Postmaster-General, the preservation of trees and woodland, advertisements, expenses and borrowing by local authorities, transitional provisions and interpretation.

CIRCULAR 4, dated October 26th, 1943, deals with the Local Land Charges (Amendment) Rules, 1943. These are stated to be in draft, and will amend the Local Land Charges Rules 1934. They will provide that where a resolution to prepare a scheme has been passed by a planing authority, an entry shall be made in Part III of the Register ; this will contain particulars of the land concerned, a statement by the clerk of the authority or chairman or secretary of the joint committee, that such a resolution has been deemed to have taken effect, notice of the place at which inspection may be made of the particulars, the map and statement, and the date of registration. The Rules will also provide for entry in Part III of the Register of a certified copy of any order prohibiting the use of land or buildings made under the 1932 or 1943 Acts, and a certified copy of the order and of the instrument signifying the Minister's approval of an order for interim preservation of trees under Section 8 of the 1943 Act.

Circulars 5 and 6 were issued on November 3rd, 1943.

CIRCULAR 5 describes the survey and other work essential for the

proper exercise of planning control during the war. It deals only in the broadest outline with many matters of importance, under the following headings :

> *Outline Proposals :* (*a*) General Considerations ; (*b*) Rural Areas ; and (*c*) Urban Areas, which is sub-divided into : (1) Communications ; (2) Residential Areas ; (3) Shopping and Business ; (4) Industry ; and (5) Open Spaces.

It is pointed out that the amount of work which can be done depends on the staff available, but it is suggested that, at the least, outline plans should be prepared for guidance in future development.

CIRCULAR 6 deals with the use of technical staff. The following four alternative suggestions are made to local authorities who find it necessary to make further provision to deal with planning :

(1) The appointment of a planning officer.
(2) The appointment of a planning consultant.
(3) The part-time use of a planning officer lent by a neighbouring authority.
(4) Temporary surveillance by a group of technical officers.

It is stated that local authorities should seek the advice of the Minister's Regional Planning Officer when deciding which of the four methods to adopt.

CIRCULAR 7 was issued on March 3rd, 1944, and refers to the Ministry of Health Circular 14/44 dealing with the Advance Preparation of Housing Sites. This stresses the Minister's desire that his Regional Officers should give all possible assistance to local authorities and planning authorities in connection with urgent housing programmes. It is stated that the housing authority should notify the regional planning officer as well as the planning authority of housing proposals, including the advance preparation of housing sites. The housing authority will no longer be required to consult the County War Agricultural Executive Committee, but will notify the R.P.O. of sites to be acquired or which they own and have not yet submitted to the County War Agricultural Executive Committee for consideration ; the Regional Planning Officer will effect the necessary consultation with the Rural Land Utilisation Officer of the Ministry of Agriculture, and will also, where necessary, obtain views of the Divisional Road Engineer of the Ministry of War Transport and the Regional Transport Commissioner, and will convey any appropriate comments to the housing and planning authorities.

CIRCULAR 8, issued on March 28th, 1944, accompanied a copy of the Town and Country Planning Additional Regulations, 1944, which supersede the provisional Town and Country Planning Additional Regulations, 1943.

The chief modifications are : that a notice relating to an application made by an agent, acting on behalf of the applicant, may be served on the agent at his place of business ; and that the interim development authority should furnish the Minister with a copy of every advertisement published under the provisions of Article 6 (3) of the Regulations [Article 6 (5)]. An additional copy of the order submitted to the Minister under Article 6 (2) of the Regulations, and of any map, should be furnished to the Ministry of Supply (Timber Control).

TOWN AND COUNTRY PLANNING (GENERAL INTERIM DEVELOPMENT) ORDER 1944

This order was published in draft form on July 4th, 1944.

Authorities empowered to grant permission for the development of land to which the order applies are defined.

The following classes of development may be undertaken without permission from the interim development authority :

(1) Development authorised by an act or approved order which specifically designates the land on which the development may be carried out, except the erection, alteration or extension of buildings.
(2) Development by a local authority or statutory undertaker, which has already been sanctioned by a Government department.
(3) Rebuilding, restoration or replacement of war-damaged buildings or plant, except where certain alterations are involved.
(4) Alterations to existing buildings except where their exterior appearance or use is affected.
(5) Development of any description specified in Part I of the schedule to this order, *i.e.*, certain types of development by railway undertakers ; dock or harbour undertakers ; canal or inland navigation undertakers ; electricity, gas, water or hydraulic power undertakers ; mining undertakers ; drainage, sewerage and General Lighthouse authorities.

Certain development may be excluded from permitted development in particular areas or particular cases if considered expedient, except in certain specified categories.

Restrictions are placed on the refusal of permission to develop (except where it occurs in an area where certain developments may be excluded) : (*a*) To persons having statutory powers, except on grounds of injury to the amenity of the neighbourhood, or that the building ought to be situated elsewhere ; (*b*) relating to works for making good war damage, except on grounds of amenity, conflict with the provisions in a scheme for termination of building, or regulations concerning the use of land or buildings ; (*c*) relating to buildings by mining undertakers, etc., except on grounds of amenity or that the building ought to be situated elsewhere.

The machinery for applications for permission is described, and supplementary provisions are made in respect of the London County Council, powers of the Minister to take action on behalf of the interim development authority, cancellation and variation of directions, and service of notices.

This will have the effect of revoking the Town and Country Planning (General Interim Development) Order 1933, and all special interim development orders made under Section 10 of the Act, but without prejudice to any permissions to develop previously granted.

CIRCULAR 9, issued in November 1944, accompanied a copy of the Town and Country Planning (Development by Authorities) Regulations 1944. These dispense with the necessity for the Minister's consent

in relation to development carried out by local authorities over a period of six months, while precise determination is made of the classes of development to which this should apply.

The Town and Country Planning (Development by Authorities) Regulations 1945, issued in May 1945, state that the consent of the Minister is not required under section 32 of the Act in respect of any development specified in Part I of the Schedule to the Regulations (e.g. development permitted by a General Interim Development Order, buildings incidental to dwelling houses, telephone boxes, sewage disposal plants). The consent of the Minister will not be required in respect of any development other than aerodromes, electricity generating stations, gas holders, gas works and water towers, unless notice requiring an application for consent has been given to the authority. The authority must notify the Minister of their intention to carry out such development.

CIRCULAR 10, issued in February 1945, accompanied a copy of Provisional Town and Country Planning Amendment Regulations 1945, which make two minor changes in procedure for the advertisement of and submission to the Minister of an order with respect to any building of special architectural or historic interest.

CIRCULAR 11, issued in April 1945, accompanied the Memorandum explaining the provisions of the Town and Country Planning Act 1944. The Memorandum describes the general provisions of the Act, the primary purposes of which are stated to be : (*a*) To confer on local planning authorities power to purchase land compulsorily under a simpler and more expeditious procedure, particularly for the redevelopment of areas of extensive war damage, and areas of obsolete development and bad layout, and for the development of new " over-spill " areas ; (*b*) to enable local planning authorities to develop or dispose of land acquired under the Act for private development ; (*c*) to provide Exchequer assistance towards the redevelopment of blitzed and associated overspill areas ; (*d*) to fix the price paid on the public acquisition of land during a period of five years from the passing of the Act by reference to 1939 prices. Other provisions are aimed at development or redevelopment in accordance with sound planning, and a section allows statutory undertakers to acquire land and carry out works for the purposes of the Act. The Memorandum contains general notes on powers of purchase, compulsory purchase procedure, disposal of land, appropriation of land, development by local planning authorities, interference with easements etc., Exchequer grants, statutory undertakers, highways, changes in the Planning Code, and preservation of buildings of special architectural or historical interest. A large part of the pamphlet contains notes on sections of the Act, and appendices deal with authorities empowered to purchase and formal procedure for purchase. A separate communication dealing with the compensations provisions is issued to local authorities.

CIRCULAR 12, issued in April 1945, deals with the acquisition of land in war-damaged areas and in associated " overspill " areas. It is stated that the object of the Town and Country Planning Act 1944 is that land acquired should be redeveloped in such a way that a comprehensive pattern of redevelopment, properly related to the planning of the surrounding area, eventually results. The Minister will require, at some

stage before the land is disposed of or appropriated, the submission of a plan showing how the land acquired under the Act in an area of extensive war damage, and in an associated overspill area is to be laid out and redeveloped as a whole. The circular outlines and comments on the procedure in regard to the acquisition of land. It states that the authority should consider from the outset what provision is needed to relocate population and industry, and notes the need for more consultation between the Promoting Authority and the Area Authority and the Minister's Officers, so as to secure the successful creation of a new community or the planned expansion of an existing one, without upsetting the proper balance of town and country through suburban encroachment. The need for early consultation with statutory undertakers and with other local bodies such as joint planning committees, highway authorities, as well as with Government departments, is noted. An appendix gives details of information which should accompany an application for an order under the Act.

CIRCULAR 13, issued in April 1945, accompanied the Town and Country Planning (General Interim Development) Order 1945, and explanatory memorandum and a copy of Form T. & C.P.6 (Revised) (Specimen Forms of Permission and Refusal of Permission). The Order, which came into force on May 1st, provides a system of control which will safeguard the essential objects of planning with the minimum of delay and inconvenience to those desiring to carry out development. Owing to the present abnormal and rapidly changing circumstances, its period of operation is limited until the date when the Emergency Powers (Defence) Act 1939 expires, when a new Order will be made. The main differences from the Order of 1933 are defined. Both Orders specify the Interim Development Authority, confer direct permission for development of certain types, restrict the power of the Interim Development Authority to refuse permission for development of certain types, and regulate the form and method of making and granting applications for permission.

The most important changes, relating to direct permission for development of certain types, are that : (*a*) Types of permitted development include making good war damage, development by certain statutory undertakers and mining undertakers and development by a local authority or statutory undertaker that has been sanctioned before the commencement of the Order by any Government Department ; (*b*) certain types of building are excepted from permission for development carried out under statutory powers on " designated land " ; (*c*) the new Order contains two new provisions under which the automatic permission may be excluded either as respects a particular area or in any particular case. Other changes are that this Order does not restrict the power of the Interim Development Authority to deal with applications relating to existing buildings, buildings appurtenant to dwelling houses and private sports grounds ; new restrictions are imposed on the power of the Interim Development Authority to refuse permission or impose conditions on development by a statutory undertaker on " designated land ", restoration of war damage, and mining buildings ; a new procedure is provided in the case when a local authority or statutory undertaker desires permission for development which requires Government sanction, and when

a person desires permission for development which has been certified by a Government Department to be essential to the war effort.

The Order applies to all land in England and Wales other than land which is subject to an approved planning scheme.

CIRCULAR 14, issued April 1945, accompanied the Town and Country Planning General (Interim Development) Direction 1945, which states that certain applications for permission to develop land under section 10 of the Town and Country Planning Act 1932 made to an Interim Development Authority after 1st May, 1945 should be referred to the Minister for decision.

CIRCULAR 15, issued in August 1945, accompanied the Compulsory Purchase (Contemporaneous Procedure) Regulations 1945. These enable a local planning authority to save time in the process of acquiring land for reconstruction of war damaged areas, and CIRCULAR 16, issued in August 1945, accompanied the Particulars and Form of Orders and Notices Regulations 1945, to be used by local authorities in connection with Declaratory and Compulsory Purchase Orders to be made or authorised under the Act.

CIRCULAR 17, issued in May 1945, accompanied a copy of the Town and Country Planning (Development by Authorities) Regulations, which came into operation on 18th May, 1945. The effect of the Regulations is that development which is subject to the provisions of section 32 of the Town and Country Planning Act 1944 will fall into three categories, namely development for which the Minister's consent will not be required (permitted development in an area in which interim development control is in operation), development for which the Minister's consent is required in every case (e.g. aerodromes, electricity generating stations etc.), and all other development, requiring the Minister's consent only if he gives written notice to that effect. The Minister's aim will be to exercise control only in cases where the development is likely to be seriously objectionable.

CIRCULAR 18, issued in October 1945, deals with the sale of land for building purposes. To minimise hardship which may result from ill-considered purchases of small building lots on which building cannot be permitted, the Minister is arranging for the issue of a public announcement warning prospective purchasers to ascertain the planning position from the local authority.

CIRCULAR 19, issued in November 1945, accompanied the Town and Country Planning (General Interim Development) Varying Order 1945, which gives general permission for the erection on land already held for educational purposes of certain temporary huts required in connection with the raising of the compulsory school age and for the alteration of existing school buildings in that connection.

CIRCULAR 20, issued in January 1946, accompanied the Town and Country Planning Amendment Regulations (No. 2) 1945 and the Town and Country Planning (General Transitional) Amendment Order 1945. The effect of these is to extend for three years the period for the completion of certain formal stages of planning schemes, which are the subject of resolutions passed on or before 1st January, 1946. The period for making

a resolution to prepare and adopt a draft scheme is extended to October 1948 in the case of local authorities with land which is the subject of a resolution to prepare a scheme under section 1 of the Town and Country Planning (Interim Development) Act 1943.

HOUSING

The Coalition Government announced its policy to build three to four million houses in the first ten to twelve years after building is resumed, with a target of three hundred thousand houses in the first two years, The Minister of Health later invited local authorities to prepare schemes for the first year, and advised them to base their short-term programmes on their annual output of houses before the war. The programme involves the replacement of slum dwellings and of dwellings in a poor condition or deficient in modern amenities. Government policy is aimed at the preparation of sites with the utmost economy and speed during the war, so that building may start without delay when circumstances permit ; with this end in view, the Local Authority Group Scheme has been arranged, to secure the maximum saving in cost and labour. The scheme, however, is a voluntary one, and has the object of turning over the labour and organisation which have been employed on airfield and similar construction work, while it applies only to the preparation of sites and not to building operations. The Minister of Health has announced that 73 groups have been formed in England and Wales, comprising over 500 authorities. Meanwhile, at the request of and in consultation with the Ministry of Health, the Institute of Municipal and County Engineers has prepared model specifications for concrete roads, for issue to local authorities as a general guide to engineers supervising the preparation of sites.

With reference to rural houses, certain recommendations contained in the Third Report of the Rural Housing Sub-Committee have been adopted. The Minister of Health asked local authorities to co-operate in establishing the joint county committees on rural housing, and to proceed as soon as circumstances permit with the survey of rural housing conditions. The financial recommendations, as to the nature and amount of Exchequer subsidies, are under consideration in the consultations that are proceeding with the associations of local authorities. Amendment of the Housing (Rural Workers) Acts, on the lines recommended, will be submitted to Parliament in due course.

As for the promised 3,000 rural houses, the Minister of Health announced in June 1944 that approximately eighty per cent. of the building work involved in the construction of 2,838 houses, for which tenders had been approved, had been done ; that 1,534 of those houses were completed, and 1,111 occupied. The average estimated all-in cost was £925 for a non-parlour house and £1,010 for parlour houses. According to information available in May 1944, on average, labour represented 42 per cent. and material 58 per cent. of the costs. It was also stated that a simplified procedure for the purchase of land had been devised, on the lines recommended by the Rural Housing Sub-Committee.

In June 1944 it was stated that the Government was investigating the possibilities of converting such of the industrial hostels as may be released,

into dwellings to meet some part of the immediate post-war needs. A typical hostel has already been partly converted in order to show what can be done.

With reference to the Report on Private Enterprise Housing, the Government has decided to accept the recommendations that Exchequer subsidy should be provided for houses built by private enterprise during the early post-war period, subject to conditions as to size, construction, selling price and rent. The administration of the scheme should be in the hands of local authorities, and the necessary legislation has been introduced to Parliament. Representatives of local authorities are being invited to confer with the Minister regarding the necessary administrative arrangements. The Government also accepts the recommendation to reconsider the present limit of £800 fixed under the Small Dwellings (Acquisition) Acts and Section 91 of the Housing Act 1936, for the purpose of advances. The Government is also prepared to accept the proposal for the development of a scheme on the lines of the National House Builders Registration Council for securing the maintenance of good standards of building.

In June 1944, Mr. Johnstone stated that Scotland had been able to complete 32,000 dwellings started before the war. The balance of available labour has been devoted to the restoration of over 75,000 war-damaged houses, while arrangements have been made for starting 2,000 new houses in specially badly hit areas. There will be, not immediately, some augmentation of the housing programme, through the provision of steel houses ; and the Secretary of State for Scotland hopes to get 100,000 temporary houses for Scotland. As for long-term permanent houses, Scotland has secured £500,000 of the three to four millions announced in the House of Commons, and hopes to get twenty to twenty-four thousand out of the two hundred thousand dilutees in the building trades proposed for Great Britain ; this would give an increase of building personnel by approximately 20 per cent.

A scheme was framed in October 1943, to carry out essential works of repair, adaptation and conversion. Consideration is being given to the possibility of converting wartime hostels and buildings for dwelling purposes.

Emergency Houses

Mr. Attlee stated in the House of Commons on July 19th, 1944: "The Government have reviewed the potential building capacity of the country, and have come to the conclusion that it will not be possible, for some years, to build enough permanent houses to meet the urgent demands for separate homes. We shall, therefore, need, in addition, emergency factory-made houses. The Government have approved the model of such a house, prepared by the Minister of Works, and are planning for large-scale production as soon as the necessary industrial capacity can be released from the war effort. The emergency houses will be purchased by the Government, and will be made available to local authorities to supplement their ordinary housing programmes. In the meantime, the Minister of Health and the Secretary of State for Scotland are opening discussions with local authorities on the preliminary arrangements to be made."

The production of these houses is in the hands of the Minister of Works, and the Prime Minister announced in a broadcast that the Government hopes to maufacture up to half a million prefabricated houses. It is anticipated that 100,000 will be produced in the first year after the end of the European War.

The Ministry of Works prepared a prototype, the "Portal House," and a subsequent model embodying some of the suggested improvements has been named the "Churchill House." Other proposals which are made for new types of houses are referred to the Burt Committee on House Construction. The Minister of Works is aiming at a figure of £600 per house delivered and erected; this cost is analysed:

£100—erection costs, including drains and services.
£100—built-in cupboards and kitchen unit.
£175—steel in carcase, roof, ceiling, walls, partitions, floor supports and shed.
£225—linings, insulation, wood floor, paint and other fittings.

Further details were given by Mr. Willink in the House of Commons on August 1st, 1944: "The bungalow is sub-standard in external appearance. This can be mitigated by a judicious variation of colour, and, in course of time, by climbing plants. But in its structure and design, the bungalow is sub-standard in two respects only. The first is this: the normal minimum height of rooms under most building by-laws is eight feet; the height of the rooms in the bungalow is seven feet six inches. But on this point the House can feel absolutely assured that the ventilation is so arranged that there is no ground for any anxiety whatever on any question of health. . . . In the second place the actual area of the bungalow, if one excludes the detached outdoor shed, is 616 square feet, as compared with the range of 800 to 900 square feet which we contemplate for the normal permanent family house, but one has to remember that there is no staircase, and that there are two bedrooms instead of three. Both the living-room and the two bedrooms are very close in size, taken room by room, to the sizes which will be recommended for the permanent houses and which are recommended by the Dudley Committee. The accommodation of the bungalow consists of a living-room, kitchen, two bedrooms, bathroom, separate w.c. and a detached outdoor shed. . . . There will be at least five firms—there may well be more—which will take part in the production of this bungalow. Two of these firms will provide the bulk of the carcases and the partitions. Then there will be a number of contractors for the fittings, the kitchen unit and the built-in cupboards."

Permanent Housing

It was announced in the House of Commons in February 1945, that the Government had decided, in the interests of economy and town plonning, to change over as soon as practicable to the construction of permanent houses which would be built on normal sites. Manufacturers of temporary houses were asked not to enter into any further long-term commitments beyond what would be needed for the next nine to twelve months' production, but the Government would press forward with the manufacture of temporary bungalows until the permanent housebuilding programme could be got well under way.

The *White Paper on Housing*, presented by the Minister of Reconstruction in March 1945, stated the objectives of the Government's housing policy and the organisation for carrying it into effect, and provided a summary statement of action taken to that date. The Government's first objective was stated to be to afford a separate dwelling for every family which desires to have one, for which purpose the estimated requirements were 750,000 dwellings. The second objective is to provide for the rapid completion of the slum clearance and overcrowding programmes in progress before the war, requiring a further half million houses. The long-term objective is to secure a progressive improvement in the conditions of housing in respect both of standards of accommodation and of equipment, by a continuous programme of new building, which must include provision year by year for any increase in the number of separate families, the needs which arise out of redistribution of the population, and the replacement of obsolescent houses.

It was proposed to treat the first two years after the end of hostilities in Europe as a period of national emergency, when the primary aim of the Government would be to produce the largest practicable number of separate dwellings. The programme for this period includes the increase of the labour force in the building industry to 800,000 by the end of the first year after the German war, and thereafter to increase it up to and beyond the pre-war total of one million men. Maximum use would be made of house building resources by employing new methods of construction, standardisation and by the use of labour and industrial capacity normally outside the building industry. First-aid repair of war damage would continue to receive the highest priority and a special survey was being made by the War Damage Commission of seriously damaged, unoccupiable houses, with a view to framing a programme of repair. The programme of permanent houses includes provision for the replacement of totally destroyed houses which attract a cost of works payment, and it was estimated that about 220,000 houses would be completed at the end of the second year, with 80,000 in varying stages of erection, while experiments were being made in the use of non-traditional methods of construction. Local housing authorities would be encouraged to provide " Duplex " flats, and the programme includes the conversion of large houses and hostels into flats and the reinstatement of derequisitioned houses. The production of temporary houses would continue long enough to meet the allocations of 145,000 made to local authorities. Standardisation of materials and fitments would facilitate the timing of the programme so that there would be no delay due to shortage of essential parts. To check a rise in prices, the Government would control the volume of contracts let by local authorities, the building and repair work done on private account, and the prices of materials, standard components and fitments. Subsidies would be provided for house building both by local authorities and by private enterprise.

Preliminary work includes the repair of war damage. With reference to new construction, the Government has taken steps to push forward preliminary work in connection with the allocation of temporary houses, preparation of permanent sites, preparation of layouts for permanent houses, preparation of temporary sites, standardisation of materials and fitments, and new building and reconditioning in rural areas.

It was stated that the execution of this programme depended upon collaboration between private industry and public authority, and an outline was given of the organisation. Local housing authorities were stated to be responsible for determining, with the approval of the Government, the number and type of houses they would build in their areas, and for preparing sites, erecting permanent houses, selecting tenants, fixing rents and managing housing estates. In Scotland, in addition, the Scottish Special Housing Association would operate in areas where housing needs are greatest. Central responsibility rests with the Ministers of Health and Works for England and Wales, and the Department of Health for Scotland and the Ministry of Works for Scotland. The Health Departments would determine and co-ordinate demand, being responsible for housing policy as part of their responsibility for public health ; they determine the standards of accommodation in new houses and the standards of fitness and density of occupation which can continue to be accepted in existing houses ; they supervise the housing functions of local authorities and sanction their building proposals, including the acquisition and preparation of sites for both permanent and temporary houses, and formulate proposals for assistance for housebuilding. The functions of the Ministry of Works are to ensure that materials, components and fittings required for the programme will be forthcoming at the right time and at reasonable prices, to advise on questions affecting the building industry such as registration of builders and training of apprentices and allocation of labour and licensing of building work ; and to be responsible for the production, distribution and erection of the temporary houses. Other Departments which play a part are the Ministry of Town and Country Planning (in Scotland the Department of Health) which assists in the choice of sites, the layout of housing estates and general questions affecting the use of land and the planned distribution of communities ; the Ministry of Labour and National Service which regulates the supply of labour ; and the Minister of Reconstruction who ensures that all parts of the plans for post-war housing are co-ordinated with the Government's reconstruction programme.

The Minister of Health sent a message to all local authorities in England and Wales in October 1945, stating that all local authorities should aim at having their first instalment of permanent houses under construction before the autumn. He cancelled the condition that tenders should only be invited after roads and sewers were finished, and stated that when satisfactory prices had been secured for the first instalment of the post-war programme, he would consider proposals for a further instalment. Land should be acquired in advance for this programme, and each authority should aim at a continuous flow of houses on an expanding programme. He also cancelled the condition that land for the first two years' programme only should be bought. Large sites should be in preparation in good time so that layout may be planned in accordance with community requirements.

The Minister also stated in October 1945 that the Government would rely mainly on local authorities to solve the problem of building 4 million to 5 million houses. To aid a speed up in procedure, he was trying to secure the release of technical staffs from the Forces, and he stated that the Government intended to introduce additional powers of land acquisition.

With reference to prices, the Minister stated his intention of keeping down prices of contractors' and of building materials. Chief reliance would be placed on the construction of houses to rent.*

Local authorities have been given powers of issuing licences from 1st August to 31st December, for the building of new houses by private enterprise (subject to certain limitations), preparation of sites for new houses or the rebuilding of " cost of works " houses. On works costing more than £100 work must begin within two months of the granting of the licence.

The Minister of Health has reviewed the standards to be adopted by local authorities in the planning of houses. The *Housing Manual*, prepared by the Ministry of Health and the Ministry of Works, was issued in 1944 to give technical guidance to local authorities on the layout, construction and equipment of permanent houses to be built in the first two years after the end of hostilities in Europe. In the main, standards recommended are those suggested in the Dudley Report (*Report of the Design of Dwellings Sub-Committee of the Central Housing Advisory Committee*). The manual covers in detail site planning and layout, following advice given by the Ministry of Town and Country Planning, while the Ministry of Fuel and Power advised on fuel and appliances. Consideration is given to the plans of houses, flats, and the case of special occupants such as old people, rural workers and single persons. Efficiency in building, new materials and services and equipment are analysed in detail. The recommendations of the Burt Committee (*Report of the Committee on House Construction, Ministry of Works Post-War Building Studies No. 1*) formed the Manual's technical advice. A separate volume containing Technical Appendices was published. In November 1945 the Minister of Health announced higher standards in respect of floor space (900 to 950 square feet instead of 800 to 900 square feet for a three-bedroom house for five persons), and recommended a second water-closet on the ground floor for three-bedroom and larger houses.

In Circular 200/45 (November 1945) it was stated that every effort must be made to reduce the high cost of building, by reductions in the cost of materials and increased efficiency and output. It was stated that contracts to be let should be limited to such number of houses as it was estimated could be completed in nine to twelve months, while local authorities should invite tenders and retest the market at frequent intervals. Tenders should be sought in the normal way by open competition. The Minister emphasised the need to make an early start with an instalment of the housing programme of each local authority. Any authority still held up by lack of technical staff should take advantage of arrangements for securing the services of firms and persons who can give professional assistance (Circular 119/45). The Minister intended to withhold approval to tenders which he considered too high in relation to the present normal level.

In January 1945 the Ministry of Labour and National Service issued the preliminary draft of a new code of Building (Safety, Health and Welfare) Regulations, under the Factories Act 1937, which were intended to be enforced during the period of reconstruction.

* The Minister has since stated that the number of houses built by local authorities for renting should exceed the number by private enterprise for sale by four to one.

The Ministry of Health Circular 205/45 (November 1945) stated the need for economy in the use of timber which is in short supply. Except as regards softwood for multiple tenement flats, maximum amounts of timber to be allowed for new dwellings erected by local authorities are stated. The items made of steel and cast iron, for which authorisation on Form " M " are required, are listed.

The standards of building materials and components which should be used are described in the *Housing Manual 1944* and the British Standards for Building Materials and Components (*British Standards Handbook No. 3* and *Supplement*). Owing to the supply position, however, a complete change from non-standard to standard products could not be made, according to the Ministry of Health Circular 211/45, and the obligation to conform to prescribed standards was limited to materials and components for which standardised products were already in production or could readily be brought into production, of which a list was given. In all future schemes, it would be compulsory for local authorities to conform to the listed standards, which would be extended from time to time.

The depots of the Ministry of Works Regional Disposals Office were stated to contain surplus stocks of building materials and components such as baths, sinks, etc., available for disposal to local authorities for housing purposes.

With regard to the labour force, in June 1945 the Minister of Labour and National Service organised the registration of former workers in the building and civil engineering industries, with a view to their return. The Minister of Works stated that the Government planned to double the strength of the building industry up to 800,000 by May 1946. The Government proposed, by means of licensing, to encourage the building by private persons of houses of which the selling price would be not more than £1,200.*

The Minister of Health made his first monthly progress report, up to 31st January, 1946, in the form of a White Paper issued in February 1946. This stated that a total of 1,909 permanent houses were completed on new sites, of which 352 were done by local authorities and 1,116 by private builders, and that a total of 12,025 temporary houses were completed in England and Wales. A total of 38,091 houses were under construction, of which 13,600 were temporary. Licences were issued to private builders to cover 28,260 permanent houses, and tenders had been approved by local authorities for 45,294 houses. In Scotland, 2,286 houses were completed, 9,307 under construction, 14,853 tenders approved, and 451 licences issued. The building labour force employed on building or repair was 404,100 in England and Wales and 31,300 in Scotland. The total number of families rehoused in the ten months ending 31st January was 113,057. Between May and December 22,700 flats and small dwellings were released by Government Departments. An appendix will be published to show details for each housing authority. It is anticipated that by April almost all local authorities will be under

* In March 1946 the Minister of Health announced that the figure of £1,200 might be raised in cases where the developed cost of a site was excessive, to avoid the construction of bad houses on expensive sites.

tender at reasonable prices for the first batch of permanent houses. Prefabricated permanent houses are expected in substantial numbers by mid-1946, and local authorities are encouraged to prepare sites for these.

With reference to derequisitioning, the Minister of Works announced in February 1946 that 54,925 premises were released during 1945, 41,827 being held at the end of the year ; this included 72 per cent. of the small houses and inexpensive flats. He stated that the general policy was to give priority of release to residential accommodation suitable for use in relieving the housing shortage.

With reference to conversion of premises, Defence Regulation 68CA, issued in October 1945, restricts the conversion of housing accommodation to use for non-residential purposes, which may only be done with the consent of the local housing authority, if the premises were used for residential purposes at any time since 31st December, 1938. A scale of Architects' fees for the conversion of houses into flats was published in December 1945, by the Royal Institute of British Architects, after discussion with the Ministry of Health, for adoption by local authorities. Scales of fees for the repair of war-damage to houses have also been issued (Circular 2720).

Local authorities have been given powers to requisition premises for " evacuees", " homeless " and persons " inadequately housed". Occupiers of requisitioned premises are required to pay an appropriate rent, save in cases of serious financial hardship. Where authorities were not making recovery on the basis laid down by the Minister of Health in accordance with statutory regulations, local authorities were asked to review the basis of assessment in October 1945. Authorities were also asked to prepare quarterly returns of requisitioning statistics.

New requisitioning procedure was adopted by the Government in July 1945, to provide for homeless families. Local authorities were empowered to requisition empty houses, without reference to the central department, subject to posting on the premises a notice of requisition for fourteen days, and sending a similar notice to the owner or his agent.

In November 1945 the Minister of Health asked persons with spare accommodation to make it available voluntarily to ease the acute housing shortage. Powers of requisitioning could be introduced if necessary. Local authorities were instructed to make an appeal to householders in their districts. Defence Regulation 68CB empowers housing authorities to provide and install cooking fittings in accommodation which is so offered ; the Department can provide a small number of oil cooking stoves to local authorities for this purpose. The Regulation provides for the waiving of any enactment, etc., preventing the arrangements, and that the letting of the accommodation would fall outside the operation of the Rent Restriction Acts. Every local authority must keep a register of the accommodation made available.

In October 1945 it was stated in the House of Commons that housing policy, subject to the Cabinet, should rest with the Minister of Health and the Secretary of State for Scotland ; that planning should remain as at present, and that the Minister of Works should be the supply department for the building industry as a whole. The Minister of Works would be responsible for the prefabricated and temporary houses. (Covered by Act of 1945).

A memorandum for the guidance of local authorities was published by the Ministers of Health and Works in November 1944, to give assistance as to the lines on which proposals to provide temporary accommodation should be framed. In an introduction it is pointed out that temporary accommodation should be considered in relation to the whole housing programme of the authority and should not be allowed to interfere with the permanent housing scheme. Reference is made to the Housing (Temporary Accommodation) Act, which contains the statutory provisions necessary to give effect to the temporary programme. The houses will be provided and owned by the Government, but erected on sites acquired and developed by the local authority, which would also choose the tenants, fix and receive the rents, manage the property and keep it in repair. A description is given of the provisions of the Act. The types of accommodation so far approved by the Government are stated to be the Pressed Steel house, the Arcon Mark V house, the Uni-Seco house and the Tarran house, of which technical descriptions are included in the appendix. Contracts for the erection of the bungalows are to be placed and supervised by the Minister of Works, while the local authority would provide the site, construct roads and sewers, and provide the other main services. Full details are given as to the respective responsibilities of the local authority and the Minister of Works. The bungalows may be built on sites which would ultimately be used for the erection of permanent houses ; parts of housing sites not required for actual permanent structures (e.g. part of an open space) ; land intended for ultimate use for some other purpose than housing (including sites in devastated areas) ; or undeveloped land such as marginal strips of agricultural land adjacent to existing housing or wartime sites which might be relinquished by the Services. Sites for bungalows should be sufficient where possible for not less than 100, or 50 in the case of authorities with smaller programmes, but a number of smaller sites in close proximity to one another might be included. The Memorandum includes in an appendix a prescribed form of notice to be used in connection with the speedier process for acquisition of land provided for in the Act. It is stated that land likely to be required for the bungalows should be acquired immediately ; sites should be agreed with the local planning authority and the Regional Planning Officer, and then submitted to the Senior Regional Officer of the Ministry of Health. It is estimated that preparation of the layout and work of development of the sites would require at least six months.

It is emphasised that every effort should be made to ensure that the surroundings within their limitations are as pleasant as possible. Roads should be designed to discourage traffic not connected with the dwellings, and any new temporary roads should be of the most economic design and construction where sites are not to be used ultimately for permanent housing. The maintenance of the immediate surroundings should be ensured, and open spaces and sites for communal facilities provided where required. Diagrams illustrating certain standards of layout are given in the appendix ; layout plans should be submitted for approval to the Senior Regional Officer of the Ministry of Health at an early stage. When a layout is approved, authority is given to invite tenders for its execution. Sites to be used for the erection of bungalows might be included in the programmes for the advanced preparation of housing

sites (Circular 14/44) where the sites are available in time. All roads and sewers should be constructed and the main services made available before the Minister of Works starts work on the sites.

The local authority is to be responsible for repair and maintenance of the bungalows as long as they stand on the site, and the Ministry of Works will give advice on any special points that arise and will make available essential parts which may be required for maintenance purposes and which are of a type peculiar to the bungalows.

The local authority will select tenants and determine the relative priority of applications, but the Memorandum mentions families without a home, especially those who have been on war service and particularly the disabled. Transfers to permanent accommodation for large families should form part of the administrative arrangements of the local authority. Rents will be fixed by the local authority, but the Memorandum points out the advisability of charging approximately the same rents as for permanent houses. Local authorities should be able to assist tenants in the matter of furniture, and the Minister will issue a handbook on the use of the houses for the benefit of the tenants, and is making available to local authorities the advice of his adviser on housing management.

Financial arrangements were based on the estimate that the Ministry of Health will be involved in annual charges of £68 11s. per house for ten years. Urban authorities are to pay £23 10s. and rural authorities £21 10s. annually for each bungalow, subject to a reduction in the case of a site where costs of land and development are excessive. The authority may apply for an adjustment if its Housing Revenue Account is being called upon to bear more than the equivalent of £8 per annum per house (£6 in rural areas). The local authority bears the costs of providing the sites.

The White Paper on *Temporary Housing*, presented in October 1945, commenced with a review of earlier statements relating to temporary housing, beginning with the passing of the Housing (Temporary Accommodation) Act in October 1944, authorising the Government to spend up to £150 million on the provision of temporary houses, when the cost of the pressed-steel bungalow was estimated at £600. The cost of the American house to be provided under Lend-Lease arrangements was about £800, and 30,000 of these houses were expected to be sent, but with the cancellation of the Lend-Lease arrangements the full cost of the house to the Exchequer had risen to £1,330, and it had been decided not to take more than the 8,150 that had already been shipped or were about to be shipped. When the present Government took office, the Minister concerned asked for a statement of the probable cost of the Temporary Housing Scheme, and it was revealed that there was an average increase in cost (excluding the Phoenix House) of £268 per house. The revised estimates were: Arcon £1,085; Uni-Seco £1,020; Tarran £1,000; Spooner £992; Universal £1,135; Phoenix £1,099. The costs include site preparation (excluding land, roads and sewers), supply of hulls, erection and provision of components and fittings. The increases in cost were detailed. Tables of progress of the temporary housing programme were given up to October 1945; it is revealed that in England and Wales 4,049 houses were completed and 130,794 were allocated, while for Scotland the numbers were 103 and 34,300 respectively. Of

a total number of 143,830 ordered, 21,530 hulls were delivered from production up to 1st October, 1945. Finally it is stated that a provisional future programme had been framed, up to a total of 158,480 houses, including an increased number of British houses to make up for the incompleted American provision. The total cost of the programme, outlined below, would exceed the original financial provisions by £34,669,470.

Type	No. in provisional programme	Total cost
		£
Arcon	40,000	43,400,000
Uni-Seco	29,000	29,580,000
Tarran	21,000	21,000,000
	1,000	1,074,000
Spooner	1,200	1,190,400
Universal	1,200	1,362,000
Phoenix	2,430	2,670,570
Aluminium	54,000	74,392,500
American	8,150	10,000,000*

The Minister of Works stated in the House of Commons in February 1946 that the hulls of 28,818 temporary houses had been erected and that 14,661 had been completed.

LAND POLICY

The Government in 1944 accepted the main recommendations of the Uthwatt Report dealing with the problem of diverse ownerships, and the inflation of land prices. It also accepted the Uthwatt Committee's analysis of the problems associated with undeveloped land outside town areas, developed land and the imposition of a betterment levy, but considers that there would be serious practical difficulties in adopting the Uthwatt proposals for their solution. Accordingly, alternative proposals were issued in the form of a White Paper on *The Control of Land Use* in June 1944.

In a foreword to the White Paper, the Government's aim was stated to be an attempt to reconcile individual rights of land tenure with the best use of the land in the national interest. The paper is mainly devoted to the consideration of the problem of compensation and betterment, which is agreed to have been the chief impediment in the way of good planning.

The Government considered it undesirable to provide different treatment for owners of undeveloped land outside town areas, owners of undeveloped land inside town areas, and owners of developed land. The basis of compensation proposed by Uthwatt, although similar to

* This figure depends upon the outcome of discussions with regard to the number of American houses to which the Lend-Lease arrangement will apply.

that incorporated in the Coal Act 1938, presented great difficulties in its application to land in view of the different problems involved. The scheme for a levy of 75 per cent. of increases in annual site value would be extremely complicated in operation, and that its efficacy is open to doubt. For these reasons the Government were unable to adopt the Uthwatt Committee's detailed proposals for dealing with compensation and betterment, although it accepted in principle the recommendations regarding the public acquisition of land in areas requiring development as a whole, and has presented a Bill to Parliament.

The Government put forward a general scheme for the control of development and redevelopment, and to secure that approved development and redevelopment are carried out on the right land and at the right time, with the powers as far as possible similar for both developed and undeveloped lands; it includes provisions for powers of public acquisition, universal requirement to obtain consent, betterment charge, compensation, and centralisation of finance.

(*a*) Powers of Public Acquisition : Local authorities will have powers of public purchase of land, with consent of the Minister, where the approved development can be carried out by the Authority, or where large-scale redevelopment of war-damaged or obsolescent urban areas is required. The purchase price will, for a period of five years, be fixed by the value in March 1939.* A reserve power of public purchase will be provided for use when the landowner is unwilling to make land available for such development as is considered desirable, after a public local enquiry.

(*b*) Universal Requirement to Obtain Consent : There will be a statutory restriction on all development rights. In the main, development rights will remain vested in the owner, but control will be operated through the granting of licences to develop, by the Local Planning Authorities as at present.

(*c*) Betterment Charge : Owners of land, whether developed or undeveloped, will, whenever permission is granted to develop or redevelop for a different use, be subject to a Betterment Charge at the rate of 80 per cent. of the consequent increase in the value of the land. Where refusal would have attracted compensation for loss of development value, a suitable set-off should be made from the Betterment Charge. The application of the scheme to the question of the winning of minerals is still under examination.

(*d*) Compensation : On a basis of values at March 31st, 1939, owners of land will be entitled to receive fair compensation in respect of loss of development value on any future refusal of permission to develop or redevelop. Owners of land which had no development value on that date will not in future be eligible for compensation. Details for assessing the amount will not be determined until the end of five years following the passing of legislation. During that time the Government will have more information to assist in avoiding the payment of any excess due to the element of " floating value," and before the end of the period an Expert Committee will be appointed to make recommendations.

* These queries are dealt with in the Town and County Planning Act 1944.

(*e*) Centralisation of Finance: The Government considers that in order to operate on a sound basis, the finances of compensation and betterment should be centralised in a single account, and, to this end, proposes the establishment of a central Land Commission; this would be an independent administrative body, responsible to Ministers and Parliament.

The Minister of War and Secretary of State for Scotland announced the appointment of a committee, under the chairmanship of Lord Reith, to consider questions arising in connection with the promotion of new towns in furtherance of a policy of planned decentralisation from congested urban areas, and to suggest guiding principles on which such towns should be established and developed (see Committees Section). The Minister has published reports prepared by his staff on National Parks and derelict land in the Black Country.

The Minister of Town and Country Planning announced in November 1945 the Government's intention to introduce a Bill to deal with the problem of land compensation, by authorising the Government to take over the obligation of compensation. In October 1945 the King's Speech mentioned measures to improve the procedure of the acquisition of land and promote its use in the national interests. In the debate on the Address it was announced that the Government would see that land was used in such a way that in town and countryside it served the best interests of the community. In October 1945 it was also stated that the Government intended to introduce legislation on the control of land for public use, to assist the implementation of town planning schemes.

The London Government (Compulsory Purchase) Regulations 1945 prescribed the details of the procedure to be followed where land is acquired compulsorily under the London Government Act 1939; the notices, orders, etc., are substantially in the same form as those prescribed for local authorities outside London since 1934.

LOCATION OF INDUSTRY

The White Paper on *Employment Policy*, which was presented to Parliament by the Minister of Reconstruction on May 27th, 1944, contained proposals for dealing with the location of industry as part of the measures designed to prevent the development of large-scale unemployment in areas primarily dependent on export trade or heavy industries. One line of approach will be the promotion of the prosperity of the basic industries on which these areas depend, so that they may reach the highest possible standards of efficiency and secure overseas markets. Among other suggested lines of approach is the proposal (para. 25):

"By so influencing the location of new enterprises as to diversify the industrial composition of areas which are particularly vulnerable to unemployment."

In order to maintain industrial balance in these areas, the Government proposes to consider them as "development areas," and to encourage the establishment of new enterprises by the following means:

(*a*) Location of new factories: Industrialists contemplating the establishment of new factories or the transfer of a factory to a new area will be required to notify the Government, which will take powers to prohibit the establishment of a new factory in a district where serious disadvantage

would result from further industrial development, and will use influence to steer new factory development into areas requiring further industrial diversification. The Government will be prepared to offer special inducements to industrialists who are willing to establish factories in development areas.

(*b*) Munitions Factories : Where practicable, factories so engaged will be continued if it is reasonably clear that they can be employed in the production of munitions after the war. Others will be released as early as possible, and those owned by the Government will be leased or sold for civilian production.

(*c*) New factory buildings : Where existing buildings are not adequate to secure a proper balance of industry, the Government will give priority to these in the grant of licences for building new factories and extensions of existing ones.

(*d*) Factory premises for smaller firms : The Government will continue and extend the policy of erecting in development areas factories on individual or collective sites, for sale or lease.

(*e*) Government contracts : Due regard will be paid to the needs of development areas in the placing of Government orders.

(*f*) Financial assistance : The Government will take steps to secure that suitable enterprises which establish themselves in these areas will have adequate facilities for obtaining loans and, where necessary, share capital.

It is also stated that the Government will secure the full development in these areas of services on which industry depends and the modernisation of capital equipment, e.g., improvement of communications, extension of power services, and the improvement of housing, other amenities and general public services. The Government will also organise research with a view to discovering what types of industry would fit most naturally into the long-term economy of these areas.

The view is expressed that the responsibility for formulating and administering such a policy is essentially one for the Government as a whole, and its application in practice will involve action by a number of different Departments ; the main responsibility will rest with the Board of Trade, the Ministry of Labour and National Service, the Ministry of Town and Country Planning and the Scottish Office. Standing arrangements will be made for supervising and controlling, under the Cabinet and as part of the central Government machinery, the development and execution of the policy as a whole. At the other end of the scale, there will be a regional organisation, which will bring together the representatives of the departments concerned in the local application of these measures. The single channel through which Government policy on the distribution of industry can be expressed will be the Board of Trade, which will be responsible for all general questions of industrial policy, and will be suitably strengthened for its work after the war.

In the debate on the Location of Industry, arising out of this white paper, on June 7th, 1944, Mr. Dalton reiterated these principles, and further stated that the Government accepts the main ideas of the Barlow Report, but will apply the ideas rather differently from the manner suggested, under the different circumstances which the war has induced, with more powerful controls and on a different industrial pattern. He stated that

the minority request for a new Government department had been met in the creation of the Ministry of Town and Country Planning, which works closely with the Board of Trade. The two main ideas of the Barlow Report accepted by the Government are the " decongestion of congested areas," and the encouragement of a reasonable balance of industry within each region. The first was being dealt with by the Minister of Town and Country Planning, while the second was the concern of the Board of Trade and the Ministry of Labour. The proposal to impose a ban in certain areas was met by the industrial building permits system, which was expected to continue for some time after the war in view of the shortage of labour and materials. The Government's policy would be to build new factories, after the war, only in regions where there are not enough factories to furnish employment for the population ; where factory accommodation is sufficient, the concentration would be on house building, while the turnover from munition production to other work would be effected, where necessary, as rapidly as possible. Close contact between the Board of Trade and the Ministry of War Transport had been established on the question of improving communications by road, rail and sea, and through harbour development, in the development area. The new bridge across the Severn, to be constructed below Gloucester, which had high priority in the Government's post-war road programme, would help to induce industries to settle in South Wales.

Mr. Dalton stated that there could be no final list of development areas, since, as conditions change, areas will be removed from the list, and new ones may be added temporarily. Under the scheme instituted by the Minister of Production in 1942, a great number of new standard factories had been constructed and were scheduled to go up in areas where labour shortage was least acute, in accordance with the Government's policy of establishing a balanced and diversified employment after the war. The Government was working on the possibilities of converting munition factories to commercial purposes, and invited the fullest consultation with industrialists.

The commitments made by the Special Commissioners before this war would in general be worked into the new scheme.

Inquiries were being made throughout the country by an organisation of practical business men, who supply local advice to the Board of Trade, with Sir Philip Warter at Headquarters. The Board has compiled a list of possible enterprises which might be set up in any district after the war, and industrialists have been invited to make contact with the Board ; in a few cases sites have already been bought, and in others options have been taken, while, in many, surveys are being made by the prospective buyers of sites in the various areas. The Government believed that, although it is prepared to use coercion where necessary, it would be possible to proceed by a policy of persuasion.

WATER POLICY

The Prime Minister stated on June 20th, 1944 : " The Government will, in the course of the reconstruction programme, ask Parliament for power to make Orders for certain purposes which, in normal circumstances, would be dealt with by a Private or Provisional Order Bill ;

and Orders of this kind would require special procedure for securing effective Parliamentary control in matters affecting the rights of individuals. Instances of the kind of Order are, namely, Orders dealing with compulsory amalgamation and combination of undertakings, alteration of limits of supply, scheduling of areas for water conservation and the compulsory purchase of water rights. . . . The Government contemplates that the new system should in due course replace the present system of provisional order confirmation bills."

A white paper dealing with a National Water Policy was presented by the Minister of Health, the Minister of Agriculture and Fisheries and the Secretary of State for Scotland to Parliament in April 1944. The main proposals are :

(1) The Health Ministers should be given the statutory duty of promoting the provision of adequate water supplies and the conservation of water resources. The central planning of water policy should be their function, and should be applied by a simplified system of ministerial orders.

(2) The Central Advisory Water Committee for England and Wales should be reconstituted as a statutory body, to give advice to the departments on general principles affecting water administration, with a similar commission for Scotland.

(3) The work of the Inland Water Survey should be pressed forward.

(4) Surveys of bulk needs of large areas should continue to be carried out in England and Wales by Regional Advisory Water Committees which should be reconstituted and empowered to require information and statistics.

(5) The Health Ministers should have power to require information and statistics from all users of water and sinkers of wells and boreholes.

(6) Greater use should be made of the resources of other Government departments in building up information.

(7) Surveys of the efficiency of the water supply services should be regularly made by Ministry of Health experts.

(8) Powers and duties of local authorities and the general framework of water undertakers should be retained, but measures proposed for efficiency and economy include the amalgamation of undertakings and strengthening of default powers of the Ministry of Health. Bulk supplies should be given by one undertaker to another.

(9) Industry and agriculture have the right, in certain circumstances, to be supplied with water on reasonable terms, while undertakers should be enabled to take water from rivers and streams on reasonable terms and to acquire land.

In a brief section on " River Boards " it is stated that the Government accepts in principle, as regards England and Wales, the recommendations contained in the Third Report of the Central Advisory Water Committee, and proposes to prepare a bill to give effect to them. As regards Scotland, the Secretary of State proposes to open discussions with the Associations of local authorities and other interests.

Three appendices deal with the growth and development of public water supplies, the influence of geological factors on water supply in Great Britain, and compensation water.

The Water Act 1945 completed the process of giving legislative effect to Part I of the White Paper of 1944. The Ministry of Health Circular 161/45, issued in September 1945, included a table of comparison with earlier acts, and summarised the provisions of the Act. It also stated that the Minister proposed to reconstitute the Central Advisory Water Committee, and to include in the subjects referred to the Committee for early consideration the question of the extent to which access of the public to gathering grounds can be reconciled with the avoidance of serious risks to public health. He also proposed to review the position of the existing Regional Advisory Water Committees, with a view to determining to what extent their areas were suited in present circumstances for Joint Advisory Committees under section 4 of the Act, and what other groupings of areas present problems appropriate for joint investigation. The Minister urged water undertakers and local authorities to take full advantages of the Act.

TRANSPORT

Mr. Noel-Baker stated on July 19th, 1944, that the Government is closely examining the future organisation and development of the canals and other inland waterways of the country, and has consulted representatives of the canal undertakings and of canal carriers about the technical and other problems involved, and also the planning authorities concerned. Special attention is being given to engineering projects for the improvement of waterways from the seaports to the Midlands, and the Government is ready to hear the views of traders and manufacturers. He has also announced that the Government has accepted the principle of motorways, and suitable lengths will be constructed as soon as practicable.

RURAL POLICY

On November 30th, 1943, Mr. Morrison made a statement in the House concerning the views of the Government on the recommendations of the Scott Committee. He said that many of the 108 recommendations in the report were not such as to require legislation, but rather constituted a body of principles for the guidance of those concerned in preparing a planning framework. The constitution of the Ministry of Town and Country Planning had provided central machinery for planning, and ten Regional Planning Officers had been appointed by the Ministry.

With reference to survey and research, information on land resources was being assembled and a co-ordinated series of planning maps prepared. Special attention was being given to the use of land and buildings which will be released by the Service Departments after the War. Other points of Government policy were :

(1) The maintenance of a healthy and well-balanced agriculture and the persuit of a vigorous forestry policy.
(2) Further reinforcement in planning practice regarding the location and conduct of industry other than agriculture, and planning control for surface minerals.
(3) The general well-being of rural communities.
(4) The preservation of rural amenities and provision of improved access to the countryside.

The Secretary of State for Scotland stated, during the debate on the Forestry Bill, that the Forestry Commissioners anticipate a three million acre programme of State forests in the next five decades, of which Scotland's share would be 1,500,000 acres. The Minister of Agriculture and Fisheries announced in Parliament in November 1945 that the Government had given detailed attention to the future forest policy of the country, and was impressed with the necessity of rebuilding as quickly as possible our reserves of standing timber, and also with the possibilities which systematic forestry and afforestation hold out for the better utilisation of large areas of poorly-productive land and for increased rural employment in healthy surroundings. Parliament was asked to replenish the Forestry Fund during 1946-50 to the extent of £20 millions, to provide for the afforestation and replanting of 365,000 acres (the first five-year quota of the Forestry Commissioners' ten-year plan), to provide for additional land for future planting, for ancillary services, and where necessary to provide modern houses for forest workers. The Government has accepted the Forestry Commissioners scheme for assisting the management of private woodland. To conserve standing timber the Government proposed to continue the wartime system of licensing timber fellings. Facilities for education, training and research would be increased, and National Forest Parks would be established and extended.

HYDRO-ELECTRICITY

In a reply in the House of Commons in October 1945, it was stated that the following schemes had been prepared, or were in course of preparation, by the North of Scotland Hydro-Electric Board :

Construction Schemes : Sloy, Morar and Lochalsh ; Tummel-Garry and Gairloch ; Fannich ; Cowal ; Shira ; Skye ; Findhorn-Duntelchaig ; Affric ; transmission from Shira and Sloy to Central Scotland ; transmission from Tummel-Garry to Southern Perthshire ; transmission from Fannich to Inverness, Keith and Aberdeen.

Surveys for schemes to supply Orkney, Shetland, Kintyre, Caithness, Ullapool and Lochinver.

Distribution Schemes : Orkney ; Shetland ; Morar ; Lochalsh ; North Cowal ; South Cowal ; Bute ; Great Cumbrae ; Gairloch ; Ullapool ; Lochinver ; Skye ; the Outer Hebrides ; Islay ; Mull, Luing and Seil ; Arran.

LOCAL GOVERNMENT

A White Paper on *Local Government in England and Wales during the Period of Reconstruction* was presented in January 1945, giving outline proposals for the reform of local government in England and Wales, so as to strengthen its framework. The paper recommends the establishment of a local government boundary commission, a small body of not more than five members, to carry out adjustments of frontiers where needed to meet changing conditions. The Commission would have powers embracing those of the county council and Minister of Health relating to county reviews under the Local Government Act 1933 ; and also for the creation and extension of county boroughs, reduction of the status of a small county borough, the union of contiguous county

boroughs and also of some of the smaller administrative counties, with certain safeguards. The Minister would give the Commissioners general directions as to the exercise of their powers, and the more important decisions taken by the Commissioners would be submitted to the Minister of Health in the form of draft orders and be subject to Parliamentary review.

The main object of the county review procedure would be to secure local government units of such a shape and size and with such financial resources as to provide the foundation of a satisfactory administration. Guidance should also be given to the Commission on the linking of town and country areas within an administrative county, and on the advisability of enlarging the limits of a country town to include some surrounding territory, without affecting the status or character of the borough. With reference to the creation and extension of county boroughs, the Government believed that too much weight should not be given to individual factors such as layout of sewers and control of public utility services. The aim should be to secure the best possible design of local government areas in the future, and not merely to adjudicate on the merits of conflicting claims. This principle was particularly applicable where organised dispersal of large bodies of the population might be undertaken, leading either to planned extensions of boroughs or to the development of new centres at a distance from the parent borough.

The normal interval between alteration of local government areas should be not less than ten years, unless changes of an exceptional character should occur. Recommendations as to the procedure for review of orders by Parliament, and the procedure of the Commission, are given. The two special problems of the County of Middlesex and the structure of local government in London receive separate treatment. It is not proposed that the Commissioners should have power to entertain applications for county borough status from authorities in the County of Middlesex, and the Government propose also to exclude the whole County of London from the sphere of the Commission's work, and to take steps to appoint an authoritative body to inquire into and advise on the local government problems within the County.

These proposals were largely implemented in the Local Government (Boundary Commission) Act 1945.

The Local Government (Boundary Commission) Regulations 1945 were issued by the Minister of Health in November 1945, and include general principles for the guidance of the Boundary Commission. In connection with procedure, it is stated than in considering whether any alteration ought to be made, the Commission shall make all such investigations and obtain from the local authorities concerned and other sources all such statistical and other information as they consider necessary, and shall hold such conferences and consultations and make such inspections as seem appropriate. Notice of such action must be given to the Council of every county, county borough and county district likely to be affected, and after completing such action the Commission 'shall supply to the council of each area likely to be affected a statement of the nature of any order which it proposes to make, arrange for public inspection of the statement, and publication of a notice to that effect. ' The Commission may cause a local inquiry to be held, and must do so if objection to the

proposed order is notified by the council of an area affected by the proposed order, or by a person whom the Commission considers ought to have an opportunity of stating his objections. No order may include a provision altering the boundaries of the Metropolitan Police District except after consultation with the Secretary of State.

The Regulations state that the governing principle by which the Commission should be guided is that the object of alterations in status and boundaries is to ensure individually and collectively effective and convenient units of local government administration. Relevant factors which should be considered by the Commission include community of interest, development or anticipated development, economic and industrial characteristics, financial resources measured in relation to financial need, physical features, population, record of administration by the local authorities concerned, size and shape of areas, and wishes of inhabitants.

Finally the Regulations state that an order reducing an existing county borough to the status of a non-county borough should not ordinarily be made unless the population of the county borough as estimated by the Registrar-General is less than 60,000, and an order uniting a county with another county should not ordinarily be made unless the population of the smaller county so estimated is less than 100,000.

In October 1945, the Home Secretary introduced a Bill to abolish non-county boroughs as separate police areas ; to provide for the amalgamation of county and county borough police areas ; to provide for the purchase of land for police purposes by compulsory purchase order ; and to redefine the Metropolitan Police District.

With reference to local government finance, the Ministry of Health Circular 185/45 (November 1945) drew the attention of local authorities and public authorities to Chapter V of the White Paper on *Employment Policy*, dealing with the methods by which public investment could be used as an instrument of employment policy. It would be necessary for the Government to take stock of the prospective demands of all forms of capital investment and maintenance work in order to be able to review the whole field, and as part of the general survey of prospective investment, the Government desired to call for programmes of capital expenditure and maintenance work from local authorities. For the present the Government proposed to limit the programmes to a three-year instalment from 1st April, 1946, but later it should be possible to extend them to cover a five-year period. The Circular indicates the lines on which the programmes should be prepared.

IMPORTANT DATES

1835 Municipal Corporations Act
1852 Commissioners of Works Act
1855 Metropolitan Board of Works Act
1868 Torrens Housing Act
1875 Cross Housing Act
„ Public Health Act
1876 Commons Act
1878 Public Health (Water) Act (Rural Water Supply)

1879 Cross and Torrens Housing Acts
1882 Municipal Corporations Act
1888 Local Government Act (County Councils)
1890 Housing of the Working Classes Act
1894 Local Government Act (District and Parish Councils)
„ Housing Act
1899 London Government Act (Metropolitan Boroughs)
1907 National Trust Act
1909 First Town Planning Act
„ Development and Road Improvement Act
1914 Housing Act
1919 Addison Housing and Town Planning Act
„ Acquisition of Land (Assessment of Compensation) Act
1923 Chamberlain Housing Act
1924 Housing (Financial Provisions) Act (Wheatley Act)
1925 Town Planning Act
„ Roads Improvement Act
„ Law of Property Act
„ Rating and Valuation Act
1926 Housing (Rural Workers) Act
1929 Local Government Act
1930 Greenwood Housing Act
1931 Housing (Rural Authorities) Act
1932 Town and Country Planning Act
„ Rights of Way Act
1933 Local Government Act
„ Ministry of Health (Town and Country Planning) Regulations
„ Town and Country Planning (General Interim Development) Order
1934 Rural Water Supplies Act
1935 Hilton Young Housing Act
„ Restriction of Ribbon Development Act
1936 Housing Act
„ Trunk Roads Act
1938 Housing (Rural Workers) Amendment Act
„ Housing (Financial Provisions) Act
1939 National Trust Act
„ Access to Mountains Act
„ London Government Act
1940 Barlow Report (Distribution of the Industrial Population)
1941 War Damage Act
1942 Minister of Works and Planning Act
1941-42 Uthwatt Report (Compensation and Betterment)
1942 Scott Report (Land Utilisation in Rural Areas)

1943

Town and Country Planning (Interim Development) Act; War Damage Act; Hydro-Electric Development (Scotland) Act; Minister of Town and Country Planning Act.

1944

Town and Country Planning (General Interim Development) Order ; Housing (Temporary Provisions) Act; Rural Water Supplies and Sewerage Act ; Housing (Temporary Accommodation) Act ; Housing (Scotland) Act; Town and Country Planning Act; Memorandum on Temporary Accommodation ; White Paper on Control of Land Use; Housing Manual.

1945

White Paper on Local Government (January) ; Building (Safety, Health and Welfare) Regulations (January) ; Local Authorities Loans Act (March) ; White Paper on Housing (March) ; Licensing Planning (Temporary Provisions) Act (March) ; Town and Country Planning (General Interim Development) Order (March) ; Select Committee on National Expenditure : Report on Release of Requisitioned Land and Buildings (March) ; Report on National Parks (May) ; Hydro-Electric Undertakings (Valuation for Rating) (Scotland) Act (June) ; Local Government (Boundary Commission) Act (June) ; Forestry Act (June) ; Water Act (June) ; Requisitioned Land and War Works Act (June) ; Town and Country Planning (Scotland) Act (June) ; Housing (Temporary Accommodation) Act (June) ; Distribution of Industry Act (June) ; White Paper on Temporary Housing Programme (October) ; Building Restrictions (Wartime Contraventions) Bill (October) ; Trunk Roads Bill (October) ; Water (Scotland) Bill (October) ; Furnished Houses (Rent Control) Bill (November) ; Local Government (Financial Provisions) Bill (November) ; Local Government (Financial Provisions) (Scotland) Bill (November) ; Local Government (Boundary Commission) Regulations (November) ; Building Materials and Housing Act (December) ; Acquisition of Land (Authorisation Procedure) Bill (December).

1946

Report on Derelict Land in the Black Country (February) ; Housing (Financial and Miscellaneous Provisions) Act (February) ; Housing (Financial Provisions) (Scotland) Bill (February) ; Minister of Health First Monthly Progress Report on Housing (February).

Official Directories

Ministry of Town and Country Planning

32-33, St. James's Square, London, S.W.1. Telephone : Whitehall 8411.

Minister : The Rt. Hon. Lewis Silkin, P.C., M.P.
Parliamentary Secretary : F. Marshall, M.P.
Parliamentary Private Secretary : Ronald Chamberlain, M.P.
Permanent Secretary : Sir Geoffrey Whiskard, K.C.B., K.C.M.G.
Deputy Secretary : Lawrence E. Neal
Principal Assistant Secretaries : E. S. Hill ; Sir Stephen Tallents, K.C.M.G., C.B., C.B.E.; A. B. Valentine
Assistant Secretaries : S. L. G. Beaufoy, F.R.I.B.A., M.T.P.I., A.I.M.& Cy.E. ; F. G. Downing ; H. E. C. Gatliff ; F. B. Gillie ; F. Schaffer ; E. H. T. Wiltshire (Establishment Officer) ; H. M. Abrahams ; P. T. Mansfield ; S. W. C. Phillips
Deputy Accountant General : J. R. Alderson, O.B.E.
Chief Technical Adviser : G. L. Pepler, C.B., F.S.I., P.P.T.P.I.
Director of Research : Professor W. G. Holford, M.A., A.R.I.B.A., M.T.P.I.
Senior Research Officer : G. Stephenson, B.Arch., F.R.I.B.A.
Chief Regional Planning Officer and Planning Inspector : K. S. Dodd, M.C., M.A., A.M.Inst.C.E., M.T.P.I.
Senior Technical Officer : L. P. Ellicott, A.R.I.B.A., A.M.T.P.I.
Chief Estate Officer : H. W. Wells, F.S.I., F.A.I.

REGIONAL STAFF

Region No. 1 (Newcastle-upon-Tyne)
Regional Planning Officer : M. B. Tetlow, A.R.I.B.A., A.M.T.P.I., 12, Sydenham Terrace, Newcastle-upon-Tyne, 2. Telephone : Newcastle-upon-Tyne 28307.

Region No. 2 (Leeds)
Regional Planning Officer : E. R. Voyce, M.T.P.I., Hopewell House, 173, Woodhouse Lane, Leeds, 2. Telephone : Leeds 30837.

Region No. 3 (Nottingham)
Regional Planning Officer : R. A. Hudson, M.T.P.I., 2, Lucknow Drive, Mapperley Park, Nottingham. Telephone : Nottingham 66064.

Region No. 4 (Cambridge)
Regional Planning Officer : W. C. Waide, A.M.T.P.I., Block H., New Court, Trinity College, Cambridge. Telephone : Cambridge 56947.

Region No. 6 (Reading)
Regional Planning Officer : R. H. Walker, F.R.I.B.A., M.T.P.I., 61, Western Elms Avenue, Reading. Telephone : Reading 60826.

Region No. 7 (Bristol) —
Regional Planning Officer : H. W. J. Heck, M.T.P.I., 15, Tyndall Avenue, Bristol, 2. Telephone : Bristol 20147.

Region No. 8 (Cardiff)
Regional Planning Officer : R. D. Jones, F.R.I.B.A., M.T.P.I., 66, Park Place, Cathays Park, Cardiff. Telephone : Cardiff 8470.

Region No. 9 (Birmingham)
Regional Planning Officer : E. H. Doubleday, P.A.S.I., 75, Westfield Road, Edgbaston, Birmingham. Telephone : Edgbaston 3624.

Region No. 10 (Manchester)
Regional Planning Officer : P. L. Hughes, A.M.T.P.I., 100, Palatine Road, West Didsbury, Manchester. Telephone : Didsbury 3937.

Region No. 12 (Tunbridge Wells)
Regional Planning Officer : H. R. Wardill, F.S.I., M.T.P.I., 24, Calverley Park, Tunbridge Wells. Telephone : Tunbridge 3237.

Ministry of Works

Lambeth Bridge House, London, S.E.1. Telephone : Reliance 7611.

Minister : The Rt. Hon. George Tomlinson, P.C., M.P.
Parliamentary Secretary : Harold Wilson, M.P.
Permanent Secretary : Sir Percival Robinson, K.C.B.
Chief Scientific Adviser: Sir Reginald E. Stradling, C.B., M.C., F.R.S., D.Sc., M.Inst.C.E.
Adviser on Regional Organisation : Major-Gen. K. C. Appleyard, C.B.E., T.D., D.L., M.I.Mech.E., M.I.Min.E., A.I.M.E.
Director of Works : C. J. Mole, M.V.O., M.B.E., F.R.I.B.A.
Deputy Directors of Works : C. A. Morrison, O.B.E., F.S.I. ; W. A. Rutter, O.B.E., A.R.I.B.A. (Abell House, John Islip Street, London, S.W.1. Telephone : Victoria 4422)
Director of Works and Services (Scotland) : W. A. Ross, F.R.I.B.A. (122, George Street, Edinburgh. Telephone : Edinburgh 23053)
Assistant Directors of Works (Architectural) : C. Bristow, O.B.E., A.R.I.B.A. (*Temporary Housing*) : A. V. Farrier, A.R.I.B.A. ; W. T. Fraser, L.R.I.B.A. ; G. C. Wilson, F.R.I.B.A. (Abell House, John Islip Street, London, S.W.1. Telephone : Victoria 4422)
Assistant Director of Works (Engineering).: A. G. Ramsay, O.B.E., B.Sc., M.I.C.E., M.I.E.E., M.I.M.E. (Abell House, John Islip Street, London, S.W.1. Telephone : Victoria 4422)
Assistant Director of Works (Maintenance) : T. R. Eltringham, M.B.E., L.R.I.B.A. (Cleland House, Page Street, London, S.W.1. Telephone : Reliance 7611)
Assistant Director of Works (Quantity Surveying) : J. A. Hamlyn, F.S.I. (Cleland House, Page Street, London, S.W.1. Telephone : Reliance 7611)
Directors of Aircraft Production Factories : W. C. Andrews, O.B.E., M.I.C.E., M.I.S.E.; J. D. McFarlane, M.I.P.E., M.I.H.V.E. (56-64, Onslow Gardens, London, S.W.7. Telephone : Kensington 8161)
Director of Contracts : C. C. W. Goodale, O.B.E.
Director of Lands and Accommodation : P. W. Jupp, C.B.E., F.A.I. (44-48, Lowndes Square, London, S.W.1. Telephone ; Sloane 0838)
Controller of Supplies : G. P. Gilchrist, M.B.E. (Union House, St. Martins-le-Grand, London, E.C.3. Telephone : Clerkenwell 2060)
Director of Permanent Housing (Prefabricated) : Col. K. G. Post, C.B.E.
Director of Temporary Housing : Capt. F. H. P. Maurice, R.N.
Deputy Director of Emergency Works and Recovery : M. W. Hudson, F.S.I. (13-16, Onslow Gardens, London, S.W.7. Telephone : Fulham 7731)
Director of Mobile Labour Services : W. T. Jackson, M.B.E., A.R.I.B.A., A.M.T.P.I. (Custom House, Lower Thames Street, London, E.C.3. Telephone : Mansion House 1549)
Director of Building Materials : L. W. Hutson, F.R.I.B.A.
Comptroller of Accounts : G. L. Jordan, M.B.E. (Queen's Hotel, Central Parade, Rhyl, Flintshire. Telephone : Rhyl 1226)
Chief Licensing Officer (Civil Building Control) : W. V. Wastie, M.B.E. (51-54, Gracechurch Street, London, E.C.3. Telephone : Mansion House 9855)
Press Officer : Dudley Vernon
Chief Inspector of Ancient Monuments : B. H. St. J. O'Neil, M.A., F.S.A. (72-78, Onslow Gardens, London, S.W.7. Telephone : Fulham 7701)
Bailiff of Parks : F. E. Carter, O.B.E. (44-48, Lowndes Square, London, S.W.1. Telephone : Sloane 0838)

Regius Keeper, Royal Botanic Garden, Edinburgh : Sir W. W. Smith, M.A., D.Sc., F.R.S.(Edin.), F.L.S. (Royal Botanic Garden, Edinburgh. Telephone : Edinburgh 21347)

REGIONAL STAFF

Region No. 1 (Newcastle-upon-Tyne)
Regional Director : W. S. Allen
Principal Officer : N. Fyfe
(81, St. Mary's Place, Newcastle-upon-Tyne. Telephone : Newcastle 23503).
Licensing Officer : R. W. Hurst
(2, Sydenham Terrace, Newcastle-upon-Tyne. Telephone : Newcastle 23574).

Region No. 2 (Leeds)
Regional Director : W. Mathieson
Principal Officer : P. N. Piggott
(Government Buildings, Lawnswood, Leeds, 6. Telephone : Leeds 74411).
Licensing Officer : W. C. Colbeck
(Westwood Chambers, 934, Albion Street, Leeds. Telephone : Leeds 27311).

Region No. 3 (Nottingham)
Regional Director : Major-Gen. H. B. W. Hughes
Principal Officer : D. T. Lord
Licensing Officer : A. G. Short
(Government Buildings, Clifton Boulevard, Nottingham. Telephone : Nottingham 77733).

Region No. 4 (Cambridge)
Regional Director : Brig. R. Briggs
Principal Officer : W. G. Eaton
Licensing Officer : Lt.-Col. A. J. Wilcock, O.B.E.
(Shaftesbury Road, Brooklands Avenue, Cambridge. Telephone : Cambridge 55206).

Region No. 5 (London)
Regional Director : C. Hull
Assistant Regional Directors : G. B. Hebden ; A. T. Trubshaw
Principal Officer : A. A. Rayner
(Lambeth Bridge House, London, S.E.1. Telephone : Reliance 7611).
Licensing Officer : T. P. Morgan
(51-54, Gracechurch Street, London, E.C.3. Telephone : Mansion House 9855).

Region No. 6 (Reading)
Regional Director : Major-Gen. G. L. S. Hawkins, C.B., M.C.
Principal Officer : H. Sutcliffe
Licensing Officer : S. House
(Whiteknights Road, Earley, Reading. Telephone : Reading 61431).

Region No. 7 (Bristol)
Regional Director : Capt. C. H. Kitchen, R.N. (Retd.)
Principal Officer : E. F. Simmonds, M.B.E.
(5, Priory Road, Bristol. Telephone : Bristol 38493).
Licensing Officer : R. P. Chew
(5-6, Cotham Lawn Road, Bristol, 6. Telephone : Bristol 36841).

Region No. 8 (Cardiff)
Regional Director : Dr. D. J. Roberts
Principal Officer : W. H. J. Sealy
(42, Park Place, Cardiff. Telephone : Cardiff 9070).
Licensing Officer : E. Murray-Hill
(55-56, Park Place, Cardiff. Telephone : Cardiff 9017).

Region No. 9 (Birmingham)
Regional Director : Brig. H. N. North, D.S.O., M.I.Struct.E.
Principal Officer : W. Rome
Licensing Officer : W. H. C. Campbell
(Somerset House, 37, Temple Street, Birmingham. Telephone Midland 6561).

Region No. 10 (Manchester)
Regional Director : S. Owler
Principal Officer : W. D. Marshall, F.A.I.
(76, Newton Street, Manchester. Telephone : Central 2191).
Licensing Officer : J. W. Hill
(Lancaster House, 80, Princess Street, Manchester, 1. Telephone : Manchester Central 6931).

Region No. 11 (Scotland)
Principal Assistant Secretary : D. L. MacIntyre, V.C.
(122, George Street, Edinburgh. Telephone : Edinburgh 23053).
Licensing Officer : Sir Alexander Brebner, C.I.E.
(9, George Street, Edinburgh, 2. Telephone : Edinburgh 34621).

Region No. 12 (Tunbridge Wells)
Regional Director : S. J. Egerton-Banks
Principal Officer : H. J. Spurgeon
Licensing Officer : H. F. Kirrage
(Forest Road, Hawkenbury, Tunbridge Wells. Telephone : Tunbridge Wells 2780-8).

Ministry of Education

Belgrave Square, London, S.W.1. Telephone : Sloane 4522.

Minister : The Rt. Hon. Ellen C. Wilkinson, P.C., M.P.
Parliamentary Private Secretary : D. H. Hughes, M.P.
Permanent Secretary : John Maud, C.B.E.
Permanent Secretary, Welsh Department : Ben Bowen Thomas

ARCHITECT'S OFFICE

Architect : F. Jackman, F.R.I.B.A.
Assistant Architects (Grade 1) : R. W. Atkey ; S. E. Castle, F.R.I.B.A.
Assistant Architects (Grade 2) : F. W. Mudd ; Miss O. M. E. Price, A.R.I.B.A. ; C. W. Childs ; Mrs. J. S. Tomlins

Ministry of Health

Whitehall, London, S.W.1. Telephone : Whitehall 4300.

Minister : The Rt. Hon. Aneurin Bevan, P.C., M.P.
Parliamentary Private Secretary : Major D. W. T. Bruce, M.P.
Parliamentary Secretary : Alderman C. W. Key, M.P.
Secretary : Sir William S. Douglas, K.C.B., K.B.E.
Chief Engineering Inspector : G. M. McNaughton, B.Sc., M.Inst.C.E.
Adviser on Water and Director of Surveys : Sir Roger G. Hetherington, C.B., O.B.E., M.Inst.C.E.
Deputy Chief Engineering Inspectors : H. W. Coales, O.B.E., M.C., M.Inst.C.E. ; Lt.-Col. F. G. Hill, M.C., M.Inst.C.E.
Engineering Inspectors : W. Allard, O.B.E., M.Inst.C.E. ; A. Gerard Boulton, A.M.Inst.C.E. ; G. Carlyle, M.C., M.Inst.C.E. ; W. Fyffe, M.Inst.C.E. ; A. M. Gardiner, M.Inst.C.E. ; J. Gardner, M.Inst.C.E. ; I. H. Hainsworth, M.Inst.C.E. ; J. W. Mason, M.Inst.C.E. ; H. F. Molony, M.Inst.C.E. ; R. Neilson, M.Inst.C.E. ; F. H. Seabrooke, A.M.Inst.C.E. ; G. S. Wells, M.C., M.Inst.C.E.
Chief Housing Inspector : F. Collin Brown, F.R.I.B.A., A.M.T.P.I.
Senior Housing Inspectors : J. Bentley, F.S.I. ; M. B. Blackshaw, M.A., A.R.I.B.A. ; W. J. Brown, F.R.I.B.A., F.S.I. ; J. Greaves, F.R.I.B.A. (Temp.) ; A. J. A. Illingworth, F.R.I.B.A., F.I.I.A. ; A. V. Robertson, A.R.I.B.A. ; R. W. Thorp, O.B.E., A.R.I.B.A. ; P. J. Williams, L.R.I.B.A., M.T.P.I. ; H. McGregor Wood, F.R.I.B.A.

Housing Inspector : S. G. Bulstrode, A.R.I.B.A.
Chief Architect and Housing Consultant : J. H. Forshaw, M.C., F.R.I.B.A.
Architect : S. Pointon Taylor, F.R.I.B.A., M.T.P.I.
Assistant Architects (Grade 1) : H. R. Coales, A.R.I.B.A.; E. T. Salter, A.R.I.B.A.
Quantity Surveyor : G. H. Allison, F.S.I.

Board of Trade

Millbank, London, S.W.1. Telephone : Whitehall 5140.

President : The Rt. Hon. Sir Stafford Cripps, K.C., M.P.
Principal Industrial Adviser : Sir William Palmer, K.B.E., C.B.
Chief Executive for Industrial Reconstruction : Sir Charles Bruce Gardner, Bt., M.I.Mech.E.
Secretary for Overseas Trade : H. A. Marquand, M.P.

INDUSTRIAL AND EXPORT COUNCIL

Chairman : Sir Samuel R. Beale, K.C.B.

Department of Scientific and Industrial Research (D.S.I.R.)

Park House, 24, Rutland Gate, London, S.W.7. Telephone : Kensington 9022.

President of the Committee of the Privy Council and Responsible Minister : The Lord President of the Council

ADVISORY COUNCIL

Chairman : Lord Riverdale of Sheffield, G.B.E., LL.D.
Members : J. Benstead ; Sir Lawrence Bragg, O.B.E., M.C., D.Sc., F.R.S. ; Professor H. Munro Fox, F.R.S. ; Professor I. M. Heilbron, D.S.O., D.Sc., LL.D., F.R.I.C., F.R.S. ; Professor J. E. Lennard-Jones, Ph.D., D.Sc., F.R.S. ; A. McCance, D.Sc., F.R.S. ; C. C. Paterson, O.B.E., D.Sc., F.R.S. ; Sir Franklin Silby, K.B.E., D.Sc., LL.D. ; Sir E. Raymond Streat, C.B.E. ; Ernest Thornton ; W. J. Drummond ; H. L. Guy, C.B.E., D.Sc., F.R.S. ; Sir William Halcrow, M.Inst.C.E.; W. F. Lutyens
Secretary to the Council : Sir Edward Appleton, K.C.B., D.Sc., LL.D., F.R.S.

HEADQUARTERS

Secretary : Sir Edward Appleton, K.C.B., D.Sc., LL.D., F.R.S.
Principal Assistant Secretary : E. Barnard, C.B.E., D.S.O.
Assistant Secretaries : O. F. Brown ; G. R. D. Hogg (Establishment Officer) ; R. O'F. Oakley, O.B.E.
Finance and Accounts Officer : A. R. H. Cox
Assistant Establishment Officer : C. D. James
Principal Scientific Officers : H. Buckley, D.Sc., F.Inst.P. ; C. A. Spencer ; H. Wooldridge, O.B.E. ; W. L. Francis, M.A., Ph.D.

BUILDING RESEARCH

Chairman of the Board : Sir George Burt, F.I.O.B.

Building Research Station
Bucknall's Lane, Garston, Nr. Watford, Herts. Telephone : Garston 2246.
Director : I. G. Evans
Assistant Director : F. M. Lea, O.B.E., D.Sc.
Principal Scientific Officers : A. Bailey, D. G. R. Bonnell, Ph.D. ; L. F. Cooling ; N. Davey, Ph.D., M.Inst.C.E. ; T. W. Parker, Ph.D.

FOREST PRODUCTS RESEARCH

Chairman of Board: Professor V. H. Blackman, Sc.D., F.R.S.

Forest Products Research Laboratory
Princes Risborough, Aylesbury, Bucks. Telephone: Princes Risborough 101.
Director: F. Y. Henderson, D.Sc., D.I.C.
Principal Scientific Officers: W. W. Barkas, D.Sc.; W. G. Campbell; K. T. St. G. Cartwright; R. C. Fisher, Ph.D.; S. T. C. Stillwell

FUEL RESEARCH

Chairman of Board: Sir Harold Hartley, K.C.V.O., C.B.E., M.C., D.Sc., F.R.S.

Fuel Research Station
Blackwall Lane, East Greenwich, London, S.E.10. Telephone: Greenwich 1220.
Director: A. Parker, D.Sc., F.R.I.C., M.I.Chem.E.
Assistant Director: A. C. Monkhouse, Ph.D.
Principal Scientific Officers: A. Blackie, F.Inst.P.; A. T. Barber, M.I.Mech.E.; D. T. Davies, Ph.D.; T. F. Hurley, O.B.E.; D. MacDougall, F.R.I.C.

PHYSICAL AND CHEMICAL SURVEY OF NATIONAL COAL RESOURCES

Principal Scientific Officers: A. Dawe, F.R.I.C.; D. Hicks, F.R.I.C., A.M.I.Chem.E.; J. H. Jones, Ph.D.; W. J. Skilling, F.R.I.C.; L. Slater, Ph.D.; A. H. Wandless, F.R.I.C.

ROAD RESEARCH

Chairman of Board: Sir Frank Edward Smith, G.C.B., G.B.E., D.Sc., LL.D., F.R.S.

Road Research Laboratory
Harmondsworth, West Drayton, Middlesex. Telephone: Colnbrook 116.
Director: W. H. Glanville, C.B.E., D.Sc., Ph.D., M.Inst.C.E.
Principal Scientific Officers: W. W. Davies; A. R. Lee, Ph.D.; A. H. D. Markwick; F. N. Sparkes; A. G. Tarrant, F.Inst.P.

WATER POLLUTION RESEARCH

Chairman of Board: Professor Sir Robert Robinson, D.Sc., LL.D., F.R.I.C., F.R.S.

Water Pollution Research Laboratory
Broadlands, Langley Road, Watford, Herts. Telephone: Watford 4477.
Acting Director: B. A. Southgate, D.Sc., Ph.D.

GEOLOGICAL SURVEY

Chairman of Board: Professor A. E. Trueman, D.Sc.

Geological Survey and Museum of Practical Geology
Exhibition Road, South Kensington, London, S.W.7. Telephone: Kensington 5227.
Director: W. F. P. McLintock, D.Sc.
Deputy Director and Curator of Museum: Vacant
Assistants to Director: T. Eastwood (England); M. MacGregor, D.Sc. (Scotland).

Ministry of Agriculture and Fisheries

55, Whitehall, London, S.W.1. Telephone: Whitehall 3400.

Minister: The Right Hon. Tom Williams, M.P.
Parliamentary Private Secretary: Lt. F. Peart, M.P.
Permanent Secretary: Sir Donald Vandepeer, K.C.B., K.B.E.
Chief Drainage Engineer: G. V. Mathieson, O.B.E., M.S.E.
Chief Land Commissioner: J. S. Hill, F.S.I.
Architect: A. Thorpe, F.R.I.B.A.
Director of Farm Settlements: W. Hailey, F.S.I.
Chief Adviser Rural Development: L. D. Stamp, C.A., D.Sc. (temporary part-time)

Ministry of Labour and National Service

St. James's Square, London, S.W.1. Telephone: Whitehall 6200.

Minister: The Right Hon. G. A. Isaacs, M.P.

At the time of going to press no information concerning the Ministry was available.

Ministry of Supply

Shell Mex House, Victoria Embankment, London, W.C.2. Telephone: Gerrard 6933.

Minister: The Right Hon. John Wilmot, M.P.

Owing to the merging of the Ministry of Supply with the Ministry of Aircraft Production and the consequent reorganisation, no information is available at the time of going to press

Scottish Office

Fielden House, 10, Great College Street, London, S.W.1. Telephone: Whitehall 7464.

Secretary of State: The Rt. Hon. Joseph Westwood, M.P.
Parliamentary Under-Secretaries of State: George Buchanan, M.P., Thomas Fraser, M.P.
Permanent Under-Secretary of State: David Milne, C.B.

DEPARTMENT OF AGRICULTURE FOR SCOTLAND

St. Andrew's House, Edinburgh, 1. Telephone: Edinburgh 33433.

Secretary: Sir Patrick Laird, C.B., F.R.S.E.
Deputy Secretary: A. Glen, M.C.
Chief Land Officer: T. B. Manson, B.Sc.(Agric.), F.S.I.
Chief Engineer and Surveyor: A. G. Ingham, A.M.I.C.E., F.S.I., M.R.San.I.

DEPARTMENT OF HEALTH FOR SCOTLAND

St. Andrew's House, Edinburgh, 1. Telephone: Edinburgh 33433.

Secretary: G. H. Henderson, C.B.
Deputy Secretary: Craig Mitchell

Town and Country Planning
Assistant Secretary: H. R. Smith

General Housing Policy—Prefabricated Permanent Housing—Alternative Methods of Construction
Assistant Secretary: J. MacKenzie

Temporary Housing Policy—Repair of War Damage
Assistant Secretary: G. Crow

Rural Housing—Control of Rents—Requisitioning
Assistant Secretary: G. H. Kimpton

General Sanitation—Water Supplies
Assistant Secretary : G. MacRobbie

Technical Officers
Chief Architect and Chief Planning Officer : R. H. Matthew, A.R.I.B.A.
Chief Engineer : J. C. O. Burns, B.A., A.M.Inst.C.E.
Senior Quantity Surveyor : H. H. McTaggart, M.B.E., F.S.I.

Regional Planning Officers
Eastern Region : F. H. Littler, B.Arch., M.C.P., A.R.I.B.A., A.M.T.P.I.
Western Region : F. J. Evans, M.T.P.I., P.A.S.I.
Northern Region : Robert Grieve, A.M.I.C.E., M.T.P.I.

Government of Northern Ireland

Stormont, Belfast. Telephone : Belfast 63210.

GOVERNMENT HOUSE

Hillsborough, Northern Ireland. Telephone : Hillsborough 244.

Governor : Vice-Admiral The Earl of Granville, K.C.V.O., C.B., D.S.O.
Private Secretary : Commander Oscar Henderson, C.V.O., C.B.E., D.S.O., R.N.(Retd.)

CABINET OFFICES

Stormont Castle, Belfast. Telephone : Belfast 63210.

Prime Minister : The Rt. Hon. Sir Basil Brooke, Bt., C.B.E., M.C., D.L., M.P.
Private Secretary and Secretary to the Cabinet : R. Gransden, C.B.E.

OFFICE OF THE AGENT IN LONDON

21, Cockspur Street, London, S.W.1. Telephone : Abbey 4061.

Honorary Director, Information Services : Sir Ernest Cooper
Trade Officer : Major J. M. Henderson
Information Officer : E. P. Northwood

MINISTRY OF HEALTH AND LOCAL GOVERNMENT (Including HOUSING)

Stormont, Belfast. Telephone : Belfast 63210.

Minister : The Rt. Hon. W. Grant, J.P., M.P.
Permanent Secretary : E. W. Scales
Senior Architect : Denis Winston, M.A.

Planning Commission
Chairman : W. R. Davidge, F.R.I.B.A., F.S.I., A.M.Inst.C.E., P.P.T.P.I.
Secretary : J. Knipe (Ministry of Health and Local Government)

Planning Advisory Board
Chairman : D. Lindsay Keir, M.A.
Secretary : J. Knipe (Ministry of Health and Local Government)

Housing Trust
Chairman : F. Lucius O'Brien
Vice-Chairman : G. Herbert Bryson
Manager : W. McCaughey

MINISTRY OF FINANCE

Stormont, Belfast. Telephone : Belfast 63210.

Minister : Major The Rt. Hon. J. Maynard Sinclair, M.P.
Permanent Secretary : W. D. Scott

Director of Works : Major P. E. Shepherd, O.B.E., M.I.C.E.
Commissioner of Valuation : A. T. Green, F.S.I.
Registrar-General and Statistician : W. A. Carson, M.B.E.

Central Electricity Board

Trafalgar Buildings, 1, Charing Cross, London, S.W.1. Telephone : Whitehall 2121.

Chairman : Harold Hobson
General Manager : Sir Johnstone Wright
Chief Engineer : J. Hacking
Secretary : O. A. Sherrard

Central Valuation Committee

Caxton House East, Tothill Street, London, S.W.1. Telephone : Victoria 8540

Chairman : W. L. Raynes
Vice-Chairman : John Chown
Secretary : F. J. Ogden, O.B.E.

Coal Commission

(Constituted under the Coal Act 1938)

29, Chester Square, London, S.W.1. Telephone : Sloane 0808.
Scottish Office : 1, Eglinton Crescent, Edinburgh, 12. Telephone : Edinburgh 21231.

Chairman : Sir Ernest A. Gowers, G.B.E., K.C.B.
Deputy Chairman : Vacant
Other Members : W. M. Codrington, M.C. ; Lt.-Col. J. A. S. Ritson, D.S.O., O.B.E., M.C., T.D. ; J. Beaty, J.P.
Secretary and Controller : C. S. Hurst, C.B., O.B.E.
Chief Estates Manager : A. R. Thomlinson
Registrar and Legal Adviser : F. A. Enever, M.C., LL.D.
Finance and Establishment Officer : H. W. Naish, M.B.E., A.C.A.
Head of Administrative Department : A. E. Horton

REGIONAL ESTATES MANAGERS

(*Scottish*) : Col. F. J. Moffat, D.S.O.
(*Northern*) : F. A. Dixon
(*Western*) : C. H. Bailey
(*Yorkshire*) : C. Clarke
(*West Midland*) : H. Roscoe
(*East Midland*) : W. A. Baxter
(*South Wales, East*) : H. P. Herdman
(*South Wales, West*) : R. I. Treharne Rees
(*Southern*) : Managed from Headquarters

Commissioners of Crown Lands

Fort Belvedere, Sunningdale, Ascot, Berks. Telephone : Ascot 1071.

Commissioners (ex-Officio) : The Minister of Agriculture and Fisheries ; The Secretary of State for Scotland
Permanent Commissioner and Secretary : O. S. Cleverly, C.B., C.B.O.

Convention of Royal Burghs of Scotland

51, Castle Street, Edinburgh. Telephone : Edinburgh 20321.

President : The Rt. Hon. John I. Falconer, W.S. (the Lord Provost of Edinburgh)
Chairman : Sir Robert Nimmo (the Lord Provost of Perth)
Secretary : J. Gibson Kerr, W.S., F.R.A.S.

Council of Industrial Design

Tilbury House, Petty France, London, S.W.1. Telephone : Victoria 8540.

Chairman : Sir Thomas D. Barlow, K.B.E.
Director : S. C. Leslie
Members : Mrs. Margaret Allen ; Sir A. Steven Bilsland, Bt., M.C., D.L., J.P. ; Sir Kenneth Clark, K.C.B. ; Dr. R. S. Edwards, Ph.D., A.R.C.S. ; Leslie Gamage ; Ernest W. Goodale, M.C. ; William Haigh, J.P. ; Mrs. Mary Harris ; Francis Meynell, R.D.I. ; G. W. Odey ; S. Gordon Russell, M.C. ; Sir Charles B. L. Tennyson, C.M.G. ; A. G. Tomkins ; J. H. Tresfon ; Allan Walton, R.D.I. ; The Hon. Josiah Wedgwood ; Philip G. R. Whalley

SCOTTISH COMMITTEE OF THE COUNCIL

Chairman : Sir A. Steven Bilsland, Bt., M.C., D.L., J.P.
Members : Stanley Cursiter, O.B.E. ; E. L. Denny ; J. Douglas Hood ; William Hunter ; John McMurtrie Kay ; Lady MacGregor of MacGregor ; R. A. Maclean ; Neil Macneil, J.P. ; William Rennie, J.P. ; R. Lyon Scott ; Allan Walton
Secretary : F. V. Rushforth

Development Commission

6A, Dean's Yard, London, S.W.1. Telephone : Abbey 1177.

Chairman : The Rt. Hon. Richard Cavendish, C.B., C.M.G.
Secretary : E. H. E. Havelock, C.B.E., F.R.S.E.

Ecclesiastical and Church Estates Commissioners

1, Millbank, Westminster, London, S.W.1. Telephone : Whitehall 8954.

Secretary, Financial Adviser and Steward of the Manor : J. R. Brown
Official Architect : H. Passmore, F.R.I.B.A.
Assistant Official Architect : H. Braun, F.S.A., F.R.I.B.A.
Surveyors : (North) Messrs. Smith, Gore & Co., 7, Little College Street, London, S.W.1. (South) Messrs. Clutton, 5, Great College Street, London, S.W.1.

Electricity Commission

Savoy Court, Strand, London, W.C.2. Telephone : Temple Bar 7565.

Chairman : Sir Cyril Hurcomb, K.C.B., K.B.E.
Deputy Chairman : Sir John Kennedy, O.B.E., M.Inst.C.E., M.I.E.E.

Commissioners : C. G. Morley New, M.I.E.E. ; H. Nimmo, M.Inst.C.E., M.I.E.E., M.I.Mech.E.
Secretary : A. E. Marson, M.B.E.
Financial Officer : H. Douglas
Chief Engineering Inspector : Vacant
Legal Adviser : D. S. Cumberlege

Forestry Commission

25, Savile Row, London, W.1. Telephone : Regent 2688.

Chairman and Director General : Sir Roy Lister Robinson, O.B.E.
Commissioner and Deputy Director General : W. L. Taylor, C.B.E.
Commissioners (unpaid) : J. M. Bannerman ; Major Sir Richard Cotterell, Bt., J.P. ; Col. The Rt. Hon. Lord Courthope, M.C., T.D. ; The Rt. Hon. Thomas Johnston ; Major Lloyd O. Owen, J.P. ; The Earl of Radnor ; Major Sir Samuel Strang Steel, Bt., T.D. ; Lt.-Col. William Stirling of Keir
Directors of Forestry : O. J. Sanger, M.C. (England) ; A. P. Long, O.B.E. (Wales) ; A. H. Gosling (Scotland)
Director of Research, Education and Publications : W. H. Guillebaud
Secretary : T. W. Cleland

Forth Conservancy Board

14, Princes Street, Falkirk. Telephone : Falkirk 83.

Chairman : Capt. Cedric A. Salvesen, M.C., M.Inst.B.E.
Clerk and Treasurer to the Board : Duncan Kennedy, W.S.
Engineers : Messrs. Leslie & Reid, C.E., 72a, George Street, Edinburgh
Marine Superintendent : Capt. E. Roynon-Jones, R.N.

H.M. Land Registry

Temporary Address : Brooke Street, London, E.C.1. Telephone : Holborn 4451.

Chief Land Registrar : R. Mark Lowe
Registration of Title Department, Registrars : C. C. Deans ; W. J. L. Ambrose
Chief Assistant (Establishments) and Clerk of Accounts : A. H. Coates, M.B.E.
Chief Superintendent (Mapping Branch) : E. A. Malby, M.B.E., F.S.I.
Land Charges and Agricultural Credits Department, Superintendent : A. G. Clarkson

Lee Conservancy Board

Brettenham House, Lancaster Place, London, W.C.2. Telephone : Temple Bar 6416.

Chairman : Sir Thomas Keens, D.L., J.P.
Vice-Chairman : J. H. Hollins, J.P.
Clerk of the Board and General Manager : S. R. Hobday, O.B.E., F.R.S.A., M.Inst.T., Barrister-at-law
Engineer : B. Howorth, M.Inst.C.E.

London County Council (L.C.C.)

County Hall, Westminster Bridge, London, S.E.1. Telephone : Waterloo 5000.

Chairman : Charles Robertson, M.A., J.P.
Clerk of the Council : Sir Eric Salmon, M.C., D.L., J.P.

Comptroller of the Council : A. R. Wood
Chief Engineer and County Surveyor : Sir Peirson Frank
Architect to the Council and Superintending Architect of Metropolitan Buildings (also in charge of war debris service) : Vacant
Valuer to the Council : C. Walker, O.B.E., M.C.
Chief Officer of the Parks Department : A. R. Mawson
Chief Officer of Supplies : E. J. Boswell King, C.B.E., M.C.

London Passenger Transport Board (L.P.T.B.)

55, Broadway, London, S.W.1. Telephone : Abbey 1234.

Chairman : The Rt. Hon. Lord Ashfield
General Manager : T. E. Thomas
Secretary and Chief Legal Adviser : C. G. Page
Comptroller : L. C. Hawkins
Chief Solicitor (Common Law) : R. McDonald
Executive Officer for Staff and Staff Welfare : John Cliff
Chief Development and Research Officer : F. A. A. Menzler

Metropolitan Water Board

New River Head, Rosebery Avenue, London, E.C.1. Telephone : Terminus 3300.

Chairman : Henry Berry, M.I.Mech.E., A.I.Struct.E., F.R.S.A., M.P.
Clerk of the Board : C. W. Stoker
Chief Engineer : H. F. Cronin, C.B.E., M.C., B.Sc.(Eng.), M.Inst.C.E.
Director of Water Examination : Lt.Col. E. F. W. Mackenzie, O.B.E., M.C., M.B. Ch.B., D.P.H.
Surveyor : Lt.-Col. C. D. Shott, M.C., F.S.I., F.A.I.

National Buildings Record

37, Onslow Gardens, London, S.W.7. Telephone : Kensington 7070.

COUNCIL OF MANAGEMENT

Chairman : Sir Eric Maclagen, C.B.E., D.Litt., F.S.A.
Vice-Chairman : W. H. Ansell, M.C. (Past President of and representing R.I.B.A.)
Members : Professor T. S. R. Boase, M.C. (Director, and representing, Courtauld Institute of Art) ; G. H. Chettle, F.S.A. (representing Ministry of Works) ; Sir Alfred W. Clapham, C.B.E., F.B.A. (Past President, Society of Antiquaries and representing Royal Commission on Historical Monuments (England)) ; Sir Kenneth Clark, K.C.B. (former Director, National Gallery) ; The Very Revd. D. H. S. Cranage, Litt.D., F.S.A. (Chairman, and representing, Central Council for the Care of Churches) ; Mrs. Arundell Esdaile ; The Rt. Hon. Lord Esher (representing, National Trust) ; The Rt. Hon. Lord Faringdon ; Herbert Felton (representing, Royal Photographic Society) ; H. M. Fletcher, F.R.I.B.A. ; Sir Cyril Fox, Ph.D., F.B.A. (President, Society of Antiquaries and Director, National Museum of Wales) ; H. S. Goodhart-Rendel (Past President, R.I.B.A.) ; The Rt. Hon. Lord Greene (Master of the Rolls) ; The Rt. Hon. Lord Harlech, G.C.M.G., D.C.L., F.S.A. ; Frederick R. Hiorns, F.S.A., F.R.I.B.A. ; Christopher E. C. Hussey ; Osbert Lancaster ; John E. M. MacGregor, F.R.I.B.A. (Technical Adviser to and representing, Society for the Protection of Ancient Buildings) ; The Rt. Hon. Lord Justice Mackinnon ; J. G. Mann, F.S.A. (Keeper, Wallace Collection, Master of Armouries, Tower of London, Director, and representing, Society of Antiquaries) ; The Rt. Hon. Lord Methuen ; Professor A. E. Richardson, R.A., F.S.A., F.R.I.B.A. (representing, Royal Academy) ; Henry G. Strauss

Honorary Treasurer : Sir Charles Peers, C.B.E., F.R.A., F.S.A., etc.
Director and Secretary : Walter H. Godfrey, F.S.A., F.R.I.B.A.
Deputy Director : John Summerson, F.S.A., A.R.I.B.A.
Conway Librarian : Cecil Farthing, F.S.A., B.A.
Secretary : See Director above.

National Federation of Housing Societies

(Incorporated under Licence for the Board of Trade)

13, Suffolk Street, Pall Mall, London, S.W.1. Telephone : Whitehall 2881.

President : The Rt. Hon. The Viscount Gage, D.S.O.
Vice-Presidents : The Rt. Hon. The Lord Balfour of Burleigh ; The Countess Limerick, O.B.E.

MEMBERS OF COUNCIL

Chairman : Councillor R. S. F. Simson (Haywards Heath Housing Society, Ltd.)
Members : Ambrose E. Appelbe, M.A., LL.B. (Westminster Homes, Ltd.) ; Mrs. John Barclay, B.A., F.S.I. (St. Pancras House Improvement Society, Ltd.) ; F. Barlow (Bournville Village Trust) ; H. Collins, F.R.I.B.A., M.T.P.I. (Swaythling Housing Society, Ltd., and Hants Rural Cottage Improvement Society, Ltd.) ; P. C. Gray, M.A., F.S.I. (Hundred Houses Society, Ltd., Cambridge) ; E. Hall Williams (Welsh Town Planning and Housing Trust, Ltd.) ; Miss A. M. Lupton (Fulham Housing Improvement Society, Ltd.) ; P. Leigh-Breese (Guiness Trust) ; A. E. Malbon (South Western Co-operative Housing Society, Ltd.) ; Councillor J. E. G. McSheehy, F.S.I. (Wimbledon Housing Association, Ltd.) ; T. C. Morton (Salford Housing, Ltd.) ; Miss E. Murray (Westminster Housing Trust, Ltd.) ; Mrs. D. B. Murray (Thistle Property Trust, Ltd., Stirling) ; Councillor Mrs. P. M. Stevenson (Oxford Cottage Improvement Society, Ltd.) ; A. B. Street (Willesden Housing Society, Ltd.) ; R. T. Walters, M.A., F.C.A. (Islington and Finsbury Housing Association, Ltd.)
Honorary Consultant : Alderman A. T. Pike, O.B.E., J.P., F.C.C.S.
Joint Secretaries : Reginald Browne, F.I.A.A., F.I.A.S. ; Miss M. E. Merrylees, M.A.

North of Scotland Hydro-Electric Board

16, Rothesay Terrace, Edinburgh. Telephone : Edinburgh 27259.

Chairman : The Rt. Hon. Thomas Johnston, LL.D.
Deputy-Chairman and Chief Executive Officer : A. E. MacColl
Members : Neil Beaton (Chairman of the Scottish Co-operative Wholesale Society) ; ex-Provost Sir Hugh McKenzie, C.B.E. (ex-Provost of Inverness) ; Sir Duncan Watson, M.I.E.E., J.P.

AMENITY COMMITTEE*

Chairman : Col. The Hon. Ian Campbell, D.S.O.

FISHERIES COMMITTEE*

Chairman : Col. Sir D. W. Cameron of Lochiel, K.T., C.M.G.

* See Section 6 for details of membership.

o

Port of London Authority

London, E.C.3. Telephone : Royal 2000.

Chairman : Sir John Anderson, P.C., G.C.B., G.C.S.I., G.C.I.E., M.P.
General Manager : Sir Douglas Ritchie, M.C.
Secretary (Acting) : F. W. Nunneley
Chief Engineer : W. P. Shepherd-Barron, M.C., T.D., M.Inst.C.
Dock and Traffic Manager : T. Williams, M.A.
River Superintendent and Chief Harbour Master (Acting) : Commander A. M. Coleman, O.B.E., D.S.C., R.N. (Retd.)
Estate Officer : R. H. Pentleton, F.S.I.

Royal Fine Art Commission

22A, Queen Anne's Gate, London, S.W.1. Telephone : Whitehall 3935.

Chairman : The Earl of Crawford and Balcarres
Temporary Secretary : A. B. Knapp Fisher, F.R.I.B.A., Hon.A.R.C.A.

Royal Fine Art Commission for Scotland

National Portrait Gallery, Queen Street, Edinburgh, 2.

Chairman : The Lord Hamilton of Dalzell, Kt., C.V.O., M.C.
Members : James Miller, R.S.A., F.R.I.B.A. ; J. S. Clarke ; Douglas Strachan, LL.D., H.R.S.A. ; Sir J. R. Richmond, K.B.E. ; Harold O. Tarbolton, R.S.A., F.R.I.B.A.; Lady MacGregor of MacGregor ; C. d'O. Pilkington Jackson.
Secretary : A. E. Haswell Miller, M.C., R.S.W.

Thames Conservancy

2-3, Norfolk Street, Strand, London, W.C.2. Telephone : Temple Bar 5855.

Chairman : Capt. Jocelyn Bray, D.L., J.P.
Vice-Chairman : Major W. R. D. Mackenzie
Secretary and Solicitor : G. E. Walker, M.A., LL.B.(Cantab.)
Chief Engineer : R. V. W. Stock, M.C., B.Sc., M.Inst.C.E.

War Damage Commission

Devonshire House, Mayfair Place, London, W.1. Telephone : Mayfair 8866.

Chairman : Sir Malcolm Trustram Eve, Bt., M.C., T.D., K.C.
Secretary : Sir Robert Fraser, K.B.E., C.B.

REGIONAL STAFF

Region No. 1 (Northern)
Regional Manager : P. H. Chinnery, 5, Grosvenor Villas, Grosvenor Road, Newcastle-upon-Tyne. (Telephone : Jesmond 2020)

Region No. 2 (North-Eastern)
Regional Manager : A. H. W. Abbott, 2nd Floor, 36, York Place, Leeds. (Telephone : Leeds 30458)

Region No. 3 (North-Midland)
Regional Manager : A. Woods, Magdala House, Lucknow Road, Nottingham. (Telephone : Nottingham 6072)

Region No. 4 (Eastern)
Regional Manager : E. C. Pryce, O.B.E., County Bowling Club, Brooklands Avenue, Cambridge. (Telephone : Cambridge 55493)

Region No. 5a (London A)
Regional Manager : R. G. Townend, Government Building, Bromyard Avenue, Acton, London, W.3. (Telephone : Shepherds Bush 5555)

Region No. 5b (London B)
Regional Manager : V. P. O'Connor, Bankside House, 107-112, Leadenhall Street, London, E.C.3. (Telephone : Avenue 5691)

Region No. 5c (London C)
Regional Manager : H. E. Gibbs, Clifton House, Euston Road, London, N.W.1. (Telephone : Euston 6201)

Region No. 5d (London D)
Regional Manager : A. R. Farlam, 55, Eden Street, Kingston-on-Thames, Surrey. (Telephone : Kingston 7211)

Region No. 6 (Southern)
Regional Manager : J. T. Young, O.B.E., Coley Park, Reading. (Telephone : Reading 4827)

Region No. 7 (South-Western)
Regional Manager : W. C. Osmond, O.B.E., 4, Worcester Road, Clifton, Bristol, 8. (Telephone : Bristol 34096)

Region No. 8 (Wales)
Regional Manager : W. Jones, 88, Lake Road East, Cardiff. (Telephone : Cardiff 9050)

Region No. 9 (Midland)
Regional Manager : A. W. Arundale, Block 8, Viceroy Close, Bristol Road, Birmingham, 5. (Telephone : Birmingham Central 7531)

Region No. 10 (North-Western)
Regional Manager : J. L. Moffat, Lancaster House, Whitworth Street, Manchester, 1. (Telephone : Manchester Central 5657)

Region No. 11 (Scotland)
Regional Manager : F. Morton, O.B.E., Dunedin House, 100, George Street, Edinburgh. (Telephone : Edinburgh 33901)

Region No. 12 (South-Eastern)
Regional Manager : Major E. Resher, Dunorlan, Pembury Road, Tunbridge Wells. (Telephone : Tunbridge Wells 3402)

Region No. 13 (Northern Ireland)
Regional Manager : F. J. Falkiner, War Damage Commission, 27, Great Victoria Street, Belfast. (Telephone : Belfast 27981)

Overseas Section

Commonwealth of Australia

Governor General :

H.R.H. The Duke of Gloucester, K.G., P.C., K.T., G.M.B., G.C.M.G., G.C.V.O.

OFFICE OF THE HIGH COMMISSIONER

Australia House, Aldwych, London, W.C.2.
Telephone : Temple Bar 1567

Resident Minister and High Commissioner for Australia in the United Kingdom .. .. The Right Hon. J. A. Beasley

DEPARTMENTS OF THE COMMONWEALTH GOVERNMENT

Commonwealth Offices, Canberra, A.C.T.

Prime Minister and Treasurer .. .. The Right Hon. J. B. Chifley
Minister for Labour and National Service .. The Hon. E. J. Holloway
Minister for Commerce and Agriculture (including Food .. .. The Hon. W. J. Scully
Minister for Post-War Reconstruction and Minister in Charge of the Council for Scientific and Industrial Research .. .. The Hon. J. J. Dedman
Minister for Immigration and Minister for Information .. .. The Hon. A. A. Calwell
Minister for the Interior .. .. .. The Hon. H. V. Johnson
Minister for Health and Minister for Social Services .. .. Senator the Hon. J. M. Fraser
Minister for Repatriation and Minister in Charge War Service Homes .. The Hon. H. P. Lazzarini

New South Wales

Governor : (Vacant)
Lieutenant-Governor : The Hon. Sir Frederick R. Jordan, K.C.M.G.

OFFICE OF THE AGENT GENERAL

125, Strand, London, W.C.2.
Telephone : Temple Bar 4164

Agent General : The Hon. J. M. Tully

DEPARTMENTS OF THE NEW SOUTH WALES GOVERNMENT

Executive Buildings, Sydney

Premier and Colonial Treasurer .. .. The Hon. W. J. McKell
Minister for Labour and Industry and Minister for Social Welfare .. .. The Hon. H. Knight
Secretary for Public Works and Minister for Local Government .. .. The Hon. J. J. Cahill
Minister for Health .. .. The Hon. C. A. Kelly
Minister for Housing .. .. The Hon. J. McGirr
Secretary for Lands .. .. The Hon. J. M. Tully
Minister for Transport .. .. .. The Hon. M. O'Sullivan
Minister for Agriculture .. .. .. The Hon. E. H. Graham

Queensland

Governor : H.E. Colonel The Right Hon. Sir Leslie Orme Wilson, G.C.S.I., G.C.M.G., G.C.I.E., D.S.O.

OFFICE OF THE AGENT GENERAL

409-10, Strand, London, W.C.2.
Telephone : Temple Bar 3224

Agent General : L. H. Pike, A.C.I.S.

DEPARTMENTS OF THE QUEENSLAND GOVERNMENT

Executive Buildings, Brisbane, Queensland

Premier and Chief Secretary	The Hon. F. A. Cooper
Secretary for Health and Home Affairs	The Hon. T. A. Foley
Secretary for Public Works	The Hon. H. A. Bruce
Secretary for Public Lands	The Hon. H. A. Jones
Minister for Transport	The Hon. E. J. Walsh
Secretary for Labour, Employment and Mines	The Hon. V. C. Gair
Secretary for Agriculture and Stock	The Hon. T. L. Williams

South Australia

Governor : H.E. Lt.-General Sir Charles Willoughby Norrie, K.C.M.G., C.B., D.S.O., M.C.

OFFICE OF THE AGENT GENERAL

South Australia House, Marble Arch, London, W.1.
Telephone : Mayfair 5061

Agent General : Sir Charles F. G. McCann

DEPARTMENTS OF THE GOVERNMENT OF SOUTH AUSTRALIA

Treasury Buildings, Flinders Street, Adelaide, South Australia

Premier, Treasurer and Minister of Immigration	The Hon. T. Playford
Chief Secretary, Minister of Mines and Minister of Health	The Hon. A. L. McEwin, M.L.C.
Attorney General, Minister of Education and Minister of Industry and Employment	The Hon. C. L. Abbott, K.C.
Commissioner of Crown Lands, Minister of Repatriation and of Irrigation	The Hon. R. J. Rudall, M.L.C.
Commissioner of Public Works, Minister of Railways, Minister of Marine and of Local Government	The Hon. M. McIntosh
Minister of Agriculture and Afforestation	The Hon. G. F. Jenkins

Tasmania

Governor : H.E. Admiral Sir Hugh Binney, K.C.B., D.S.O.

OFFICE OF THE AGENT GENERAL

Australia House, Aldwych, London, W.C.2.
Telephone : Temple Bar 9471

Agent General : Sir Claude James

DEPARTMENTS OF THE GOVERNMENT OF TASMANIA

Hobart, Tasmania

Premier and Minister for Education	The Hon. R. Cosgrove
Minister for Lands and Works	The Hon. E. Brooker
Minister for Agriculture and the Agricultural Bank	The Hon. John L. Madden
Chief Secretary and Minister for Transport	The Hon. C. E. Culley

Victoria

Governor : H.E. Major-General Sir Winston Dugan, G.C.M.G., C.B., D.S.O.

OFFICE OF THE AGENT GENERAL
Victoria House, Melbourne Place, Strand, London, W.C.2.
Telephone : Temple Bar 2656

Agent General : The Hon. N. A. Martin

DEPARTMENTS OF THE GOVERNMENT OF VICTORIA
State Public Offices, Melbourne, Victoria

Premier and Treasurer	The Hon. John Cain
Minister of Labour and Employment	The Hon. P. J. Clarey, M.L.C.
Minister of Health, Housing and Forests	The Hon. W. P. Barry
Minister for Lands and Water Supply	The Hon. L. W. Galvin
Minister for Public Works and Electrical Undertakings	The Hon. P. J. Kenelly, M.L.C.
Minister of Transport, State Development and Decentralisation	The Hon. C. Stoneham

Western Australia

Governor : H.E. Sir James Mitchell, K.C.M.G.

OFFICE OF THE AGENT GENERAL
Savoy House, Strand, London, W.C.2.
Telephone : Temple Bar 8601

Agent General : The Hon. M. F. Troy

DEPARTMENTS OF THE GOVERNMENT OF WESTERN AUSTRALIA
Perth, Western Australia

Premier and Treasurer	The Hon. J. C. Willcock
Minister for Lands and Agriculture	The Hon. F. J. S. Wise
Minister for Works, Water Supplies and Industrial Development	The Hon. A. R. G. Hawke
Minister for Mines and for Health	The Hon. A. H. Panton
Minister for Railways and Justice	The Hon. E. Nulsen
Minister for the North West and for Forests	The Hon. A. M. M. Coverley
Minister of Education and Social Services	The Hon. J. T. Tonkin

Canada

Governor-General : Field Marshal The Viscount Alexander of Tunis, G.C.B., G.C.M.G., C.S.I., D.S.O., M.C., A.D.C.

OFFICE OF THE HIGH COMMISSIONER
Canada House, Trafalgar Square, London, S.W.1.
Telephone : Whitehall 9741

High Commissioner : The Right Hon. Vincent Massey, P.C.

DEPARTMENT OF THE GOVERNMENT OF CANADA

Parliament Buildings, Ottawa, Ontario, Canada

Prime Minister, President of the Privy Council, Secretary of State for External Affairs	The Right Hon. W. L. Mackenize King, C.M.G.
Minister of Veterans' Affairs	The Hon. Ian A. Mackenzie, K.C.
Minister of Reconstruction and Supply	The Hon. C. D. Howe
Minister of Agriculture	The Hon. J. G. Gardiner
Minister of Labour	The Hon. Humphrey Mitchell
Minister of Public Works	The Hon. Alphonse Fournier, K.C.
Minister of National Health and Welfare	The Hon, Brooke Claxton, K.C.
Minister of Mines and Resources (including Immigration)	The Hon. James A. Glen, K.C.
Minister of Transport	The Hon. Lionel Chevrier, K.C.

India

Viceroy: H.E. Field Marshal The Right Hon. Viscount Wavell, G.C.B., G.M.S.I., G.M.I.E.. C.M.G., M.C.

OFFICE OF THE HIGH COMMISSIONER

India House, Aldwych, London, W.C.2.
Telephone : Temple Bar 8484

High Commissioner: Sir Samuel Runghanadan

DEPARTMENTS OF THE GOVERNMENT OF INDIA

New Delhi

Secretary, Department of Labour	The Hon. H. V. Prior, C.S.I., C.I.E., I.C.S.
Secretary, Department of Planning and Development	Lt.-General Sir Thomas Hutton, K.C.I.E., C.B., M.C.
Industrial Adviser to the Government of India	J. Vesugar
Secretary, Home Department	The Hon. Sir Richard Tottenham, C.S.I., C.I.E., I.C.S.

New Zealand

Governor-General Designate: Lieut.-General Sir Bernard Freyberg, V.C., K.C.B., K.B.E., C.M.G., D.S.O., etc.

OFFICE OF THE HIGH COMMISSIONER FOR NEW ZEALAND

415, Strand, London, W.C.2.
Telephone : Temple Bar 3241

High Commissioner: The Right Hon. W. J. Jordan, P.C.

DEPARTMENTS OF THE NEW ZEALAND GOVERNMENT

Wellington, New Zealand

Prime Minister	The Right Hon. Peter Fraser, P.C.C.H.
Minister of Labour	The Hon. P. C. Webb
Minister of Internal Affairs	The Hon. W. Parry
Minister of Employment (and National Employment Service)	The Hon. A. Mclagan
Minister of Works and Minister in Charge of State Hydro-Electrical Department	The Hon. R. Semple

Minister of Lands, Rehabilitation and Commissioner of State Forests	The Hon. C. F. Skinner, M.C.
Minister of Agriculture and Marketing	The Hon. Ben Roberts

South Africa

Governor General : H.E. The Right Hon. G. B. van Zyl

OFFICE OF THE HIGH COMMISSIONER

South Africa House, Trafalgar Square, London, S.W.1.
Telephone : Whitehall 4488

High Commissioner : G. Heaton Nicholls

DEPARTMENTS OF THE GOVERNMENT OF THE UNION OF SOUTH AFRICA

Pretoria, South Africa

Prime Minister, Minister of External Affairs and Minister of Defence :	Field Marshal The Right Hon. J. C. Smuts, P.C., C.H., K.C., D.T.D., M.P.
Minister of Justice and Welfare	The Hon. H. G. Lawrence, K.C., M.P.
Secretary for Labour	Brig. F. L. A. Buchanan
Secretary for Public Health and Chief Health Officer :	The Hon. P. Allan, M.D., Ch.B., D.P.H., R.C.P.S., R.F.P.S.
Department of National Health—	
National Housing and Planning Commission; Chairman	W. Brinton
National Housing Council ; Chairman	The Minister of Health, Dr. H. Gluckman
Secretary for Lands	J. C. van W. Steytler
Secretary for the Interior	J. S. Hurter
Immigrants' Selection Board ; Chairman	D. D. Forsyth
Secretary for Public Works	T. A. F. Rhodes, B.A., M.E.Com., L.L.
Director of Irrigation	L. A. Mackenzie, B.Sc.(Eng.), M.I.C.E.
Minister of Economic Development	The Hon. S. F. Waterson

Southern Rhodesia

Governor : Admiral Sir Campbell Tait, K.C.B., M.V.O.

OFFICE OF THE HIGH COMMISSIONER

Rhodesia House, 429, Strand, London, W.C.2.
Telephone : Temple Bar 1133

High Commissioner : S. M. Lanigan O'Keefe, C.M.G.

DEPARTMENTS OF THE GOVERNMENT OF SOUTHERN RHODESIA

Salisbury, Southern Rhodesia

Prime Minister and Minister of Native Affairs	The Hon. Sir Godfrey Huggins, K.C.M.G., C.H., F.R.C.S., M.P.
Minister of Justice and Public Works	Capt. The Hon. Harry Bertin, K.C., M.P.
Minister of Internal Affairs and Minister of Air	Colonel The Hon. Sir Ernest Lucas Guest, K.B.E., M.P.
Town Planning Officer	P. M. Aldred, A.M.T.P.I., Dip.T.P.

United States of America

NATIONAL HOUSING AGENCY : OFFICE OF THE ADMINISTRATOR

1600, Eye Street, N.W., Washington, D.C.
Telephone : Executive 4160 ; Information, Branch 656

Administrator : John B. Blandford, Jnr.
Assistant Administrator (Administration) : Lyman S. Moore
Assistant Administrator (Programme) : Coleman Woodbury
Assistant Administrator (Operations) : J. Bion Philipson
General Counsel : Leon H. Keyserling
Director of Information : Howard F. Vickery
Special Assistant to the Administrator : Jacob Crane
Special Assistant to the Administrator : N. S. Keith

FEDERAL HOUSING ADMINISTRATION

1001, Vermont Avenue, N.W., Washington, D.C.
Telephone : Executive 4160 ; Information, Branch 609

Commissioner : Raymond M. Foley
General Counsel : Burton C. Bovard
Assistant Commissioner (Administration) : R. Winton Elliott
Assistant Commissioner (Title I) : Arthur J. Frentz (Acting)
Assistant Commissioner (Underwriting) : Curt C. Mack
Assistant Commissioner (Rental Housing) : Clyde L. Powell
Assistant to the Commissioner : Robert B. Smith
Zone Commissioners :
Zone I : John G. Rouse
Zone II : Kent R. Mullikin
Zone III : Frederick A. van Patten
Zone IV : Franklin D. Richards
Comptroller : Lester H. Thompson
Director, Division of Research and Statistics : Mrs. Shirley K. Hart
Personnel Director : James E. Hicks
Budget Officer and Actuary : Paul M. Stoner

FEDERAL PUBLIC HOUSING AUTHORITY

1201, Connecticut Avenue, N.W., Washington, D.C.
Telephone : Executive 4160 ; Information, Branch 2251

Commissioner : Philip M. Klutznick
Assistant Commissioner for Project Management : John Taylor Egan
Assistant Commissioner for Development : W. P. Seaver
Assistant Commissioner for Real Estate and Disposition : C. Russell Craven
Comptroller : H. L. Wooten
General Counsel : David L. Krooth
Chief Economist : Warren J. Vinton
Assistant to the Commissioner : James R. Lee
Personnel Director : Charles G. Stern
Administrative Planning Director : Thomas M. Hall

FEDERAL WORKS AGENCY

Federal Works Building, Eighteenth and F Streets N.W., Washington, D.C.
Telephone : Executive 4900 : Branch 451.1

Administrator : Major-General Philip B. Fleming
Assistant Administrator : Baird Snyder
Executive Officer : Ernest E. Hall
General Counsel : Alan Johnstone
Director of Information : Aubrey E. Taylor

PUBLIC BUILDINGS ADMINISTRATION

Federal Works Building, Eighteenth and F Streets N.W., Washington, D.C.
Telephone: Executive 4900

Commissioner of Public Buildings: W. F. Reynolds
Assistant Commissioner: E. G. Hunter
Deputy Commissioner in Charge of:
Design and Construction: George Howe
Buildings Management: C. A. Peters
Real Estate Management: F. R. Witman
Administration: R. O. Jennings

PUBLIC ROADS ADMINISTRATION

Federal Works Building, Eighteenth and F Streets N.W., Washington, D.C.
Telephone: Executive 4950

Commissioner: Thomas H. MacDonald
Deputy Commissioner in Charge of:
Finance and Business Management: C. D. Curtiss
Construction and Maintenance: J. S. Bright
Research: H. S. Fairbank
Design: H. E. Hilts
Solicitor: L. E. Boykin
Division Engineer, Eastern Forests and Parks: H. J. Spelman
Chief, Inter-American Regional Office: E. W. James
Division Engineer, Division No. 2: C. E. Swain

Official Statements

Ministry of Town and Country Planning

32-33, St. James's Square, London, S.W.1. *Telephone:* *Whitehall 8411.*
Minister: *The Right Hon. LEWIS SILKIN, P.C., M.P.*

THE Ministry of Town and Country Planning was established in February 1943, with the duty, as defined by Parliament, of "securing consistency and continuity in the framing and execution of a national policy with respect to the use and development of land throughout England and Wales."

Towards this end considerable research has been undertaken on the resources of the land and conditions affecting its use, for the formulation of policy on land utilisation and its detailed execution in planning. The subjects studied may be summarised as including: (1) The physical background of the land, its present use and capabilities; (2) the distribution of population; the occupational need and well-being of communities; and (3) the structure of towns; the principles governing the layout and grouping of buildings, the arrangement of sites, communications and services.

This information is being recorded in maps, diagrams and statistics, and in a series of memoranda and bibliographical references. The maps present data in a form convenient for comparison and on a scale appropriate to the problem, whether national or local. They include physical and geological characteristics, land utilisation and agricultural classifications and data relating to minerals, population density and movement, communications, public services and administrative areas.

Various measures have been adopted to meet planning needs. The Town and Country Planning (Interim Development) Act 1943 made the whole country subject to planning control. The Town and Country Planning Act 1944 set up machinery for carrying into effect the redevelopment plans which the war-damaged cities had been preparing. The Distribution of Industry Act 1945, introduced by the President of the Board of Trade, made provision for financial inducements to attract new industrial building to areas where it is most needed.

Machinery has also been set up to secure the highest possible degree of co-ordination between Government departments who are users of land. Outline plans have been prepared for important areas, such as Greater London and Merseyside, and others are in preparation for various other large industrial areas.

With regard to the development of satellite towns and new towns, one of the most difficult problems is the fitting of the new urban growth into the existing structure of local government. With this problem in view, the Minister (jointly with the Secretary of State for Scotland) recently appointed the New Towns Committee (*see* Section 6) under the Chairmanship of Lord Reith.

Ministry of Works

Lambeth Bridge House, Albert Embankment, London, S.E.1. *Telephone : Reliance 7611.*

Minister : The Right Hon. GEORGE TOMLINSON, P.C., M.P.

Owing to the fact that the functions of the Ministry are in a state of flux it has not been possible to obtain any information.

Ministry of Education

Belgrave Square, London, S.W.1. *Telephone : Sloane 4522.*
Minister : The Right Hon. ELLEN C. WILKINSON, P.C., M.P.

IMPLEMENTATION OF THE EDUCATION ACT 1944

OWING to the shortage of skilled building labour and the urgent need for houses, the amount of building labour available for education is at present small. In order to make the most economical use of the labour allotted and of materials in short supply, only building of a temporary character can be contemplated during the next year or two.

Assuming that huts are used to the greatest possible extent, it is estimated (on the basis of returns from local education authorities) that in order to provide the minimum accommodation to enable the school-leaving age to be raised to 15 by 1st April, 1947, about £6,500,000 worth of building work will be required.

The amount of building labour allotted to the Ministry for the year beginning 1st August, 1945, is the equivalent of £5 millions worth of work. Of this, £3 millions has been allotted to the school meals service, the expansion of which is most urgently needed in connection with the provision of family allowances in kind. A further £500,000 has been allotted to further education (including minor adaptations to teachers' training college premises). Thus £1½ millions remain for raising the school-leaving age.

The needs of the school meals service and further education will not decrease in the following two years, but the Ministry's total allocation should rise gradually, so that it should be possible to complete the £6,500,000 worth of work by mid-1948.

The special limitations on educational building in London and the South-East have recently been lifted and the limitation on the purchase of sites to those required to meet urgent needs during the first two years after the end of the war in Europe has been withdrawn.

In order to accelerate the planning and provision of temporary accommodation and to eliminate so far as possible the need for official sanctions, arrangements have been made whereby the Ministry of Works will be prepared to undertake for local education authorities the provision and erection of prefabricated huts. This will make it possible to provide for the manufacture of the huts and their erection in the various areas in accordance with a clearly defined programme and a systematic balanced plan. Under these arrangements, the Ministry of Works will be ready

to provide and erect the necessary huts in consideration of an annual payment by the local education authority amounting to 8 per cent. of the total cost of the hut and of the works, including the preparation of the site necessary for its erection. This annual payment will, of course, be recognised for grant under the Ministry of Education's Grant Regulations, No. 1, and will cease to be payable as soon as the use of the hut is discontinued.

It will become the duty of the local education authorities to establish and maintain county colleges not later than three years after the raising of the school-leaving age to 15, *i.e.*, not later than 1st April, 1950. The provision of compulsory education for young people between 15 and 18 for the equivalent of one day a week will entail a substantial building programme and will require the services of about 20,000 teachers.

If the full fruits of raising the school-leaving age and of reorganisation are to be gathered, the size of classes must be reduced to 40 (primary) and 30 (secondary) as soon as possible. To complete this process will require about 20,000 additional teachers and in general it can be accomplished satisfactorily only on the basis of the permanent buildings for which the authorities' development plans, due to be submitted to the Ministry by the 1st April, 1947, will provide. Authorities have been urged to get on as soon as opportunity offers, with the business of reducing the size of the classes to the fullest extent compatible with their statutory duty to establish county colleges.

Ministry of Health

Whitehall, London, S.W.1. *Telephone : Whitehall 4300.*

Minister : The Right Hon. ANEURIN BEVAN, P.C., M.P.

THE Ministry of Health is responsible for the general supervision of all matters relating to public health, including not only public health and sanitary services in the ordinary sense of the terms, but also housing and public assistance. The Ministry is also concerned with rating and valuation, certain aspects of the law of building, the audit of local authorities' accounts, and wide general and financial aspects of Local Government. Most of the services for which the Ministry is responsible are operated by local authorities.

Of the war emergency services for which the Ministry was responsible the Emergency Hospital Scheme, the Blood Transfusion Service, the Civil Nursing Reserve and the First-Aid repair of damaged houses are continuing.

The Minister has no jurisdiction in Scotland or Northern Ireland. In Wales, many of his functions are exercised through the Welsh Board of Health, with headquarters at Cardiff. The Minister is also responsible to Parliament for the work of the Board of Control in relation to lunacy and mental deficiency, and for the department of the Registrar-General for England and Wales. He is also a member of the Committee of the Privy Council, which is responsible for Medical Research.

The public health services include maternity and child welfare, the control of infectious diseases, and the tuberculosis, cancer and venereal disease services. Protective services include supervision of the purity of food, drugs and therapeutic substances ; water supply ; sewerage and sewage disposal ; refuse disposal ; the provision of burial grounds and open spaces ; and the enforcement of building and other by-laws.

Of important measures in post-war reconstruction with which the Ministry is concerned, two Housing Acts have already received the Royal Assent ; the Water Act was passed in 1945 ; and the Local Government Boundary Commission has been set up. Proposals for a National Health Service have been submitted to Parliament. The Nurses' Acts of 1943 and 1945, and the establishment of the Nurses' Salaries Committee, and the Midwives' Salaries Committee, under the Chairmanship of Lord Rushcliffe, have brought big changes and improvements to the status and conditions of nurses and midwives.

The responsibilities of the Ministry of Health in relation to National Health Insurance (except medical benefit), contributory pensions and supplementary pensions, have been transferred to the Ministry of National Insurance. The Ministry of Health will have a joint responsibility with the new Ministry for a few matters, including dental benefit.

HOUSING

The Ministry of Health administers the Housing Acts, which give local authorities very wide powers and duties in the housing field. These include not only powers to build houses but also to undertake slum clearance, mitigate overcrowding and to see that landlords and owners keep their property in habitable repair. The acute shortage of housing accommodation which has resulted from the war has made housing the most important of the Ministry's functions and necessitated concentrating the efforts of local authorities on the provision of new housing accommodation.

Houses are provided by local authorities with Government subsidy and the authorities' proposals are subject to Government approval. Approval to sites on planning grounds is given by the Ministry of Town and Country Planning, and all house-plans, etc., require the approval of the Ministry of Health. Certain definite standards of size, design and equipment are insisted upon. In order to eliminate delay in giving approval to local authorities' proposals the Housing Division of the Ministry has recently been reorganised by the devolution of responsibility for day-to-day liaison with local authorities to a number of "Principal Housing Officers", one of whom is stationed at the Headquarters of each of the old Civil Defence Regions throughout the country. Reference by them to Headquarters is necessary only in exceptional cases.

At Whitehall measures are taken on a national scale to facilitate the housing programme in conjunction with the Ministry of Works, which is responsible for the supply of materials, the Ministry of Supply which is responsible for equipment and components, and the Ministry of Labour.

A Progress Report on the Housing Programme is presented by the Minister of Health to Parliament at regular intervals.

Recent Housing legislation includes :

1. The Building Materials and Housing Act 1945, to make financial provision for bulk purchase by the Government of housing materials and components including complete prefabricated houses. The Act also contains a Clause providing that the power which local authorities have under the Small Dwellings Acquisition Acts to advance money to people wishing to buy their houses or to build a house to live in, shall extend to houses up to a value of £1,500. Previously power was limited to houses valued at not more than £800.
2. The Acquisition of Land (Authorisation Procedure) Bill, to simplify the procedure whereby local authorities can acquire land compulsorily for public purposes.
3. The Housing (Financial and Miscellaneous Provisions) Bill which fixes *inter alia* the amount of the Exchequer subsidies payable to local authorities in respect of new houses built by them.

The following Defence Regulations have also been made in connection with housing :

1. Defence Regulation 68CA, which prohibits the use of housing accommodation (which has been used for non-residential purposes) except with the consent of the Housing Authority or of the Minister of Health on appeal.
2. Defence Regulation 68CB, which provides for the waiving of any by-laws or other provisions which would prevent home sharing in respect of accommodation registered with the local authority, in response to the Minister of Health's appeal to householders to share their houses.

Power has also been delegated to local authorities to requisition empty houses, subject to certain conditions, for the inadequately housed, under Defence Regulation 51.

Board of Trade

Millbank, London, S.W.1. *Telephone : Whitehall 5140.*

President : The Right Hon. SIR STAFFORD CRIPPS, K.C., M.P.

AS soon as the war came to an end, one of the main tasks of the Board of Trade became the reconversion of industry from wartime to peacetime production. The function of the Department is to do everything within its powers to assist industry to achieve maximum production, both for home and export markets.

The Board of Trade is responsible for industries employing approximately 2½ million people ; broadly, these produce consumer goods and exclude agriculture, food and heavy engineering industries. One immediate object of the reconversion programme is the derequisitioning of factory and storage space which had been taken over by the Government during the war, so that it can be made available to industrialists.

Another task is the administration of the Distribution of Industry Act which provides for the encouragement of a variety of industries in specified Development Areas.

In order that these problems should be handled with full local knowledge, Board of Trade Regional Offices have been set up in 13 areas, and a regional organisation co-ordinates industrial information from the various interested Government departments to provide a complete advice service for industrialists.

To ensure that labour and raw materials are fairly divided among industries, and that particular assistance is given where it is most needed, the tripartite Working Party system has been evolved ; the reports of the Working Parties will give a picture of the industrial needs of the country, and of the problems and possibilities that face individual industries in reconversion from war to peace.

Department of Scientific and Industrial Research (D.S.I.R.)

24, Rutland Gate, London, S.W.7. *Telephone: Kensington 9022.*
Responsible Minister: THE LORD PRESIDENT OF THE COUNCIL

THE Department of Scientific and Industrial Research (D.S.I.R.) is a Government Department founded in 1916. The Lord President is advised by an Advisory Council composed of eminent scientists and industrialists, who report and recommend upon proposals (i) for instituting specific researches ; (ii) for establishing or developing special institutions or departments of existing institutions for the scientific study of problems affecting particular industries or trades ; (iii) for the establishment and award of research studentships and fellowships. Other Government departments appoint Assessors to the Council.

SCOPE AND FUNCTIONS

With the exceptions of medicine and agriculture, which are dealt with by the Medical Research Council and the Agricultural Research Council respectively, for which the Lord President is also responsible, the D.S.I.R. embraces in its scope all branches of natural science and their application to industrial processes, including the storage and processing of foodstuffs and the utilisation of timber. The application of science to the requirements of the fighting Services and to war production is primarily, of course, the concern of the fighting services and the supply departments, although D.S.I.R. has carried out during the war a great volume of work on their behalf. Within its scope the Department's activities are broadly as follows : (1) Research in the national interest for the benefit of the community and to meet the requirements of the Government ; (2) the encouragement of industrial research and the application of scientific knowledge in industry ; (3) the encouragement, as a main source of new knowledge, of fundamental research at the universities and

elsewhere and the maintenance of an adequate supply of trained research workers for laboratories of all kinds.

NATIONAL RESEARCH

To discharge the first of these functions the Department maintains ten establishments under its own control and financed from its own vote. The largest of these is the National Physical Laboratory whose main function is research into methods of measurement upon which apparatus for research purposes and for the control of industrial processes must ultimately be based. The National Physical Laboratory has Divisions devoted to physics, electricity, metrology, engineering, aerodynamics, metallurgy, radio, ship design, light and mathematics.

The D.S.I.R. is also responsible for the Geological Survey* of Great Britain and the Museum of Practical Geology. The work of the Survey covers the scientific study of the geology of this country. Its advice is in continual demand by Government and industry on such problems as the distribution of mineral deposits of all kinds and of underground water. The Survey is almost invariably consulted before any important civil engineering work of any kind is begun. Other establishments of the Department deal with building* : fuel*, particularly coal, including the scientific survey of the national coal resources conducted at nine laboratories in the various coalfields, with headquarters at the Fuel Research Station at Greenwich ; the utilisation of timber*; road research*; the treatment of water and trade effluents * and the prevention of the attack on stored produce by insects. The transport and storage of foodstuffs are dealt with in three laboratories, *viz.*, the Low Temperature Research Station, Cambridge ; the Torry Research Station, Aberdeen, which is devoted to fish ; and the Ditton Laboratory, East Malling, devoted to the large-scale storage of fruit. The D.S.I.R. also maintains a Chemical Research Laboratory.

Collaboration between D.S.I.R. and the executive departments of State has become steadily closer and the provision of scientific knowledge upon which policy can be based has assumed greater and greater importance. The task of carrying out research to provide this knowledge is largely that of the D.S.I.R. establishments which co-operate closely, for example, with the Ministry of Works on Building Research and the Ministry of Fuel and Power on Fuel Research.

Most of the Department's organisations are under separate Directors of Research who are in turn advised by Boards and Committees appointed by the Lord President and, like the Advisory Council, composed of independent scientists and industrialists with assessors appointed by the appropriate Government departments.

INDUSTRIAL RESEARCH

In meeting its second objective D.S.I.R. has encouraged industrial research in many ways, but the chief means adopted has been the institution of co-operative research associations. These are autonomous bodies

* Full descriptions of the work of these Establishments follow this statement.

formed to serve the needs of particular industries, financed by the industries themselves, but assisted by grants from the Department related in amount to the sums raised by the industry.

There are at present Research Associations serving the following industries: Iron and steel; non-ferrous metals; cast iron; coal*; gas and coke; electricity; cotton; silk; rayon; wool; linen; leather; boots and shoes; cocoa; chocolate and confectionery; flour milling; food processing; internal combustion engines; laundry; paint and varnish*; pottery; refractories; scientific instruments; ship building; printing and paper; rubber; welding.

Negotiations are going on for the formation of several other associations.

RELATIONS WITH UNIVERSITIES

Turning to the relation of the Department to the universities, it should be noted that the responsibility for general provision for University research is not that of the Department but of the University Grants Committee. The Department, however, makes grants to individual workers at the universities and similar institutions. Such assistance normally takes the form of provision for the employment of research assistants or for the acquisition of special apparatus. The main criterion for the grants is the "timeliness and promise" of the work proposed. On the recommendation of its Boards and Committees the Department also makes arrangements for work on specific items to be carried out on their behalf extra-murally at the universities.

The D.S.I.R. is also brought into close contact with the universities in a scheme for maintenance allowances for post-graduate students, which allows them to be trained as research workers. Under this scheme young post-graduate students work under the direction of a supervisor for perhaps two years on a problem usually selected by him. The object is not to turn out specialists, but to turn out trainees with an understanding of the scientific method of attack and with the confidence necessary for successful research work.

FUTURE PLANS

During the war the whole resources of the Department have been devoted to war work but the Directors of Research and their respective Boards are now considering how their work should be adapted and reorientated to meet post-war needs and what expansion is necessary.

The Advisory Council has also instituted inquiries to review the facilities for research into mechanical and civil engineering and to recommend in which directions they should be expanded. Another inquiry is being conducted into the likely demand for routine testing and how this can best be met.

INFORMATION AND INTELLIGENCE

Information in the possession of the Department, and its advice, have always been freely available to inquirers. The Advisory Council feels strongly, however, that this service should be further extended. On its

* *See* Section 5.—Research Associations of the D.S.I.R.

advice, therefore, the headquarters office of the Department is being strengthened by the setting up of an Information and Intelligence Division, with the specific task of assisting inquirers with advice on the best means of dealing with their research problems. The object is not so much the provision of technical answers to inquiries, but the direction of inquirers to appropriate persons or organisations if reference to scientific literature is not sufficient. Thus the Division will direct inquirers to the establishments of the D.S.I.R. research associations, university workers or on occasion to industrial firms. It will also, in those cases where private consultants are able to be of assistance, direct inquirers to suitable private consultants on the advice of the appropriate professional institutions. The Division will also co-operate with other information and intelligence divisions set up by industries, chambers of commerce and other industrial organisations.

The Division is also to be responsible for the extension of the publicity services of the Department which, in addition to the publication and dissemination of scientific and technical knowledge, will include publicity of a more popular kind.

Building Research Station

Bucknall's Lane, Garston, Nr. Watford, Herts. Telephone: Garston 2246.
Director: I. G. EVANS

THE Building Research Station was established in 1921. Its origin can be traced to the Housing (Building Construction) Committee (the Tudor Walters' Committee) set up by the Local Government Board during the war of 1914-18 to consider problems of post-war housing. At the instance of that Committee, certain investigations on building materials were undertaken by the D.S.I.R., who appointed for that purpose a Building Materials Research Committee. This Committee was disbanded in 1920, and following a suggestion from the Standardisation and New Methods of Construction Committee of the Ministry of Health, the Building Research Board was appointed in that year by the Department to put research on building materials and methods of construction on a wider and more permanent footing.

The Building Research Station was first established in temporary premises at East Acton, and was moved to its present quarters in 1925. The Station has a staff of 259 of whom 145 are scientific and technical. Its present annual expenditure is £150,000.

SCOPE OF INVESTIGATIONS. The work of the Station, which has necessarily been much affected by the war, falls into the following main divisions: Problems of materials; problems of the structure; problems associated with the efficiency of the building as a whole; and as a recent innovation, problems of the technique of construction.

Work on materials is largely of a chemical and physical nature and covers a variety of materials such as building stones, clay products, cement and concrete, renderings and plasters, and flooring and roofing materials.

Work on problems of the structure is largely of an engineering nature and is concerned primarily with the strength and stability of structures and related matters, such as problems of foundations, the stability of embankments and cuttings, pile driving, stresses in structures, wind pressures and fire resistance. Work connected with the efficiency of the building in use is particularly concerned with problems of heating, lighting, ventilation, sound insulation and plumbing and includes, for example, investigations of the heat losses through different elements of the building structure, of the distribution of light in rooms as affected by orientation and fenestration, and of the degree of sound insulation provided by different forms of elements of structure. The study of the technique of building construction is undertaken with a view to the comparison of different types from the standpoint of ease and speed of erection and is concerned at the same time with the effect of modifications of technique.

For the purpose of its work the Station is able to take advantage of special facilities and experience possessed by other establishments of the Department. For instance, the experimental work on sound insulation and on thermal conductivities of building materials is undertaken at the National Physical Laboratory ; the Station co-operates with the Fuel Research Station on problems of heating ; work on timber is undertaken at the Forest Products Research Laboratory.

SERVICES TO THE BUILDING INDUSTRY. The information and experience of the Station are held available in the fullest possible manner for the use of the building industry. The Station is prepared to answer inquiries on all problems of building, whether on troubles that have arisen in existing buildings, or on the design of projected buildings and structures. It has an extensive library, which is also held available for use and consultation, and for the preparation of bibliographies, etc.

In general, these services are given without charge. It should be noted, however, that the Station does not engage to act in cases of dispute regarding problems of building leading to arbitration or legal proceedings.

In addition to the general research programme, which is undertaken in the public interest, and forms the main bulk of the research work of the Station, the following special arrangements are made for investigations which, in greater or less measure, are of special interest to professional institutions, associations or groups of firms, or individual firms:

CO-OPERATIVE RESEARCHES. Investigations of interest to particular sections of the industry may be undertaken in co-operation with a professional institution, with an association of firms or with a group of firms under arrangements by which the co-operating body makes an agreed contribution to the cost. The Station reserves the right to publish the results of this work, but does not do so without consultation with the co-operating body.

SPECIAL INVESTIGATIONS. Any individual firm may have an investigation made on its product, on payment, and receive a report which it is at liberty to publish in its trade literature, without further reference to the Station, or alternatively an approved abstract may be used by the firm in that manner. The Station again reserves the right to publish the results in so far as they are of general interest, but does not do so without first giving the firm an opportunity of expressing its views.

SPECIAL SERVICES. Much of the effort of the Station is at present concentrated on mobilising the available information for use in the planning of the post-war building programme and in general in giving technical advice in connection therewith. Three salient forms of activity in this connection are described below:

CODES OF PRACTICE. In certain cases before the war the Station produced Codes of Practice, but it has never regarded the preparation of Codes of Practice as being part of its normal work, considering that it was more of a function to be discharged by the professional institutions, but with the Station giving all the technical help and advice which it could. During the war, the professional institutions have established, under the leadership of the Ministry of Works, a Codes of Practice Committee, consisting of representatives of the Institutions sitting under a Chairman appointed by the Minister of Works, whose duty it is to arrange for the production of a comprehensive series of Codes of Practice, covering all aspects of buildings, civil engineering, and public works. The Station has undertaken to give every technical assistance in this work and has taken an important part both in the general development of the scheme and in the preparation of individual codes, for which purpose technical officers of the Station sit with the Drafting Committees.

BRITISH STANDARD SPECIFICATIONS. For many years the Station has taken an active part in the preparation of British Standard Specifications dealing with building materials and elements of structure, and at present is heavily engaged on this in view of the desire of the Government for an extension of the range of British Standard Specifications in this field.

INTER-DEPARTMENTAL COMMITTEE ON HOUSE CONSTRUCTION. Officers of the Station sit with the inter-Departmental Committee on House Construction and assist by presenting reports assessing the technical merits of schemes submitted to the Committee and carrying out any tests that may be required. In view of the urgency and national importance of the housing problem a special arrangement has been made for any tests required on promising schemes to be undertaken without cost.

DISSEMINATION OF RESULTS. The results of the Station's work are published in various ways. The following are issued through H.M. Stationery Office: The *Reports of the Building Research Board* (summaries of the Station's progress from year to year) which were published annually until the outbreak of war; *Technical Papers*, which are essentially scientfic accounts of researches on particular problems; *Special Reports*, in which groups of associated problems (such as studies in connection with a particular product) are dealt with in a comprehensive manner for the information, not only of the scientific worker, but also of the manufacturer or user; *Bulletins* (summaries of information on a selected topic, written, so far as is possible, in non-technical language); *Building Science Abstracts*, which comprise a selection of abstracts prepared from English and foreign periodicals containing information on building science, brought together and issued monthly.

The above are all priced publications. On occasion, unpriced leaflets

are prepared and issued free by the Building Research Station to inquirers.

Besides these publications the results of the Station's work are communicated in the following ways :

NOTES FROM THE INFORMATION BUREAU. Before the war the Station issued every month to some 30 trade and technical journals notes dealing either with questions that have been put to the Station from the industry or with selected topics.

PAPERS TO TECHNICAL AND SCIENTIFIC JOURNALS. From time to time papers by members of the staff are communicated for publication in technical and scientific journals.

EXHIBITIONS. In normal times the Station takes part in exhibitions held in this country such as the *Building Trades Exhibitions*. Before the war a travelling exhibit was also arranged for demonstration at different centres, *e.g.*, technical colleges.

FILMS. In certain cases films have been prepared of different aspects of the Station's work which are available for issue on loan to outside bodies.

LECTURES. Lectures are given by members of the Station's staff to associations of professional men or firms in the industry as well as to groups interested in the general building problem. In suitable cases, special series of lectures can be arranged.

Forest Products Research Laboratory

Princes Risborough, Aylesbury, Bucks. Telephone: Princes Risborough 101.
Director: F. Y. HENDERSON, D.Sc., D.I.C.

IN 1920, the Imperial Forestry Conference made a recommendation which led to the establishment by the British Government, under the D.S.I.R., of a Forest Products Research Board. Its functions were the organisation and maintenance of research into the utilisation of timber and other forest products. Following a survey of circumstances and the needs of industry by the Board, the Government, in 1925, set up a Forest Products Research Laboratory. The personnel and equipment were at first accommodated, as a temporary expedient, in buildings at the Royal Aircraft Establishment, South Farnborough, Hants. By July 1927 a new laboratory had been built at Princes Risborough, to which the staff and equipment were transferred. Subsequently, with the aid of a grant from the Empire Marketing Board, it was possible to add to the accommodation and extend the activities of the Laboratory.

The various activities were organised under different sections, the objects of which may be summarised briefly as follows :

WOOD STRUCTURE. To undertake investigations into the anatomical structure of wood in relation to its growth conditions and technical properties ; to make identifications of timbers and to maintain a collection of type specimens for research purposes.

PHYSICS. To study the movement of moisture and heat in wood and its elastic properties and machining qualities ; to devise new or improved testing methods ; and to relate the physical properties of wood to its composition and use.

SEASONING. To study the practice of air, kiln and other methods of seasoning, the design and operation of kilns, with a view to greater efficiency and reduction of waste, and the moisture relations of wood in use. Work on the steam bending of wood was also undertaken in the Section, and at a later date it was extended to include an investigation of bends made from plywood and of laminated construction.

TIMBER MECHANICS. To determine from tests the comparative mechanical properties of various timbers, and the influence of defects on strength properties in timber in structural sizes ; to study the relation of mechanical properties to other characteristics ; and to devise special tests for specific uses. This phase of the work has for its objective the correct selection of species and quality of timber for specific uses and the economic design of structures. Later a study of the design of boxes, crates and packaging materials was undertaken with the object of providing the maximum of protection to goods in transit compatible with the economic use of wood and other packing materials.

COMPOSITE WOOD. To investigate problems associated with the cutting and drying of veneers and the manufacture of plywood and other composites containing wood as a major constituent, and the properties of adhesives employed in making composite wood under varying conditions of temperature and humidity, with a view to effecting improvements in technique.

WOODWORKING. To investigate the underlying principles of wood-cutting and the behaviour, one by one, of commercial timbers at different moisture contents during various machining operations, with a view to improvement in the design of machines and tools in the interests of economy and increased efficiency ; to study problems arising in the cutting of refractory timbers and composite woods in relation to the design and metals of cutting tools.

WOOD PRESERVATION. To study the durability and resistance to fire of timbers in their natural and treated states, the treatment of timber to increase its resistance to decay and fire, the methods of impregnation with preservatives by species, and the relative toxicity of preservatives and efficacy of fire-retardant chemicals.

MYCOLOGY. To study the physiology of staining and wood-destroying fungi ; to determine the identity of species causing decay or discoloration in timber ; to make special studies of dry rot ; and in co-operation with the Section of Wood Preservation, to study the toxicity of preservatives.

ENTOMOLOGY. To make biological studies of insects attacking timber, with a view to the development of methods of control ; to study, in co-operation with the Section of Wood Preservation, the toxicity of insecticides and preservatives.

CHEMISTRY. To study the chemical composition of wood, the properties of its components, and the chemical changes induced in wood by various agencies, with a view to improved utilisation through a better understanding of its chemical constitution and properties.

UTILISATION. To undertake industrial investigations into the uses of

timbers, irrespective of origin, and of waste wood in the form of slabs and off-cuts, waste material from machining operations, etc. To study the production of charcoal in kilns and effective methods of utilising sawdust and other forms of waste wood as sources of energy.

PUBLICATIONS AND RECORDS. To collect and circulate information from scientific and technical publications having a direct or indirect bearing on any phase of the Laboratory's work; to arrange for the publication, through the Department, of the various bulletins, handbooks, records and other literature prepared at the Laboratory; and to maintain a library of works of reference, etc. The *Annual Reports* of the Forest Products Research Board summarise the work in progress, detailed results being given in the series of reports noted above. During the war most of these publications have been suspended except for the free leaflets and reports on subjects of wartime interest. The various forms of literature are published and (with the exception of free leaflets which are distributed by the Laboratory) sold by H.M. Stationery Office. In addition, contributions are made to scientific and technical journals.

EXTERNAL RELATIONS. To act as liaison agent between the Laboratory and industry; to make the necessary arrangement for visits to the Laboratory by students and others seeking general information; to arrange courses of instruction for and supervise the work of advanced students of wood technology; and to organise exhibits or loan collections, as required, for educational purposes. The personnel of the Section, by visits to and discussions with members of the timber-using professions and trades, attempts to discover what problems are arising to the solution of which research might profitably be directed, and to give general assistance by making known information, based on past work, appropriate to their solution.

It is necessary to emphasise that the different Sections are not separate units acting independently one of the other, but are rather members of a team co-operating to achieve the general objects for which the Laboratory was established. A hint of the kind of joint work undertaken by various Sections has already been given, and in fact, any or all work together or independently as occasion demands.

An important feature of the Laboratory's work is its free advisory service, by means of which many thousands of requests for information have been met since it came into existence.

Fuel Research Station

Blackwall Lane, East Greenwich, London, S.E.10. *Telephone: Greenwich 1220.*

Director: A. PARKER, D.Sc., F.R.I.C., M.I.Chem.E.

THE Fuel Research Organisation of the D.S.I.R. was formed in 1917 and comprises the Fuel Research Station at Greenwich and nine Coal Survey Laboratories in the various coalfields of Great Britain. Its objectives are to investigate, in the broadest national interest, the nature, preparation, utilisation, and treatment of coal and other fuels and the products derived from them.

A comprehensive survey of the chemical and physical properties of the coals, as they are found underground, has been made. In addition, information has been obtained about commercial grades as produced at the collieries. The results have been published in more than 50 Coal Survey papers. Recently in conjunction with the Geological Survey and with the co-operation of the Coal Commission, the Ministry of Fuel and Power and colliery undertakings, a rapid survey has been made of the quantities of coal and their types likely to be mined during the ensuing 100 years. A further study is in progress of the total reserves ; this work will involve the making of borings in concealed areas and areas remote from existing collieries. The information obtained of the coals of the country enables coals to be correctly allocated for use in the best national interest, development work in mining to be properly planned and the fuel resources of the country to be developed as economically as possible and used with the highest efficiency that scientific knowledge, technical skill and organisation can achieve.

The production of coal for the market involves breaking, sizing, and cleaning. Experimental work, on various types of washers, including vacuum "froth flotation," has been carried out at the Fuel Research Station. The safe storage of coal to avoid combustion has been investigated and the requisite conditions established to reduce the risk of firing. Low-temperature carbonisation plants, which have reached a commercial scale in this country, have been tested by the Fuel Research Station staff and reports published. In addition carbonising plant to produce a satisfactory low temperature coke has been developed and a plant to this design has been erected by a commercial undertaking. Large scale plants have been erected at the Fuel Research Station for carrying out experiments on the carbonisation of coal in horizontal and vertical retorts and in chamber ovens and on the production of water gas and of hydrogen. During the war in addition to development work on hydrogen production, the Fuel Research Station produced on the commercial scale 200 million cu. ft. for the use of the Balloon Barrage.

The conversion of coal into liquid fuel is of particular importance to this country, where there is very little indigenous oil. The primary work in this country on hydrogenation of coal and tar to oil as far as the semi-scale stage, was done at the Fuel Research Station. The synthesis of oils and methane from carbon monoxide and hydrogen has also been the subject of intensive work both in the laboratory and small plant stage.

Work on transport producers for road vehicles has been in progress for many years and the experience gained enabled an emergency producer to be designed for wartime conditions. Colloidal fuel (coal suspended in oil) has been the subject of large scale trials. Burners of various types have also been devised for the use of pulverised fuel.

The efficient use of fuel is of vital importance to the community. On the domestic side, work is in progress in conjunction with the Ministry of Fuel and Power and the Ministry of Works. Various appliances, such as fires, stoves and cooking-ranges, have been tested. These tests involve special buildings and equipment. They form a useful basis in the development and use of efficient appliances. Measurements of smoke production are also made and a modified coal fire to reduce smoke emission has been devised. The prevention of smoke from ship boilers

has received special study during wartime and a modified fire-door has been developed. This work is now being applied to land boilers.

Atmospheric pollution research has recently been placed under the Fuel Research Organisation. The work involves the collection of measurements of atmospheric pollution throughout the country, and it is intended to increase its scope to include work on the prevention of pollution. Reports are regularly published of the data collected. Special investigations have been completed on the atmospheric pollution in the City of Leicester.

The Fuel Research Organisation acts as adviser on fuel problems to the different Ministries of the Crown, and to the Dominions and Colonies. In the case of the Dominions and Colonies, training, and experience are often given to members of their staffs, samples of fuels are analysed and tested and advice given on proposed schemes of development.

Work is carried out for industries on particular problems. Investigations are in progress, for example, on the deposits on the heating surfaces of boilers and the sludging and corrosion in benzole absorption plants. Fundamental work is also carried out on such subjects as the constitution of coal, the synthesis of hydrocarbons, methods of coal and gas analysis. In conjunction with the Universities of Cambridge, Oxford, Manchester and Leeds special problems have been investigated. In some cases a member of the staff of the Fuel Research Organisation is appointed to work under the guidance of the Professor or Head of the Department.

The Fuel Research Organisation maintains close contact with the work of Research Associations in allied subjects—the British Coal Utilisation Research Association, the Gas Research Board, the British Colliery Owners Research Association, and the British Coke Research Association. A standing Consultative Conference on Fuel Research has been established to co-ordinate all work on fuel research. As a result of one of its recommendations a central abstracting Bureau has been established at the Fuel Research Station for the preparation of Fuel Abstracts.

The following series of reports are published by H.M. Stationery Office : *Annual Reports* of the Fuel Research Board (suspended during the war), *Technical Papers, Physical and Chemical Survey of the National Coal Resources ;* papers are also contributed to scientific and technical journals.

Road Research Laboratory

Harmondsworth, West Drayton, Middlesex. *Telephone : Colnbrook 116.*

Director : W. H. GLANVILLE, C.B.E., D.Sc., Ph.D., M.Inst.C.E.

THE Road Research Laboratory originated in an Experimental Station set up by the Ministry of Transport in 1929 to undertake testing work in connection with road experiments. By arrangement with the Ministry, the Station was taken over by the D.S.I.R. in 1933 and re-named the

Road Research Laboratory. A Road Research Board was appointed to advise on the conduct of the work.

The present function of the Laboratory is to conduct scientific research on road materials and methods of construction, but consideration is now being given to enlarging the scope of the work to include problems of road location and layout and problems of road safety. The general aims of the present work are to reduce the cost to the community of maintaining and extending the country's highway system, and to improve the riding-quality and uniformity of road surfaces.

The work on materials is concerned mainly with the basic materials of road construction (soils, stone aggregates, cement, tar and bitumen) ; and with mixtures of the materials employed in concrete roads and bituminous surfacings. The fundamental properties of the materials and mixtures are investigated and related to their behaviour under traffic and weather ; new materials and methods are examined, and failures on the road are studied for their lessons. Investigations in the laboratory are supported by extensive trials on public highways undertaken with the assistance of the Ministry of War Transport.

Methods of construction are also investigated, with the object of promoting precision in road building and reducing overall costs. Studies are made of the use of machinery in the construction of earthworks, in preparing sub-grades, in crushing and screening aggregates, in concrete road construction and in the numerous types of bituminous surfacing.

In the section dealing with the characteristics of road surfaces the main subjects of study are the cases of slipperiness and the effects of tyre properties on skidding, the forces imposed on the road by vehicles, the causes of surface-irregularity, and the effects of the texture of the road surface on tyre wear. A further section deals with the layout of traffic lanes and with the properties of the materials used for white lines. Special problems such as those connected with tank traffic and aerodrome runways have also been undertaken.

The Laboratory runs an extensive library and acts as a central pool of information on all matters relating to roads and road-building and on the civil engineering side of aerodrome construction. World literature is surveyed and indexed, and two journals of abstracts are published, *i.e. Road Abstracts*, prepared in collaboration with the Ministry of War Transport (issued monthly by the Institution of Municipal and County Engineers) and *Aerodrome Abstracts*, in collaboration with the Air Ministry (issued every two months by the Institution of Civil Engineers). The library is available to road engineers and technicians by appointment, and will answer inquiries for information, and issue publications on loan.

The results of the Laboratory's researches are normally published in an Annual Report and in technical reports and bulletins ; during the war these publications have been replaced by a series of *Wartime Road Notes*. Contributions are also made to the proceedings of learned societies and to the technical press. The Laboratory is represented on a large number of British Standards Institution and Codes of Practice committees, and direct instruction is occasionally given in the form of refresher courses for engineers.

Water Pollution Research Laboratory

Broadlands, Langley Road, Watford, Herts. *Telephone: Watford 4477.*
Acting Director: B. A. SOUTHGATE, D.Sc., Ph.D., F.R.I.C., M.Inst.S.F.

THE Water Pollution Research Board is the successor to a long line of commissions of inquiry which had worked, particularly during the second half of the nineteenth century, to reduce the dangers and damage caused by the discharge of sewage and industrial liquors into underground waters and surface waters. With the growth of towns and the growth and concentration of industry in industrial districts, pollution of water by sewage had become widespread and there was a high death rate from water-borne diseases. Moreover large quantities of water were necessary in many of the new industries which had been established and for this reason factories had been built on the banks of rivers in which water was of suitable quality. Uncontrolled discharge of industrial effluents into rivers, however, had in many cases rendered them unsuitable for industrial use. One of the most famous of the various commissions which examined these problems was the Royal Commission on Sewage disposal, which carried out experimental work and collected a large body of data. In their Final Report, published in 1915, this Commission pointed out that many further problems in the purification of polluting liquids remained to be solved and they recommended that a central authority should be set up to undertake this work.

In 1927 the Water Pollution Research Board was appointed with the following terms of reference :

> To submit to the Committee of the Privy Council for Scientific and Industrial Research from time to time, schemes for research on the prevention of the pollution of rivers and other sources of water supply by industrial effluents and sewage, and on any relevant matters affecting the purity of water supplies ; and to supervise the execution of approved investigations.

In carrying out this programme, the work of the Board has included investigations on : (1) Treatment of water ; (2) treatment of sewage ; (3) treatment of trade wastes ; and (4) the effects of pollution.

At first the work was carried out at various places under a Director of Research. Later, in 1940, a special Laboratory for water pollution research was set up at Watford. It has now a total staff of about 50 which includes chemists, biologists and bacteriologists.

Water for domestic use may require treatment to remove dangerous bacteria, to remove unpleasant tastes and odours, to improve its appearance, to prevent the deposition of excessive amounts of scale, or to render it non-corrosive to metals. Similar problems arise in the treatment of water for industrial purposes, for some of which water complying with a very strict specification is required. Investigations made by the Laboratory include work on the softening of water by exchange processes, on the treatment of corrosive water, on the bacteriology of lakes and streams, on the production of drinking water from sea water, on methods

of prevention of deposition of iron, on the production of water of great clarity for underwater photography, on the effects of chlorine on corrosion of metal fittings, and on the treatment of boiler-feed water. Many of these investigations have been made at waterworks in collaboration with water engineers.

By the time the Royal Commission on Sewage Disposal was dissolved, in 1915, effective methods of treating sewage had been developed. Since that time, however, many improvements have been introduced which have led to economies in the cost of treatment and to improvement in the quality of the effluents produced. Work by the Water Pollution Research Laboratory, for example, has shown that by improved methods of operation the cost of treatment of sewage by one of the chief processes now used—that is by biological filtration—can be greatly reduced. Investigations have also been made, or are in progress, on the control of filter flies, on utilisation of sewage sludge, on the effects of chlorination of sewage effluents, and on the design of closets of the type which have been used in camps and A.R.P. shelters.

Treatment of waste waters from industry necessarily covers a very wide field since almost all industries discharge waste waters, the nature and composition of which differ widely from one industry to another. Before the war full-scale investigations had been made of methods of treatment and disposal of waste waters from the milk industry and from the manufacture of beet-sugar. In such investigations it is always necessary to consider very carefully the processes which give rise to the liquors since often it is possible to modify the manufacturing processes so as to reduce the volume and strength of the liquors ; the cost of plant for treatment may thus be greatly reduced. In the milk industry, for example, it was possible to reduce the volume of milk discharged in the waste waters, and in the manufacture of beet-sugar it has been found necessary and, it is believed, economic, to re-use a great proportion of the waste liquor in the factory processes. During the war many urgent problems have arisen in the treatment of trade effluents as a result of changes in the location of industries, and of the setting up of new industries. The erection of flax factories in Great Britain, for example, introduced a serious problem of treatment of waste waters which was solved through development by the Laboratory of a new process of flax-retting from which no effluent was discharged. Other industrial wastes for which methods of treatment and disposal have been developed during the war include those from shell-filling factories, from the pickling of copper, from photographic processes, from the manufacture of synthetic resins, from anodising and electro-plating, and from the drying of vegetables.

An important part of the work of the Laboratory is in the assessment of the effects of pollution, particularly in surface waters. Two long researches had been made before the war, one on the River Tees, and the other on the estuary of the Mersey. Such surveys are very important since often the best means of treating industrial liquors can be devised only after careful consideration of the effects produced when the liquors are discharged to streams.

An important activity of the Laboratory is in the collection of information on the field covered and in the publication of monthly summaries of literature taken from the most important British and foreign technical

journals. From this accumulated store of information it is often possible to advise on specific problems without having to undertake special investigations. Where investigations are necessary they are usually made at first on a small scale in the laboratory but are often followed by work with semi-scale or full scale plant at factories, sewage disposal works, or waterworks.

The progress of work in the Laboratory is summarised in the *Annual Reports* of the Water Pollution Research Board (suspended during the war) and technical papers are issued on certain of the investigations made. These (reports and the summary of current literature already referred to) are published by H.M. Stationery Office. In addition the results of researches are published in the scientific and technical press.

Geological Survey of Great Britain and Museum of Practical Geology

Exhibition Road, South Kensington, London, S.W.1. Tel.: Kensington 5227.
Director: W. F. P. McLINTOCK, D.Sc.

THE Geological Survey of Great Britain, which is the oldest organisation of its kind, was established in 1835 under the control of the Board of Ordnance for the purpose of preparing copies of the Ordnance Survey maps " geologically coloured so as to be of service to science and industry". A Museum of Economic Geology, designed to demonstrate the relation of geology and industry, was inaugurated in 1837. After various changes of title and authority the two institutions came in 1919 under the control of the Department of Scientific and Industrial Research, and in 1935 took up their present quarters. There are also an Edinburgh office (under the Assistant Director for Scotland) and District Offices in Manchester and Newcastle-upon-Tyne.

Four Acts of Parliament give statutory powers for the prosecution of the work of the Geological Survey : An Act to facilitate the Completion of a Geological Survey of Great Britain and Ireland, Cap. LXIII, 1845 (concerning access to land) ; the Petroleum Production Act 1918 ; the Mining Industry Act 1926, Section 23 ; and the Water Act 1945 (concerning notification of projected borings and shafts for oil, minerals and water, and access to plans, records, specimens and mine workings).

The Survey Maps and Publications. The prime function of the Geological Survey remains that for which it was originally founded, the preparation of maps of Britain showing the distribution of rock formations and of mineral resources. These maps are based on the topographical maps prepared by the Ordnance Survey. In the earlier years of the Survey the mapping was done on the scale of 1 inch to 1 mile, but subsequently a more detailed survey on the 6 inches to 1 mile was begun and is still in progress. Priority in the surveying programme has been given to the coalfields and other areas of economic importance. The 6-inch maps of the more important areas, including the coalfields and the London district,

are printed and published ; the remainder are available for reference and copies can be supplied. There are two series of 1 inch to 1 mile maps—the "Old Series" which covers practically the whole of Britain, and the " New Series." Of the 360 sheets of the latter just over half have so far been completed ; nearly all of them are based on detailed 6-inch field mapping, and are published colour-printed. Colour-printed maps on the 4 miles to 1 inch and smaller scales, and specially maps showing the distribution of mineral resources, are also published.

To supplement the Survey maps several series of descriptive memoirs, reports and handbooks have been prepared. These include 1-inch *Sheet Memoirs, District Memoirs* dealing with selected areas, and memoirs dealing specially with mineral resources and water supply. During the war publication has been in the form of a series of *Wartime Pamphlets.* In addition to this published material the files and manuscript records of the Survey contain much important unpublished information.

As the technique of geological surveying becomes refined, and in particular as knowledge is augmented by new shafts, borings and excavations, revision of many of the older maps and memoirs becomes necessary and is carried on concurrently with the primary 6-inch mapping programme.

The Museum Exhibits and Collections. The exhibits in the Museum of Practical Geology (which has been closed during the war) demonstrate the basic principles of geology and physical geography ; the geology of Great Britain, with emphasis on the work of the Geological Survey, and its economic significance ; and the economic mineralogy and geology of the world. Handbooks and guides to the exhibits are published, and public lectures and demonstrations are given. Before the war the annual number of visitors was about 300,000. Apart from the exhibited material the Museum is the repository of extensive reference and reserve collections. These include over 500,000 fossils, 100,000 rock specimens, 70,000 microscope sections of rocks, and 40,000 mineral specimens, and are widely consulted by research workers. The Geological Survey and Museum Library, which is open to the public, includes approximately 75,000 books and pamphlets and 25,000 geological maps. The Photographic Department has assembled some 13,000 photographs illustrating British geology and can supply prints and lantern slides of these.

Liaison with Industry. Adequate geological information is essential to the mining and quarrying industries for the efficient exploitation of such materials as coal, petroleum, metallic and non-metallic ores, building-stone, slate, brick-clays, refractory materials, moulding sands, roadstone, limestone and gypsum ; to the engineer, in connection with underground water supplies, drainage schemes, dam construction, foundations, aerodrome sites, tunnels, cuttings and other excavations ; to agriculturists ; and to planning authorities.

The resources of the Geological Survey and Museum are freely available to inquirers on such topics. Special field investigations additional to the normal programme of surveying are not normally undertaken, but all queries are dealt with which can be answered from recorded information or from the personal knowledge of the staff.

To further the practical application of geology, the Geological Survey and Museum is represented on the committees and councils of such

bodies as the Soil Survey, the British Standards Institution, the Coal Commission and many of the professional institutions concerned with mining, quarrying and engineering. It maintains liaison with other branches of the D.S.I.R. working on cognate subjects, such as the Fuel, Road, Building and Water Pollution Research Stations, and acts in an advisory capacity for Government departments including the Ministries of Health (for water supplies), Fuel and Power, Town and Country Planning, Works, and Transport.

Ministry of Agriculture and Fisheries

55, Whitehall, London, S.W.1. *Telephone : Whitehall 3400.*
Minister : The Right Hon. TOM WILLIAMS, M.P.

WITH the end of the war the Government was faced with the problem of getting the people of this country resettled and its economic life re-started and brought back to normal as quickly as possible. The Minister of Agriculture hoped to ensure for agriculture the prosperity and stability which are the surest foundations of a healthy national life.

This was bound to be a difficult and far from speedy process even had not the transition from war to peace been further complicated by the disastrous world food shortage which has unfortunately intervened. It had been the intention of the Ministry to endeavour to build up our depleted livestock—poultry, pigs and cattle, to make milk the No. 1 priority, and at the same time to grow as large an acreage of cereals as was consistent with a properly balanced agriculture.

Owing to droughts and disasters in various parts of the world, which were unforeseeable, this policy has had to be modified to meet the immediate emergency.

As the Minister announced in the House of Commons on 15th February, 1946, the ploughing-up grant of £2 per acre is to be extended to grassland that has been down for three years or longer, instead of, as before, to grassland that has been down for seven years or longer. This grant will be payable on land sown to a seeds mixture during 1943 or earlier, and ploughed after the 5th February this year for cropping for the 1946 harvest. The grant will still be payable if the land is fallowed this year—provided the War Agricultural Executive Committee approve—and sown in the autumn to crops for the 1947 harvest.

The Ministry realises that the main difficulty of the farmer in carrying out the emergency agricultural policy of the Government will be the supply of labour. Steps have been taken, and are being taken, to meet this difficulty. It is anticipated that by the end of April half of the 90,000 agricultural workers in the Services in 1945 will have been released under Class A, although it cannot, of course, be guaranteed that they will all return to agriculture. Agriculture workers will still be eligible for release under the Class B individual specialists arrangement, and in addition there is the block release scheme which allows for the release of

18,000 agricultural workers, an extension to which has recently been made for the release of men who have served a minimum of one year in the Forces.

In addition, the call-up for the Forces of some 8,000 young agricultural workers has been suspended at least until after the 1946 harvest.

The present strength of the Women's Land Army is about 40,000, and an appeal has been made to these women to remain in the Land Army for at least a further year. A special recruiting drive for the Women's Land Army is being launched.

As regards prisoner of war labour, most of the Italians will have been repatriated by the summer. They will, it is hoped, be fully replaced by German prisoners of war brought from North America and elsewhere.

The Ministry will continue to appeal for volunteer labour from town workers and school children, and volunteer agricultural camps will be run as in previous seasons.

The Government has on hand various training schemes for those whose careers have been interrupted by war service and for others who wish to enter agriculture. Although the claims of ex-Servicemen will come first, members of the Women's Land Army and others who wish to train or to specialise in any branch of Agriculture, will not be overlooked. A list of 15,000 farmers who have been approved to give training has been compiled, and various Agricultural Training Centres (such as the recently opened one at Plas Dinam, Montgomeryshire) are being established.

Another difficulty in recruiting an adequate volume of agriculture labour is of course the lack of housing, and the Ministry is fully alive to this. The Government's subsidy policy for houses for rural workers has now been announced, and it is expected that these subsidies and contributions from the rates will enable houses to be let at a net rent of 7s. 6d. The Ministry is concerned that not only as many houses should be put up as quickly as possible, but also that such houses should be in accordance with local needs. A scheme for prefabricated houses for rural workers is being prepared by the Ministry of Works to supplement the building of permanent houses on traditional lines.

The Ministry does not lose sight of the importance to an efficient agriculture and a satisfactory rural life of electrical development, and, above all, of an adequate water supply. As the supply position and labour improves, the question of electrification and improved water supply to agricultural communities in particular, and to rural areas generally, will be pressed on with as little delay as possible.

The British farmer should find the new National Advisory Service to be established on 1st October, 1946 of the greatest assistance, offering as it does a co-ordinated service of technical advice and instruction always readily available. There will be specialist advisory officers in each of the eight provinces, covering a wide range of agricultural subjects and able to provide information on the latest technical developments.

The Agricultural Executive Committees are to be retained and are to be reconstituted on a permanent basis. These Committees have been found during the war to be a valuable link between Whitehall and the farm, and they will continue to give leadership and guidance to farmers on the spot.

The Ministry is fully alive to the vital part which farms and the farmer must play in the immediate future, as well as in the many years of reconstruction ahead, and is determined to do all in its power to help the farmer with his task.

Ministry of Supply

Shell Mex House, Victoria Embankment, London, W.C.2. *Telephone: Gerrard 6933.*

Minister: The Right Hon. JOHN WILMOT, M.P.

OWING to the merging of the Ministry of Supply with the Ministry of Aircraft Production and the consequent reorganisation, no information is available at the time of going to press.

Ministry of Labour and National Service

St. James's Square, London, S.W.1. *Telephone: Whitehall 6200.*

Minister: The Right Hon. G. A. ISAACS, M.P.

AT the time of going to press no information concerning the Ministry was available.

Scottish Office: Department of Health for Scotland

St. Andrew's House, Edinburgh, 1. *Telephone : Edinburgh 33433.*

Secretary : G. H. HENDERSON, C.B.

TOWN AND COUNTRY PLANNING

THE Secretary of State has the same responsibilities in Scotland for town and country planning as the Minister of Town and Country Planning has in England and Wales. The Secretary of State's planning functions are exercised through the Department of Health. The Department advises and guides local planning authorities on all aspects of town and country planning including survey work, planning standards and technique and the preparation of planning schemes. In addition the Department is responsible for carrying out planning research work.

The planning schemes of local authorities have to be approved by the Secretary of State who is also responsible for deciding appeals against the decisions of the local authorities.

Government of Northern Ireland: Ministry of Health and Local Government

Stormont, Belfast. *Telephone: Belfast 63210.*

Minister: The Right Hon. W. GRANT, J.P., M.P.

POST-WAR reconstruction in Northern Ireland so far as planning, housing and health services are concerned is under the control of the Ministry of Health and Local Government which came into being as recently as June 1944.

The main statutory enactment relating to planning, namely, the Planning and Housing Act (Northern Ireland) 1931, was permissive in character, but the Planning (Interim Development) Act (Northern Ireland) 1944 has had the effect of bringing all land in Northern Ireland under planning control as from the 25th April, 1944, and planning authorities in their respective areas are now busily engaged in the production of plans.

The Northern Ireland Planning Commission and the Planning Advisory Board, bodies originally constituted before the functions relating to housing, planning, etc., were transferred to the newly-created department from the Ministry of Home Affairs, have done much valuable work. The Commission has already published a comprehensive Report of Planning Proposals for the Belfast Area (Cmd. Paper No. 227*) and is preparing a Report on Road Communications in Northern Ireland. The Commission also hopes to publish a Report and planning proposals for Londonderry County Borough and, it is anticipated, will subsequently produce a comprehensive Report regarding Planning in Northern Ireland as a whole.

The Planning Advisory Board, immediately after its formation, appointed a number of Sub-Committees to consider and report on certain specific subjects, namely, housing, water and sewerage, location of industry, education and recreation, tourist development, amenities, rural planning and transport. Up to the moment three of these Sub-Committees' Reports to the Planning Advisory Board have been published, namely, those on Housing*, Water and Sewerage* and the Location of Industry*. It is expected that the Reports of the remaining Sub-Committees, *i.e.*, Amenities; Transport; Recreational Facilities; Tourist Industry; and Rural Housing, will be available at an early date. The work of the Planning Advisory Board in this connection should prove a valuable asset not only to the central Government but to local authorities in regard to their plans for post-war reconstruction.

Since the inception of the Ministry of Health and Local Government a very important development has been the passing of the Housing Act (Northern Ireland) 1945, which provides among other things for the creation of a Housing Trust and gives to rural authorities functions in regard to housing which they have never previously exercised. Both the

* See Official Committees and Reports.

Housing Trust and local authorities are tackling the question of housing with energy and understanding. A number of sites have already been acquired by the Trust for the laying out of schemes and, similarly, numerous sites have been fixed for development by local authorities.

Central Electricity Board

Trafalgar Buildings, 1, Charing Cross, London, S.W.1. *Telephone : Whitehall 2121.*

Chairman : HAROLD HOBSON

THE Central Electricity Board was established under the Electricity (Supply) Act 1926, and comprises a full-time chairman and seven other members originally appointed by the Minister of Transport, whose duties under the Act are now, however, exercised by the Minister of Fuel and Power. The Board is not a Government department. Its main functions are to arrange for and control the production of electricity throughout the country (excluding the northern part of Scotland which is now under development by the North of Scotland Hydro-Electric Board) and to afford supplies in bulk to all authorised electricity undertakers for distribution to their consumers. For this purpose the Board constructed and maintains the system of high-tension transmission lines commonly known as the "grid," interconnecting the main generating stations with one another and with the systems of the distributing undertakers. In order to make this interconnection effective, the Board, as a preliminary to full trading operations, completed a large programme of frequency standardisation at a net cost of about £16,000,000. At the end of 1944, the "grid" comprised 5,142 miles of transmission lines and 348 switching and transforming stations with a transforming capacity of nearly 13,422,750 kVA. The capital cost of construction to date has been about £37,250,000. The operation of the selected stations connected to the "grid" is controlled by the Board, but the stations themselves remain in their original municipal and company ownership. Extensions of the stations and the building of new stations as may be necessary from time to time to meet the growth of load are carried out by the owners in accordance with directions given to them by the Board with the approval of the Electricity Commissioners. At the end of 1944 there were 141 selected stations with a total installed capacity of 11,254,081 kilowatts.

Central Valuation Committee

Caxton House East, Tothill Street, London, S.W.1. *Telephone : Whitehall 9060.*

Chairman : W. L. RAYNES

THE Central Valuation Committee was constituted under Section 57 of the Rating and Valuation Act 1925, and comprises representatives appointed by the various Associations of Local Authorities together with

a small number of persons appointed by the Minister of Health. The Committee has no executive functions but is required to advise the Minister on the operation of the valuation for rating provisions in the Rating and Valuation Acts and to take such action as may be open to it in order to secure uniformity of valuation for rating purposes in England and Wales. The Committee, as a purely advisory body, is not in a position to prepare or carry out plans for the post-war period, although it would be open to it to submit to the Government suggestions for the improvement of the present organisation.

Coal Commission

(Constituted under the Coal Act 1938)

29, Chester Square, London, S.W.1. *Telephone : Sloane 0808.*

Scottish Office : 1, Eglinton Crescent, Edinburgh 11. *Telephone : Edinburgh 21231.*

Chairman : SIR ERNEST A. GOWERS, G.B.E., K.C.B.

THE Coal Commission have vested in them, as from 1st July, 1942, the ownership of all coal (and certain associated minerals and rights) and, subject to the provisions of the Act, are charged to exercise their functions as owners " in such manner as they may think best for promoting the interests, efficiency and better organisation of the coalmining industry." The aggregate amount of compensation paid by them for coal and coal-rights was fixed by the Act at £66,450,000, with additional sums for other associated property and rights ; and the Commission are entitled by the Act to borrow up to £76,450,000 for the payment of compensation and other specified expenses. The valuation of separate coal holdings—as registered under the Coal (Registration of Ownership) Act 1937—has been carried out, in the manner provided by the Act, by Valuation Boards appointed by the Ministry of Fuel and Power and payment of the compensation has now been completed. The Commission is also charged with the duty of promoting the amalgamation of colliery undertakings in any area in which they consider the number of separate undertakings is so great as to be detrimental to the efficient working, treating or disposing of coal.

Commissioners of Crown Lands

Fort Belvedere, Sunningdale, Ascot, Berks. *Telephone : Ascot 1071.*

Commissioners (Ex-Officio) : THE MINISTER OF AGRICULTURE AND FISHERIES and the SECRETARY OF STATE FOR SCOTLAND

THE powers and duties of the Commissioners of Crown Lands are laid down in the Crown Lands Acts of 1929 to 1943. The Commissioners were incorporated under Section 1 of the Crown Lands Act 1927. There are two *ex-officio* Commissioners (the Minister of Agriculture and Fisheries

and the Secretary of State for Scotland), and one permanent Commissioner and Secretary.

The property in the charge of the Commissioners consists mainly of those portions of the hereditary estates of the Crown in England, Wales, Scotland, Northern Ireland and the Isles of Man and Alderney, the revenues of which were surrendered to Parliament by His Majesty under the Civil List Act. Exclusive of foreshores and areas in which the Crown owns the minerals but not the surface, it extends to about 359,000 acres, about 152,000 of which are in England, 81,000 in Wales and Monmouth, 112,000 in Scotland and 14,000 in the Isle of Man. It comprises many different types, including urban buildings both business and residential (some let on lease and some under direct management), agricultural land, foreshore interests, salmon fishings, mines royal and other minerals (but not coal), unenclosed wastes, fee farm rents and the Windsor Parks and Woods.

The net revenues paid into the Exchequer as part of the national income for the year ended 31st March, 1944, were £880,000.

Convention of Royal Burghs of Scotland

21, Castle Street, Edinburgh *Telephone : Edinburgh 20321.*

President : The Right Hon. JOHN I. FALCONER, W.S.

THE Convention of Royal Burghs is one of the oldest bodies in the world, dating back for some 800 years. It is actually a survival of the old Scots Parliament, and speaks not only for the Scottish Burghs, which are all represented at it, but in a large measure for the Scottish people. Its aims and activities are similar to those of the Association of Municipal Corporations in England. In addition to its usual business of putting forward the viewpoint of the Scottish Burghs on current matters, the Convention is much interested in post-war reconstruction in general. Such subjects as social security, compensation and betterment, a comprehensive health service, housing, hospital arrangements, nurses' salaries, and a great many other questions, including the development of industry, are considered and discussed at the Convention ; and the proposals and conclusions of the Burghs are recorded and submitted to Members of Parliament or to the appropriate Government department or authority.

The Convention works through committees. It has some nine standing committees on housing and other subjects, and in addition special committees are appointed from time to time in regard to such matters as public libraries, control of rents, aerodromes, water rates, the gas industry, and so on.

The Convention publishes various reports from time to time, and also issues an annual volume, copies of which may be obtained free.

Inquiries should be sent to the Secretary, J. Gibson Kerr, W.S., F.R.A.S.

Council of Industrial Design

Tilbury House, Petty France, London, S.W.1. Telephone : Whitehall 6322.
Chairman : SIR THOMAS BARLOW, K.B.E.

THE Council of Industrial Design was set up in December 1944 by the President of the Board of Trade. A Scottish Committee of the Council was set up at the same time under the Chairmanship of Sir A. Steven Bilsland, Bt., M.C., D.L., J.P.

The Council is financed by the Government, and a contribution from the Exchequer is made to Design Centres set up by industry in collaboration with the Council. Its purpose is to promote by all practicable means the improvement of design in the products of British industry. Its main functions are : To encourage and assist in the establishment and conduct of Design Centres by industries, and to advise the Board of Trade on the grant of financial assistance to these Centres ; to provide a national display of well designed goods by holding or participating in exhibitions, and to conduct publicity for good design in other appropriate forms ; to co-operate with the education authorities and other bodies in matters affecting the training of designers ; to advise, at the request of Government departments and other public bodies, on the design of articles to be purchased by them, and to approve the selection of articles to be shown in United Kingdom Pavilions in international exhibitions and in official displays in other exhibitions ; and to be a centre of information and advice both for industry and Government departments on all matters of industrial art and design.

The functions of the Design Centres, whose activities the Council co-ordinates, are: To study the problem of design in relation to the products of the particular industry ; to collect and make available to the industry information relating to changes in public taste and trade practice in home and overseas markets and to hold exhibitions both at home and overseas ; to conduct and encourage research and experiment in the design of the products of the industry ; and to co-operate with the education authorities and other bodies for the training of designers and in the provision of special equipment, prizes and grants, and to arrange factory visits and training in factories for art students.

Grants to Design Centres are made by the Board of Trade, after consulting the Council, on a similar basis to that adopted by the Department of Scientific and Industrial Research for research associations.

The Council makes an Annual Report on its activities, which is presented by the President of the Board of Trade to Parliament.

NATIONAL EXHIBITION OF DESIGN

The Government has accepted a proposal from the Council to hold next summer a national exhibition of design in all the main ranges of consumer goods—clothing; household furnishings and equipment; office equipment ; textiles ; glass and pottery ; heating, lighting, cooking and other

domestic equipment ; hand and garden tools ; radio and television ; toys, cameras, watches and clocks ; pens and stationery ; leather and travel goods ; musical instruments ; packaging ; printing ; and transport. The Exhibition, which is to be on a considerable scale, is to be held in London and will open not later than 1st July.

In announcing the decision, Sir Stafford Cripps, President of the Board of Trade, said :

" This Exhibition will be British Industry's first great post-war gesture to the British people and to the world. I confidently believe that it will demonstrate the vigour, freshness, originality and skill with which our manufacturers are setting about their task of serving the home consumer and capturing a great share of the export trade. The British public will see what industry has planned for the living rooms, bedrooms, and kitchens of the post-war home ; the world overseas will discover that the brains, ingenuity and taste which long gave Britain her place as a leader of world industry have not deserted her, and that her lead will be kept. Of course, there will be no difficulty in finding markets in the next few years, but British industry will look further ahead than that : its best designs in 1946 will constitute a claim on the attention and custom of the world for years to come. I look to manufacturers in their own and the national interest to do everything they can to provide the Council of Industrial Design with plenty to choose from. The more good designs available, the more will be shown. I know that the Council means to keep its standards of selection high, but whatever reaches those standards will be chosen. No bad designs will be accepted, whatever happens, but no good ones will be crowded out. And—a very important point—no goods will be excluded on the ground that they are not yet on general sale or in quantity production. The public and observers from the world overseas will not be put off by the fact that at this very early stage a certain number of " advance models " may be shown. One main purpose of the Exhibition is to enable our industries to give a lead at home and abroad. It would be a mistake to wait too long. In 1947 the British Industries Fair will take up the running, performing its normal function as a trade exhibition."

Detailed plans are being worked out by the Council to be laid before industry, all branches of which are asked to co-operate. The Council will consult with the various trade associations concerned.

The Council desires, with industry's help, to show the public in addition to peacetime goods as much as possible of the achievements in war production of industries normally making consumer goods, and the way in which wartime developments in manufacturing technique and processing led on to the new designs and types of goods which post-war industry would produce. In fact, the keynote of the Exhibition is the changeover from war to peace : its title would be *Britain can Make It.*

Inquiries about the Exhibition should be addressed to the Council at the above address.

Development Commission

6A, Dean's Yard, London, S.W.1. *Telephone : Abbey 1177.*

Chairman : The Right Hon. LORD RICHARD CAVENDISH, C.B., C.M.G.

THE Development and Road Improvement Funds Acts 1909 and 1910, set up the Development Commission—a body of eight members appointed by Royal Warrant to carry out specified measures for the economic development of the United Kingdom.

Under the Development Acts of 1909 and 1910 as affected by subsequent legislation the area is restricted to Great Britain and the purposes which may be aided (either by grant or loan) from the Benevolent Fund are :

(*a*) Aiding and developing agriculture and rural industries by promoting scientific research, instruction and experiments in the science, methods and practice of agriculture (including the provision of farm institutes) ; the organisation of co-operation, instruction in marketing produce, and the extension of small holdings ; and by the adoption of any other means which appear calculated to develop agriculture and rural industries.

(*b*) The reclamation and drainage of land.

(*c*) The construction and improvement of harbours in connection with the improvement and development of fisheries.

(*d*) The improvement and development of fisheries.

(*e*) Any other purposes calculated to promote the economic development of the United Kingdom. The Commissioners are advised that these words must be read in the light of the preceding words of the sub-section and cannot, therefore, be held to cover all economic development, but only purposes cognate to those expressly named.

The expression "agriculture and rural industries" is defined as including agriculture ; horticulture ; dairying ; the breeding of horses, cattle, and other livestock and poultry ; the cultivation of bees ; home and cottage industries ; the cultivation and preparation of flax ; the cultivation and manufacture of tobacco ; and any industries immediately connected with and subservient to any of the said matters.

Payments from the Development Fund are actually made by the Treasury, who submit to Parliament annually an abstract account of the receipts into and issues out of the Fund. A sum of £2,900,000 was provided for the Fund by the 1909 Act, and necessary replenishments have been made annually by Parliament.

The Commissioners consider every application made for advances from the Fund, and report to the Treasury. The Treasury may veto the recommendations of the Commissioners, but it is not empowered to make advances from the Fund except on the recommendation of the Commissioners. The bodies qualified to receive advances are Government departments, public authorities, universities, colleges, schools, institutions and organisations or companies not trading for profit. The Commissioners are empowered to frame schemes with respect to any of the matters for which advances may be made under the Act with a view to their adoption by a Government department or a qualified applicant.

The Commission is essentially an advisory body to the Treasury, but

it differs from an ordinary advisory body in that it controls a fund which cannot be used without its sanction. It has no executive powers in the usual sense. Once a grant has been recommended the money passes beyond the control of the Commission, but the latter can in fact control expenditure by refusing the renewal of a recurrent grant, and, further, by attaching conditions to the advances recommended and thus exercising a directing control over their administration even when grants or loans are not recurrent. The Commission is free to report without reference to a Minister ; its recommendations are not subject to confirmation by Parliament ; and its status and procedure are laid down by statute.

The Commission has the right to constitute advisory committees, and this has been freely used. For example, there is a standing advisory Committee on Fishery Research. The Commissioners have power to procure expert advice and assistance where necessary. The Commission also has powers in certain circumstances to make a compulsory Order for the acquisition of land on behalf of a body to whom an advance has been made. The compensation to be paid is settled by an arbitrator.

The Act which set up the Development Commission dealt also with road improvement, for which a Road Board (afterwards the Ministry of Transport) and a Road Fund were established. The Development Commissioners have nothing to do with road improvement as such. They act as an independent tribunal empowered to grant compulsory Orders for the acquisition of land by the Road Board or highway authorities where land is required for road improvement purposes and cannot be obtained by agreement on reasonable terms.

Before the war, an annual report of the proceedings of the Commissioners was made to the Treasury, who laid it before Parliament.

Ecclesiastical and Church Estates Commissioners

1, Millbank, Westminster, London, S.W.1. *Telephone : Whitehall 8954.*
Secretary : F. R. BROWN

THE Ecclesiastical Commissioners are not a housing authority. They were incorporated by Act of Parliament in 1836 to hold and administer certain properties and funds of the Church of England and to apply the income for specific purposes, of which the chief is the increase of the parochial provision existing throughout the country. The Commissioners own considerable estates in various parts of the country, including substantial built-up areas. Where these areas include working-class housing or are suitable for redevelopment in that way, the Commissioners act in close co-operation with the housing authorities. In London—where the Commissioners' property of that character chiefly lies—that authority is the London County Council. The Commissioners have already opened discussion of their post-war housing operations with a view to the formulation of immediate and long-term programmes of rehabilitation and redevelopment. They contemplate an expenditure of about £1,000,000 as progress becomes practicable.

Electricity Commission

Savoy Court, Strand, London, W.C.2. *Telephone : Temple Bar 7565.*
Chairman : SIR CYRIL HURCOMB, K.C.B., K.B.E.

THE principal functions exercisable by the Electricity Commissioners include the control of the establishment or extension of generating stations and main transmission lines ; the approval of arrangements between electricity undertakers for mutual assistance and for bulk supplies; the determination of questions between electricity undertakers as to the amount of the price to be charged for indirect bulk supplies from the grid; the sanctioning of borrowing by the Central Electricity Board, joint electricity authorities and local authorities and joint boards for electricity supply purposes ; the granting of Special Orders authorising the supply of electricity in defined areas ; the compulsory acquisition of land for generating stations and for other purposes ; the consent to the exercise of purchase rights by local authorities and to variations of terms of purchase ; the approval of new systems of supply ; the consent to changes of system and the making of safety regulations ; the prescription forms of accounts for electricity undertakers and the appointment of auditors for the audit of company accounts ; the approval of schemes and proposals for the development of supplies of electricity in rural areas.

The Commissioners act under the general directions of the Minister of Fuel and Power and advise the Minister on all matters connected with the exercise of his powers and duties under the Electric Lighting Acts.

Forestry Commission

25, Savile Row, London, W.1. *Telephone : Regent 2688.*
Chairman and Director General : SIR ROY LISTER ROBINSON, O.B.E.

THE Minister of Agriculture and Fisheries announced in Parliament on November 30th, 1945 that the Government has given detailed attention to the future forest policy of the country and is impressed with the necessity, as a safety measure, of rebuilding as quickly as possible our reserves of standing timber and also with the possibilities which systematic forestry and afforestation hold out for the better utilisation of large areas of poorly-productive land and for increased rural employment in healthy surroundings. For these reasons, and taking into account all available information on present and prospective world supplies of timber, the Government considers that well-planned afforestation represents a sound national investment.

The Minister stated that the Government cannot be finally committed, at this stage, to the programmes contained in the Forestry Commissioners' Report on Post-War Forest Policy (Cmd. Paper No. 6447) since surveys and inter-departmental consultations must be carried out, but that the Government is aware of the importance of pressing on, as a matter of

urgency, with a large programme of new afforestation and with the replanting of felled woodland.

The Government intends to prosecute these tasks with vigour, and to that end Parliament is asked to replenish the Forestry Fund during 1946–50 by a sum of £20 millions. This is intended to provide for : The afforestation and replanting of 365,000 acres (the first five-year quota of the Forestry Commissioners' ten-year plan) ; additional land for future planting ; ancillary services ; and, where necessary, modern houses for workers in State forests. This programme is not expected to give rise to any serious conflict between the claims of forestry and agriculture.

In order that the owners of private woodland may play a full part, the Government accepts the dedication scheme propounded by the Forestry Commissioners, in their Supplementary Report on Private Woodlands (Cmd. Paper No. 6500) whereby according to a " Covenant of Dedication" an owner, in return for State assistance, undertakes to manage his woodlands in an approved way. The alternative to proper management under State aid will be State acquisition. Grants will be made on a smaller scale for replanting in the case of woodland which ought to be used in the national interest for timber production but is unsuitable for dedication.

In order to conserve standing timber, the Government proposes to continue the wartime system of licensing timber fellings.

The Government intends to implement this programme of forestry development by increasing facilities for education, training and research in all branches of the work, including timber utilisation. National Forest Parks will be established and extended as suitable opportunities occur.

Forth Conservancy Board

14, Princes Street, Falkirk. *Telephone : Falkirk 83.*

Chairman : Capt. CEDRIC A. SALVESEN, M.C., M.Inst.B.E.

THE Forth Conservancy Board was incorporated by the Forth Conservancy Order Confirmation Act 1921 for the preservation, maintenance and improvement of the River and Firth of Forth. The Board's jurisdiction extends between Stirling on the west and an imaginary line drawn across the Firth of Forth approximately a mile to the east of the Forth railway bridge. The Board is the navigation authority within the limits of its jurisdiction, and is concerned with the lighting and buoying of the River ; the improvement and deepening of parts of the bed and navigable channel ; the prevent of pollution ; and the regulation of the Navigation generally.

The Board consists of 31 members, appointed by various county and town councils interested in the River ; the Admiralty ; the Board of Trade ; the Ministry of War Transport ; the Department of Agriculture for Scotland ; the railway companies owning ports within the area ; and

shipowners. It is accordingly fully representative of the commercial and other interests on the Forth.

The Board has promoted an extensive reclamation scheme at Kinneil, near Bo'ness. There are a number of docks within the area, of which Grangemouth (owned by the London, Midland and Scottish Railway Company) and Bo'ness and Alloa (both owned by the London and North Eastern Railway Company) are the most important. There are also a number of smaller harbours and piers. The dockyard port of Rosyth is situated within the Board's jurisdiction. The Forth railway bridge crosses the river from South Queensferry to North Queensferry, and the Kincardine road bridge (a swing bridge) provides a crossing for road transport between South Alloa and Kincardine. A committee of local authorities has been formed for the promotion of a Forth road bridge after the war.

Inquiries should be sent to the Clerk of the Board, Duncan Kennedy, W.S.

H.M. Land Registry

Temporary Address : Brooke Street, London, E.C.1. *Tel. : Holborn 4451.*
Chief Land Registrar : R. MARK LOWE

H.M. Land Registry was established in pursuance of a recommendation of a Royal Commission by the Land Registry Act 1862. The aim of the Act was to render dealings with land more simple and economical by establishing a State register of landowners who voluntarily submitted the titles to their land for examination and approval by the Registrar on behalf of the State. The Registry was reformed by the Land Transfer Act 1875, which, while making many changes in the system, continued its voluntary basis. In 1897 the Land Transfer Act introduced the principle of compulsory registration ; and four Orders in Council under that Act between 1898 and 1902 made the system compulsory on sale in the administrative county of London. Later Orders extended compulsory registration on sale in Eastbourne (1925), Hastings (1928), the administrative county of Middlesex (1936) and the County Borough of Croydon (1938).

The Land Registration Act 1925 consolidated the previous Acts and made such changes in the system as the experience of a generation has shown to be necessary. The keynote of the system is that the machinery for the purchase and sale of land is assimilated to that for stocks and shares. Absolute titles granted by the Land Registry are guaranteed by the State. Simple forms, analogous to those used on transfers of stocks and shares, are provided. The cost of buying, selling or mortgaging registered land is much less than in the case of unregistered land.

It is open to any County Council or Council of a County Borough to apply to the Privy Council for an order making registration of title compulsory in its area.

The Land Registry is administered under the Lord Chancellor by the Chief Land Registrar, who also controls the Land Charges Act 1925, and the Agricultural Credits Act 1928 (Sec. 9).

Lee Conservancy Board

Brettenham House, Lancaster Place, Strand, London, W.C.2. *Telephone : Temple Bar 6416.*

Chairman : SIR THOMAS KEENS, D.L., J.P.

THE Board are the Conservators of the River Lee and control that river and its tributaries. Their functions cover the management of the Lee and Stort Navigations and the prevention of pollution of the stream in its area of about 600 sq. miles. There are about 50 miles of navigable waterway. Since 1424 the Navigation has been controlled by various trustees and conservators. The present Board dates from 1868. In 1930 the Land Drainage Act established the Lee Conservancy Catchment Board which, under the members of the Lee Conservancy Board, with additional members appointed by the Ministry of Agriculture and Fisheries and the County Councils in the catchment area, are responsible for land drainage, including the mitigation of flooding over the whole of the Lee Catchment area.

London County Council (L.C.C.)

The County Hall, London, S.E.1. *Telephone : Waterloo 5000.*

Chairman : CHARLES ROBERTSON, M.A., J.P.

THE London County Council is responsible for the administration of the major local government services in the Administrative County of London (117 sq. miles : population, over four millions). Within the Administrative County there are 29 other local authorities—the City of London Corporation and the 28 Metropolitan Borough Councils—who administer other local government services in their own area.

The L.C.C. consists of 124 councillors elected by men and women of London who are 21 or over, on the same basis of franchise as for the Parliamentary elections. These councillors are elected every three years. In addition, there are 20 aldermen, making 144 in all, elected by the councillors and holding office for six years.

Generally speaking, the L.C.C. is concerned with the large scale services which are best administered over a wide area, and with some exceptions the Council's jurisdiction, as regards such services, extends over the whole of the Administrative County. On the other hand, the City of London Corporation with one or two special exceptions and the Metropolitan Borough Councils are concerned with services of a more local character, and their jurisdiction is confined to their own localities.

The L.C.C. was established by Act of Parliament in 1888 (superseding the Metropolitan Board of Works that had been set up in 1855) and held its first meeting in March 1889.

A brief summary is given below of those aspects of the Council's work which, amongst its many and diverse functions, chiefly concern the sphere of this book.

HOUSING. The L.C.C., being the principal housing authority in the County, has carried out extensive slum clearance and rehousing, particularly over the last 20 odd years, and is now one of the biggest municipal landlords in the world. It owns 100,000 dwellings with a population of nearly half a million tenants, who pay over £2½ millions a year in rents. It has acquired most of the London sites needed for temporary houses to relieve the shortage.

MAIN DRAINAGE. The main drainage of London is the responsibility of the L.C.C., which operates about 420 miles of main sewers. Within recent years the Council has spent over £600,000 on additional sewage purification plant.

TOWN PLANNING AND BUILDING REGULATION—THE LONDON PLAN. The L.C.C. is the town planning authority for the whole of London (except the City of London) and is also responsible for certain matters affecting the control of streets and buildings. *A Plan for the Redevelopment of the County of London** has been prepared for the Council by Mr. J. H. Forshaw, the Council's architect, and Professor (now Sir) Patrick Abercrombie. This Plan, great in its conceptions, proposes a 50-year programme of improvements and redevelopment in the County, and aims primarily at removing the more serious defects of present-day London, while preserving much that is fine and beautiful and enabling more people to enjoy it.

HIGHWAYS, BRIDGES AND TUNNELS. The L.C.C. is the central authority for street improvements in London and has carried out various major schemes to improve traffic facilities. It also maintains ten of the Thames bridges in the County and has rebuilt some of them, notably Waterloo Bridge, which was first opened for six lines of traffic in November 1944. The total cost of this great project, including all preliminary works, was £1½ millions. Four tunnels under the Thames (two for vehicular and pedestrian use and two restricted to pedestrians) and a ferry across the Thames at Woolwich are also maintained by the Council.

PARKS AND OPEN SPACES—THE "GREEN BELT." The L.C.C. maintains 104 parks and open spaces, most of which are inside the County. They vary in size from one to 1,108 acres and their total area is 6,690 acres. In them are provided full facilities for the open-air enjoyment of leisure, with games and athletic sports to suit all tastes and ages. Complementary to them is the "Green Belt" of open land round London, the fundamental idea of which is, that a part of rural England within an average distance of about 15 miles shall be preserved from building. The L.C.C. has undertaken to contribute £2 millions towards the cost of land for this purpose.

FINANCES. The L.C.C. spends in peacetime over £40 millions a year on the maintenance of the various services for which it is responsible. Its revenue to meet this expenditure comprises Government grants and subsidies, rents, fees and rates. Annual expenditure on major development, which before the war was about £8 millions, is financed mainly by the issue of stock.

POST-WAR HOUSING OPERATIONS. The L.C.C. has extensive post-war housing schemes, which will be implemented as labour and material become available. The schemes provide for the erection of dwellings

* See Section 7.

(mainly blocks of flats) on sites in the Administrative County of London, *e.g.* on the Devons road site, Poplar, and the Ocean Street and St. Paul's Way sites, Stepney, which will be redeveloped as reconstruction areas in accordance with the County of London Plan, and also on new sites to be developed as cottage estates outside the County. An example of this proposed cottage estate development is the Loughton (Essex) Site*. New estates are also proposed in other out-County areas, including Grange Hill (Essex), Headstone Lane (Harrow), Avelcy (Essex), Oxhey (Herts) and Dagnam Park (Romford).

London Passenger Transport Board (L.P.T.B.)

55, Broadway, London, S.W.1. *Telephone : Abbey 1234.*
Chairman : The Right Hon. LORD ASHFIELD

THE London Passenger Transport Board came into being in 1933. The object of its formation was the unification of the activities of the various undertakings which up to then had been responsible for the carrying of passengers, but such unification, to be complete, required some of the machinery of co-ordination with the suburban lines of the main line railways. This was provided for under the London Passenger Transport Board Act 1933, by the creation of a Standing Joint Committee consisting of eight members, four of whom are appointed by the Board and one by each of the four main line railway companies.

The London Passenger Transport Act describes the Board as a "public authority" consisting of a Chairman, and six other members, from time to time appointed by a body known as the Appointing Trustees. The Appointing Trustees are as follows : The Chairman of the London County Council ; a representative of the London and Home Counties Traffic Advisory Committee ; the Chairman of the Committee of London Clearing Bankers ; the President of the Law Society ; the President of the Institute of Chartered Accountants in England and Wales ; and the Chairman of the Board or some other member of the Board nominated by the Board.

The area controlled by the Board, with a pre-war population of nearly 10 million people, is known as the London Passenger Transport Area, and it embraces the whole of the administrative counties of London and Middlesex, parts of Bedfordshire, Berkshire, Buckinghamshire, Essex, Hertfordshire, Kent, Surrey and Sussex. In the north it extends as far as Tring, Luton and Bishop's Stortford ; in the east to Brentwood and Gravesend ; in the south to East Grinstead, Horsham and Guildford, and in the west to Slough and Amersham. It is within a radius of roughly 25 miles of Charing Cross, covers 1,986 sq. miles, and includes the districts of about 180 local authorities, excluding parish councils. Within this area is a Special Area of 1,550 sq. miles, comprising approximately 78

* See Section 7.

per cent. of the whole, in which, except in certain minor cases, no person or company other than the Board may operate road services carrying passengers local to that area without the Board's written consent. Where such consent was not given the Board had to acquire the undertaking in so far as it was connected with the service or services in question. Within the Special Area the Board does not require a Road Service Licence from the licensing authority, namely the Traffic Commissioner, but road vehicles on stage or express carriage services may only be operated in that area in roads approved by him. Inside the London Passenger Transport Area, but outside the Special Area, the Board is empowered to run public service vehicles subject to the provisions of the Road Traffic Act 1930, and to the granting of road service licences by traffic commissioners. The Board may also run road vehicles outside the London Passenger Transport Area to certain places as permitted by the Act (these are termed Outward Runnings), *e.g.*, to Aylesbury, West Wycombe, Dunstable and Windsor.

The general duty of the Board is to provide an adequate and properly co-ordinated system of passenger transport for the London Passenger Transport Area, and to that end, whilst avoiding the provision of unnecessary and wasteful competitive services, to take from time to time such steps as they consider necessary for extending and improving the facilities for passenger transport in that area. The Board is also under an obligation to conduct its undertaking in such a manner, and to fix such fares and charges in accordance with the Act, as to secure that revenues shall be sufficient to defray all charges which are, by the Act, required to be defrayed out of the Board's revenues.

The revenue receipts and expenses of the Board and the main line railways, with certain exceptions, are pooled on a national basis under which certain Government guaranteed net revenues are fixed for each undertaking.

Metropolitan Water Board

New River Head, Rosebery Avenue, London, E.C.1. Telephone: Terminus 3300.
Chairman : HENRY BERRY, M.I.Mech.E., A.I.Struct.E., F.R.S.A., M.P.

THE Metropolitan Water Board is composed of 66 members appointed triennially, the appointing bodies being : The London County Council (14 members), City of London, City of Westminster, County Borough of West Ham (two each), each of the remaining 27 Metropolitan Boroughs (one each), County Councils of Kent, Surrey, Middlesex, Herts, Essex (one each), County Borough of East Ham and Borough Councils of Leyton, Tottenham, Walthamstow, Willesden (one each), and the Thames Conservancy and the Lee Conservancy (one each). There are also groups of authorities outside the County of London, each group of which sends one member to the Board.

The Board is a creature of statute and came into being as a result of the Metropolis Water Act 1902, which transferred to the Board the rights and responsibilities of the eight water companies previously supplying

water in its area. This area stretches from Ware in Hertfordshire in the north to the borders of Sevenoaks in the south, and from Southfleet in the east to Sunbury in the west, and its 540 sq. miles had a pre-war population of seven millions.

The water supplied is obtained from the River Thames above the tideway, the River Lee, and from wells in the Lee Valley and in metropolitan Kent in the following proportions : approximately two-thirds from the Thames, one-sixth from the Lee, and one-sixth from wells. In contradistinction to the gravitational supplies to many large northern and Midland cities, every drop of the Board's water has to be pumped, in some cases three or four times, to reach the heights of Hampstead and Highgate in the north, and the Crystal Palace and Shooters Hill in the south. The pre-war supply amounted to 313 million gallons per day.

All the Board's river-derived water is pumped into storage reservoirs, afterwards passing through primary and slow-sand filters ; is chlorinated, and afterwards passes to service reservoirs, whence it gravitates to the consumer. Prior to a decade ago it was not necessary to chlorinate much of the Board's well-derived water ; but, owing to the building that has taken place in metropolitan Kent and the Lee Valley, chlorination is now necessary. As a wartime measure and as a preventive against possible pollution through enemy action, the chlorination dose was increased, and this measure proved so effective that not a single case of typhoid occurred in the Board's area as a result of enemy action.

All water supplied by the Board is sampled and tested daily both chemically and bacteriologically in the Board's own Water Examination Laboratories, which are the finest laboratories for this purpose in Europe.

The Board's revenue is derived from water consumers, the present charge being 8½ per cent. on rateable value for domestic premises. Trade supplies are given by meter and charged at varying rates.

During the war no fewer than 6,635 mains of all sizes were smashed and the restoration of those mains to the service was speedily accomplished.

The war has had a good effect on the relations between the Metropolitan Water Board and its consumers. It may be that the interruptions to the service which the Board endeavoured to keep to a minimum, have brought home to the average London water consumer the really good service that was his in normal times. At all events, fewer complaints are received, and the response to the Board's appeals for co-operation in the direction of water economy is generous.

National Buildings Record

37, Onslow Gardens, London, S.W.7. *Telephone : Kensington 7070.*
Chairman of Council : SIR ERIC MACLAGAN, C.B.E., D.Litt., L.S.A.

THE National Buildings Record was inaugurated at a conference held at the invitation of the Royal Institute of British Architects in November 1940 when it was evident that the menace from the air would bring much serious loss to English architecture. The extent of the architectural riches of this country has scarcely yet been realised because, unlike the

continental states, England has possessed no official record with the exception of the volumes published by the London Survey Committee and the inventories issued for London and a few counties by the Royal Commission on Historical Monuments. To those who were conscious of this failing it was felt that in view of the imminent danger, it was worth making the effort, even in wartime, to repair the lack of proper photographic records of English building and craftsmanship.

As a result of the conference a strong Council was formed representative of many societies and organisations interested in the subject, with Lord Greene, Master of the Rolls, as Chairman. Mr. Walter H. Godfrey was appointed Director and Mr. John Summerson Deputy Director. Lord Reith, Minister of Works, promised support from the Government.

The work began in February 1941, while London was being intensively bombed, and besides the grant from the Treasury, financial help was forthcoming from the Leverhulme Trust, the Rockefeller Foundation and the Pilgrim Trust. In September 1941 the National Buildings Record was moved from London to All Souls College, Oxford and at the same time it received valuable help from the Courtauld Institute of Art which handed over to it the Conway Collection of architectural photographs, amounting to some 100,000 prints. In April 1942 it was incorporated under the Companies Act.

The first task of the Record was to photograph London buildings, and the work was carried on most courageously by one or two staff photographers, aided by many amateurs and some specially commissioned professional photographers. At the same time contact was made with everyone interested in the aims of the Record throughout England and Wales. Many valuable offers of help were accepted and the staffs of the Royal Commissions on Historial Monuments for both England and Wales were lent by the Treasury and later the Secretary of Scottish Commission assisted with the northern counties of England. The extension of enemy attacks to Coventry, Birmingham, Plymouth, Southampton, etc. and the so-called Baedeker raids that followed menaced all our old towns and made it necessary to record our provincial centres, especially the cathedral and county towns. This meant not only a great deal of fresh work but the examination of all existing records, to ensure that nothing of importance was omitted. In a city like Norwich some 800 photographs were taken, and places like Bristol and Exeter were recorded, at times while actual bombing was in progress. Eventually most urban areas of interest were covered and work was switched to rural districts when bombing became more indiscriminate and the country was suffering from the V1 and V2 weapons. After four years of continuous work, with a relatively small staff and in very difficult conditions, the collection reached a total of 247,000 prints. A widely attended exhibition of the Record's work was held at the National Gallery in the summer of 1944.

It is now sufficiently evident that the National Buildings Record must be a permanent institution and that it will perform an important public service. Already Government departments such as the Ministries of Information, Works, Town and Country Planning, Health, and Education are consulting the collections, and an increasing number of students, authors and publishing firms apply for information and for copies of

records. The policy of the National Buildings Record is to record everything, from cathedral to cottage, which may be reasonably required by students of architecture and authorities interested in the English scene, whether from the conservation or the development point of view. The records are arranged in topographical order by counties in the Library (temporarily housed at 37, Onslow Gardens) and they can be consulted by any responsible person in office hours, although a previous appointment will facilitate access. It is hoped that a full photographic service will be in being shortly to provide applicants with copies of the records at little more than the cost of printing.

The precise future status of the National Buildings Record has not yet been settled but there is reason to believe that it will continue to be supported by the Treasury and the completion of its programme is being planned in close co-operation with the Royal Commission on Historical Monuments and also with the Ministries of Works, and Town and Country Planning. Sir Eric Maclagan has recently been appointed Chairman and every effort will be made to secure its widest possible service to all who have an interest in English building and craftsmanship, irrespective of period or date.

Inquiries should be sent to the Director and Secretary, Walter H. Godfrey, F.S.A., F.R.I.B.A.

National Federation of Housing Societies

(Incorporated under Licence of the Board of Trade)

13, Suffolk Street, Pall Mall, London, S.W.1. *Telephone : Whitehall 2881.*

President : The Right Hon. The VISCOUNT GAGE, D.S.O.

THE National Federation of Housing Societies is officially recognised under Section 96 of the Housing Act 1936, and under Section 29 of the Housing (Scotland) Act 1935, as the "Central Association" of Housing Societies.

It owes its origin to a clause in the Housing Act 1935 (subsequently Section 96 of the Housing Act 1936). The Minister had stated that in recognition of the usefulness of the activities of housing associations (*i.e.* housing societies), sympathetic consideration would be given to communications presented on their behalf by a body representing them in combination. With this valuable recognition, the Federation was duly formed.

Members of the Federation consist only of those associations, societies, trusts, etc., whose constitution conforms with the requirements of Section 188 of the Housing Act 1936, or Section 29 of the Housing (Scotland) Act 1935, both defining a housing association ; or Section 35 of the Town and Country Planning Act 1932, which defines an "authorised association." In conformity with these statutory definitions a housing society does not trade for profit, and its rules limit the payment of any dividend or interest

on capital to the rate prescribed for the time being by the Treasury (at present 5 per cent.).

Housing societies had their origin in the last century as public utility societies, but it is only in recent years that the number has really grown. Before the war there were about 250 societies. Since then the number has reached about 340 in 1945 and continues to increase.

The object of housing societies is, briefly, to provide housing accommodation and associated amenities for the low and lower income groups at rents or prices which they can afford to pay. In the main, societies provide dwellings for letting. Notable examples of housing society developments are : Bournville Garden Village ; Letchworth (two sections) ; Swaythling, near Southampton ; Jordans Village ; Beaconsfield ; Franklands Garden Village ; Haywards Heath. Local authorities as well as groups of individuals, etc., may form housing societies, or sponsor their formation. Considerable machinery is provided in the Housing Acts for co-operation between local authorities and housing societies by means of which orderly planning and good housing development can be co-ordinated. Special financial facilities are available to societies ; of importance is the guarantee into which, under Section 93 of the Housing Act 1936, a local authority is empowered to enter, and thereby to assist a society to secure the loan capital needed for its housing development.

Housing societies, although mainly engaged in mixed development and the creation of neighbourhood units, also undertake the housing of special groups of the community—the aged, single women workers, etc. Examples of housing societies which are co-operating with local authorities in the housing of the aged, particularly in hostels, are : Bournemouth Elderly Peoples Housing Association, Ltd. ; Brighton and Hove Housing Society, Ltd. ; Weymouth Hostels for the Aged, Ltd. ; Hastings District Old Peoples Housing Society, Ltd. Single women workers are catered for by Business Women's Housing, Ltd., a London society, and elderly single women of the professional classes, by Workers Limited, Malvern.

Industrial concerns also sponsor the formation of housing societies, *e.g.* colliery companies and big firms. Several business organisations have recently formed housing societies to provide for the housing needs of their staffs.

The Federation advises its member-societies on all matters of policy and administration, the building up of sound capital structure, etc. It is the liaison between the housing societies and the various Government departments, and watches carefully the progress of housing legislation. It is also responsible for the publication of a quarterly *Bulletin* to which the member societies themselves contribute, and which contains news of their activities and articles on various subjects of importance to those interested in housing. The members of the Federation staff are constantly engaged in speaking at meetings in various parts of the country. These are frequently convened by groups of people or organisations who wish to form housing societies in some particular area. A great many local authorities and housing committees have been addressed on the subject in the past two years.

All communications should be addressed to the Secretary.

North of Scotland Hydro-Electric Board

16, Rothesay Terrace, Edinburgh. *Telephone : Edinburgh 27259.*
Chairman : The Right Hon. THOMAS JOHNSTON, LL.D.

THE North of Scotland Hydro-Electric Board was set up in September 1943 under the Hydro-Electric Development (Scotland) Act 1943, with the primary duty of initiating and undertaking the development of all further generation of electricity by water-power in the Highlands. The Board also has a duty to distribute electricity in the North of Scotland District in areas which are not already within the territory of existing distributors. Further the Board is required to give supplies to the existing authorised undertakers, and provision is made to ensure that the benefits of cheap electricity so supplied are passed on to the consumers of those undertakers. The Board will also sell supplies to the Central Electricity Board on terms which, it is hoped, will yield a profit substantial enough to enable the Board to distribute electricity in the Highlands in areas where this would otherwise be economically impossible.

The Act also requires the Board to collaborate so far as its powers and duties permit in carrying out measures for the economic development and social improvement of the North of Scotland District, and it is hoped that in the exercise of these powers it will be able to make a material contribution to the improvement of the Highlands.

The following schemes have been published by the Board : *Constructional Scheme No. 1* **(Loch Sloy, Loch Morar, Lochalsh)* June 1944 ; *Constructional Scheme No. 2* † *(Tummel-Garry, Gairloch)* February 1945 ; *Constructional Scheme No. 3 (Loch Fannich)* April 1945 ; *and Constructional Scheme No. 4 (Cowal)*. Schemes Nos. 1, 2 and 3 are now in operation.

Constructional Scheme No. 1 contains three projects, the largest providing for the development of water-power resources of a catchment area centring on Loch Sloy. The plan is to enlarge Loch Sloy into a storage reservoir and to carry the impounded waters by pipeline to a generating station on the shore of Loch Lomond. The second project involves impounding the waters of Loch Morar ; and the third, those of Allt Gleann Udalain, near Kyle of Lochalsh.

The estimated total cost is £4,600,000. The Scheme was approved in principle by the Amenity and Fisheries Committees and by the Electricity Commissioners. It was objected to by a number of authorities and individuals, but after holding an inquiry, Mr. John Cameron, D.S.C., K.C., recommended that it should be confirmed. It embodies amendments submitted by the Board and approved by the Electricity Commissioners. It was confirmed by the Secretary of State and after lying before Parliament for 40 days became operative on 28th March, 1945.

The bulk of the output from the Loch Sloy project is intended to meet

* Cmd. Paper No. 6596. † See Section 12.

urgent industrial requirements in central and western Scotland and will be sold to the Central Electricity Board at prices fixed in accordance with the Act ; profits from these sales are intended to meet deficits anticipated on the Loch Morar and Kyle of Lochalsh projects.

Distribution schemes have been approved for the Lochalsh and Morar Districts involved, which will be supplied with current for domestic, commercial and industrial purposes, and so assist the carrying out of measures for economic development and social improvement.

The Constructional Scheme also contains a clause requiring the Board to provide such temporary housing as may be needed for men employed on the construction of works.

Constructional Scheme No. 2 involves the Tummel-Garry Project (No. 25) and the Gairloch Project (No. 74), located in the counties of Perth and Ross and Cromarty. The Tummel-Garry Project provides for impounding the waters of the upper tributaries of the River Garry and Errochty Water by means of a dam in Glen Errochty and the establishment of an electricity-generating station near the head of Loch Tummel ; impounding the waters of Loch Tummel, the River Tummel and tributary streams by means of a dam one and a half miles above Tummel Falls and establishing an electricity-generating station ; and constructing a dam across the River Tummel at Pitlochry and an electricity-generating station. The Gairloch Project involves the impounding of the waters of Loch Bad an Sgalaig, Dubh Loch, Am Feurloch and the River Kerry and tributary streams by means of a dam across the River Kerry, and the establishment of an electricity-generating station.

There is provision for discharge of compensation water by agreements with the Fisheries Committee, and provisions are made for the discharge of adequate quantities of water for the supply of the city of Perth. Agreements to prevent the entry of salmon and sea trout to the works are made with the Fisheries Committee.

The approximate capacity of the generating plant to be installed under the Tummel-Garry Project is 150,000 kilowatts, and under the Gairloch Project 3,000 kilowatts. The system of generation will be three-phase alternating current at a frequency of 50 cycles per second.

Agreements are provided for relating to public roads and footpaths, rights-of-way, compensation for damage by temporary discharge of water into streams, and the protection of the London, Midland and Scottish Railway Company.

The Board is given powers for the compulsory purchase of land for the purposes of the scheme, the powers to expire on 31st December, 1948.

Port of London Authority

London, E.C.3. *Telephone : Royal 2000.*

Chairman : SIR JOHN ANDERSON, P.C., G.C.B., G.C.S.I., G.C.I.E., M.P.

THE Port of London Authority is a statutory undertaking (independent of Government or municipal direction) charged with the conservancy duties of 69 miles of the Thames from the sea to Teddington and owning

the five large dock systems in the Port of London. The docks cover an area of some 4,183 acres, including a water area of 712 acres, and provide 44 miles of deep water quayage for vessels of every class and category. The normal traffic of the port involves the arrival and departure of some 62,000 vessels, representing 63,000,000 net register tons, and the handling of about 44,000,000 tons of goods a year. London is primarily a great seaport and market and its prosperity is based upon the facilities provided in this port for overseas trade. The Authority are neither importers nor exporters of merchandise but custodians only of the goods they handle. On the other hand, many intricate marketing operations are performed on behalf of merchants by the Authority's expert staff, such as reporting upon weight, quality and condition ; sorting of produce to qualities and marks ; opening packages for inspection ; furnishing samples representative of the exact condition of consignments ; measuring, conditioning, repacking for export, etc. The port deals with over one-third of the total overseas trade of the United Kingdom. It serves a huge immediate market consisting of a population of approximately 20,000,000 souls within an economic distributing area. A great deal more enters the port, however, than is required by the immediate market at its doors ; and what has made London prominent is that it is a great international market, the financial centre of the world and a key distributing centre. The *entrepôt* trade has always been a most important feature of the Port of London.

The volume of business to be handled in the port now that hostilities have ended is expected to be very great, and the Port of London Authority are fully determined to provide the requisite port facilities.

Royal Fine Art Commission

22A, Queen Anne's Gate, London, S.W.1. *Telephone : Whitehall 3935.*
Chairman : The EARL OF CRAWFORD AND BALCARRES

THE Royal Fine Art Commission was set up under His Majesty's Royal Sign Manual in May 1924 : " to inquire into such questions of public amenity or of artistic importance as may be referred to them from time to time by any of our Departments of State, and to report thereon to such Department ; and furthermore, to give advice on similar questions when so requested by public or quasi-public bodies, where it appears to the said Commission that their assistance would be advantageous ; . . ."

Under a Royal Warrant issued in August 1933, the Terms of Reference of the Commission were extended so that it is now open to the Commission, if it so desires : " to call the attention of any of our Departments of State, or of the appropriate public or quasi-public bodies, to any project or development which in the opinion of the said Commission may appear to affect amenities of a national or public character."

The duties of the Commission are purely advisory and it has no statutory or executive powers, the object of the Government having been to secure a permanent body to whom questions of artistic importance may at any time be referred. The Commission is prepared, when invited, to

submit criticism and advice wherever its assistance appears likely to be serviceable. It is empowered, if it so desires, to call attention to any project or development which in its opinion may appear to affect amenities of a national or public character. The scope of its work is confined to England and Wales.

The Commission does not nominate artists for public or private work nor does it act as assessor of competitions although it sometimes occurs that in addition to the verdict of an assessor the approval of the Commission is necessary before a design can be put into execution. In cases of this kind the Royal Commission follows a course of procedure determined after consultation with the Royal Institute of British Architects.

The Commission has been consulted by the Minister of Works, the Postmaster General, the Minister of Transport, the Minister of Town and Country Planning, the Admiralty, the War Office, the Air Ministry, the Electricity Commission, the Commissioners of Crown Lands, the House of Commons, the Comptroller of the Department of Overseas Trade, the Lord Great Chamberlain and the Privy Council. Public authorities such as the London County Council and various county, town and district councils have also sought their advice. The Senate of London University, the Deans and Chapters of various cathedrals, the Governors of Chelsea Hospital and the Trustees of the British Museum are among the quasi-public bodies who have called upon the Commission for assistance. The Commission has also approached the Preservation Societies and private individuals acting on behalf of advisory art committees.

Subjects which come within the purview of the Commission include town planning schemes, designs and the layout of new buildings, bridges and open spaces ; the repair, enlargement and decoration of public and historic buildings ; and the design and siting of memorials and commemorative monuments.

Under the terms of their Royal Warrant the Commission have liberty to report their proceedings from time to time when they judge it expedient to do so. Since the date of their original appointment, six Reports have been presented to Parliament by Command of His Majesty.

Inquiries should be sent to the Secretary, A. B. Knapp-Fisher, F.R.I.B.A., Hon.A.R.C.A.

Royal Fine Art Commission for Scotland

National Portrait Gallery, Queen Street, Edinburgh, 2.

Chairman : The LORD HAMILTON OF DALZELL, Kt., C.VO., M.C.

THE Commission was appointed to inquire into such questions of public amenity or of artistic importance relating to Scotland as may be referred to them by any of the Scottish Departments of State, and to report thereon to such departments ; and, furthermore, to give advice on similar

questions when so requested by public or quasi-public bodies when it appears to the said Commission that their assistance would be advantageous.

The Scottish Special Housing Association

11 Drumsheugh Gardens, Edinburgh, 3. *Telephone : Edinburgh 31342-4.*
Chairman : VACANT

THE Scottish Special Housing Association, which is a registered company with no share capital, was established in 1937 to build houses in certain areas of Scotland that were hard hit industrially, by methods of construction alternative to the normal brick and stone. Recently its sphere of operations has been extended to any part of Scotland which the Secretary of State may indicate and it may now build by any method. The Association has been given a programme to erect about 100,000 houses in Scotland in the next ten years and its immediate post-war programme amounts to 10,000 houses in the first two years after the war.

The Association's capital is found by the Government and it is given the usual Government subsidies which local authorities receive plus the equivalent of the financial contributions which local authorities are bound to make.

Inquiries should be addressed to the Secretary, Mr. George Ross.

Thames Conservancy

2-3, Norfolk Street, Strand, London, W.C.2. *Telephone : Temple Bar 5855.*
Chairman : Capt. JOCELYN BRAY, D.L., J.P.

THE Conservators of the River Thames were originally incorporated by the Thames Conservancy Act 1857, since when, by a series of intervening Acts, their powers have been amended and extended until they were finally consolidated by the Thames Conservancy Act 1932. Their jurisdiction as a navigation authority now covers a distance of about 136 miles of river, namely, from Cricklade (Wilts) to Teddington (Middlesex), approximately 70 miles above the mouth of the Thames, and their powers for the prevention of pollution extend over the whole catchment area of 3,812 sq. miles, comprising portions of the counties of Warwickshire, Worcestershire, Wiltshire, Gloucestershire, Oxfordshire, Northamptonshire, Berkshire, Buckinghamshire, Bedfordshire, Hertfordshire, Hampshire, Surrey, Middlesex, East Sussex, and West Sussex.

By the Land Drainage Act 1930, the Conservators were constituted the Drainage Board of the Thames Catchment Area, in addition to their duties under the Thames Conservancy Act, and exercise jurisdiction over 1,419 miles of "main river" comprising the Thames proper above Teddington and the whole or part of certain tributaries, indicated on the statutory map.

The Board consists of 34 Conservators, each appointed by an interested authority or authorities as prescribed by the Thames Conservancy Act 1932 (as amended) : Ministry of Agriculture (4), Berkshire County Council (2), Buckinghamshire County Council (2), Gloucestershire County Council (1), Hertfordshire County Council (2), Joint Committee representing the Councils of the Boroughs of Windsor, Henley-on-Thames, Maidenhead, Abingdon and Wallingford, and of the Urban Districts of Eton, Marlow, Egham, Staines, Chertsey, Walton and Weybridge and Sunbury (2), Joint Committee representing the Councils of the Boroughs of Kingston-upon-Thames, Surbiton and Twickenham and of the Urban District of Esher (2), Corporation of London (1), London County Council (1), Metropolitan Water Board (2), Middlesex County Council (3), Oxford County Borough (1), Oxfordshire County Council (2), Port of London Authority (1), Reading County Borough (1), Surrey County Council (3), Minister of Transport (3), Wiltshire County Council (1).

The statutory powers and duties of the Conservators under the Thames Conservancy Act 1932 are briefly : The construction and maintenance of locks, weirs and all other works necessary for the carrying on of the navigation, establishment and maintenance of ferries ; the appointment of water bailiffs for the protection of the fisheries ; the regulation of the water levels ; the removal of sunken vessels ; the removal of obstructions from the river and tow-paths ; dredging for the purposes of maintaining and improving the navigation, maintenance of flow and the prevention of pollution of the river and all tributaries and streams connected with it ; the granting of licences for works in the river ; the registration of steam launches, houseboats and pleasure boats, and the regulation of these vessels ; the levying of tolls on vessels ; the making of by-laws for a number of purposes ; the regulation of navigation ; and the prevention of pollution from vessels.

The following are the powers and duties of the Conservators as the drainage board of the Thames Catchment Area : General supervision with respect to the drainage of the Thames Catchment Area ; exclusive powers and jurisdiction with respect to the "main river" and the banks thereof, and with respect to drainage works in connection therewith, improvement of existing works, and construction of new works, the cleansing, repairing, deepening, widening and straightening of the "main river" and its general maintenance in a due state of efficiency ; the promotion of or opposition to Bills in Parliament and the application for or opposition to provisional or other statutory orders ; the purchase, sale or exchange of land, including the power to acquire land compulsorily by means of an Order ; the making of by-laws to secure the efficient working of the system of drainage ; and the appropriation and disposal of dredged material. The Conservators are empowered to precept on

the county councils and county borough councils in the watershed to meet the expenditure incurred in connection with land drainage. A number of authorities and water companies draw their supplies from the Thames and its tributaries, or underground sources in the Catchment area, under various statutory powers. The most important is the Metropolitan Water Board, which obtains two-thirds of London's daily consumption from the river Thames between Staines and Molesey.

War Damage Commission

Devonshire House, Mayfair Place, London, W.1. *Telephone : Mayfair 8866.*

Chairman : SIR MALCOLM TRUSTRAM EVE, Bt., M.C., T.D., K.C.

THE War Damage Act received the Royal Assent on 26th March, 1941 and was consolidated with two amending measures in the War Damage Act 1943 (3rd June). Part I laid upon the War Damage Commission the duty of making payments in respect of damage to land and buildings resulting from enemy action or from measures taken to repel, prevent or hinder an attack or imagined attack by the enemy. These payments are made from the Exchequer, but owners of real property made a compulsory annual contribution of 2s. in the £ on the Schedule A value of their property. The final of these contributions was due on 1st July, 1945. Special provisions are, however, made in regard to properties held for charitable purposes, public utilities and highways. The basis of payments by the Commission is the reasonable cost of carrying out repairs to premises which are economically repairable, and a value payment, calculated on the value at 31st March, 1939 in those cases held to be a total loss.

Figures made public by the Chairman of the Commission in September 1945 gave a more adequate idea of the amount of war damage to buildings and land in this country, and of the work of the Commission, than had previously been possible. Up to that time the Commission had been notified of damage to 3,281,953 separate properties, no fewer than 3,024,822 of them being dwelling houses, and 75,607 shops. These figures exclude damage to highways and to public utilities. Cases of damage in the London Civil Defence Region accounted for 1,400,245 of the total. During the fly-bomb and rocket campaign on "Southern England" notifications of damage flowed in in many thousands, the peak being reached with 69,000 in one week. The total amount to date paid out by the Commission, including payments to local authorities in respect of the war damage work carried out by them, was £271,281,171, and involved the sending of 1,751,467 cheques to individual claimants. In round figures the number of properties classified as total losses, and, therefore, qualifying for a value payment, was placed at 200,000. For

the repair or rebuilding of all the others the Commission has paid, or will pay, the proper cost.

Three factors introduced in 1943–44 into the Commission's administration of the Act were designed to assist in speeding the work of rebuilding or repair. The first was a review of every case of damage in the Commission's files followed by the notification to each owner where there was any room for doubt that his property had been provisionally classified as qualifying either for a cost-of-works or a value payment. The result of this action was not only to enable the owner of a property to make such plans as he considered suitable for the future. It also provided a guide to those local authorities who wished to restore housing accommodation, where desirable, in their particular areas, with the knowledge that they would receive the benefit of the War Damage Act.

The second factor was the issue by the Treasury to the Commission, "in conformity with the public interest as respects the provision of housing accommodation," of a direction empowering it to pay the reasonable cost of restoring or rebuilding houses in the two following classes, even where totally destroyed: (1) Any houses built after 31st March, 1914; (2) also houses built before 31st March, 1914 where the Commission is satisfied that immediately before the war damage the structure was practically as sound as at the date of building and that the design, layout and amenities of the houses were reasonably equal to those of similar houses built since 1914. Cost-of-works payments were also authorised in certain other classes of houses. The term "house" was held to include flats, tenements, and any properties comprising living accommodation where only the ground floor and basement are used for other purposes. It does not include buildings primarily used for the sale of intoxicating liquor for consumption on the premises, or for carrying on the business of an hotel, boarding house or similar establishment; nor a building constructed in whole or in part of a converted railway carriage or similar article, or one so constructed as not to be suitable for use as a permanent building. The general effect of the direction is that, in some 40,000 cases, houses which were regarded by their owners as total losses will now be rebuilt and the current cost of such rebuilding will be paid by the Commission.

The third factor was an important variation of the rule that payment of the cost of repairs shall be made after the work is completed, which is now in operation in relation to repairs to all types of property likely to cost more than £250. Where the necessary consents both by the Ministry of Works and the local authority have been obtained by the owner, the Commission is prepared to agree in advance the specification of the work to be done and, where a firm price obtained in competition is quoted, to consider approval of the price. Payments on account during the currency of the work will be made where desired.

In order that the public may be given the fullest possible information concerning the administration of the Act, the Commission has issued two explanatory pamphlets (C.I.A. covering property-owners' rights and duties; and R.O.D.1. dealing in full with the procedure for arranging

war-damage repairs and the assessment of payments of cost of works), and two booklets, *Practice Notes*, for the use of those professionally interested, making known the Commission's general intentions concerning the exercise of certain discretionary powers and its interpretation of important provisions of the Act.

Unofficial Statements

Association for Planning and Regional Reconstruction

34, Gordon Square, London, W.C.1. *Telephone : Euston 2158.*

Chairman : The LORD FORRESTER, M.A., F.I.I.A.

THE objects of the Association for Planning and Regional Reconstruction are to serve as a centre for research and to correlate experience, but not to compete with institutions or organisations operating in any specific fields of activity.

In general the procedure of the A.P.R.R. is as follows : Subjects are studied which have a direct bearing on local, regional and national planning issues, under the guidance of a competent worker who enlists the help and advice of experts and others interested. Papers are read and discussed at regular meetings attended by those directly associated with the work, after which reports based on them are circulated to a wider public for criticism and subsequently issued in a *Review* of broadsheet form, revised or reprinted as necessary. All A.P.R.R. publications are available to the public for reproduction or other purposes. *Reports* and *Broadsheets* include considerations of regional and neighbourhood boundaries ; disposal and utilisation of domestic waste ; aspects of health, education, recreation and shopping, and the disposal of the dead.

Subscribers to the Information Service receive A.P.R.R. *Broadsheets, Reviews, Reports* and bi-monthly *Bulletins.*

The A.P.R.R. trains a nucleus of men and women in the broad technique of planning and the School of Planning and Research for Regional Development has been formed to carry on this work. This latter has, at the request of the War Office, prepared and is conducting a correspondence course for members of the forces. This is followed by a three months' practical completion course at 34, Gordon Square. Refresher courses for qualified planners, architects, engineers and surveyors are also arranged.

Inquiries should be sent to the Director of Research, Miss Jaqueline Tyrwhitt, A.M.T.P.I. at the above address.

Association of Public Lighting Engineers

68, Victoria Street, London, S.W.1. *Telephone : Victoria 9132.*
President : E. J. STEWART, M.A., B.Sc.

THE Association was founded in 1923 by a small group of illuminating engineers representing local authorities, whose special functions concerned street lighting. Its promoters had as their main object a desire to bring together officers of local government responsible for public lighting of roads and highways, with the intention of encouraging and improving by a mutual exchange of ideas and information the science of efficient public lighting; and, further, of organising demonstrations and exhibitions of street lighting and lighting equipment in various districts throughout the country in order to secure as far as possible improved forms of lighting and a greater uniformity of street illumination. In 1928 the Association was incorporated under the Companies Acts 1908–17.

Today the Association includes the lighting engineers of all the chief cities and towns in the kingdom. Through it, considerable advances have been made in the technical improvement of lamps and lighting equipment. The Conferences held yearly under the auspices of the Association in various towns, bring together engineers and officially-appointed delegates from local authorities to discuss communications bearing upon public lighting and associated subjects. A series of exhibitions has provided manufacturers of lamps and lighting equipment with a useful opportunity to display and explain their products.

The Association was instrumental in inducing the Ministry of Transport to appoint a Select Committee to draft recommendations for efficient street lighting. This Committee published a final *Report on Street Lighting* in 1937. The Association has also sponsored a *British Standards Specification for Street Lighting*, designed to implement the Ministry of Transport Report referred to above.

Inquiries should be sent to the Secretary, H. O. Davies.

Bournville Village Trust

Estate Office, Bournville, Birmingham, 30. *Telephone : King's Norton 1171.*
Chairman : DAME E. CADBURY, O.B.E.

THE Bournville Village Trust, founded by the late George Cadbury, has, in the course of its pioneer housing and town planning activities, maintained an active interest in research.

Since its formation, the Trust has made many experiments in the construction and equipment of dwellings. These include a group of houses built after the last war in order to compare costs of alternative

methods of construction ; the building of an all-electric house for the purpose of recording comparative costs of heating and cooking by electricity and other means ; and many tests of new materials and domestic fittings.

The Trustees' interest in town planning and housing development has not been confined to Bournville Estate. In addition to the making of a grant for a *Lectureship in Town Planning and Civic Design* at the University of Birmingham, close contact has been maintained with other bodies, both official and unofficial, operating in this field.

In 1935 it was decided to inaugurate a programme of research into housing in Birmingham with special reference to its relation to industry and to the development of the surrounding region. A Research sub-Committee was appointed to carry out this programme, which involved a house-to-house inquiry embracing over 7,000 interviews and a survey of the development of 1,100 sq. miles of the West Midlands. The results of this research were published in 1941 under the title *When We Build Again.*

The Research Department of the Trust is willing to give information and advice on housing and town planning matters, and many inquiries are received from official bodies and research workers.

The Trust has plans for building houses to let, and for other developments as soon as conditions permit.

The Trustees attach great importance to the work of the West Midland Group on Post-war Reconstruction and Planning, to which they have given active support since its formation in January 1941.

Inquiries should be addressed to the Secretary.

British Coal Utilisation Research Association (B.C.U.R.A.)*

13, Grosvenor Gardens, London, S.W.1. *Telephone : Victoria 1534.*

President : ROBERT FOOT, O.B.E., M.C.

THE British Coal Utilisation Research Association was formed in the spring of 1938 with the object of conducting research into the utilisation of solid fuel and improving the efficiency with which coal is used. A comprehensive survey of the field of research was followed by a careful selection of programmes which, it was hoped, would serve the most pressing needs of industry and at the same time provide useful experience and training for the scientific staff.

Before the staff was properly settled in at the original Experimental Station at Fulham the second European war broke out, and the programme of work was completely revised to meet war needs. Of

* Under ægis of Department of Scientific and Industrial Research.

primary importance in the early war years was the work on transport gas producers, and the filtration of producer-gas for use in internal combustion engines. This investigation, which was carried out with the help of the I.C.I., Vauxhall Motors Ltd., the fuel producers, the makers of small gas-producer plants, and a number of road transport firms, resulted in the B.C.U.R.A. central draught producer, a plant designed to burn gasworks coke activated by the addition of a small proportion of sodium carbonate.

Other work during the war years was mainly of an *ad hoc* nature directed towards economy in the use of fuel. The Hales convector was designed to effect an immediate saving in domestic grates, but quantity production was abandoned when the fall of France made economy in metal more essential than saving of fuel. Certain work was carried out for the Fuel Efficiency Committee of the Ministry of Fuel and Power, and the Association collaborated with the iron-founding industry in the design of a small heating stove for air-raid shelters. Many other investigations of an industrial nature were completed, and a few programmes of a more fundamental nature maintained in preparation for the post-war years. Between 1938 and 1945 the staff grew from fewer than 60 to close on 300, and the amount of research and development work undertaken increased in proportion.

One of the more important investigations, which has been carried out with the collaboration of the appliance manufacturers, coal producers and coal distributors, is concerned with the improvement of solid-fuel burning appliances for use in the home. The Association has developed an open fire which is not only more efficient than existing conventional types but also reduces smoke emission, burns continuously and provides for dustbin ash removal at weekly or bi-weekly intervals. Greatly improved multi-duty appliances which combine cooking, water-heating and room-warming have also been evolved and special attention has been paid to the structural requirements of the types of permanent and semi-permanent houses which are soon to be built in large numbers. Prototype units have been exhibited in many parts of the country, notably at the Building Centre in London where a permanent display may be seen. Commercial manufacture will begin as soon as circumstances permit.

Of special interest to industry is the work of the Steam Engineering and Combustion Research sections which undertake both fundamental and practical work. Full-scale tests are at present being made by the Development Division on furnaces embodying a novel system of combustion which was described by the Association in 1941–42.

The close of the European war finds the Association preparing to move into new accommodation at Leatherhead where the work now undertaken at six separate premises will be continued and expanded. The Director, D. T. A. Townend, D.Sc., Ph.D., is responsible for the continuation of existing programmes and the inception of new work which the Association will put in hand in order to assist the reconstruction of industry in the post-war period.

Correspondence should be sent to the Development Officer, R. Colville-Wallis.

British Council

3, Hanover Street, London, W.1. *Telephone : Mayfair 8484.*
President : The Right Hon. LORD TYRRELL OF AVON, G.C.B., G.C.M.G., K.C.V.O.

Exhibitions. The British Council has sent a "*County of London Plan*" *Exhibition*, consisting of 20 panels measuring 24½" × 16½" to South Africa, the U.S.S.R., Chile, Brazil, Syria, Turkey, Sweden, Portugal, Egypt, the Argentine, Mexico, Spain, France, the Netherlands and Belgium.

In addition, exhibition photographs and plans for the replanning of public parks and recreation grounds have been sent to the U.S.S.R., and the Argentine, together with photographs of town planning.

Exhibition photographs on the replanning of London, including Royal Academy and Royal Institute of British Architects plans, have been sent to Spain, the U.S.S.R. and the Argentine, with plans for the redevelopment of Birmingham. In addition the R.A. photographs were sent to Belgium.

An Exhibition on Bath sent to Ethiopia, Sweden and Portugal, includes a section of photographs on replanning. This is going also to Brazil, Algiers and the U.S.S.R.

Exhibitions of British craft work have also been sent to many countries.

Publications. In the Council's series of booklets on *Social Sciences in Great Britain, Land Utilisation* by L. Dudley Stamp will shortly appear. This deals with the past and future of the land of Britain and outlines measures for making the fullest use of every acre of urban and rural land.

Courses. Courses arranged by the British Council for members of Allied, Dominions and U.S. Forces who have been stationed in this country have included subjects bearing on reconstruction and planning. One on *English Architecture* included, for instance, lectures on *Garden Cities and their Influence* and on *Recent British Architecture.* Members attending this course were taken on a tour of the Wythenshaw Housing Estate by officials of the Manchester Housing and Surveyor's Departments.

Overseas Press. Among articles by authoritative writers sent by the Council to the overseas press recently are : *Plan for a New London* (i. *Decentralisation,* ii. *A City for Londoners*) ; *How Britain will Solve the Housing Shortage ; The Men Who Make the Plans Series* (i. *Professor Sir Patrick Abercrombie ;* ii. *Sir William Jowitt ;* iii. *W. S. Morrison ;* iv. *Lord Woolton*); *Rebuilding the House of Commons ; Britain's Towns Plan for the Future ; Britain Plans Her Post-War Homes* (*New Types of Experimental Houses*) ; *Post-War Planning in Britain Series* (i. *How the Plans are Made ;* ii. *Britain Plans for Industry ;* iii. *Britain's Contribution to Town Planning ;* iv. *Planning for Housing ;* v. *Rural Housing*).

The Press Officer is Paul Reed.

British Electrical Development Association (E.D.A.)

2, Savoy Hill, London, W.C.2. *Telephone: Temple Bar 9534.*
President: The Right Hon. LORD BRABAZON OF TARA, P.C., M.C.

THE British Electrical Development Association is a national organisation formed to encourage the greater use of electricity. Founded in June 1919 as an offshoot from the Heating and Cooking Committee of the Institute of Electrical Engineers, it was incorporated as a company not trading for profit in January 1920.

Originally the Association drew its membership from the Institute of Electrical Engineers, the electricity supply undertakings (both company owned and municipal), electrical contractors and manufacturers of electrical appliances.

Since 1935, however, membership of the Association has been confined to authorised electricity supply undertakings owned by local authorities, companies or joint electricity authorities and the Central Electricity Board.

Among the objects for which the Association was established, are: " To promote, encourage, foster, develop and protect electrical industry and enterprise in the British Empire and to further and develop the use of and demand for electrical energy for industrial, commercial, public, domestic, agricultural and/or other purposes, as an end in itself, and as a means for increasing the demand for electrical apparatus and supplies of British manufacture." (*Articles of Association.*)

In short E.D.A. can be described as the " Public Relations " organisation of the electricity supply industry, and in that capacity has contact with practically every section of the community. This contact is maintained through a variety of channels, chief of which is the public press. In the course of its 26 years' existence E.D.A. has spent hundreds of thousands of pounds in advertising campaigns in the national and technical press and has given extensive service in connection with the local advertising of individual electricity authorities. Advice and information are provided to journalists with the result that the reading public are kept fully informed on all developments in the electrical industry. The Association, in normal times, publishes and circulates millions of pamphlets and books on all angles of the use of electricity—and when the paper shortage comes to an end this important aspect of E.D.A.'s work will be resumed.

Among the many services which E.D.A. gives to its members—most of which were maintained during the war years—is a wide range of films, both silent and sound, for exhibition either in public cinemas, or at gatherings in schools, village halls, camps, etc. This is a branch of the Association's activities which will be developed when peace conditions are restored.

E.D.A. is also the exhibitions organiser for the electricity industry and when war broke out could claim to be the largest single organiser of exhibitions in the world. Electrical exhibitions, mainly dealing with

kitchen planning and electrical aids to agriculture, have been a feature of the Association's work in 1945.

The domestic application of electricity has always taken a large place in E.D.A.'s activities, and housewives are constantly being advised how this great public service can lighten their burdens. The " all-electric " house is the ideal that E.D.A. has kept before the public, organising competitions among architects for the best designs of electric kitchens for small and medium-sized houses, and establishing a house planning service which is at the disposal of local authorities, architects, builders or private citizens. The Association also gives assistance and guidance on how to introduce electric light and power to existing houses, and has conducted campaigns in support of the wiring of houses, and the introduction of electric cooking, water-heating and refrigeration.

Industry, too, is catered for by E.D.A. Expert advice on air-conditioning of factories and business premises is given to industrialists, while the principles of correct lighting and the economic and social advantages of good illumination are brought to the attention of business executives.

Improved street lighting as a means of reducing road accidents, tasteful lighting schemes for shop windows, better lighting and heating of hotels, electric cooking by large-scale caterers, the development of the use of electricity on farms and in rural areas, the electrification of the railways and the mines, and the greater use of electrically-driven vehicles are yet other branches of the Association's interests. On all these subjects expert advice is given without regard to proprietary articles or systems.

E.D.A. also co-operates whole-heartedly with various Government departments, such as the Ministries of Food, Fuel and Power, Health, and Works. Assistance on the subject of electrical installations and equipment was given to the Government departments concerned in preparing the post-war housing programmes.

When E.D.A. was formed there were fewer than 700,000 consumers of electricity in Britain ; today there are nearly 11 millions. The capital expenditure then was about £100 millions and today it is nearly £700 millions. The annual revenue was £14 millions, whereas the present figure is in the region of £125 millions. Before the war new consumers were being connected at the rate of 500,000 annually—and this brought in orders totalling £15 millions annually to electrical manufacturers and provided employment for thousands of skilled British workmen.

Inquiries to be sent to the General Manager and Secretary, V. W. Dale.

British Gas Council

Gas Industry House, 1, Grosvenor Place, London, S.W.1. Tele. : Sloane 4554.
Chairman : A. E. SYLVESTER, F.C.A.

THE Council was formed by resolution passed at Special General Meetings of the National Gas Council and the British Commercial Gas Association respectively, held on 14th June, 1945. The resolution

provided that the Council should be the governing body and should carry on the combined work and objects of the National Gas Council and the British Commercial Gas Association, and that the Council should be composed of members of the Central Executive Board of the National Gas Council and members of the Executive Committee of the British Commercial Gas Association. The objective is to improve service to the community and with this end in view the functions of the Council include the following: To promote the interests of the gas industry of the United Kingdom; to watch over and take any steps which may seem desirable with reference to any legislative measures or proposals for legislative measures which may affect or tend to or be likely to affect the interests of the industry and to give to members of the Council all such assistance as shall appear desirable; to adopt such means of making known the advantages of the use of gas, particularly by advertisements, circulars and other printed matter; and to facilitate the interchange of information and of ideas respecting methods for the commercial development of the industry.

Inquiries should be sent to the Acting Secretary, W. J. Smith, M.B.E.

British Road Tar Association

1, Grosvenor Place, London, S.W.1. *Telephone: Sloane 6119.*
President: H. E. G. WEST

THE Association was created in 1927 by the gas, the by-product coking and the tar distilling industries to promote the expansion of the use of tar and tar products for road purposes. Its objects and functions are to stimulate improvements and to ensure the most efficient utilisation of tar for the construction and maintenance of roads, and they cover research and technical development, technical service, road demonstrations, technical literature and publicity.

Co-operative research with the Department of Scientific and Industrial Research has proved of outstanding importance. Apart from laboratory investigations, many full-scale road trials have been undertaken, and the results so far obtained have indicated practical features which may well have an important bearing on the future development of tar road construction. Co-operative research has made a noteworthy contribution to the present *British Standard Specification No. 76–1943* (*Tars for Road Purposes*). The official *Revised Recommendations for Tar Carpets* and *Recommendations for Tar Surface Dressings* also take into account the knowledge gained from research and experimental work undertaken by the D.S.I.R. jointly with the Ministry of War Transport and the Association. The forthcoming issue of the revised *British Standard Specification No. 802–1938* (*Tarmacadam*) is yet another example of the advances made by research. Investigations on tar emulsions are in progress.

Linked up with the increasing attention which is being given to the application of scientific knowledge to road construction, is the need for

an improved technique in the application of the materials. In order to realise this objective, close contact is maintained with highway authorities and road contractors, and by this means substantial advances have been made in the processes and methods of using road tar. The provision of specifications and technical literature is an important part of the Association's advisory services, and the specialised knowledge and experience of the technical staff is always at the disposal of the roadmaking industry. Publicity which is informative and reliable about the use of road tar is featured through the medium of the technical journals. The Association will co-operate to the fullest extent with the new Federation of Coated Macadam Industries in the task of improving the quality of coated macadam for roadmaking.

The policy of the Association in collaborating with highway authorities in road demonstrations, has been more than justified by the practical results obtained and utilised. In addition to serving the purpose of introducing scientific knowledge and improvements to established forms of tar road construction, these demonstrations have covered the testing of improved forms of tar surfacings designed to carry traffic of a very heavy and concentrated nature. In all this work, invaluable data have been obtained on the factors influencing the results on the road. It is confidently expected that the knowledge which has been steadily accumulated will ultimately lead to substantial improvements in the general technique of tar road construction and maintenance.

Valuable as the contribution of road tar to road construction in this country has been in the past, there are grounds for believing that it will eventually play a more important part in the future. Of all home-produced materials, tar is the most plentiful as it is the most easily obtained. Its value for the construction and maintenance of roads has long been established, and the technique of road tar production and its use have been the subject of intensive investigation. Much has been accomplished, and it is an integral part of the policy of the Association to continue, through its research and technical development work, to strengthen the confidence of the users of road tar.

The present position of the road tar industry, and its outlet for the future, justify a considerable measure of satisfaction and confident hopefulness. During the war, the normal work of road construction and repair has, for the most part, been in abeyance in this country, and there will be ample scope in the future for the use of tar and tarred materials, either in the reconstruction and maintenance of existing roads, now heavily in arrears, or in the building of new roads. Furthermore, the employment of tar and tarred materials at aerodromes will ensure the continuity of the excellent work carried out during the war with these materials, for which enormous quantities were used for constructional, maintenance and camouflage purposes. Meanwhile, technical progress in the industry is proceeding steadily with the object of securing the highest degree of quality of road tar in the service of the user. The British Road Tar Association will play its part in ensuring that fuller use is made of research and technical development work in tar road construction to meet the needs of the country's reconstruction plans.

Communications should be addressed to the Secretary.

British Standards Institution (B.S.I.)

28, Victoria Street, London, S.W.1. *Telephone: Abbey 3333.*

President: The Right Hon. THE LORD WOOLTON, P.C., C.H.

THE work of the British Standards Institution began in 1901 with the formation of an Engineering Standards Committee. The Institution was incorporated by Royal Charter in 1929, and is recognised as "the sole organisation for the issue, in consultation with any government, professional or industrial bodies concerned, of standards having a national application." It is thus the national organisation for the promulgation of British Standard terms, definitions, Codes of Practice and specifications for materials, articles and methods of tests.

Standards are prepared on the principles that (*a*) they shall be in accordance with the needs of industry and fulfil a generally recognised want; (*b*) the interest of both producer and consumer shall be considered; and (*c*) periodic review shall be undertaken

The Institution is governed by a General Council. Work is divided into Engineering, Chemical, Building, and Textile Divisions, administered by Divisional Councils. Industry, as well as the Board of Trade, the Department of Scientific and Industrial Research, the National Physical Laboratory, the Federation of British Industries, and the Association of British Chambers of Commerce, are represented on the General Council.

The Institution co-operates with the National Standards bodies in various parts of the Commonwealth, and with the American Standards Association. It also participates in the United Nations Standards Co-ordinating Committee, which has the object of promoting the maximum possible co-ordination and unification of standards necessary for the post-war period.

The preparation of each standard is the responsibility of the industry primarily concerned. This is effected by the establishment of separate Industry (Standards) Committees, each being representative of both producer and user interests. In this way the maximum degree of co-operation is achieved. In addition to the industry committees, special committees, which do not come within the scope of the Divisional Councils, report directly to the General Council. These are Documentation; Office and Works Equipment (Metal); Printing, Stationery and Allied Trades; Upholstery and Bedding Fillings; Catalogue Sizes; Women's Garments; Office Methods for Use by the Building and Civil Engineering Contracting Industries; Office Aid to the Factory; Packaging; Quality Control; Mark; and Personal Safety Equipment Committees.

Over 1,300 specifications have been issued since the formation of the Institution, which also works on the establishment of agreed terms and definitions, methods of test, standards of performance and Codes of Practice. A monthly list is issued to members, giving information on new work started during the month; draft standards ready for circulation; new published standards; and foreign standards received from abroad.

Special wartime work was undertaken for the then Ministry of Home

Security, in connection with civil defence apparatus and the use of light in civil defence. The importance of packaging in wartime production, and its increasing problems, led the Institution in 1942 to issue a schedule of sizes and types of packages of pre-packed commodities for the home trade. In 1943, as the result of a request from the Anglo-American Packaging Committee of the Ministry of Production, the B.S.I. published its *British Standard Packaging Code*, and a *Supplement* dealing with packing for tropical climates has now also been issued. Other important wartime work was done by the committee set up to consider the most efficient procedure to promote simplification and greater efficiency on the clerical side of works production and organisation ; this committee has prepared booklets dealing with principles of production-control, pay-roll methods, office organisation and practice, drawing-office organisation, and production-control in the small factory ; while others are in preparation. For the Ministry of Supply, important work has included the co-ordination of steel specifications in the United Kingdom, Canada and the United States of America, and work on the co-ordination of screw threads and threaded products.

It has been agreed that the work of the Institution will continue to be carried on by the Industry Committees, each of which is established only with the concurrence of the industrial and professional organisations concerned. Representatives of Government departments are included wherever appropriate. These Committees are the basis of the whole organisation and are the points at which standardisation is initiated and carried out. The co-ordination of their work is secured by the Divisional Councils.

Important publications include the *Handbook of British Standards for Workshop Practice*, published at the request of the Machine Tool Control of the Ministry of Supply ; the *Handbook of Building Standards ;* the *British Standards for the Rating of Rivers*, which provides the basis for computing the resources and for making comparisons between rivers, river-basins, regions and countries ; and the *Universal Decimal Classification*, which consists of an English translation of various sections of the *Universal Decimal Classification of Knowledge*. The quarterly periodical, *Standards Review*, gives information relating to the Institution's activities, and records also the progress of standardisation in other countries.

The library service provides the latest information regarding the national standards of Britain and of many overseas countries, and pre-war specifications of European countries are available on loan to members. Assistance is given in the translation of foreign standards. The service includes an Inquiry Bureau.

Inquiries are being made into the practicability of translating British Standard Definitions and Specifications into Basic English, and some work has already been achieved.

British subjects, and any organisation formed or incorporated under the laws of any part of the British Commonwealth, are qualified for election as contributing members. Subscribers receive free of charge varying numbers of copies of published British Standards, the *B.S.I. Yearbook*, with an alphabetical index and a synopsis of each British Standard, a monthly information sheet, and the periodical, *Standards Review*.

Inquiries should be addressed to the Secretary, L. G. Watkins.

Q*

Building Centre

9, Conduit Street, London, W.1. *Telephone : Mayfair 2128.*
Chairman : ROBERT ATKINSON, F.R.I.B.A.

THE Building Centre provides a focus where every kind of material and equipment for building can be seen by architects, builders and others interested in the building industry. Most of the development and trade associations connected with the building industry are represented by composite exhibits, and such organisations as the British Electrical Development Association, the British Gas Council, the Timber Development Association and the Coal Utilisation Joint Council, maintain special technical assistants at the Building Centre to deal with problems in their particular industry. Free information on materials and equipment for building can be obtained either by personal visits, telephone or letter.

There is a library of technical trade papers, and, in addition to the permanent exhibition, temporary displays are held from time to time on matters likely to interest those consulting the Centre.

Inquiries should be addressed to the Managing Director, F. R. Yerbury, Hon. A.R.I.B.A.

Building Industries National Council

11, Weymouth Street, London, W.1. *Telephone : Langham 2785.*
President : HOWARD M. ROBERTSON, M.C., F.R.I.B.A., S.A.D.G.

THE Building Industries National Council was formed in 1932 to provide a means of common consultation and united representation on all matters agreed to be of common interest to all sections of the building industries.

Its Associated (*i.e.* constituent) Bodies are : The Royal Institute of British Architects ; the Chartered Surveyors Institution ; the National Federation of Building Trade Employers ; the National Federation of Building Trades Operatives ; the National Council of Building Material Producers ; the National Federation of Ironmongers ; the British Electrical Development Association ; the National Gas Council of Great Britain and Ireland ; and the British Constructional Steelwork Association.

Inquiries should be sent to the Secretary, H. B. Bryant.

Building Societies Association

14, Park Street, London, W.1. *Telephone : Mayfair 0515.*
President : The Right Hon. VISCOUNT SANKEY, P.C., G.B.E., D.C.L., LL.D.

THE Building Societies Association exists for the purpose of promoting the interests of building societies and of securing the adoption by such societies of standards of business which will command public confidence.

The membership of the Association consists of 386 building societies,

the total assets of which exceed £765 millions, which represents 96 per cent. of the total assets of all building societies.

The affairs of the Association are directed by a Council consisting of 24 elected members and not more than six co-opted members. The Council and its Committees meet at least once every month, and once a year the Council reports to an Annual General Meeting and Conference which lasts three days and is attended by about 500 representatives of member-societies.

The Association provides member-societies with information about political, financial and social developments ; keeps them informed about Parliamentary matters which affect them ; and maintains contact with other organisations concerned with the housing of the people. It is the recognised channel of communication between the Government and building societies on matters of general interest, and discusses matters of common concern with many Government departments.

There are eight District Associations affiliated to the parent Association, *viz.*, Metropolitan ; Midland ; North Western Counties ; Northumberland and Durham ; South Eastern Counties ; South Wales and Monmouthshire ; South Western ; and Yorkshire County.

Closely associated with the Building Societies Association is the Building Societies Institute, which exists for the purpose of training the staffs of building societies in the subjects of their work. (*See Building Societies Institute.*)

Inquiries should be sent to the Secretary, C. G. Garratt-Holden, B.A., B.Com.

Building Societies Institute

14, Park Street, London, W.1. *Telephone : Mayfair 0515.*

President : H. S. CHANEY, F.C.C.S.

THE Building Societies Institute was founded in 1934 as a result of a general desire to put on a more formal basis efforts which had from time to time been made to provide facilities for training the staffs of building societies. Although it has other activities, the Institute is first and foremost an educational body. It is, under its constitution, expressly debarred from acting as a trade union.

The Institute is governed by a Council of 35 members, divided almost equally between chief officers and subordinate officers of building societies. One-third of the Council retires each year. The Council elects the President of the Institute.

The Institute itself meets once a year, but carries on an active existence through its five groups, which in turn control 29 centres. In normal times the groups and centres meet monthly and carry out their own programmes of lectures, discussions, visits and social meetings.

The Institute is an examining body, and has continued to hold examinations on a restricted scale throughout the war. The arrangements have allowed service candidates to sit at their duty stations, and even as

prisoners-of-war. A similar activity is the provision of postal tuition courses for Service men under a War Office scheme and the needs of returning Service men and women are also being met by whole-time refresher courses of six weeks' duration.

The Institute itself conducts or encourages the holding of weekend study groups, usually at an Oxford or Cambridge college.

Among its other activities the Institute maintains a Benevolent Fund and an Education Fund designed to provide increased educational facilities for the younger members of the staff of building societies.

Communications should be sent to the Secretary.

Central Council for the Care of Churches

Temporary Address : Earlham, Dunster, Somerset. Telephone : Dunster 367.
Chairman : The Very Rev. D. H. S. CRANAGE, Litt.D., F.S.A., Hon.A.R.I.B.A.

BEFORE any alteration or addition can be made to a church or its furniture the legal authority of the Chancellor of the Diocese—the judge in the Bishop's Court—has to be obtained. In recent years a system of advisory committees has been set up to assist the Court in all questions where artistic or archaeological considerations are concerned. These committees also assist the archdeacons, who are responsible for seeing that existing work, whether in the fabric or its contents, is maintained in good order. The intention is to safeguard the treasures of the Church ; to preserve all that is old in accordance with the best modern methods ; and to raise the standard of new work so that really good artists are employed.

While the Court requires the opinion of the Committee before an application for a faculty or licence to do work is granted, parochial authorities and intending donors are warned to ask the advice of the Committee at the earliest opportunity, before schemes are definitely formulated or designs obtained. This saves the disappointment which may well occur if schemes are worked out and money raised, only for proposals to be found unsuitable at a later stage.

Where war damage is concerned, each diocese has a reorganisation committee, which deals with all the interests affected, including the possible removal as well as the rebuilding or repair of damaged churches, or even the use for other purposes of a redundant church. Diocesan advisory committees are represented on these bodies, and all cases where ancient churches or possible removals are concerned will be considered by the appropriate advisory committee at some stage in the proceedings, to make sure that nothing of architectural or artistic value is lost. Legislation provides that in an important case the Royal Fine Arts Commission shall be consulted.

Any architect, artist or contractor who is involved in a war damage

case would be well advised to get in touch with his Diocesan Advisory Committee in any case of difficulty.

Full information about war damage procedure can be obtained from two official publications, *The Churches and War Damage* and *War Damage to Churches* and from the last two Reports of the Central Council.

The Council also has in its charge a collection of over 140,000 photographs and other records of English churches, which can in time be made available in London to architects and students for consultation.

The offices of the Council will shortly be established in London.

Communications should meantime be sent to the Secretary as above.

Central Council of Civic Societies

British Museum, London, W.C.1. *Telephone : Museum 8196.*

Chairman : The Right Hon. THE VISCOUNT ESHER

THE Council was formed in 1939 with the following aims : To enable civic societies to confer on matters of common interest ; to encourage the formation of new civic societies ; to enable civic societies to take concerted action as a representative national body ; to stimulate public interest in the improvement of urban amenities.

The Council meets once or twice a year and has an Executive Committee meeting more frequently. Its principal activities include : The holding of public meetings ; the provision of assistance in forming new societies ; maintenance of contacts between civic societies by the interchange of reports and information ; the preparation of a list of speakers for the information of societies ; the maintenance of contacts with Government departments and other societies having similar objective and with the professional bodies concerned with urban amenities ; the provision of assistance to societies in connection with exhibitions, publicity, contacts with national bodies and other such matters ; the issue to all societies represented on the Council of a periodical *Bulletin.*

Civic societies have already been formed in many cities and towns. Their general aims are : To increase and develop public amenities ; to preserve buildings and monuments of historic or artistic value and places of natural beauty ; to encourage and co-ordinate activities relating to architecture, music, drama, and the other arts ; to co-operate for these purposes with local authorities and with bodies with similar aims, both local and national ; to stimulate interest in these matters so as to encourage a sense of citizenship.

The following is an indication of some of the matters dealt with by the societies in the field of planning and public amenities : Representations regarding town planning proposals, new buildings, open spaces, tree planting, playgrounds, design of street furniture, unsightly advertisements, litter, control of petrol stations, noise, care of cemeteries, transport facilities, gifts of trees and shrubs, seats ; development of bombed areas

as gardens ; preservation of footpaths and "green belts" ; community centres ; preservation of buildings and monuments of historic or artistic worth ; preservation of iron railings of artistic or historical value ; mural tablets for buildings of special interest ; exhibitions and publicity on smoke abatement with representations on specific instances of pollution.

Details of membership and further information can be obtained from the Honorary Secretary, Miss E. Bright Ashford.

Central Council of Poor Man's Valuer Associations

21, Brunswick Square, London, W.C.1. *Telephone : Terminus 7761.*
Chairman : MONTAGU EVANS, M.C., F.S.I., M.Inst.R.A.

THE Council represents Associations in various districts of England and Wales, whose objects are to provide free assistance to persons who cannot afford to pay professional fees in connection with problems arising on property, either real or personal.

The members of the Associations are qualified surveyors, architects, valuers and estate agents, who give their services free.

Generally speaking the Associations work in collaboration with Citizens' Advice Bureaux, but sometimes in connection with local authorities, charitable organisations or other such bodies. No cases are accepted direct and only applicants are accepted whose incomes do not exceed the following limits : Single person, £3 per week ; married couple or single person with dependent(s), £4 per week ; married couple with child, £4 per week, plus 10s. for each child (maximum £5 per week). Special consideration is given to cases of particular hardship.

The Secretary of the Council is Mrs. H. Devonish.

Chartered Surveyors Institution

12, Great George Street, London, S.W.1. *Telephone : Whitehall 5322.*
President : E. G. GILLETT

THE objects of the Chartered Surveyors Institution are defined in its Royal Charters as follows : To secure the advancement and facilitate the acquisition of that knowledge which constitutes the profession of a surveyor, namely, the art of determining the value of all descriptions of landed, mineral and house property and of the various interests therein, the practice of managing and developing estates, the science of measuring and delineating the physical features of the earth, and of measuring and estimating artificers' work ; to promote the general interests of the

profession and to maintain and extend its usefulness for the public advantage.

The main activities of the Institution, in addition to protecting generally the interests of its members, are the holding of examinations as tests of proficiency before admission to membership ; the maintenance of a library of 15,000 volumes ; the publication of a monthly *Journal ;* the examination of official Reports and Parliamentary Bills affecting the management, valuation, development and use of land and buildings and of interests therein, or affecting the measurement and cost of building operations ; the publication of reports and memoranda on such matters for the information and assistance of Royal Commissions or Government departments and for the guidance of members ; the prescription and enforcement of standards of professional ethics ; the furtherance of professional education ; the exchange and dissemination of technical information, whether by the spoken or written word ; and the promotion of social intercourse between its 11,000 members.

There are some 30 home and overseas branches of the Institution, organised on a territorial basis. Some of the latter comprise areas lately in enemy occupation. These branches advise the Council of the Institution on any matters referred to them and are themselves represented on the Council. They arrange and conduct their own meetings, discussions and social activities, and play an essential part in promoting local interest in the Institution's affairs.

There is also a Junior Organisation which is charged with the welfare and interests of members under the age of 34 and has its own Committee and territorial branch organisation. It is also specifically represented on the Council.

There are special provisions in the constitution for quantity surveyors, who form a highly specialised section of the surveyors' profession, their particular function being the measurement and estimation of building artificers' work. Members qualified as quantity surveyors have the right to elect annually their own Committee for the management of all their own affairs, subject to the authority of the Council on questions of general policy only. They have the right under the Royal Charters to designate themselves chartered quantity surveyors.

The Institution has no politics. In reporting or making known its views on matters before Parliament or under consideration by Government committees, etc., its settled policy is to restrict its observations to the technical aspects on which surveyors, as such, can speak with special authority. It represents surveyors who are employed in the Government and local government service as well as those who are in private practice as consultants. It represents those who act, in their professional capacity, for landlords and tenants, lessors and lessees, rating authorities and ratepayers, Inland Revenue and taxpayers. On the somewhat vexed question of rent control, for example, on which the Institution submitted evidence to Lord Ridley's Inter-Departmental Committee, its views were given from the standpoint, not specially of landlords or tenants, but of good estate management.

Within the past three years, the Institution has published a number of important reports and memoranda on matters bearing on post-war

reconstruction. Special Committees of the Institution have considered the questions of the management and use of agricultural land after the war, and of tenant-right valuation, and prepared a Memorandum and submitted it to the Committee on the Selling Price of Houses. They have prepared observations and comments on a number of the more important proposals for replanning, *e.g.* the County of London and City of London Plans.

Inquiries should be sent to the Secretary.

Commons, Open Spaces and Footpaths Preservation Society

71, Eccleston Square, London, S.W.1. *Telephone : Victoria 9274.*

Chairman : The Right Hon. LORD HARMSWORTH

THE Society exists : To preserve for the public use all commons and village greens ; to assist local authorities and others in securing recreation grounds and other open spaces ; to promote the formation of national parks and nature reserves ; to preserve the public rights-of-way over footpaths, bridle-paths, carriage roads and tow-paths ; to protect roadside wastes ; to preserve access to cliffs and seashore and the fullest enjoyment of the countryside generally ; and to advise local authorities and the public on all questions relating to any of the above matters.

It was founded in 1865 to protect the commons in and around London, many of which were in imminent danger of enclosure, and it gradually extended its activities to the whole of the commons of England and Wales, of which there are no less than 1½ million acres. By a long series of victories in legal proceedings taken on its initiative the Society has built up a protective system under which the present area of common land cannot lawfully be further reduced without the consent of Parliament or the Ministry of Agriculture and the public now enjoy a legal right of access to over half a million acres of it—a right which is being steadily extended to the remainder. In addition to maintaining the area of commons from unlawful enclosure the Society has been and still is occupied in securing their protection from damage and misuse by means of Regulation Schemes and other methods under the Commons Acts, and of provisions it was able to induce Parliament to insert in the Law of Property Act 1925, by which means their natural beauty is being preserved, litter and other abuses are checked and the commons are safeguarded as public open spaces. By the Access to Mountains Act which the Society was instrumental in obtaining, the machinery is provided by which the public can obtain legal rights of access to vast areas of mountain, moorland, heath, downland, and cliff, where they have hitherto been merely trespassers. To its exertions are also due provisions in many Acts of Parliament relating to rights-of-way, culminating in the Rights-of-Way Act 1932 which greatly simplifies the proof that particular paths are public. The value of the Act has already been made manifest in successful

actions in the courts and it is also resulting in the making of permanent records of public footpaths and bridleways in many parts of the country—a notable piece of work the completion of which is urgently necessary. To the continuous exertions and vigilance of the Society the public owe at the present time the very existence of most of the commons and the right to enjoy their beauty. Moreover, the work of preserving them, though far advanced, is by no means complete, and much remains to be done to secure the public interests. The Society is the only national organisation in a position to undertake the work.

During the war large areas of commons and open spaces have been appropriated for purposes of national defence or taken for the production of food ; innumerable public rights-of-way have been ploughed up and access has been stopped to considerable areas of downs and other land hitherto freely open to the community. This temporary curtailment of accustomed public privileges has been accepted without demur, but it is now vitally necessary to organise action by which they shall be fully restored. This important task falls on the Society, which in carrying it out needs generous and widespread support

The Society publishes a *Journal*, issued free to all members, and containing up-to-date and authoritative articles, reports on legal decisions, replies to queries, book reviews, etc. ; it also publishes a large number of pamphlets on various aspects of its work. It gives expert advice in answer to questions from whatever source. Such inquiries should be sent to the General Secretary, Sir Lawrence Chubb.

Council for Education in Appreciation of Physical Environment (now Council for Visual Education)

13, Suffolk Street, London, S.W.1. *Telephone: Whitehall 2881.*
President : PROFESSOR SIR PATRICK ABERCROMBIE, M.A., F.R.I.B.A., M.T.P.I.

THE Council exists for the promotion of a better appreciation of physical environment and consists of representatives of bodies prominent in the world of art, design, architecture, the cinema and the various planning and education groups.

It aims through conferences and special lectures to teachers, etc., at the spread of more competent instruction in the schools to bring about higher standards of design and quality and a better planned environment in the everyday life of the people. Educationists throughout the country have been approached for co-operation. Many lecture courses have already been given and further lectures, conferences and exhibitions are being arranged to forward the work. The Council welcomes suggestions on the effective prosecution of its activities.

Inquiries should be sent to the Honorary Secretary, C. B. Willcocks, F.S.A., F.R.I.B.A., 47, St. Peter's Avenue, Caversham Heights, Reading.

Council for the Preservation of Rural England

4, Hobart Place, London, S.W.1. *Telephone : Sloane 4280.*

Chairman : PROFESSOR SIR PATRICK ABERCROMBIE, M.A., F.R.I.B.A., M.T.P.I.

THE C.P.R.E. exists to organise concerted action for the protection from disfigurement or injury of rural scenery and of country and town amenities ; to act as a centre for the furnishing or procuring of advice and information upon any matters affecting this aim ; and to arouse, form and educate public opinion in its furtherance.

The Council is representative of many interests and co-ordinates the efforts of various national associations, institutions and societies, each of which is interested in some particular aspect of the Council's objects. The constituent organisations number 44. There are 162 bodies affiliated to the Council and a large number of regional or county branches, self-supporting and functioning in association with headquarters.

The C.P.R.E. believes that the Council's aims can best be realised by the conservation and development of our agricultural resources and the improvement of the social environment of the rural population, as expressed in the evidence prepared on behalf of the C.P.R.E. for the Royal Commission on the Distribution of the Industrial Population (the *Barlow Report*, Cmd. Paper 6153, January 1940), the Committee on Land Utilisation in Rural Areas (the *Scott Report*, Cmd. Paper 6378, August 1942), and the Expert Committee on Compensation and Betterment (the *Uthwatt Report*, Cmd. Paper 6291, April 1941 and Cmd. Paper 6386, August 1942). The Council watches and takes appropriate action to protect rural and amenity interests in new legislation, such, for instance, as the Requisitioned Land and War Works Act, the Distribution of Industry Act, the various recent Acts concerned with town planning and housing, the Forestry Act, the Water Act and other similar measures.

The subjects with which the C.P.R.E. is actively concerned are : National and regional planning ; agriculture ; rural industries ; rural housing ; electricity, water, sewage, etc.; housing; location of industry and provision of new towns ; camps, wartime settlements and defence works ; roads ; national parks and open spaces ; national forest parks ; coastal preservation ; commons ; access to the countryside and coast ; afforestation ; rivers and streams, etc. ; outdoor advertisements ; petrol stations ; salvage dumps and litter ; education.

Inquiries should be addressed to the General Secretary.

Council for the Preservation of Rural Wales

4, Hobart Place, London, S.W.1. *Telephone : Sloane 4280.*

President : The LORD HOWARD DE WALDEN

THE C.P.R.W. (Cymdeithas Diogelu Harddwch Cymru) is closely associated with the Council for the Preservation of Rural England and has its headquarters at the same address, contact with Wales being maintained by a system of regional and county committees.

Briefly, the Council's objects are : To arouse and maintain an instructed public opinion on all matters relating to the preservation and improvement of the Welsh countryside ; to maintain a watch over the development of the country and, through its committees and their members, to obtain information about threats and to give advice and guidance ; to keep in close touch with the various ministries, and particularly their Welsh departments, whose activities most nearly concern rural development, and to endeavour to give advice at an early stage in such matters as housing, road improvement and so forth.

The C.P.R.W. also maintains close liaison with other cultural or open-air bodies in Wales, and some 30 of these are affiliated to the Council, which seeks in this way to obtain representative opinions on threats to amenities.

The C.P.R.W. emphasises the fact that its aims are constructive. It has no desire to turn Wales into a museum-piece, but desires to see the maximum development on the right lines. With regard to new industries particularly, it wants to avoid the mistakes of the past.

Apart from the industrial areas, the chief occupations in Wales are agriculture and the tourist trade. It is essential to the future of the country that both shall be developed. The object of the Council is to see that such development is carried out on the right lines. To this end, close contact is maintained with the regional planning authorities, and the C.P.R.W. is always ready to give advice on the design and layout of houses.

The Council is a voluntary association, maintained by private subscriptions. The county committees are run on a voluntary basis and include, as far as possible, representatives not only of other voluntary bodies, but also of the teaching profession, local authorities and all directly or indirectly responsible for the future control and development of the countryside.

Inquiries should be sent to the General Secretary, J. D. K. Lloyd, M.A.

Design and Industries Association (D.I.A.)

C/o Central Institute of Art and Design, National Gallery, Trafalgar Square, London, W.C.2. *Telephone : Whitehall 2415.*

President : The Right Hon. THE LORD SEMPILL

THE Design and Industries Association has for its aims : To promote by all suitable means the development, appreciation and use of good design in industry and in every field connected with the daily life of the citizen ; to provide a meeting ground for users, manufacturers, producers, designers, craftsmen and buyers ; to act as a centre of information and as a clearing-house for all matters relating to design and its application to the manufacture of goods.

Business and affairs are conducted by the National Council from headquarters at the National Gallery, and there are regional bodies in London, Birmingham, Manchester, Bristol, Northampton, Newport and Hull. Others are to be established at Leicester and Edinburgh.

Lunch-time lectures are held for interested gatherings.

A collection of slides is available for the use of schools, lecturing members of the D.I.A., and other organisations.

Prizes are offered annually to schools for an essay on a set subject.

Inquiries should be sent to the Secretary.

Design Research Unit (D.R.U.)

12, Bedford Square, London, W.C.1. *Telephone : Museum 7644.*

Director : HERBERT READ

DESIGN Research Unit was established in January 1943 with the following objects : To provide a practical design service for industry ; to collect and correlate information about industrial design from all sources, in this way acting as a clearing-house for manufacturers who need advice on such matters ; to carry out research into the needs of the consumer and into the ability of the machine to meet those needs, and from this research to evolve types of design which are not only suitable for machine production, but at the same time efficient and beautiful ; to improve existing design by bringing together designers and technical experts to experiment in new materials and new uses of old materials ; to investigate, to advise, but, above all, to create a school of design which is contemporary in spirit and progressive in outlook.

Design Research Unit is an association of industrial designers, architects and engineers. It was established to meet a need which was becoming increasingly obvious. In some countries, notably the United States of America, the design consultant is already recognised and established as a necessary industrial technician ; in this country, as a result of rapid technical advances, and of the growing importance of qualitative standards in the export markets, design is beginning to be recognised as an essential element in all successful industrial enterprise.

Like every aspect of modern industry, design should be a co-operative activity, and the function of D.R.U. is to focus on every project it undertakes, the combined knowledge and experience of several creative minds, since it believes that only by pooling the talents of a team of designers is it possible to offer a service capable of meeting every demand from the wide and varied field of present day industry. D.R.U. consists of a central design directorate working in permanent consultation, and this group is in touch with a number of independent designers specialising in different fields. It has a call on their services on behalf of its clients, and in appropriate cases a technologist is invited to work under the direction of one or more members of the Board. Similarly, the Unit maintains close touch with research technicians on many aspects of materials, production and marketing.

Successful design is based on data, not on inspiration alone. No paper plans, however brilliant, can succeed unless they are related to actual conditions ; no problems can be solved until the terms of reference are defined. Every design problem raises certain questions which must be answered before specific planning can begin. First, what is the material and process of manufacture ? If not predetermined, what alternative materials are available, and how do they compare in cost, efficiency, ease of fabrication ? If predetermined, how can the properties of the material be most fully exploited ? What plant is available for production ? What are its economic possibilities and limitations ? Second, what is the existing or potential market, its extent and type ? What competition exists ? What are the comparative advantages of the principal competitive products ? What possible advantages have not been developed ? What are the opportunities for enlarging and developing the market to other fields ?

All these questions require answers. Some will be available, others must be discovered by research. This research is part of the design process. The final design is not simply created, but evolved through a series of developing stages. Design is not a matter of having "ideas", but of finding out facts and working to them.

D.R.U. is a professional organisation. It occupies in relation to design, a position parallel to that of groups of practitioners concerned with other aspects of industry such as accountancy, management and scientific research. It will undertake either specific assignments on the basis of an agreed fee, or a continuous advisory service for a retaining fee.

Inquiries should be sent to the Secretary.

Dock and Harbour Authorities Association

7, Victoria Street, London, S.W.1. *Telephone : Abbey 5781.*

President : SIR FREDERICK J. WEST, K.B.E.

THE Association exists : To consider all matters affecting the general interests of dock or harbour undertakers or authorities, conservancy authorities or pilotage authorities and to make recommendations thereon ; to promote, further and protect the general interests of dock or harbour undertakers or authorities, conservancy authorities or pilotage authorities; to take common action on any public Bill, proposed Departmental Order or other measure of a legislative character that may in any way affect the common interests of members of the Association ; and generally to consult and co-operate on all matters affecting the common interests of members of the Association and on which it may from time to time be thought desirable to take action.

For these objects the Association may act alone or, if deemed advisable, take action with any other body or bodies, and do all such things as are in the opinion of the Association incidental or conducive to these objects.

Nothwithstanding the generality of the objects as defined above, the Association's functions shall not extend to taking executive action on behalf of the Members of the Association unless such action be authorised by a unanimous decision of the Executive Committee of the Association.

The following bodies are eligible for membership, subject to the approval of the Executive Committee : Every board, commission, local authority, company, or other corporate body owning or controlling any public dock, quay or pier in the British Isles ; every harbour, conservancy or pilotage authority in the British Isles ; the four amalgamated Railway Companies constituted under or in accordance with the Railways Act 1921.

Any dock, harbour, conservancy or pilotage authority in any of the British Dominions, colonies or dependencies or any association of any such authorities may be elected an honorary member, without voting rights, at the discretion of the Executive Committee.

The Association's officers include a President, six Vice-Presidents and a Parliamentary Chairman (who is a member of one of the Houses of Parliament) elected annually at the Annual General Meeting. It is administered by an Executive Committee which consists of : A Chairman, the President and the Parliamentary Chairman of the Association (*ex officio*) ; 11 members appointed from 11 electoral districts ; and two Railway Company members. Other persons may be co-opted for the consideration of special questions.

To promote the study of dock, harbour and conservancy subjects and of transport generally by young men engaged in dock and harbour undertakings the Association offers two monetary *Awards* through the Institute of Transport for meritorious papers on these subjects.

Further particulars can be obtained from the Secretary, W. Ashley Cummins, to whom all communications should be addressed.

Electrical Association for Women

20, Regent Street, London, S.W.1. *Telephone : Whitehall 7481.*

Director : MISS CAROLINE HASLETT, C.B.E., Comp.I.E.E.

THE E.A.W. is an association of women interested in the proper use and control of electricity from the women's point of view. Its object is to collect and distribute information about electricity as it affects the home, public welfare, hygiene, medicine, smoke abatement and all social and educative activities.

Founded in 1924 as a daughter-organisation of the Women's Engineering Society, it has for the last 20 years given an opportunity to women to learn about the uses and economics of electricity, and has afforded them a means of concerted expression of their views on electrical questions affecting public or private welfare. Wherever possible, the Association acts as woman's voice on Government and public committees. Its membership of between 8,000 and 9,000 is distributed among some 80 branches in the main cities and towns of England, Scotland and Wales. The Association arranges lectures, visits, demonstrations and exhibitions to give knowledge of the wider uses of electricity in modern life. The *Electrical Housecraft Kitchen* in London is always open to inspection by those wishing to see the most up-to-date electrical appliances. The Inquiry Bureau gives information on domestic electrical subjects. Special Home Workers' Courses are arranged where required to provide practical and theoretical instruction on the use and maintenance of domestic electrical apparatus.

One of the main objects of the Association is to encourage the study of electrical applications in the curricula or educational schemes of universities, colleges, and schools, particularly in relation to the teaching of domestic science or other subjects of interest to women, and in association with handicraft work to afford facilities for practical instruction in the use, maintenance and repair of mechanical appliances for such purposes.

For the demonstrator the Association provides a Certificate Examination in Electrical Housecraft, and a Diploma. Refresher Courses for demonstrators who have already trained are arranged. For the teacher of science or domestic science, the E.A.W. also arranges a Certificate Examination and Diploma in the Teaching of Electricity in Schools. It has prepared textbooks and charts to make electricity easily understandable to schoolchildren. For the countrywoman information is provided in various forms on electricity in relation to rural life. Advice is given on the application of electricity in the re-establishment of rural industries. Lectures are arranged for Women's Institutes and Girl Guides, to spread electrical knowledge and education in labour-saving, hygiene, and rural advancement as affected by electricity.

The Association publishes for members a quarterly magazine, *The Electrical Age*. Particulars of membership and fees may be obtained from the Secretary.

Engineering Industries Association

9, Seymour Street, Portman Square, London, W.1. Telephone : Welbeck 2241.
President : The Right Hon. VISCOUNT DAVIDSON, P.C., G.C.V.O., C.H., C.B.

THE Engineering Industries Association is the largest association of British Engineering firms and represents all phases of the British engineering industry.

The activities of this Association are widespread and it is especially interested in all political, economic and commercial developments affecting the engineering industry and in development of trade in British engineering products. The Association represents to the different departments of the British Government the views of the British engineering industry on all matters of consequence to it, and is continually in negotiation with these departments to secure the most enlightened treatment for the industry and for its individual members in matters of legislation, execution of Government contracts, etc.

Taxation is another field in which the Association has been especially active and surveys have been made to determine the effects of the existing system of taxation on the engineering industry and to discover what modifications are necessary to facilitate maximum expansion and increased efficiency.

Another important function of the Association is in the direction of research and particularly those aspects of research likely to produce practical results not only for the engineering industry, but for the nation as a whole. Examples are : (*a*) That undertaken to ascertain the relationship between the engineering industry and the building industry with a view to allying their production and methods for the solution of Britain's urgent rebuilding programme ; (*b*) research into the relationship between engineering and agriculture with the aim of increasing agricultural output in Britain by supplying the farming community with improved and new types of equipment at the lowest possible cost.

Electrical developments, water legislation, the coalmining industry, etc., all receive the careful attention of the Association because of their possible effects on the prosperity of engineering.

The emphasis of the Association's activities is now being swung from problems of war to those of peace and in particular to the difficulties of the intervening transition period. In the forefront of this policy is a constant campaign in support of private enterprise against any undue Government control.

In addition to furthering the interests of British engineering as a whole the Engineering Industries Association deals with the particular problems of its many members who include some of the leading and many of the smaller engineering firms of Britain.

The Engineering Industries Association offers membership to engineering firms in the British Dominions and Colonies with a view to affording at least a general liaison between engineering in Britain and in the Commonwealth and also with the aim of giving specific service to overseas engineering firms in connection with particular inquiries.

The Secretary is T. C. Sutherland.

House-Building Industries Standing Committee

167, Bickenhall Mansions, London, W.1. *Telephone : Welbeck 4984.*
Chairman : A. W. CURTON

THE Committee was formed in January 1945 for the purpose of bringing together in one organisation the many industries connected with housing, for the interchange of information on matters of mutual concern on the results of scientific developments and research in relation to housing.

The work of the Committee has been largely concentrated on the production of demonstration houses of traditional type, in which are to be embodied some of the many improvements which should enhance living conditions in the smaller-type house. Although aware of the desirability of the inclusion of "gadgets" as a means of labour-saving in the home, the Committee has, in the *House-Design Competition* which it has organised and in which the Exhibition at the Building Centre is the first step, concentrated on the fundamentals of good building, and special attention has been paid to : better planning to provide more living space and yet be labour saving ; better insulation as a means of fuel conservation and protection against noise and damp ; better plumbing ; better equipment.

From each of the plans displayed a pair of houses are being built as demonstrations of what the building and its allied industries have to offer the public. The houses are to be built in different parts of the country and when completed will be open for exhibition and criticism in the following areas :

Northern Counties. Manchester, Wythenshaw, Handforth, Speke, Sale Moor, Leeds.

Midland and Welsh Counties. Stoke-on-Trent, Walsall, Headington (Oxford), Llanishen (Cardiff), Coventry, Norwich, Birmingham, Leicester, Chesham.

London and Southern Counties. Hythe, London, Brighton, Ardingley (Sussex), Hayes, Croydon, Orpington, Letchworth, Hornchurch, Eastcote.

All inquiries should be addressed to the Organising Secretary, Mrs. M. Pleydell-Bouverie.

Housing Centre

13, Suffolk Street, Haymarket, London, S.W.1. *Telephone : Whitehall 2881.*
Chairman : PROFESSOR SIR PATRICK ABERCROMBIE, M.A., F.R.I.B.A., P.P.T.P.I

THE Housing Centre is a voluntary association supported by subscribing members. Its aim is the improvement of housing conditions by providing a centre for housing information, publicity and research and a meeting ground for all interested in housing, planning and related subjects.

The Centre promotes and maintains an informed interest in the urgent need for the right houses in the right places. Its Exhibition Department has designed and toured exhibitions on all aspects of the problem. Slides, films and photographs are also available to lecturers and organisers of meetings and discussions. At its own premises in London the Centre arranges exhibitions of the work of local authorities and other individuals and organisations, which enable it to reach a wide public. Weekly lunch-time discussion meetings, which have been held continuously since 1935, enable experts in different fields to exchange experiences with others. Speakers on housing and planning are also provided for meetings throughout the country.

A comprehensive library (open to all *bona fide* inquirers) is available at the Centre, and a bookstall provides for sale the current literature on the subject. A monthly *Bulletin* is issued to members, informing them of meetings and exhibitions ; of recent publications ; and of housing news. Some 2,000 inquiries from local authorities, societies and members of the public are answered each year. Information sheets have been issued which present, briefly and simply, statutory regulations on such subjects as the provisions of the Rent Acts, the overcrowding standards, etc., and these have been distributed to the Citizens' Advice Bureaux.

Inquiries should be sent to the Secretary.

Illuminating Engineering Society

32, Victoria Street, London, S.W.1. *Telephone : Abbey 5215.*

President : H. C. WESTON

THE Illuminating Engineering Society was formed in 1909. It aims at providing a representative and impartial platform on which all aspects of illumination can be discussed and it includes amongst its members experts associated with various systems of lighting, kindred bodies concerned with light, and such people as architects, ophthalmic surgeons, etc.

The membership of the Society now exceeds 1,800 and centres have been formed in the chief cities of this country, each of which presents its local programme. In all, about 100 meetings are held annually.

The activities of the Society are summarised in its *Transactions* and in *Light and Lighting*, both published monthly. In addition the Society publishes from time to time special contributions dealing with various aspects of lighting, such as the series of six *Lighting Reconstruction Pamphlets* recently issued.

Leading members of the Society take part in the work of such bodies as the National Illumination Committee, and the British Standards Institution, and have also officiated on various Committees formed by the Home Office Factory Department, the Ministry of Works, the Ministry of Transport, etc.

The Society was responsible for wartime street lighting and many other special researches concerned with applications of light during that period. It is now actively engaged on reconstruction work in the lighting field.

Inquiries should be sent to the Honorary Secretary, J. S. Dow.

Institute of Builders

48, Bedford Square, London, W.C.1. *Telephone : Museum 7197.*
President : ERNEST C. HOLLOWAY, F.I.O.B.

THE Institute was founded in 1834. Its main objects are : To promote excellence in the construction of buildings, and honourable conduct in business ; to develop technical education for the industry, to provide lectures for this purpose, to test by examination or otherwise the competence of persons in or about to enter the industry, to award certificates and distinctions and to establish scholarships, grants, and other benefactions ; to arrange and promote the adoption of equitable forms of contract ; to promote sound legislation ; to discuss with other bodies matters affecting the industry ; to establish an industry library and to diffuse among members information of interest ; to encourage and discover inventions for use in the industry ; to encourage the settlement of disputes by arbitration and to nominate arbitrators.

Constitution. The Institute is incorporated under the Companies Acts. Its members are individuals whose liability is limited. Membership is divided into six groups, *viz.*, Fellows, Members, Associates, Licentiates, Probationers and Students, the first four of which are entitled to use the distinguishing letters F.I.O.B., M.I.O.B., A.I.O.B., and L.I.O.B. respectively.

It is governed by a Council composed of the officers, past presidents and 30 elected Fellows and Members or such other number as a General Meeting may appoint. The Council may co-opt to its assistance others, being Fellows, Members, Associates or Licentiates. The Council has power to delegate its authority within defined limits to local or district representatives or committees.

Studentships and Awards. From the income of funds at its disposal the Institute offers : The *Aldous Travelling Studentship* (£100) for studying building abroad, to the most deserving successful candidate each year in the examinations for Members and Associates ; the *Matthews-Macfarlane Travelling Studentship* (£25) and the *Sapcote Travelling Studentship* (£25) both for studying building in a home or continental centre selected by the holder, to one of the two most deserving successful candidates each year in the examination for Licentiates ; four *Awards* (£10 each) for books, instruments or special tuition, to the most deserving candidates each year admitted as Probationers ; eight *Awards* (£5 each) for books, instruments or special tuition, to the most deserving candidates each year admitted as Students. The Institute may in any year vary or withhold any of these awards.

Library. The Institute possesses a circulating library and a small collection of reference books.

National Certificates and Diplomas in Building. The scheme for the award of these certificates and diplomas is administered by the Institute of Builders in conjunction with the Ministry of Education (England and Wales) and with the Scottish Education Department.

The Secretary is P. J. Spencer, M.A.(Cantab.).

Institute of Fuel

30, Bramham Gardens, London, S.W.5. *Telephone : Frobisher 3649.*
President : DR. E. W. SMITH, C.B.E., F.R.I.C.

THE Institute of Fuel was registered in 1927 under the Companies Acts of 1908-17, as an association limited by guarantee. Briefly, it was formed for the purpose of promoting : The more efficient preparation, distribution, and scientific and economic utilisation of fuel of all kinds ; the availability of information relative to fuels and fuel technology for its Members and for industry in general ; standards of education in fuel technology for the certification of fuel technologists.

In 1939, the Institute applied for a Royal Charter, but owing to the second world war, consideration of all such applications has been deferred. In 1944, however, the Institute amended its Memorandum of Association so that its affairs could be conducted in a manner similar to that of a Chartered Institute, and it has since formulated and agreed with the City and Guilds of London Institute, an education scheme for the training and certification of fuel technologists, which now forms the basis of admission to membership.

The Institute consists of : Ordinary Members, made up of Honorary Members, Fellows, Members and Associate Members ; Non-Voting Members, made up of Associates, Students and Collective Members with their Representative Members. Each of the Ordinary Members and Non-Voting Members of the Institute may use the title of the class to which he belongs, or the abbreviation thereof.

Fellows are elected in recognition of outstanding work in fuel technology; Members must be technically qualified, have had at least five years' experience in a recognised branch of fuel technology and have attained a position of responsibility ; Associate Members must have passed the Associate Membership examinations of the Institute or equivalent examinations approved by the Council, and have had two years' training of a character satisfactory to the Council together with one year's practical experience involving some recognised branch of fuel technology. Associates must be actively interested in the promotion of the science or practice of fuel technology, and have qualified by experience to concur with the members of the Institute in the advancement of fuel technology. Students must be attending an approved university, college or school, or be a pupil, apprentice, or assistant under the supervision of an Ordinary

or Collective Member. Collective Members consist of partnership firms, limited companies, associations, public authorities or institutions interested in the objects of, and desirous of assisting in, the work of the Institute. A Collective Member has the right to nominate a Representative Member, and four Student Members free of subscription. The total membership in July 1945 was 2,332.

The Institute publishes its *Journal* every two months, but aims at a monthly issue when more paper is available. The *Journal* is not confined to the activities of the Institute, but includes abstracts from other sources throughout the world which bear directly or indirectly upon fuel technology. It also publishes in full, or in abstract form, technical and scientific papers presented to other Institutions which are of interest to Members. A further feature is the report of news items from the technical press designed to give Members an up-to-date account of current affairs in the "fuel field."

The Institute has the following Sections: North Western; East Midland; Midland; Yorkshire; Scottish; North Eastern; South Wales; London.

Public meetings of the London Section are held, on an average, fortnightly at 6-0 p.m. throughout the Session September-May, the meeting places being arranged in accordance with the interest in the subject to be discussed. The number of public meetings of the other Sections varies, but usually does not exceed six in each Session.

In 1930, the Founder President, the first Baron Melchett of Landford, presented the Institute with a sum of money which provides for the annual award of the *Melchett Medal* to such person, whether a Member of the Institute of Fuel or otherwise, as in the opinion of the Council has done either original research or professional, administrative, or constructive work of an outstanding character involving the scientific preparation or use of fuel, provided the results of such work have been made available within recent date for the benefit of the community. Also, to encourage the reading of papers by Student Members and by students taking courses at universities and technical colleges, the Council make an annual award of a *Medal and Prize* (books and instruments to the value of £5).

Full particulars relating to the activities and membership of the Institute, including the age limits for the different classes, may be obtained from the Secretary.

Institute of Housing

359, Strand, London, W.C.2. *Telephone: Temple Bar 9514.*
President: WALLACE SMITH, F.S.I., F.A.I., F.I.Hsg.

THE Institute of Housing exists for the following objects: To provide a central organisation for men and women engaged in housing and estate management; to promote efficiency by the exchange of knowledge and experience; and to provide a system of examinations in housing management and the issue of certificates thereon.

Membership. Members are classified thus: Fellows and Associates (men or women who have passed Parts I. and II. of the Institute's examinations and who hold positions in local authorities, housing associations or other bodies); Honorary Members (men or women of eminence in housing or whose membership is deemed to be advantageous to the work of the Institute); Student Members (men or women who intend to enter the profession of housing management and to qualify for it by study and training. They must pass Part I. of the Institute's examinations within five years of admission).

The Council of the Institute reserves the right to admit without examination men and women who have had wide experience of housing management and who have for not less than ten years held principal or senior positions with local authorities or housing associations.

Publications. The official journal of the Institute is *Housing*, which is issued quarterly and sent free to all members. It is also available to non-members on payment of an annual subscription.

Inquiries concerning *Housing* should be sent to the Editor, Ernest E. Fletcher, as above.

Applications for membership and all other general correspondence should be sent to the Secretary.

Institute of Landscape Architects

12, Gower Street, London, W.C.1. *Telephone: Museum 1783.*
President: G. A. JELLICOE, F.R.I.B.A., M.T.P.I.

THE Institute of Landscape Architects is a professional institute, founded in 1929, for the advancement of the art of landscape architecture; the theory and practice of garden, landscape and civic design; the promotion of research and education therein; and the creation and maintenance of a high standard of professional qualification.

During the war the Institute produced the following reports: *A Wider Policy for Lands Suitable for Afforestation; The Effect of Buildings on the Rural Landscape* (Memoranda to Lord Justice Scott's Committee on Land Utilisation in Rural Areas); *Garden Space* (A Report to the Central Housing Committee of the Ministry of Health); *The Design and Planting of Open Spaces in Urban and Central Districts* (jointly with the Royal Horticultural Society); *Topsoil Conservation and Re-Use;* and a Report on *Forestry.* A Report on *The Landscape Treatment of Roads* is in preparation. All reports are published in the *Journal* of the Institute, which is available to non-members.

The Institute hopes that eventually a School of Landscape Design will be established at one of the universities; meantime a course is in preparation in the School of Architecture at the Regent Street Polytechnic and one at the School of Planning and Research for Regional Development has already begun.

The Secretary is Mrs. Douglas Browne.

Institute of the Plastics Industry

Windsor House, Victoria Street, London, S.W.1. *Telephone : Abbey 3895.*

President : MAJOR STANLEY M. MOHR, O.B.E., M.C., M.I.E.E.

THE Institute was founded in 1931, and is registered as a limited liability company.

It exists to promote the cause of the plastics and allied industries by : Providing means of co-operation and technical and social intercourse between persons engaged or interested in the plastics and allied industries; arranging lectures on technical subjects and organising visits to works and other places of interest ; awarding certificates and diplomas by examination or otherwise ; organising a scheme for pupil-apprentices in the plastics industry ; forming and maintaining a library of literature relating to plastics and allied subjects ; maintaining an Appointments Bureau for the benefit of members ; and co-operating in the establishment of a Benevolent Fund.

Membership is open to individuals engaged, directly or indirectly, in the plastics and allied industries. Members are entitled to attend all meetings of the Institute and its sections, and to take part in the discussions. They receive copies of the Institute's journal *Transactions*, which contains the Annual Report ; also full reports of lectures given before all sections, and the subsequent discussions. They are also eligible to attend visits to works, etc., and may bring guests to the various social functions held at the different centres. They have the right to vote and otherwise assist in the management of the Institute in accordance with the Articles of Association.

The Institute is governed by a President, a Chairman of Council, an Honorary Treasurer, an Honorary General Secretary, and a Council consisting of 12 ordinary members chosen from the members by ballot, and two *ex-officio* members appointed from each home section, the Overseas Section being represented by its Honorary Secretary.

The Institute at present is divided into eight sections, consisting of : London and District Section (headquarters and meetings in London) ; Midlands Section (headquarters and meetings in Birmingham) ; North Western Section (headquarters and meetings in Manchester) ; North Eastern Section (headquarters and meetings in Newcastle) ; Southern Section (headquarters in Southampton, meetings in Southampton, Portsmouth and occasionally other towns) ; Western Section (headquarters in Stroud, meetings alternately in Gloucester and Bristol, sometimes in Stroud) ; Scottish Section (headquarters in Glasgow, meetings in Glasgow and Edinburgh alternately) ; Overseas Section (headquarters in London).

It will be seen that the control of the Institute is entirely in the hands of the members. The affairs of each section are managed by a local committee elected by the members attached to the particular section, and presided over by a local chairman. The work of the Council of the Institute is decentralised as far as possible by the delegation of such

activities as education, apprenticeship, art scholarships, etc., to committees of Council, each committee having its own convenor.

Inquiries should be sent to the Honorary General Secretary, James Taylor, B.Sc., A.R.I.C.

Institute of Welding

2, Buckingham Palace Gardens, London, S.W.1. *Telephone : Sloane 9851.*
President : W. W. WATT

THE Institute was founded in 1923 and is a technical institution, whose functions are : To organise the exchange of information by means of lectures, publications, and a library and information service ; to establish standards of training and education in the interests of welding development ; and to co-operate in the promotion and co-ordination of research. The Institute works in close co-operation with the British Welding Research Association.

Membership, which is open to individuals, to companies and firms and to trade and educational associations, affords opportunities of contact with leading men in all branches of the industry ; of sharing in a common pool of information ; and of keeping abreast of the growth of technical knowledge. It offers, too, a chance to co-operate in projects of research, development, and education of far-reaching influence upon the efficiency and prosperity of welding. Membership consists of the following classes : Member ; Associate Member ; Industrial Corporate Member ; Companion Member ; Associate ; Student ; and Overseas Member.

The Institute has the following branches : Birmingham ; Eastern Counties ; Leeds and District ; Liverpool and District ; London (North) ; London (South) ; Manchester and District ; Portsmouth ; N.E. (Tees-side and District) ; N.E. (Tyneside and District) ; Scottish (East) ; Scottish (West) ; Sheffield and District ; South Wales ; South Western ; Wolverhampton.

The Institute publishes quarterly *Transactions* and technical memoranda and reports.

Further particulars can be obtained from the Secretary, G. Parsloe, B.A.

Institution of Civil Engineers

Great George Street, London, S.W.1. *Telephone : Whitehall 4577.*
President : Sir PEIRSON FRANK

THE Institution of Civil Engineers—the oldest engineering institution in the world—was founded in 1818 by a group of the younger engineers of the day, who decided " that a Society be formed consisting of persons studying the profession of a civil engineer." In 1820, after Thomas

Telford, the leading civil engineer of his day, had become the first President, it began steadily to expand until it now has 14,701 members, including 13 Honorary Members, 2,281 Members, 8,039 Associate Members, 38 Associates and 4,330 Students. The Institution was granted a Royal Charter in 1828 and a Supplemental Charter in 1922, under the bye-laws of which Members and Associate Members are now styled "chartered civil engineers."

The term "civil engineering" was defined in the Institution Charter as "the art of directing the great sources of power in nature for the use and convenience of man" and so the Institution has always embraced all branches of engineering and from the beginning has welcomed amongst its members all duly qualified engineers from all parts of the world. Today it is the civil engineer who opens up a country and provides and maintains the roads, railways, docks, waterworks, buildings, etc.

The Institution is primarily a learned society and incidental to that a qualification-granting body. Its most important functions are, firstly, the dissemination of knowledge by such means as arranging for the reading of papers at meetings, the issue of a *Journal* to all its members and the upkeep of a technical library; secondly, the maintenance of high standards, educational and practical, for the admission of new members; and, thirdly, the prosecution of research and investigation. Members are encouraged to contribute their knowledge and experience to the common stock of the profession.

In addition to Local Associations of members in Great Britain and Northern Ireland and also abroad, the Institution has formed a number of Engineering Divisions, at meetings of which members interested in a particular branch of engineering meet together and discuss papers. So far, five are functioning, namely, Divisions dealing with Road Engineering; Railway Engineering; Structural and Building Engineering; Maritime Engineering; and Works Construction. A sixth dealing with Airport Engineering is being formed. It is expected that in addition to meetings in London, meetings and visits will be held out of London, while another advantage is that Divisions give greater opportunity for the younger members to contribute papers and to take part in discussions. Linked with the work of the Divisions is the post-war revival of the issue of *Engineering Abstracts*, the first of which will deal with Railway Engineering and will be issued in co-operation with the main line railway companies.

Research has always been of interest to members, and the Research Committee, which carried out much important work before the war, hopes to restart its work shortly. The general policy adopted is to invite other Institutions and bodies interested in any particular research to appoint representatives on the sub-committee carrying out the investigations.

Among the reports issued by the Institution's Post-war National Development Committee is that on *The Organisation of Civil Engineering Work*, while the Committee has under preparation a booklet entitled *Civil Engineering as a Career*, intended particularly for the use of young men desirous of entering the engineering profession and for parents, schoolmasters and others who may be called on to advise in the choice of a career.

The Public Relations Committee has been responsible amongst its various duties for organising exhibitions like the *Practical Planning Exhibition*, whilst facilities are provided from time to time for exhibitions of interest to engineers, such as the *Mulberry Exhibition*, the *Plan for Plymouth Exhibition*, and the *Greater London Plan Exhibition*. The two latter are closely allied with the work of the Town and Country Planning Committee as this is a subject in which engineers will have to play an increasingly important part.

The Institution is engaged in many other activities which there is not space here to enumerate, such, for instance, as the drawing up of Codes of Practice for a number of subjects concerned with the profession, and it strives constantly to carry out its various functions, realising, as it does, the extent to which modern civilisation is dependent on the work of the engineer.

The Secretary is E. Graham Clark, M.C., B.Sc.

Institution of Municipal and County Engineers

40, Eccleston Square, London, S.W.1. *Telephone : Victoria 5083.*
President : E. MINORS, B.Sc., M.Inst.C.E.

THE Institution is the representative organisation of engineers and surveyors to local authorities, who are the officers primarily concerned with planning and reconstruction from the technical standpoint. Its objects include the promotion and science of engineering and surveying applied to roads, drainage, water supply, planning and improvement, buildings, housing, recreation grounds, etc. for the benefit of local authorities and the communities they serve.

Post-War Planning and Reconstruction. A consensus of the views of members on this subject was set out in a Report* issued by the Institution in 1942, of which the following is a summary.

The Report proposes that the national plan for Great Britain should be prepared on broad lines by a Ministerial department dealing with policy, standards and national details such as communications, zoning and public utilities. Local authorities should remain responsible for detailed planning, their schemes being approved by the State department. It is felt, however, that regional consideration should be achieved either by an extension of local authorities' boundaries so that a single authority would control a region, or by a statutory obligation on local authorities within a region to collaborate in the preparation of a regional plan.

It is thought that planning should be controlled by a Secretary of State of Cabinet rank, to be responsible for preparation and administration of

* See Section 12.

the national scheme, and for fixing the boundaries of regions. Public control of land is considered essential, and the need for a survey of economic and natural resources is stressed ; this should cover the requirements of agriculture, forestry, national parks and other aspects of the life of the community, with full consultation between all bodies concerned. Regional schemes would be prepared and administered by statutory joint committees, while local schemes would be prepared on the present basis with simplification of procedure and granting of greater powers to local authorities. Suggestions are made for amending the Town and Country Planning Act 1932.

With reference to communications, it is stated that "the fundamental principle should be to encourage and assist every form of transport, without regard to sectional interests, to serve the community efficiently and economically in the manner for which it is best suited." A Government investigation into the subject, and plans for effective action, are recommended. It is suggested that motor ways should be constructed in addition to the widening and adaptation of many existing roads to a dual carriageway system.

Proposals regarding the redevelopment of built-up areas call for new legislation to co-ordinate the activities of individual owners of small sites, and for control by the planning authority or some other body of large-scale redevelopment, although many of the buildings would be better erected by private enterprise. Redevelopment should be planned in relation to the town as a whole, and the local authority should control layout, density and architecture. Special attention should be paid to the adequacy of communications and parking facilities ; preservation of the historic character of the town ; spaciousness combined with compact design on building sites ; and grouping of buildings and recreational facilities according to their character and demand.

Satellite towns should be established only after detailed surveys and and in close co-ordination with the opening up of the existing developed area which it is intended to relieve, and they should be under the control of the bodies responsible for the administration of the existing areas.

It is suggested that new industries should be located in suitable places in or adjacent to existing towns which have suffered from depression.

Proposals are made for regional administration of such features as surface-water drainage, foul-water drainage, sewage disposal, and the prevention of river pollution. Recommendations are made for the consolidation and modernisation of water legislation, and for the establishment of a central authority to control and co-ordinate all water sources, with regional administration.

Finally, recommendations are made as to standards for dwellings, buildings, angles of light, highways, parkways, services, recreation and industrial development.

Activities. Among the major activities of the Institution are the holding of meetings and conferences, contacts with Government departments and public bodies, the issue of a *Journal* and other publications, and the conduct of professional examinations.

Inquiries should be sent to the Secretary, C. W. Scott-Giles, M.A.

Institution of Sanitary Engineers

118, Victoria Street, London, S.W.1. *Telephone : Victoria 3017.*

President : *G. S. McDONALD, M.Inst.C.E. M.Inst.M.E.&Cy.E., M.R.San.I., M.I.Struct.E., M.Cons.E.*

THE original Institute of Sanitary Engineers was founded in 1895. It was incorporated as an Institution in 1916 and now comprises 1,000 members, with the number steadily increasing.

Membership. Admission to membership is under the control of the Council, who may admit, either as Fellow, Member, Associate Member, Associate, or Student, any person who is established as a sanitary engineer, or who is engaged in sanitary work, or who shall have passed the prescribed examination.

Among members' privileges are the following : To receive, post free, the *Journal* of the Institution, which contains records of the transactions, special articles, abstracts of matters of interest to members, digests of Council meetings, reviews of books, etc.; to attend the Sessional Meetings, at which papers are read, and to take part in the discussions ; to attend visits of inspection ; to borrow books from the library ; to compete for the annual *Silver Medal* (Essay) ; to submit papers to be read at Sessional Meetings, and articles and queries of interest for publication in the *Journal ;* to lay before the Council disputed points arising in the course of practice and to receive advice thereon ; to receive from the solicitor of the Institution advice on legal points connected with a member's practice.

The Institution is affiliated with the Federation of Sewage Works Associations, U.S.A., and members may, for a small additional subscription, join the " Inner Group " and receive the well-known *Sewage Works Journals* of the Federation.

Activities. The Institution's regular work includes :

The *Journal*, normally issued on or about the first day of each month (except July and August), but quarterly at present.

Examinations of candidates for certificates of proficiency in sanitary engineering and qualifying for membership.

Sessional Meetings, which are held during the winter months and at which papers on subjects of interest to the profession are read and discussed. (Usually held at Caxton Hall, Westminster.) Members are invited to offer papers and to take part in the discussion. The sessional papers are reported in the technical press and are published in the *Journal.*

Visits of Inspection, arranged to public buildings, sewage works, factories, and other places of sanitary interest. (Free to members, who may introduce a friend.)

District Centres, established as follows : Birmingham, Bristol, Manchester and Newcastle-upon-Tyne.

Further information and the syllabus of examinations may be obtained from the Secretary.

Institution of Structural Engineers

11, Upper Belgrave Street, London, S.W.1 *Telephone : Sloane 7128.*
President : F. E. DRURY, M.Sc., M.I.Struct.E.

THE Institution of Structural Engineers was founded in 1908 and was incorporated by Royal Charter in 1934.

It is a professional society with a membership of approximately 4,500. Its activities are devoted to the promotion and general advancement of the science and art of structural engineering in any or all of its branches and to the exchange of information and ideas relating thereto amongst the members of the Institution and otherwise. Meetings are held for reading and discussing papers bearing upon structural engineering and relevant subjects, including the constitution, properties and use of materials.

There are eight branches of the Institution, seven of which are in Great Britain and serve the following areas : Lancashire and Cheshire ; the Western counties ; Yorkshire ; the Midland counties ; the South Western counties ; South Wales and Monmouthshire ; and Scotland. Overseas, there is the Union of South Africa Branch.

A *Journal* (*The Structural Engineer*) is published monthly and contains records of meetings, papers and discussions together with other information of professional interest. The Institution also publishes a *Year Book* and technical reports, for the preparation of which Committees are appointed annually. Recent publications include : *Report on Reinforced Concrete for Buildings and Structures, Part IV., Design and Construction of Hollow Floors* (1943) ; *Report on Retaining Walls* (1943) ; *Symbols for Structural Steelwork and Reinforced Concrete Calculations* (1942) ; *Report on Foundations, Part I., Foundations in Disturbed Ground* (1942) ; *Interim Report on Yield Point of Structural Steel and Steel Rods for Reinforced Concrete* (1944) ; *and General Conditions of Contract for Structural Engineering Works* (1944).

Examinations are held by the Institution twice a year. In connection with these the following awards are made : The *Andrews Prize* to the most successful candidate in the complete Associate Membership examination ; the *Husband Prize* to the candidate who takes the complete Associate Membership examination and obtains the highest marks in the paper on *Structural Engineering Design and Drawing ;* and the *Wallace Prizes* to (*a*) the candidate taking the whole of the Associate Membership examination who obtains the highest marks in the paper *Theory of Structures* (*Advanced*) and (*b*) the candidate obtaining the highest number of marks in the complete graduateship examination.

Since 1943, the Institution has been engaged in the drafting of Codes of Practice for reconstruction purposes in conjunction with the Ministry of Works, and acts as convenor institution for Load-Bearing Superstructures and Earth Retaining Structures. These Codes of Good Practice are about to be published.

In addition, the Institution at the request of the Ministry of Works submitted a Report on *Reinforced Concrete Structures* (Ministry of Works : *Post-War Building Studies No. 8*).

The Institution's Meeting Rooms and Library are at the above address. Inquiries should be sent to the Secretary.

International Federation for Housing and Town Planning

Provisional Headquarters : 13, Suffolk Street, London, S.W.1 *Telephone : Whitehall 2881.*

Chairman of Provisional Committee : GEORGE L. PEPLER, C.B., P.P.T.P.I., F.S.I.

THE Federation is an old-established body, pre-eminent in its field. The present need for a Provisional Committee under the chairmanship of a Past President arises from the interruption caused by the war.

The Federation was founded in London shortly before the outbreak of the first world war as the international Garden Cities and Town Planning Association. About 1933 the present title was adopted and in 1938, after amalgamation with the International Housing Association, headquarters were moved from London to Brussels.

Just before the second world war Dr. Strölin, Oberburgermeister of Stuttgart, succeeded Mr. Pepler as President and when the Germans overran Belgium Dr. Strölin moved the headquarters and library to Stuttgart where they are understood to have been destroyed in the course of the war.

During the war a Free Section of the Federation was established in London and acted as a meeting place for a number of members of allied nations temporarily resident in Great Britain.

The Provisional Committee has now been established with the object of restoring the Federation to its old position of usefulness as soon as possible. Members from a number of countries have already been enrolled and a news sheet is published periodically. It is hoped to hold an International Congress in London in the autumn of 1946 and on that occasion formally to reform the Federation.

The objects of the Federation are " to advance the knowledge of and secure improvements in the practice of the following matters : Housing for all classes ; housing costs ; financing of working-class housing ; rural housing ; abolition of slums ; housing for special groups, such as single or aged persons ; the use of land ; town and country planning ; traffic problems in relation to planning ; garden cities ; decentralisation of industry ; city redevelopment ; and the preservation of rural amenities and of beautiful or historic buildings."

The methods adopted to achieve these objects have included :

(*a*) The issue of publications in English, French and German, including an illustrated journal containing articles and current news from many countries on housing and planning subjects. Bulletins and special reports have also been issued and a glossary in English, French, German and Italian of such technical terms and definitions as are not to be ascertained by reference to an ordinary bi-lingual dictionary.

(*b*) The holding of congresses and study tours at important centres. Between 1914 and 1939, 17 congresses were held—four in London, four in Paris and one each at Amsterdam, Berlin, Brussels, Goteborg, Mexico City, New York, Prague, Rome and Stockholm.

(*c*) Acting as a clearing house for inquiries on any subjects within the scope of its objects and ensuring replies and information from authoritative sources.

The period of reconstruction with which the world is now faced vastly increases the opportunity for service by the Federation. The Honorary Secretary, who will be glad to deal with inquiries, is Miss E. E. Halton.

Land Settlement Association

43, Cromwell Road, London, S.W.7. *Telephone : Kensington 9066.*

Chairman : The Right Hon. The EARL OF ELGIN AND KINCARDINE, Kt., C.M.G., LL.D., T.D.

THE Land Settlement Association was formed in 1935 for the purpose of buying estates and laying them out as smallholdings. It is a registered society under the Industrial and Provident Societies Acts. Originally, the smallholdings were let only to unemployed persons, who received a period of training before becoming tenants. Since 1939, however, these arrangements have ceased, and holdings are now let only to persons who can provide at least some of the working capital they require, and who have the necessary knowledge of farming or market gardening. The Association attaches great importance to the possession of practical experience, and persons without it cannot be accepted as tenants.

The Association has 19 developed estates, each consisting of a group of smallholdings. The size of the estates varies. The smallest consists of 25 smallholdings, and the largest of over 100.

Most of the capital which the Association required to build and manage the smallholding estates was advanced by the Government, but a substantial amount was also contributed by the Carnegie United Kingdom Trust and also by private contributors. It is not a profit-making body, in the sense that, having met its overhead expenses, it is not required nor indeed permitted to earn profits for shareholders.

The smallholdings vary in size from about two to ten acres. The kinds of holding vary according to the type of land, but each is designed to provide a good living for a capable tenant.

Each estate consists of a group of smallholdings, and, in order to secure the advantages of co-operative trading, all buying and selling for all the tenants on each estate is organised centrally by the Association. On each estate there is a central packing shed, to which tenants' produce is taken to be packed, graded and sent to market Similarly, there is a central store, through which all kinds of agricultural supplies (manures, feeding-stuffs, seeds, tools, etc.) are bought for and supplied to tenants. A propagating department is maintained, on which the plants (especially tomato plants) which a tenant requires are propagated and supplied to him. All tenants must, under their tenancy agreement, co-operate in this arrangement in order to ensure economic working. In another

department, tractors and other heavy implements are kept, so that tenants can get their heavy cultivations done for them at rates which compare favourably with those charged in the district. In general, the object of this co-operative trading is to obtain for the smallholders the advantages in price, etc., enjoyed by the large farmer.

The Association maintains on each estate a manager, technical assistants, and other staff. The manager is responsible for running the estate, for ordering the supplies required by the tenants, and for arranging for the despatch of tenants' produce to market. Under him, the technical assistants, who have special experience in pigs, poultry or horticulture, supervise the particular activities with which they are concerned, and are available to advise and assist tenants.

Inquiries should be sent to the Secretary.

Mars Group (Modern Architectural Research)

46, Sheffield Terrace, London, W.8.

Chief Officer and Honorary Secretary : M. HARTLAND THOMAS, M.A., F.R.I.B.A.

THE Modern Architectural Research Group, consisting at present of about 100 members—architects, engineers and allied technicians—has for some years been working to further an architecture which can best serve the needs of society. Although primarily a research group, the Mars Group has formed a meeting ground for all those interested in a constructive policy in architecture, giving them an opportunity to co-ordinate their experience. Emphasis is laid upon the value of a living and progressive architecture subject to continual change resulting from the interaction of opposing ideas. The Group does not exist to advocate any style from a doctrinaire standpoint.

Another important activity is to form a liaison between English architects and their *confrères* in Europe and America. In this it has co-operated with similar national groups organised in almost every country in Europe who are associated in the International Congresses for Modern Architecture. These national groups include the leading progressive architects of each country, and the Mars Group has kept continuously in touch with them and their work. Such contacts were not entirely lost even during the war and are now being resumed.

In the ten years between 1928 and 1938 the Congresses were held in different centres in Europe and for each a definite subject was selected and the representatives of the groups concerned brought to the meeting the results of the research work on it in their own countries. The Mars Group was, therefore, able to present the work of English architects to the architects of Europe.

Apart from research work carried out for the Congresses, independent

programmes of research were undertaken in this country. The most important of these was an analysis of the town planning problems of London. A synopsis of this material was published in the *Architectural Review* of June 1942, and its influence upon all subsequent London plans has been very apparent.

The Group has also held several Exhibitions to present the problems involved in arriving at the best architectural solution. The first was held in 1935 and dealt particularly with *Housing Problems*, and a second, on *The Elements of Architecture*, was held at the New Burlington Galleries in January 1938.

Since the outbreak of war, as many of the members were either on active service, or engaged on war work, the research activities of the Group had to be considerably reduced.

The Group continues to provide contact between the members, and discussion meetings are held. A particular feature of present activities is the discussion at Group meetings of members' current professional work, such as *The Middlesbrough Survey and Plan;* the "Braithwaite" House; box frame construction; planning in West Africa; and critical discussions of members designs. The Group has published for private circulation its *Observations on the County of London Plan*, and *What is Modern Architecture?* (the Report of a public discussion meeting at the R.I.B.A.).

The Group is ready to collaborate with other research organisations on questions of housing, town planning, and architecture. Applicants for membership must be proposed and seconded by members.

Inquiries should be sent to the Honorary Secretary.

Metropolitan Public Gardens Association

20, Denison House, 296, Vauxhall Bridge Road, London, S.W.1. *Telephone: Victoria 5037.*

Chairman of Committee: The Right Hon. THE VISCOUNT DAVIDSON, G.C.V.O., C.H., C.B.

THE Metropolitan Public Gardens Association, which is under the patronage of H.M. Queen Mary, was founded in 1882, by the late Earl of Meath.

The objects of the Association are to create and preserve open spaces for public benefit; and to provide seats and encourage the planting of ornamental trees and shrubs in existing open spaces. Its area of operations is confined more or less exactly to that of the Metropolitan Police.

The Association's horticultural expert can be consulted without charge by those responsible for the upkeep of small open spaces, such as churchyards. Grants are given to assist in planting where only small funds are available. Where there is no alternative the Association will also engage staff and supervise work.

The early activities of the Association were confined almost entirely

to the City of London, where nearly 150 small "lungs" owe their existence to its efforts. More recently the Association has taken an active part in the preservation of Kenwood, Hampstead, and Chiswick House and grounds as public open spaces.

The funds of the Association are held by Trustees and administered by an Executive Committee.

Membership. The following are eligible: (*a*) Donors of £20 and upwards, who shall have the right to be called Life Members; (*b*) Annual Subscribers of at least 5s. All members are subject to election by the Executive Committee.

Inquiries should be addressed to the Acting Secretary, Miss Margaret Eliot.

National Allotments Society

Drayton House, Gordon Street, London, W.C.1. *Telephone: Euston 5920.*
President: The Right Hon. LORD TRENT, J.P.

THE Society has for its objects: The co-operative organisation of allotment, garden, horticultural, small-livestock and social welfare societies; the securing of improved legislation for the movement and the promotion of horticultural education; the publication of a *Journal* and other literature of interest to associated members; and the provision of general advice.

The Society is registered under the Industrial and Provident Societies Acts and is the parent body to which allotment and other associations affiliate. It is democratically controlled by an Annual Conference representative of all affiliated bodies. The affairs of the Society are administered by a Management Committee. One member is elected by each of the 14 areas into which England and Wales is divided and six members are appointed by Conference which, in addition, elects a president and a treasurer. The two latter are appointed annually, half the Committee only retiring each year. Several leading Statesmen are Honorary Vice-Presidents of the Society. The Society is supported by contributions from affiliated associations and local authorities and by voluntary subscriptions.

The Society acts as a central bureau of information on all matters relating to allotments, etc. It conducts the formalities of registration under the Industrial and Provident Societies Acts on behalf of associations; supplies the latter with model rules for the purpose; frames schemes for co-operative land renting and the co-operative ownership of land; advises in regard to the purchase and sale of garden requirements; negotiates with the Ministry of Agriculture and Fisheries, local authorities and private owners in respect of land for allotments; advocates improved legislation with special reference to security of tenure for allotment holders; and encourages the post-war planning of allotments and the general improvement of allotment amenities.

Inquiries should be sent to G. W. Giles, M.B.E., F.R.H.S.

National Council of Social Service

26, Bedford Square, London, W.C.1. *Telephone : Museum 8944.*

President : Sir P. MALCOLM STEWART, Bt., D.L., O.B.E.

THE National Council of Social Service is composed of representatives of all the principal agencies engaged in social work. On it are represented the major voluntary societies, the central Government departments and the organisations of local government authorities and their officers.

Its aims, briefly stated, are to develop co-operation between voluntary social service agencies and between the statutory and voluntary social services ; to provide a clearing-house of information on the social services ; to promote and if necessary to undertake experiments in social service ; to administer and advise on the administration of grants-in-aid from Government departments and charitable trusts, and to undertake studies of social questions as occasion may demand.

The Council provides a centre for consultation among voluntary societies and a common ground for the discussion of particular social problems by societies and organisations most closely concerned. In connection with this work the Council has promoted and provides the secretariat for a number of autonomous consultative groups, particularly the Standing Conference of National Voluntary Youth Organisations, the Women's Group on Public Welfare and the Churches Group, representative of the chief religious faiths, which is concerned with practical measures of co-operation by the churches in the field of social service. There is also an Old People's Welfare Committee which has been active in the promotion of hostels for elderly people and the collection of information necessary for meeting adequately the special needs of the old after the war.

The Council takes particular interest in the development of local groups and in the quality of neighbourhood life. It has taken the initiative in the development of Village Halls in rural areas, and in this connection has advised the Carnegie United Kingdom Trust and the Development Commission on the administration of funds to assist in the development of Village Halls. For this purpose a sum of £100,000 has been allocated by the Carnegie Trust for the five years 1945-50 and loan funds have again been made available. The Council has also played a considerable part in the development of the Community Association movement which arose from the social needs of neighbourhoods, particularly new housing areas. The growth of the idea of the Community-Centre as the focus for this neighbourhood life comes particularly from this movement. The Council is prepared to give advice and help in the planning and equipment of Village Halls and Community Centres.

The Council acts as the national headquarters for local organisations generally known as Rural Community Councils and Councils of Social Service, which have as their aim the integration of social service and a concern for the quality of social life in their areas. The Council is also actively considering the particular problems of urban areas, and reviewing the growth of Councils of Social Service in order to plan for future developments.

The Council has also initiated and undertaken the central services in connection with the Citizens' Advice Bureau service, which now extends throughout the country.

Inquiries should be addressed to the Secretary, G. E. Haynes, C.B.E.

National Council of Women of Great Britain

Drayton House, Gordon Street, London, W.C.1. *Telephone : Euston 3618.*
President : MISS M. G. COWAN, O.B.E., M.A.

THE National Council of Women exists : To promote sympathy of thought and purpose among the women of Great Britain ; to promote the social, civil, moral and religious welfare of the community ; to co-ordinate, both nationally and locally, organisations in harmony with these purposes ; to promote such conditions of life as will assure to every child an opportunity for full and free development ; to work for the removal of all disabilities of women, whether legal, economic, or social ; to collect and re-distribute information of service to the community ; and to form a link with the National Councils of Women in other countries through the International Council of Women.

The Council is a co-ordinating body with 86 branches throughout the country, including a number of women's organisations, and has at present 133 affiliated societies. It is non-party and non-denominational and membership is open to all women.

The work is carried out through a number of Sectional Committees each of which tackles some specific problem such as education, public health and child welfare, legislation, housing, moral welfare, etc. Of these the Housing Sectional Committee is of particular interest here.

The Housing Sectional Committee. This has *Terms of Reference* as follows :

> To examine the general conditions of housing in this country and to consider all housing problems with a view to improving the housing conditions of the people.

During the year ended July 1945 three subjects were much under review. First, prefabricated houses of which many different types were visited and reported upon by members. Second, the need of accommodation for the elderly, regarding which schemes from different parts of the country were discussed and members undertook to see that everything possible is done in their own localities. Third, the control of furnished lettings. Other subjects discussed at meetings were the need for new materials and methods in building ; the " All-Purpose Service Unit " in which heating, plumbing and water services are combined ; the demand for women housing managers ; and the methods of treating bombed houses.

Full details of membership and other information may be obtained from the General Secretary, Mrs. K. M. Cowan.

National Farmers Union (N.F.U.)

45, Bedford Square, London, W.C.1. *Telephone : Museum 7525.*

President : JAMES TURNER

IN a Report published in November 1945 the N.F.U. sets out a policy as embodied in the following summary :

This policy is designed to secure a healthy and well-balanced home industry by the full and scientific use of the country's soil, so as to preserve a prosperous countryside as an essential part of the social well-being of the nation as a whole. The recommendations of the Hot Springs Conference are welcomed, but the Union believes that control of imports and organised marketing of home agricultural products are necessary to a stable industry. It recommends also that policy generally should be planned on a mixed-farm basis.

In a section dealing with land tenure and estate management, the Report emphasises the importance of assuring to the farmer the benefit of any improvements he may effect. Failing ownership of the land, secure tenancy is considered satisfactory, and the Union recommends statutory recognition of the fact that compensation for disturbance represents in reality the value of the goodwill of the tenant-farmer's business with a commensurate increase in the existing scale of such compensation. The Union records its grave concern with the ramifications of planning proposals, and strongly recommends full consultation and co-operation between the Union and planning authorities to ensure that due weight is given to practical agricultural considerations in the administration of planning legislation and schemes. Drainage, roads, water supplies and buildings must generally be improved. The Union confirms the recommendations made in its interim *Report on Land Drainage*, and in addition urges that the law be amended to secure that owners and occupiers shall receive adequate notice of schemes and amendments to existing schemes proposed by catchment boards and internal drainage boards for the improvement of agricultural land, and that all watercourses be regularly cleaned, the cost being eligible for drainage grant. Drainage must be maintained, but only as part of a programme designed to safeguard the economic security of agriculture. The Union recommends that road requirements should form part of the Government's survey of the needs in respect of farm houses and buildings, followed by steps to give every farm an efficient road service.

With reference to water supplies, the Union recommends that local authorities should make full use of their powers to carry water supplies to industrial undertakings, and that landowners should be obliged to ensure adequate supplies to their farms. A survey of the present position in respect of farm houses and buildings and of the future requirements is recommended to the Government, in addition to the action following the Third Report of the Rural Housing Sub-Committee. It is suggested that the capital of the Agricultural Mortgage Corporation and the Lands Improvement Company be increased to the full extent required for post-war needs as soon as their present funds are fully employed. Further

improvement of farm equipment would be possible if there were relief from death duties on agricultural land specifically for the maintenance and development of agricultural estates. The Union also urges extinguishment of the tithe system.

In connection with farm equipment, the Union recommends a Government survey of the field of agricultural machinery, and prompt introduction of legislation to ensure the overall electrification of the countryside.

The Report emphasises the importance of social amenities and good wages, and proposals to improve these include good housing accommodation ; reasonable transport facilities to and from work and to neighbouring towns ; facilities for social recreation ; and opportnnities for advanced education. The most urgent of the amenities is stated to be housing, and the Union recommends that the survey proposed in the Third Report of the Rural Housing Sub-Committee should be completed within the next six months, and be followed by consultation and legislation. The main post-war aims of that Sub-Committee are endorsed, but it is stated that desirable housing standards should include the installation of tap water, electric light, gas, and indoor sanitation. The Report recommends the construction of farm cottages for key workers at the same time as building in villages, with provision for an increase in the number of workers employed in milk production. Meanwhile, facilities of the nature provided in the Housing (Rural Workers) Acts should still be available for reconditioning existing houses attached to farms which are not really habitable. Generous financial assistance for the building programme is urged. The Union endorses the recommendations regarding service occupation in the Report of the Committee on Rent Control, and urges that they be implemented by legislation, which might include measures to deal with the power of local authorities to vary the " normal agricultural rent." The survey of rural housing needs should take into consideration transport facilities for farm-workers.

Other sections of the Report cover measures for increased farming efficiency ; the maintenance of efficient standards in agriculture with the help of post-war counterparts of the County War Agricultural Executive Committees ; training of future farmers and farm-workers ; the special needs of horticulture ; and stability for the agricultural industry.

Finally, there is a joint policy statement by the three Farmers Unions,* advocating a balanced home industry with stabilised prices and a guaranteed market ; effective regulation and co-ordination of imported food supplies ; efficiency in husbandry and estate management with security of tenure for the good farmer ; and rural repopulation by the improvement of existing, and the provision of adequate new, houses, by a comprehensive scheme of rural electrification and the development of good water supplies, roads and transport facilities.

Inquiries should be sent to the Secretary.

*The National Farmers Union of England and Wales ; The National Farmers Union and Chambers of Agriculture of Scotland ; and The Ulster Farmers Union ; all of whom concur on the above Reports.

National Housing and Town Planning Council

41, Russell Square, London, W.C.1. *Telephone : Museum 1264.*
Chairman : ALDERMAN P. J. M. TURNER, J.P.

THE National Housing and Town Planning Council was formed to disseminate among all local authorities, by conferences, literature and any other means, all available information respecting their powers and duties for the improvement of the housing conditions of the people and the planning of their districts, and to assist them in dealing with any difficulties which may arise ; to secure the abolition of unhealthy and socially undesirable housing conditions throughout the country ; to urge the adoption by the Government and by local authorities of a definite and continuous policy which will ensure a proper standard of housing accommodation and amenity for every family ; to organise and stimulate independently of all political parties a strong public opinion in support of the above-mentioned objects, and to unite for this purpose all men and women interested in the progressive welfare of the community.

The Council includes representatives of local authorities as follows : 28 county councils, 22 metropolitan boroughs and City of London, 266 municipal corporations, 314 urban district councils, and 254 rural district councils.

The Council issued from time to time a special wartime publication entitled *Housing and Planning News-Bulletin*, which provided information on current topics of especial interest to local authorities in connection with housing and planning administration.

Inquiries should be sent to the Secretary.

National Institute of Economic and Social Research

53, Romney Street, London, S.W.1. *Telephone : Kensington 7070.*
President : The Right Hon. LORD WOOLTON, P.C.

THE Institute was founded in 1938, its principal objects being to organise realistic inquiries into current economic problems. It is a joint stock corporation not working for profit, the members of which constitute the Governors. The administration is by a President and Council. The direction of research policy and general policy is the function of the Executive Committee of which Mr. Henry Clay is Chairman. The topics with which the Institute has been concerned are primarily those which relate to the whole economy rather than those of a regional significance. The method of working is two-fold. It maintains its own full-time research staff ; and it gives grants to the universities for support

of approved programmes of research. The Institute publishes both the results of the work undertaken by its own research staff and by others working under grant from it. The Institute's work is limited solely to research and it has no teaching functions. It draws its financial support from a number of Trusts—the Pilgrim Trust, the Leverhulme Trust and the Nuffield Foundation in this country—and it also enjoys the support of the Rockefeller Foundation. The Institute's immediate programme is a *Comparative Study of the Structure and Efficiency of British Industry*, starting with a *Study of Distribution*. This Study together with others within the new programme will proceed parallel with the two principal inquiries which are being carried out. These are : An *Inquiry into Expenditure, Output and Income in the United Kingdom 1920-1938*, the aim of which is to present a consistent set of estimates of the components of the national expenditure, output and income over the period on a basis as far as possible comparable with the final estimates that now appear annually in one of the budget White Papers, and on the basis of this material to provide an economic analysis of the changes which it shows to have taken place ; an *Inquiry into the Distribution of the Product of Industry*, the purpose of which is to investigate the relations of the different element of costs which make up the selling price in the various branches of industry and of their movements through time ; it is primarily a fact-finding inquiry.

It will be seen that these two major inquiries will provide a general picture of the structure and working of the British economy in the period between the two wars. They will provide a general background into which more detailed studies of particular branches such as distribution can be fitted and against which the results obtained in these more specialised inquiries can be judged.

A second element in the *Study of the Structure of Industry* is a study of the building industry, including both the building and constructional industries proper and the building material industries.

The war interrupted projects which were to be contributions to internationally-organised programmes of work but it is expected that this type of co-operation with colleagues abroad will be restarted as soon as communications become easier.

The Institute's *Annual Report* gives details of present staff, library facilities, and publications up to date, and can be obtained from the Secretary, to whom inquiries should be addressed.

National Playing Fields Association

71, Eccleston Square, London, S.W.1. *Telephone : Victoria 9274.*

President: The Right Hon. THE EARL OF DERBY, K.G., G.C.B., G.C.V.O.

THE principal aims and objects of the Association are : To secure adequate public playing fields for the present and future needs of all sections of the community ; to secure properly-equipped playgrounds for the use of children of school age ; to co-operate in saving threatened private sports grounds ; to act as a centre of advice for local authorities

and interested persons on all matters connected with the acquisition, layout and use of grounds set apart for the playing of games ; to encourage local authorities to make the fullest use of their powers when preparing town planning schemes in ensuring that ample open spaces are secured, and that when slum-clearance schemes are initiated children's playgrounds shall be provided ; to encourage physical recreation and ensure that the fullest use is made of all recreation grounds ; to encourage the training and appointment of play-leaders ; and to encourage all members of the community to make the right use of leisure. The society is incorporated by Royal Charter.

Of the 93 playing fields vested in the Association, 68 are in rural districts.

In a Memorandum on the provision of rural playing fields prepared for Lord Justice Scott's Committee, the Association submitted that the provision of open air recreational facilities in rural areas should be dealt with as one of the factors necessary to ensure that those engaged in agriculture shall be able to carry on their work under conditions calculated to improve their health and better their social environment.

It is now generally admitted that one of the causes to which rural depopulation may be attributed has been the lack in the past of reasonable facilities for recreation in its broadest sense. In places where a village institute has been provided, much can be and is being done under the direction of rural community councils, to remove causes of discontent with rural life, and various indoor recreations are provided. But indoor attractions are not enough. There must also be provided facilities for outdoor recreation for each section of the community.

(*a*) *Children.* A suitable playground must be provided for young children if they are to be attracted from the roads with all their modern perils. The village school often has attached to it a small area used for drill during school hours ; but something better than that is required as children need a playground furnished with swings and other inexpensive and simple equipment, and available at all times. Elaborate, costly (and sometimes dangerous) apparatus is unnecessary. A few logs over which the children can scramble give infinite enjoyment. The older children, of school age, require space for team and other games. A netball pitch, a small concreted area where tops may be spun or hopscotch played, and a space where juvenile cricket and other games may be played without injury to the main cricket pitch, are most desirable.

(*b*) *Adolescents.* Adolescents need space for team games, especially cricket, football and hockey, and also lawn tennis.

(*c*) *Adults.* Adults need facilities for cricket, football, tennis, hockey, bowls, etc.

The area required varies in proportion to the population of the village. There should be enough space for football to be played without damage to the actual cricket pitch. A parish with a population of 1,000 needs a ground of six acres ; a village with a population of 250 would probably find four acres enough. It has, however, to be remembered that the cost of upkeep must be taken into account and also the possible growth in the local population owing to building development, whether industrial or residential. Many villages have hitherto depended upon the squire to allow cricket and football to be played in his park, or on some farmer to

lend a pasture field for the purpose. But the experience of the Association has shown how dangerous it is to depend upon the continuance of voluntary facilities of this kind. Large estates are being broken up and farms often change hands, with the result that the village suddenly finds itself without any facilities for outdoor recreation. A serious deficiency in public playing fields exists in rural areas generally. It must also be borne in mind that the wartime transfer of factories from towns to the country may become permanent, in which event the operatives and other factory workers will expect to be provided with playing fields.

In view of the financial limitations of parish councils the National Playing Fields Association has come to the conclusion that, if the problem of providing recreation grounds in rural areas is to be solved, grant-aid on a substantial scale must be offered to parish councils from national funds.

Recreation grounds are essential for the health and well-being of those who live in every village and hamlet, and no planning scheme should be approved which does not ensure the reservation of a sufficient number of suitable areas. Playing fields should not be acquired as an afterthought, when land has risen in value and when the most suitable areas have been absorbed by building development. Like highways, they should be carefully planned in advance of actual requirements.

Inquiries should be addressed to the General Secretary, Sir Lawrence Chubb.

National Road Transport Federation

Roadway House, 146, New Bond Street, London, W.1. *Telephone : Mayfair 9050.*

President : The Right Hon. The LORD PERRY OF STOCK HARVARD, K.B.E., LL.D.

THE Federation, which comprises the Road Haulage Association, Ltd., The Traders' Road Transport Association, Ltd., and the Passenger Vehicle Operators' Association, Ltd. exists :

To ensure the continued maximum efficiency, flexibility and virility of the road transport industry (public road carrying, traders' transport and public service vehicle operation), and to impress on the public the benefits that would be provided for them by an industry free at all times to meet their needs.

To promote unity, friendship and goodwill amongst all members of the industry.

To ensure recognition by the Government of the industry as a vital part of the inland transport system of the country.

To secure the recognition of the National Road Transport Federation, with its constituent Associations as a competent authority to speak on behalf of the industry.

To press forthwith and continuously, until remedied, for a modifi-

cation in the incidence of commercial motor taxation ; to secure that the whole of the proceeds of motor vehicle taxation and fuel duties are re-allocated towards the cost of road construction, improvement and maintenance, and to oppose the principle of imposing taxes which discriminate against the whole or any part of the industry.

To secure the repeal of those Acts and Orders which are discriminatory against or restrict unduly the developments of road transport, the potentialities of which have as yet been neither fully understood and appreciated nor utilised to the best advantage of the community ; to press for the modification of existing penal limitations adversely affecting road transport vehicles, *e.g.* maximum length, width, speeds, legal axle weights, and maximum gross weights.

To advocate for the industry the principle of private enterprise and to ensure that such enterprise becomes a reality.

To regain at the earliest opportunity and to maintain the fullest possible freedom for the industry consistent with the national interest, so that road transport may be able to serve the public to the best advantage ; to aim at reducing Government intervention and transport regulations to a minimum ; to oppose discriminatory and restrictive measures tending to hamper the natural development of road transport.

To secure improvements in the licensing systems under the Road Traffic and Road and Rail Traffic Acts and Regulations thereunder, and their administration.

To encourage the principle of self-government within the industry ; to secure recognition on the part of the Ministries concerned of that principle ; and to obtain such statutory enforcement as the industry finds necessary.

To ensure that the services an operator can give to the public, his efficiency, and his compliance with statutory requirements constitute the determining factors as to his right to continue to operate, irrespective of the size of the fleet.

To initiate and undertake such action as may be necessary from time to time for the protection and advancement of the interests of the industry, through Parliament, Government departments, the courts of justice or otherwise ; to protect and advance the legitimate interests and assist the just claims of its members ; and to protect the industry against any unreasonable actions taken or irksome restriction imposed by any authority.

To ensure that the industry is taken into the fullest and most effective consultation by Government departments in all matters affecting the industry, and in particular that the views of the industry receive adequate consideration at an early stage, before legislation is introduced or statutory rules, regulations and Orders are made.

To encourage co-operation between the industry and all allied interests, and so to co-ordinate effort that planning for the industry in the future is undertaken on as broad a basis of agreement as possible.

To secure the effective representation of the industry on all bodies, national, regional, or local, dealing with matters either directly or indirectly affecting road transport whether for the purpose of post-war planning and reconstruction or otherwise.

To collect all facts, figures and statistics that may prove of use to the industry.

To facilitate the development of specialised knowledge and to promote, encourage and support any research and educational schemes which may be desirable in the interests of the industry.

To promote good relations with workers and their organisations and to review and define the policy of the industry in regard to social schemes and similar matters affecting the well-being of workers in the industry.

To confer with other forms of inland transport (railway, coastwise, canal and air) to secure that state of inland transport that will afford the maximum benefit for the public at large, and provide an economic basis for the most extensive and comprehensive transport services in the best national interest.

To investigate and to assist in the solution of problems created by the war and post-war conditions ; and in particular (*a*) to ensure the rehabilitation of operators with legitimate claims who have been unable to continue to operate as a result of the war or for other valid reasons ; (*b*) to oppose unregulated re-entry into the industry and so to avoid the chaotic conditions and unbridled competition which would otherwise result; and (*c*) to facilitate and regulate the absorption of road transport workers on demobilisation from the Forces.

To press for the reconstruction of important existing roads and inadequate bridges, and for the provision of additional trunk roads ; to advocate the planning of special motor roads to supplement trunk roads ; to support, in regard to town and country planning and location of industry, that policy which will minimise dislocation and congestion arising from exceptional traffic peaks ; to take steps to secure the elimination of railway level crossings, and the freeing of toll roads, tunnels, ferries and bridges ; and to ensure the provision of adequate road access to docks, industrial and recreational centres.

Inquiries should be addressed to the Secretary, G. W. Quick Smith, LL.B.

National Smoke Abatement Society

Chandos House, Buckingham Gate, London, S.W.1. *Telephone : Abbey 1359.*
President : WILL MELLAND, M.A., J.P.

THE seriousness of the smoke nuisance as a factor affecting public health has long been recognised, and the first organisation to attempt to deal with the problem was a Smoke Abatement Institution in 1882. This did not succeed but was followed in 1899 by the Coal Smoke Abatement Society, concerned chiefly with London, and, in 1909, by an organisation for the provinces, the Smoke Abatement League of Great Britain. After the last war the Minister of Health appointed a Departmental Committee to review the problem, and increasing public interest led to the amalga-

mation of the Society and the League to form, in 1929, the present National Smoke Abatement Society.

The N.S.A.S. is a voluntary organisation that derives its income from the subscriptions of members and of affiliated local authorities and other bodies. Its objects, as laid down in its constitution, are: To create an informed public opinion on the evils of air pollution; to inquire into and, if thought advisable, to assist investigations directed towards the abolition of smoke, whether industrial or domestic; to take steps to popularise the use of smokeless methods of heat and power production; and to promote and support legislation for preventing the pollution of the atmosphere.

The work of the Society in promoting these objects includes the holding of conferences, meetings and exhibitions; the publication of technical and popular literature and of a quarterly *Journal;* acting as an information centre; and undertaking inquiries and investigations.

The Society regards atmospheric pollution first as a public health problem, but at the same time stresses its important economic consequences and the injury that it does to amenities, vegetation and property, especially building stone and fabrics. The means for the solution of the problem are given much attention, and here the Society recognises that progress depends largely upon the development of more scientific and efficient methods for the utilisation of our fuel resources.

The activities of the Society at the present time are being largely directed to the prevention of smoke in reconstruction, including housing. It has put forward a number of proposals and has been gratified that its immediate case in relation to domestic smoke has been accepted by the Government in its *Housing Manual 1944,* in which a more determined policy on smoke abatement is foreshadowed.

The work of the Society is limited by its small income and it is making a special appeal for support to assist its development.

The Society is affiliated to the Central Council for Health Education and to the Parliamentary and Scientific Committee. It has branches in Scotland and (for the North West) in Manchester.

Further information, copies of the *Annual Report* and other publications may be obtained from the General Secretary, Arnold Marsh, M.Sc., M.Inst.F.

National Trust

42, Queen Anne's Gate, London, S.W.1. *Telephone: Whitehall 2110.*
President: HER MAJESTY QUEEN MARY

THOUGH the National Trust as a landowner is small compared with official bodies like the Forestry Commission or the Ecclesiastical Commission, it is an important feature in our national life. Founded 50 years ago, it is a corporate body solely dependent on voluntary gifts in its endeavour to preserve for the nation all sorts of beautiful or interesting

places. Outside these islands it has no exact parallel, and all should understand what it is and does.

Its 500 properties scattered all over England, Wales and Northern Ireland vary in size from 13,000 acres to a few square yards. They include cliffs and moors, woods, hilltops, the homes of famous men, nature reserves, prehistoric sites, medieval crosses, old cottages and notable examples of English architecture of all periods. The work of the Trust mainly consists in managing these so as to conserve their beauty and interest, and to provide a large measure of public access.

The beauty of this country is intimately associated with its use. The face of England is nowhere what it would have been in the absence of man, and preservation very seldom indeed means sterilisation from use. Buildings were meant to be used; agriculture and silviculture are essential to the beauty of the countryside. The Trust's properties include whole villages as well as over 200 farms and many cottages. These must not only be beautiful; they must be comfortable homes. Farm buildings must be up-to-date and in good repair. Inns or hostels must be good of their kind. The work of the Trust, therefore, is closely connected with the life of the countryside. But its policy cannot be dictated solely by the economic motive. The Trust would, for instance, be neglecting its duty if in pursuit of increased productivity it allowed in peacetime the ploughing up of some stretch of down acquired so that the public might find health and recreation in walking on its springy turf and enjoying the wide views. Eighty per cent. of our people live in urban surroundings, and it is for the nation's good that many of them should have access to beauty in the country and places specially managed from this point of view where at least to a small extent they can learn of country things and country ways.

From some properties the public must be excluded—for instance from some breeding-places of rare and shy birds. But on others they throng in such numbers that not even rough grazing is possible. Here the Trust must perforce control vegetation by a sort of wild gardening, cutting bracken and thorn, burning old gorse or small patches of heather and so on to preserve an aspect of wildness. This process is costly and calls for special skill and knowledge.

In the case of some houses a similar problem arises. They attract thousands of visitors and cannot be lived in and must be artificially and expensively maintained so as to preserve as nearly as may be the appearance of homes.

The work of the Trust has two other aspects. First some areas—40,000 acres in all—are controlled by restrictions to prevent, for instance, the erection of houses where they would spoil the beauty of some neighbouring place of public resort. These controlled areas are not owned by the Trust but the Trust must keep an ever-watchful eye upon them.

The remaining aspect of the work is growth and publicity. Ten years ago the Trust owned 40,000 acres; today it owns 110,000 acres. All the properties have either been given by their owners with enough income for proper upkeep or been bought with money coming from annual subscriptions or special donations. In the years to come the Trust can only go ahead if it does its work in such a way as to command continued support. Not the least important part of publicity is providing that

people shall recognise National Trust properties when they visit them and be assured by what they find and by what they hear from tenants that the Trust is a wise, humane and efficient landlord.

There is talk of national parks, national nature reserves and so on, financed by the State as in many other countries. But the National Trust still has an important work to do (and one which need impose no burden on the taxpayer) complementary to all these, and it is taking steps to see that it is equipped to meet its obligations.

The Trust was incorporated by the National Trust Acts 1907-39.

Inquiries should be sent to the Secretary, George Mallaby.

Nuffield College

17, Banbury Road, Oxford. *Telephone : Oxford 48323.*

Warden : HENRY CLAY

NUFFIELD College, Oxford, which was responsible for the Social Reconstruction Survey, is a centre of research work, primarily in the social studies—a home for post-graduate students and for more senior research workers in any branch of study connected with the economic, political and social problems of the modern world. By the terms of its trust deed it is instructed to promote co-operation between academic workers in these fields and persons actively connected with these same problems in other walks of life. Nuffield College was designed to bring academic minds into close contact with business men, politicians, civil servants, trade unionists, social workers and professional people of every sort and kind.

The Survey, which worked largely for the Government, using highly confidential and often secret information, was prevented for the time being from publishing many of its results. It has now wound up its Governmental work, and a series of volumes embodying the results are being published by Messrs. Methuen. The first of these, *Prospects of the Industrial Areas of Great Britain*, by M. P. Fogarty, appeared in August 1945. For other publications, see Section *Books, Periodicals and Films.*

Inquiries should be sent to the Secretary.

P.E.P.
(Political and Economic Planning)

16, Queen Anne's Gate, London, S.W.1. *Telephone : Whitehall 7245.*

Chairman : L. K. ELMHIRST

P.E.P. is an independent research organisation operating in the field of economic and social affairs. It was founded during, and actually as a consequence of, the great depression of 1931-33. Its legal status is that of an educational trust.

It is a voluntary association of a comparatively small number of people of various political views, or of none, but all of whom have a practical or otherwise expert background in one aspect or another of our national life. They are business men, professional men, scientists and technicians, Members of Parliament, civil servants, economists, university teachers, etc. They are united in certain convictions : That we live in a period of major change in which the important thing is to look forward, not back ; that whether we like it or not we, as a community, are being compelled by the march of science and technology to take more conscious control of our environment than we have been accustomed to regard as necessary, and that we had better learn how best to do it ; that facts are apt to speak for themselves if we find them out, all of them, and weigh them up objectively and honestly.

The purpose of P.E.P. is to find the facts bearing on problems in the social and economic field ; to interpret them accurately and honestly ; and to draw sound conclusions of policy from them. Its working method is a combination of factual research by a small expert staff and group discussion among those whose experience enables them to attack the subject from different angles, and consultation with other well-informed people. Membership of groups is by invitation.

The subjects now in hand or contemplated include : A national fuel and power policy ; the problem of Britain's foreign trade after the war ; a national health service ; industrial relations ; town planning and reconstruction from the human angle ; the British population problem (jointly with the Eugenics Society) ; British trade associations. Five of the groups engaged on this work will issue full-scale reports. Recent reports include *The Market for Household Appliances ; Building Peace out of War ;* and *Economic Development in S.E. Europe.*

P.E.P. also publishes every three or four weeks a broadsheet, *Planning.* Each issue deals with a single subject and normally embodies the results of one or other of the active groups.

Inquiries should be addressed to the Director.

Planning Forum

28, King Street, Covent Garden, London, W.C.2. Telephone: Temple Bar 5006.
Chairman : D. B. WILLIAMSON.

THE Planning Forum (formed in 1944) is a junior group of the Town and Country Planning Association. Its principal aim is to enable members to acquire knowledge in all aspects of town and country planning with a view to the creation, particularly among young men and women, of an informed public opinion in these matters.

A number of lectures and discussion meetings have been held, during which well-known speakers have sustained a lively barrage of questions. The Forum hopes in the coming year to develop these activities ; to form study groups ; and in other ways " to play its full part, through the

planning movement, in creating a Britain and a world whose resources shall be used with skill, beauty and courage for the benefit of mankind."

Inquiries from interested individuals or groups are welcomed. Communications should be addressed to the Secretary.

Reinforced Concrete Association

94, Petty France, London, S.W.1. *Telephone : Whitehall 9936.*

President : A. KIRKWOOD DODDS

THE Association is registered under the Companies Act 1929 as a company limited by guarantee and not having a share capital. It is debarred from controlling in any way the business activities of its members and from supporting with its funds any object which would give it the character of a trade union.

Its aims are : To promote and develop the use of reinforced concrete ; to establish and uphold a standard of excellence in design and construction; to originate and support improvements ; to promote research and other scientific work ; to encourage the discovery of, and investigate and make known the merits of inventions, improvements, processes, materials and designs ; to establish collections of literature, statistics, scientific data and other information, and to disseminate the same ; to promote and improve the education and technical knowledge of persons engaged in the reinforced concrete industry or any employment in connection therewith ; to arrange and promote the adoption of equitable forms of contract and other documents ; to do all of the above-mentioned things, whether affecting the whole of the reinforced concrete industry or merely one or more particular groups or sections thereof.

Ordinary Membership is open to persons and corporate bodies engaged in any profession or business relating to the reinforced concrete industry or ancillary to it. For purposes of administration these are classified in six groups, *i.e.*, designers, constructors, aggregate producers, cement manufacturers, reinforcement manufacturers and plant manufacturers.

The Association is managed by a Council, to which each group appoints a specified number of representatives.

Research. With a view to securing the more economical use of reinforced concrete by reducing the margin that exists between its theoretical and actual strength, the Association has contributed its quota to the full-scale research which is being carried on to that end in laboratories throughout the world. It has planned a comprehensive research programme, and has made a number of investigations in co-operation with the Building Research Station of the Department of Scientific and Industrial Research, including : *The Redistribution of Moments in Reinforced Concrete Frames and Members* (B.R.S. Technical Paper No. 22) ; *The Strength and Deformation of Eccentrically-Loaded Columns* (B.R.S. Technical Paper No. 23) ; *The Strength of Long Reinforced Concrete Columns* (B.R.S. Technical Paper No. 24); *The General Mechanism of Cracking and its Relation to the Amount and Distri-*

bution of Steel and Concrete Strength; The Effect of the Grading of Aggregates on the Strength and Workability of Concrete.

In addition, the Association has concerned itself with the problems associated with (*a*) the compacting of concrete by vibration; (*b*) the thermal and acoustic insulation of reinforced concrete buildings; (*c*) their behaviour (i) in fire and (ii) under aerial attack; and has published leaflets on these matters. It has also published technical papers on *Moving Forms in Concrete Construction, The Principles of Concrete-Making and its Reinforcement* and *Concrete Surface Finishes.*

Inquiries should be sent to the Secretary, P. W. Chate.

Research Association of British Paint, Colour and Varnish Manufacturers*

Paint Research Station, Teddington, Middlesex. *Telephone: Molesey 1863.*

President: C. A. KLEIN

THIS Research Association was founded in 1926. In common with other research associations, it operates under the aegis of the Department of Scientific and Industrial Research, and is financed partly by subscription income from the membership (consisting of firms engaged in the manufacture of paint and allied materials) and partly by Government grant.

The laboratories of the Association at the Paint Research Station, Waldegrave Road, Teddington, are well equipped for the application of scientific methods to the problems of the related industries, which include those concerned with paint, colour, varnish, printing ink, linoleum, leather-cloth, etc. The main activity is research and investigation. The Director of Research is L. A. Jordan, D.Sc., A.R.C.Sc., F.R.I.C., M.I.Chem.E. There is in addition a library and an information bureau service, with provision for the answering of technical inquiries and for liaison work generally.

New schemes are now being put into operation providing for a substantial expansion of activity which will involve additional accommodation and a much increased scientific staff, in order to meet the implied responsibilities of the Association in the post-war period.

The affairs of the Association are in the hands of a Council, which in technical matters delegates its functions to a Technical Advisory Committee.

* Under aegis of Department of Scientific and Industrial Research.

A Research Survey and Programme has recently been compiled and the intention is so to orient the staff as to provide, in effect, nine research teams, with general staff, chemical, physical, and technical, to deal with fundamental background work.

Inquiries should be sent to the Secretary.

Royal Academy of Arts

Piccadilly, London, W.1. *Telephone : Regent 4895.*

President : Sir ALFRED J. MUNNINGS, R.A.

THE Royal Academy of Arts in London was founded by King George III in 1768 for the promotion of the arts of design. Since that date it has continued, and developed its functions (1) by maintaining its free Schools of Drawing, Painting, Sculpture and Architecture, and (2) by holding annual exhibitions of contemporary work in these arts, no charge being made to artists for the exhibition or sale of their works, and the admission money after deduction of expenses being applied to the support of the Schools and other expenses of the Institution.

The Royal Academy is conducted as a voluntary enterprise of artists independently of State support or control, under the direct authority and sanction of the Sovereign.

Usually there are about eight architects among the 40 Academicians and 30 Associates ; they are elected from among the most distinguished architects practising in Great Britain. The Presidency has in the past been held by the following architects : James-Wyatt, 1805-6 ; Sir Aston Webb, G.C.V.O., C.B., 1919-24 ; Sir Edwin L. Lutyens, O.M., K.C.I.E., 1938-44.

One Gallery is usually allotted in the Summer Exhibition to architectural drawings and models sent in by Members and non-Members. During the recent war, plans for reconstruction in London by the Royal Academy Planning Committee have been included in these Exhibitions.

Inquiries should be sent to the Secretary, Sir Walter R. M. Lamb, K.C.V.O.

Royal Institute of British Architects

66, Portland Place, London, W.1. *Telephone : Welbeck 5721.*

President : PERCY E. THOMAS, O.B.E., Hon.LL.D., J.P.

THE Royal Institute of British Architects is a professional society whose Royal Charter states that it is " an Institution for the general advancement of civil architecture and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected

therewith." The R.I.B.A. Board of Architectural Education operates the examination system and thus controls architectural education. The R.I.B.A. Architectural Science Board deals primarily with post-graduate and refresher education on the scientific and technical sides of architecture. The R.I.B.A. Practice Committee is responsible for administering the " Code of Professional Conduct," to which all members must subscribe, and the " Scales of Professional Charges," together with other matters connected with practice.

The Royal Institute possesses the largest architectural library in the Empire consisting of some 50,000 books and periodicals on science, technology and the arts. The collection includes a very fine town planning section.

General meetings of members are held regularly at which papers on architectural subjects are read. Lectures, sponsored by the Architectural Science Board, on specialist technical subjects are also held. The *Journal* of the Royal Institute publishes these papers, together with illustrations of buildings and planning schemes and articles on a wider range of professional matters.

The Royal Institute takes a leading part in education of the public on architectural and planning matters, for which the Public Relations Committee is responsible. The Committee possesses an index of lecturers, from which it supplies the names of lecturers to a wide field of schools, societies, clubs, and Service organisations, as well as a loan collection of mounted photographs mostly illustrating current architectural subjects and covering housing, schools, hospitals, public buildings, factories, commercial buildings, churches, etc. It is also preparing an index of films on architectural and technical subjects. From time to time it creates major exhibitions of which a recent outstanding example was the *Rebuilding Britain Exhibition* which was shown on tour under the aegis of C.E.M.A. (now the Arts Council of Great Britain).

A Central Advisory Committee for National Planning, which has co-ordinated the studies of the British Allied Societies, has prepared a "first sketch" for a national plan, intended as the basis for more complete proposals from which other plans may be developed. The Housing Committee published in 1945 a Report on *The Housing Problem in Great Britain* which reviewed the whole subject and made concrete proposals. Among other Reports has been one on *School Building*.

Inquiries should be addressed to the Secretary, C. D. Spragg.

Royal Sanitary Institute

90, Buckingham Palace Road, London, S.W.1. *Telephone: Sloane 5134.*
President: The Right Hon. THE EARL OF BESSBOROUGH, P.C., G.C., M.G.

THE Institute was founded in 1876 with the aim of promoting the application of the Public Health Acts of 1875. Its object is to promote the advancement of sanitary science in all or any of its branches, and the diffusion of knowledge relating thereto. "Sanitary" means "pertaining

to Health," and the operations of the Institute have always extended over such subjects as are covered by the various terms, hygiene, public health, preventive medicine, social medicine, and others.

Membership. The foundation of the Institute is its body of members who are gathered together by a common interest in the objects of the Institute, but unlike many societies, membership is not restricted to one profession, trade or calling. Among the 6,000 persons who belong are included the chairmen of public health committees, members of the medical, engineering, architectural, veterinary, legal and other professions, and a large proportion of those engaged in public health work, particularly officers of local authorities such as medical officers of health, engineers and surveyors, sanitary inspectors and health visitors ; there is also a group of similar persons engaged in commercial pursuits allied to the work of the Institute.

Meetings. Meetings are held which range from the Annual Congress (with an attendance of 1,500 to 2,000 persons) to sessional meetings in London, and in other towns which are smaller and of more local interest. Conferences are also held from time to time to deal with subjects of special interest.

Library. This contains a representative collection of works on all aspects of sanitary science, public health, hygiene and allied subjects both for reference and on loan to members only.

The Parkes Museum. The Museum (a memorial to the late E. A. Parkes, M.D., F.R.S., first Professor of Military Hygiene at Netley) is organised for the instruction rather of students than of the general public, the space and income available necessitating some restriction in scope.

Publications. The *Proceedings* of the Institute are published in the *Journal*, which also includes reviews of the latest books. From time to time special articles of interest to members are also published.

Examinations. The Institute holds examinations in many subjects, the following of which apply particularly to the scope of this work : Sanitary Science as Applied to Buildings and Public Works ; Qualifying for Associateship (General Hygiene and Sanitation) ; Qualifying for Membership ; Smoke Inspectors ; Sanitary Inspectors. Certain of these examinations can be taken in Cyprus, Bombay, Sind, Burma, Ceylon, Hong Kong, Straits Settlements, New South Wales, Queensland, South Australia, Tasmania, Victoria, West Australia, New Zealand, Fiji, Union of South Africa, Southern Rhodesia, British West Africa, British East Africa, Anglo-Egyptian Sudan, Quebec, British West Indies, and Jamaica.

The Institute acts as an informal information bureau for its members, the staff being always willing to give help, especially to members in remote parts of the Empire to whom the usual facilities are inaccessible. Courses of lectures are a feature of the work and have stimulated the establishment of similar courses throughout the British Empire.

Inquiries should be sent to the Secretary.

Royal Society of Arts

John Adam Street, Adelphi, London, W.C.2. *Telephone : Temple Bar 8274.*

President : The Right Hon. THE VISCOUNT BENNETT, P.C., K.C., LL.D.

THE Society of Arts was founded in 1754 and incorporated by Royal Charter in 1847. It exists for " the promotion of Arts, Manufactures and Commerce," and provides, through its meetings, a platform for the exposition and discussion of the latest developments in these fields. Its *Journal*, published fortnightly under present conditions, gives a full account of all proceedings, and in addition notes on current exhibitions, new books, and notices concerning the meetings of kindred societies. The Society encourages the young student of industrial design by organising (under peace conditions) annual competitions and travelling scholarships. It is the parent body of the Faculty of Royal Designers for Industry which was founded in 1936 when the Council of the Society, realising that no high distinction had ever been created for " Industrial Art " as in the case of " Fine Art," decided to institute a new and exclusive distinction under the aegis of the Society, with a view to enhancing the status of industrial designers. The title of this distinction is " Royal Designer for Industry," indicated by the letters " R.D.I." and conferred upon British designers " who," in the words of the Ordinance, " have attained to high eminence and efficiency in creative design in their various spheres of industry." The distinction is also granted in honorary form to foreign designers. Under the Ordinance, the number of designers to hold the distinction at any one time is limited to 40, and the total number at the present time is 30.

The War Memorials Advisory Council which has its headquarters at the Society's House was set up in 1944 as the direct result of a one-day Conference organised by the Society, and exists to give guidance to those concerned in the erection of memorials to the fallen in the second world war. It now comprises some 40-50 societies and organisations, many of whom are able to give practical advice to inquirers.

The Society, starting with the Great Exhibition of 1851, has sponsored several exhibitions, including the *Exhibition of British Art in Industry* held at Burlington House in 1935. It organises and, when desired, acts as the adjudicating body in technical competitions connected with design (*e.g.* 1945 : *Architectural Competition for an Improved Design in Moulded Concrete Fences ;* 1945-47 : *Architectural Competition for the New Cathedral in Colombo*).

The Society organises, from time to time, series of special lectures on subjects of topical interest, such as *The Post-war Home, its Interior and Equipment* (1942) ; *Agriculture Today and Tomorrow* (1942-43) ; and *Education Today and Tomorrow* (1944).

Inquiries should be sent to the Secretary.

Rural Reconstruction Association

Temporary Address : The Severals, Seer Green, Beaconsfield, Bucks.

President : The Right Hon. LORD O'HAGAN, J.P., D.L.

THE Association is an independent non-party organisation, concerned in securing the restoration of agriculture to its rightful place in our national life.

The Ministry of Information recently issued the following description of the movement :

" The Rural Reconstruction Association was founded in 1926, to develop the proposals set out in the Report of the Rural Reconstruction Committee formed by the Institute of Sociology in 1924 under the presidency of Lady Hall, and to inform political and administrative circles on the questions involved. To a less extent the Rural Reconstruction Association educated the public and the press, but its work was to get action in Parliament, rather than propaganda.

" The Association has explored and initiated research on almost every branch of the rural problem, both historic and modern, in Britain, and also to a considerable extent in other countries. Its members also investigated related social and economic theories. The Association's work is unique, for it studied every problem for many years continuously and objectively.

" In the case of the Wheat Act the Association's specific proposals for standard prices were adopted.

" The Association's policy was also reflected in the specific schemes that were adopted for various branches of the agricultural industry in the years before the war, as, for example, that applied to the hop trade and the potato trade. The Government during the war also followed the general line of policy suggested by the Association."

The Association is concerned with a problem on which it is strongly held that the future of our civilisation depends. Small in membership, it has nevertheless always included authorities of distinction and of wide first-hand experience. Its conclusions, and the policy based upon them, have consequently always been essentially practical. Moreover its members, through wide experience gained in governmental, local authority and other work are able to impart a specially practical quality to its activities.

So far as conditions permitted, the Association carried on its functions during the war and is now in process of reconstruction and development in order to secure the adoption by the nation of a full agricultural policy.

The Association, and individual members of it, have issued from time to time a number of books and pamphlets on rural problems. This literature has dealt in general and in detail with both historical and current aspects of the problem, here and in other countries. Much of it is out of print but the following recent publications, prepared for the Association by Montague Fordham, can now be obtained, *i.e.*, *The Land and Life*, and *The Restoration of Agriculture*. A pamphlet, *The Full Development of*

Agriculture, is now in preparation. *Famine in England* and *Disraeli and the New Age* by Lord Portsmouth and Sir R. George Stapledon respectively (both Vice-Presidents of the Association) are also available.

Communications should be sent to the Honorary Secretary of the Council, Montague Fordham, M.A.(Cantab.), F.R.Hist.S., F.R.Econ.S.

Scottish Development Council

425-27, Sauchiehall Street, Glasgow, C.2. *Telephone : Douglas 8372.*

President and Chairman of Executive : The Right Hon. THE EARL OF ELGIN AND KINCARDINE, Kt., C.M.G., LL.D.

THE Scottish Development Council, formed in May 1931, is a voluntary non-political organisation and was inaugurated under the auspices of the Convention of Royal Burghs and the Association of County Councils in Scotland in co-operation with leading industrialists and other prominent Scotsmen.

Its purpose is : To assist and stimulate enterprise in Scottish trade and industry generally and particularly to encourage the establishment of new industries and reciprocity of trade between Scotland and other countries.

Technical Committees have been constituted by the Council in collaboration with trade associations, universities, technical colleges, etc., to investigate and report upon many Scottish industries and matters affecting industries in Scotland.

Propaganda and publicity work has been and is carried out on behalf of Scotland through various channels, which includes the press, overseas broadcasting, and participation in exhibitions at home and abroad.

The Council's Industrial Information Department is at the service of industrial inquirers and provides details of sites and factories available in Scotland, particulars of available raw materials and finished articles, labour, transport, costs of water, gas, electricity, etc. Assistance is also given in finding markets for products.

Before the war the Council published a quarterly journal, *Scotland*, for general sale. This contained articles, photographs, etc., consistent with the objects of the Council. This has, however, been suspended during the war.

The Scottish Industrial Estates Ltd., Hillington, was formed with the financial assistance of the Commissioner for the Special Areas in Scotland, and modern factories on a rental basis were thus provided for the attractive accommodation of new industries.

The Empire Exhibition, Scotland 1938, was organised by the Council and attracted a total of over 13 million visitors, many of whom came from abroad.

In 1938 the Scottish Building Centre was inaugurated. The Building Centre combines a permanent exhibition of building materials and fittings of all kinds, together with a comprehensive information service, and is

open to the public. Manufacturers, architects and the building trade in general find the Building Centre to be of mutual benefit.

Current Activities. Despite wartime restrictions the Council has maintained active co-operation with the Scottish Council on industry regarding many questions of post-war planning and reconstruction. Assistance was given to many Scottish industries in their wartime difficulties and in their dealings with Government departments, and contact has been made with the many industries which have come to Scotland as a result of and during the war, to whom offers of help in dealing with post-war problems have been made and accepted.

Investigations into post-war problems which have been undertaken by the Scottish Development Council in conjunction with the Scottish Council on Industry include : The potential capacity of Scottish industry to produce the building materials and equipment required in connection with the post-war Scottish building programme of 50,000 houses per annum for 10 years ; the availability in Scotland of modern factory accommodation on a rental basis ; the future of the plastics industry in Scotland ; the future of the canning industry in Scotland ; the economic possibilities of the Highlands and Islands of Scotland ; and the nature of the new industries to be encouraged to develop in post-war Scotland.

The Council is financed by voluntary subscriptions from members and donations from associates, and membership is open to individuals, partnerships, institutions, limited liability companies, co-operative societies, local authorities and local development boards.

Inquiries should be sent to the Secretary and General Manager, W. C. Kirkwood, O.B.E., M.C.

Scottish National Housing and Town Planning Council

Town Clerk's Office, Port Glasgow, Renfrewshire. Telephone : Port Glasgow 49.
President : SIR WILLIAM E. WHYTE, O.B.E., F.R.S.E.

THE aims of the Council are to enlist the interest and support of local authorities and others in securing adequate housing of high standard throughout Scotland, and to encourage the preparation of town planning schemes ; to educate public opinion in these matters by conferences, lectures, exhibitions, competitions and otherwise ; and to represent Scottish opinion in relation to Government proposals dealing with housing and town planning.

The Council consists of representatives of the local authorities in Scotland, of the Incorporation of Architects in Scotland, of building employers and employees, and of such number from other organisations and co-opted persons interested in housing and town planning as the Council may from time to time decide. It meets annually in March, and holds an annual June conference. Special meetings are held as necessary.

From time to time the Council makes representations to the Secretary of State for Scotland and also to the Department of Health, with whom there is close collaboration. It co-operates with the National Housing and Town Planning Council for England and Wales in all matters of common concern. The general business of the Council is carried out by an Executive Committee, which meets frequently.

Inquiries should be sent to the Honorary Secretary, Robert Moore, B.L.

Society for the Protection of Ancient Buildings

55, Great Ormond Street, London, W.C.1. *Telephone : Holborn 2646.*
Chairman : The Right Hon. THE VISCOUNT ESHER, M.B.E.

THE Society for the Protection of Ancient Buildings was founded by William Morris as far back as 1877 when the crusade against thoughtless destruction and spoliation was commenced. Philip Webb, John Ruskin, Holman Hunt, Burne Jones, Thomas Carlyle and other distinguished men of that time formed the first Committee.

The function of the Society, as its title implies, is to preserve ancient buildings and to secure their repair and maintenance by giving specialised advice on their treatment. Not only does it deal with castles, cathedrals and churches, but with buildings of all kinds—cottages and manor houses, barns and dovecotes, windmills and bridges.

An additional function of the Society is to assist Borough and Town Councils with the making of surveys of the ancient buildings in their towns prior to the drawing up of their replanning schemes.

The latest Report of the Committee (June 1943) can be obtained from the Society, which places its long experience and special knowledge at the service of any who may desire it.

Inquiries should be sent to the Secretary, Mrs. H. C. Dance.

Society of Women Housing Managers

13, Suffolk Street, Pall Mall, London, S.W.1. *Telephone : Whitehall 2881.*
President : MRS. M. E. HILL, B.A., F.S.W.H.M.

THE Society of Women Housing Managers is the professional association of women housing managers trained in Octavia Hill principles, which recognise the interrelation of the social and business aspects of housing.

Students receive practical training in the offices of members and work for one of the following examinations : The Women Housing Managers'

Certificate of the Chartered Surveyors Institution ; the Professional Examination of the Chartered Surveyors Institution ; the B.Sc. Degree in Estate Management, University of London.

Members are employed by Government departments, local authorities, housing associations and private owners.

Further particulars can be obtained from the Secretary.

Timber Development Association

75, Cannon Street, London, E.C.4. *Telephone : City 6146.*

President : The Right Hon. THE EARL OF DUNMORE, V.C., D.S.O., M.V.O.

THE Timber Development Association was incorporated in 1934 as the result of discussion between members of the timber trade.

It is a non-trading organisation and, following upon its reorganisation in 1944, now has the full support of all members of the Timber Trade Federation, and of many allied industries with whom the Association is co-operating in the maintenance of timber supplies and the advancement of the scientific and economic utilisation of timber.

The primary objects for which the Association was established are as follows : (*a*) The promotion of the common interests of persons, firms, companies or associations of such, engaged in the production, exportation, shipping, importation, sale, distribution, manufacture, preservation and utilisation of wood ; (*b*) to make known the technical and economic advantages and methods of using wood for various purposes and to disseminate information on this subject among the general public, public authorities, architects, technicians, designers, the engineering, building and allied industries, manufacturers and other users or potential users of wood ; (*c*) the collection and dissemination of statistical and other information relating to the wood industry ; (*d*) to call attention to the uses of timber by means of advertisements, information, paragraphs and articles in journals reaching the general public, and in technical journals reaching the trades and professions referred to in (*b*) ; (*e*) the insertion of articles in standard works of reference for architects and others, and to prepare, print, publish, issue, acquire and circulate books, papers, periodicals, gazettes, circulars and other literary undertakings treating of, or bearing upon the timber trade or allied industries.

The Association is administered by a Council of 28, with the following Standing Committees : Finance and Planning ; Public Relations ; Education ; Timber Utilisation and Construction ; Statistics and Information.

The next link in the administrative chain is the system of Area Organisations, which covers the United Kingdom and Eire. The following is a list of these with their headquarters : Bristol Channel and South Wales (Bristol and Cardiff) ; East Anglia (Norwich) ; Hants and Dorset and South Coast (Southampton and Brighton) ; Humber District

(Hull) ; Midlands, North and East (Nottingham) ; Midlands, West (Coventry) ; North East Coast (Newcastle) ; Northern Ireland (Belfast) ; North Western (Liverpool) ; Scottish (Glasgow) ; Western Counties (Bridgwater) ; Southern Ireland (Dublin).

The work of the Association may be conveniently summarised under the following heads :

Technical Advisory Work. This is closely connected with advice to Government departments and local authorities, architects, engineers and consumers of timber in general and at present more than 500 inquiries a month are being dealt with.

Interest in the publications of the Association is world-wide and some 60,000 T.D.A. " Red Booklets " and other publications were distributed on request last year. The following Red Booklets are now available and may be obtained free from Headquarters, or from Area Organisations : *World Timber Supplies ; Prefabricated Timber Houses ; Fireproofing of Timber ; Home Grown Timber Trees ; Timbers of West Africa ; Chemical Seasoning of Timber ; Plywood in Wartime ; Stress Grading of Timber ; Timber ; Wood Flooring.* These publications are being constantly added to and a new and comprehensive series on *Timber as an Engineering Material* is in course of preparation.

Lectures. Lectures are given to architectural societies, technical and other schools, H.M. Forces and other associations representing consumer interests.

Libraries. There is a standard reference library at Headquarters which covers the world field of publications on timber production, distribution and utilisation, and there are branch reference libraries in all Area Organisations.

Films and Lantern Slides. These are available for lectures and other educational purposes.

British Standards Institution Committees. The T.D.A. is represented on all the B.S.I. Committees covering the utilisation of timber.

Research. The Association works very closely in touch with the Department of Scientific and Industrial Research and the Forest Products Research Laboratory at Princes Risborough and also has a reciprocal arrangement for the exchange of information on development of recent research with all the leading timber research stations abroad.

Educational. In addition to the Standing Committee of Education there is a National Education Advisory Committee comprising representatives from each Area, the Ministry of Education, the Association of Principals of Technical Institutions and the D.S.I.R.

In collaboration with the Ministry of Education, classes have been established in local technical colleges and schools of commerce throughout the country for the training of students from the age of 16 years upwards in timber technology.

The programme for 1945-46 includes a three-year timber course in some 30 technical colleges and schools and this is likely to be considerably extended as soon as it is possible to make suitable arrangements.

Inquiries should be sent to the Secretary, C. T. Tobutt.

Town and Country Planning Association

The Planning Centre, 28, King Street, Covent Garden, London, W.C.2.
Telephone : Temple Bar 5006.

President : The Right Hon. THE EARL OF LYTTON, G.C.S.I., G.C.I.E.

THE policy of the Association, since its inception in 1899 as the Garden Cities Association, has been to relieve the central congestion in the big industrial cities, not by adding further suburbs to the perimeters of the towns, nor by substituting vertical for horizontal congestion, but by building entirely new towns well away from the fringes of the congested cities, in which homes and gardens together with the necessary public open spaces, factories, offices, shops and public buildings of all kinds could be provided, and in which townspeople would have easy access to the surrounding countryside. Open country reserved for agriculture and recreation would prevent the sprawl of both the old cities and the new towns.

The Association devoted much attention to the first Garden City experiment at Letchworth in 1903 and later to the establishment of Welwyn Garden City which, under the personal initiative of Mr. (later Sir) Ebenezer Howard, constituted an outstanding example of the Garden City principle. The Barlow Royal Commission in 1940 unanimously recommended a State policy of decentralisation and dispersal of industry from the congested areas, and after the publication of the Report the planning movement generally began to accept the central issue outlined in the Association's policy. In 1941 the name was changed to the present title. Many of the principles consistently upheld by the Association were reinforced in both the Uthwatt and Scott Reports of 1942 and in the Report of the Scottish Housing Committee, and its general views were accepted in Reports of sub-committees of the Liberal, Labour and Conservative Parties.

In 1944 and early 1945 the Association welcomed the statement made by Ministers of the Coalition Government accepting in theory a dispersal planning policy based on the Barlow report, but concern was expressed that plans designed to deal with the urgent housing crisis completely ignored this new planning policy. Many cities, for example, were forced to acquire sites for housing estates in outer suburbs far from work-places, while others were trying to deal with rehousing by making plans for flats on central sites at excessively high densities. Neither of those solutions was, the Association suggested, in line with the accepted dispersal policy. In August 1945 representations were made to the Labour Government stressing the need for correlating both the temporary and permanent housing programmes with the dispersal policy, pointing out that town planning policy could not wait because the siting of the first houses would affect permanently the whole future of town and countryside. Recommendations made to the Government covered the following points :

Concerted operation of dispersal planning policy by departments concerned with planning, housing, building and factory location.

Sites to be publicly acquired for new towns and extensions of country towns as dispersal centres. Local authorities and public utility corporations to be empowered and financed to undertake development.

Ministry of Town and Country Planning to have similar powers for promoting provision of trading estates in satellite towns and country towns as Board of Trade has for Development Areas under the Distribution of Industry Act.

Full priority to be given for housing and factory building in the new communities.

Redevelopment of " blitzed " and " blighted " areas and cities to proceed with all speed at proper standards of density and open space.

Location of industry to be restricted in congested cities and encouraged in dispersal communities.

National compensation fund to be set up to make grants to local authorities for compensation to landowners : (*a*) for reduced values in decongested areas and (*b*) for reservation of country belts. To the extent that land is not nationally acquired, a betterment charge to be made where values are increased by shifts of population.

The Country Towns Committee of the Association (comprising representatives of typical country towns and areas) was active in keeping before the public the capacity of many of our smaller country towns to absorb some of the population and industry from the congested cities. This Committee stresses the need for the provision of better buildings for the arts, entertainment and recreation in the smaller towns.

A travelling Exhibition, *The English Town—Its Continuity and Development*, and the Exhibition *When We Build Again*, prepared in collaboration with Messrs. Cadbury Bros., are touring provincial centres. Regional conferences are held in many parts of the country. Meetings, film shows and exhibitions are held in London and the provinces, and information concerning all these activities can be obtained from the Secretary. The Association's premises at the Planning Centre include a meeting room for members and friends, a library and information service, a book department and exhibition space. *Town and Country Planning* is published quarterly.

Inquiries should be sent to the Association.

Town Planning Institute

10, Ashley Place, London, S.W.1. *Telephone : Victoria 1885.*
President : THOMAS SHARP, M.A., L.R.I.B.A.

THE Town Planning Institute is the technical body responsible for the practice of the profession of town and country planning. Its objects are set out in the Memorandum of Association and the first three are as follows : To advance the study of town planning, civic design and kindred subjects, and of the arts and sciences as applied to those subjects ; to promote the artistic and scientific development of towns and cities ; to

secure the association, and to promote the general interests of those engaged or interested in the practice of town planning.

The membership consists of the technical classes of Members and Associate Members and the law classes of Legal Members and Legal Associate Members. Entrance is by examination plus a period of practical experience. There are also Honorary Members, Honorary Associates and Honorary Corresponding Members. Suitably qualified persons who intend to proceed with the examinations may be enrolled as Students. Membership is not restricted to British subjects.

The work and importance of the Institute has steadily increased and since the setting up of the Ministry of Town and Country Planning the volume of inquiries received from persons in this country as well as overseas, including those in the Forces, and from other organisations, indicates the realisation of the importance of town and country planning in its relation to physical reconstruction throughout the world.

The Final examination is conducted by the Town Planning Joint Examination Board which comprises representatives of the Institute, the Royal Institute of British Architects, the Chartered Surveyors Institution and the Institution of Municipal and County Engineers. The Board is also the examining body for the Town Planning Diploma or equivalent examination of these constituent Institutions. A uniform standard of qualification for those practising the profession is therefore secured. In 1945 the number of candidates taking the Institute examinations in this country and abroad exceeded that of any previous year.

There are courses in Town and Country Planning recognised by the Institute at several universities and schools in various parts of the country. Students who hold the Town Planning Diploma are exempt from the Institute examinations and are eligible for Associate Membership subject to satisfying the Council on their practical town planning experience, in the same way as those who pass the Final examination.

The Institute has approved the conditions and syllabus for a Special Three-Months' Completion Course for ex-service candidates holding the necessary qualifications. This course will be conducted at the various recognised schools and will be available for recipients of a Government grant.

The War Office Correspondence Course in Town and Country Planning, prepared in conjunction with the School of Planning and Research for Regional Development, is being taken by many members of the Services. It not only provides preparation for the Intermediate examination, but entitles those who hold the requisite qualifications and who satisfy the Directorate of Studies to apply for admission to the Special Three-months' Completion Course. To assist Service candidates further the Institute has agreed to recognise success in the Forces Preliminary Examination as evidence of a satisfactory standard of general education for entrants for the Intermediate examination.

The Institute has a number of branches in England and also Scottish, Welsh, and Irish branches, where meetings are held for the discussion of papers of technical interest, etc. There is also a branch in South Africa.

The Summer School, which has proved very popular, has been resumed and was held in 1943 at Birmingham ; in 1944 at St. Andrews ; and in

1945 at Bristol. The *Reports of the Proceedings* of these Schools are obtainable from the Institute.

Publications. The Institute publishes a *Journal* which includes papers read at Institute meetings and discussions and articles of topical planning interest, as well as commentaries on current planning events in various parts of the world. Among Reports which have been prepared and published during the past few years and which have had a considerable bearing on the recent evolution of thought are those on *National Survey and National Planning; Compensation and Betterment;* and *Town and Country Planning; Amending Legislation;* copies of which can be obtained from the Institute.

The Institute has given evidence before Government commissions and committees and has made representations to the Government in regard to various Bills.

The Secretary is Alfred R. Potter.

West Midland Group on Post-War Reconstruction and Planning

Estate Office, Bournville, Birmingham, 30. *Telephone: King's Norton 1171.*

Chairman: DR. RAYMOND E. PRIESTLEY, M.C., M.A.

THIS Group is a voluntary research body, founded in 1941, engaged primarily in the study of factors upon which the reconstruction and planning of the West Midland Region should be based.

An adequate research staff is maintained, some members of which are connected with the University of Birmingham. The Research programme embraces a study of physical background, surface utilisation, industrial and economic structure, planning of towns and villages, communications and public utilities, social services, places of natural beauty and recreational facilities. A special study has been made of the control of land in relation to planning and of the administrative and financial problems connected therewith and a Report has already been published.

A comprehensive survey of the county of Hereford hearing the title *English County* has recently been published.

Research is now concentrated upon the Birmingham Black Country "conurbation," one of the problem areas of the country. Sectional Reports by Sub-Committees have been prepared on a large number of subjects which have to be taken into account in the replanning of this heavily industrialised area. These Reports are now being correlated with a view to the publication of a planning Report in the near future.

The Group has paid special attention to classification of agricultural land in the whole region. Its study of the five counties is completed and a report and maps dealing with these will be published.

Inquiries should be sent to the Secretary.

Workers Travel Association

34-36, Gillingham Street, London, S.W.1. *Telephone : Victoria 5086.*

President : J. W. BOWEN, C.B.E., J.P.

THE aim of the Workers Travel Association is more and better holiday centres for the rapidly growing number of people who are now able to take holidays away from home.

The Workers Travel Association Ltd. was founded in 1922 and is registered under the Industrial and Provident Societies Acts. Surplus funds are directed towards improving and extending the service offered to the public.

The Association is a complete tourist and travel agency catering for holidays in the home country and abroad. In the United Kingdom it has established a number of permanent holiday centres in suitably adapted country houses, some in coastal districts, some inland, with accommodation for 50-100 guests.

The W.T.A., to provide additional holdiay accommodation for these small groups, is acquiring further properties of the kind, where a complete holiday with every possible indoor and outdoor facility for rest and recreation and a friendly community life can be provided. By this means, buildings of architectural and other interest are being preserved and put to good use. Special attention is given to interior decoration and to the design of furniture and fabrics.

Before the war, chiefly because of the introduction of holidays with pay, the number of holiday makers was steadily increasing and holiday camps became popular. A number of camps were built, generally on the coast, in or near existing resorts, some of which were on a large scale. While convinced that it must keep abreast of this development, the Workers Travel Association took, and still holds, the view that, for its clientèle, camps with accommodation not exceeding 500 each would probably prove most suitable. In 1938, in association with the Co-operative Wholesale Society, the Workers Travel Association built and opened at Corton, near Lowestoft, its first holiday camp, known as Rogerson Hall, with accommodation for 360. This camp is to be extended to accommodate 500. In addition a new camp, with accommodation for 500, was acquired at Westward Ho ! and a site purchased for another near Weston-super-Mare. The outbreak of war prevented further progress with these and a number of other developments which would have followed.

More holiday centres will be built to cater for the post-war holiday demand. If they are planned and developed without skilled direction, the ill-considered building which already litters the countryside will be further increased. As far as its own developments are concerned, the Association is anxious to avoid inappropriate siting and building. As a preliminary to the planning and development of the schemes which it hopes to sponsor as soon as building can be resumed, it desires at once to focus attention on the planning problems and to stimulate and encourage

study and research. The Association therefore decided to invite architects to submit, in competition, designs for two holiday centres, one on the coast and the other inland, and appointed Sir Patrick Abercrombie, M.A., F.R.I.B.A., Mr. J. H. Forshaw, M.C., M.A., F.R.I.B.A., and Mr. C. G. Kemp, A.R.I.B.A., to advise them on the conduct of the competition, to act as their assessors, to adjudicate on the whole of the designs submitted, and to make the awards.

The premiums offered were two firsts of £250 each and two seconds of £100 each. The closing date for entries was 31st March, 1946.

Officially Appointed Committees and Reports

ROYAL COMMISSION ON THE DISTRIBUTION OF THE INDUSTRIAL POPULATION

Chairman : The Right Hon. Sir Montague Barlow, Bt.
Commissioners : Sir William Arthur Robinson, Sir Francis L'Estrange Joseph, Sir William Edward Whyte, Prof. Leslie Patrick Abercrombie, Francis D'Arcy Cooper, Mrs. Hermione Hichens, Mrs. Margaret Neville Hill, Prof. J. Harry Jones, George Parker Morris, Sydney Arthur Smith, George Walker Thomson, Herbert Henry Elvin

Terms of Reference
To inquire into the causes which have influenced the present geographical distribution of the industrial population of Great Britain and the probable direction of any change in that distribution in the future ; to consider what social, economic or strategical disadvantages arise from the concentration of industries or of the industrial population in large towns or in particular areas of the country ; and to report what remedial measures if any should be taken in the national interest.

The Barlow Report (1940) recommends positive national action to remedy the social, economic and strategical disadvantages associated with the large industrial concentrations, by a policy based on " redevelopment, decentralisation and dispersal "; the encouragement of a reasonable balance of industrial development together with appropriate diversification of industry in each region ; the setting up of a central authority, national in scope and character, whose activities should be distinct from and extend beyond those of any existing Government department ; and immediate attention to the social, economic and strategical problems arising from the drift of the industrial population to London and the Home Counties.

The Report advocates the formulation by the central authority of a policy on the decentralisation or dispersal from congested urban areas, in connection with (*a*) the selection of areas for such action ; and (*b*) the methods to be adopted and the limitations on their application.

The time factor is stressed and it is urged that municipalities should be encouraged to undertake such development (without excluding private enterprise) on a regional rather than a municipal basis, with financial assistance from Government funds.

The central authority should have the right to inspect all existing and future planning schemes under current Town and Country Planning legislation and to consider, in co-operation with the Government departments concerned, modifications or correlation of plans in the national interest. The appointment of a body of experts to examine questions of compensation, betterment and development generally is also recommended.

The central authority should study the location of industry with a view to anticipating depressions and encouraging the development of other industries or public undertakings.

The majority of the Commissioners recommend that the authority

set up should be a new national authority, in the form of a Board, established by statute, to study, advise upon, and regulate the location of industry. It should comprise a chairman and three other members of experience in industry and business to be appointed by the President of the Board of Trade, in consultation with the Ministers of Health, Labour and Transport, and the Secretary of State for Scotland. The chairman should be a whole-time salaried official.

The Board should collect and co-ordinate information concerning the location of industry from the various Government departments ; carry out research into the various national resources that may be affected by industrial location ; advise government, local authorities and industrialists on problems of industrial location; and look after publicity and the issue of annual reports.

It should prepare for the President of the Board of Trade a special report on any further powers it may need to enable it to give effect to its objectives of national action associated with redevelopment, decentralisation or dispersal and encouragement of a reasonable balance of industrial development. At the outset the Board should have powers to regulate or refuse the establishment, within the area of London and the Home Counties, of additional industries ; to attach conditions where consent is given ; to impose suitable penalties where its decisions are ignored ; and to hold public inquiries.

COMMITTEE ON LAND UTILISATION IN RURAL AREAS

Chairman : The Rt. Hon. Lord Justice Scott, P.C.
Vice-Chairman : L. Dudley Stamp, D.Sc., B.A.
Members : Robert Cobb, P.P.S.I., J.P. ; H. S. Cooper, F.C.A. ; The Lady Denham, D.B.E. ; Prof. S. R. Dennison, M.A. ; Mrs. Hermione Hichens, A.R.R.C., J.P. ; A. E. Monks, J.P. ; the Rt. Hon. the Earl of Radnor ; R. Hugh Roberts ; Philip Robinson ; R. Alec Ward
Joint Secretaries : Thomas Sharp, B. C. Engholm

Terms of Reference

To consider the conditions which should govern building and other constructional development in country areas consistently with the maintenance of agriculture, and in particular the factors affecting the location of industry, having regard to economic operation, part-time and seasonal employment, the well-being of rural communities and the preservation of rural amenities.

The Scott Report (1942) recommends that all land should be planned nationally and locally, and a considerable section of the Report deals with the proposed central planning authority. A distinction is made between planning and development, and it is stated that the true function of planning is the co-ordination, regulation and, where necessary, prohibition of the various types and units of development ; this should be the concern of the planning body within the Government, while development, *i.e.*, all changes in the use of land, should be the concern of the separate Ministries and of the appropriate local authorities.

Recommendations affecting local planning are that it should be compulsory ; that the unit should be the county or county borough and its surrounding area, or a combination of local government units comparable in area, resources or importance ; that qualified personnel should be employed ; that local planning schemes when approved should be

a complete code of enactments affecting both the development of the land and the functions of the statutory authorities within the area concerned ; and that all local planning schemes actually in operation or awaiting approval must be reviewed. Further proposals are : compulsory co-ordination of local plans ; freedom from restrictions due to liability for compensation in the zoning of agricultural land ; freedom from bearing the expense of an assigned part of a national plan ; and the setting up of a regional organisation by the central planning commission, which should also have a special Welsh Department presided over by a Welsh Commissioner.

Procedure similar to that adopted under the Town and Country Planning Act 1932, strengthened locally and by the superimposition of national planning, is considered the best method of controlling land use in country areas. Land zones, such as national forests and national parks, should be delimited nationally, and emphasis is laid on the need to plan for all considerations affecting land use, especially for agriculture in rural areas. It should be obligatory to obtain the consent of the local planning authority before any constructional development is allowed during the interim period, and all such cases should be considered by the regional officers, with adequate provision for appeals.

Powers of compulsory acquisition of agricultural land by the State where required in the national interest, and compulsory registration of title of land, are recommended.

The improvement of rural housing is considered to be essential. It is suggested that new houses should be built so as readily to receive gas, water and electric services even if these are not immediately available. The rating assessment position needs Government consideration, while the condition of all rural dwellings should be investigated ; restorations in harmony with traditional local design, with a big building programme after the war, are proposed. Rural housing designs should be subject to approval for plans and elevations as well as materials. Women should be appointed to all housing committees of local authorities. Reduction of the number of tied cottages to the minimum, and a sufficient supply of untied cottages to house at least the agricultural workers, are urged. All agricultural buildings should be brought under planning control.

Close collaboration with the Ministry of Agriculture is stressed. Planning recommendations affecting housing in country areas include : reservation of tracts of good soil near towns and villages for open spaces, market gardens and allotments ; provision for pig- and poultry-keeping and other rural occupations by town dwellers ; delimitation of " green belts " ; surveys of agriculture, soil and land classification round each urban area ; siting of housing away from the better farm land wherever practicable ; control of sporadic building in villages and rural areas ; planning of new villages and extension in compact forms and away from but with access to main traffic roads ; and the use of new materials and building techniques while retaining harmony with the environment.

As regards industry, the Committee considers that the introduction of carefully regulated industry into country towns would be beneficial ; but, before new towns are established, vacant or derelict industrial sites in existing towns should be fully utilised. Control of extractive in-

dustries is urged, with compulsory restoration of the land by those working the mineral, the technical question of machinery forming the subject of immediate investigation. Provision for the treatment, where economically feasible, of land rendered derelict through subsidence, and a special investigation of derelict or decaying mining areas, should be made. A review of the future use of war factories established in the countryside is needed as soon as possible. Light industries, when introduced to the countryside, should be located in existing or new small towns. Strict control of siting and the appearance of public utility undertakings, and of the location of " noxious industries," is recommended. Rural trades and crafts should continue to be sited in small towns or villages and should be encouraged. Finally, a special study is needed of the problem of providing seasonal or part-time employment for agricultural workers and their families.

With reference to services, national planning control and the extension to rural areas of gas, water and electricity supplies are urged.

Plans for the removal of temporary defence works should be drawn up, while the central planning authority should settle the future use of Service aerodromes which can be disposed of, while the siting and building of civil aerodromes should be controlled.

Other recommendations deal with examination of the position regarding wayleaves ; a permanent advisory committee on village life and institutions ; provision of playing-fields for villages ; extension of afforestation on poor land, the establishment of foresters' part-time holdings and national forest parks, proper management of woodland, and planting of trees and shrubs in housing development ; regulated facility of access to the countryside, recording and signposting of all rights of way with regulation of their use, and extension of footpaths, *e.g.*, round the whole coastline ; delimitation of national parks and the setting up of a national parks authority ; records of common lands, safeguarding of public rights of access and commoners' rights and the upkeep of commons ; delimitation of nature reservations ; further provision of holiday camps, subject to planning control of siting and design ; greater co-ordination and collaboration between planning, highway and agricultural authorities in road construction, planning control of railways, a new plan of trunk highways, elimination of level crossings on important roads and rebuilding of old bridges ; regulation of petrol stations and other wayside constructions ; and special consideration to the question of cemeteries.

Maps on a scale of 1 : 25,000 should be made available for planning purposes, and adequate funds provided to the Ordnance Survey for this purpose.

Comprehensive schemes of training for planners and architects should be drawn up by universities, colleges and professional institutions.

In conclusion, the Committee recommends the formulation of a definite five-year plan, to operate from the time the war ends. Before then, it will be necessary to pass the requisite legislation, and to record the information needed statistically and cartographically. Within five years the following should be completed : town and country planning schemes covering the whole country ; a definite number of houses for rural workers ; a full survey of all villages and hamlets ; programmes for electricity, water and gas ; the national park scheme with hostels, etc., in working order ;

the determination and signposting of all footpaths and bridle-paths ; rules, if any, for the control of access to the countryside, the use of commons and of highways and other rights of way ; elimination of unsightly advertisements, petrol stations, etc. ; the registration of title ; the continuous progress of the educational campaign.

It is considered that such a plan should take account of the problems of Scotland also, whatever degrees of autonomy that country may have within the scheme.

In a minority report, Professor Dennison makes the following alternative recommendations : all land in the countryside should be included in planning schemes, and no interests of national importance should be excluded from the aims of planning ; it should not be accepted as a necessary principle that construction in the countryside must be prevented in order to maintain agriculture, to preserve rural communities, or to preserve amenities ; some measure of introducing industry into the countryside should be encouraged as part of the dispersal of existing concentrations ; the needs of agriculture should be met through the normal machinery of planning schemes and not given any prior rights ; construction for statutory undertakings, road developments, and all Government construction, should be subject to planning control ; planning schemes should make adequate provision for control over design and siting of all construction in the countryside, with care not to create too rigorous standards of design ; the special needs of agricultural workers should be taken into account in any post-war housing schemes.

EXPERT COMMITTEE ON COMPENSATION AND BETTERMENT

Chairman : The Hon. Mr. Justice Uthwatt
Members : James Barr (Vice-President of the Chartered Surveyors Institution) ; C. Gerald Eve (Past President of the Chartered Surveyors Institution) ; Raymond Evershed, K.C.
Secretary : H. F. Williams
Assistant Secretary : F. Schaffer

Terms of Reference

To make an objective analysis of the subject of the payment of compensation and recovery of betterment in respect of public control of the use of land ; to advise, as a matter of urgency, what steps should be taken now or before the end of the war to prevent the work of reconstruction thereafter being prejudiced. In this connection the Committee are asked to consider (a) possible means of stabilising the value of land required for development or redevelopment, and (b) any extension or modification of powers to enable such land to be acquired by the public on an equitable basis ; to examine the merits and demerits of the methods considered ; and to advise what alterations of the existing law would be necessary to enable them to be adopted.

An Interim Report (June 1941) recommended that the Government should forthwith declare that compensation in respect of public acquisition or public control of land would not exceed sums based on the standard of values at March 31, 1939, and that steps should be taken at an early date to set up a central planning authority which should have power to control building and all other development throughout the country with a view to preventing the undertaking of any work which might be prejudicial to reconstruction.

The Final Report was published in September 1942. The Committee

worked on the assumption that national planning was to be a reality, controlled and initiated by a central planning authority. It is suggested that there should be a minister of national development, free from departmental cares ; the actual administration of planning and of the " development rights scheme " might be delegated to a commission analogous to the War Damage Commission, with a permanent chairman.

Recommendations deal separately with developed and undeveloped land. It is maintained that the rights of development in all land (with certain exceptions), lying outside built-up areas, should be immediately vested in the State, with payment of fair compensation. This should be secured by a prohibition against development otherwise than with consent of the State, with the grant of compulsory powers of acquiring the land when wanted for public purposes or approved private development.

With reference to developed land, legislation to secure interim control of development should be passed immediately. The planning authority should be given power to purchase compulsorily the whole of " reconstruction areas," *i.e.*, areas which need redevelopment as a whole, and all publicly owned land should be disposed of only by lease. Powers of compulsory purchase should also be available in the following cases : before a planning scheme is in operation ; where development or redevelopment in accordance with a scheme is held up ; for development or redevelopment by the public authority itself where this is essential to accelerate the carrying out of a scheme ; and where a public authority needs to enforce adjustments that are required in the interests of good planning in respect of boundaries and easements as between particular properties. Local authorities should also be empowered to acquire land in advance of requirements, compulsorily as well as by agreement, without qualifications specifying purpose or time, and for the purposes of reinstatement and recoupment.

The proposed procedure for obtaining and exercising compulsory powers of acquisition is designed so that legal matters are separately treated, and do not delay the work of the authority. Provision is made for acquisition from persons under disability, and from statutory undertakers.

Proposals are made for the assessment of compensation on compulsory purchase of land and for injurious affection. Market value continues to be the basis of assessment, but any increased value or element of value resulting from the public demand is eliminated. Other proposals deal with the nature of arbitration proceedings, and the assessment of compensation for houses not conforming with modern standards. With reference to compensation for planning restrictions in relation to the 1932 Act, it is suggested that the power of the Minister to approve provisions in planning schemes excluding compensation should be general. This power should be subject to certain general directions. Power to exclude compensation should only be limited in respect of permanent reservations against building ; prescription of building lines ; existing buildings and uses within the provisions of Section 19(2) (11), and mineral working. Provisions giving an unqualified right to maintenance, replacement, extension and use of buildings, even if out of conformity with a planning scheme, unless

compensation is paid, should be modified, and power given to place a "life" on "non-conforming" buildings and uses; compensation payable should then be assessed by reference to the remainder of the "life" still outstanding. Redrafting of the compensation provisions of the Restriction of Ribbon Development Act 1935 is also proposed.

With reference to betterment, it is stated that local authorities should be given general powers to buy land compulsorily for recoupment purposes (with the sanction of the central planning authority). All statutory provisions for set-off against compensation should cease to operate (except where they relate to increases in the value of undeveloped land outside town areas), from the date of establishment by Act of Parliament of the scheme for a periodic levy on increases in annual site values. Failing acceptance of this scheme, the Committee proposes the insertion in the Acquisition of Land (Assessment of Compensation) Act 1919 of a general provision for setting off betterment against compensation payable on compulsory acquisition. Betterment should be recovered by direct charge in the form of a periodic levy on increases in the annual site value; site values should be ascertained quinquenially, by the machinery used for rating purposes, and 75 per cent. of the increase should be levied upon and paid by the person benefiting by the increased value.

REPORT ON COMMUNITY CENTRES

(Ministry of Education)

The Report, published in 1945, was prepared by officers of the Ministry of Education, in accordance with the decision that community centres should come within the scope of the education service administered by local education authorities.

The intention is to establish, in both town and country, conveniently situated centres, to which all could afford to belong, and which would do much to weld housing neighbourhoods into socially conscious communities. Although in the past such experimental centres have been established as a social palliative in poor and depressed areas, it is felt that the community centre should be regarded as an essential amenity of a normal community living in normal circumstances.

The planning of a community centre will vary according to the type of district and the nature of the population it is intended to serve. In considering rural areas, it is felt that the first need is for village halls in villages of over 400 inhabitants, though a village college may supplement their resources for selective activities, and would also serve as the community centre for its own village and be linked with the surrounding village life by containing the secondary school. The Report favours the linking of the village hall and school. In the case of newly developed urban and suburban areas, it is thought that in an established community the first need is for premises, but that in a new community there is also need for a social worker, and that in general the centre should be built by instalments in pace with the demand for it. In established urban areas, it is felt that for a population of 15,000 to 20,000 the community

centre should be capable of accommodating about 500 people, so that a number of activities may be carried on simultaneously, while smaller subsidiary branch centres may be set up.

It is suggested that on a large new housing estate one of the ordinary houses might be set aside as a hostel for resident social workers.

The Report states that the present shortage of premises suitable for community activities cannot be made good under the existing system of provision. It is believed that the community centre should be an essential part of the educational services of the locality, and should, therefore, be the responsibility of the local education authority. As a first step, local education authorities should survey the needs of their respective areas with a view to including proposals for the provision of community centres in the schemes of further education. The local education authority will thus normally provide the new buildings needed, but individual housing authorities should remain at liberty to exercise their existing powers to promote centres in connection with new housing schemes. There should be consultation between the two authorities where necessary before a housing authority proceeds, and co-operation should be secured by suitable administrative arrangements to be settled between the Ministers of Health and Education. Where an existing centre is provided through or by a voluntary organisation, it should be possible for the local education authority to agree upon a satisfactory working solution with the governing body.

With reference to maintenance, it is suggested that members of the centre should make the maximum contribution compatible with the general standard of their incomes towards meeting the cost of maintaining the centre. The establishment of a local management committee for each centre is recommended.

It is stated that new housing estates and villages are most in need of community facilities. After these, the best order of priority can only be determined by investigation of local conditions. In making the requisite surveys, local authorities should consider methods by which provision already made by voluntary bodies and by the Miners' Welfare Commission can be integrated with any further provision which may still be needed and for which the local education authority proposes to make itself responsible. Area organisers of social and recreative centres should be appointed, and regional co-operation between local education authorities should be encouraged.

With reference to planning and accommodation, it is suggested that to make provision for a neighbourhood population of 5,000 to 10,000 the centre should include a large hall, with stage and dressing rooms, a gymnasium, a small all-purpose hall, a large common room, kitchen, two large craft rooms with stoves, games rooms, three quiet rooms, a library and reading room, accommodation for the warden, entrance hall, lavatories, cloakrooms, passages, heating-chamber, cycle accommodation, etc. It is suggested that in view of the cost and the lack of existing buildings, the method of dual provision should be fully explored. Thus the community centre could be combined with the youth centre (planned so that part of the accommodation could be reserved for adults and part for young people), and with the school (if part of the accommodation is planned for adult use), while it is felt that there is much to be said for

linking up school, youth work and community centre activities, particularly on a new housing estate. The only part of the primary school which can be conveniently used is the hall, but in the post-primary school the use of classrooms should be avoided. The appendix includes suggested plans for new community centres in combination with post-primary schools and youth centres. A suggested arrangement is the inclusion of a large hall, dining room and kitchen as part of the community centre block, to be used by the school during daytime. For rural areas, details are based on the model of the village colleges in Cambridgeshire, while in small towns it is suggested that the county college might be used for community centre and youth centre purposes. It is stated that whenever a new secondary school or college for further education is to be built, provision for a joint community and youth centre should be considered, as should opportunities for the conversion of large houses and factory buildings.

S.O. Code No. 27-263.

COMMITTEE OF INQUIRY INTO THE GAS INDUSTRY (Heyworth)

(Ministry of Fuel and Power)

Chairman : Geoffrey Heyworth
Members : Stuart Cooper, M.C., F.C.A. ; Sir Jonathan R. Davidson, C.M.G., M.Sc., M.Inst.C.E. ; Gavin Martin ; Professor D. M. Newitt, M.C., F.R.S.
Secretary : A. F. James

Terms of Reference

To review the structure and organisation of the gas industry ; to advise what changes have now become necessary in order to develop and cheapen gas supplies to all types of consumers ; and to make recommendations.

The Report, presented in December 1945, begins with an historical survey of the gas industry, in which it is noted that the Government has, during the war, exercised control over the selling price of gas, building and engineering work carried out by gas undertakings ; the extension of gas services, and the amalgamation and change of ownership of undertakings.

The second Section is devoted to an examination of the structure and state of the industry today, covering technical aspects, sales and service, finance, personnel, and research and development.

The third Section is concerned with an examination of the adequacy of the existing statutory requirements in regard to gas quality and the sale of gas by meter ; and technical recommendations are made.

The fourth Section contains an analysis of the factors affecting the future of the industry. A detailed examination of the domestic load of the industry is impossible because of lack of statistics, but the Committee believes that a decrease in the cooking load, which is about one half of the total load of the industry, is possible, while the most favourable prospect lies in the development of intermittent water-heating, but this development will be uneven over the country and during the year. Great importance is attached to organising the industry in such a way that it can develop a really effective sales policy. A reduction in the

public lighting load is anticipated, while it is thought that after the inevitable decrease of the industrial load in the immediate post-war period, there will be a recovery. In general the Committee forecasts that in ten years' time the industry will have increased its sales to at least 20 per cent. above the present level provided that it is reorganised and full employment is assured. The technological changes which may arise out of the application of the results of investigations now being made are considered, in connection with production, distribution, utilisation and by-products.

These considerations lead the Committee to conclude that, within the limits of the existing structure, the industry today is reasonably efficient, but that the existing structure restricts further progress, and the Committee believes that a basic change in the structure of the industry is the only approach that can produce effective results quickly. The proposed solution, of grouping into larger units, is also the view of the industry, and has the objects of further reducing production costs ; improving labour conditions ; reducing capital charges ; more intensive study of distribution problems ; further concentration on sales policy ; greater concentration of development of "fringe" and rural areas ; further extension of coke grading and selling effort ; and expansion of research and its application. It is pointed out, however, that the mere formation of such groups will not of itself achieve improvement but can only provide the opportunity. The Committee states that the form of the new units should be determined by the attraction of personnel equal in executive and administrative qualities to those of the other fuel industries ; efficiency of management ; free competition with other fuel industries ; and a capital structure which does not handicap them competitively and enables them to obtain new capital on attractive terms.

The proposed structure is designed with the objects of giving maximum opportunity for further development of the industry, and of providing a sound and practical basis for its realisation. Compulsory purchase of all existing undertakings is recommended, independent machinery being set up to determine fair compensation. The country should be divided into ten regions, in each of which a regional Board would take over all undertakings. Each Board would consist of a chairman and six directors, the latter being appointed by the Minister of Fuel and Power (assisted by a Gas Personnel Advisory Board) for initial periods of five years. The chairman and three directors should be full-time working directors. The remuneration of the Boards should be fixed by the Minister and be comparable with that for similar responsibility in industry. The Boards would themselves choose and organise other personnel.

Capital would be wholly in fixed-interest form, guaranteed by Government for a commission of one quarter per cent. to be paid by the Boards, while all new capital issues should be approved by the Minister of Fuel and Power.

The Proposed terms of reference for the Boards are :

(*a*) *To promote the maximum development of gas in their regions in accordance with the best commercial practice. Policy to be directed to serving equitably all areas and interests within the Regions—usual cost and commercial considerations to govern price differentials ;* (*b*) *to fix prices to recover under all normal conditions all expenses, the full interest on capital outstanding and a commission of one*

quarter per cent. per annum to Government; (c) not to attempt to accumulate reserves (other than depreciation reserves); (d) to recognise that it is the agreed intention of the Boards and Government that the guarantee should be called upon on occasion.

The Boards would publish annually accounts, statistics and reports on operations. Capital asset accounts would be set up by valuation on a common basis, and provision for depreciation and obsolescence would be charged on the basis of a schedule of rates laid down by the Minister of Fuel and Power.

The Committee also recommends the setting up of a Central Research Establishment, to be maintained by a levy on gas sales, and proposes that the scope of technological research should be interpreted in the broadest sense.

The Boards should be responsible for implementing the recommendations relating to gas quality, gas testing and meter testing.

Finally, it is suggested that the plan should be reviewed at the end of ten years.

Cmd. Paper No. 6699.

PANEL ON THE SEVERN BARRAGE SCHEME

(Ministry of Fuel and Power)

Members : A. G. Vaughan-Lee, M.Inst.C.E.; Sir William Halcrow, M.Inst.C.E.; S. B. Donkin, M.Inst.C.E., M.I.Mech.E., M.I.E.E.

Terms of Reference

To review the conclusions of the Severn Barrage committee in the light of later engineering experience and practice and of other developments, and to suggest what modifications, if any, should be made in the proposed scheme, in the programme for its execution and in the estimates of costs.

The Report, published in 1945, states that in order to comply with the terms of reference previous Reports were studied. A brief description is given of the 1933 Barrage Scheme, together with the main features and modifications of conditions prevailing in 1933. Pumped storage possibilities, dredging, consideration of features other than power development, character of barrage output and methods of utilisation, barrage generating plant, and gross and net electrical energy available, sub-stations and transmission systems, and costings are some of the topics considered.

The main conclusions and recommendations include the fact that the best site for the barrage is at the " English Stones." Single-tide working, generating power on falling tide only, is considered to be the most suitable; the maximum power available of spring tides will be about 800,000 kilowatts. The average output of energy at the barrage sub-stations will be 2,190 million kilowatt-hours. At the reception points it will be 2,107 million kilowatt-hours during the first 15 years, and 2,207 million kilowatt-hours afterwards. In the view of the Panel road and rail crossings should be treated independently of the power scheme.

It is estimated that an average annual saving in coal for the first 15 years of operation will be 985,000 tons.

The Panel is of the opinion that the scheme is practicable and

economically justifiable. It could be completed in eight years, and would give employment for an average yearly total of 10,855 men.

Relevant graphs, statistics and diagrams are included in the form of appendices, together with a coloured plan of the proposed work.

TECHNICAL ADVISORY COMMITTEE ON COALMINING

(Ministry of Fuel and Power)

Chairman : Charles C. Reid, J.P., M.I.Min.E. (Director of Production, Ministry of Fuel and Power, formerly General Manager and Director, Fife Coal Company. Ltd.)
Members : Herbert J. Crofts, M.I.Min.E., M.Inst.C.E., F.G.S. (Group Production Director, Midland Region, Ministry of Fuel and Power, formerly Joint Managing Director, Chatterley-Whitfield Collieries Ltd.); Douglas A. Hann (Director of Production, Powell Duffryn Ltd.); John Hunter, M.I.Min.E. (Managing Director, Doncaster Amalgamated Collieries, Ltd.); Austin Kirkup, M.I.Min.E. (Joint Managing Director, Lambton Hetton and Joicey Collieries Ltd.); James A. Nimmo, B.A., B.Sc., M.I.Min.E. (Regional Production Director, Northern "A" Region, Ministry of Fuel and Power, formerly General Manager (Mining), Workington Branch, United Steel Companies Ltd.); H. Watson Smith, J.P., M.I.Min.E., M.I. Amer.Min.E., M.Inst.C.E., F.G.S. (Managing Director, Hardwick Colliery Company, Ltd.)
Technical Secretary : Richard Crawford (Ministry of Fuel and Power)

Terms of Reference

To examine the present technique of coal production from coal face to wagon, and to advise what technical changes are necessary in order to bring the industry to a state of full technical efficiency.

The Report, published in March 1945, stresses the fact that the Committee undertook the task in the capacity of mining engineers. All conclusions and recommendations are formulated from that particular professional viewpoint. Any systems or methods which have fallen short of the best practice known to the members of the Committee have been condemned, whilst it is also emphasised that the broad recommendations will require modification to meet certain local conditions.

The first section of the Report is mainly historical. Comparison is made between the coal industry of Britain and of the United States of America, the German Ruhr, Poland and Holland, and accompanied by tabulated statistical data showing the average output per man shift over the period 1925-38. A reason put forward to account for the lower output in British mines as compared with German or Dutch mines is the use of traditional haulage systems as compared with locomotive haulage. Amongst other conclusions drawn is the fact that continental industries have been able to command adequate financial resources with which to carry out technical improvements and consequently have been free from financial embarrassment. It is also stressed that, whereas in Britain ownership is widely dispersed, the grouping of mines under the same ownership on the continent has facilitated the closing down of unproductive mines and concentration on the remaining productive shafts.

The second part of the Report is technical, dealing with topics such as the systems of mining coal, methods of winning coal, special requirements for power loading, and underground transport of both coal and men. It is proposed that the intensive Room-and-Pillar system of mining

should receive first choice, with the Longwall Retreating system as second choice, and that Longwall Advancing should only be used where neither of the first named systems can be applied. It is believed that there is scope for extension in the use of the pneumatic pick where hand-getting is now practised, but the coal-cutter will provide the basis for mechanised getting and loading; some standardisation and replacement of obsolete machines are advocated. The Committee stresses the importance of mechanical loaders, and of machines which simultaneously cut and load the coal. Power-loading will require the payment of extra attention to such factors as drilling and shot-firing, types of support, and conveyors.

In connection with the support of workings underground, the Committee's suggestions include the use of steel supports, investigation of the question of mechanised stowing, greater attention to support and packing, co-ordinated research on practical problems of roof control, and better technical supervision and improved training of the under-officials and workmen. Revolutionary changes are proposed in the traditional British haulage practices, and include the adoption wherever possible of locomotive haulage or conveyor transport as the main system of haulage, and the installation of trolley locomotives, with extension of man-riding facilities for the transport of men underground. The best tunnelling practice should be applied to the making of underground roadways. Proposals regarding mine ventilation are aimed at greater efficiency combined with safety, while the standard of underground lighting should be improved, to the order of 0.4 foot-candles in the general working area ; the flame safety lamp as a source of illumination is regarded as obsolete. Electricity is considered to be superior to compressed air as underground power, and the adoption of a standard working voltage is suggested, together with amendment of the Draft Electricity Regulations. A review of winding arrangements is also proposed, with installation of modern types of engine, skip-winding, consideration of the Koepe system of winding, and the use of automatic appliances for marshalling and controlling the tubs.

Recommendations relating to surface layout and equipment deal with general reconstruction of surface plant, double-shift coal-winding, architectural advice on layout, cleaning of a greater proportion of coal, disposal of refuse, the use of wagons of at least 20 tons capacity and greater attention to the layout of wagon roads, track-laying and maintenance and replacement of obsolete locomotives and rolling stock. It is stated that new mines should be laid out on an all-electric basis, and complete electrification of existing mines should be seriously considered, with examination of existing generating stations. Greater attention is urged to inspection and maintenance of machinery and plant ; and properly-equipped workshops and qualified engineers are proposed for each large mine or group of mines.

In a sub-section dealing with training and education, it is proposed that new entrants should have a broad-based preliminary training; special faces for general underground training should be established and used also for specialised training ; an apprenticeship system should be used for the training of electricians, mechanics and other tradesmen ; advanced training centres for engineering apprentices should be established ; there should also be provision for the training of officials to

enable suitable men to work their way up and to attract young men from all classes of society. Other suggestions include the establishment of a national scheme of training, and the amalgamation of the mining departments of certain universities.

It is suggested that the industry's most urgent task is the problem of securing full co-operation between the employers and workmen.

A section given to the national coal resources and recent estimates of reserves points out that the limited coal resources of the country must be worked in accordance with a national plan and intelligently conserved. It is stated that there is enough coal to last for at least a century at the present rate of work. This however is not uniform through the country; it is estimated that the reserves of the highest class of Durham coking coal will certainly not last for that period. There is the possibility of new coal deposits either adjacent to existing coalfields or in entirely new areas. The Committee advocates an extensive and nationally co-ordinated programme of searching and boring to be carried out with all practical speed.

It is believed that the reorganisation of the industry should be carried out on a coalfield basis rather than mine by mine. Other points relating to planning include the sinking of new shafts in certain districts, long-term planning, the adoption of the continental system of layout where seams are inclined, double shift working, extraction of coal from the top seam downwards, employment of full-time planning staff, the adoption of the five-day working week of eight hours per shift for underground workers, and implementation of the recommendations of the Royal Commission on Safety in Coal Mines in regard to the organisation and management of colliery undertakings.

In a chapter devoted to the "Conditions of Success," the Committee states the reasons why it believes that, under the present organisation, the recommendations cannot be carried out. It is suggested that an authority must be established to have the duty of ensuring that the industry is merged into units of such sizes as would provide the maximum advantages of planned production, of stimulating the preparation and execution of the broad plans of reorganisation made by these units, and of conserving the coal resources of the country.

Statistical tables of output per man shift and production costs relating to the years 1925-38, and a glossary of terms, are appended.

Cmd. Paper No. 6610.

DURHAM COALFIELD: REGIONAL SURVEY REPORT

(Ministry of Fuel and Power)

Chairman: Thomas Hornsby
Members: Rollo S. Barrett; W. S. Hall; Leo Kelly; Austin Kirkup; R. J. Mounsey; George Raw; Samuel Watson
Assessors: R. G. Carruthers; John H. Jones
Secretary: F. Johnston

Terms of Reference

To consider the present position and future prospects of coalfields in the Region and to report (a) what measures (apart from questions of ownership, form of control, or financial structure of the industry), including sinking of new pits and development work, should be

taken to enable the fullest use to be made of existing and potential resources in the Region, and (b) in this connection, what provision of housing and other services will be required for the welfare of the mining community.

A Report was issued in October 1944.

The Committee gives a conservative estimate of reserves of coal, in seams that are known to be capable of being worked under present-day conditions, amounting to over 3,000 million tons. Of these, 2,400 million tons lie east of the Great North Road, and of the remainder lying to the west, 330 million tons are high-quality coking coals. It is stated further that additional reserves can be confidently anticipated from undersea coal and from thin and inferior seams not yet worked. It is recommended that the high-grade coking coals, which are in danger of depletion within the next 50 years, should be used to the best advantage in the national interest.

In order to avoid the sterilisation of considerable quantities of coal left in support of the surface, the Committee recommends that the possibility of using hydraulic or pneumatic stowage should be examined. In order to prevent this sterilisation in the future, it recommends that sites for new houses or buildings should be agreed by the builder and the colliery companies, cases of difficulty being settled by the Minister of Fuel and Power. Local authorities should see to it that new buildings should be provided with adequate foundations, and the Committee considers it unnecessary to await 40 years after coal-workings have ceased before surface building is permitted.

The Committee recommends extensive drainage operations, which would both supplement the public water supplies and release large reserves of coal now flooded in south-west Durham, and prevent in future large volumes of water from flowing into the deeper collieries in east Durham.

Few new sinkings are anticipated, but the Committee recommends deepening of existing shafts in some cases, improved transport, ventilation and roadways, and reduction of distances travelled underground by workmen. Capital should be provided by the Government on suitable terms for this development work.

The Committee recommends that the Government should also finance the large measure of mechanisation that is needed. Co-operation between workmen and management would be assisted by more flexibility in the wages structure and in the practices and customs of workmen.

The Committee urges that the fullest and most economical use of the coal as a raw material of industry should be explored by research and the development of the industry.

Acceleration of house building in mining localities, and the provision of amenities such as baths and improved internal fittings in existing miners' houses are urged.

The Committee suggests expansion of miners' welfare schemes, with the provision of more full-time officers to supervise activities in mining communities, and the inclusion of non-mining classes within the scheme.

S.O. Code No. 41-80.

KENT COALFIELD: REGIONAL SURVEY REPORT

(Ministry of Fuel and Power)

Chairman: Sir John Dalton (Regional Controller)
Members: G. le B. Diamond (Deputy Regional Controller); John Elks (Secretary, Kent Mineworkers Association); R. Victor Hare (General Manager, Tilmanstone Colliery, Ltd.); William Harley (Consulting Engineer); C. S. Magee (Agent, Pearson & Dorman Long, Ltd.); William Powell (Secretary, Betteshanger Branch, Kent Mineworkers Association); R. Smith (Member, Chislet Branch, Kent Mineworkers Association); A. E. Sutton (Agent, Chislet Colliery, Ltd.); L. N. Watts (Town Clerk, Sandwich, Secretary, Kent Coalowners Association)
Assessors: H. Bardgett (Kent Coal Survey Officer, Fuel Research Station, Greenwich); H. G. Dines (District Geologist, Geological Survey)
Secretary: P. J. McLean (Barrister-at-law)

Terms of Reference
See *Durham Coalfield*, this Section.

A Report was issued in March 1945.

The coal of Kent is stated to be bituminous, semi-anthracite and generally friable, with high calorific values comparing favourably with other districts, and varied volatile matter content. The bulk of the coal is used locally, about 40 per cent. of the inland supply going to industry, 20 per cent. to the Southern Railway, 25 per cent. to electricity undertakings, 7 per cent. to gas making and the remainder to the London market. Reserves are estimated at 1,000 to 3,000 million tons, and the output in 1944 was approximately 1.5 million tons.

Estimates of reserves and descriptions of coal for each seam, worked and unworked, are given.

The development of the coalfield is considered in relation to restoration of output to the pre-war level, further development of existing undertakings, and new sinkings. The target figure for restoration of output is 2.34 million tons per annum, and the eventual total from the intensified development that is envisaged is 4 million tons per annum. No new sinkings are planned, but reserves are ample to justify such development.

The proportion of coal mechanically conveyed is above the national average, but an increase in mechanical cutting is complicated by the character of the coal, the seams, and the wages problem.

A survey of the undeveloped Dover Jurassic iron-ore deposits reveals that they would have a life of 100 to 150 years on an annual output of one million tons, and they are suitable for the manufacture of low silicon iron and steel in specially designed blast furnaces.

The miners' houses, built within the last 20 years, are considered adequate in most respects, but it is felt that local authorities should provide the additional houses that will be needed, and should purchase existing company-owned houses. It is recommended that there should be no extension of the existing mining village system, segregated from the general community, and that new housing sites should be in the neighbourhood of the towns. It is calculated that to restore output to the pre-war level, 1,170 new houses will be required, and subsequently to

achieve maximum output, 1,800 houses, with a possible addition of 1,200 houses if Tilmanstone Colliery is to be worked to maximum capacity.

On the subject of welfare, the Committee stresses the need for constant and close liaison with local authorities so as to avoid duplication in the provision of facilities.

S.O. Code No. 41-81.

MIDLAND REGION COALFIELDS: REGIONAL SURVEY REPORT

(Ministry of Fuel and Power)

Chairman: Alderman J. A. Webb, M.B.E., J.P. (Regional Controller)
Members: Alderman G. H. Jones, O.B.E., J.P. (General Secretary, Warwickshire Miners Association); H. J. Manzoni, C.B.E., M.Inst.C.E. (Engineer and Surveyor, City of Birmingham); C. P. Bates, M.I.Min.E., F.S.I. (Consulting Mining Engineer); W. Fenn, M.I.Min.E. (Managing Director, Warwickshire Coal Co. Ltd.); B. Madew (Director, West Cannock Colliery Co., Ltd.); T. Yates, J.P., M.I.Min.E. (Managing Director, Stafford Coal and Iron Co. Ltd.); H. Leese, J.P. (General Secretary, North Staffordshire Miners Federation); J. H. Southall (Acting Secretary and Agent, South Staffordshire and East Worcestershire Miners Association)
Secretary: J. MacLennan (Ministry of Fuel and Power)

Terms of Reference
See *Durham Coalfield*, this Section.

A Report was issued in October 1944.

This deals in full with the five distinct coalfields in the Midland Region. These are: Cannock Chase; Warwickshire; South Staffordshire; Shropshire (Wyre Forest, Coalbrookdale and Shrewsbury); and North Staffordshire, including Cheadle. The varying conditions of working the different districts, as well as the quality of the coal produced, are discussed.

A considerable proportion of the survey is devoted to the present position and future prospects of the coalfields, while the second Part is concerned with the housing position of the mining communities. A geological description of each coalfield is given, together with a tabulated list of all workable seams and their approximate thickness. The Report also considers in detail an analysis of fluctuations in output between 1920 and 1943; coal reserves; man-riding facilities; increased mechanisation; surface subsidence; and the disposal of colliery refuse.

The total reserves in this Region are estimated to be nearly 4,000 million tons. The 1938 output was 19½ million tons. The Committee tabulates suggestions to arrest the decline in coal output, and also records a list of contributory causes. Among the recommendations are modernisation and mechanisation of the pits; the formation of a medical service for mineworkers administered by a full-time medical officer in close proximity to the pits; and the organisation of a rehabilitation centre in each coalfield where men would be admitted for rehabilitation after sickness as distinct from accident.

The Committee believes that the methods employed in the past have been ill-advised and suggests that a reasonable position can only be

attained if men give a reasonable output in return for good wages and working conditions, coupled with security of employment. Finally, the Report states that if the coal industry is to regain its lost competitive ability, then increased output per man-shift and efficiency in production must be the keynote of the future, and the status of the miner should be raised to that of a mechanic.

S.O. Code No. 41-83.

NORTH-EASTERN COALFIELD : REGIONAL SURVEY REPORT

(Ministry of Fuel and Power)

Chairman : His Honour Judge William Stewart (Regional Controller, North-Eastern Region, Ministry of Fuel and Power)
Members : Major D. H. Currer Briggs, M.A., A.M.Inst.C.E., M.I.Min.E., J.P. (Chairman, Briggs Collieries Ltd., Whitwood) ; Joe Hall, J.P. (President, Yorkshire Mine Workers Association) ; Leonard Hodges, M.Inst.C.E., M.I.Min.E. (Managing Director, Amalgamated Denaby Collieries Ltd.) ; Bernard Kenyon, M.A. (Clerk to the West Riding County Council) ; J. W. Lane, B.E.M., J.P. (South Yorkshire Miners Welfare Committee) ; S. G. Lee, F.S.I., F.G.S. (Messrs. Durnford & Lee, Consulting Mining Engineers) ; Alfred Smith, M.B.E., J.P. (Agent, Yorkshire Mine Workers Association) ; Sir William Sutherland, K.C.B., P.C. (Chairman and Managing Director, Messrs. Fountain & Burnley Ltd., Darton)
Assessors : Wilfrid N. Edwards, M.A. (Geological Survey) ; L. Slater, Ph.D., M.Sc., A.M.I.Min.E. ; A. M. Wandless, M.A., F.R.I.C., A.M.I.Min.E. (Survey Officers, Department of Scientific and Industrial Research)
Secretaries : S. C. Brown, M.Sc., M.I.Min.E. ; W. B. Wells

Terms of Reference
See *Durham Coalfield*, this Section.

Issued in November 1944, the Report is sub-divided under seven headings : Introduction ; Geological Description of the East Midland Coalfield ; Present Position and Future Prospects ; Maximum Output from Existing Collieries ; Drainage (including mine drainage, surface drainage and subsidence) ; Housing ; and Conclusions and Recommendations.

Tabulated statistics on topics such as present and past output of Yorkshire compared with that of Great Britain, analyses of disposals, etc., are included. Estimated future output statistics are also tabulated, and the present and future position with regard to housing is also conveniently set out.

The Committee is satisfied that very considerable reserves of coal exist in the Region, and that production on a level equal to or exceeding that obtained in the immediate pre-war period could be counted upon for many years (and almost entirely from existing collieries) provided that economic conditions and the labour supply are favourable. Further reserves should be sought by exploration of the areas to the east of seams now being worked. The estimated reserves of seams scheduled for development in South Yorkshire amount to 4,020 million tons and in West Yorkshire to 1,677 million tons. In addition reserves existing within the royalties held by present working collieries and consisting of seams of workable thickness and within workable depth amount to 789

million tons and 330 million tons respectively for the two areas. This will allow the rate of output of coal attained in 1938 to be continued until after the year 2000, and the effects of such output on the quality of coal to be produced and on the remaining reserves are examined. Moreover estimates are given of the maximum future output which could be produced in the years 1950, 1975 and 2000, should increases in future output become necessary. In this connection the total estimated output for South Yorkshire is 46 million tons in 1950, 49.7 million tons in 1975, and 47.6 million tons in 2000, while for West Yorkshire it is 12.6 million tons in 1950, 12.2 million tons in 1975 and 10.7 million tons in 2000. Thus the whole Region should be able to produce an increase of 15 million tons per annum over the output in 1938.

The Committee points out that while in general there will be a deterioration in the quality of the coal, it will probably be no more serious than that experienced in the rest of the country. The efficient utilisation of the inferior coal should be continued and even intensified, and it is possible that future research may reveal more efficient methods of preparing the coal for market.

Reports from the foremost drainage authorities in the region show that, with the exception of parts of the Doncaster area, water forms no serious menace to mining in this coalfield. Attention, however, is drawn to the greatly increased cost that will be incurred when additional seams are worked in the future.

The adequate housing of miners is, in the opinion of the Committee, inseparable from that of the remainder of the population in general and should be solved on a national basis.

S.O. Code No. 41-84.

NORTH MIDLAND COALFIELD : REGIONAL SURVEY REPORT

(Ministry of Fuel and Power)

Chairman : T. F. Turner, K.C. (Regional Controller)
Members : H. Buck (Agent and Secretary, South Derbyshire Miners Amalgamated Association); W. E. Canner (Chairman, Leicestershire Coalowners Association); Alderman W. Crane (Chairman, Housing Committee of Notts County Council); K. C. Edwards (Regional Representative, Ministry of Town and Country Planning); R. A. Hudson (Regional Representative, Ministry of Town and Country Planning); J. Lynch (Secretary, Derbyshire Miners Amalgamated Association); G. D. Mayhew (Chairman, South Derbyshire Coalowners Association); C. W. Phillips (Chairman, Midland Counties Colliery Owners Association); W. Rowell (Agent, Leicestershire Miners Association); G. A. Spencer (President, Notts and District Miners Federated Unions); H. H. Swinnerton (Professor of Mining, University College, Nottingham); E. F. Wright (Vice-Chairman, Midland Counties Colliery Owners Association)
Assessors : A. Dawe (Fuel Research Coal Survey); W. N. Edwards (Geological Survey); G. H. Mitchell (Geological Survey); J. Shirley (Geological Survey)
Secretary : T. H. Holt-Hughes

Terms of Reference
See *Durham Coalfield*, this Section.

A Report was issued in December 1944.

In an introduction it is pointed out that the political frontiers of the North Midland Region do not exist geologically and the Committee

recommends that the programme of exploration of the eastern limits of the East Midland Coalfield should be based upon national and geological considerations rather than on the artificial frontiers of wages ascertainments districts.

Three sub-committees were appointed to deal respectively with : The questions of coal resources and exploration in the northern section of the coalfields ; the same questions in the southern section ; and housing.

It is not possible to make a reliable estimate of the extent or richness of the eastern undeveloped part of the East Midland Coalfield. It is recommended that development in the area should be planned in advance and independently of the existing regional boundaries, in view of the geological continuity of the known seams and the risk of flooding through any subsidence which may be caused near the River Trent.

The full extent and richness of the developed part of the new concealed coalfield in Nottinghamshire are to some extent speculative, since several pits are not sunk below the Top Hard seam, and in some cases little more is known of the unworked seams above the Top Hard, while some colliery companies return no estimate of their unproved resources.

An estimate of proved resources is given as nearly 6,336 million tons, and unproved resources as nearly 1,022 million tons for the North Midland Region. The annual saleable output was 32.2 million tons in 1938 and 36.9 million tons in 1943. Roughly three quarters of the proved resources are non-gas coals. In the southern section of the Region, the Leicestershire Coalfield and the northern and eastern limits of the South Derbyshire Coalfield may generally be regarded as proved, but the southern and western limits of the latter are still unproved. A full programme of exploration by experts is proposed, to prove the eastward extension of the East Midland and the southern and western areas of the South Derbyshire Coalfields.

It is calculated that resources in proved seams of existing collieries in the Region will enable the 1943 rate of output to be maintained until after the end of the century, but that, with increased man-power, output could be increased by at least 25 per cent.

In connection with housing, it is pointed out that at the outbreak of war there was a shortage of many hundreds of houses in the mining areas, apart from a large number of condemned houses. If the production of the Region is to be increased, further new houses will be required for the workmen, and it is stated that local authorities must be relied upon to provide almost the whole of the supply. The known programmes of local authorities, however, fall short of requirements in several important localities. In some areas public utility services may need extension.

The unanimous recommendation is made that in the planning of new housing centres the object should be to establish substantial communities with a variety of subsidiary industries, large enough to ensure the presence of all the main requirements of a full civic and cultural life, but not large enough to constitute a large industrial town. In general, new mining communities should be grafted on to existing centres of population rather than established in isolation.

The Appendix contains suggestions as to type and situation of houses which would be most suitable to the needs of the mining community.

S.O. Code No. 41-82.

NORTH-WESTERN COALFIELDS: REGIONAL SURVEY REPORT

(Ministry of Fuel and Power)

Chairman: Gordon Macdonald (Regional Controller)
Members: G. I. Adkins (North Wales Coal Owners Association); F. B. Lawson (Lancashire and Cheshire Coal Owners Association); E. Hall (Lancashire and Cheshire Miners Federation); E. Jones (North Wales and Border Counties Mineworkers Association); A. H. Jolliffe (Local Government); W. Sword (Consulting Mining Engineer)
Assessor: F. M. Trotter, D.Sc. (Geological Survey)
Secretary: E. Wheeler

Terms of Reference
See *Durham Coalfield*, this Section.

The Region considered in the Report, which was issued in October 1944, includes Lancashire and Cheshire and North Wales.

The Report is divided into three Parts: Geological aspect; coal working in Lancashire and Cheshire and North Wales; and housing and other welfare services. The Geological aspect deals in full with the Cheshire Basin, the Wirral and Dee estuary, Denbighshire and that part west of the Lancashire Coalfield. In the second Part, the Lancashire and Cheshire Coalfield and the North Wales Coalfield (the latter being sub-divided into Denbighshire, and West Shropshire and Flintshire) are considered separately. Housing and other welfare services include transport, canteen services and recreational facilities.

The Committee states at the outset that its recommendations are based on the assumption that an adequate labour force will be available after the war. It is also stated that the remedy of closing pits which have become expensive and transferring the men to new pits is complicated by the depth to which these new pits will have to be sunk. There can be no certainty, the Report adds, that costs at the depths contemplated will be any less when the pits are at their most productive stage than those in the older and shallower pits now working.

Further capital expenditure should be applied to pits so as to maintain output at pre-war levels. The fact that many of the workings are approximately 700 yards below the surface presents particular difficulties, owing to heat and dust. These problems should be a subject for investigation by the Committee on Control of Atmospheric Conditions in Deep and Hot Mines, and experiments should be made in air conditioning in present deep mines now working in the Region.

The problem of water should be dealt with on a regional basis. The Report favours the provision of man-riding facilities.

The coal reserves of the Region are shown in tabulated form and amount to approximately 800 million tons, the total being estimated for areas in lease and down to a depth of 3,600 ft.

Recruitment and labour are also considered and findings based on a circulated questionnaire to all bodies associated with the industry are given. The continuance of training of new entrants is advocated, as is the continuance of canteen services, while the Committee is unable to

recommend any large-scale development in recreational facilities at individual pits as it considers undesirable the segregation of mineworkers from the rest of the community.

S.O. Code No. 41-85.

NORTHUMBERLAND AND CUMBERLAND COALFIELDS: REGIONAL SURVEY REPORT

(Ministry of Fuel and Power)

Chairman: Colonel F. C. Temple, C.I.E., V.D., M.I.C.E., M.I.M.E., L.R.I.B.A. (Regional Controller)
Members: William Allan (Treasurer, Northumberland Miners Mutual Confident Association); James Bowman, J.P. (Secretary, Northumberland Miners Mutual Confident Association, Vice-President, National Union of Mineworkers); R. D. Glass, M.I.Min.E. (General Mining Manager and Director, Mickley Coal Co., Ltd., and Associated Companies); Professor H. G. A. Hickling, D.Sc., F.R.S., M.I.Min.E. (King's College); Alderman F. B. Hindmarsh, J.P. (Vice-Chairman, Northumberland County Council); T. J. Hughes (Mining Agent, United Steel Companies, Ltd.); R. S. Pratt, M.C., B.Sc. (Agent and Director, North Walbottle Coal Co. Ltd.); Tom Stephenson (Financial Secretary, Cumberland Miners Association)
Assessors: R. G. Carruthers (Geological Survey); Dr. John H. Jones, Ph.D., B.Sc., A.R.I.C. (Officer-in-charge, Department of Scientific and Industrial Research, Northumberland, Durham and Cumberland Coal Survey)
Surveyor: E. L. J. Potts, B.Sc., A.M.I.M.E. (Mining Department, King's College)
Secretary: Miss V. A. Watt

Terms of Reference
See *Durham Coalfield*, this Section.

A Report was issued in January 1945.

The Committee states that the future of the coal industry depends on the availability of adequate labour, which depends in turn on the ability of the industry to offer wages and conditions comparable with those of other industries. This is thought to be possible, by the introduction of American and continental machinery and methods, especially of efficient haulage. The need for perfect understanding and co-operation between management and men is stressed.

In Northumberland, reserves are estimated to be more than 1,760 million tons proved, and 340 million tons in seams not yet definitely proved, without taking account of seams of less than 1 ft. 6 ins. in thickness or of the carboniferous limestone series. The Committee recommends that increasing attention be paid to cleaning and preparation for market, and especially to preparation for use by gas companies. The Committee concludes that Northumberland can, by reorganisation and the use of capital expenditure, return to its old average output of 12½ million tons a year, and believes that the workable reserves are sufficient to produce over 15 million tons by 1960, and to maintain that rate for more than 100 years. For this county the Committee believes that the 30 shaft sinkings and deepenings planned for the next 15 years will be adequate.

For Cumberland the main reserves are under the sea and therefore unproved, but an estimate of 583 million tons of workable reserves is put forward, giving the coalfield an approximate life of 224 years; the Committee believes, however, that reserves are likely to prove much more

extensive. Good general-purpose coals are produced, a considerable tonnage of the annual output being absorbed in producing coke for the local heavy industries. The Committee concludes that Cumberland will bring its output up to 2½ million tons in the near future, and perhaps even higher. The Committee considers that the three pairs of shaft sinkings projected for Cumberland in the next 20 years will be adequate.

In both coalfields the Committee proposes that walking of men underground should be reduced to a minimum, and that special attention be paid to the introduction of intensive mechanisation as widely as possible, including the seams which are below 3 ft. in thickness. Alternative means of disposal of refuse other than in pit heaps, or some means to render the heaps less unsightly, are urged.

With reference to sterilised coal, the Committee suggests the use of modern methods of stowage, and the possibility of using refuse for stowage. In the case of Northumberland, it urges the maintenance of close liaison between the mining industry and those responsible for the planning of future industrial and housing developments to prevent further sterilisation of large amounts of coal, and suggests that some department should keep up-to-date plans showing the extent of reserves, of coal sterilised and of coal worked out.

It is recommended that local authorities be encouraged to see that houses are provided to cover the present requirements of between 6,000 and 7,000 houses for Northumberland, and of 1,100 houses for Cumberland.

Every encouragement should be given to the active extension of the work of the Miners Welfare Commission, with priority to the programme for the installation of pit-head baths.

S.O. Code N. 41-87.

COMMITTEE ON THE RESTORATION OF LAND AFFECTED BY IRON ORE WORKING

(Ministry of Health)

Chairman : The Right Hon. The Lord Kennet of the Dene, P.C., G.B.E., D.S.O., D.S.C.
Members : Sir Edgar Bonham-Carter, K.C.M.G., C.I.E. ; Tristram W. Haward, F.L.A.S. ; Sir Kenneth Lee ; Alderman E. G. Rowlinson, J.P. ; G. C. Scrimgeour, D.S.O., M.C.
Secretary : E. J. S. Clarke

Terms of Reference

To consider and report on the problems raised by the destruction of agricultural land as a result of the excavation of iron ore in Northamptonshire and neighbouring counties and to advise what measures should be taken for the future utilisation of this land to the best advantage, whether by restoration or otherwise, and how the necessary expenditure should be met.

The Report, which was presented in March 1939, deals with the iron ore deposits in North and South Lincolnshire, East Leicestershire, Rutland, Northamptonshire, and North Oxfordshire, where roughly 94

per cent. of the ironstone is won by surface working, leaving the land over large areas in a hill and dale formation which makes agriculture impossible unless it is restored ; destroys the amenity value ; has an adverse effect on rateable values ; encourages rabbits and other vermin, and weeds ; and obstructs drainage. The Committee estimates that of 109,000 acres of land containing ironstone deposits, about 80,000 acres will be left unrestored over a period of about 250 years.

The Committee is satisfied that the devastation and loss are a serious evil, and in the second Part of the Report various remedies are considered.

Sterilisation is considered as a remedy, and is rejected but the Committee does recommend the provision of powers, subject to certain restrictions, for local authorities to purchase land containing minerals where urban development or amenity would be interfered with by the working of the ore ; otherwise restoration must be carried out as a subsequent and distinct operation.

Problems connected with restoration of the land for agriculture are considered, involving levelling, replacement or non-replacement of topsoil, and sowing or cultivation. The problem is one of cost, and true levelling for arable restoration in medium and heavy overburden is considered to be economically impossible. The earliest method of levelling, by hand, is stated to be wholly unecomomical, at costs of over £100 per acre ; dragline methods reduce the cost by approximately 50 per cent., and a third method, using the American bulldozer caterpillar leveller, will probably reduce the cost further. The Committee concludes that it would be unwise to assume an average cost of less than 6d. per cu. yd., which means more than £60 an acre where the overburden exceeds about 35 ft. In present conditions, therefore, the Committee believes that levelling in many areas of heavy overburden is out of the question except for special purposes, such as building. Agricultural restoration could, therefore, only be carried out in areas of medium overburden, which are an increasingly insignificant part of the problem. Where ore lies below shallow overburden, of 0-15 ft., agricultural restoration is usually undertaken as a term of the lease.

In most areas restored for agriculture the topsoil has been separated and respread, and while in shallow overburden the cost of resoiling is below the payment in lieu of restoration in overburden above 15 ft., the costs of resoiling are at least £50 per acre, and the Committee does not think that this can be justified except as a feature of a mining lease.

The Committee considers also the possibility of agricultural restoration without topsoil separation. This would not be possible in the limestone areas of Colsterworth or the blown sand of Scunthorpe, and in view of the high costs and the difficulty of finding a suitable agent to undertake the work, the Committee does not regard agricultural restoration as a universal solution. The Committee recommends, however, that, in view of the lack of experience in this country of restoration without separating the topsoil, agricultural restoration should be fostered by the proposed Ironstone Areas Restoration Board referred to later in this summary.

The Committee also examines the practicability of afforestation, which can be carried out without any levelling or restoration of topsoil. The Committee expresses satisfaction that the prospects for afforestation

on the worked-out ironstone areas are good, and states that this is the only large-scale method of using them that is not accompanied by great natural difficulties, but recommends that the planting of excavated areas should be in the hands of the Forestry Commission. The cost of afforestation is stated to be much cheaper than that of agricultural restoration, *i.e.*, about £16 per acre, while it has the advantage of amenity value.

The Committee does not consider that there is any other solution with widespread application to the problem.

The Committee concludes, in general, that more restoration is necessary than will be carried out by free agreement between landowners and mining companies, and recommends the establishment of an Ironstone Areas Restoration Board, to be responsible for the administrative counties of Lindsey, Kesteven, Northamptonshire, Leicester and Rutland. It would comprise one representative from each of these County Councils, with two representatives from Northamptonshire, one from the Borough of Scunthorpe, and one from the Forestry Commission. The independent chairman would be appointed by the Minister of Agriculture and Fisheries. Four representatives would be appointed by the mining companies and four by the mineral lessors.

The Board's function would be to see that suitable measures for restoration were applied to all excavated land. It would have compulsory purchase powers for all land worked out on which it undertakes restoration, subject to appeal to the Minister of Agriculture and Fisheries. Its powers will be applicable to land levelled but not restored to agriculture, and to land on which the surface is destroyed by underground working. It is anticipated that most of the areas to be planted would be handed over to the Forestry Commission, while agricultural institutes might be encouraged to conduct agricultural experiments.

The Committee estimates that the Board should be able to raise an average income of £40 for every acre it takes over, derived from contributions from the mineral lessors, mining companies, and local authorities. The Committee recommends a maximum contribution of 8 per cent. from the mineral lessors' royalties, 13s. per thousand tons of ore (33s. where freehold) from the mining companies, and from the county councils a sum not exceeding 20 per cent. of the rates which the rating authorities in their areas receive from unrestored quarries. The lessor should be debarred from contracting out of the deduction. (For North Lincolnshire there should be a 75 per cent. reduction on these contributions.) Each year the Board will fix the percentage of its maximum revenue which it requires to raise, and each party will pay this percentage of its maximum contribution. Contributions will be payable on all land between 15 and 100 ft. overburden shortly after it is worked, with a financial adjustment when the Board decides on taking, or not taking over, the land.

The Board will need borrowing powers, but its income should allow some surplus with which to restore the 2,500 acres already devastated.

The Board should require an annual statement of the areas which the mining companies propose to excavate and of the areas worked out and ready to be handed over, as well as a statement of the total royalties paid in respect of the land. Rating authorities should be required to give the Board an estimate of the rates to be received.

The Board should be made an Authority for the purpose of the Schedule to the Corn Production Acts (Repeal) Act 1921, and should watch the development of underground working with reference to surface damage and study additional methods of utilising hill and dale.

S.O. Code No. 32-349.

LOCAL GOVERNMENT BOUNDARY COMMISSION

(Ministry of Health)

Chairman : Sir Malcolm Trustram Eve, Bt., M.C., T.D., K.C.
Deputy Chairman : Sir Evelyn John Maude, K.C.B.
Members : Sir George Hammond Etherton, O.B.E. ; Sir Frederick Rees ; William Holmes

Terms of Reference

To consider the boundaries of local government areas in England and Wales, and related questions such as the establishment of new county boroughs.

CENTRAL HOUSING ADVISORY COMMITTEE

(Ministry of Health)

Chairman : The Right Hon. Aneurin Bevan, P.C., M.P.
Members : Alderman A. E. Ager ; W. R. Allerton ; Sir Harold Bellman, M.B.E., J.P.; Henry Brooke ; Sir George M. Burt, M.Inst.C.E. ; C. Douglas Calverley, M.I.O.B. ; Colin Campbell, O.B.E. ; R. Coppock, C.B.E. ; L. de Soissons, O.B.E., A.R.A., F.R.I.B.A., M.T.P.I. ; S. G. Dilnot ; The Right Hon. The Earl of Dudley, M.C., D.L.; Charles W. Gibson, M.P. ; Mrs. E. Gooch, C.C., J.P. ; The Rev. St. John B. Groser, M.C. ; Sir Arthur Hobhouse ; L. H. Keay, O.B.E., M.Arch., F.R.I.B.A. ; Miss Jennie Lee, M.P. ; The Countess of Limerick, C.B.E. ; Lady Megan Lloyd George, M.P. ; Alderman Sir Miles E. Mitchell, J.P. ; Hugh Molson, M.P. ; A. E. Monks, J.P. ; Miss Emily Murray ; The Dowager Marchioness of Reading, G.B.E. ; Sir David Smith ; B. S. Townroe, J.P. ; J. A. F. Watson, F.S.I., J.P. ; Councillor Mrs. Beatrice Wilson, J.P. ; J. Greenwood Wilson, M.D., F.R.C.P., D.P.H.

Terms of Reference

To carry out a number of important investigations by means of various sub-committees and the results to be incorporated in the reports which have from time to time to be presented to the Minister.

SUB-COMMITTEE ON AMENDMENTS OF THE HOUSING ACTS AND ON STANDARDS OF FITNESS

(Ministry of Health : Central Housing Advisory Committee)

Chairman : Alderman Sir Miles Mitchell, J.P.
Members : W. R. Allerton ; Sir George Burt, M.Inst.C.E. ; C. Douglas Calverley, M.I.O.B. ; S. G. Dilnot ; Lady Megan Lloyd George, M.P. ; Sir Arthur Hobhouse ; Alderman C. W. Key, M.P. ; Hugh Molson, M.P. ; A. E. Monks, J.P. ; The Dowager Marchioness of Reading, G.B.E. ; Lewis Silkin, M.P. ; Sir David Smith ; J. Greenwood Wilson, M.D., F.R.C.P., L.P.H.
Secretary : T. W. Williams

Terms of Reference

To consider the suggestions which have from time to time been submitted to the Minister for the amendment of the present Housing Acts and advise what action, and if any, ought to be taken on them.

A Report is being prepared.

SUB-COMMITTEE ON THE CONVERSION OF EXISTING HOUSES

(Ministry of Health : Central Housing Advisory Committee)

Chairman : Lewis Silkin, M.P.
Members : Sir Harold Bellman, M.B.E., J.P. ; Henry Brooke ; Sir George Burt, M.Inst.C.E. ; C. Douglas Calverley, M.I.O.B. ; R. Coppock, C.B.E. ; L.de Soissons, O.B.E., A.R.A., F.R.I.B.A., M.T.P.I. ; The Right Hon. Lord Faringdon ; The Rev. St. John B. Groser, M.C. ; L. H. Keay, O.B.E., M.Arch., F.R.I.B.A. ; Alderman C. W. Key, M.P. ; B. S. Townroe, J.P. ; J. A. F. Watson, F.S.I., J.P. ; Councillor Mrs. B. Wilson, J.P.
Secretary : I. I. Ungar

Terms of Reference

To advise on the possible scope for, and difficulties in the way of, the conversion and adaptation of existing houses on the assumption that requisitioning powers will shortly come to an end.

The Report was presented to the Minister in September 1945, and ordered by him to be published.

DESIGN OF DWELLINGS SUB-COMMITTEE

(Ministry of Health : Central Housing Advisory Committee)

Chairman : The Right Hon. the Earl of Dudley, M.C., T.D.
Members : Miss J. F. Adburgham, L.R.I.B.A., A.M.T.P.I. ; Sir Harold Bellman, M.B.E., J.P. ; Sir George Burt, M.Inst.C.E. ; Mrs. C. Cook ; R. Coppock, C.B.E. ; L. de Soissons, O.B.E., A.R.A., F.R.I.B.A., M.T.P.I. ; Mrs. M. M. Dollar, J.P. ; Mrs. E. Gooch, J.P., C.C. ; Miss M. E. Haworth ; L. H. Keay, O.B.E., F.R.I.B.A. ; Miss Megan Lloyd George, M.P. ; A. E. Monks, J.P. ; Alderman Sir Miles Mitchell, J.P. ; J. W. Robertson Scott, J.P., C.C. ; The Lady Sanderson, J.P. ; John A. F. Watson, J.P., F.S.I. ; Sir Seymour Williams, K.B.E., C.C. ; Dr. J. Greenwood Wilson, M.D., F.R.C.P., D.P.H.
Secretary : Miss Judith G. Ledeboer, A.R.I.B.A.

Terms of Reference

To make recommendations as to design, planning, layout, standards of construction and equipment of dwellings for the people throughout the country.

The Report (July 1944) confines its consideration to the types of permanent dwelling commonly built by local authorities, bearing in mind that their present powers under Part V of the Housing Act 1936 are restricted to the provision of dwellings for the working classes. It is suggested that local authorities should continue to concentrate in the main on the three-bedroom type of house, for which alternative detailed

diagrams are included. The minimum necessary over-all floor area is 900 square feet.

An estimate of the cost of the proposed type of house, based on prices prevailing in March 1939, is £467; this shows an increase of 39½ per cent. over the cheaper pre-war house, and of 16¾ per cent. over the better type. The increase in rent will be about five shillings per week, made up by two shillings and sevenpence due to improvements and two shillings and fivepence due to increased building costs. The economic rent is thus about thirteen shillings and a penny per week, together with rates.

The standards described are applicable to all types of houses. These should form the minimum requirements for private development. More housewives should be co-opted to the housing committees of local authorities, where their knowledge of house arrangement and utilisation of accommodation would be invaluable.

The Report suggests that the Ministry of Health should request all local authorities to employ trained architects. Detailed suggestions and recommendations are made on terraced houses, flats and accommodation for single persons and the aged.

The Committee, while acknowledging that it cannot say how far prefabricated methods can be carried out with satisfactory results, states that—subject to sound construction and planning and due regard to the tenants' comfort—mass-produced, prefabricated houses should be considered. It is pointed out that the rise in building costs is greatly in advance of the cost of living. In order that the Government programme of three to four million houses can be completed, it is essential that the present inflated costs be brought into a workable relationship with the cost of living. The Committee therefore assumes that the action necessary to achieve this will be carried out and that building costs will eventually be stabilised at about 30 per cent. above the pre-war level.

The Report also contains the recommendations of a study group of the Ministry of Town and Country Planning on site-planning and lay-out. Among these is the creation of neighbourhood units, which are essential for the proper social functioning of towns, the unit to have a maximum population of 11,000 in an area where every house is easily accessible to the neighbourhood centre. The neighbourhood unit itself should be built up of a number of minor groups of from 100 to 300 families. An open-space system should be disposed in close relationship to the dwellings, having safe pedestrian ways. All primary schools serving the unit should be near the centre, whilst secondary (modern) schools could be sited on the perimeter. No dwelling-house should be more than a quarter of a mile from the shops.

A more scientific planning is urged for the future. Road patterns and necessary buildings should be thought of simultaneously. The final section deals with planting in streets and public places, and suggests that wherever possible front fencing in streets should be omitted.

(*Note.*—The *Housing Manual 1944*, issued by the Ministry of Health, incorporates many of the recommendations of this Sub-Committee.)

SUB-COMMITTEE ON THE MANAGEMENT OF MUNICIPAL HOUSING ESTATES

(Ministry of Health : Central Housing Advisory Committee)

Chairman : Lord Balfour of Burleigh
Members : Alderman A. E. Ager ; Sir Harold Bellman, M.B.E. ; Colin Campbell, O.B.E. ; S. G. Dilnot ; The Earl of Dudley, M.C. ; Mrs. E. Gooch ; L. H. Keay, O.B.E., M.Arch., F.R.I.B.A. ; The Countess of Limerick, C.B.E. ; The Dowager Marchioness of Reading, G.B.E. ; J. A. F. Watson, F.S.I. ; Councillor Mrs. Beatrice Wilson ; J. Greenwood Wilson, M.D., F.R.C.P., D.P.H.
Joint Secretaries : N. C. Rowland ; Miss M. Empson

Terms of Reference
To consider whether any further advice ought to be given to local authorities regarding the management of municipal housing estates in the light of the special conditions likely to arise in the immediate post-war period, with particular reference to any special steps which ought to be taken in connection with the various types of temporary accommodation to be provided under the Housing (Temporary Accommodation) Act.

A Report was issued in July 1945.

Reference is made to the Sub-Committee's First Report, issued in 1938, which dealt with the general question of the management of housing estates by local authorities with special reference to the employment of trained house property managers, and to the Ministry of Health Circular 1740 which stressed certain features connected with the management of municipal housing estates. This 1945 Report deals with further advice to be given in the light of the special conditions of the early post-war period, but its first recommendation is that those local authorities who have not recently reviewed their general arrangements for housing management in the light of the Report and Circular of 1938 should immediately do so. Such a review is rendered even more imperative by the provision of temporary houses.

With reference to the selection of tenants, it is pointed out that in the Housing Act 1936, need is the paramount consideration, and the Committee recommends that local authorities should interpret their responsibilities for the provision of houses in a wide sense, and should take a broad view of the classes of person whose needs they consider in letting houses.

The points system for the selection of tenants is examined, and it is recommended that in order to avoid the outweighing of actual housing-need by other factors, certain precautions should be taken. Reasonable preference should be given to persons occupying insanitary and overcrowded houses and to those with large families or living under unsatisfactory housing conditions. Where a points scheme has been adopted it should be used only as a sieve for sorting applications into priority groups and not for determining the final order of eligibility for tenancies ; the final order within the leading group should be determined on merits after full investigation of the circumstances of individual families. In the working of the scheme, cases due for special consideration should be picked out regardless of groups, and any adjustments shown by experience to be required in the structure of the scheme should be made without delay.

Whatever method of selection is used, the Committee recommends

that local authorities should advertise the principles on which tenants are selected and the general factors of which account is taken on individual applications. To allay suspicions of favouritism, applications should be dealt with under a code number by the appropriate committee.

It is recommended that, in view of movements of the civil population and of married persons in the Forces, now so common, local authorities should review the conditions of any residential qualifications laid down for their district. Similarly, undue weight should not be attached to the date of application. Local authorities are recommended to allot a proportion of their tenancies to recently married couples without children, on the basis of need of individual applicants.

After considering the problems connected with the use of existing accommodation, the Sub-Committee recommends that local authorities should be reminded of their powers to promote the establishment of housing associations and to assist them financially. These may be able to provide dwellings for old people and so assist in dealing with the problem of under-occupation of council houses. Further, it is recommended that, during the housing shortage, local authorities should continue to permit the taking of lodgers or the sub-letting of rooms in permanent houses, provided that charges are reasonable.

To meet the shortage of trained housing staff, it is recommended that local authorities should grant facilities for the training of student housing managers under competent officers, and that when a student makes a valuable contribution to the work of the housing department, he or she should receive appropriate payment.

In the case of temporary houses, special care should be exercised in the selection of tenants, who should be prevented from sub-letting, taking lodgers or erecting garages, sheds and other structures.

S.O. Code No. 32-338-2.

PRIVATE ENTERPRISE SUB-COMMITTEE

(Ministry of Health : Central Housing Advisory Committee)

Chairman : Sir Felix J. C. Pole
Members : Alderman A. E. Ager ; Sir Harold Bellman, M.B.E. ; Sir George Burt, M.Inst.C.E. ; R. Coppock, C.B.E. ; Mrs. E. Gooch ; C. J. Newman, O.B.E. ; David W. Smith, F.C.I.S. ; B. S. Townroe ; John A. F. Watson, F.S.I.
Secretary : N. C. Rowland

Terms of Reference

To consider the part that private enterprise can best play in post-war housing, the conditions in which it can most effectively operate, and the methods of finance and organisation required.

The Committee found that, at the end of the inter-war period, building by private enterprise had taken precedence over local authority activity, which latter was concentrated on the needs of the poorer members of the community ; and that there had been a remarkable expansion of home ownership, with favourable building costs relative to the cost of living, coinciding with a reduction or withdrawal of subsidy, and an increase in the number of large business firms undertaking building. Thus it considers that, given conditions of cheap money, plentiful labour and

materials, and stability of values, the housing needs of a large section of the community can be met without assistance from public funds. Every encouragement should therefore be given to private enterprise to take a full share in the production of the 3,000,000 to 4,000,000 houses required in the first ten to twelve post-war years. Pre-requisites of such activity are prices and rents in harmony with the cost of living and the level of wages.

In the opinion of the Committee, the long-term aspect is one of improving conditions for private enterprise, so that, in this way, houses for letting as well as for sale may be provided, with full participation by building societies and other similar organisations. Participation by private enterprise on a limited scale in the short-term building programme is also thought desirable, and for this a subsidy is essential. Eligibility for Exchequer subsidy should be extended to private enterprise when the latter is meeting the same needs as local authorities, and should be subject to some control of selling price or rents, and of standards of size and construction. It should take the form of either an annual payment over a number of years, or an equivalent lump-sum grant, and the amount may be supplemented by local authorities from the rates. Periodic reconsideration of its amount in relation to building costs, and its withdrawal when practicable, with freedom to local authorities to supplement it from the rates if necessary, are also recommended. Financial assistance by local authorities to housing associations is to be encouraged, with revision, in the light of post-war costs, of the present limitation of advances to £800.

Other suggestions are that building societies should be permitted to accept collateral security from persons to whom they make advances in respect of which guarantees are to be given under the Housing Act 1936 by the Ministry of Health and the local authority ; that a permanent commission be set up to review prices of building materials, with power to call for the production of books, and issuing a public report ; that the procedure for obtaining decisions on housing proposals by private builders should be simplified.

RURAL HOUSING SUB-COMMITTEE

(Ministry of Health : Central Housing Advisory Committee)

Chairman : Sir Arthur Hobhouse
Members : Mrs. C. Cook ; The Earl of Crawford and Balcarres ; S. G. Dilnot ; Mrs. M. M. Dollar, J.P. ; Sir Frances Fremantle, O.B.E., M.A., M.D., M.P. ; Miss Megan Lloyd George, M.P. ; Mrs. E. Gooch, J.P., C.C. ; Miss I. E. Hort, B.A., F.S.I., F.S.W.H.M. ; The Hon. Mrs. G. Methuen ; Hugh Molson, M.P. ; A. E. Monks, J.P. ; Sir Felix Pole ; J. W. Robertson Scott, J.P., C.C. ; The Rev. E. St. G. Schomberg, D.L. ; J. A. Simpson, O.B.E., LL.B. ; Sir Seymour Williams, K.B.E.
Secretary : W. J. Peete

Terms of Reference

To review the subject of rural housing, especially in relation to changes caused by the war and the policy to be pursued after the war.

The Third Report of the Sub-Committee gives a picture of rural housing as it is today, and recommendations are mainly concerned with administrative measures. In addition to receiving evidence, local investigations were made.

Brief comment is made on the Scott, Uthwatt and Barlow Reports. The Sub-Committee records full agreement as to the need for improvement of rural housing conditions and extension of public services, emphasises the need for simpler machinery to secure rural housing sites, and states the view that an admixture of industry with agriculture, properly controlled by planning, would improve the rural housing services.

In an historical review of rural housing since 1918, an increase from 1¾ to 2 millions in rural dwelling houses is noted, while a decrease in rural population from 7,533,000 to 7,196,000 has meant that the average density per house was reduced from 4.3 to 3.4 persons by 1939, when there was some indication that rural housing would be satisfactorily improved. The war, however, has brought about deterioration in rural living conditions ; the number of families has continued to increase, while building has remained stationary and the difficulty of carrying out repairs has worsened the condition of old property. The need is stressed to grade rents according to accommodation and the standard of services and amenities supplied, and to reduce to the minimum the number of tied cottages. The present improvement in agricultural wages is noted as a new factor. Another new point is the present shortage of labour and materials, and it is hoped that rural areas will have a fair share of these after the war as an attraction to young people to enter agriculture. A planned programme of rural housing on the widest practicable scale is advocated to bring housing standards in backward districts up to the best attained by progressive authorities.

It is suggested that rural district councils should retain their present functions, the principal one being the administration of the Housing Acts, but with adequate additional staff ; and that there should be an increased number of sanitary inspectors and of whole-time officers (if necessary appointed jointly by several authorities). A full account of housing conditions should appear in every Medical Officer of Health's annual report ; housing committees should represent the point of view of working housewives ; and there should be higher and more uniform standards for assessing housing conditions. Where rural district councils are too small to have adequate resources, amalgamation with adjoining areas should be considered.

The Sub-Committee feels that the county councils need a more active conception of their functions in relation to rural housing, and a greater readiness to co-operate with the rural district councils in problems, for instance, of water supply and drainage, and in giving financial help to any rural council with a heavy rate burden due to housing. It is suggested that the Ministry of Health should become even more active than before in speeding up progress by modern publicity methods.

An essential preliminary step to any long-term programme is an immediate post-war survey of national housing conditions, classifying every working-class house and bringing overcrowding records up-to-date. This should be followed by a long-term programme, to be executed on a basis of priorities according to the urgency of the various needs of repair, reconditioning, replacement and building of new houses.

With reference to the need for more reconditioning of existing property, the Sub-Committee is convinced that full advantage of the two series of Housing Acts can only be taken if there is close co-ordination in their

administration; also that grants for reconditioning should be extended to private property in suitable cases, and that there should be no discrimination against owners with means. Financial limits of grants will need to be adapted to post-war building costs and the higher standard of amenity now expected, and there is need for decisions about powers to vary the "normal agricultural rent."

New Housing: It is estimated that of four million houses quoted for the post-war ten-year programme for the whole country, about 800,000 would be rural. Because of special difficulties in acquiring sites, rural authorities will require more time for the preparation of schemes and need simpler procedure for the acquisition of land. It is recommended that housing authorities should be permitted to plan their housing development over a period of not less than five years ahead. The local planning authority should be responsible for co-ordinating all interests concerned in the acquisition of sites. There should be the maximum extension to rural areas of public services, and consideration by the housing authority of social needs, while attention should be paid to good architectural siting and design by the normal employment of a qualified architect. The small builder, considered to be more suited to rural housing construction than the large firm, should be enabled to resume activities as early as possible; while there should be discussions by the Joint County Committees concerning estate management and uniformity of rents and rebates. Villages which need almost complete rebuilding should have comprehensive plans evolved at the beginning. The question of granting further Exchequer assistance for the improvement of rural water supplies should also be considered.

For Wales, where in many parts housing conditions are much worse than in rural England, and there is more leeway to be made up, a special Exchequer subsidy for exceptionally impoverished rural districts is recommended for the general housing of all inhabitants (to apply also where necessary in England). Financial assistance to owner-occupiers of very small farm holdings should come within the orbit of post-war agricultural policy. This aid will need to be supported by vigorous administration, and recommendations affecting the Welsh Board of Health include the early setting up of joint county committees; attendance by officers at their meetings; visits to all rural districts; the institution of an immediate survey of housing conditions and the collection of reports from every rural district council; an investigation into exceptionally poor rural districts in relation to the special subsidy; insistence on employment of qualified architects on new housing schemes, and modern methods of publicity to stimulate the development of a housing conscience. The appointment is suggested of a Standing Consultative Committee to advise on rural housing in Wales.

THE STAGGERING OF HOLIDAYS INQUIRY

(Ministry of Labour and National Service: Catering Wages Commission)

Acting Chairman: Professor T. M. Knox (Deputy Chairman)
Members: John E. Greenwood, LL.B., A.C.A.; Mrs. Hermione Hichens, A.R.R.C., J.P.; Capt. H. W. J. Powell, F.S.I.; Mrs. M. J. Robinson; *G. W. Thomson
Secretary: I. McG. Roberton

A Report was issued in August 1945. It considers in turn the nature of the problem, the action to be taken, special considerations applying to Scotland and mid-week travel.

The main recommendations include the spreading of holidays as evenly as possible over June—September. The voluntary approach with regard to the staggering of holidays should be retained and any form of compulsion should be avoided. An extension should be sought of town holidays and factory holidays on the lines of " Wakes Weeks " spread over the holiday season, and the transfer of exsisting holiday weeks from the peak period. A general holiday, such as August Bank Holiday, should be treated as a movable date and could be transferred to the local holiday weeks.

Schools should be on holiday during town holiday weeks, and external school examinations should be removed from the holiday period so that they do not influence the choice of holiday dates. Where town holiday weeks are unacceptable, school holidays should either be moved from the holiday period or staggered.

The staggering of holidays within large cities should be undertaken either by industries or by area. If necessary, special action should be sought to achieve this, and the Commission urges both the Government and the holiday industries to give publicity to the advantages of staggered holidays. It is recommended that a three-tier organisation of the interests concerned and the appropriate Government departments should be set up to enable the necessary action to be taken. Similar suggestions are made with regard to the special considerations applying to Scotland.

This proposed organisation would consist of a central body, regional committees, and town committees. The central body would include representatives of the British Employers' Confederation, the Trades Union Congress, the central organisations of local authorities, the transport industry, the Association of Education Committees, the Ministries of Labour, Transport, and Education, and the Scottish Education Department ; other interests might be invited to attend as the need arose. The functions of the central body would be to set out general lines of guidance for the regional bodies and provide them with relevant information ; to draw up a rough plan and timetable of holidays to serve as a framework and basis of discussion and negotiation between the regional bodies ; to act as a co-ordinating point between conflicting interests at the national level ; to control and advise on the national publicity to be carried out by the Government ; and to keep an overall watch on the general position and to give any assistance or stimulus which may seem necessary in particular cases. Regional committees would have the same representation and functions in so far as these are applicable and would be set up for each Civil Defence and Ministry of Labour Region. Town committees might be either on an *ad hoc* basis or permanent, as deemed desirable, and would be set up by the local authorities. The executive work should be carried out by the Ministry of Labour and National Service.

Finally, the need for immediate action is stressed.

Appendices include the statistics of railway passenger travel for each month of 1938 with the percentage comparison for each month to the yearly total ; recommendations of the Committee on Workers' Holidays ;

the questionnaire issued by the Commission ; weather statistics for the British Isles in general and for five widely-separated health resorts ; a note on the statutory holidays ; and the views of the Amulree Committee on Holidays With Pay relating to the machinery to bring about the staggering of holidays.

S.O. Code No. 36-150.

ADVISORY COMMITTEE ON BUILDINGS OF SPECIAL ARCHITECTURAL OR HISTORIC INTEREST

(Ministry of Town and Country Planning)

Chairman : Sir Eric Maclagan, K.C.V.O., C.B.E., LL.D., F.S.A. (Former Director, Victoria and Albert Museum and former Vice-President of the Society of Antiquaries)
Members : C. H. Chettle, F.S.A. (Inspector of Ancient Monuments, Ministry of Works) ; Sir Alfred W. Clapham, C.B.E., F.B.A. (Secretary, Royal Commission on Historical Monuments—England—and Past President, Society of Antiquaries) ; S. E. Dykes Bower, F.S.A., F.R.I.B.A. ; Sir Cyril Fox, F.B.A. (President, Society of Antiquaries and Director, National Museum of Wales) ; Professor V. H. Galbraith, F.B.A. (Director, Institute of Historical Research and Professor of History, University of London) ; Walter H. Godfrey, F.S.A., F.R.I.B.A. (Director, National Buildings Record) ; Capt. H. S. Goodhart-Rendel (Past President, Royal Institute of British Architects) ; Professor W. G. Holford, A.R.I.B.A. (Lever Professor of Civic Design, University of Liverpool and Director of Research, Ministry of Town and Country Planning) ; Marshall Sisson, F.R.I.B.A. (Member, Estates Committee, National Trust and Member of Committee, Society for the Protection of Ancient Buildings) ; John Summerson, F.S.A., F.R.I.B.A. (Curator, Sir John Sloane's Museum) ; Professor Geoffrey F. Webb, A.R.I.B.A. (Slade Professor of Fine Arts, University of Cambridge)
Secretary : Anthony R. Wagner, F.S.A.

Terms of Reference

To advise the Minister on the administration of Sections 42 *and* 43 *of the Town and Country Planning Act* 1944, *which deal with the preservation of buildings of special architectural or historic interest.*

CENTRAL ADVISORY COMMITTEE ON ESTATE DEVELOPMENT AND MANAGEMENT

(Ministry of Town and Country Planning)

Chairman : Lawrence Neal (Deputy Secretary, Ministry of Town and Country Planning)
Deputy Chairman : H. W. Wells (Chief Estate Officer, Ministry of Town and Country Planning)
Members : E. B. Gillett (President, Chartered Surveyors Institution) ; H. H. Robinson, (Past President, Auctioneers' & Estate Agents' Institute) ; E. Guy Bigwood, J.P., C.A., F.S.I., F.A.L. ; W. S. Goodbody, F.S.I. ; K. Marr-Johnson, F.S.I. ; D. Ivor Saunders, F.S.I.

Terms of Reference

To advise the Minister on any questions relating to estate management and estate development of land acquired or appropriated for the purpose of the Town and Country Planning Acts 1932 *and* 1944, *which may be referred by the Minister to the Advisory Committee.*

LONDON REGIONAL PLANNING COMMITTEE

(Ministry of Town and County Planning)

Chairman : Clement Davies, K.C., M.P.
Vice-Chairman : Lawrence E. Neal
Members : E. G. Allen, F.R.I.B.A., P.P.T.P.I., J.P. ; J. Bolton ; E. G. Culpin, F.R.I.B.A., P.P.T.P.I., J.P. ; E. S. Fox, J.P. ; Robert Grant, J.P. ; A. T. Pike, O.B.E. ; G. W. Warren ; J. E. McColl, J.P., Barrister-at-law ; W. A. Robson, B.Sc., Ph.D., LL.M. ; Sir C. Geoffrey Vickers, V.C.
Secretary : Miss J. F. Figgis

Terms of Reference

To advise the Minister on the appropriate machinery for securing concerted action in the implementation of a regional plan for London as a whole.

NATIONAL PARKS COMMITTEE

(Ministry of Town and Country Planning)

Chairman : Sir Arthur Hobhouse
Members : Lt.-Col. E. N. Buxton, M.C. ; John Dower, A.R.I.B.A., M.T.P.I. ; Leonard K. Elmhirst ; R. B. Graham ; Dr. Julian Sorell Huxley, F.R.S., D.Sc. ; Mrs. Lindsey Huxley ; Major Clough Williams-Ellis, M.C., F.R.I.B.A., M.T.P.I., J.P. ; Professor R. S. T. Chorley, Barrister-at-Law

Terms of Reference

(a) To consider the proposals in the Report on National Parks in England and Wales (Cmd. 6628) of May 1945, as to the areas which should be selected as National Parks ; and to make recommendations in regard to the special requirements and appropriate boundaries of those areas which, in the view of the Committee, should be first selected ; (b) to consider and report on the proposals made in that Report as to the measures necessary to secure the objects of National Parks and on any additional measures which in the view of the Committee are necessary to secure those objects ; and (c) to consider and make recommendations on such other matters affecting the establishment of National Parks and the Conservation of Wild Life as may be referred by the Minister to the Committee.

REPORT ON NATIONAL PARKS IN ENGLAND AND WALES

(Ministry of Town and Country Planning)

The Report, by John Dower, was presented to Parliament in May 1945. Evidence is given of a popular desire, based on informed opinion and Ministerial approval, for national parks, and the Report is concerned with such details as choice of areas, controls to be imposed, facilities to be provided, the machinery, powers and technique required and the necessary co-ordination with other planning purposes and other departments.

A national park is defined as " an extensive area of beautiful and relatively wild country in which, for the nation's benefit and by appropriate national decision and action, the characteristic landscape beauty is strictly preserved ; access and facilities for public open-air enjoyment are amply provided. ; wild life and buildings and places of architectural and historic interest are suitably protected ; while established farming

use is effectively maintained." Suggestions are made as to areas to be considered as national parks, reserves for future national parks, and other amenity areas not to be national parks.

The second part of the Report gives a sketch of the type of authority which would be suited to the task of working out and applying a national parks policy. It is noted, however, that special machinery cannot be finally decided until the general machinery and powers for planning and development have been fully determined. It is recommended that a permanent National Parks Commission should be established under the general responsibility of the Minister of Town and Country Planning. Plans must be made and planning control exercised locally or regionally, based on the general system of town and country planning. The local authorities should collaborate, especially in the planning of national parks. Preliminary work which should be put in hand at once includes the selection and delimitation of national parks and national nature reserves, and agreement on further areas to be earmarked as possible future national parks. A Preparatory Commission should be appointed, without legislation, to assist in the study and delimitation of national park areas in consultation with the local authorities, and in the preparation of a detailed scheme for the machinery, action and finance required at the second and executive stages, which will require specific legislation. The prime executive functions of the National Parks Commission would be to collaborate with the local authorities in all the powers and duties of town and country planning, and the Commission would have the power and obligation of contributing towards the cost of exercising planning control and of preparing and implementing planning schemes in which it collaborates.

It is proposed that the cost of national parks should be met from national funds ; that the requisite special provisions should be met by Parliament and that the Commission should limit their areas, direct and supervise all necessary administrative measures, and have executive charge where necessary.

It is stated that in areas established as national parks the two dominant purposes should be that the characteristic beauty of the landscape should be preserved, and that the visiting public should have ample access and facilities within it for open-air recreation, and for enjoyment of its beauty. In the interests of landscape preservation it will be necessary to impose control over all kinds of building development or changes in the use of land, and to administer the control so as to prevent, except where they are essential in the national interest, all developments or changes other than for agriculture, open-air recreation and for a limited residential and tourist expansion of the existing centres in each area. Careful control should be exercised over the form of any permitted development. The powers of the Town and Country Planning Acts should be administered consistently and expertly in accordance with a defined national parks policy with an effective solution of the problems of compensation and betterment. There must be effective control of such threats to the landscape as mining and quarrying, large-scale afforestation, water supply and hydro-electric works, road improvements, etc., which may be achieved under existing legislation when it is fully implemented in administrative practice. There must also be positive measures aimed at conservation

and enrichment of scenic beauty. These include amenity tree-planting, constructional works (in respect of which the Commission should exercise planning and architectural control and give guidance in design and siting), and the maintenance of farming use and of the economic and social life of the resident population. Necessary improvements and road maintenance works should be carefully designed and supervised to secure a harmonious rural character, and to minimise disfiguring effects in the landscape, while a national road policy should be framed under which the future status of all roads can be rationally determined.

It is suggested that it should be the concern of the Commission to help speed up the process of providing plant installations and other works for the purification of surface-gathered drinking water, so that there may be no restriction of access in the uncultivated gathering-grounds.

A thorough recasting of footpath law and administration is recommended, to be followed by a systematic nation-wide campaign to provide, record, equip and maintain an ample extent of public footpaths in all districts.

Public acquisition of land is not regarded as essential in the case of national parks, but powers should be available where methods of control and assistance prove inadequate or expensive.

The need for close co-operation with the National Trust and the Forestry Commission is stressed, and importance is attached to consultation with voluntary organisations and expert opinion, and to informative and educative publicity.

Cmd. Paper No. 6628.

COMMITTEE ON THE DESIGN AND LAYOUT OF ROADS IN BUILT-UP AREAS

(Ministry of War Transport*)

Chairman : Sir Frederick Cook, C.B., D.S.O., M.C., M.Inst.C.E.
Members : Major H. E. Aldington, M.Inst.C.E. (Chief Engineer, Ministry of War Transport); S. L. G. Beaufoy, A.R.I.B.A., M.T.P.I. (Ministry of Town and Country Planning); Col. W. S. Cameron, M.Inst.C.E., P.T.P.I. (City Engineer, Leeds); W. R. Davidge, F.R.I.B.A., F.S.I., A.M.Inst.C.E., P.P.T.P.I.; Major C. V. Godfrey, O.B.E. (Chief Constable, Salford); R. A. Kidd, B.Sc., M.Inst.C.E., M.T.P.I. (County Surveyor, Nottinghamshire); W. A. Macartney, M.Inst.C.E. (City Engineer, Edinburgh); A. J. McIntosh, O.B.E. (Chief Constable, Dunbartonshire); H. J. B. Manzoni, C.B.E., M.Inst.C.E., M.T.P.I. (City Engineer, Birmingham); R. H. Matthew, A.R.I.B.A. (Scottish Office); T. G. Newcomen, M.Inst.C.E. (Assistant Chief Engineer, Ministry of War Transport)
Secretary : T. S. Sinclair, A.M.Inst.C.E., A.M.I.Struct.E., A.M.T.P.I. (Ministry of War Transport)

Terms of Reference

To consider the design and layout most appropriate to various types of roads in built-up areas, with due regard to safety, the free flow of road traffic, economy, and the requirements of town planning, and to make recommendations.

The main object in setting up the Committee is to give expert advice on replanning the road system of towns and cities, more particularly

* Ministry of Town and Country Planning, and Scottish Office concurring.

those which have been widely damaged by air raids. Some local authorities have already begun making plans for redevelopment, and the work of the Committee has, therefore, been pressed forward.

The Committee has now made its Report to the Minister, and this was published in 1946.

COMMITTEE ON ROAD SAFETY

(Ministry of War Transport)

Chairman : Philip Noel-Baker, M.P. (Parliamentary Secretary, Ministry of War Transport)

Representatives of Government Departments

Ministry of War Transport : C. A. Birtchnell, C.B. ; P. N. Harvey, C.B., F.I.A. ; H. R. Lintern ; A. J. Lyddon, C.B.E., M.Inst.C.E. ; Fleetwood C. Pritchard, M.C.
Home Office : M. H. Whitelegge
Ministry of Education : S. Laskey
Ministry of Information : E. M. I. Buxton
Scottish Home Department : D. Calder

Representatives of the Police

Metropolitan Police : H. Alker Tripp, C.B.E. (Assistant Commissioner)
English County Police : Capt. A. F. Hordern, C.B.E., A.F.C. (Chief Constable, Lancashire)
Scottish Police : James McConnach (Chief Constable, Aberdeen City)

Representatives of the Royal Society for the Prevention of Accidents

Members : F. G. Bristow, C.B.E., M.Inst.T. ; J. R. Howard Roberts ; E. H. Fryer, M.Inst.T. ; Nevill Whall ; Lt.-Col. J. A. A. Pickard, D.S.O.
Joint Secretaries : S. G. Griffin ; A. E. N. Taylor, B.Sc., A.M.Inst.C.E.
Assistant Secretary : W. Barr

Terms of Reference

To consider and frame such plans as are possible for reducing accidents on the roads and for securing improvements in the conduct of road users in the interests of safety ; and to review the recommendations of the Select Committee of the House of Lords on the Prevention of Road Accidents, and to advise on those which should be adopted as measures of post-war policy for the reduction of accidents.

An Interim Report, issued in December 1944, deals with road safety in connection with the users of the roads, the roads themselves, and the vehicles on the roads. The Committee favours a progressive segregation of classes of traffic, and looks forward to the establishment of an important cure for road accidents in a modernised system of road development and road layout, both in town and country, as part of the new measures of town and country planning. Recommendations cover measures for the prevention of accidents during the war, measures for introduction immediately after the war, and the formulation of a long-term policy of road safety.

Bad and inadequate road conditions are regarded as important contributory factors in the accident problem, and it is recommended that these should be constantly reviewed to ensure that improvements are made wherever they are necessary for the safety and convenience of traffic.

Recommendations relating specifically to roads constitute Part III of

the Report. The Committee supports the principle of entire segregation of motor traffic ; segregation of conflicting streams of traffic ; segregation of classes of wheeled traffic ; and segregation of pedestrians. It is suggested that in future all new roads built to accommodate the increased motor traffic should be reserved for motor traffic alone. Traffic considerations must, in the Committee's view, be linked with those of town and country planning, and a general policy should be based on the two principles of canalising traffic to the utmost in suitable roads, and of dividing roads for planning purposes into three categories, *i.e.* arterial roads (from which all but motor traffic is excluded) ; sub-arterial roads (on which the interests of vehicular traffic are predominant) ; and local or minor roads (intended primarily for local traffic, vehicular or pedestrian). These categories may be further sub-divided. The Committee considers that all new arterial roads should be for motor traffic only ; all new sub-arterial roads should be for vehicular traffic ; and that through-traffic should be excluded as much as possible from local roads. Suggestions are made as to types of junctions and intersections in post-war development to achieve a practicable degree of segregation of classes of wheeled traffic and of pedestrians.

Closer co-operation is recommended between planning authorities and highway authorities, to ensure that in determining the zoning of land and in deciding on applications for consent to development, planning authorities shall have regard to considerations of road safety, and that highway authorities shall consider the relationship to planning problems of their measures to promote road safety. Close contact should also be maintained between these authorities and the police. The function of a road is stated to be either to serve the needs of traffic or of building development, but not of both, and the degree of access to a road should be determined in the light of its traffic function, and should vary inversely with this function.

The space between the roads of the arterial and sub-arterial grid in towns should be quiet areas or precincts, where industry, business, shops and residences should be located. Crossings of general traffic roads should be by bridges or subways.

In plans for new development, it is considered essential that the arterial and sub-arterial traffic should be completely segregated from the local inhabitants. The only new frontages permissible on these roads should be development such as places of refreshment for drivers and passengers, and premises for servicing and fuelling. Development by means of parallel service roads should be prohibited and junctions should be kept down to a minimum. These arrangements would automatically put a complete stop to ribbon development along the main traffic routes.

The amenity of existing country roads and lanes should be preserved by adopting the precinct principle here also.

New roads intended as main through-traffic routes should not pass through urban areas unless they are constructed above or below ground level.

In re-planning towns, the aim should be to divert from shopping, residential and industrial streets traffic other than that serving the fronting premises, by the improvement of existing roads or the construction of new roads to form by-passes or ring-roads. Where no buildings

front the major roads, development should be of the precinct type, and the number of side-street junctions with main highways should be kept to the minimum, while side-streets should be linked up before they enter the main highway.

Detailed proposals regarding the layout and construction of roads deal with the improvement of the trunk road system ; questions of priority for road-works ; the construction of dual carriageways except where the degree of development along the road is such that frequent gaps would have to be provided in the central strip ; priority of traffic on roads ; the provision of footpaths of adequate widths on all roads carrying a substantial volume of vehicular and pedestrian traffic ; and the review of obstructions on footpaths, width of roads, camber, blind corners, bridging and tunnelling of level crossings, abolition of hump-back bridges, and the improvement of road surfaces.

The Committee recommends that the function to provide adequate parking spaces where necessary should be mandatory and should rest with the highway authorities, with whom the local authorities should co-operate. Financial assistance should be given from central funds, and charges should be as low as possible. The Committee suggests that no part of a highway should normally be used as parking space, and that separate parking spaces should be provided for pedal cycles.

The Committee also recommends provision of adequate parking space at places of public resort. At refreshment houses, hotels, etc. parking space should be provided at the expense of the owners concerned. Highway authorities should (with financial assistance) provide lay-bys in rural areas where standing vehicles on roads are a source of danger.

The removal of obstructions on highways, and new legislation to ensure a better and more uniform system of street lighting are also proposed.

These recommendations are supplemented by proposals for a national road safety campaign, designed to educate road users, and for a higher general standard of vehicle maintenance for the future.

The Committee believes that the prevention of road accidents must be the responsibility of the nation as a whole, and be secured by legislation or regulation and with the co-operation of local authorities. The cost should be shared by the Central Government, and by the local authorities and the ratepayers. A generous scale of expenditure will be required, but no estimate of the probable cost can yet be given.

S.O. Code No. 55-199.

ADVISORY COMMITTEE ON BUILDING RESEARCH

(Ministry of Works)

Chairman : Professor J. D. Bernal (Physics, Birkbeck College, London)
Members : Dr. E. F. Armstrong (Member, Building Research Board) ; Professor J. F. Baker (Mechanical Sciences, University of Cambridge) ; Professor P. M. S. Blackett (Physics, University of Manchester) ; Professor W. E. Curtis (Physics, University of Durham) ; Dr. C. C. Douglas (University of Oxford, Chairman, Joint Committee on Heating and Ventilation of Building Research Board and Industrial Health Board) ; Professor C. D. Ellis (Physics, King's College, London) ; Professor I. M. Heilbron (Organic Chemistry, Imperial College of Science

and Technology, London, Scentific Advisor, Ministry of Production); Professor J. M. Macintosh (Public Health, University of London); Mrs. J. V. Robinson (Lecturer in Economics, University of Cambridge); Sir Ernest Simon (Chairman, Advisory Council, Ministry of Fuel and Power); F. E. Smith (Chief Superintendent, Armament Design Department); Professor W. N. Thomas (Engineering, University College, Cardiff); Professor S. Zuckerman (Anatomy, Universities of Oxford and Birmingham)
Assessors: I. G. Evans (Director of Building Research); Lord Amulree (Medical Officer, Ministry of Health); Dr. R. S. F. Schilling (Secretary, Industrial Health Research Board)
Executive Officer: Sir Reginald Stradling, C.B., M.C., F.R.S., D.Sc., M.Inst.C.E.
Secretary: Miss K. E. Watkins

Terms of Reference
To advise on and to suggest lines of scientific research; to suggest where this research could best be carried out and to keep it under review; and to advise on the practical possibilities and further development of the results of current research.

BUILDERS REGISTRATION ADVISORY COMMITTEE
(Ministry of Works)

Chairman: Sir Malcolm Trustram Eve, Bt., M.C., T.D., K.C.
Members: Sir Garnet Wilson; F. E. Drury
Secretary: Lt.-Commander H. R. Gilbert

Terms of Reference
To advise on the treatment of applications for registration under Defence Regulations 56AB falling within paragraph 4 (ii) of the regulation as amended by the Order in Council dated 29th June, 1944 (i.e. cases coming within the Minister's discretionary powers).

BUILDING APPRENTICESHIP AND TRAINING COUNCIL
(Ministry of Works)

Chairman: Sir Malcolm Trustram Eve, Bt., M.C., T.D., K.C.

Employers' Representatives
National Federation of Building Trades Employers: T. C. Bowler; James Dearden; W. H. Forsdike; W. F. Gibson; I. Ernest Jones; H. Lord; H. Payne; L. A. Peyman; Major L. Shingleton, O.B.E.; F. M. Sleeman; F. Leslie Wallis
Scottish National Building Trades Federation: Harry T. Benzies; A. G. Hutton
Federation of Civil Engineering Contractors: Sir George M. Burt; A. M. Holbein
Plumbing Trades National Apprenticeship Council: J. M. Goldthorp
National Joint Council for the Mastic Asphalt Industry: M. S. Mitchell
National Joint Industrial Council for the Elecrtical Contracting Industry: E. A. Reynolds
Heating, Ventilating and Domestic Engineers' National Joint Industrial Council: J. Newman Ellis

Operatives' Representatives
National Federation of Building Trades Operatives: (*England and Wales*) H. J. Adams; R. Coppock, C.B.E.; W. Cotter; Luke Fawcett, O.B.E.; J. A. Gibson; A. Gill; B. Sandercock; J. W. Stephenson, C.B.E.; A. H. Telling; J. Whittaker; F. Wolstencroft; (*Scotland*) T. McMenemy; A. McTaggart, O.B.E.
Civil Engineering Construction Conciliation Board: H. L. Bullock; T. Pugh, O.B.E.
Plumbing Trades National Apprenticeship Council: G. H. Harris
National Joint Council for the Mastic Asphalt Industry: F. V. Jenkin
National Joint Industrial Council for the Electrical Contracting Industry: M. T. Greenwell, O.B.E.
Heating, Ventilating and Domestic Engineers' National Joint Industrial Council: L. H. Nicklin

Representatives of Professional Institutions

Institution of Municipal and County Engineers : John Leslie Beckett
Chartered Surveyors Institution : R. T. Dadson, O.B.E.
Institution of Structural Engineers : F. E. Drury
Institute of Builders : R. L. Roberts, C.B.E.
Royal Institute of British Architects : T. E. Scott
Institution of Civil Engineers : Lt.-Col. C. M. Norris, D.S.O.

Educational Representatives

Association of Technical Institutions :
Association of Principals of Technical Institutions : } Dr. D. S. Anderson
Education Committees of Local Authorities in England and Wales (nominated by Ministry of Education : Sir James Aitken
Educational Bodies in Scotland (nominated by Secretary of State for Scotland) : Lord Provost Sir Garnet Wilson
Members elected by the Council : Lt.-Col. W. French, D.S.O., M.C. ; E. G. Savage, C.B.

Representatives of Government Departments (in an advisory capacity)

Ministry of Health : A. Scott, M.B.E.
Ministry of Education : G. D. Rokeling
Ministry of Labour and National Service : Dr. A. E. Morgan
Ministry of Works : J. W. Hobson
Department of Scientific and Industrial Research : I. G. Evans
Department of Health for Scotland : E. A. Hogan
Scottish Education Department : J. Macdonald
Secretary of the Council : E. J. Rimmer
Educational Assessor : J. L. Manson
Registrar and Assistant Secretary : E. Hughes-Jones

Terms of Reference

To observe and advise on all matters concerning the recruitment, education and training of young persons for craftsmanship and management in the building industry and to encourage the development of apprenticeship schemes on a comprehensive basis.

The Government White Paper (Cmd. 6428) on " Training for the Building Industry " stated " While it is not desirable to attempt to formulate in any detail the subjects with which the Council will be concerned, the following are given as some indication of the apprenticeship questions to which it is thought the Council will wish to devote early attention : (*a*) The comprehensive review of existing apprenticeship schemes, (*b*) the definition of minimum standards to which approved schemes should conform, (*c*) the maintenance of a register of apprentices in training under approved schemes and the issue of certificates on completion of training, (*d*) the promotion of publicity designed to stimulate interest in building as a career, (*e*) practical methods of encouraging employers and apprentices to participate in approved schemes."

A First Report was issued in December 1943. This recommends that, in selecting apprentices, priority should be given to boys who have taken junior pre-employment education, and that all apprentices should be required to attend a technical course of instruction up to the age of at least 18 years. It is suggested that all Joint Apprenticeship Committees should establish, as soon as possible, close association with local and public authorities, education authorities, and the Ministry of Labour and National Service operating in the region concerned. Recommendations are made as to provisions in apprenticeship agreements relating to form, oversight and adjudication, instruction by the employer, instruction at schools, minimum period of apprenticeship, limits of age and probation.

Further expansion of junior pre-employment education for building is required, with increased resources of building labour and materials, and films to encourage recruitment and junior pre-employment education for building are proposed. Recording and registration of apprentices by the Council, and the issue of certificates on completion of apprenticeship are recommended.

Proposals are also made for securing an adequate supply of teachers and instructors for Junior Technical Schools for Building and Pre-Apprenticeship Building Courses, and for early demobilisation of teachers. (S.O. Code No. 70-436.)

A Second Report was issued in December 1944, and it is stated that the Council has been concerned with the rapid development of junior pre-employment education for building, the making of a scheme for a record and register of building craft apprentices and for a welfare fund in connection therewith, the commencement of the record of all youths in or entering the building industry for the purpose of learning a craft, the modification of industrial apprenticeship agreements to comply with the Council's minimum standards and the provision of capable teachers and instructors. The Council has also been concerned with various new considerations including the assessment of the requirements of the industry for apprentices at 25,000 per annum, the special scheme recommended by the Council for the training of apprentices on special building works, the sufficiency and suitability of senior full-time courses at technical colleges and universities, and the establishment of student apprenticeships in the industry for youths who successfully complete such courses, the provision of an optional intensive course of training for apprentices who have had their training interrupted by war service, and the recognition of satisfactory training in Home Office Approved Schools.

The Council commends to the building industry and to local authorities the scheme propounded and launched by the Government for the training of apprentices. The recruitment of 25,000 apprentices annually is considered to be necessary to make good normal wastage among 625,000 building craftsmen. Government departments and local and public authorities are recommended to stimulate the engagement of apprentices on building works, while an increased proportion of apprentices to craftsmen is recommended to the industry.

A scheme for the recording and registration of apprenticeship began to operate in 1944, and the value of the scheme is brought to the notice of all concerned. An associated Welfare Fund will be built up from fees received from the issue of certificates of completion of apprenticeship, and is designed to assist in the establishment and maintenance of a high standard of technical knowledge and craftsmanship within the industry. A recommendation is made to safeguard training during slack periods and bad weather.

One film to attract apprentices to the industry has been released for schools, and one for public release is being made to demonstrate the importance of the building industry, while the practicability of films as instructional aids is to be examined.

In connection with senior education for building, the Council recommends the industry to set up full-time courses for student apprenticeships,

to engage an adequate number of student apprentices, to plan ahead for their entry and to discourage the engagement of premium apprentices. Those concerned should consult as to the suitability and sufficiency of existing facilities for training, and provide adequate financial assistance to enable boys to pass on to senior full-time courses at technical schools and colleges and universities. Recommendations are also made to the Joint Apprenticeship Committees regarding the adequacy of facilities for part-time senior day courses.

With reference to junior education for building, it is stated that the facilities have been increased, and where they are insufficient the matter should be taken up by the Local Joint Apprenticeship Committees with the local education authorities concerned.

Recommendations are made for the recognition of vocational training for building crafts at Home Office Approved Schools as part of apprenticeship.

With reference to the interruption of apprenticeship by war service, the industry is recommended to prepare optional schemes under which completion of a six months' intensive course of training at a technical institution would complete the apprenticeship of a youth who had reached the age of 20 years ; intensive courses should be approved on behalf of the industry by the Council, and proposals for maintenance allowances should be made.

The provision of special courses for potential teachers is being planned by education departments.

Finally, the importance of the work of the Local Joint Apprenticeship Committees is stressed.

(S.O. Code No. 70-436-0-44*.)

CODES OF PRACTICE COMMITTEE

(Ministry of Works)

Chairman : H. M. Fairweather
Deputy Chairmen : J. R. Beard ; H. J. F. Gourley
Members : Principal Technical Institutions, B.S.I. and the Building Industries National Council with assessor members of certain Government departments.
Secretary : W. T. Lewis

Terms of Reference
To direct the preparation of Codes of Practice for building and civil engineering.

COMMITTEE ON THE BRICK INDUSTRY

(Ministry of Works)

Chairman : Oliver Simmonds
Deputy Chairman (Supply and Demand Committee) : L. H. Pearmaine
Deputy Chairman (Technical Committee) : A. T. Green, F.R.I.C.
Members : Major G. H. Alletson ; R. E. Barringer ; *Horace Boot, M.Inst.C.E., M.I.MechE., M.I.E.E. ; H. L. Bullock ; J. H. B. Dixon ; H. Halliday, F.C.I.S. ; W. Heaton ; T. R. C. Hurll, B.Sc. ; J. G. King, D.Sc., Ph.D., A.R.T.C., F.R.I.C., F.Inst.F.; F. M. Lea, D.Sc., F.R.I.C. ; E. ffinch Mitchell ; Gilbert Morrison ; F. H. Parrott,

* Since deceased.

F.C.A. ; F. N. Ross ; Col. C. W. D. Rowe ; C. Trollope ; E. Gwynne Vevers, C.E. ; N. J. Wigley, A.C.A.
Secretary : A. Miller, B.Sc., A.R.I.B.A.

Terms of Reference

To consider and report to the Minister of Works and Buildings on the action to be taken for increased efficiency and economy in the manufacture of bricks and to ensure the necessary supplies of bricks for both wartime and post-war probable demands, with special reference to the introduction of more scientific methods, the saving of fuel, the possibilities of greater pooling of resources, the concentration of industry, labour and transport problems ; and generally to take under review any matters that affect, or may affect, the efficiency and proper functions of the brick industry, but not to deal with questions of wages ; and to advise on any immediate steps that should be taken to assist the war effort.

The Committee's third Report, issued in October 1942, surveys the technical aspects of the brick industry. The Committee proposes that the National Brick Advisory Council (the formation of which was recommended in an earlier report) should consider post-war organisation of the industry.

The Committee considers that brickwork is the most suitable material for all permanent construction under normal conditions, but the industry has not yet found it necessary to seek the highest pitch of technical efficiency in order to satisfy the market as regards quality or quantity, and the Committee believes that the interests of both the State and the industry will best be served if technical developments of brick manufacture and utilisation are co-ordinated. The plant available in the industry must be as efficient as possible, with increased use of mechanisation. The Committee recommends more general adoption of agreed technical conditions of purchase by brick manufacturers and by architects, engineers and contractors, in order to safeguard the quality of bricks (detailed recommendations are made in Appendix III) ; that all testing of bricks should be conducted according to uniform test methods, which are specified in detail for clay or shale bricks ; and that brickmakers should consider establishing their own laboratories for testing and for the control of works processes. More consideration should be given to the use of lightweight bricks and perforated building bricks and blocks for purposes of heat insulation, while some investigation and revision of by-laws relating to their use may be necessary. The British Standards Institution should be approached with a view to the preparation of a specification for engineering bricks. Finally, there must be provision for adequate technical education and training, with special attention to training in the firing of kilns, and methods of improving the facilities for education in clay technology and ancillary subjects should be discussed between the Ministry of Works and the Ministry of Education. There must also be development of the use of modern costing systems in brickworks.

Detailed recommendations are made as to types of coal which should be allocated to brickworks in the interests of fuel economy, and for economy in brick oil used by manufacturers in the stiff-plastic and wire-cut processes.

More published technical information is proposed, including the issue of a series of instructional booklets, of which the first, dealing with the firing of common bricks, has been compiled as Appendix VII. for separate publication.

The Committee's recommendations on the care and maintenance of a closed brickworks have been compiled in Appendix VIII., and the Committee recommends that surveys of closed works should be carried out as soon as possible to assess the efficiency of operation of existing plant and where necessary to prepare plans for improved layout and equipment, so that speedy resumption of production may be assisted.

It is recommended that the technical committee of the National Brick Advisory Council should continue the Committee's technical work, and report from time to time. It should give guidance implementing these recommendations, and investigate any other relevant technical problems referred to it. A small statutory levy on the industry should be made to cover the cost of a research programme, which should embrace such matters as the disposition of man-power, the performance of kilns, the drying of wire-cut bricks, the preparation of raw materials, and mechanisation and handling.

Finally, the Committee emphasises the value of the employment of trained welfare workers, and suggests that the Minister of Works should discuss with the Minister of Labour and National Service the steps necessary to implement the provisions of the Essential Work (General Provisions) Order 1941 in regard to the prevention of absenteeism and unpunctuality in brickworks.

S.O. Code No. 70-390-3.

COMMITTEE ON CEMENT PRODUCTION

(Ministry of Works)

Chairman : George Balfour, M.P.
Members : H. Bullock (National Union of General and Municipal Workers); Major F. C. Cook, C.B., D.S.O., M.C., M.Inst.C.E. (Chief Engineer, Highways Division, Ministry of Transport); R. Coppock (General Secretary, National Federation of Building Trades Operatives, President of the International Federation of Building and Woodworkers); A. Deakin (Acting General Secretary, Transport and General Workers' Union); J. Stanley Holmes (Vice-President of the Building Societies Association); Sir William McLintock, Bt., G.B.E., C.V.O. (Senior Partner, Thomson, McLintock and Co., Chartered Accountants); George Parker (Chairman of the National Joint Council of the Building Industry)
Secretary : C. I. C. Bosanquet

Terms of Reference
To consider and report to the Minister of Works and Buildings whether, bearing in mind the probable demands for cement in meeting current needs and in post-war reconstruction; and taking into consideration economic, strategic and other factors affecting the allocation of cement, new cement works should be established, existing ones extended or old plant modernised; and if so, what general considerations, financial, geographical and economic should apply.

A Report was presented in May 1941. The Committee deals first with wartime production and states that the output is sufficient for war needs.

With reference to post-war consumption, the Committee goes on to

say that there will be a considerable time lag after the conclusion of hostilities before a large increase in demand will materialise, and it is thought that during the first year after the cessation of hostilities the demand for cement will not seriously exceed wartime consumption. The Committee has attempted to assess the quantities of cement that might be required in each of the first five years after the war.

It is concluded that the restoration of peacetime conditions should make available the production of between 9 and 10 million tons of cement, *i.e.* an addition of 3-4 million tons over the estimated wartime consumption, and it is thought that this will be sufficient for the first one or two years after the conclusion of hostilities. If, however, the demand is likely to exceed this total, and it becomes necessary to provide additional plant, the Committee considers that extension of existing plants suitably located geographically can be quickly provided. It is proposed that, when new works are to be erected or existing ones extended, such additions or extensions should be provided in districts outside the Thames and Medway valleys, in view of the fact that over one half of the total output is at present produced in these areas. It is estimated that additional output can be secured by owners of existing works to the extent of 1,560,000 tons, while the Associated Portland Cement Manufacturers and the Tunnel Portland Cement Company can respectively provide extensions with a total annual output of 580,000 tons and 360,000 tons. In addition, the Committee has been notified of proposals for the establishment of new works with an annual production of 1,100,000 tons, of which 650,000 tons can be provided by firms not requiring Government assistance.

The Committee concludes that it is not necessary to embark upon extensions of existing works or construction of new works at present. For the future, extensions to existing works giving an increased production of 1,500,000 tons per annum could be completed in 9-18 months. A decision should be reached as to the necessity for extending these plants at the end of the war.

The Committee states further that an increased production of cement to the extent of 250,000 tons can be obtained by the use of haematite blast furnace slag, while in addition use might be made of lower grade blast furnace slags of varying qualities which are the subject of research as to their suitability for the commercial production of cement, should it become a matter of urgency to secure additional output.

It is thought that there should be no difficulty in providing for export as soon as the demand can be created and shipping is available.

Finally, the Committee states that the position should be reviewed by the Ministry of Works from time to time and the necessary steps taken if in the interval some new factor comes to light which would modify the facts as presented to the Committee. The Ministry of Works should keep in contact with the industry to encourage and assist the preparation of plans for extensions, and should take steps to ensure that no undue pressure is exercised by the established manufacturers to prevent the setting up of new works which are in themselves an economic proposition.

Cmd. Paper No. 6282.

COMMITTEE ON THE PLACING AND MANAGEMENT OF BUILDING CONTRACTS

(Ministry of Works : Central Council for Works and Buildings)

Chairman : Sir Ernest Simon, LL.D., M.Inst.C.E., M.I.Mech.E., Hon.A.R.I.B.A.
Deputy Chairman : Percy Thomas, O.B.E., LL.D., P.R.I.B.A.
Members : T. P. Bennett, C.B.E., F.R.I.B.A. ; Hugh Bourne, M.I.E.E., M.I.H.V.E., M.Cons.E. ; Sir Harry Brand ; Sir George Burt, M.Inst.C.E., F.I.O.B. ; R. Coppock, C.B.E., Hon.A.R.I.B.A. ; C. T. Every, F.S.I. ; Howard Farrow ; Luke Fawcett, O.B.E. ; W. H. Forsdike, P.P.I.O.B. ; J. H. Forshaw, M.C., F.R.I.B.A. ; F. J. Gayer, F.I.O.B. ; L. Allen Gerrard ; Douglas Green, O.B.E., M.C., M.Inst.C.E., M.I.Struct.E. ; G. L. Groves, M.Inst.C.E. ; Nigel Hannen ; Alfred Harris, D.S.O., F.S.I. ; E. Vincent Harris, O.B.E., A.R.A., F.R.I.B.A. ; Oswald Healing, P.P.S.I., Assoc.Inst.C.E. ; T. Cecil Howitt, D.S.O., F.R.I.B.A. ; L. W. Hutson, F.R.I.B.A. ; J. W. Laing, F.I.O.B. ; W. H. Law, F.S.I. ; J. I. Loudon, J.P. ; A. MacDougall ; A. McTaggart, J.P. ; Herbert J. Manzoni, C.B.E., M.Inst.C.E. ; Alderman H. E. Pitt, J.P., M.C. ; T. Pugh ; V. A. M. Robertson, C.B.E., M.C., M.Inst.C.E., M.I.Mech.E., Assoc.I.E.E. ; H. J. Rowse, F.R.I.B.A. ; B. Sandercock ; W. Scott, F.R.I.B.A. ; J. W. Stephenson, J.P., C.B.E. ; J. Strain ; A. H. Telling ; J. Usherwood, F.S.I. ; E. Berry Webber, A.R.I.B.A. ; A. V. Wilson, F.S.I., A.M.Inst.C.E.
Secretary : E. J. Rimmer
The names of certain members since deceased have been omitted.

Terms of Reference
To examine the whole question of placing and management of building contracts ; to consider how far existing practices are suitable ; and to make recommendations to secure that building organisation shall be so improved as to provide the best possible service to the nation while maintaining an efficient and prosperous industry.

The Report, which was presented in May 1944, is the outcome mainly of the evidence and opinions of the members of the Committee, and is based on seven technical papers which are published with it.

In an introduction it is stated that the Committee's work is part of the general effort to improve the efficiency of the building industry, in line with the Government's undertakings to build four million houses in about ten years after the end of the war and to build up the man-power strength of the industry to 1¼ millions.

It is recognised that technical developments in building science have outstripped architectural and building organisation, and that it has become an essential function of the architect and contractor to organise and co-ordinate the work of others. Efficiency and success in building depend on co-operation among all persons concerned—the building owner, architect, consultants, quantity surveyor, general contractor, sub-contractors and operatives. General conditions should be such as to make possible the selection of men and firms according to character and ability, responsibility and pride in work, and fair remuneration for good service.

The main recommendations are :

1. The current system of placing contracts is believed to be the best one, and any inefficiencies are due to : Insufficient pre-contract preparation of particulars of the work ; expensive variation orders after the contract is placed ; indiscriminate competition tending to place work in the hands of builders adopting low standards ; and indefinite relationship between the general contractor and sub-contractors.

2. The building owner, in order to prevent high costs and delays arising from inadequate pre-contract preparation, should with the architect see that work is started on the site only when the whole undertaking has been thought out, and all requirements have been accurately defined in detail.

3. A *Time and Progress Schedule* is regarded as an essential part of every large contract, and all parties should accept full responsibility for the dates in it.

4. Whenever possible contracts should be placed on a fixed-price basis, and where the owner decides to place a contract on a cost-reimbursement basis, the fee should be a fixed sum settled in advance.

5. The general contractor should be chosen by tender from an approved list of builders judged capable of carrying out the requisite standards, but, where the owner prefers, the contract may be negotiated with a builder of his own choice.

6. Government departments and local authorities should confine permission to tender to a limited number of firms who work to similar standards. The Ministry of Works should maintain lists of builders, in different parts of the country, whom they regard as suitable to carry out works of certain sizes and characters. Direct labour departments of local authorities are regarded as successful in certain cases as a check on contractors' prices, and a number of safeguards are recommended to secure the effective working of a direct labour department.

7. Sub-contracting is considered desirable, but the building owner should place one main contract with a general contractor, to be responsible for directing the work of the sub-contractors and who should co-ordinate and control the whole of the executive work on the site. As a rule the general contractor should have sub-contractors with whom he knows he can work ; but in certain cases the architect should nominate sub-contractors, and the work should then be included in the specification and the *Time and Progress Schedule.*

8. Bills of quantities are regarded as the best basis for providing the contractor with an exact description of the work ; for estimating the cost of the whole job ; and for valuing parts or variations ; and should be used in calling tenders for groups of small houses until prices become more stabilised. A *Trade Schedule* provided by the industry, in collaboration with the Ministry of Works, to describe and value all small items, would save time and labour.

9. Recommendations relating to site management detail the responsibilities of the architect, the general contractor and clerk of works.

10. For personnel management, the continuance of wartime standards of welfare by agreement between employers and operatives is recommended. Proposals include steps by Labour Exchanges to reduce for operatives the intervals between jobs ; the establishment of works committees on all large contracts ; an information service for both workers and contractors ; and more attention to the training and selection of managers.

11. It should be a major responsibility of the Ministry of Works to see that the volume of building orders corresponds to the labour available, and the Government should prevent the charging of excessive prices as a result of the action of price-fixing trade associations.

The technical papers, which make up more than half of the Report, are on *Bills of Quantities*, *Cost Reimbursement*, *Contracts*, *Direct Labour*, *Specialists and Sub-Contractors*, *Site Organisation*, *Economists' Report*, and *Price-Fixing Trade Associations*.

In conclusion, it is stated that these recommendations can only be effective if Government action averts a repetition of the inter-war conditions of boom, slump, and unemployment, by regularising the demands on the industry; stablising employment; and preventing unreasonable prices for building works.

EXPERT MISSION ON METHODS OF BUILDING IN THE U.S.A.

(Ministry of Works)

Members: Alfred Bossom, F.R.I.B.A., J.P., M.P.; Sir George Burt, M.Inst.C.E. (Chairman of the Building Research Board); Sir James West, O.B.E., F.R.I.B.A. (Ministry of Works); Frank Wolstencroft (Secretary of the Amalgamated Society of Woodworkers and a past President of the T.U.C.)

Terms of Reference

To survey American practice in the design and construction of buildings, in equipment and finishing and in the use of materials, with a view to securing in Great Britain in the post-war period: increased speed and output; reduced building cost; improved standards of equipment and finish; and improved conditions for operatives.

The Report was issued in January 1944, without the detailed appendices (which are being prepared), in view of its immediate interest to the professions and industries associated with building. It is divided into four parts: (1) Design of buildings; (2) building procedure; (3) construction and costs; (4) factory-produced building.

The main recommendations include the simplification of building design together with the use of standard units and assemblies; the increased employment of scientific workers for industrial research in factory and field, and the dissemination of technical data directly useful to architects and engineers; investigations into the availability of public utility services, methods of thermal insulation, lighting, and noise abatement; the standardisation of materials and components for quality and service; the registration of architects and engineers; investigations into the simplification of legal procedure in connection with building and building finance.

Finally, the report advocates that advantage be taken of American experience in the construction of prefabricated houses, the repairing of damaged houses by the cement-gun process, and the use of materials such as composite slabs and panels, asphalt floor tiles, pitch for flat roofing, and plastics.

REPORT ON THE TEMPORARY HOUSING PROGRAMME

(Ministry of Works)

The White Paper on the Temporary Housing Programme, presented in October 1945, commences with a review of earlier statements relating to temporary housing, beginning with the passing of the Housing (Temporary Accommodation) Act in October 1944, authorising the Government to spend up to £150 millions on the provision of temporary houses, when the cost of the pressed-steel bungalow was estimated at £600.

The cost of the American house to be provided under Lend-Lease arrangements was about £800, and 30,000 of these houses were expected to be sent, but with the cancellation of the Lend-Lease arrangements the full cost of the house to the Exchequer has risen to £1,330, and it has been decided not to take more than the 8,150 houses that have already been shipped or are about to be shipped.

When the present Government took office the Minister concerned asked for a statement of the probable cost of the temporary housing scheme, and it was revealed that there is an average increase in cost (excluding the *Phoenix* house) of £268. The revised estimates are: *Arcon* £1,085; *Uni-Seco* £1,020; *Tarran* £1,000; *Spooner* £992; *Universal* £1,135; *Phoenix* £1,099.

The costs include site preparation (excluding land, roads and sewers), supply of hulls, erection and provision of components and fittings. The increases in cost are detailed as: £89 for site preparation; £96 for superstructure; £25 for fixtures and fittings; £15 for breakages and losses; £23 for contingencies: and £20 for Ministry of Works agency costs.

A Table of Progress of the temporary housing programme up to October 1945 is given.

Part I. of this deals, for each region, with numbers of houses allocated to local authorities, sites approved, sites acquired, development begun, sites handed over by local authorities, slabbing begun, slabbing completed, hulls delivered to sites, houses begun and houses completed. It is revealed that in England and Wales 4,049 houses were completed and 130,794 were allocated, while for Scotland the numbers were 103 and 34,300 respectively.

Part II. gives the numbers of the different types that have been ordered, and the numbers of hulls delivered from production. Of a total number of 145,830 ordered, 21,530 hulls were delivered from production up to 1st October, 1945.

Finally it is stated that a provisional future programme has been framed up to a total of 158,480 houses, including an increased number of British houses to make up for the incompleted American provision. The total cost of the Programme, outlined below, will exceed the original financial provisions by £34,669,470.

TYPE	No. IN PROVISIONAL PROGRAMME	TOTAL COST
		£
Arcon	40,000	43,400,000
Uni-Seco	29,000	29,580,000
Tarran	1,000	1,074,000
	21,000	21,001,000
Spooner	1,200	1,190,400
Universal	1,200	1,362,000
Phoenix	2,430	2,670,570
Aluminium	54,500	74,392,500
American	8,150	*10,000,000

Cmd. Paper No. 6686.

STANDARDS COMMITTEE

(Ministry of Works)

Chairman : Sydney Tatchell, F.R.I.B.A.

Members : A. S. Ainsley, F.I.A.S. (Incorporated Association of Architects and Surveyors) ; F. H. Andrews, O.B.E. (Royal Society of Arts) ; J. A. Banks, M.Inst.C.E. (Institution of Civil Engineers, Scottish Branch) ; J. Austen Bent, A.R.I.B.A., A.M.T.P.I. (Department of Health for Scotland) ; H. T. Benzies (Scottish National Building Trades Federation, Employers) ; Reginald Brown, F.I.A.A., F.I.A.S. (National Federation of Housing Societies) ; Robert Chalmers, O.B.E., B.Sc., M.Inst.C.E., M.I.Mech.E. (Institution of Mechanical Engineers) ; R. V. Chato, A.M.Inst.C.E., M.I.Struct.E. (Building Industries' National Council) ; C. R. Fowler, M.B.E. ; Ralph Freeman, M.Inst.C.E., M.Am.Soc.C.E. ; J. A. Gerrard, F.I.O.B. ; P. Good, C.B.E., M.I.E.E., F.C.G.I. (British Standards Institution) ; John Gray, F.S.I. (Chartered Surveyors Institution, Scottish Branch) ; A. Harris, D.S.O., F.S.I. (Chartered Surveyors Institution) ; J. C. Hill (National Federation of Building Trades Operatives, Scottish Section) ; F. R. Hiorns, F.S.A., F.R.I.B.A., M.T.P.I. (Royal Institute of British Architects) ; A. L. Hunking, B.C. (Federation of Associations of Specialists and Sub-Contractors) ; J. W. Laing, F.I.O.B., F.A.R.P.I. ; F. M. Lea, D.Sc. (Department of Scientific and Industrial Research) ; W. McKinnell, F.F.A. (Building Societies Association) ; John Markham, F.R.I.B.A. ; J. Nelson Meredith, F.R.I.B.A. (Association of Municipal Corporations) ; Major W. H. Morgan, C.B.E., D.S.O., M.Inst.C.E., M.I.M.& Cy.E. (Institution of Municipal and County Engineers) ; Sir Dudley Pryke, Bt. (Distributors of Builders' Supplies Joint Council) ; E. A. Reynolds, M.A., M.I.E.E. (Institution of Electrical Engineers) ; R. J. Rogers, M.Inst.Gas.E. (Institution of Gas Engineers) ; H. Ryde, C.V.O., O.B.E., F.S.I., A.R.I.B.A. ; B. Sandercock (National Federation of Building Trades Operatives) ; G. B. Sankey ; W. H. Scanlan, F.S.I., M.Inst.R.A. (Institute of Registered Architects) ; Sir Giles Scott, R.A., P.P.R.I.B.A. ; T. Stevenson, A.I.Struct.E. (National Council of Building Material Producers) ; S. Pointon Taylor, F.R.I.B.A., M.T.P.I. (Ministry of Health) ; H. Symon (Ministry of Health) ; R. H. Thomason, A.M.I.Struct.E. (Institution of Structural Engineers) ; F. E. Towndrow, A.R.I.B.A. ; Miss J. M. Upcott, B.A., A.R.San.I., F.S.W.H.M. (Society of Women Housing Managers) ; D. M. Watson, B.Sc., M.Inst.C.E. (Institution of Civil Engineers) ; Edwin Williams, M.B.E., M.A., F.R.I.B.A., B.Arch., A.M.T.P.I. (London County Council) ; Guthlac Wilson, S.M.B.Sc.(Eng.), M.Inst.C.E., M.Am.Soc.C.E. ; C. Roland Woods, M.B.E., LL.D. (Codes of Practice Committee) ; G. Grey Wornum, F.R.I.B.A.

Secretary : P. Cutbush, A.R.I.B.A., A.I.L.A., A.A.Dip.

* This figure depends upon the outcome of discussions with regard to the number of American houses to which the Lend-Lease arrangement will apply.

Terms of Reference

To study the application in building of standard plan elements, standard specifications and building components, and of methods of prefabrication, with the particular object of ensuring (a) economy in the use of material in the post-war period; (b) simplified and speedier procedure and construction; and (c) wherever possible improved quality and design; to make recommendations for such standards as well as for standards for terminology and consumer requirements; to collect, review and correlate recommended standards put forward by study committees of the Directorate of Post-War Building, and to draft material for the British Standards Institution and the Codes of Practice Committee of the Ministry of Works, to be used in the promulgation of official British Standards and Codes.

A first progress Report has been issued, the main body of which is made up of technical details and illustrations contained in a summary of recommendations for standards for materials and components.

Buildings : The Committee has worked with the objects of establishing minimum standards necessary to secure, for (*a*) consumers, a basis for the inspection, testing, comparison and grading of goods ; that building components are suitable for their purpose, have satisfactory appearances, appropriate length of life, and provide efficiently for health, convenience and safety ; and that materials conform to known tests as to composition and other properties to ensure efficiency in use ; for (*b*) producers, economy in the use of materials, labour, machinery and tools, and that building elements shall conform to recommended dimensional standards and types. It is not, however, intended that the standardisation of components should prejudice the proper planning, sound construction and satisfactory appearance of buildings.

The Committee has reviewed the basic standards of building and ancillary engineering materials, components and appliances, and has made recommendations for British Standards. The British Standards Institution has set up technical committees, and the drafting of British Standards in accordance with the Committee's recommendations is proceeding. Comprehensive recommendations are made for a Standard of Drawing Office Practice.

A résumé of the Committee's views on the scope of prefabrication is appended.

SCIENTIFIC ADVISORY COMMITTEE

(Ministry of Works)

Chairman : Professor J. D. Bernal
Members : Dr. E. F. Armstrong ; Professor J. F. Baker ; Professor P. M. S. Blackett ; Professor W. E. Curtis ; Dr. C. C. Douglas ; Professor C. D. Ellis ; Professor I. M. Heilbron ; Professor J. M. Macintosh ; Mrs. J. V. Robinson ; Sir Ernest D. Simon ; F. E. Smith ; Professor W. N. Thomas ; Professor S. Zuckerman
Assessors : I. G. Evans ; Lord Amulree ; Dr. R. S. F. Schilling
Executive Officer : Sir Reginald Stradling, C.B., M.C., F.R.S., D.Sc., M.Inst.C.E.
Secretary : Miss K. E. Watkins

Terms of Reference

To advise on and to suggest lines of scientific research in relation to matters for which the Minister of Works is responsible; to suggest, having regard to existing research organisations in Government departments, universities and industry, where this research could best be carried out, and to keep it under review to ensure that it is properly correlated; to advise on the practical possibilities and further development of the results of current research, whether carried out at the instance of the Minister or otherwise, and from time to time to review from the scientific point of view the results of such development.

UNITED KINGDOM OPENCAST COAL MISSION TO THE UNITED STATES OF AMERICA

(Ministry of Works)

Members: J. R. Caseley; Lewis Jacob; Atherton Lord; Malcolm McAlpine; Arthur Monk; Harry Richardson

Terms of Reference

To study the engineering technique and operations of opencast coalmines in the United States, together with costs and any other matters which would assist in increasing efficiency of opencast coal operations in the United Kingdom, and to prepare a Report.

The Mission made a tour of over 5,000 miles in the United States, during 1944, covering eight States and visiting 72 opencast coal operations and ten engineering works manufacturing excavating machines. A Report was presented in December 1944.

The Mission agrees that the cheapest and most efficient method of winning coal is on the "salvage" basis, which is most generally applied in America. In this system, the contractor is responsible for mining the coal and delivering it at a tendered price per ton of coal. The Mission recommends that serious consideration should be given to the adoption of this "salvage" method wherever possible in the United Kingdom, although with the present type and size of machines available it may not be possible to apply it universally. Adequate geological information should be provided for the contractors, both for working on the "salvage" and the "yardage" basis.

It is recommended that the present policy of concentrating contractors' operations should be pursued, giving the advantages of economical administration and efficient maintenance of plant.

With reference to the working technique, the Mission agrees that the most suitable type of machine for stripping in the United Kingdom, where the seams are mostly pitching, is a dragline of three to five cubic yards capacity, preferably equipped with walking gear, or at any rate with long caterpillars. Forward preparation is believed to be essential, whatever type of machine is used for stripping, and to ensure this a recommendation is made that the supply of adequate drilling equipment for the blasting of overburden should have the utmost priority. The cost of explosives, more than twice as high in the United Kingdom as in the United States, should be investigated.

With reference to machinery, the Mission recommends that it is necessary to carry a minimum of 10-15 per cent. of the capital value of the machines in spares, with at least two spare buckets for each machine. Great importance is attached in the United States to the provision of adequate spares and maintenance facilities, and the Mission recommends that the first essential is to obtain adequate priority at high level for the procurement of spare parts and labour for the maintenance of both British and American equipment. Adequate arrangements should be made for the supply of new machines of a total bucket capacity of 260 cubic yards, as a large proportion of the British machines are old, and the

majority of the machines received from America are believed to be inferior to those employed on U.S.A. sites.

The continuance of American technical advice in the United Kingdom is recommended.

NATIONAL BRICK ADVISORY COUNCIL
(Ministry of Works)

Chairman : L. W. Farrow
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
To advise the Minister on all questions relating to price fixing ; quotas, operation of care and maintenance ; over sales and under sales scheme ; the best method of correlation of production and demand, to co-operate with the Ministry and the appropriate research bodies on matters affecting the production of bricks and to perform such other duties as the Minister may specify from time to time.

ALLOCATION SUB-COMMITTEE
(Ministry of Works)

Chairman : G. L. Cruickshank
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
See *National Brick Advisory Council*, this Section.

CARE AND MAINTENANCE SUB-COMMITTEE
(Ministry of Works)

Chairman : E. Gwynne Vevers, C.E.
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
See *National Brick Advisory Council*, this Section.

HAULAGE RATES SUB-COMMITTEE
(Ministry of Works)

Chairman : W. Heaton
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
See *National Brick Advisory Council*, this Section.

POST-WAR ORGANISATION SUB-COMMITTEE

(Ministry of Works)

Chairman : L. W. Farrow
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
See *National Brick Advisory Council*, this Section.

PRICES SUB-COMMITTEE

(Ministry of Works)

Chairman : L. W. Farrow
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
See *National Brick Advisory Council*, this Section.

QUOTA SUB-COMMITTEE

(Ministry of Works)

Chairman : L. W. Farrow
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
See *National Brick Advisory Council*, this Section

TECHNICAL RATES SUB-COMMITTEE

(Ministry of Works)

Chairman : L. W. Farrow
Members : Representatives of the brickmaking industry and other bodies.
Secretary : A. D. Bottoms

Terms of Reference
See *National Brick Advisory Council*, this Section.

NATIONAL CONSULTATIVE COUNCIL OF THE BUILDING AND CIVIL ENGINEERING INDUSTRIES

(Ministry of Works)

Chairman : J. W. Stephenson (N.F.B.T.O.)
Members : Elected representatives of the employer, operative and professional sides of the industries concerned.
Secretary : K. Newis

Terms of Reference
To consider problems affecting generally the building and civil engineering industries other than matters which are normally handled by joint organisations of Trade Unions and employers in connection with wages and conditions of employment.

ADVISORY PANEL ON REGISTRATION OF BUILDERS AND CIVIL ENGINEERING CONTRACTORS (ENGLAND AND WALES)

(Ministry of Works)

Chairman : H. H. Montgomerie
Members : Representatives of employees in the building and civil engineering industries.
Secretary : Miss L. Evans

Terms of Reference
To advise the Minister on questions arising as to whether the conditions prescribed for registration are being complied with, and on the action to be taken in cases where these conditions are not being observed; and in general to advise on such other matters connected with registration as the Minister may refer to them.

ADVISORY PANEL ON REGISTRATION OF BUILDERS AND CIVIL ENGINEERING CONTRACTORS (SCOTLAND)

(Ministry of Works)

Chairman : D. L. MacIntyre
Members : Representatives of employees in the building and civil engineering industries.
Secretary : M. Scott

Terms of Reference
To advise the Minister on questions arising as to whether the conditions prescribed for registration are being complied with, and on the action to be taken in cases where these conditions are not being observed ; and in general to advise on such other matters connected with registration as the Minister may refer to them.

BUILDING PROGRAMME JOINT COMMITTEE

(Ministry of Works)

Chairman : J. H. Wilson, M.P.
Members : Representatives of employers and operatives in the building and civil engineering industries.
Secretary : W. C. Orr

Terms of Reference
To advise the Government on measures to be taken to secure the completion of and to consider problems arising in connection with the execution of the special building programme.

COMMITTEE ON HOUSE CONSTRUCTION

(Ministry of Health, Department of Health for Scotland and Ministry of Works)

Ministry of Works Post-war Building Studies No. 1

Chairman : Sir George Burt, M.Inst.C.E., F.I.O.B.
Representing the Ministry of Health : L.de Soissons, O.B.E., A.R.A., F.R.I.B.A., S.A.D.G.; L. H. Keay, O.B.E., F.R.I.B.A.; A. Scott, M.B.E., F.R.I.B.A., M.I.Struct.E.; H. Symon, B.A., F.S.S.

Representing the Department of Health for Scotland: A. B. Gardner, F.R.I.B.A., F.R.I.A.S.; J. R. C. McKay, F.R.I.B.A., P.R.I.A.S.; J. Austen Bent, A.R.I.B.A., A.M.T.P.I.
Representing the Ministry of Works: J. W. Laing, F.I.O.B., F.I.C.D.; F. E. Towndrow, A.R.I.B.A.; Sir James West, O.B.E., F.R.I.B.A.
Representing the Department of Scientific and Industrial Research (Building Research Station): I. G. Evans, M.A., B.Sc.
Technical Officer: A. M. Chitty, M.A., F.R.I.B.A.
Secretary: Judith G. Ledeboer, A.R.I.B.A.

Terms of Reference
To consider materials and methods of construction suitable for the building of houses and flats, having regard to efficiency, economy, and speed of erection, and to make recommendations for post-war practice in the light of all revelant findings of the Study Committees co-ordinated by the Directorate of Post-War Building of the Ministry of Works.

In a Report issued in October 1943, the Committee states that it is obvious that the building industry, in its depleted state, will be unable to meet the post-war demands that will be made on it, and alternative methods of construction must be found. As a basis for its inquiry, the Committee examined the steps taken after the last war. It emphasises, however, that good architectural advice should be sought if such houses are to prove acceptable to both local authorities and the public.

Most of the experience gained during the inter-war period was with alternative walling systems, while the flooring and roofing systems used were, for the most part, conventional, and these are subject to further inquiry.

The various types of walling systems reviewed include :

(*a*) Concrete walling systems, which are good alternatives, whether as pre-cast or poured *in situ*. This system gives scope for unspecialised labour with increase in erection speed. At the request of the Committee the Minister of Works is inquiring into future possibilities of the use of light-weight aggregates and light-weight concretes.

(*b*) Timber, of which the use is recommended, but its application is stated to be limited owing to fire risk and vermin infestation. However, in the light of present research on the use of wood in aircraft construction and other industries, the experience gained may well be of value in house construction. It will depend greatly on the availability of suitable timber.

(*c*) Metal-clad houses are stated to have much to recommend them, in view of the knowledge and experience now available on thermal insulation and protection from corrosion.

(*d*) Steel frame construction is stated to offer new prospects for the evolution of new methods of floor and wall construction as well as of walling, and further investigation is in progress. It is pointed out that the development of steel frame and metal-cladding may well lead to the utilisation of labour and factory space used in war industries. Further systems, in addition, suitable for labour untrained in the building industry, are under review.

The first Part of the Report deals with and discusses the basic technical considerations affecting house construction, under topics such as strength and stability ; moisture penetration ; sound and thermal insulation. It is hoped that the formulating of such a basis will avoid the difficulties met

with by designers after the last war, and that the suggested standards will represent the aim until sufficient further experience has been gained to warrant further review. The second Part is taken up with a comprehensive survey of the alternative forms of construction used in the inter-war period. The third Part is mainly concerned with notes on materials, particularly those which may be required during a possible temporary shortage of normal materials, and of those new ones which merit further trial with a view to permanent adoption,

The Committee is of the opinion that a co-ordinated programme of research and experiment is needed to further the development of alternative methods of construction. Such a programme has been recommended, and is being carried out conjointly by the Ministries most directly concerned.

COMMITTEE ON STANDARD CONSTRUCTION FOR SCHOOLS

(Ministry of Education)

Ministry of Works Post-war Building Studies No. 2

Chairman : Sir Robert Wood, C.B.E. (Ministry of Education)
Members : Dr. W. P. Alexander (Director of Education, Sheffield) ; A. L. Binns, M.C. (Education Officer, West Riding of Yorks) ; W. G. Briggs (Director of Education, Derbyshire) ; Miss A. Catnach (President, Association of Head Mistresses) ; D. A. Clarke-Hall, A.R.I.B.A. (Royal Institute of British Architects) ; Mrs. F. Corbet (Member, London County Council) ; Alderman H. Cropper, O.B.E., J.P. (President, Association of Education Committees) ; Alderman G. Elmer (General Secretary, National Builders' Labourers' and Constructional Workers' Society) ; W. Emrys Evans (Director of Education, Breconshire) ; Miss O. M. Hastings (Secretary, Incorporated Association of Assistant Mistresses) ; Miss I. Haswell (Chairman, Evacuation and Education Committees, National Union of Teachers) ; A. E. Henshall (Secretary, Education Committees, National Union of Teachers) ; F. R. Hurlston Jones (Chairman, Joint Committee of the Four Secondary Associations) ; Sir P. D. Innes, C.B.E. (Chief Education Officer, Birmingham) ; Thomas H. Jones (Member, London County Council) ; H. Morris, C.B.E. (Secretary, Cambridgeshire Education Committee) ; Professor W. G. Newton, M.C., M.A., F.R.I.B.A., J.P. (Royal Institute of British Architects) ; Dr. L. R. Pears (Member, Executive Committee, Incorporated Association of Assistant Masters) ; T. J. Rees, C.B.E., J.P. (Honorary Secretary, Federation of Education Committees in Wales and Monmouthshire) ; J. E. Richardson, L.R.I.B.A. (Assistant Architect, London County Council) ; C. G. Stillman, F.R.I.B.A. (Royal Institute of British Architects) ; F. W. Stratton, F.I.O.B. (National Federation of Building Trades Employers) ; T. Walling (Director of Education, Newcastle-upon-Tyne) ; A. C. T. Woodward (Chairman, Worcestershire County Council)
Assessors : F. Jackman, F.R.I.B.A. (Ministry of Education) ; J. H. Markham, F.R.I.B.A. (Ministry of Works)
Secretary : A. R. Maxwell-Hyslop (Ministry of Education)

Terms of Reference

With a view to facilitating the planning and erection of school buildings after the war, to consider the possibilities of applying some measure of standardised construction to schools and to make recommendations as to their planning, layout and equipment.

The Committee was appointed by the former Board of Education in March 1943. The Report, issued in 1944, begins by pointing out that, after the war, school building operations will have not only to make up for war stoppage and damage, but also to improve upon the pre-war

programme, which was inadequate, and to provide the additional and improved accommodation called for by the new Education Act. All obstacles to building progress must consequently be removed, and all resources used with the utmost economy. The elimination of delay in the completion and approval of plans is gone into as well as some standardisation in design and planning. The Committee does not urge the adoption of one model plan, nor does it wish to rule out the use of traditional methods where the necessary labour and materials are available. Some degree of standardisation in design already exists.

The employment of competent architects with a knowledge of standardisation methods is urged.

Two separate approaches for primary and secondary schools have been studied in the Report. One develops the school as a structural whole, necessitating a general and connected framework ; the plan is based on a unit dimension of 8 ft. 3 ins., giving a clear classroom length of 24 ft. Suggestions aim at flexibility in the use of materials, as well as in planning and layout, and the Committee recommends the use of steel for the structural elements. Standardisation could be applied also to the infillings, as well as brick, masonry or blocks. This method would have the advantages of lending itself to the mass production of standard sizes, of making it possible to project the layout of the school in any direction, and of simultaneous roofing and wall erection which would save time on drying out, and enable the framework to be equally well used for additions to existing accommodation.

The second approach is based on a group of separate plan units, providing separately for classrooms, practical rooms and communal accommodation, to be connected or disconnected ; thus different dimension units can be used for the width and length. Concrete and timber may be used in addition to steel for structural elements.

Finally, two recommendations made are : that steps should be taken to bring before local education authorities and others concerned, the desirability of adopting some system of standardisation for school construction ; and that further expert considerations, pursued by the Ministry of Education and Ministry of Works in consultation with industry, will be necessary to determine the design of the best and most economic type of structural elements. The results of such research might be issued with a revised and up-to-date statement of the Ministry's requirements for schools.

With reference to equipment, fixtures come within the terms of reference of Committees working under the Post-War Building Directorate of the Ministry of Works. The Committee considers that an inquiry into school furniture could best be made by a small group of administrators and teachers, in consultation with suppliers and school architects.

Appendices include *The Report of the County Architects' Society on Administrative Procedure Affecting Sites and Buildings ;* a table of approximate net dimensions of rooms ; and type plans for the two layouts suggested for primary and secondary schools.

COMMITTEE ON PLASTICS

(British Plastics Federation)

Ministry of Works Post-war Building Studies No. 3

Chairman : H. V. Potter, F.I.C.
Investigators : *Moulded Plastics :* C. S. Dingley (Streatly Manufacturing Co., Ltd.), co-operating with H. Bridge (Thomas De La Rue & Co., Ltd.)
Laminated Plastics : A. E. Skan (Ellison Insulations, Ltd.), co-operating with A. W. Sherwood (Bakelite, Ltd.)
Transparent and Opaque Sheeting, other than Laminated Plastics Sheet : T. L. Birrell (B.X. Plastics, Ltd.), co-operating with W. M. C. Norie (I.C.I. (Plastics), Ltd.)
Resinous Materials—Plastics, Cements and Adhesives : H. V. Potter, assisted by A. Lowe (Bakelite, Ltd.)
Extruded Plastics : W. M. C. Norie (I.C.I. (Plastics), Ltd.) co-operating with T. L. Birrell (B.X. Plastics, Ltd.)
Resin Bonded Sheets, including Plywood, Composite Boards and Similar Materials, other than Laminated Plastics : R. J. Schaffer and R. A. G. Knight (Department of Scientific and Industrial Research)
Miscellaneous, including Expanded Plastics : T. L. Birrell (B.X. Plastics, Ltd.)

Terms of Reference

To consider present practice and new proposals in the application of plastics to heating and ventilating, lighting, plumbing, electrical, gas and mechanical installations, painting, internal and external furnishing, building construction, and any other applications which may suggest themselves ; to make recommendations for practice in post-war building ; to make such recommendations for further research as may arise after these studies.

Sub-Committees were set up, under the above headings, to collect and collate relevant information, and the results were set out in the Report under four main headings :

(1) Materials, processes of manufacture and properties, where the various groups of materials are considered in non-technical detail.

(2) Application of plastics to building uses ; among the points considered in this section are structural components such as doors, fire-place surrounds, floors and ceilings, tubes and pipes, and the miscellaneous uses such as acoustical control, hinges, furniture, etc. A sub-section of this heading deals with the manipulation and fixing of the various types of plastics, while another covers long-term uses of plastics, giving consideration to such points as the reinforcement of plastics and the trend in prices.

(3) Design and standardisation ; a list of British Standard and other specifications is included in the appendix. A hall-mark scheme is being drawn up by the British Plastics Federation in collaboration with the British Standards Institution to overcome the difficulties of defects arising from poor design. By consultation between potential users of plastics in post-war building, it should be possible to prepare a list of preferred sizes which would guide the manufacturers when installing new plant and equipment.

(4) A summary of conclusions and recommendations ; significant suggestions are that the study of plastics should be included in the syllabus of technical institutions and that close collaboration should prevail between building and plastics industries.

There are appendices, of which one gives a list of some actual and potential applications of plastics of interest to the building industry. The others are concerned with the cost of sheet materials, and a list of specifications. There is also a glossary of technical terms.

COMMITTEE ON PLUMBING

(Building Research Board of the D.S.I.R.)

Ministry of Works Post-war Building Studies No. 4

Chairman : Sydney Tatchell, F.R.I.B.A., F.R.San.I.
Members : Major Henry Clay, R.A.M.C., F.R.San.I., F.I.S.E ; G. H. Harris ; R. G. Hetherington, C.B., O.B.E., M.Inst.C.E. ; J. W. Laing, F.I.O.B., F.A.R.P.I. ; A. Longworth, F.R.San.I., A.M.I.San.E., F.I.O.P. ; G. D. Macniven, F.R.I.B.A. ; H. J. Manzoni, C.B.E., M.Inst.C.E. ; J. H. Markham, F.R.I.B.A. ; W. M. Lloyd Roberts, M.Eng.(Liverpool), M.Inst.C.E. ; A. Scott, M.B.E., F.R.I.B.A., M.I.Struct.E. ; R. S. Sidle, F.R.San.I., M.Inst.S.P. ; Dr. Charles F. White, O.B.E., M.D., D.P.H., D.T.M.
Secretary : F. L. Barrow, M.Sc., A.M.Inst.C.E., M.I.Struct.E., M.R.San.I.

Terms of Reference

(1) *To review existing scientific information and practice in this country and abroad on plumbing (including the underground drainage forming part of normal building works), with particular reference to the supply of cold and hot water in buildings and the removal of soil, rainwater, and waste therefrom ;* (2) *to make recommendations for practice in post-war building ;* (3) *to make such recommendations for further research as may suggest themselves in considering* (1) *and* (2).

The Report, published in August 1944, is developed with special regard to low priced housing practice, and includes recommendations on water services, sanitary fittings and drainage. A complete survey is made of present practice and possibilities of improvement. Separate sections cover standard appliances for housing, and recommendations for further research.

An appendix describes tests on trap siphonage on simple one-pipe installations in various towns, and one on commonly occurring defects in plumbing practice.

A comprehensive bibliography, a set of detailed drawings and a glossary of technical terms are attached.

COMMITTEE ON PAINTING OF BUILDINGS

(Paint Research Association)

Ministry of Works Post-war Building Studies No. 5

Chairman : S. K. Thornley (President, Paint Research Association)
Deputy-Chairman : C. A. Klein (Vice-President, Paint Research Association)
Members : W. Abnett (Ministry of Works) ; L. H. Bucknell, F.R.I.B.A. (architect) ; Iain Cameron (paint manufacturer) ; *Cecil E. Campbell, F.I.B.D. (decorator) ; John A. Christie, F.I.B.D. (decorator, Scotland) ; Nigel Hannen (builder) ; *L. A. Jordan, D.Sc., F.R.I.C. (Director, Paint Research Station) ; *James Lawrence, F.I.B.D. (paint manufacturer) ; *H. M. Llewellyn, B.Sc., A.R.I.C. (Building Research Station) ; W. M. Mackinlay, J.P. (paint manufacturer, Scotland) ; *John H. Markham, F.R.I.B.A. (Ministry of Works) ; *E. W. Plowman, B.Sc., D.I.C. (paint manufacturer) ; H. Todd Thornbery, B.Sc. (Vice-President, Paint Research Association)
Secretary : Noël Heaton, B.Sc., Hon.A.R.I.B.A.

Terms of Reference

To review practice in paint manufacture and in painting technique in the most general terms. To study such problems as arise out of this review, and to supervise research as

* Member of Technical sub-Committee for dealing with special technical matters.

may be desirable and necessary. To report and make recommendations on : improvements in practice (a) with a view to simplification to meet essential needs during the first three years of peace, and (b) generally ; decorative, protective, and other technical properties of paint products ; specifications as may be necessary to give effect to the above requirements and to meet both general and special needs in building ; a suggestion for a scheme of official certification for quality in paint products.

The Report, published in July 1944, makes it clear that sound painting is essential as a protective for many materials used in buildings, which (whether privately or publicly owned) form part of the national asset.

Sections cover the general nature of paints ; the preparation of surfaces for painting ; recommendations for painting, under the sub-title *Exterior and Interior Surfaces*. Types of paint recommended for various uses are dealt with, and there is a section on the painting of buildings in the immediate post-war period. The Report is illustrated and has appendices giving notes on British Standards, the regulation for the use of lead paint, and the protective treatment of steel windows.

COMMITTEE ON GAS INSTALLATIONS

(Institution of Gas Engineers)

Ministry of Works Post-war Building Studies No. 6

Chairman : R. J. Rogers, M.Inst.Gas.E.
Members : Mrs. G. Abbot ; B. J. Bell, A.M.Inst.Gas.E. ; H. M. Browne, M.C. ; R. D. Keillor, M.Inst.Gas.E. ; R. N. Le Fevre, A.M.I.Mech.E., M.Inst.Gas.E. ; H. P. Lupton B.Sc., A.I.C., M.Inst.Gas.E. ; J. H. Markham, F.R.I.B.A. ; C. A. Masterman, M.A., M.I.Mech.E., F.I.C., M.Inst.Gas.E. ; J. M. A. Mitchell, A.M.Inst.Gas.E. ; H. Singleton, M.I.Mech.E., M.Inst.Gas.E. ; N. S. Smith, M.Inst.Gas.E.
Secretary : W. T. K. Braunholtz, M.A., Ph.D., F.I.C.

Terms of Reference

To review existing information and practice concerning installations in buildings for (a) the supply of gas for all purposes from the point of entry of the gas to the property boundary to its delivery to an appliance and (b) gas-operated household appliances serving the single family dwelling ; to review proposals for improved gas-operated appliances for space-heating, cooking, refrigeration, hot-water supply, and clothes-washing and drying ; to make recommendations for practice in post-war buildings.

The Committee emphasises primarily the need for proper co-ordination of all concerned in the design and erection of buildings.

It recommends that the gas service-pipe should be installed by the gas undertaking, that where a common trench is used there should be consultation between the services concerned ; that surface boxes and covers should be of standard design ; that there should be protection against external corrosion of ferrous pipes ; and that the British Standards Institution be requested to prepare the necessary standard specifications. Materials should comply with the recommendations of the Institution of Gas Engineers and the relevant British Standards. Recommendations for sizes, method of laying, controls, method of entry, ducts and casings, identification, protection, local disconnection of supply, and inspection and testing are given.

Internal installations receive consideration in four separate sections. Firstly, installation pipes (and here the Committee emphasises the need

for consultation between the gas undertakings and the architects and builders, and for testing all pipes and fittings for soundness) ; secondly, details of materials, jointing, sizes, methods of installation, protection, controls and installation points ; thirdly, easy identification of pipes, meter and controls ; and fourthly nomenclature. Recommendations concerning gas meters follow closely those published in the first and second Reports of the Meters Committee of the Institution of Gas Engineers, and in addition special attention is paid to the position of the meter. In connection with gas appliances, the Committee recommends that the Standards Committee of the Ministry of Works, in consultation with the gas, electrical and solid fuel industries, should give consideration to the possibilities of making general provisions for domestic fuel appliances (*e.g.*, standardisation of dimensions of fire-places), which would allow for the fitting of any fuel service chosen by the occupier ; the Committee has consulted the sub-Committee of the Ministry of Health on the Design of Houses and Flats, and has submitted proposals for the location, dimensions and installation of fuel appliances in new buildings. A recommendation is made for special provision for the adequate ventilation of kitchens.

Recommendations in the final section deal with the gas service-pipe, meters and enclosure, internal installations, a flexible system of water-heating, and gas-heated equipment for the meals' kitchen, medical inspection room, principal's room, common-room and lobby, gymnasium, housecraft rooms, demonstration flat, needlework room and practical rooms in a typical school, and for domestic science centres.

Appendices include a selected list of gas- and coke-burning appliances for single family dwellings, with brief specifications ; a note on "bottled" gas installations ; tables ; and a glossary of standard terms.

It is understood that recommendations contained in this report will form the basis of Codes of Practice.

COMMITTEE ON STEEL STRUCTURES

(Institution of Civil Engineers)

Ministry of Works Post-war Building Studies No. 7

Chairman : Dr. David Anderson, B.Sc. (Vice-President, Institution of Civil Engineers)
Members : Professor J. F. Baker, M.A., D.Sc., A.M.Inst.C.E. (Research and Experiments Department, Ministry of Home Security) ; H. P. Budgen, Ph.D., M.Inst.C.E. (Stothert & Pitt, Ltd.) ; Dr. Oscar Faber, M.Inst.C.E. (Institution of Structural Engineers) ; C. Hipwell (Dorman Long & Co., Ltd.) ; B. L. Hurst, M.Inst.C.E. ; R. T. James, M.Inst.C.E. ; Col. K. T. Lomas, D.S.O., M.Inst.C.E. (London County Council) ; J. F. Pain, M.C., B.Sc., A.M.Inst.C.E. (Dorman Long & Co., Ltd.) ; Professor A. J. Sutton Pippard, M.B.E., D.Sc., M.Inst.C.E. ; Guthlac Wilson, S.M., B.Sc., M.Inst.C.E.
Secretary : E. Graham Clark, M.C., B.Sc. (Secretary, Institution of Civil Engineers)
Co-opted Members : A Ramsay Moon, B.A., B.Sc., M.I.Struct.E. (Director of Research, Institute of Welding) ; J. F. Farquharson, M.I.Struct.E. (Ministry of Works)

Joint sub-Committee of the Committees on Steel Structures and on Reinforced Concrete Structures

Members : B. L. Hurst ; Professor J. F. Baker ; C. Hipwell (representing the Steel Structures Committee) ; Dr. Oscar Faber ; W. C. Andrews ; Leslie Turner (representing the reinforced Concrete Structures Committee)

Terms of Reference

To review the practice of steel-frame construction and building and to make recommendations which will ensure in the post-war period the greatest practicable economics of material and the most rapid methods of construction, due regard being paid to interrelated requirements of modern buildings, such as lighting, ventilation and plumbing.

The Report was submitted to the Minister of Works in October 1943. Its recommendations, comments and suggestions are tabulated under ten headings, namely, (1) intensity of loading on floors ; (2) application of methods of design based on true stresses in beams and columns, instead of approximate methods now in general use ; (3) permissible stress intensities in steel members ; (4) character of casing of steel members, and effect on strength and dead weight of structure ; (5) standardisation of construction with a view to reducing the number of types of rolled steel sections in common use ; (6) recommendations as to the extended use of welding in view of the great development of welding in the war period ; (7) recommendations regarding the designs of cleats and connections with a view to eliminating unnecessary work and materials ; (8) pressures on concrete foundations and types of support which reduce steel in column bases to a minimum ; (9) suggestions for the elimination of those customs in steel construction which may provide unnecessarily liberal margins of strength and are not dictated by the requirements of rational design ; (10) the use of cold strip-rolled light structural shapes for small span trusses, purlins and subsidiary frames.

The Report points out that time and money would be saved by the supply of full information when the contract is placed and that any revision, however small, should be avoided after fabrication has begun. There should be an adequate survey before the building is designed ; all detail drawings should be promptly checked and returned ; and a time schedule should be provided, covering all concerned, so as to correlate all sections of the work from the date of the letting of the contract to its completion. A basic form of specification to cover these matters is recommended.

COMMITTEE ON REINFORCED CONCRETE STRUCTURES

(Institution of Structural Engineers)

Ministry of Works Post-war Building Studies No. 8

Chairman : Dr. Oscar Faber, O.B.E., D.C.L., D.Sc., M.Inst.C.E., M.I.Struct.E., A.M.I.E.E.

Members : Ewart S. Andrews, B.Sc., M.Inst.C.E., M.I.Struct.E. ; W. C. Andrews, M.Inst.C.E.,M.I.Struct.E.; W. H. Bartlett, A.M.I.Struct.E. ; P. G. Bowie, M.I.Struct.E., A.M.Inst.C.E. ; G. P. Bridges, M.I.Struct.E., L.R.I.B.A., A.M.Inst.C.E. ; A. Kirkwood Dodds, M.C., M.I.Struct.E., L.R.I.B.A. ; Wallace A. Evans, M.I.Struct.E. ; W. A. Fairhurst, M.I.Struct.E. ; E. P. Featherstone, B.Sc.Eng., A.M.I.Struct.E. ; G. A. Gardner, M.I.Struct.E. ; E. Granter, B.Sc.Eng., M.I.Struct.E., A.M.Inst.C.E. ; A. F. Holt, A.M.Inst.C.E., A.M.I.Struct.E. ; R. Humby, M.I.Struct.E., A.M.Inst.C.E. ; A. P. Mason, B.Sc., M.I.Struct.E., A.M.Inst.C.E. ; R. H. Osler, M.I.Struct.E., A.M. Inst.C.E. ; J. Singleton-Green, M.Sc., M.I.Struct.E., A.M.I.Mech.E. ; R. H. Thomason, A.M.I.Struct.E. ; Leslie Turner, B.Sc., M.Inst.C.E., M.I.Struct.E. ; W. H. Woodcock, M.I.Struct.E.

Secretary : Major R. F. Maitland, O.B.E., M.I.Struct.E.

Co-opted Members : R. V. Chate, M.I.Struct.E., A.M.Inst.C.E. ; Arthur E. Evans,

M.I.Struct.E. ; D. H. Green, O.B.E., B.Sc., M.Inst.C.E., M.I.Struct.E. ; Stanley A. Heaps, F.R.I.B.A. ; F. S. Snow, M.Inst.C.E., M.I.Struct.E. ; H. E. Steinberg, M.Inst.C.E., M.I.Struct.E. ; J. E. Swindlehurst, M.A., M.Inst.C.E., M.I.Struct.E. ; B. Taylor, M.I.Struct.E., M.I.Mech.E. ; R. W. Vawdry, B.A., M.I.Struct.E., A.M. Inst.C.E. ; J. F. Farquharson, M.I.Struct.E. (acting as liaison with the Ministry of Works) ; Dr. F. C. Thomas, Ph.D., B.Sc., A.M.Inst.C.E. (acting as liaison with the Department of Scientific and Industrial Research)

Terms of Reference

To review the practice of reinforced concrete construction of buildings, and to make recommendations which will ensure in the post-war period the greatest practicable economies of material and the most rapid methods of construction, due regard being paid to the interrelated requirements of modern building, such as lighting, ventilating, plumbing, etc.

The main point in the Report includes a nationally administered Code of Practice capable of revision every three years. It further recommends that the Institution of Structural Engineers' Schedule of Symbols should be adopted in the Code. Lists of such symbols are included in the two appendices.

Recommendations in respect of loads on floors and roofs are given, together with considerations of stresses in steel and concrete. The Committee is of the opinion that only qualified persons should undertake the designing of reinforced concrete structures, and that the work of steel-fixing and -bending should be a definite trade, as should be concrete-mixing and -working. These trades should be recognised by the trade unions. Among further recommendations for improvement in design and construction, methods are given to effect economy and time-saving. Reinforced concrete foundations are generally more economical than either steel grillages encased in concrete of brick footings on a concrete base. The work should be entrusted to persons qualified in this type of work.

The new Code should provide for the use of pre-stressed and vibrated concrete of low water-cement content, with a view to increased strength and consequent economy of costs.

Finally, the Committee recommends that the existing Code of Practice, based on the D.S.I.R. recommendations, adopted as by-laws by the London County Council, and amended by the Building Industries National Council should form the basis of a new Code of Practice, with modifications which relate to the B.I.N.C. code. These are tabulated in the Report.

COMMITTEE ON MECHANICAL INSTALLATIONS

(Institution of Mechanical Engineers)

Ministry of Works Post-war Building Studies No. 9

Chairman : Robert Chalmers, O.B.E., B.Sc., M.Inst.C.E., M.I.Mech.E.
Members : J. I. Bernard, B.Sc.Tech., M.I.E.E. ; Dean Chandler, M.Inst.Gas.E. ; H. M. Gell, M.C., M.Inst.C.E., M.I.Mech.E. ; Lord Dudley Gordon, D.S.O., M.I. Mech.E. ; Joseph Hill, F.R.I.B.A. ; A. B. Mann, B.Sc., A.M.Inst.C.E., A.M.I.Mech.E. ; J. H. Markham, F.R.I.B.A. ; W.E.Wyatt Millington, Wh.Ex., M.Inst.C.E., M.I.MechE. ; Walter W. Nobbs, M.I.Mech.E. ; E. F. Ritchie, D.Sc., A.M.Inst.C.E., A.M.I.Mech.E. ; R. H. Sheppard, A.R.I.B.A. ; W. L. Swain, M.I.Mech.E. ; G. Stevenson Taylor, O.B.E., Wh.Ex., M.I.Mech.E. ; V. Watlington, M.I.E.E. ; H. L. Guy, C.B.E., D.Sc., M.Inst.C.E., M.I.Mech.E., F.R.S.
Technical Secretary : C. W. J. Taffe, M.Sc.Eng., M.I.Mech.E., A.M.Inst.C.E., Barrister-at-law

Sub-Committees (six in number)

Members : L. S. Atkinson, M.I.Mech.E., M.I.E.E. ; Derek Bridgwater, F.R.I.B.A. ; F. G. Cherry ; G. H. Church, A.M.I.Mech.E., A.M.I.E.E. ; A. G. Clausan ; L. N. Duguid, B.Sc.Tech., A.M.I.Mech.E. ; P. T. Fletcher, B.Sc.Eng., A.M.I.Mech.E. ; H. W. Fulcher, M.I.E.E. ; W. H. Gunton, F.R.I.B.A. ; Kenneth Lindy, F.I.A.A. ; H. Marryat, M.I.Mech.E., M.I.E.E. ; E. M. Medway ; E. H. Mash, B.Sc.Eng., A.M.I.Mech.E., M.I.E.E. ; I. V. Robinson, Wh.Sc., M.Inst.C.E., M.I.Mech.E. ; A. J. Skinner, M.C., B.Sc.Eng., A.M.I.Mech.E.

Terms of Reference

To review and collate existing knowledge here and abroad on the science and practice of mechanical installations in buildings ; to make recommendations for practice both for the immediate and long-term post-war period ; to suggest lines for research and development of mechanical appliances as the need may emerge.

A Report was published in July 1944. Owing to the diversity of the items to be considered by the Committee, it was agreed to form six sub-committees, each to consider and report to the parent Committee on one of the following : lifts, hoists, and escalators ; cooking installations (except for homes), laundry appliances, refuse-disposal systems ; heating, ventilation and air-conditioning plant, boilers, stokers and calorifiers for the same ; wells, bore-holes, and fire-fighting appliances and pumping for these and for general purposes ; building power plant ; and refrigerator equipment in buildings. Each sub-committee considered in the following order of priority : houses (homes) ; flats ; schools ; offices ; shops and department stores ; and farm buildings.

Limitation of time caused a curtailment of the information on power plant and refrigerator equipment for buildings, but the greater part of the terms of reference were discharged satisfactorily for the purposes of the Report. Detailed technical information is given in each section, together with diagrams and illustrations.

COMMITTEE ON SOLID FUEL INSTALLATIONS

(British Coal Utilisation Research Association)

Ministry of Works Post-war Building Studies No. 10

Chairman : J. Stanleigh Turner, J.P.

Members : Mrs. I. T. Barclay, B.A., F.S.I. (Society of Women Housing Managers) ; N. M. Bell (A. Bell & Co., Ltd.) ; N. S. Billington (Building Research Station) ; A. Blackie (Fuel Research Station) ; W. L. Boon (Institute of Mechanical Engineers) ; J. W. Davidson (Radiation, Ltd.) ; D. E. E. Gibson, A.R.I.B.A. (Royal Institute of British Architects) ; J. C. M. Jackson (Mining Association of Great Britain) ; H. M. Jewell, F.R.I.B.A. (Ministry of Health) ; J. Leathart, F.R.I.B.A. ; J. A. MacIntyre, M.Inst.C.E. (Department of Health for Scotland) ; J. H. Markham, F.R.I.B.A. (Ministry of Works) ; F. Pascall (Interoven Stove Co., Ltd.) ; R. N. Quirk (Ministry of Fuel and Power) ; C. L. Scott (Aga Heat, Ltd.) ; G. A. Ure (Smith & Westwood, Ltd.) ; J. Charrington (Chamber of Coal Traders)

Secretary : Miss M. V. Cowin

Terms of Reference

To review existing information and practice concerning accommodation and installations for solid fuel burning appliances in the single family dwelling, the review to include such items as fuel storage, air supply, removal and treatment of the products of combustion ; to review proposals for improved solid fuel-burning appliances for space-heating, cooking and hot-water supply ; to make recommendations for practice in post-war building, regard being had to economy and efficiency in use, and reduced emission of smoke from dwellings ; to make recommendations for further research.

A Report was presented in January 1944. It deals with objectives in appliance design ; the economies to be expected from improved appliances ; and the installation of appliances, which is also considered in greater detail in an appendix. Sections devoted to distribution, servicing and consumer-education ; the characteristics of domestic solid fuels ; and the objectives relating to building and architecture, complete the Report.

The comprehensive appendices give detailed results of tests carried out, and recommended standards of performance of appliances are included, covering all forms of heating appliances.

The problem of smoke abatement is fully considered and recommendations as to the more efficient methods of elimination are proposed. These deal with fireplace design, air supply and general operations such as frequency of stoking and the addition of water or steam.

Recommendations arising out of a number of experiments on the design of flues emphasise the fact that the satisfactory operation of flues for open fires can only be attained by the correct combination of the four parts of an ordinary ventilating system. These are the air entry into the room, the fireplace opening and throat, the flue, and the flue terminal outlet to the air.

The appendix on the selection of types of appliances deals with space-heating, water-heating and cooking appliances in the various combinations which are likely to be encountered in kitchen, living room or scullery.

COMMITTEE ON ELECTRICAL INSTALLATIONS

(Institution of Electrical Engineers)

Ministry of Works Post-war Building Studies No. 11

Chairman : J. R. Beard, M.Sc., M.Inst.C.E., M.I.E.E.
Members : J. I. Bernard, B.Sc.Tech., A.M.I.E.E ; Professor C. L. Fortescue, O.B.E., M.A., M.Inst.C.E., M.I.E.E. ; Miss C. H. Haslett, C.B.E., Companion I.E.E. ; P. V. Hunter, C.B.E., M.I.E.E. ; Forbes Jackson, M.I.E.E. ; W. J. Jones, M.Sc.Eng. ; J. M. Kennedy, O.B.E., B.A., M.Inst.C.E., M.I.E.E. ; F. W. Mackenzie, L.R.I.B.A., F.I.A.A.S. ; H. Matthew ; H. Marryat, M.I.E.E., M.I.Mech.E. ; Lt.-Col. S. E. Monkhouse, M.I.E.E. ; H. G. S. Peck, B.Sc.Eng., M.I.E.E. ; A. G. Ramsey, O.B.E., B.Sc.Eng., M.Inst.C.E., M.I.Mech.E., M.I.E.E. ; E. A. Reynolds, M.A., M.I.E.E. ; R. H. Sheppard, A.R.I.B.A. ; J. W. J. Townley, A.M.I.E.E. ; W. H. Walton ; V. Watlington, M.B.E., M.I.E.E. ; E. B. Wedmore, C.B.E., M.I.E.E. ; R. A. Ure, A.M.I.E.E.
Secretary : W. K. Brasher, M.I.E.E.

Terms of Reference

To review existing information and practice concerning installations in building for : (a) The supply of electricity for all purposes from the point of entry of the current at the property boundary to the point of its delivery to an appliance ; (b) electrical household appliances serving the single family dwelling ; and (c) all forms of electrically operated telecommunications. To review proposals for improved electrical appliances for space-heating, cooking, refrigeration, hot-water supply, dish-washing and clothes-washing. To make recommendations for practice in post-war building.

The Report, published in 1944, deals with electricity in every application likely to be met in houses, flats, schools, hospitals, and farm buildings. Electrical appliances and installations such as cookers, refrigerators,

washing machines, water heaters, and telecommunications are considered, with accompanying illustrations. Diagrams showing various circuits are given. A small glossary of proposed new standard terms, agreed upon by the interests concerned, is included and the terms are employed throughout the Report.

COMMITTEE ON LIGHTING OF BUILDINGS

(Building Research Board of the D.S.I.R.)

Ministry of Works Post-war Buidling Studies No. 12

Chairman : Dr. C. C. Paterson, O.B.E., F.R.S., M.Inst.C.E., M.I.E.E., F.I.E.S.
Members : R. O. Ackerley, F.I.E.S. ; J. Austen Bent, A.R.I.B.A., A.M.T.P.I. ; P. V. Burnett, F.R.I.B.A. ; H. E. Chastney, M.A. ; J. S. Dow, B.Sc., A.C.G.I., F.I.E.S. ; P. Good, C.B.E., M.I.E.E., F.C.G.I., F.I.R.S. ; H. Austen Hall, F.R.I.B.A. ; T. C. Keeley, M.A., F.Inst.P. ; *R. H. Matthew, A.R.I.B.A. ; A. Scott, M.B.E., F.R.I.B.A., M.I.Struct.E. ; F. C. Smith, F.C.S., M.Inst.Gas.E., F.I.E.S. ; G. Smith, M.B.E., A.M.I.E.E. ; Sir James West, O.B.E., F.R.I.B.A. ; H. C. Weston, F.I.E.S. ; *H. T. Young, M.I.E.E.
The following also sat with the Committee : D. Chandler, M.Inst.Gas.E. (Liaison with Gas Installations Committee) ; J. I. Bernard, B.Sc.Tech., M.I.E.E. (Liaison with Electrical Installations Committee)

Sub-Committees

Natural Lighting.
Chairman : P. V. Burnett, F.R.I.B.A.
Members : R. H. Matthew, A.R.I.B.A. ; J. Austen Bent, A.R.I.B.A., A.M.T.P.I. ; A. Scott, M.B.E., F.R.I.B.A., M.I.Struct.E. ; W. Allen, B.Arch., A.R.I.B.A. ; T. Smith, F.R.S. ; W. R. Stevens, B.Sc., F.I.E.S. ; Dr. J. W. T. Walsh, M.A., M.I.E.E., F.I.E.S. ; R. T. Kennedy, A.R.I.B.A., A.M.T.P.I.

Artificial Lighting
Chairman : F. C. Smith, F.C.S., M.Inst.Gas.E., F.I.E.S.
Members : R. O. Ackerley, F.I.E.S. ; J. S. Dow, B.Sc., A.C.G.I. ; A. Scott, M.B.E., F.R.I.B.A., M.I.Struct.E. ; H. C. Weston, F.I.E.S. ; W. Allen, B.Arch., A.R.I.B.A. ; W. R. Stevens, B.Sc., F.I.E.S. ; Dr. J. W. T. Walsh, M.A., M.I.E.E., F.I.E.S.
Secretary : C. C. Handisyde, A.R.I.B.A.

Terms of Reference
(1) *To review existing scientific information and practice in this country and abroad on the lighting of buildings ;* (2) *to make recommendations for practice in post-war buildings ;* (3) *to make such recommendations for further research as may suggest themselves in considering* (1) *and* (2).

A comprehensive Report, published in seven Parts in 1944, deals with the general principles of lighting and their applications to dwellings and schools.

In the first Part, lighting and vision and their influence in design are discussed. The Report points out that existing practice has paid insufficient attention to the quality of light, which is just as important as its quantity.

The methods of measurement and principles of design for daylight, sunlight and artificial light are separately considered in the second Part. Natural lighting is surveyed in detail, as well as the relationship between site development and natural lighting in rooms.

* Resigned.

Lighting in dwellings and in schools forms Parts three and four of the Report. Recommendations concerning precise standards are given in a form which could be translated into Codes of Practice.

Lighting education and recommendations for future research make up Parts five and six, while the last Part is devoted to a summary of the main recommendations. The Committee advocates inclusion of the study of lighting in the subjects for the qualifying examination of the Board of Architectural Education and of the Town Planning Institute, while the training of illuminating engineers should include suitable instruction in building practice and design. Recommendations for dwellings include the granting of powers as given by the Housing Act 1936, to see that no dwelling is inadequately lighted. Standards which should form the minimum are given. It is pointed out that the amount of external obstruction should be considered when deciding on size, shape and position of windows, as should the shape and spacing of buildings, in order to obtain the optimum results. Within the dwelling, suitable fittings and light decorations are advocated.

It is recommended that the lighting of schools should be under some form of control and be designed by qualified lighting engineers. Special attention should be given to the provision of supplementary lighting where standards of daylight are inadequate.

Eight appendices deal with specific problems associated with daylight and artificial light.

COMMITTEE ON NON-FERROUS METALS

(British Non-ferrous Metals Research Association)

Ministry of Works Post-war Building Studies No. 13

Chairman : R. Seligman, Ph.Nat.D., F.C.G.I., F.I.M.
Members : F. C. Braby, M.C., B.Sc. ; F. L. Brady, M.Sc., A.I.C. ; Maurice Cook, D.Sc., Ph.D. ; Frank Hudson ; C. A. Klein ; G. Mortimer ; B. O'Rorke, M.A., F.R.I.B.A. ; W. R. Pippard, A.I.O.B. ; G. W. Preston ; R. H. Sheppard, A.R.I.B.A., A.A.Dip. ; R. L. Stubbs, A.R.I.B.A. ; E. G. West, Ph.D., B.Sc. ; C. E. Holmstrom (Sheffield Stainless Steel Manufacturers' Association)
Joint Honorary Secretaries : G. L. Bailey, M.Sc. ; P. D. Crowther, B.Sc.

Terms of Reference

To review practice in the use of non-ferrous metals in building construction with particular reference to : the most suitable application of the various metals and alloys involved ; the purposes for which the available materials may be employed, bearing in mind the possibility of shortage in certain directions. To make recommendations on the use of non-ferrous metals in post-war building and to make such recommendations for further research as may arise in considering the above.

A Report deals with accepted applications and possible new uses of non-ferrous metals and stainless steel. The chief points considered are the metals and chief alloys of aluminium, copper, lead, magnesium, nickel, stainless steel and zinc ; their physical properties ; and their specific uses in pipes, tanks, sinks, gutters, damp courses, heat insulation, etc. A section is devoted to mass production and prefabrication.

Recommendations and suggestions are made for future investigations

into the use of metals and their alloys, and the revision or extension of the present standards.

Appendices include : List of alloys with relevant specifications ; physical properties ; structural design in light alloys ; names and addresses of development associations ; and a concise glossary of technical terms.

COMMITTEE ON SOUND INSULATION AND ACOUSTICS

(Building Research Board of the D.S.I.R.)

Ministry of Works Post-war Building Studies No. 14

Chairman : G. B. Sharples, O.B.E., M.Sc., M.Inst.C.E.
Members : J. O. Ackroyd, M.A., B.Sc. (Post Office Research Station) ; Hope Bagenal, D.C.M., A.R.I.B.A. ; R. R. Costain (Richard Costain, Ltd.) ; D. J. W. Cullum (H. W. Cullum & Co., Ltd.) ; J. McLaren, A.M.Inst.C.E. (B.B.C. Engineering Division) ; John H. Markham, F.R.I.B.A. (Post-war Building) ; Sir Henry Richards, C.B. ; A. Scott, M.B.E., F.R.I.B.A., M.I.Struct.E. (Ministry of Health) ; C. G. Stillman, F.R.I.B.A. (County Architect, Sussex) ; C. Cowles Voysey, F.R.I.B.A. ; John Wilson, O.B.E., F.R.I.B.A., F.R.S.E. (Department of Health for Scotland)
Secretary : William Allen, B.Arch., A.R.I.B.A.

Terms of Reference
(1) *To review existing scientific information and practice in this country and abroad on the acoustics and sound insulation of buildings ;* (2) *to make recommendations for practice in post-war buildings ;* (3) *to make such recommendations for further research as may suggest themselves in considering* (1) *and* (2).

A Report was published in 1944. It considers in detail both aspects of the subject, *viz.* the insulating of rooms from external noises and the means whereby sound can be heard to the best advantage, *e.g.* in a concert hall.

There are four parts to the Report. The first deals with the various indoor and outdoor noises. These are classified and considered according to the special problems which arise in such buildings as schools, offices, hospitals, houses, etc. Recommendations on the best method of insulation are given, together with appropriate quiet standards. Considerable space is devoted to the difficult problem of sound transmission, and planning measures designed to minimise this are included.

The second part deals with the acoustics of auditoria. An interesting section is devoted to the treatment of individual auditory types which cater for music or speech and debate only, and also the theatre and the church, which combine music and speech. The problems of noise reduction in schools, factories, canteens, office buildings and the home are given prominence in this section.

Proposals for future research and investigation make up the third Part of the Report, and the final Part is devoted to a summary of standards and treatments for sound insulation and acoustics.

Noise in plumbing and sound transmission through timber and concrete floors respectively are considered in appendices. In each case recommendations and diagrams are included. Two other appendices deal with the graphical analysis of reflection of sound waves in auditoria, and the measurement of sound insulation and absorption applied to both air-

borne and impact sound. The last appendix is concerned with the reduction of noise through open windows. This is set out in the form of mathematical examples. A bibliography is included.

COMMITTEE ON WALLS, FLOORS AND ROOFS

(Royal Institute of British Architects)

Ministry of Works Post-war Building Studies No. 15

Chairman : C. Lovett Gill, F.R.I.B.A.
Vice-Chairman : H. Cubitt, F.R.I.B.A., F.S.I.
Members : G. Grenfell Baines, A.R.I.B.A. ; A. M. Chitty, M.A., F.R.I.B.A. ; J. F. Farquharson, M.I.Struct.E. ; R. Fitzmaurice, B.Sc., A.M.Inst.C.E., Hon.A.R.I.B.A. ; G. A. Gardner, M.I.Struct.E. ; J. A. T. Hamlyn ; S. Heaps, F.R.I.B.A. ; A. W. Kenyon, F.R.I.B.A., M.T.P.I. ; W. Mcrea, F.R.I.B.A., F.R.I.A.S. ; F. P. Scott, B.Sc., A.M. Inst.C.E., M.I.Struct.E. ; R. H. Sheppard, A.R.I.B.A. ; D. Wark, B.Sc., A.M.Inst.C.E.
Secretary : P. V. Burnett, F.R.I.B.A.

Terms of Reference

To review existing practice in this country and abroad on the structure of walls, floors, roofs and partitions, to houses, flats, schools, office buildings, shops, and agricultural buildings, and to make recommendations.

A Report was published in 1944. Each Part, *viz.*, Walls and Partitions ; Floors ; and Roofs ; is dealt with under sections covering general properties, special requirements and recommendations. Appendices dealing with experience resulting from war-time building and sound insulation are included.

In their recommendations with regard to walls, the Committee suggests that existing regulations for loads on structures and permissible stresses allowable in the various structural materials should be reviewed with a view to effecting economies. The use of hollow block walls or cavity walls is recommended for non-load-bearing panels. Cement-lime mortars rather than strong cement should be used, as the latter is unsuitable for the bonding of hollow clay or similar walling blocks. A study of the Building Research Station Bulletin, No. 16, *External Rendered Finishes*, is recommended. Greater consideration should be given to thermal and sound insulation and the by-laws dealing with cavity construction of party walls should be revised. Codes of Practice governing the stability of walls, design rules, lime mortar and cement-lime mortar should be prepared. Research should be undertaken on the use and application of reinforced brickwork, the proper spacing of wall ties in cavity walls, and weathering in various localities.

For floors, the Committee recommends the application of the information contained in the Forest Products Research Bulletin, No. 1. *Dry Rot in Wood.* It is further suggested that research should be carried on to investigate the possibilities of rolling or pressing light steel sections for floor construction and the need for more scientific design and fabrication in timber floor construction.

In addition to recommendations that a British Standard should be prepared for rock asphalt mastic for roofing, the Committee suggests

that research should be undertaken with regard to the design of suitable fastenings to materials such as wood-wool, and to the alternative methods of forming a weather fillet at the junction of sloping roofs with vertical faces, without the use of metal flashings.

COMMITTEE ON BUSINESS BUILDINGS

(Royal Institute of British Architects)

Ministry of Works Post-war Building Studies No. 16

Chairman : Stanley Hamp, F.R.I.B.A.
Members : Graham Dawbarn, M.A., F.R.I.B.A. ; Joseph Emberton, F.R.I.B.A. ; Bernard George, F.R.I.B.A. ; Joseph Hill, F.R.I.B.A. ; T. C. Howitt, D.S.O., F.R.I.B.A. ; Gordon Jeeves, M.C., F.R.I.B.A. ; T. F. Maclennan, F.R.I.B.A. (nominated by the Royal Incorporation of Architects in Scotland) ; John H. Markham, F.R.I.B.A. ; C. J. Mole, M.B.E., M.V.O., F.R.I.B.A. (nominated by the Ministry of Works and Planning) ; Herbert J. Rowse, F.R.I.B.A. ; J. Alan Slater, M.A., F.R.I.B.A. ; L. Sylvester Sullivan, F.R.I.B.A. ; Henry Tanner, F.R.I.B.A.
Honorary Secretary : Alex. T. Scott, F.R.I.B.A.

Terms of Reference
To review practice in designing business buildings and to formulate principles for the planning and general treatment of such buildings in the post-war period.

A Report was issued in January 1944. The Committee, composed of architects of large and varied experience, amplified its knowledge by undertaking research on business buildings recently erected in Europe and America.

The Report deals in turn with : site development ; plan-analysis of office buildings ; the location and plan-analysis of shops and stores, factories, and warehouse and storage buildings ; structure and materials; and services and equipment. Each section is subdivided and considered in detail from every angle.

A conclusion to the Report emphasises that the Committee has made no attempt to produce a textbook of formulae or standard patterns, but has endeavoured to present a comprehensive view of the implications of building for business requirements. That the building should be in harmony with its surroundings is strongly stressed, and the Report is careful to suggest that aesthetic considerations should be blended with the utilitarian exigencies so as to produce an industrial unit having its own individual charm and at the same time enhancing and being enhanced by its surroundings.

A comprehensive bibliography of books and periodicals dealing with the subjects mentioned in the Report is included.

COMMITTEE ON SCHOOL BUILDINGS FOR SCOTLAND

(Scottish Office)

Ministry of Works Post-war Building Studies No. 21

Chairman : Dr. J. Jardine, O.B.E. (Scottish Education Department)
Members : J. D. Cairns, F.R.I.B.A., F.R.I.A.S. (late Consulting Architect, Scottish Education Department) ; J. B. Frizell, B.L. (City Education Officer, Edinburgh) ;

Dr. John Hunter (School Medical Officer, West Lothian, President, Association of School Medical Officers of Scotland); J. I. Loudon, J.P. (Messrs. Loudon & Inglis, Builders, Coatbridge and Bothwell); Bailie G. R. McIntosh, J.P. (Member, Aberdeen Town Council, District Secretary, Amalgamated Society of Woodworkers, Local Secretary, National Federation of Building Trades Operatives, Member, Scottish Housing Committee); G. McLaren, J.P. (Convener, Works and Building Committee, Stirlingshire Education Authority); J. McNab, L.R.I.B.A., F.R.I.A.S. (Architect and Property Superintendent, Education Department, Corporation of Glasgow); A. McTaggart, O.B.E., J.P. (Operatives' Secretary, National Scottish Joint Council for the Building Industry); Miss Helen S. Miller (Head Teacher, Domestic Science Department, Gallowflats Junior Secondary School, Rutherglen); G. Reid, F.R.I.A.S. (Messrs. Reid & Forbes, Architects, Edinburgh); W. Reid, M.A., F.E.I.S. (Headmaster, Crossgates Junior Secondary School, Fife, Member, Executive of the Educational Institute of Scotland and Convener of their School Building Panel on Educational Reconstruction); A. G. Rodger, O.B.E. (Scottish Education Department); H. M. Scott, F.S.I., A.R.I.A.S. (School Architect, Edinburgh Education Authority); Dr. G. W. Simpson (Scottish Education Department); Sir Garnet Wilson (Lord Provost of Dundee); J. Wilson, O.B.E., F.R.I.B.A., F.R.S.E. (Ministry of Works)
Secretary: R. S. Stewart (Scottish Education Department)

Terms of Reference
To consider and to make recommendations as to the planning of schools and other buildings that will be required for educational purposes after the war.

A Report was issued in December 1944, in which the problem is considered by reviewing (*a*) the school building programme which was in operation or contemplated at the outbreak of the war; (*b*) the loss of accommodation due to war damage; (*c*) the additional school accommodation required in new housing areas; and (*d*) the need to replace or modernise unsatisfactory existing schools. Evidence was sought from teachers, H.M. Inspectors of Schools and building experts. Visits were also paid by the Committee to various schools. The advice of the Advisory Council on Education in Scotland was also obtained on certain questions of future education policy affecting the planning and layout of buildings. Replies are still awaited, particularly in regard to secondary schools. This is, therefore, to be regarded as a First Report, and suggestions are put forward dealing with sites, structure, layout and furnishing of educational establishments.

The careful selection of sites for and areas covered by school buildings is stressed as well as the size of the school. The Report recommends that, on the average, a standard primary school will have to be provided for every 500 to 600 houses, and a nursery school for every 300 houses. In primary schools, allowance must be made for one assembly hall and one gymnasium for every 14 classrooms. The optimum size of secondary schools is also considered, with recommendations.

Having dealt with the delays in the erection of buildings, the Report suggests that all drawings, plans, etc. be submitted for approval before tenders are invited, and standardisation of fittings and components is proposed so as to minimise delay.

The essential details of nursery and primary schools, together with equipment and minor buildings such as janitors' houses, are dealt with in considerable detail.

Special sections are devoted to the improvement of existing buildings and the particular problems of the post-war years. Finally, observations regarding premises for day continuation classes, technical colleges, youth and community centres etc. are given.

Appendices deal with such topics as heating and ventilation ; provision for the use of visual aids in schools ; wiring of schools for broadcast reception; primary school accommodation and temporary construction. Detailed plans of various types of nursery and primary schools are also included in the illustrations.

REPORT ON HOUSING

(Minister of Reconstruction)*

The White Paper on Housing, presented by the Minister of Reconstruction in March 1945, states the objectives of the Government's housing policy and the organisation for carrying it into effect, and provides a summary of action taken up to that date.

The Government's first objective is stated to be to afford a separate dwelling for every family which desires to have one, for which purpose the estimated requirements are 750,000 dwellings. The second objective is to provide for the rapid completion of the slum clearance and overcrowding programmes in progress before the war, requiring a further half million houses.

The Government's long-term objective is to secure a progressive improvement in the conditions of housing in respect both of standards of accommodation and of equipment, by a continuous programme of new building, which must include provision year by year for any increase in the number of separate families, the needs which arise out of redistribution of the population, and the replacement of obsolescent houses.

It is proposed to treat the first two years after the end of hostilities in Europe as a period of national emergency requiring exceptional measures to meet the housing shortage, when the primary aim of the Government will be to produce the largest practicable number of separate dwellings.

The programme for this period includes the increase of the labour force in the building industry to 800,000 by the end of the first year after the German war, and thereafter to increase it up to and beyond the pre-war total of a million men. Maximum use will be made of house-building resources by employing new methods of construction, by standardisation and by the use of labour and industrial capacity normally outside the building industry. First-aid repair of war damage will continue to receive the highest priority and a special survey is being made by the War Damage Commission of seriously damaged, unoccupiable houses, with a view to framing a programme of repair. The programme of permanent houses includes provision for the replacement of totally destroyed houses which attract a cost-of-works payment, and it is estimated that about 220,000 houses will be completed at the end of the second year, with 80,000 in varying stages of erection, while experiments are being made in the use of non-traditional methods of construction. Local housing authorities will be encouraged to provide "Duplex" flats, *i.e.*, by the division of permanent houses into two temporarily separate dwellings. The programme also includes the conversion of large houses

* This post has now been abolished.

and hostels into flats and the reinstatement of de-requisitioned houses. The production of temporary houses will continue long enough to meet the allocations of 145,000 which have been made to local authorities : the production, transport and erection of these will be undertaken by the Government, while sites will be acquired and prepared by local authorities, which will also let and manage the houses. Standardisation of materials and fitments will facilitate the timing of the programme so that there will be no delay due to shortage of essential parts. To check a rise in prices, the Government will control the volume of contracts let by local authorities, the building and repair work done on private account, and the prices of materials, standard components and fitments. Subsidies will be provided for house building both by local authorities and by private enterprise.

Preliminary work includes the repair of war damage, and by June 1944 all but 200,000 had been repaired out of the 1,500,000 damaged before the flying bomb attacks, while it was hoped to reach by the end of March 1945 the "winter target" of repair to 719,000 houses damaged by flying bombs.

With reference to new construction, the Government has taken steps to push forward preliminary work in connection with the allocation of temporary houses ; approval and acquisition of sites for permanent houses ; preparation of permanent sites ; preparation of layouts for permanent houses ; preparation of temporary sites ; standardisation of materials and fitments ; and new building and reconditioning in rural areas.

It is stated that the execution of this programme depends on collaboration between private industry and public authority, and an outline is given of the organisation. Local housing authorities are responsible for determining, with the approval of the Government, the number and type of houses they will build in their areas, and they prepare the sites, erect permanent houses, select tenants, fix rents and manage the housing estates; in Scotland, in addition, the Scottish Special Housing Association operates in areas where housing needs are greatest. Central responsibility rests for England and Wales with the Ministers of Health, and of Works, and for Scotland with the Department of Health for Scotland and the Ministry of Works. The Health Department determines and co-ordinates demand, being responsible for housing policy as part of its responsibility for public health ; it determines the standards of accommodation in new houses and the standards of fitness and density of occupation which can continue to be accepted in existing houses ; it supervises the housing functions of local authorities and sanctions their building proposals, including the acquisition and preparation of sites for both permanent and temporary houses, and formulates proposals for assistance with housebuilding. The functions of the Ministry of Works are to ensure that materials, components and fittings required for the programme will be forthcoming at the right time and at reasonable prices ; to advise on questions of building technique ; to be responsible for questions affecting the building industry, such as registration of builders and training of apprentices and allocation of labour and licensing of building work ; and to be responsible for the production, distribution and erection of the temporary houses. Other Departments

which play a part are the Ministry of Town and Country Planning (in Scotland, the Department of Health) which assists in the choice of sites, the layout of housing estates and general questions affecting the use of land and the planned distribution of communities; the Ministry of Labour and National Service which regulates the supply of labour; and the Minister of Reconstruction* who ensures that all parts of the plans for post-war housing are co-ordinated with the Government's reconstruction programme.

Cmd. Paper No. 6609.

WELSH RECONSTRUCTION ADVISORY COUNCIL

(Appointed by Sir William Jowitt, formerly Minister without Portfolio)

Chairman : Sir Frederick Rees
Members : D. M. Evans Bevan, J.P.; Mrs. J. Clement Davies; James Griffiths, M.P.; F. W. R. Harrison, B.Sc.; J. Lloyd Humphreys; Dr. T. J. Jenkin; William Jones, C.B.E.; David Lewis; Herbert Henry Merrett; Professor D. Hughes Parry, M.A., LL.M.; Dr. Laura G. Rees; Sir Robert J. Webber, D.L., J.P.; Evan Williams, J.P.; Professor W. Moses Williams, M.A.; Clough Williams-Ellis, F.R.I.B.A.
Secretary : William Thomas

Terms of Reference

To survey, in conformity with the general examination of reconstruction problems now being conducted by the Government, those problems of reconstruction which are of special application to Wales and Monmouthshire, and to advise on them.

The first interim Report (1944) outlines measures for a comprehensive plan for the economic and social rehabilitation and development of the region. The Council regards the inquiry as a continuous survey.

Conditions in Wales are examined against the recent historical background of extensive industrial and agricultural depression through which Wales suffered a continuous high level of unemployment with all its attendant economic and social effects, including migration of the majority of the more progressive and younger people. Some of these trends were the unforseen results of State policy and were not wholly checked despite such useful attempted remedies as the First and Second Industrial Surveys of South Wales and Monmouthshire (1931 and 1937), the National Industrial Development Council of Wales, and the Special Areas legislation of 1934 and 1937.

The Report includes a brief survey of the physical and economic structure of Wales, covering the physiography, climate in relation to economic factors, distribution and migration of population, industrial location and natural resources. A broad outline of economic changes wrought by the war reveals an influx of population, expansion of existing industries, the introduction of some new industries, expansion in employment, especially of women and older men, reduction in unemployment, general prosperity, the creation for the first time of a substantial nucleus of highly diversified industry, increased skill among workers and management, and an enormous volume of daily travelling to work. There has, on the other hand, been depression in the building industry, which has

* This post has now been abolished.

had inevitable repercussions on the slate quarries of the north and centre. The coal industry has experienced fluctuations, and the tinplate industry has suffered particularly, while many small firms have had to give up their premises for storage purposes. The transfer of Welsh labour outside the Principality has nevertheless continued, and its return will constitute a vital post-war problem. Agriculture has enjoyed an increase in prosperity comparable with that of the rest of the United Kingdom.

The question of a regional planning authority will receive more detailed consideration when national policy has been more fully defined. Meanwhile, some forecast of the probable sequence of events in the post-war years is attempted. In the immediate post-war period, considerable temporary dislocation is anticipated, followed by a boom in the coal, steel, tinplate, shipping and building industries. The new light industries will need some assistance in adjusting themselves, but during this time it will be necessary to plan fundamental changes in the basic industries, to provide training facilities and to strengthen regional authorities, in preparation for the post-boom period when the need is foreseen for a second reconstruction effort. The need for planning is particularly urgent in Wales, where present prosperity is so largely based on wartime activities.

The particular danger spots stressed by the Council are : the possibility of technological unemployment in the tinplate industry ; mining problems, especially post-war closure of uneconomic pits and exhaustion of others ; population settlements which have lost their basic industries (coal or metal) ; and unemployability in certain areas of sub-marginal workers.

The main body of the Report is concerned with the work of the Council, which has been conducted chiefly through the medium of five standing committees dealing respectively with the following subjects :

INDUSTRY : (*a*) *Coal.*—The Council has considered the extension of the export trade. It recommends the removal of inequalities in the burden of mining royalties ; consideration of means of rapidly expanding post-war output and employment, and long-term plans for opening new pits with up-to-date equipment (based on a survey of coal resources) ; planned development of the coalfield as a whole ; and extension of engineering concerns now operating in Wales for the manufacture of electrical and mechanical mining equipment. Research and publicity should be directed towards expansion of the inland market as a supplement to the export market, while the decline in the bunkering trade may be modified by Government support for mechanical firing as an alternative to oil for tramp and liner tonnage, and where possible for naval tonnage. There should be full examination of the possibilities of an integrated coal-oil-power-and-chemical industry, which would not only be economically sound but would have many other social and non-economic advantages, and which must be based on an abundant supply of cheap electricity and an extensive programme of research. Finally, the Council recommends reopening the question of the Fischer-Tropsch process for obtaining oil from coal, and also increasing experience of low-temperature carbonisation, with the possibility of State responsibility for research and development. (*b*) *Slate.*—Recommendations for the industry include modernisation and development ; improved marketing technique and control, with a comprehensive organisation within the industry. No substantial export trade is anticipated. (*c*) *Tinplate.*—Drastic reorganisa-

tion, rationalisation and considerable technological unemployment, associated with the expected adoption of the strip mill method, are anticipated; the Council urges the need for consideration of the social and economic aspects of the problem. In the associated industries, similar difficulties are to be expected in the western steelworks producing tinplate " bar," and in the steel-sheet industry of the west, Newport and the eastern valleys of Monmouthshire, but not in the large integrated works of Cardiff and Port Talbot.

The importance is noted of including those new industries, which have been introduced into Wales by refugees from Central Europe and by English firms, in any post-war plans for the expansion of exports, but such expansion will need a great deal of reconstruction, financial assistance and other " nursing."

A plan of national development must include the full utilisation of scenery as an asset which has given rise to a large and profitable tourist industry, while the country must at the same time be protected against spoliation. This will necessitate improved communications, including a trunk road running north-south through Central Wales, a road crossing the River Severn, and improved and extended inter-regional roads. The development of civil aviation between Wales and England and America is anticipated, and the establishment of at least one trans-atlantic aerial terminus is suggested. The problems of accommodation could be met by rapid adaptation of existing hostels and other buildings, and later creation of new coastal holiday resorts and inland centres, and provision of training centres for the catering and entertainment profession. Snowdonia and Pembrokeshire coast are proposed as national parks, with later additions of the Plynlymon and Cader Idris districts and the head of the Neath valley. The Council stresses the need for further research and planning, and for vigorous control over the use of all important natural sources of wealth and amenity.

The conversion of Government war factories to peace-time activities has been the subject of a separate memorandum, and in this Report the Council is only concerned with general policy. It does not consider that conversion to trading estates will meet the problem, since active steps are needed at least to influence the location of industry, and to promote a general programme of improving the attractiveness of Wales to industry.

These and other measures should be supplemented by facilities such as modern factory buildings and cleared sites, cheap electric power and improved communications, adequate modern housing and technical and higher education.

TRANSPORT AND PUBLIC SERVICES : Consideration has been chiefly concentrated on three problems, namely, a road crossing the Severn estuary ; an arterial road from North to South Wales passing through Central Wales ; and the provision of adequate and regular supplies of cheap electricity primarily by steam generation in the coalfields. A tentative suggestion is put forward for the establishment of a special Welsh Electrical Development Board for the purposes of development and research, reorganisation of supply undertakings and centralised services.

AGRICULTURE : After a brief account of the pre-war structure of Welsh agriculture, the Council makes the following recommendations : a piped

water supply in every village and farm ; adequate supplies of electricity at reasonable prices ; and improvement of rural roads. Attention has been chiefly focussed on (*a*) milk production and (*b*) afforestation. With reference to (*a*), the need is emphasised for refitting dairy farms and for improvement in the general level of cleanliness and hygiene in milk distribution in many areas. As to (*b*), a long-term policy is recommended to be adopted and implemented by the Government, with immediate attention to extending the area of planting. Wales, well suited to the growing of timber and a considerable consumer, should play an important part in such a programme, and the appointment of a Welsh member of the Forestry Commission is recommended. Other proposals are : encouragement to local farmers and landowners to plant shelter belts, etc. ; advisory services ; provision for the protection of occupiers of forest holdings ; and machinery for arbitration between uses of land as forest and as sheep pasture. Rural industries reviewed include Welsh textiles, metal work, extractive industries and agricultural processing factories, while it is advanced that small units of light industry might be located in the countryside, with careful control of amenities.

LOCAL GOVERNMENT : It is considered that the need to put in hand a detailed investigation of the machinery of local government is urgent, but that, since Wales can only be dealt with as a part of the whole country, no steps can be taken in view of the present Government policy not to embark on a comprehensive inquiry.

EDUCATION AND YOUTH : The White Paper on Educational Reconstruction, 1943, has been examined in relation to Wales, and the hope is expressed that this plan will speedily be realised. The Council favours the raising of the school leaving age to 16 ; careful consideration of the problem of nursery education in the rural areas ; proper provisions of infants and juniors ; continuation of the experiments with existing junior agricultural schools in rural areas ; examination of the question of multilateral schools in rural areas ; separate buildings and administration for technical high schools ; the provision of boarding facilities in rural areas ; and a single code of regulations and prohibition of fees for all types of secondary schools. A closer relationship between education in the countryside and the requirements of rural life is advocated. The development of religious education in the schools, and compulsory part-time education, are welcomed. Particular attention is paid to facilities for technical education, which is relatively backward in Wales, and here there is need for the fullest co-operation between industrialists and those responsible for the administration of technical education, as well as between the local authorities. The Council recommends the establishment in North Wales of an advisory council for technical education, similar to that of South Wales and Monmouth, and that this should be given executive powers, and should incorporate agricultural education. A co-ordinated plan for adult education, including contributions by local education authorities and voluntary bodies, can be developed under existing machinery in the Extension Board of the University of Wales. The proposed extension of medical inspection and treatment is welcomed, but it is suggested that heads of schools should be relieved of the burden of administration of the school-meals service. With reference to local

education administration, the Council regrets the failure to consider this as part of the wider issue of local government reorganisation as a whole, and points out that there is need within Wales for the greater co-ordination of all the social services, which would involve recasting the whole system of local government.

This committee has also discussed problems of the youth service in Wales. The principles enumerated in " Youth Service after the War " (1943) are welcomed, including the view that responsibility for the pre-Service training organisations should be transferred to the Board (now the Ministry) of Education and the local education authorities, in collaboration with Service departments and existing local organisations. The Council recommends that steps be taken to re-establish and extend vocational guidance, employment and welfare committees. The lack of leaders should be met by the provision of courses at the University of Wales. The work should pay due regard to Welsh culture, with a growing emphasis on cultural and recreational activities after the war. Health services should be provided for young people up to the age of 18. Buildings, sites and equipment could be made available as soon as possible after the war, while a scheme for the early release of leaders from the Forces might be considered. Fuller consideration is being given to the problem by the Welsh Youth Committee, which, it is hoped, will be able to give co-ordination and cohesion to youth work in Wales.

The final section is concerned with what remains to be done. The Council stresses that a programme of reconstruction for Wales must be flexible and continuous, built on existing foundations. A continuous survey of wartime developments is being made. The avoidance of unemployment demands measures for adequate social insurance to cover the job—changing and seasonal unemployment. Planned public works programmes and a suitable monetary policy should combat cyclical unemployment, while in this connection the Council hopes to submit a " National Plan of Capital Development," which will include such items as the Severn road-bridge ; the Welsh arterial road ; railway electrification ; housing ; new public buildings ; planned tourist resorts ; ports and dry docks ; coalfield drainage ; flood-prevention works ; regional grid services ; and national parks and pleasure grounds. Examination of the problem of extending pensions to the unemployable is required.

Inquiries will be made into specific industries, including building, clothing and plastics, while further consideration must be given to coal, tinplate, fishing and agriculture, as well as to the general problem of the co-ordination of industry and agriculture in Wales.

Inter-departmental Committees

COMMITTEE ON RENT CONTROL

(Ministry of Health and Department of Health for Scotland)

Chairman : The Viscount Ridley, C.B.E., J.P.
Members : George Buchanan, M.P. ; The Viscountess Davidson, O.B.E., M.P. ; His Honour Judge David Davies, K.C. ; A. Endicott, M.B.E., F.S.I. ; Councillor John I. Falconer, W.S. ; Sir Austen Hudson, Bt., M.P. ; Sir Thomas Hunter, J.P., M.P. ;

Alderman Charles W. Key, J.P., M.P.; G. H. Kimpton; Councillor H. T. MacCalman, B.L.; Alderman Sir Miles E. Mitchell, J.P.; Major Sir Goronwy Owen, D.S.O., D.L., M.P.; H.V.A.M. Raikes, J.P., M.P.; Lt.-Col. A. V. Spencer, D.S.O., D.L., J.P.
Secretary: G. J. M. Gray
Assistant Secretary: L. R. Thurgood

Terms of Reference
To review the question of rent control, including the working of the Rent Restrictions Acts, and to advise whether any, and if so what, changes are necessary.

A Report was presented in April 1945.

The Committee states that the Rent Restrictions Acts achieve their purpose of preventing undue rises in rents which might result from housing shortages, while giving the tenant security of tenure. Attention is drawn to the acute housing shortage, and to the fact that the result of the far-reaching extension of rent control by the Act of 1939 has been that precisely similar houses have widely different standard rents because they happen to have been let at different dates.

With reference to the future of control, the Committee considers that it must continue until there is an adequate supply of houses throughout the country, and recommends that legislation should make provision for its continuance for ten years. After a few years from the date of the new legislation the possibility of relaxing control should be reviewed. It is thought that the existing limits of rateable value within which houses are controlled should continue unchanged. The Committee recommends that houses built after the war and uncontrolled houses converted into flats or tenements should be excepted from control, but that houses which were controlled before conversion into flats or tenements should remain controlled and the rent of each converted flat or tenement should be the appropriate proportion of the rent of the whole house increased by 8 per cent. annually of the cost of conversion. Local authorities' houses should continue to be free from control, but those belonging to housing associations should continue to be subject to control, while no change in the law as regards service occupation is recommended.

The Committee stresses the need for consolidation of legislation in a single comprehensive Act relating to rent control, and for the issue of an official explanatory memorandum in popular language. The basis for fixing rents should be determined, not by gross or rateable value, but by the value which the tenant derives from the tenancy, from which the rating assessment may in turn follow.

The Committee recommends that local authorities should be required to set up and maintain a register of the rents of all houses in their area to which the Rent Restriction Acts apply, and that expenditure so incurred should be reimbursed by the Exchequer.

The establishment of Rent Tribunals is proposed, to deal with the determination of the fair rent of a house; priority of consideration would be given to the most urgent cases. Recommendations as to their constitution and their terms of reference (which should be as simple and wide as is practicable) are made. The term "registered rent" should replace "standard rent," while the "recoverable rent" will be the maximum rent legally recoverable by the landlord. Neighbouring tribunals should confer informally.

The Committee recommends that increases in rates might be recovered by landlords, and overpaid rent by tenants. New legislation should be framed so that improvements to houses, attracting an increase of rent of 8 per cent. of the cost, should not be impeded by unwilling tenants. The Committee also proposes that a technical committee should be appointed to report on the question of cost of repairs. It is felt that the landlord should be entitled to an increase in rent to provide for any extra cost of such services as porterage, cleaning, hot water, central heating, lifts and refrigerators which are provided in the agreement.

With reference to the enforcement of repairs, the Committee proposes that a certificate of disrepair granted by the local authority should entitle the tenant to deduct 30 per cent. of the registered rent.

On the question of possession, a landlord should not be entitled to obtain possession of a house purchased later than 1st September, 1939 but landlords who let houses which they themselves occupied on that date and which they now require for their own occupation should be entitled to possession. Landlords should be entitled also to obtain possession temporarily for repair and reconstruction. County Agricultural Committees should be empowered to grant a certificate on the ground that the person for whose occupation a house is required is to be engaged in some occupation essential to the well-being of the rural community, and that it is necessary for him to live in the area. For the purposes of the Rent Restrictions Acts the managers, governors or local education authority should be regarded as the owners of certain schoolteachers' houses held with buildings vested in trustees. The statutory tenancy of a house belonging to a charitable organisation should be determined on the death of the tenant. The widow of a tenant who occupied his house by virtue of his employment should be entitled to remain in possession for a period not exceeding six months.

Some miscellaneous recommendations deal with : Premiums ; mortgages ; sub-letting ; joint users of rooms ; powers of local authorities to give information and to prosecute for offences ; rent books ; recovery of overpayments of rent ; service of notice to quit ; distraint and warrants for possession ; acceptance of rent after service of notice to quit ; repeal of the Small Tenements Recovery Act 1838 ; legal aid ; ancient buildings; the inclusion of agents in the penal provisions of the new Act ; and improving the drafting of the Acts.

The Committee recommends that furnished lettings should be controlled on the lines of the Rent of Furnished Houses Control (Scotland) Act 1943, with certain modifications. The question whether a house is furnished or unfurnished should be decided by the Rent Tribunals, and some limited form of security of tenure should be given to the tenants of furnished lettings.

In connection with rural housing, the Committee urges that tribunals should satisfy themselves that the rent awarded is sufficient to enable the house to be maintained in good repair, and should decide the deductions to be made from wages in respect of " tied cottages."

Finally, the Committee proposes that the new Rent Control Act should include in each appropriate section a sub-section showing its effect in

Scotland. The restrictions on the rate of interest on, and the calling up of, bonds should be withdrawn or modified in Scotland, and the Scottish law officers should be asked to consider whether any changes are desirable or practicable in the law relating to actions for arrears of rent in Scotland.

Cmd. Paper No. 6621.

NEW TOWNS COMMITTEE

(Ministry of Town and Country Planning and the Secretary of State for Scotland)

Chairman : The Rt. Hon. Baron Reith of Stonehaven, P.C., G.C.V.O., G.B.E., C.B., D.C.L., LL.D., M.Inst.C.E., Hon.F.R.I.B.A.
Members : (*England and Wales*) Ivor J. C. Brown, F.R.S.L. (Editor, "Observer") ; Sir Henry Bunbury, K.C.B. (Late Comptroller and Accountant General of Post Office); L. J. Cadbury, O.B.E., M.A. (Chairman, Cadbury Bros., Ltd., Director, Bank of England, Chairman, News Chronicle Ltd.) ; Mrs. M. Felton, Ph.D. (London County Council, Member, Town Planning Committee) ; W. H. Gaunt, C.B.E., J.P. (Chairman, Herts County Council Planning Committee, Director, J. Lyons & Co., Ltd.) ; W. H. Morgan, C.B.E., D.S.O., M.Inst.C.E. (County Engineer, Middlesex) ; F. J. Osborn (Chairman of Executive, Town and Country Planning Association) ; Sir Malcolm Stewart, Bt., O.B.E., J.P. (Chairman, London Brick Co., Ltd., etc.) ; Percy Thomas, O.B.E., P.R.I.B.A., J.P. (President, Royal Institute of British Architects) ; J. A. F. Watson, F.S.I., J.P. (Member, Central Housing Advisory Committee, Ministry of Health) ; (*Scotland*) Sinclair Shaw, Advocate ; Capt. J. P. Younger, C.B.E., D.L., J.P. (Convener, Clackmannan County Council)
Joint Secretaries : L. F. Boden, LL.B. ; Lt.-Col. F. H. Budden, M.C.

Terms of Reference

To consider the general questions of the establishment, development, organisation and administration that will arise in the promotion of new towns in furtherance of a policy of planned decentralisation from congested urban areas ; and in accordance therewith to suggest guiding principles on which such towns should be established and developed as self-contained and balanced communities for work and living.

An Interim Report was presented in March 1946 (Cmd. Paper 6759).

REPORT ON THE CONTROL OF LAND USE

(Ministry of Town and Country Planning and Scottish Office)

In a foreword to a White Paper published in June 1944, the Government's aim is stated to be an attempt to reconcile individual rights of land tenure with the best use of the land in the national interest. The paper is mainly devoted to the consideration of the problem of compensation and betterment, which is agreed to be the chief impediment to good planning. The main features of the Uthwatt Report are analysed, and it is stated that the Government accepts the main recommendations of that Report dealing with the problem of diverse ownerships and the inflation of land prices. It also accepts the Uthwatt Committee's analysis of the problems associated with undeveloped land outside town areas, developed land and the imposition of a betterment levy, but considers that there would be serious practical difficulies in adopting the Uthwatt proposals for their solution. Accordingly alternative proposals are given.

The Government considers it undesirable to provide different treatment for owners of undeveloped land outside town areas, owners of undeveloped land inside town areas, and owners of developed land. It is thought that the basis of compensation proposed by the Uthwatt Committee, although similar to that incorporated in the Coal Act 1938, presents great difficulties in its application to land in view of the different problems involved. It is also believed that the scheme for a levy of 75 per cent. of increases in annual site value would be extremely complicated in operation, and that its efficacy is open to doubt. For these reasons the Government is unable to adopt the Uthwatt Committee's detailed proposals for dealing with compensation and betterment, although it has accepted in principle the recommendations regarding the public acquisition of land in areas requiring development as a whole.

The Government puts forward a general scheme for the control of development and redevelopment, and to secure that approved development and redevelopment are carried out on the right land and at the right time, with the powers as far as possible similar for both developed and undeveloped land, and includes provisions for powers of public acquisition, universal requirement to obtain consent, betterment charge, compensation, and centralisation of finance, as follows :

Powers of Public Acquisition. Local authorities will have powers of public purchase of land, with consent of the Minister, where the approved development can be carried out by the authority, or where large-scale redevelopment of war-damaged or obsolescent urban areas is required. The purchase price will, for a period of five years, be fixed by the value in March 1939. A reserve power of public purchase will be provided for use when the landowner is unwilling to make land available for such development as is considered desirable, after a public local inquiry.

Universal Requirement to Obtain Consent. There will be a statutory restriction on all development rights. In the main, development rights will remain vested in the owner, but control will be operated through the granting of licences to develop, by the local planning authorities, as at present.

Betterment Charge. Owners of land, whether developed or undeveloped, will, whenever permission is granted to develop or redevelop for a different use, be subject to a betterment charge at the rate of 80 per cent. of the consequent increase in the value of the land. Where refusal would have attracted compensation for loss of development value, a suitable set-off should be made from the betterment charge. The application of the scheme to the question of the winning of minerals is under examination.

Compensation. On a basis of values at 31st March, 1939, owners of land will be entitled to receive fair compensation in respect of loss of development value on any future refusal of permission to develop or redevelop. Owners of land which had no development value on that date will not in future be eligible for compensation. Details for assessing the amount will not be determined until the end of five years following the passing of legislation. During that time the Government will have more information to assist in avoiding the payment of any

excess due to the element of "floating value," and before the end of the period an Expert Committee will be appointed to make recommendations.

Centralisation of Finance. The Government considers that in order to operate on a sound basis, the finances of compensation and betterment should be centralised in a single account, and to this end, proposes the establishment of a central Land Commission ; this would be an independent administrative body, responsible to Ministers and Parliament.

Cmd. Paper No. 6537.

Forestry Commission

NATIONAL COMMITTEES

(Established by Order in pursuance of the Forestry Act 1945)

England
Chairman : The Earl of Radnor
Members : Col. The Right Hon. Lord Courthorpe, M.C., T.D. ; Major Sir Richard Cotterell, Bt., J.P. ; W. L. Taylor, C.B.E. ; Lord Quibell ; Major Charles Mitchell, D.S.O., O.B.E. ; G. W. Lucas

Scotland
Chairman : The Right Hon. Thomas Johnston
Members : Major Sir Samuel Strang Steel, Bt., T.D. ; Lt.-Col. William Stirling of Keir; J. M. Bannerman ; The Duke of Buccleuch, P.C., G.C.V.O. ; John A. Cameron ; A. McTaggart, O.B.E., J.P.

Wales
Chairman : Major Lloyd O. Owen, J.P.
Members : Major Sir Richard Cotterell, Bt., J.P. ; W. L. Taylor, C.B.E. ; Col. J. C. Wynne Finch ; C. Bryner Jones, C.B., C.B.E. ; Alderman W. H. Vaughan

NATIONAL FOREST PARK COMMITTEE (Hardknott)

(Forestry Commission)

Chairman : G. M. Trevelyan
Members : Sir Lawrence Chubb ; The Earl of Crawford ; J. W. Cropper ; H. G. Griffin ; M. Phillips Price ; W. L. Taylor
Secretary : Ernest S. J. Hinds

Terms of Reference
To advise as to the steps necessary to utilise as a National Forest Park part of the area of Hardknott Forest in Eskdale.

A Report was issued in 1944.

The proposed Forest Park, an area of approximately 7,275 acres, is stated to have a uniform moorland character, and to be without roads suitable for motor traffic. It will in future consist partly of sheep-runs and partly of the new forest, including holdings for forest workers.

Its main park value is for mountaineers and fell walkers, and it forms an essential part of the Lake District mountain core. Public access is assured to more than two-thirds of the area by a Deed of Covenant between the Forestry Commissioners and the National Trust, and the Committee recommends that adequate means of passage through the

plantations be agreed between the Forestry Commission and representatives of local interests, and that the paths available for public use should be denoted by means of simply designed and unobtrusive wooden finger-posts at their entrances.

The Committee emphasises that in afforesting the plantable ground, special attention should be paid to the amenity aspect, including such matters as : planting of such species as will give the greatest possible natural effect consistent with good forestry ; avoidance of hard outline edges to the plantations, which should as much as possible follow natural contours ; leaving unplanted the view-points and so much of the surrounding land as will enable the view to be enjoyed when the trees have grown ; protection of the sky lines by not planting too close to them ; keeping planting well back from both sides of the Hardknott road and refraining from planting between that road and the becks that run parallel to its course on the north side of its ascent from the Wrynose bottom ; restricting planting so that the plantations are not close down to the sides of the Gaitscale and Mosedale Gills, and, generally speaking, leaving free of trees the rock formations and banks of streams, and preservation of the sylvan element in the landscape of the Eskdale dale-head.

The Forestry Commissioners should consult representatives of the National Trust or of the Council for the Preservation of Rural England on the above points.

The Committee recommends that, if a demand for camping accommodation arises, sites should be arranged lower down the valleys rather than within the Forest Park, but if it should be necessary to provide them within the Park they should be set close to existing farm houses. If any new buildings prove to be necessary great care should be paid to their siting and construction. Additional buildings should be restricted to the minimum and no new accommodation should be provided in the National Forest Park unless and until the need is felt. As and when the need arises, areas outside the plantations should be set aside, to which the individual camper should be required to restrict his camping.

As regards the Roman Fort, scheduled as an Ancient Monument, the Forestry Commissioners are recommended to make representations to the Ministry of Works for a re-examination and any necessary re-excavations. The route of the Roman Road should similarly be established, and it should be scheduled and protected. The sets of ancient Stepping Stones should also be preserved.

As by-laws become necessary, they should be co-ordinated with those applicable to adjoining land.

A booklet or guide should be published by the Forestry Commissioners.

S.O. Code No. 70-326-0-44.

REPORT ON POST-WAR FOREST POLICY

(Forestry Commission)

The Report was published in June 1943 and reprinted in November 1945.

There are seven Sections : Historical ; Considerations Basic to British Forest Policy ; Private Woodlands ; Technical Services ; Amenity and

Recreational Facilities; Forest Policy and Programmes; and Forest Authority. The Report also contains 13 Appendices, including memoranda on post-war policy by the Royal Scottish Forestry Society, the Royal English Forestry Society and the Central Landowners Association.

Between 1850 and 1913, the consumption of wood in the United Kingdom increased fivefold. Following upon the great fluctuations in the inter-war period, the general tendency is to increase the consumption still further. In recent years 96 per cent. of our consumption has been met by imports, when we used 16 times as much soft wood as hard wood. The average value of imported wood for 1934-38 was approximately £63 millions. This includes the value of unmanufactured wood and timber, wood pulp, and wood manufactures.

Before the last war the United Kingdom had no forest policy and 97 per cent. of the 3 million acres were privately owned and managed. During the 1914-18 war, substantial economies in shipping were made by the substitution of home-grown for imported timber. A forest policy was afterwards approved on the basis of the experience gained during this period. This (the Acland Report) included a programme of State afforestation and the maintenance of existing woods in a productive condition. In 1919 the Forestry Commission was set up under Act of Parliament and became the Forest Authority.

Financial instability caused many setbacks to the Forestry Commission's operations, but in spite of this 714,000 acres of plantable land had been acquired by 1939, four-sevenths of which had been planted. An additional 126,000 acres had been planted with the aid of Forestry Commission grants. Since then the woodlands have been drastically exploited, and to avoid further exploitation the Report proposes the continuance of a system of licences for felling timber.

All conditions being favourable for securing the nation's timber supplies, large-scale action during the post-war period is recommended. The Report proposes that 5 million acres should be devoted to the production of timber to ensure a reasonable margin against future stringency in world supplies. This acreage would be attained gradually by (1) afforestation of bare ground, drawn from its present use, with the minimum loss to food production—this should provide 3 million acres—and (2) the judicious selection of 2 million acres from existing woodlands.

All should be systematically managed and developed, and the 2 million acres referred to in (2) should, where privately owned, be dedicated by their owners to forestry or else be acquired by the State. State assistance would be provided by way of a grant or loan to owners of dedicated woodlands.

The 5 million acres of woodland aimed at would only be attained over a period of 50 years, subject to periodic reviews and adjustments.

The Commissioners submit two programmes: (*a*). A "desirable" programme whereby 1,100,000 acres would be planted in the first ten years at an estimated cost of £41,200,000, followed by 1,500,000 acres in the second decade; and (*b*) an "intermediate" programme, which would provide for the planting of 875,000 acres in the first decade at a cost of £32 millions, including the cost of developing existing State forests.

The proposed administrative machinery would be a single forest authority for the whole of Britain, having the same constitution as the Forestry Commission. Should Parliament require direct Ministerial responsibility, that duty would best be performed by the Lord President of the Council, assisted by a committee.

In the section of the Report dealing with amenity and recreational facilities, proposals are given for increasing the number of national forest parks. The various technical services are also considered.

Measures are being taken to increase nursery stocks to speed up post-war re-afforestation. The construction of roads in existing State forests offers employment in the immediate post-war period ; and it is recommended that surplus plant, machinery and hutments should be retained for this and similar purposes.

The Forestry Commissioners published a Supplementary Report in January 1944. This deals with the form and amount of State assistance to dedicated woodlands ; the administration of private woodlands ; and forestry education. An Appendix deals with woodland accounts.

Cmd. Papers Nos. 6447 and (Supplementary) 6500.

REPORT ON RELEASE OF REQUISITIONED LAND AND BUILDINGS

(House of Commons : Select Committee on National Expenditure—1944-45)

The Second Report of the 1944-45 Session was issued in March 1945. It opens by noting that the Ministry of Works and the Board of Trade have the duty of co-ordinating the release of requisitioned property no longer required by a Government department, and details are given as to the requisitions and expenditure incurred by the Service departments, the Board of Trade, and the Ministries of Supply, Aircraft Production, and Works.

The Committee welcomes the system for co-ordinating the release of requisitioned land and premises, but regrets the paucity of evidence that any large-scale releases are likely in the near future. It recommends a supervisory authority to press for the release of requisitioned premises, bearing in mind urgent civilian needs. This would be able to review, in the light of housing needs, departmental decisions to retain requisitioned property.

The Committee expresses alarm at the increasing departmental demands for office space, and considers that Parliament should watch with care this expansion of accommodation for administrative purposes so as to ensure that it is kept down to the minimum and is not made at the expense of the health, comfort and prosperity of the nation.

It is felt that a central and independent review of the use of premises and of storage requirements is long overdue and should be pressed forward with all practicable speed.

It is also thought that the Government should consider the relative advantages of sterilising space by storing surplus goods and of disposing of or destroying the stores, and come to an early decision as to whether it is more to the national disadvantage to waste space or to scrap stores.

It is suggested that the situation would be eased by effective operation of the machinery recommended in the Ninth Report of the Committee last session (H.C. 120, 1943-44) and by the application of more drastic methods to the release of stores for disposal. Furthermore, it is considered that overseas surplus stores and scrap should be collected and disposed of on the spot.

Attention is drawn to the importance of ensuring that only up-to-date stores are retained, and the Committee recommends that the advice of the scientific and research branches available in each service department should be sought in classifying stores according to their likely future use in the light of scientific progress. The procedure for declaring when an obsolescent store has become obsolete should be speeded up. The Committee considers that the Government should make an independent review of the practice of departments in the retention of stores.

The Committee foresees difficulties if the Compensation (Defence) Act 1939 is strictly applied and payment of compensation is made instead of reinstatement. The Committee, therefore, urges that decisions to retain land should be made in the light of all relevant interests and demands, and not merely of the sectional requirements of particular departments, and that it may be a dangerous error to suppose that it is sound national economy to save a few thousand pounds by acquiring a site in order to avoid the cost of restoring it to its most effective use. To avoid this danger, provision should be made for reinstatement, instead of compensation, in respect of all lands, except where such reinstatment would not be for the general benefit of the nation.

Finally, the Committee considers that the Government should make definite decisions on the strength and organisation of the defence forces required after the war, which would enable departments to determine which properties must be acquired and which be eventually released ; this would allow plans to be made for industrial and agricultural production, for housing and for town and country planning schemes, in respect of property held under requisition.

CENTRAL AND SOUTH EAST SCOTLAND REGIONAL PLANNING ADVISORY COMMITTEE

(Scottish Office)

Chairman : The Lord Provost J. I. Falconer
Vice-Chairman : Major G. H. M. Broun Lindsay
Secretary : Mr. W. A. Morrison
Members : Representatives of the Constituent local authorities

Terms of Reference

The duties and functions of the Committee (which shall be entirely of an advisory character) shall be to take cognisance of all major planning problems of the areas of the local authorities and to prepare an outline regional plan for the area into which the plans of the respective authorities would be dovetailed.

Such plan, when prepared, shall be laid before the various local authorities for their consideration. Any portion of the plan may be submitted to any of the local authorities at any time. For the purpose of dealing with the technical aspects of the work a technical sub-committee may be set up consisting of the appropriate officials of the various local authorities.

CLYDE VALLEY REGIONAL PLANNING ADVISORY COMMITTEE

(Scottish Office)

Chairman : Bailie H. T. MacCalman
Vice-Chairman : Mr. William H. Bell
Secretary : Sir William E. Whyte
Members : Representatives of the Constituent local authorities

Terms of Reference

The duties and functions of the Committee (which shall be entirely of an advisory character) shall be to prepare a scheme dealing with the broad features of planning for the areas of the local authorities beforementioned and for the areas of any other local authorities which may hereafter be added to the membership of the Committee. Such scheme of planning will deal with such major functions of the local authorities as are, in the opinion of the authorities, suitable and desirable for co-operative action and shall include an outline plan for the whole area which plan, when approved, is intended to form the basis of ground work for the statutory schemes of planning of the individual local authorities. In connection with the carrying out of the technical aspects of the work beforementioned a technical sub-committee shall be set up consisting of the appropriate officials of the various local authorities.

The scheme of planning before referred to shall, when prepared, be communicated to the various local authorities for their consideration. If thought desirable, any portion of the scheme may be communicated to the local authorities at any time.

COMMITTEE ON HYDRO-ELECTRIC DEVELOPMENT IN SCOTLAND

(Scottish Office)

Chairman : The Right Hon. Lord Cooper
Members : Neil Beaton ; John A. Cameron ; The Right Hon. Viscount Weir, G.C.B., LL.D. ; James Williamson, M.Inst.C.E.
Secretary : M. R. McLarty, Advocate

Terms of Reference

To consider (a) the practicability and desirability of further developments in the use of water power resources in Scotland for the generation of electricity ; and (b) by what type of authority or body such developments, if any, should be undertaken, and under what conditions, having due regard to the general interests of the local population and to considerations of amenity, and to report.

A Report was issued in 1942 (Cmd. Paper No. 6406), and effect was given to its recommendations by the Hydro-Electric Development (Scotland) Act, 1943.

COMMITTEE ON UTILISATION OF LAND IN THE RURAL AREAS OF SCOTLAND

(Secretary of State for Scotland)

Members : The Right Hon. Lord Normand ; Sir J. H. Milne Home ; I. M. Campbell ; Hector McNeill
Secretary : Miss J. S. Kay

Terms of Reference

To review the steps that are being taken in Scotland to ensure that the recommendations of the Committee on Land Utilisation in Rural Areas in England and Wales, so far as

they can be applied to Scottish conditions, are being duly considered and to advise what further steps, if any, should be taken.

A Report was presented in April 1943. In it the Committee expresses satisfaction that the recommendations of the Land Utilisation Committee have all been scrutinised, and that most, including all the more important and urgent, of the recommendations are being given close and practical study. It considers that if the investigations already undertaken or contemplated are pressed on with the same method and energy as hitherto, the review of the whole field covered by the recommendations will be completed within reasonable time and should form a trustworthy basis for policy. Consequently no departure from the present method of inquiry is advised, or criticism offered of its scope.

A few detailed suggestions are made as to particular matters which the Departments should have in view in the conduct of their inquiries. The Committee recommends that a close watch be kept on design in the reconstruction of houses, and that further legislation be considered to control design in both the reconstruction and building of new houses in rural areas. In connection with electricity, it is recommended that the scheme which is in operation in Dumfriesshire should be kept in mind, since it has provided a uniform tariff in rural and urban districts. It is considered that the question of the control of holiday camps and of independent campers, and the strengthening of existing legislation regarding camps will require to be examined. In connection with housing and planning in country areas, it is thought that the prevention of the creation of unsightly collections of houses in rural areas should be kept in view. Consideration should be given to the question whether the law affecting the establishment of crematoria requires amendment, and whether increased facilities for cremation are desirable.

Finally, it is remarked that the work of the Department of Health for Scotland in connection with planning would be greatly facilitated if the Ordnance Survey maps were brought up to date and thereafter kept under regular review.

Cmd. Paper No. 6440.

EAST CENTRAL SCOTLAND REGIONAL PLANNING ADVISORY COMMITTEE

(Scottish Office)

Chairman : The Lord Provost Sir. J. Garnet Wilson
Vice-Chairman : Mr. James S. Watts
Secretary : Mr. A. T. Herd
Members : Representatives of the Constituent local authorities

Terms of Reference

The duties and functions of the Committee, which shall be of an advisory character, shall be to take cognisance of all major planning problems of the areas or parts of the areas of the local authorities beforementioned and of the areas of any other local authorities which may hereafter be added to the membership of the Committee, and to prepare an outline regional plan for the area into which the plans of the respective authorities colud be dovetailed. Such plan, when prepared, shall be communicated to the local authorities for their consideration and any portion of the plan may be submitted to any of the local authorities at any time. For the purpose of dealing with the technical aspects of the work a technical sub-committee may be set up consisting of the appropriate officials of the local authorities.

FARM BUILDINGS COMMITTEE

(Scottish Office : Department of Agriculture for Scotland)

Chairman : William C. Davidson, O.B.E., J.P., F.S.I.
Members : Charles Jamieson ; Alexander Kirkpatrick ; J. R. Lockie ; Major J. G. McGregor, T.D., M.R.C.V.S. ; John Mackie ; The Right Hon. The Earl of Mansfield ; William Salmond, F.R.I.B.A.
Assessors : C. H. Chalmers, (D.H.S.) ; A. G. Ingham, A.M.Inst.C.E., F.S.I., M.E.San.I. (D.A.S.) ; John Wilson, O.B.E., F.R.I.B.A. (Ministry of Works)
Secretary : G. M. Simpson, D.A.S.

Terms of Reference

To consider and make recommendations regarding the layout, design and construction of farm buildings after the war.

A Report has been approved by the Secretary of State and will be published at an early date as No. 22 of the *Ministry of Works Post-War Building Studies.*

SCOTTISH LAND SETTLEMENT COMMITTEE

(Department of Agriculture for Scotland)

Chairman : James Boyd Douglas
Members : Major The Hon. Robert Bruce ; James Dunlop ; Gavin B. Henderson, M.A., Ph.D. ; Alexander M. MacKay ; Hugh MacKenzie, C.B.E.
Secretary : Hugh McDonald Ritchie

Terms of Reference

To review the operation of land settlement schemes in Scotland, and, in the light of the results achieved, to advise what changes in the system of tenure or of existing methods of land settlement are desirable, with particular reference to the social and economic welfare of smallholders and crofters.

A Report was presented in July 1944. The Committee takes a wide view of its terms, embracing all matters having a bearing on land settlement and covering existing smallholders, as well as new settlers of the future, while it assumes that the main concern is with the smallholding and its place in the future structure of agriculture. The Committee proceeds on the supposition that agriculture will be regarded by the State as an essential and integral part of the national economy and that price levels will be such as will ensure to the efficient producer a decent living. It is also assumed that future land settlement will be based on the fullest use of agricultural land.

Section I is concerned with a review of past land settlement operations, and results which have been achieved. It is thought that of modern settlements where holdings were properly planned, settlers were moderately prosperous and there was a real social gain. There was no appreciable effect on the trend of rural population except that where land was transferred from general to specialised farming there was a considerable increase in production and in the numbers living on the land. The number of applicants settled was small in relation to the number of applications for land, but the failure rate amongst settled applicants was low, and it is agreed that the system of State smallholdings has provided a ladder of promotion for farm-workers that has served a real need in the

agricultural industry. Small-type holdings on the verge of large towns were less successful and part-time holdings are held to be justified only in areas suited to the settling of real rural craftsmen. It is not thought that smallholdings are a wholly successful means of settling demobilised soldiers on a large scale, or of appreciably affecting mass unemployment, but there have been many cases of success among war-disabled men. In the Highlands they have fulfilled their immediate purpose of relieving congestion in certain areas. The most successful type is stated to be a holding of 50 acres or more devoted to milk production.

In Section II, the Committee considers the general question of land settlement in the light of modern developments ; outlines the distinctive methods of land settlement ; and recommends the most suitable for Scottish conditions and the best ways of putting that method into operation. The Committee emphasises the need to make fullest economic use of the land. The best type of settlement for Scotland is thought to be the individual smallholding on which the holder is free to develop his own enterprise, and organised marketing on a national scale is preferred to co-operative schemes. It is recommended that land required for settlement should be acquired by the State, preferably by outright purchase, and that land owned by the State for war purposes, if no longer required, should be reconditioned and made available for land settlement where suitable. The size limits of smallholdings should be raised to 75 acres or £100 rent, and sizes of future holdings should be reckoned within the revised limits, on a stock-carrying basis. The development of smallholdings is recommended rather in the sphere of animal husbandry than in arable farming districts. Group settlements are recommended normally, but it is thought that cottage-holdings for part-time occupation should be developed for special classes in rural districts, including forest workers, but not for industrial workers. Holders should be selected for their experience, and the possession of private savings should continue to be a condition of settlement. The Committee recommends that a body such as the Agricultural Advisory Council should advise on all matters concerning land settlement, and that an officer skilled in land utilisation and management should be placed in charge of the Land Settlement Branch of the Department, while a greater delegation of powers should be made in favour of the local officers acting in the capacity of estate factors for the department.

A special section devoted to demobilised persons recommends : That preference should be given to those with agricultural experience ; that demobilised men should have preference if their qualifications are as good as those of others ; that stocking loans should be made to ex-Service settlers on certain conditions ; the provision of a two-years' training for inexperienced Service men ; and special arrangements for the settlement of suitable disabled men.

In considering land settlement in the Highlands, the Committee defines two separate problems, relating to (1) crofts held by occupiers under direct tenure with the private proprietor and (2) those held under tenure between the occupier and the State. In the Committee's view, land settlement as hitherto conceived has failed to establish within the Highlands an agricultural economy which either procures the maximum utilisation of land, or encourages the young generation to follow an

agricultural career. The Committee recommends a comprehensive State policy for the utilisation of land, embracing cultivation, grazing and afforestation, together with industrial development and, where feasible, fishing. As an essential foundation to this policy, the Committee recommends a land and social survey of the whole area. The basis of future land settlement should be colonisation of large areas suited to co-ordinated schemes of land settlement, and the Committee recommends the establishment of a co-ordinating body to advise on the selection of areas, the utilisation of land within each area, and its allocation to the various forms of development ; it would also adjust questions involving different interests concerned in development. State ownership of the land within the selected areas is advised. A Highland Agricultural Institute with satellite holdings should be set up, and demonstration farms established in suitable localities. The type and size of new holdings in development areas should be left to the discretion of the settling authority, which should continue to be the Department of Agriculture in matters pertaining to the formation of agricultural holdings, other types of development being the responsibility of the authority concerned. It is suggested that the State should undertake the reclamation of improvable land within a selected area prior to its allocation to holders, and intensive research on bracken eradication should be pursued. Loch and river fishings on State properties should be improved to encourage tourists, while milk production should be encouraged in all Highland counties. The value of shelter plantations to livestock breeding in exposed areas should be studied. The re-establishment and encouragement of in-shore fishing should be financed by the State, and the question of freight rates should be reviewed. Deer should be preserved only on land to be scheduled as deer forest, and the owners should be responsible for the protection of neighbouring agricultural land. Where reconstitution of existing old crofting settlements is found to be desirable, the land should be acquired by the State. In the Islands, the main feature of future land settlement should be concentration upon improvement to the condition of existing holdings by attention to housing and communications, land reclamation and the improvement of Island sheep and cattle. The need to raise the standard of social amenities in settlement areas is stressed.

Finally, the Committee makes recommendations regarding the system of tenure, and suggests that holdings formed by the Department should be let in future as equipped subjects in both the Lowlands and Highlands, and that in future settlements on State lands, the new holdings should be let on ordinary agricultural tenure under the Agricultural Holdings Acts. In general, new holders selected for State holdings should be placed on a two- to three-year probationary period during which the contract should be terminable by some simple and speedy process. The present landlord and tenant system should be continued on State land settlement estates and changes in landholders' tenure should be effected by (1) making the working of the holding according to the rules of good husbandry a statutory condition of tenancy ; (2) making residence on a holding a condition of succession ; (3) amending the succession right in order to prevent the misuse of land by legatees who are not qualified. The equipped rent system should be extended on the Department's own estates to include sitting landholders if desired by them, as well as new

tenants taking entry to vacant holdings. The Department should remove smallholder tenants who are merely using their holdings as residences and are sub-letting the land.

A note of dissent from some of these recommendations is added by James Dunlop.

Cmd. Paper No. 6577.

SCOTTISH HOUSING ADVISORY COMMITTEE

(Scottish Office : Department of Health)

Chairman : Councillor James Welsh, J.P.
Vice-Chairman : G. P. Laidlaw, O.B.E., M.A., B.Sc.
Members : Robert Adams, O.B.E. ; William S. Allison, D.L. ; Robert Burgess, C.B.E., M.D., F.R.C.P.E. ; James C. Cessford, C.A., F.S.A.A. ; A. Gordon Chalmers; A. B. Gardner, F.R.I.B.A., F.R.I.A.S. ; Mrs. E. S. Gooch, O.B.E. ; William Gordon ; Mrs. M. F. Grattan, A.R.I.B.A. ; J. D. Imrie, C.B.E., B.Comm. ; Charles Jamieson ; Miss Bell Jobson ; Mrs. J. R. Lang, M.B., Ch.B. ; John Lawrence ; Major H. Broun Lindsay, D.S.O. ; Mrs. Mary McGowan ; George R. McIntosh ; Bailie Allan Maclean; A. McTaggart, O.B.E. ; Miss Annie D. Maxton, F.E.I.S. ; Mr. E. Morrison Millar, M.B.E. ; J. M. Mitchell ; Bailie John Moffat ; T. Paterson ; Frank A. B. Preston, F.R.S.E., F.R.I.A.S., V.-P.Inst.M.& Cy.E., M.T.P.I. ; Allan W. Ritchie, M.B.E. ; David Robertson ; G. H. Russell ; Joseph Weekes, F.R.I.B.A.
Secretary : Dr. A. B. Taylor (Department of Health for Scotland)

Terms of Reference

To advise the Department on any matter in connection with the execution of the enactments relating to housing that may be referred to the Committee by the Department.

SUB-COMMITTEE ON THE DISTRIBUTION OF NEW HOUSES IN SCOTLAND

(Scottish Housing Advisory Committee)

Chairman : G. P. Laidlaw, O.B.E., M.A., B.Sc.
Members : Miss Grace Drysdale ; William Gordon ; Charles Haddon, B.Sc. A.M.T.P.I. ; J. D. Imrie, C.B.E., B.Comm. ; Charles Jamieson ; Major Broun Lindsay, D.S.O. ; James R. Lockie, O.B.E. ; R. Murray McGregor, B.L. ; Mrs. Jean Mann ; Frank A. B. Preston, F.R.S.E. ; Major John Stirling ; James Watson ; J. Cunnison, O.B.E., M.A. ; F. C. Mears, A.R.S.A., F.R.I.B.A., M.T.P.I. ; A. Victor Wilson, B.Sc., A.M.I.C.E., M.T.P.I.
Secretary : Dr. A. B. Taylor (Department of Health for Scotland)

Terms of Reference

To consider and advise on the measures required to secure the most appropriate distribution of the houses to be erected in Scotland in the immediate post-war years.

The Sub-Committee of the Scottish Housing Advisory Committee, which prepared the Report on the Distribution of New Houses in Scotland, explains that the issues under consideration fall into two main groups. There are those arising out of the distribution of houses in the national sphere, and those arising out of the distribution in particular localities, in relation to existing towns and local and regional planning factors.

With reference to national distribution, it was anticipated that for a short time immediately after the war, there would be a phase of scarce

labour and materials, which would restrict the total number of houses to be built ; during this period the Central Department would be mainly responsible for a proper distribution of houses between the general needs of authorities and those having special needs (including those rendered homeless by enemy action and those requiring housing because of the establishment of new industry and rural reconstruction). The Sub-Committee recommends that, to reconcile these claims, the Central Department should make a general allocation to all authorities, and special allocations to particular authorities which have special needs. It also recommends that the Scottish Special Housing Association should play a special part in building for families moving on account of their work, where the receiving authority is unable to meet their needs. Temporary housing should also be used where urgently needed.

From a long-term point of view, in the case of housing on a national basis, it is noted that in the past a time-lag has operated between new industrial development and the provision of convenient houses. The Sub-Committee proposes that, during the immediate post-war years, a beginning should be made in solving difficulties which produce this lag. Appropriate measures should include improvements in the methods of calculating housing needs (house to house surveys are recommended) ; the payment of subsidy to housing authorities for "general needs" irrespective of the area of residence of the applicant, so that housing authorities may make their proper contribution to the distribution of houses in the national sphere ; systematic consultation with industry by planning authorities : and the establishment of a central service of information about industrial development and trends.

In considering local and regional aspects of distribution, it was found that the major defects in distribution were related to social and health factors. In certain areas, the preparation of long-term plans for re-development, accompanied by an immediate and active policy of decentralisation and dispersal, are proposed. To secure dispersal, the Sub-Committee recommends industrial expansion of existing small towns and the creation of new towns in association with new industrial development where necessary. The planning of communities is strongly urged, and an outline is given of the main features of neighbourhood units. The location of new housing communities within half an hour's travelling distance of industrial areas, or inducements to industry to settle on suitable sites in the neighbourhood of the housing groups, are proposed. In the case of rural areas, similar theories are applied to the grouping of villages to form "loose rural neighbourhood units," so as to facilitate the development of better amenities and community activities. There are exceptions which are not suitable for such planning, in the case of certain types of farming and crofting ; forest settlements are also considered.

Finally, it is pointed out that the implementation of these recommendations will require technical skill, administrative action and co-operative effort rather than new legislation. An increase in the planning staffs of local authorities is required, so that planning may keep well ahead of house building. The complexity of the factors, and the magnitude and urgency of the problems governing the distribution of houses are stressed.

SUB-COMMITTEE ON MODERNISATION OF HOUSES
(Scottish Housing Advisory Committee)

Chairman : A. McTaggart, O.B.E., J.P.
Members : Robert Adam ; Dr. W. L. Burgess, C.B.E. ; J. C. Forman ; A. B. Gardner, F.R.I.B.A., F.R.I.A.S. ; T. C. Gough ; Miss Bella Jobson ; R. Murray MacGregor, B.L. ; Mrs. Morison Millar, M.B.E. ; F. A. B. Preston, F.R.S.E. ; Major John Stirling ; Joseph Weekes

Terms of Reference
To consider what standards of habitability and convenience can be laid down for the modernisation of existing houses and what measures might be adopted to facilitate such modernisation.

SUB-COMMITTEE ON OWNER-OCCUPATION
(Scottish Housing Advisory Committee)

Chairman : Major Broun Lindsay, D.S.O.
Members : W. S. Allison, D.L. ; Robert Brown ; J. C. Cessford, C.A., F.S.A.A. ; William Gordon ; J. D. Imrie, C.B.E. ; C. Jamieson ; R. Murray MacGregor, B.L. ; G. R. McIntosh ; G. H. Russell
Co-opted Members : A. McKinna, C.B.E. ; W. A. McPhail ; J. Campbell ; C. Tweedie, F.R.I.B.A., F.R.I.A.S.

Terms of Reference
To consider and advise on the measures required to encourage the provision of houses for owner-occupation in Scotland.

The Report of the Sub-Committee on Owner-Occupation (Cmd. Paper 6741), presented in February 1946, states that for ten years after the war individual savings can be put to few better uses in the national interest than by investment in houses for owner-occupation. It advocates a fuller co-operation between planning and housing authorities and prospective builders before the actual purchase of the proposed site, and a fuller use of the powers of the housing authorities in assisting builders to acquire land at reasonable prices for the building of working-class houses. Local authorities and other lending agencies should make loans on mortgage up to 90 per cent. of the valuation of the house, or of the selling price of the house, whichever is the less, for periods up to 25 years at the lowest possible interest. In order to enable local authorities to expand house purchase schemes, the existing limit of £800 for houses should be raised, and this point has already become the subject of independent legislation.

Amongst other recommendations to encourage building, it is suggested that a subsidy should be made from time to time to meet changes in the cost of building, interest rates, etc.

The bulk of the report is based on evidence supplied by individuals and 74 different bodies representing owner-occupiers and house-holders generally. The exceptionally strong tradition of home-ownership that exists in certain localities, notably in the mining, fishing and crofting areas, and the psychological effect of pride of ownership, should be encouraged and protected. In this aspect the Report has much advice to offer the prospective house-owner, and facilities for him to obtain all the information he needs should be obtainable from the Planning Officer of the Planning Authority.

Improvement of amenities in prospective building areas is regarded as important. The economic factor is stressed throughout as a condition of successful home-ownership, and the Report does not advise a wide extension of owner-occupation until building costs fall. Helpful information on the question of house-purchase payments is provided in the form of statistical tables.

SCOTTISH NATIONAL PARKS SURVEY COMMITTEE

(Department of Health for Scotland)

Chairman : Sir J. Douglas Ramsay, Bt., M.V.O., F.S.I.
Members : F. Fraser Darling, D.Sc., Ph.D., F.R.S.E. ; D. G. Moir (Honoray Secretary, Scottish Youth Hostels Association, Joint Honorary Secretary, Royal Scottish Geographical Society) ; *Peter Thomsen, M.A., F.E.I.S.
Survey Officer : Dr. Arthur Geddes
Secretaries : Dr. A. B. Taylor (to March 1944) ; D. M. McPhail (from March 1944)

Terms of Reference

To advise upon the areas in Scotland which might be suitable for National Parks, and to supervise an actual survey of potential areas by one of the Planning Officers of the Department of Health for Scotland

A Report was issued in October 1944.

The Committee was guided by the following definition of National Parks : " A National Park is an extensive tract of country of outstanding natural beauty, preferably also of scientific, cultural or historic interest, owned or controlled by the nation, accessible to all as a matter of right under suitable regulations, and administered by or on behalf of the nation to the end that its distinctive values may be preserved unimpaired for the enjoyment and recreation of this and future generations." The Committee considers that this definition does not preclude the maintenance or even extension of such economic uses of the land as are consistent with these primary objects, and that one of the chief duties of the National Park administration should be to preserve the continuity of rural life ; this would allow for an extension of agriculture, fish-farming and afforestation. The tentative boundaries suggested for National Parks have been made, where convenient, to march with areas already controlled by the Forestry Commission. Special attention should be paid to the wild plant and animal life within a National Park. The recommendations exclude areas to be used as green belts, playing-fields, and municipal or regional parks, as well as hill areas such as the Pentlands, Ochills and Sidlaws to which access is already good. Proposed criteria for the selection of National Parks are outstanding scenic beauty ; accessibility, preservation and preservability ; recreational facilities of an open-air type ; educational, cultural and social interests of the area ; flora and fauna ; and accommodation.

Field surveys were made, and summary reports are given in the Appendix, for the following areas : St. Mary's Loch ; Glen Affric—Glen Cannich—Strath Farrar ; Loch Lomond—Trossachs ; Glen Lyon —Ben Lawers ; Ben Nevis—Glen Coe—Black Mount ; Moidart—Morar

* Died before signature of Report.

—Knoydart ; Loch Torridon—Loch Maree—Loch Broom ; and the Cairngorms. It is understood that the Forestry Commission proposes to set up a National Forest Park in the Merrick—Glen Trool area, and, therefore, no summary report of this is given, although a field survey was made.

Areas recommended as suitable for National Parks are, in this order: (1) Loch Lomond—Trossachs area ; (2) Glen Affric—Glen Cannich—Strath Farrar ; (3) Ben Nevis—Glen Coe—Black Mount ; (4) the Cairngorms ; (5) Loch Torridon—Loch Maree—Little Loch Broom ; the total area covers 1,870 sq. miles.

The following areas are suggested as a reserve list for later consideration: (6) Moidart—Morar—Knoydart ; (7) Glen Lyon—Ben Lawers—Schielhallion ; (8) St. Mary's Loch ; the total area of which is 730 sq. miles. A map showing these appears in the Appendix.

It is recommended that certain parts of the National Parks should be set aside as nature reserves, in addition to the lower reaches of the Garry and Moriston, and the Black Wood of Rannoch.

The total area of land of relatively low economic value in Scotland is 21,200 sq. miles, and much of that set aside as National Parks would still be available for grazing purposes, while much of it might be afforested. An ultimate area of 3,000 sq. miles of National Parks is considered appropriate to Scotland. It is thought that the claims of amenity and productive use might be reconciled by small-scale undertakings to provide light and power to the immediate neighbourhood and for the encouragement of suitable rural industries, as an alternative to large-scale development of hydro-electric undertakings.

A reservation is added by the late Peter Thomsen, with reference to Glen Garry and Glen Moriston.

Cmd. Paper No. 6632.

SCOTTISH COALFIELDS COMMITTEE

(Scottish Office and Ministry of Fuel and Power)

Chairman : Sir David King Murray, K.C., M.P. (Solicitor General for Scotland)
Members : James Barbour (formerly President, National Union of Scottish Mineworkers) ; Thomas Brown (Consulting Mining Engineer) ; Alexander Cameron (Secretary, Mid and East Lothian Miners' Union) ; John Duncan, C.A. (Messrs. Thomson, McLintock & Co.) ; Peter Henderson (Miners' Agent, Fife, Clackmannan and Kinross Miners' Union) ; Adam S. McKinlay, M.P. (Deputy-Chairman, Glasgow Corporation and formerly Convener of the Housing Committee) ; F. C. Mears, R.S.A., F.R.I.B.A. (Planning Consultant and present President, Royal Scottish Academy) ; William Pearson (Treasurer, National Union of Scottish Mine-Workers) ; David Rankine (Consultant Mining Engineer) ; Charles C. Reid (formerly General Manager, Fife Coal Co., Ltd.) ; George J. Sherriff (County Clerk of Stirlingshire) ; James W. Tweedie (Managing Editor, Bairds and Dalmellington Ltd.)
Secretary : W. C. Barnes (Scottish Home Department, Edinburgh)

Terms of Reference

To consider the present position and the future prospects of coalfields in Scotland and to report : (a) what measures should be taken to enable the fullest use to be made of existing and potential resources in these coalfields ; and (b) in this connection, what provision of houses and other services will be required for the welfare of the mining community.

The Report of the Committee was published in December 1944 (Cmd. Paper 6575).

SCOTTISH RATING SYSTEM COMMITTEE

(Scottish Home Department)

Chairman : The Hon. Lord Sorn, M.C. (formerly J. G. McIntyre, K.C.)
Members : F. Beattie, D.L., J.P., M.P. ; Major The Hon. Alastair Fraser, D.S.O. ; J. D. Imrie, C.B.E., J.P. ; C. H. Lockhart ; G. Mathers, M.P. ; J. P. Morrison ; J. Welsh, J.P.
Secretary : A. B. Hume

Terms of Reference

To review, with reference to post-war requirements, the law and practice in Scotland in relation to (1) *the valuation and rating of hydro-electric undertakings (with special reference to the recommendations of the Committee on Hydro-Electric Development presided over by Lord Cooper) ;* (2) *the effect of the existing system of rating on the provision of houses, and the question whether it is practicable and desirable to limit the maximum amount payable in respect of owners' rates ;* (3) *the liability for rates in respect of empty or unused premises ; and to report.*

A first Report dealing with the valuation and rating of hydro-electric undertakings was submitted in March 1944. The second and final Report was presented in 1945.

The first Part of the second Report deals with the effect of the existing system of rating on the provision of houses, and the question of limiting the amount payable in respect of owners' rates. The existing system of rating, and the effect of the differing incidence of rates on the provision of houses, whether built by local authorities or by private enterprise (either for sale or to let) are considered in detail, and a comparison with the English system is given. The rating system as a deterrent against private enterprise, and other deterrents, are discussed.

Expedients for removing the deterrent effect of the incidence of rates are considered under the sub-headings : Abolition of owners' rate ; limitation of amount of owners' rates ; and additional limitation of owners' rates in respect of new houses. The Committee's recommendations are directed to the object of encouraging private enterprise to provide a substantial proportion of the post-war houses for letting at moderate rents, and the Committee expresses approval of the complete abolition of the owners' rate, if it were acceptable and could be effected, but realises that the procedure would be lengthy and complicated. The only practicable expedient for limiting the amount of owners' rate is thought to be the limitation of the rate to the existing poundages in the various rating areas ; this would be simple to introduce and carry out, but for the present would have to apply only to the consolidated rate, and should be confined to owners' rate on houses. Another measure, proposed in conjunction with this, is that the consolidated owners' rate per £ should be limited in respect of house property to existing poundages. It is assumed, in making this recommendation, that the distribution of new expenditure on the social services between the central and local Exchequers will be reviewed in the near future. Further consideration of limitation of rates other than consolidated rates should be carried out when the basis and extent of charges for water supply have been determined. The rate per £ levied on the first £60 of the annual value of each house should be, for a period of 25 years from the completion of the house, 25 per cent. of the consolidated owners' rate per £ levied in

respect of other houses in the same rating area. This should not apply to houses let by local authorities or other public housing authorities. A similar rating is recommended in respect of buildings reconditioned as houses, provided that the local authority has certified that the cost of necessary repairs and alterations was likely to amount to at least a substantial proportion of the cost of building a new house with the same accommodation.

The second Part considers the liability for rates in respect of empty or unused property. Liability for occupiers' rates ; liability for owners' rates (with arguments for and against relief) ; and liability in respect of occupied but unused factories are discussed fully.

Among its main recommendations, the Committee submits that owners and occupiers should not be liable for occupiers' rates in respect of any period of vacancy of three months or more ; that there should be no liability for owners' rates in respect of a property unoccupied for a period of three months or more ; that the valuation assessor should be entitled to designate separately in the Valuation Roll any unoccupied property which is lettable but which the proprietor is not genuinely seeking to let, and owners' rates should be exigible in respect of that property (provided that the owner should have a right of appeal against the assessor's decision to the County or Burgh Valuation Committee, and that there should be a right of appeal to the Valuation Appeal Court, by way of stated case, against the decision of the Committee) ; and that the statutory de-rating provisions should be applied to industrial lands and heritages which are occupied but unused for so long as the plant and machinery remain in position and the lands and heritages are not used for non-industrial purposes.

One member submits reservations on limitation of owners' rates ; additional limitation of owners' rates in respect of new houses and reconditioned properties ; and the rating of empty property.

Cmd. Paper No. 6595.

COMMITTEE ON THE FORTH-CLYDE CANAL

(Scottish Council on Industry)

Chairman : James Barr, F.S.I.
Members : Liston Carnie, M.Inst.C.E.(Glas.) ; Professor W. Annan, C.A.

Terms of Reference

To consider the direct and indirect advantages to Scottish industry and commerce likely to accrue (a) during and (b) after the construction of a ship canal between the Forth and Clyde ; whether the amount and value of the employment likely to be created in each of these states can be estimated ; whether any forecast is possible of the increase in national income and capital assets likely to result ; and whether any development and changes of circumstances and conditions have occurred since the report of the Mid Scotland Ship Canal Committee in 1930 *which would justify any modification of the conclusions then reached ; and to report.*

This Committee has now reported to the Council,

COMMITTEE ON MATERIALS AND FITTINGS FOR HOUSING

(Scottish Council on Industry)

Chairman : G. J. Sheriff
Members : C. Gray ; T. Graham ; A. McTaggart ; H. H. McTaggart ; A. H. Purdie ; E. G. Wylie; B. W. Tawse; W. C. Kirkwood; T. R. C. Hurll; Dr. M. Macgregor; L. W. Hutson ; A. C. O'Dell

Terms of Reference

To investigate to what extent suitable industrial capacity exists or could be developed in Scotland to produce the materials and fittings required for the post-war buildings programme in Scotland, and to report.

A Report has been submitted to the Council.

COMMITTEE ON PREMISES AND FACILITIES

(Scottish Council on Industry)

Chairman : Col. C. J. Hirst
Members : R. A. Maclean ; C. A. Oakley ; Lord Provost Sir Garnet Wilson (Dundee); Major Speir ; R. J. M. Inglis ; J. M. Erskine ; Capt. Salveson ; W. B. Robertson

Terms of Reference

(*i*) *To report on the extent and location of factory premises with all services obtainable including wartime factories and water-front sites, that will be available on a lease basis immediately after the war for new and expanding industries ; and to recommend where and to what extent and under what auspices further provision should be made.*

(*ii*) *To consider how the facilities for production in Scotland should be made known immediately after the war to potential users in London and other centres of population and in the U.S.A. and to report.*

A Report has been submitted by the Council to the Secretary of State.

COMMITTEE ON THE TOURIST INDUSTRY

(Scottish Council on Industry)

Chairman : Dr. T. J. Honeyman
Members : Sir Ian F. C. Bolton, Bt. ; Miss Greta Collyns ; William Ferris ; Richard Lloyd Gwilt, F.I.A., F.R.G.S. ; R.E. Scouller ; D. Robertson ; R. Beveridge ; James Maxwell ; J. R. Rutherford ; Councillor J. Ure Primrose ; Lady MacGregor of MacGregor ; J. B. Crawford ; Sir Alex. B. King, C.B.E.
Assessors : J. Anderson, S. H. D. ; G. A. Macleod, D.A.S. ; J. Macdonald, S.E.D.

Terms of Reference

To review tourist and holiday facilities in Scotland (including those provided by hotels, hostels and holiday camps) in the light of probable post-war requirements ; to consider what measures are necessary to extend and improve such facilities and to promote the development of the tourist industry in Scotland, and in particular what collective action by the various interests concerned is desirable ; and to report.

Two Interim Progress Reports have been submitted to the Council, recommending *inter alia* the setting up of the Scottish Tourist Board, which has now been constituted.

COMMITTEE ON TRANSPORT

(Scottish Council on Industry)

Chairman : Norman L. Hird, J.P.
Members : Sir Gilbert Archer, J.P.; Sir Steven A. Bilsland; Major The Hon. Robert Bruce; Bailie W. Elger; The Right Hon. The Earl of Elgin and Kincardine; J. M. Erskine ; Provost Hugh MacKenzie

Terms of Reference
To consider the extent to which high transport cost, including differentiated rates for finished as compared with unfinished products, act and have acted as a handicap to Scottish industries and as a deterrent to firms from establishing themselves at a distance from centres of consumption ; in this connection to review the wartime schemes of equalising or limiting freight rates in the case of particular commodities ; to consider how far similar action might usefully be continued and initiated after the war ; and to report.

The first Report has been submitted to the Council.

AMENITY COMMITTEE

(North of Scotland Hydro-Electric Board)

Chairman : Col. The Hon. I. M. Campbell, D.S.O.
Members : John Bowman, M.Inst.C.E. ; Robert Hurd, B.A., F.R.I.A.S. ; Lady MacGregor of MacGregor ; Dr. I. H. Maciver

Terms of Reference
To give advice and assistance to the Secretary of State and the North of Scotland Hydro-Electric Board on matters relating to the preservation of scenery etc. in connection with hydro-electric schemes.

(Appointed under Section 9 of the Hydro-Electric Development (Scotland) Act 1943).

FISHERIES COMMITTEE

(North of Scotland Hydro-Electric Board)

Chairman : Col. Sir D. W. Cameron of Lochiel, K.T., C.M.G.
Members : Col. The Hon. Ian Campbell, D.S.O. ; W. Malloch, B.Sc. ; P. J. Robinson, M.Inst.C.E. ; F. H. Williams, B.Sc., M.Inst.C.E.

Terms of Reference
To advise and assist the Secretary of State and the North of Scotland Hydro-Electric Board on fishery matters arising out of hydro-electric schemes.

(Appointed under Section 9 of the Hydro-Electric Development (Scotland) Act 1943).

PLANNING ADVISORY BOARD : SUB-COMMITTEE ON AMENITIES

(Government of Northern Ireland : Ministry of Health and Local Government)

Chairman : A. D. Wilson, M.A., B.Arch.
Members : Major D. M. Anderson ; W. M. Capper, B.Com.Sc. ; W. Duff, B.Com.Sc.; Dr. E. Estyn Evans, M.A., D.Sc. ; J. McGeagh, A.R.I.B.A. ; J. Seeds, F.R.I.B.A. ; F. Storey

Terms of Reference

To consider and report on means of safeguarding amenities throughout the Province with particular reference to : The provision of national parks and recreation grounds ; advertisements and roadside structures ; the architectural control of buildings ; and the protection of access and legal right-of-way.

PLANNING ADVISORY BOARD : SUB-COMMITTEE ON HOUSING

(Government of Northern Ireland ; Ministry of Health and Local Government)

Chairman : Alderman S. B. Thompson, J.P.
Members : A. J. Allaway, M.A.; Mrs. Amelia Bell ; C. Caldwell ; J. L. Clark, M.B.E.; Miss E. Duffin ; Alderman C. A. Hinds, J.P. ; T. H. MacDonald ; J. H. Stevenson, F.R.I.B.A. ; Professor W. J. Wilson, M.D., D.Sc., D.P.H. ; D. Winston, M.A., A.R.I.B.A., A.M.P.T.I.
Secretary : J. G. Calvert, B.Com.Sc.

Terms of Reference

To consider and report on the general housing problem in Northern Ireland with particular reference to the clearance of slums and the provision of new housing in the post-war period.

An Interim Report was published in 1944, in which it is stated that a Housing Survey, carried out in 1943, revealed that 100,000 houses are required to deal with problems of overcrowding, the replacement of unfit houses, and the housing of married couples living with other families. In addition, the Survey shows that nearly 300,000 dwellings require repairs, and the Committee urges that property owners and local authorities should be enabled, either by grants or by purchase and subsequent reconditioning, to carry out an extensive repair and reconditioning programme at the earliest possible date. Attention is drawn to the serious problem of slum clearance, in which Northern Ireland is considerably behind England and Wales, and the Committee considers that the powers provided by the Planning and Housing Act 1931, are too restricted in this respect. It recommends that new legislation should be passed to bring the law regarding slum clearance and redevelopment into conformity with that of Great Britain ; to simplify and speed up the procedure which a local authority must follow before actual clearance takes place ; to enable local authorities to deal with slum areas on a large scale where necessary ; and to provide adequate financial assistance to enable local authorities to undertake slum clearance. The Committee recommends rehousing on the same site as far as possible, to take advantage of existing services and for the convenience of workers who wish to live near their work. Education of tenants in the use and appreciation of good dwellings, good living conditions and neighbourliness, and a gradual adjustment to improved conditions are recommended, as well as the employment of trained women housing managers.

The need to improve conditions in rural areas is recognised, and the building of houses and cottages in groups on sites carefully selected for reasons of economy and amenity, is recommended. Close co-operation between the housing and planning authorities should be secured, and competent architects employed. New houses should be attached to existing communities where possible.

It is suggested that minimum standards of housing should be secured by action on the part of: The Government (by the preparation of up-to-date model by-laws; the employment of properly qualified architects, engineers, and building inspectors; and insistence on proper qualifications in those appointed by local authorities); local authorities (by the enforcement of by-laws; by employment of properly qualified architects, engineers and surveyors; by insistence on submission of properly prepared and comprehensive drawings before approving of building projects; and by insistence on "certificates of completion"); building contractors (by the registration of all qualified building contractors and by more comprehensive methods of training for apprentices and building trades operatives); and building societies (by ensuring that houses purchased through their lending schemes are properly constructed). The Committee gives detailed minimum standards of accommodation, which should be revised when building costs fall.

The Committee urges that everything should be done to make new housing estates real communities, and suggestions are made as to grouping, relationship with industry, size, shops, open spaces, allotments, layout, and design, and recommends that housing authorities should be empowered to take action on these matters.

The Committee recommends that the fixing of densities in built-up and undeveloped areas should be left for each local authority to decide, but that a net density of 20 dwellings per acre should be the maximum, while four acres per 1,000 population should be the minimum amount of ground set apart as open space in new development.

It is recommended that housing authorities should aim at variety and flexibility in housing accommodation to meet the needs of their areas.

To ensure the erection of permanent dwellings in the shortest possible time, the Committee recommends the setting up of a Housing Department in the Ministry of Health and Local Government, to formulate a long-term housing policy and to supervise its execution; to call upon local authorities to make periodical returns of all their housing requirements; to make arrangements for ensuring a sufficiency of building materials and personnel; to require local authorities to submit their plans and proposals for erection of new houses and for the removal of slums and over-crowding; to help local authorities to reduce costs to the minimum; to consult and advise on the choice of sites, layout and design of houses and housing schemes; to ensure that houses are well constructed; to undertake investigations and research into alternative forms of building and materials and the standardisation of building methods; to undertake surveys and publicity and to hold inquiries; to place contracts for housing and re-housing on the failure or delay of local authorities to meet the requirements of any area; and generally to do everything necessary to ensure speed and economy of erection, a continuous programme of work, and the energetic prosecution of the housing policy of the Province. The Committee also recommends that active steps should be taken to accumulate stocks of approved quality and to foster the manufacture in the Province of all those products connected with the erection and equipment of houses.

The Committee suggests that the question of building labour should

be considered by the Government and the building industry, and that the necessary decisions on financial assistance should be taken by the Government at the earliest possible date.

It is thought that, to keep rents low, generous financial assistance will be necessary, and the Committee recommends a Government subsidy, varied to meet varying needs, towards the total cost of housing schemes. The Committee also considers that local authorities should be enabled to raise loans in respect of housing at low interest rates. It is felt desirable that a housing association should be formed in Northern Ireland.

The Government is urged to carry out proposals similar to those of the Imperial Government regarding the provision of temporary houses, in order to help alleviate the grave housing problem. These should be erected on sites to be used later for permanent houses. No fundamentally new methods of construction or of utilising materials for permanent houses are recommended.

Cmd. Paper No. 224.

PLANNING ADVISORY BOARD : SUB-COMMITTEE ON LOCATION OF INDUSTRY

(Government of Northern Ireland : Ministry of Health and Local Government)

Chairman : Major D. M. Anderson
Members : T. Coote, J.P. ; W. Crone, M.B.E. ; G. H. McAllister ; W. F. Scott ; H. Turtle ; R. Clement Wilson
Secretary : G. W. Nixon, B.A. (Ministry of Commerce)

Terms of Reference

To consider the present geographical distribution of industry in Northern Ireland and measures of physical planning calculated to foster the further development of industry and to report whether the location of industry should in future be brought under State control, and, if so, to what extent and by what means.

An Interim Report was presented in 1944. In its first Part the present geographical distribution of industry in Northern Ireland is considered and evidence from various sources examined. It is stated that the problem is how to control the distribution of industry better in the future, without damage to the trade of the country. The further unrestricted and unplanned growth of Belfast will add to existing difficulties in bringing about conditions considered essential to the good health of the community, while the increase in land value brought about by further building development will add to the problems of compensation in planning. It is thought that the present geographical distribution of industry is unevenly balanced as between Belfast and the rest of the Province, and that, where possible, new industries should be attracted to provincial towns. This conclusion is based on the considerations that towns should have a population of at least 15,000 if amenities are to be economically provided ; that agriculture is the only great man-employing industry outside Belfast ; that there is insufficient diversification of industry outside Belfast ; that large thriving local communities would be of great advantage to agriculture ; that the health of the workers is better

in country districts ; that the moral well-being and morale of workers, particularly when unemployed, are higher in the country ; and that over-concentration in a city such as Belfast is strategically dangerous.

In the second Part consideration is given to measures of physical planning calculated to foster the decentralisation and diversification of industry. The Committee believes that the requirements of modern industry cannot be adequately met without measures of physical planning, which will enable existing undertakings to develop under advantageous conditions ; will afford means by which new industries can be established in or attracted to Northern Ireland and by which industrialists can be offered facilities much more closely comparable than is now the case with those available elsewhere in the United Kingdom ; will co-ordinate industrial development with housing development ; and will make it possible to relieve undue dependence on a limited number of staple industries. In the Committee's view, the further industrial development of the Province should in large measure take the form of a diversification of industry. It is also felt that physical planning is necessary to avert the consequences of indiscriminate and uncontrolled development, and that particular attention should be paid to the erection and siting of certain industries which are injurious to health and property. The primary aim of physical planning should be to provide suitable facilities where they are needed, and special inducements should be offered, particularly to new industries, to avail themselves of such facilities as may be offered in provincial centres. No compulsion should, however, be applied to the industrialist. It is thought that zoning for industrial purposes should be undertaken on a carefully considered basis in which all reasonable possibilities are taken into account, and particular attention paid, *inter alia*, to appropriate siting, the provision of essential services, and the convenient juxtaposition of factory premises. The Committee stresses the need to interrelate industrial development with the development of housing and amenities. A separate inquiry into the establishment of one or more trading estates, and study of the physical layout of the various trading estates in Great Britain are recommended.

As the co-operation of local authorities and the Central Government are essential to the industrialist, suggestions are made as to the lines on which such co-operation can be effected. It is suggested that the local authority should be responsible for selecting the industrial zone and arranging to supply it with the requisite services as and when required, and that it should also have power to acquire compulsorily and to become sole owner of the land within the zone. The Government should supplement the assistance already available under the new Industries Acts by providing facilities for the erection of factory premises, and it should place the industrialist and the local authority in direct relationship with each other at the earliest suitable opportunity.

The third Part is concerned with the problem of state control. In the Committee's view, state action is urgently needed, but should be confined to making certain areas more attractive to the industrialist. At the earliest possible date the Central Government, in close co-operation and consultation with local authorities, should make a study of the facilities available for further industrial development. The Central Government

should establish ready contact between the industrialist and the local authority of any area where there is a site likely to attract him ; should advise the industrialist as regards location ; should continue and extend facilities available to the industrialist under existing and any future legislation; should endeavour to make possible a greater diversity of industry throughout the Province ; and should establish machinery providing intercourse between central departments, local authorities and organised industry. While the Minister of Commerce is responsible for policy affecting the location of industry, it is felt that there is need for increased co-ordination between the various Government departments, local authorities, statutory corporations and other public utility undertakings, and for the voice of industry to be heard in the framing of policy and in its execution. Consequently the Committee recommends the establishment of an Advisory Committee, to advise the Minister on all subjects relating to the location of industry. (Cmd. Paper No. 225.)

PLANNING ADVISORY BOARD : SUB-COMMITTEE ON RURAL PLANNING

(Government of Northern Ireland : Ministry of Health and Local Government)

Chairman : Major D. M. Anderson
Members: J. L. Clark, M.B.E.; R. Ferguson, B.A., B.E., M.Inst.C.E.; D. A. E. Harkness, M.A. ; H. Jamison, O.B.E. ; L. H. Liddle, F.S.I. ; T. Lyons, M.P. ; J. G. Rhynehart, M.Sc., F.R.C.Sc.I., D.I.D., N.D.A. ; J. H. Stevenson, F.R.I.B.A.

Terms of Reference
To report on the physical planning problems associated with rural areas, and the agricultural community.

PLANNING ADVISORY BOARD : SUB-COMMITTEE ON TOURIST DEVELOPMENT

(Government of Northern Ireland : Ministry of Health and Local Government)

Chairman : W. I. Cunningham, M.B.E.
Members : Robert Bell, F.S.A.A. ; Miss F. J. Davidson, F.R.G.S. ; Miss R. Duffin ; J. Edwards, LL.B. ; R. Ferguson, B.A., B.E., M.Inst.C.E. ; R. F. Green ; Fred Storey

Terms of Reference
To consider in what respect and to what extent the accommodation, amenities and facilities likely to be available to tourists visiting Northern Ireland after the war will be adequate for the purpose of catering for increased demands, and to make recommendations as to what steps should be taken towards improving or extending such accommodation, amenities and facilities with a view to making Northern Ireland more attractive to tourists.

The consideration of any proposal to amend the present liquor licensing Acts of Northern Ireland is excluded from the scope of the Committee's inquiry.

PLANNING ADVISORY BOARD : SUB-COMMITTEE ON TRANSPORT

(Government of Northern Ireland : Ministry of Health and Local Government)

Chairman : R. D. Duncan, B.Sc., M.Inst.C.E.
Members : D. Hall Christie ; R. J. R. Harcourt ; L. H. Liddle, F.S.I. ; T. S. Strahan ; D. Lindsay Keir

Terms of Reference
To consider and report on transport facilities and the possibility of the co-ordination of road, rail, air and water transport throughout the Province.

PLANNING ADVISORY BOARD : SUB-COMMITTEE ON WATER AND SEWERAGE

(Government of Northern Ireland : Ministry of Health and Local Government)

Chairman : Alderman W. F. Neill, F.A.I., J.P.
Members : James Blane, D.L. ; W. M. Cronin ; R. D. Duncan, B.Sc., M.Inst.C.E., M.Inst.W.E. ; R. Ferguson, B.A., B.E., M.Inst.C.E. ; J. A. Higgins ; S. H. W. Middleton, B.A., B.A.I., M.Inst.C.E., M.Inst.W.E. ; J. Shuttleworth, M.A., B.Com. ; Alderman S. B. Thompson, J.P. ; Professor W. J. Wilson, M.D., D.Sc., D.P.H.
Secretary : J. G. Calvert, B.Com.Sc.

Terms of Reference
To consider and report on the problems of water supply and sewerage and the adequate provision of these facilities in urban and rural areas throughout the Province.

A Report was presented in August 1943, of which the following is a brief summary.

A great improvement in the water and sewerage facilities of the Province is necessary, and substantial grants for this purpose should be made available by the Government. If this is effected by the multiplicity of small authorities existing at present : The capital costs will be extremely high, if not prohibitive ; maintenance in many cases inefficient through lack of skilled management ; and the economies and other advantages of pooling and interconnection neglected. Co-ordinated development by regional water and sewerage authorities with a Central Co-ordinating Committee is, therefore, recommended. This recommendation should be given urgent consideration so that surveys can be carried out and plans drawn up to enable schemes to be proceeded with immediately circumstances permit.

Cmd. Paper No. 223 (Belfast).

PLANNING COMMISSION : PROPOSALS FOR THE BELFAST AREA

(Government of Northern Ireland : Ministry of Health and Local Government)

Chairman : W. R. Davidge, F.R.I.B.A., F.S.I., A.M.Inst.C.E., P.P.T.P.I.

County Borough Councils :
Belfast : R. B. Donald, M.Inst.C.E., F.S.I., M.T.P.I. ; R. S. Wilshere, M.C., F.R.I.B.A., F.S.I.
Londonderry : A. S. Hamilton, B.Sc., M.Inst.M.& Cy.E. ; J. Crossland, L.R.I.B.A., M.T.P.I.

County Councils :
Antrim : W. Grigor, A.M.Inst.C.E.
Armagh : R. McConnell, B.E.
Down : J. G. Wilkin, B.E., M.Inst.C.E.
Fermanagh : J. W. Charlton, M.C., B.Sc.(Eng.)
Londonderry : H. W. Craig, B.Sc., M.Inst.C.E.I.
Tyrone : B. G. L. Glasgow, B.A., B.A.I., M.Inst.C.E.

Belfast Harbour Commissioners : Major J. H. Patton, M.C., M.A., M.A.I., A.M.Inst. C.E.

Belfast Water Commissioners : S. H. W. Middleton, B.A., B.A.I., M.Inst.C.E.

Government Departments :
Finance : T. F. O. Rippingham, A.R.I.B.A.
Home Affairs : R. D. Duncan, B.Sc.(C.Eng.), M.Inst.C.E.
Health and Local Government : Denis Winston, M.A., B.Arch., A.R.I.B.A., M.T.P.I.
Agriculture : J. Getty, B.Sc., A.R.C.Sc.I., N.D.A.
Commerce : E. D. Taylor, A.R.I.B.A.
Public Security : T. N. McLay, B.E., L.R.I.B.A.
Secretary : J. G. Calvert, B.Com.Sc.

Terms of Reference

To be a Commission to prepare planning proposals for submission to the Ministry of Home Affairs and to make recommendations as to any legislative or administrative action necessary in connection therewith.

A Planning Commission, appointed in 1942, has prepared skeleton planning proposals and made recommendations to the Ministry of Health and Local Government, in a Report published in 1945.

The principal recommendations are summarised under the headings : Location of Industry ; Housing ; Traffic and Transport ; and Agriculture, Amenities and Open Spaces.

Recommendations concerning the location of industry have been made on the assumption that much of the existing heavier industry is for various reasons tied to its present sites, and these have been made the nuclei of new industrial zones. It is proposed that industry which is located haphazardly in the midst of residential or shopping areas, and which is in obsolete premises, should be gradually relocated in factory zones when rebuilding occurs. Light " workshop industries " which require to be near the central commercial zone should be grouped in flatted factories. New industrial estates are envisaged as including largely light industries depending mainly on electric power and road transport, and are located away from the centre of the city. The Commission recommends in general that, wherever possible, industry should be induced to go to the smaller towns outside Belfast, such as Ballyclare, Carrick-fergus, Comber, Lisburn, Newtownards, Saintfield, and Whiteabbey.

The housing problem is regarded as that of housing decently and conveniently the existing population, as no large increase in the city's total population is expected. It is assumed that improvement of the existing congested areas will be one of the main considerations in any future development, and the building of flats in part of the central residential areas is thought to be necessary. It is calculated that if half the new housing in the central area is carried out in the form of four-storey flats at a density of 30 dwellings per acre, and the remainder in two-storey houses at the maximum net density of 20 to the acre, it would still be necessary to provide for one third of the population, about 75,000 people, as well as for 9,000 married couples at present without houses, outside the present built-up area. For this purpose 3,000 acres have been allocated, and a maximum net density of 16 houses per acre is recommended. The housing policy should be co-ordinated with the policy for the location of industry, and new estates should be compact and where possible centred round an existing settlement.

The Commission recommends that traffic by road, rail, sea and air should be harmonised and co-ordinated in a unified scheme. Suggestions for roads include improvement of main routes radiating from the central area and the construction of three ring-roads. It is recommended that buildings should not front directly onto new arterial roads ; that crossings at the same level should be avoided where possible ; and that a minimum number of roads should enter an arterial road. The construction of a new bridge is proposed, north of the Belfast and County Down Railway Station, to continue the line of the Sydenham by-pass road. The road proposals are also designed to improve access to the railway stations, and the Commission recommends the establishment of a combined railway and road transport terminal near Great Patrick Street. It is strongly recommended that everything possible should be done to increase the usefulness and convenience of the airport, and that consideration should be given to the desirability of continuing some of the military air fields for civilian use.

Stress is laid on the importance of regulating and limiting the outward growth of Belfast. Recommendations are made for the retention of an "agricultural zone" outside the scheduled building areas ; for the preservation of the Holywood Hills, the Lagan Valley, and the Antrim Hills ; and for the preservation of woodland.

In connection with the planning of the central area of Belfast, attention is specially drawn to problems concerning the improvement of the Lagan Banks, the redevelopment of High Street, and the provision of parking facilities, of long distance bus stations, and of open spaces.

Finally attention is drawn to the need for co-ordination between the different users of land in planning, and for a higher degree of collaboration between the various responsible authorities and their officials. The Commission recommends that steps be taken to set up a Planning or Reconstruction Committee of the Belfast Corporation, whose main function would be to correlate the activities of the different committees, with the object of securing housing estates so planned as to be real communities. The Commission also suggests that agreement be reached

with the War Damage Commission regarding payments for rebuilding on alternative sites, so that the process of re-location of industrial and other property may be eased. It is stated in conclusion that local authorities will need wide powers of acquisition and control accompanied by strong financial aid from the Central Government if real improvements are to be secured.

Cmd. Paper No. 227.

Area and City Replanning

ABERDEEN

IN 1933, the Town Council, along with two neighbouring local authorities, the County Councils of Aberdeenshire and Kincardineshire, adopted the Aberdeen and District Joint Town Planning Scheme, which has since been administered by the respective authorities, within their own areas, to the benefit of the community. The Scheme provides for the preservation of large areas in and about the City as public and private open spaces, including the banks of the River Dee and River Don, while the amenity and zoning provisions in the Scheme have materially contributed towards the planned development of the City. An area in the centre of the City could not be covered by the provisions of the Scheme as it was made under the Town Planning (Scotland) Act 1925, but the Plans and Town Planning Committee of the Corporation has given instructions for the preparation of a factual plan of this area of the City, and this work is in progress. When the work is completed it is anticipated that the preparation of a Town Planning Scheme for the central area of the City will be proceeded with.

BIRMINGHAM

Valuable research work is being carried out by the West Midland Research Group and by the Bournville Trust Survey Group, both working with freedom and with the advantage of help and information from the City officials and the University. (The work of the West Midland Research Group is dealt with elsewhere in this book.)

In 1942 the Public Works Committee set up four Advisory Planning Panels, and even before 1939 zoning and road improvement proposals had been formulated for the centre of the City, the main principles of which are now being developed in relation to the new Town and Country Planning (Interim Development) Act. Traffic is one of the main problems. It is considered that more fundamental measures are needed to disperse congestion than the mere extension of one-way traffic schemes. The Council has approved a scheme for an inner ring-road to carry through-traffic and having access to and from the centre at convenient points for omnibuses and local commercial traffic. Details of layout within the ring are being developed to enable the traffic-flow to serve the special functions of the various zones.

The City Council has approved in principle a scheme for the redevelopment of the Duddeston and Nechells area (about 267 acres), embodying recommendations made by one of the Advisory Panels.' This area forms part of the larger central zone and the scheme is co-ordinated with the general plan for the City. At the time of going to press it was hoped to report to the City Council in December (1945) upon the preparation of further schemes introducing a total area of approximately 1,100 acres.

BRADFORD

The Reconstruction Committee has been re-appointed to consider post-war reconstruction and development within the City and in particular to encourage the establishment of new industries.

At the time of going to press the Plan for the reconstruction of the central area of the City was under consideration by the Street Improvements and Buildings Committee with a view to agreeing upon a definite scheme for submission to the Council for confirmation.

BRIGHTON

The Town Council has confirmed a recommendation of the Planning Committee that it is desirable in the interests of good planning for the Clock Tower to be removed as soon as technical labour and materials are available.

The question of improvements to the sea front has been postponed by the Council for seven years ; nor have any schemes been agreed upon for the removal of the fish market or the provision of a new site for the Town Hall.

BRISTOL

The City Council has accepted the preliminary report of the Planning and Reconstruction Committee for the redevelopment of approximately 800 acres in the heart of the City which has been damaged by enemy action.

The Scheme is based on projects for main road to control the traffic-flow. An inner circuit road will allow for three lines of traffic in each direction with controlled access points from frontage development and with pedestrian subways. Within the circuit, major roads will form the boundaries between precincts each of which will fulfil some special function, *e.g.* warehouse and distributive trades, industry, residences, shops, public buildings, educational buildings and so on. Public service vehicles will, as far as possible, be routed along or outside the inner circuit road. Car park facilities inside the central area ; a bus station adjacent to the shopping centre ; arrangements for the interchange of road and rail traffic at the main railway station ; and interchange bus stations at four focal points are other features of the scheme.

The proposals include reservations for public buildings on the site of the old shopping centre ; a main shopping centre on a new site ; the opening up of church sites and the old City wall by the provision of open spaces ; extensions to the University and voluntary hospitals, with a new Medical School ; the retention of King Street for period-type buildings ; a site for the central wholesale and retail markets and a precinct for central educational buildings, including the headquarters of the youth organisations.

In all this the Council has been guided by the two-fold principle of preserving the historical and architectural character of the City and providing for modern economic efficiency. Further consideration is

to be given to the question of district heating. Research work by the Bristol Development Board on industrial and commercial needs is proceeding in collaboration with the City Engineer and the Chief Planning Officer.

The City Council, in approving the proposals, authorised an application for the whole of the specified 800 acres to be designated by the Minister of Town and Country Planning as an area of extensive war damage in order that early steps could be taken to proceed with the acquisition of the required land to enable the earlier part of the programme of reconstruction to proceed. It is also asking for powers to acquire four sites, away from the central area, to be developed as industrial estates, and for authority for a considerable scheme of temporary shops to be put in hand in the central area pending final reconstruction of the shopping area.

CANTERBURY

The Town Council of Canterbury has appointed an eminent London architect to collaborate with the City Engineer in drawing up plans for the reconstruction of the City. The Council is determined to ensure that the rebuilding of bomb-destroyed parts of the City is carried out in such a manner as to preserve the traditional character of Canterbury, and that the new development harmonises with its remaining ancient features.

At an appropriate stage the plans will be submitted to the Council, but until that point is reached no description of them is available.

CARDIFF

The Cardiff City Council has been concentrating on tentative post-war schemes. Preliminary proposals for the Council's re-planning scheme of the City are well in hand. The suggestions to be included in the scheme will have as their object the relief and prevention of traffic congestion in the main streets, re-arrangement of inconveniently planned streets, decrease of housing density in some of the older parts of the City and provision of social service and general amenities. This scheme is looked upon as a long-term policy but will be designed to include and make provision for works of a more imminent character.

Committees of the Council have prepared proposals on which a comprehensive report has been submitted to the Council.

Priority has been given in immediate post-war development to schemes which, while conforming with national long-term town planning, will, at the same time, tend to restore prosperity to the City, bearing in mind the development of its natural resources with the aim of attracting new industries. Essential to this is the provision of new housing estates, with good transport facilities to industrial centres, and public halls, schools, recreational facilities, etc. A programme has been submitted for the erection of 10,000 houses for general habitation and 500 for the aged and necessitous. The number of houses built will depend on the labour and materials immediately available; but the Corporation already owns scattered sites to accommodate approximately 700 which will probably

be enough for the first year's programme. The Estates Committee has given instructions for the purchase of lands for building and for other purposes that will be of general benefit to the City. Schemes have been prepared at an estimated cost of £180,000 for the construction of new main sewers for housing estates and for the relief of the present sewerage system of the City.

Contracts have been let for the construction of roads and sewers in estates to accommodate 912 permanent houses and 25 United States bungalows, together with a main drainage scheme connecting the housing estate to the City. Sites have also been prepared by direct labour for the erection of 420 United States and British bungalows.

Main and secondary roads, with road improvements and reconstruction, are regarded as of urgent importance for the future development of the City, and proposals on this subject have also been submitted to the Council. These roadworks involve the construction of new bridges and the renewal and strengthening of old ones within the City boundaries. The proposed expenditure under this head is in the neighbourhood of £300,000.

Other projects are : A comprehensive overhaul of water supplies and reservoirs ; the erection of schools to meet the requirements of the new Education Act ; the provision of nursery schools, youth centres, physical training colleges, school meals, public libraries, etc. There are proposals in connection with hospital and medical services ; environmental and personal hygiene ; parks, recreation grounds and open spaces, and allotments.

Plans are also in hand for the development of transport services (including the substitution of trolley buses for trams) ; electricity services and the extension of power stations ; and the development of airports.

CLYDE VALLEY

In September 1944 the Clyde Valley Regional Planning Advisory Committee presented its Interim Report on Housing Sites within the Region, wherein it is estimated that approximately 202,000 houses will be required to rehouse 35 per cent. of the population, the area covered being sub-divided into the following groups :

(*a*) Glasgow and environs, including the large burghs of Clydebank, Coatbridge, Airdrie, Motherwell and Wishaw, Hamilton, Rutherglen and Paisley, the small burghs of Milngavie, Barrhead, Johnstone and Renfrew, along with the adjoining lands in the Counties of Dunbarton, Lanark and Renfrew, part of which are urbanised ; (*b*) the Greenock–Port Glasgow–Gourock area ; (*c*) North Lanarkshire mining and industrial areas ; (*d*) the Vale of Leven ; (*e*) the Irvine–Ardrossan industrial area of Ayrshire; (*f*) Prestwick–Ayr; (*g*) Kilmarnock and the Darvel Valley ; (*h*) individual burghs not included under the above special groups ; and (*i*) villages and isolated communities.

This report deals with the short-term plan for the interim period until the completion of the Regional Plan and gives guidance to local authorities on the location of housing sites.

In the examination of all sites careful consideration has been given to the following salient points :

Community Planning : The planning of new housing on small sites not related to existing towns and villages is discouraged and it is stressed that new and existing development, by the building of new houses and the redevelopment of old property, should be closely integrated. In county areas schools, churches, shops, etc., should form the basis of community centres, and in the burghs, where most sites are located in undeveloped areas, there is opportunity for planning complete community units either by adding to existing schemes or by new development only.

Main Roads and Railways : The Committee recommends that development should not take place where lines of regional road development may be prejudiced by building before the final plan is prepared or where alteration of road lines may ultimately be required. Sites cut by main traffic roads, cut off by main roads from schools, shops, etc., or hemmed in by high railway embankments are regarded as unsuitable for development.

Industrial Areas : Housing sites should be chosen sufficiently near existing centres of work but not immediately adjacent to coal bings, excavations and factories.

Agricultural Value of Land : A proper assessment is being made of the best agricultural land, and it is hoped that the interests of agriculture and building development may be satisfactorily reconciled.

Open Spaces and Green Belts : All sites which close up remaining spaces where a continuous green belt can be planned are rejected.

Detailed plans, illustrated by drawings, are given for three hypothetical areas as follows : Sites on the outskirts of built-up areas, already partially developed ; sites on the outskirts of built-up areas, at present undeveloped ; and sites in County areas (to show grouping). All these sites are segregated from main traffic roads, the necessary service roads being designed to discourage through traffic. Ample provision is made for the parking of vehicles and there are generous park areas, linking by " green ways " the several parts of the communities. Community buildings are grouped into a main central area with subsidiary centres in one or two outlying areas, the greatest distance of any house from the main shopping centre being approximately half a mile.

There is a summary of local authorities' housing requirements and a schedule of approved sites, showing acreages and the approximate number of houses required in each.

COVENTRY

A provisional scheme for the redevelopment of the "core" of the City—where the main war damage occurred—has been prepared as a basis of investigation by the City Redevelopment Committee.

Its guiding principle is to relieve traffic congestion in the City centre, which has resulted from the rapid growth in recent years of a town whose central plan remained that of a walled city. Ancient buildings are preserved, and new development allows for vistas at certain points, though

some of the narrow winding streets have been left out to give more convenient building sites. A system of ring-roads has been designed to ensure free traffic-flow round the town, with ample parking space for all vehicles. A station for long-distance buses near the railway station is envisaged. The shopping centre retains its orginal site with facilities for commercial traffic and car parks, and with arcades for pedestrians connecting with a new retail market. An improved central fire station is situated on the new ring-road.

A central park and civic centre are advocated. The cathedral area will be left open and the civic centre will include a library, police offices and law courts, municipal offices, an adult education institution, a school of art and an art gallery. The park layout incorporates bathing pools and a bandstand. Allowance has been made for an entertainments area, and all factories are allotted to a factory zone away from the centre of the City.

Rehousing is proposed in the form of neighbourhood units, comprising blocks of houses and flats which will be more economical in their use of ground space and so allow for more open spaces and gardens.

The work of survey, research and planning in greater detail is proceeding.

The Council has made application to the Ministry of Town and Country Planning for the de-limiting of the central core of the City as an " Area of Extensive War Damage " under the Town and Country Planning Act 1944. A local inquiry in regard to the matter is expected to be held in the near future, and if the application receives the Ministry's approval, the Council will then proceed to apply their compulsory orders to enable them to acquire the sites and properties in the Area with a view to a comprehensive redevelopment on the lines of the scheme which has been prepared.

CUMBERLAND, WEST

A Report, prepared by W. C. Devereux, F.R.Ae.S., at the joint invitation of the Cumberland Development Council and the West Cumberland Industrial Development Company, was published in 1944.

The author's primary aim is to produce a scheme which will secure full employment, while attention is also paid to a balance of industries, the establishment of industries with a high output per person employed, and to the export trade.

The operation of the proposed Plan in its early stages would call for an increase of about £10,000 in United Kingdom imports as a whole, while there would be a proportional increase in the export of finished goods from the region. The Plan provides for the additional employment of about 9,145 persons, an increase of nearly 50 per cent. on employment provided for by existing industrial capacity.

To achieve this, it is proposed to introduce into the region new industries such as electric tool steel ; screws, nuts and bolts ; engineering edge tools; blast furnace cement ; tissue paper ; rayon staple fibre ; staple fibre textiles ; vegetable canning ; meat canning ; haberdashery and fancy

goods industries ; and drugs. It is anticipated that there will be an expansion in the established industries of limestone quarrying and lime burning ; woollen textiles ; coke-oven and gasworks by-products and chemicals ; cosmetics ; and possibly surgical instruments. Industries which it is anticipated will continue at pre-war or wartime strength are blast furnaces ; paper manufactures ; flour milling, brewing, mineral waters, milk products, tanning, etc. ; woollen textiles ; clothing, haberdashery and fancy goods ; mechanical engineering and foundries ; electric furnace steel ; and magnesia. It is estimated that industries which will decline are coalmining, and iron ore mining. It is calculated that, of a total number of 27,760 persons who can be employed, 9,145 will be employed in new industries, and that of a total net value of output of £6,998, the new industries will provide £2,088.

The mineral, water and agricultural resources of West Cumberland are reviewed, in relation to industry. It is stated that, while employment in mining is likely to diminish, further use should be made of Cumberland's iron and steel products. It is proposed that the ample water supplies should be used by new plants such as rayon staple fibre, tissue paper and a cannery. The establishment of a small market garden industry to provide vegetables and fruit for the cannery is recommended, while encouragement of sheep farming would help to revive the local woollen textile industry. Woollen and rayon industries would in turn help smaller industries such as tailoring, the manufacture of buttons, textile trimmings, etc., all of which are already established.

Other industries not primarily based on natural resources are considered, and it is estimated that they should provide employment for about 6,210 persons. These include clothing, haberdashery and fancy goods ; boots and shoes ; mechanical engineering and foundries ; cosmetics and drugs ; electrical engineering and technical apparatus ; and surgical instruments.

DOVER

Since the 1944–45 edition was published, Dover has suffered very considerable additional damage as a result of shelling from the French coast. In consequence of this and previous damage it has been decided to apply to the Minister of Town and Country Planning for two areas to be made subject to the provisions of Article 5 of the Town and Country Planning (General Interim Development) Order 1945, the first area being 137 acres in extent, and the second 97.4 acres. The preliminary plans for the reconstruction of these two areas have been prepared. The Town Council has engaged the services of Professor Sir Patrick Abercrombie to act as Consultant in connection with the preparation of the scheme and it is hoped to place the final proposals before the Town Council at its meeting at the end of November. The scheme will then be forwarded to the Ministry of Town and Country Planning for approval, after which immediate steps will be taken towards the acquisition of lands within the areas and the redevelopment of the areas included in the first two-year programme.

Among the specified proposals is one for the diversion of the river Dour

(which at present discharges into the Wellington Basin) so that it will discharge direct into the outer harbour. The intention is to lay out attractive gardens along each side of the river, and ultimately to secure a pleasant walk along its banks to Kearsney Abbey, which has recently been purchased by the Corporation for development as a park. It is intended also to open up the base of the cliffs so that these natural features may be developed to the full.

In addition, it is proposed to construct two new roads, one on each side of the valley, to carry the dock traffic and thus avoid congestion of the shopping areas of the town by heavy traffic.

The previous suggestions put forward for the civic centre and the creation of a square in front of the Town Hall, the enlargement of the Market Square, with a new covered Market on its western side, and also the enlargement of the space in front of the Priory Station are retained in the new proposals.

Area No. 2 will be developed as a light industrial zone, it being the view of the local authority that the future of Dover must depend rather upon development as an industrial centre than as a seaside resort.

DURHAM

In a plan prepared for the Durham Corporation by Thomas Sharp (*Cathedral City*)* the following recommendations† are made :

1. The future of the City lies in its development as an administrative, shopping, educational and cultural, tourist, and residential centre (p. 25).
2. To succeed in fulfilling these functions the City's existing natural and architectural amenities must be preserved and new ones created (p. 25).
3. An industrial estate for light and medium-heavy industries should be established near the City, so as to provide diversification of employment in the City and the surrounding district (p. 28).
4. The City (present population 18,500) should probably not grow beyond a population of 23,000 ; or, allowing for boundary extensions to more rational limits, beyond 25,000 at most (p. 28).
5. Southward extensions should be restricted. The main directions of extension should be towards Gilesgate Moor-Belmont, Framwellgate Moor, and Sniperley (p. 29).
6. A system of external by-pass roads should be developed (p. 34).
7. The County Council's proposed " through-road " in the centre of the City should be strenuously opposed (p. 37).
8. A new central road passing under Claypath should be constructed (p. 38).
9. A new central bus station should be built at a point on the above new road (p. 43).
10. A new system of car parks should be provided (p. 45).

* See Section 12.

† This list does not suggest any order of priority but follows the order in which the recommendations occur in the text.

11. A group of new public buildings (including a new shire hall, law courts, youth centre, theatre, library, museum and art gallery) should be built eastwards from Elvet Bridge (pp. 46, 55, 56).

12. A group of new public buildings (municipal offices, public hall, technical college) should be built on an improved Framwellgate Waterside (pp. 47, 56).

13. All proposals for new buildings on the Cathedral peninsula should be carefully examined as regards height in relation to the Cathedral, design, materials, character, use and siting (pp. 48-55).

14. The southern slope of Claypath should be developed for a range of university and college buildings (p. 55).

15. Local public buildings should be erected in each of the various neighbourhoods (p. 55).

16. In addition to the immediate replacement of slums by modern dwellings, most of the housing in the older parts of the City should be replaced within the next decade or so (p. 26).

17. When the houses on the Claypath ridge are demolished the site should be left open as a green wedge between the old City and the new City outliers at Gilesgate Moor-Belmont (p.63).

18. As far as topographical conditions allow, ideas of neighbourhood planning should be applied in reconstruction (p. 63).

19. Large-scale class segregation should be avoided in housing (p. 64).

20. The building of a certain number of flats is essential if the housing problem is to be fully solved (p.65).

21. Some reduction in the number of shops in the central area is desirable (p. 66).

22. North Road should be entirely rebuilt, to become the principal general shopping street (p. 66).

23. Local shopping centres should be developed in the neighbourhoods (p. 67).

24. Following improvements in replanning, New Elvet should become the hotel quarter (p. 67).

25. If the industrial estate is developed on the western side of the city, a small group of domestic factories might be developed at Belmont (p. 67).

26. The workshop-industrial buildings on the west side of New Elvet should be cleared, and the area left open ; a new workshop area should be developed about Atherton Street (p. 68).

27. The sewage disposal works should be moved at least a mile downstream (p. 68).

28. The gasworks should be moved from Framwellgate to some place outside the City (p. 68).

29. The erection of the power station proposed at Kepier should be most strenuously opposed (pp. 68-71).

30. The open spaces on the river banks between Framwellgate Bridge and Pelaw Bend should be extended ; and a Committee of Management, representing the Corporation, the Dean and Chapter and the University, should be set up to secure their proper maintenance (p. 74).

31. The area about Flass Bog should be acquired as a new natural park (p. 74).

32. New playing fields, including large ones at Framwellgate Moor and Hollow Drift, must be provided (p. 77).

33. New public footpaths should be developed in the adjacent countryside, especially one running along the high ground between Whinney Hill and the Observatory (p. 77).

34. Most of the buildings in the Bailey, many in Old Elvet and South Street, and the general character of the exposed backs of Silver Street and Saddler Street, should be preserved ; and a public trust should be formed to take over, improve and maintain these buildings, where necessary (p. 79).

35. In new buildings no attempt should be made to imitate past styles of architecture. Harmony between new and old buildings will depend on scale, siting and suitability of materials. Careful design of roofs and rooflines, as well as of façades, is necessary. The most suitable materials for building in the city will be brick and slate carefully selected for colour (pp. 81-82).

36. A Design Panel, assisted by a consultant planner-architect, should be appointed to control the design of all new buildings in the City (p. 85).

37. A public trust should be formed to undertake new planting and the management of such "landscape" areas as may be entrusted to it (p. 90).

38. Every possible action should be taken to improve the condition of the river (p. 90).

39. The display of advertisements should be firmly controlled (p. 90).

Power Station Inquiry

A joint inquiry was held on 5th December, 1944, by the Ministry of Town and Country Planning and the Electricity Commissioners, into the application of the North Eastern Electric Supply Company to establish an electricity generating station at Kepier, in the rural district of Durham. The main issue was that of amenities, and the proposal was opposed by the Durham Preservation Society, the Council of the Northern Architectural Association, the Automobile Association and the Darlington Society of Arts, while the Wear Fishery Board and the University of Durham held watching briefs. Local authorities and trade and industrial organisations supported the proposal, hoping that erection of the station would encourage employment and industrial development in the area.

The case for the Electricity Supply Company rested on the need to establish a generating station in mid-Durham, and the advantages of the site at Kepier as providing water supply from the River Wear, railway facilities and nearness to the existing grid line. It was further stated that the best advice had been obtained for the design of the station, and that plant would be installed to remove 97 per cent. of the dust and fumes from the chimneys; that employment would be provided and that industry would be attracted by the increased power available. The opposers based their case on the availability of an alternative site, the alleged instability of the Kepier site, the threat to the amenities of the district, the effect on views of the Castle and Cathedral, and the alleged fallacy of the hope of increased industrial development.

In August 1945, the Minister of Town and Country Planning stated that while the Electricity Commissioners were satisfied as to the technical

suitability of the proposals, the Minister found them open to objection on planning grounds. Meanwhile the Company made arrangements for the installation of plant elsewhere than at Kepier.

EDINBURGH

Following on consideration of the Report of the Advisory Committee—now better known as the Clyde Committee—on City development, the City Corporation approached Sir Patrick Abercrombie with a view to his preparing a planning report on the lines of what has been done in other municipalities.

Sir Patrick Abercrombie has undertaken to prepare such a report in conjunction with the City Engineer.

At present staff is being assembled to put in hand the additional survey work on which the report will be founded.

EXETER

A Plan, prepared by Thomas Sharp, was published by the Architectural Press in February 1946, under the title of *Exeter Phoenix*. The Plan contains detailed proposals for the rebuilding of the heavily blitzed City centre.

FIFE

County Regional Water Scheme

A Report, presented in June 1945 by the County Engineer, aims at a distribution system to provide an adequate water supply for domestic purposes to every locality in which there are houses and schools, to supply all farms on or near the line of mains, and to make possible allowances for present industries and the encouragement of new industries.

It is estimated that the total requirements for the County are 5,892,000 gallons per day for these purposes.

Lists are given of the quantities required for the burghs, totalling 1,330,000 gallons per day, and of statutory supplies to other authorities under the 1940 Order, totalling 4,251,500 gallons per day (but the quantity available to the County at a later date may be increased). The safe yield from the catchment areas at Glenquey and Glendevon is stated to be 11,500,000 gallons per day, giving a total daily surplus in hand of 26,500 gallons. Later it will be necessary to acquire the Frandy Burn catchment area and to construct an additional reservoir on the Devon, with a capacity of 1,150 million gallons, which will give altogether a total storage of the gross yield of 140 days.

The total length of pipes is 154·25 miles. Service reservoirs or tanks will be required at Hill of Tarvit ; Lindifferon ; Gauldry ; Blebo Craigs ; Carnbee ; and Peat Inn ; while complete filtration plant will be required for the water from Glendevon and Glenquey.

The scheme is estimated to cost £340,000.

GLASGOW

The Master of Works and City Engineer has prepared and submitted to the Corporation a First Planning Report.

In the Report, the constituents of planning are set down under five headings: Main Roads and Transport; Open Spaces; Development of Blighted and Other Areas; Housing and Commercial Facilities; and Industrial Planning.

While all these aspects of town planning are referred to, only the problems affecting the first (Main Roads and Transport) are dealt with in detail.

Three classes of roads are envisaged—arterial, sub-arterial, and local. With new radial arterials from the centre to the suburbs, a new measure is applied to the size of the City, *i.e.* "the standard of time as against the standard of distance."

Two ring arterials are proposed: an inner ring-road encircling an area within approximately half a mile radius of the Central Station—an area which is "the hub of the wheel of Glasgow"; and an outer ring-road at about four miles from the City centre.

In subsequent reports the problems associated with housing, the location of industry, etc., will be dealt with.

Fact-finding surveys are almost completed, and these will clear the way towards a full consideration of the problems of town planning in the Glasgow district.

GREAT YARMOUTH

A scheme approved by the Council provides for the reconstruction of the Borough on the lines described below.

The central part of the Town (which has suffered severe bomb damage) is to be entirely reconstructed, the highly congested housing areas being replaced by houses built to a modern layout. The main housing problem is being overcome by the use of a large estate purchased by the Council just before the war. The plans provide for a complete community life and for schools, churches, libraries, cinemas, shops, health clinics, children's playgrounds, public houses and community centres, all within the estate. Schools are to be designed to meet the requirements of the new Education Act and the aim is for every school to have its own playing-field. Provision has been made for numerous public buildings throughout the Town, including a central library, police station, education offices, youth centre, coach station, branch libraries and clinics, and a new destructor and highways depot. The present main shopping centres are retained, but subsidiary shopping centres are provided at convenient points in the residential estates. A professional quarter, adjoining the civic centre, is to be created for professional and business men.

A new system of 80-ft.-wide main roads has been designed to allow through-traffic to by-pass business streets. Three main approaches to the Town are to be constructed as parkways flanked by wide belts of trees, and there will be two new river crossings; one a fly-over bridge across the Bure and the other a tunnel under the Yare.

Many open spaces are contemplated, including well-distributed playgrounds for children in residential areas. These open spaces are to be linked together, thus forming pleasing walks through the Town. The racecourse will be a private open space, and the adjoining North Denes are to be reserved in their natural state for the enjoyment of those who prefer the unspoilt coastline. A large area of the South Denes is to be devoted to a caravan park for holiday-makers, with appropriate facilities. An information bureau is to be set up on the Marine Parade, and ample parking space will be available for visitors. Extensions are contemplated to the Floral Hall and the bathing pool at Gorleston by the incorporation of the old Gorleston Pavilion and the erection of a new pavilion. A riverside promenade is planned alongside the Bure, terminating in a modern yacht station on a 16-acre site to replace the existing one and having all facilities for those embarking on "broads" holidays or for people passing through the Town.

Economic development is to be expanded with the object of attracting industries allied to Great Yarmouth's two basic industries of fishing, and catering for visitors.

An aerodrome is projected to serve the Town jointly with the adjacent town of Lowestoft, and arrangements will be made for speedy communications between it and the Town.

HUDDERSFIELD

A Report, prepared by F. Longstreth Thompson, B.Sc., F.S.I., A.M.Inst.C.E., P.P.T.P.I., was submitted in December 1942. It presents an improvement scheme for the central area of the Town, with special reference to the Manchester Street and Castlegate, Thomas Street clearance areas.

The proposals regarding new streets and street improvements have been worked out with the objectives of diverting through-traffic from the centre of the town, and of improving the circulation of local traffic. In view of the high cost of widening streets, and the geographical location of the Town which rules out the possibility of by-pass roads, the proposed remedy for reducing congestion in the centre of the Town caused by through-traffic is the provision of internal relief routes so planned that they naturally become the main arteries for through-traffic. Four main routes constitute the framework of the revised street system, namely: St. Thomas's Road, Firth Street, Wakefield Road to be widened and improved, to take the Manchester-Leeds and Sheffield-Bradford traffic; the new Castlegate, Leeds Road improvement, to take Leeds traffic; the Southgate, Northgate improvement to take the Bradford traffic; and the improvement of Fitzwilliam Street to take the east-west traffic. To assist local traffic, it is proposed to extend Market Street to the top of Chapel Hill where a traffic circus would be constructed, and to effect additional improvements of roads and crossings.

Regarding sites for public buildings, new municipal offices housing all departments are proposed, forming a civic centre on a site extending from the present Town Hall to Queen Street South and bounded by

Ramsden Street and Princess Street. The site recommended for the Technical College extension lies at the corner of Princess Street and St. Paul's Street, adjoining the new College building. For the fire station, the recommended site, which is accessible from all the main routes, lies in the Thomas Street clearance area. In view of the difficulties of finding a suitable central site for a single station, the provision of two bus stations is favoured ; the eastern, on a site of 2½ acres, is bounded by Southgate, the new Leeds Road and the new street on the site of Rosemary Lane, while the western station on a site of 1⅛ acres lies between Upperhead Row and the extension of Market Street, at the top of High Street. Suggested layouts are included in this section.

In the third section, dealing with car parking facilities, it is assumed that provision is needed for 1,000 cars. Open parks (on clearance sites) with additional provision in basement parks under the bus stations and under the proposed open space in front of the town hall are recommended for the bulk of the accommodation. A multi-storey garage is also suggested. These recommended sites lie within a quarter mile of the market place, and are placed on both the east and west sides of the central business area.

Regarding the redevelopment of the remainder of the clearance and improvement areas, suggestions for redevelopment in the eastern (Castlegate and Thomas Street) area include working class flats, shops, warehouses, garages, commercial buildings and factories for light industry. In the southern area (Manchester Street and Upperhead Row), proposals are made for the establishment of shops, business premises, and houses, including a children's playground.

In conclusion it is pointed out that, although a complete replanning scheme for the central area was not required, these proposals have been worked out with the broader issues in mind, and they constitute a framework for a more comprehensive plan of reconstruction.

HULL

Plans for the rebuilding and reconstruction of the City of Kingston-upon-Hull are in course of preparation by an eminent architect. These plans have been promised at an early date, but at present no details of the scheme are available.

KEIGHLEY

Proposal for the Central Area

Before the war a statutory planning scheme had been completed for Keighley and district, of which the Borough of Keighley was the major authority. From this scheme a small part consisting of the old built-up area of the Town was excluded. As a result of the 1944 Act, the Council gave instructions to the Borough Engineer, R. Courtenay Gibson, A.M.I.C.E., for a scheme to be prepared for this remaining enclave.

Proposals are now under consideration for this central area and plans

have been prepared in the Borough Engineer's office, with the co-operation of the Borough Architect, E. G. Felgate, A.R.I.B.A., suggesting a layout for future guidance. The area concerned forms, in effect, a Town centre precinct.

The present street plan, whilst having certain good features—such as the attractive tree-lined approach into the heart of the Town from the north—suffers from the usual disadvantages of mixed traffic and a lack of co-ordination. The general convenience and attractiveness suffers from the indiscriminate mixing of poor quality houses, shops, civic business and industrial buildings.

The new proposal provides for the gradual redevelopment in keeping with modern principles. Through-traffic is to be excluded from the area. Circulation is provided on an inner ring-road which partly follows the lines of existing streets, and partly cuts through the less valuable back-land. Most of the dwellings within this ring are obsolete and due for clearance when alternative accommodation is available. Similarly it is proposed that industry should be excluded, other than a small amount of a light character related to the shopping areas nearby. The land thus freed will allow a more open development and greatly improve the general amenities.

A block of civic offices is the central feature in an appropriate group surrounding a new civic place which would be undisturbed by unnecessary through-traffic. Generally the area within the inner ring has been divided into zones for the following purposes : civic centre and government administration ; business and professional premises ; shopping and markets ; warehousing and light industry ; and recreation and entertainment. Easy access is obtainable to all these sections from the new site for a bus station without crossing the traffic of the inner-ring, and the main railway station is nearby on the outside of the ring.

Land adjoining existing places of worship has been opened out to form attractive gardens, and areas have been reserved for car parks. Street widths have been increased to give better pedestrian accommodation, although the actual area of roads remains practically unaltered by the abolition of redundant minor streets. Back access for goods is given to all shops.

The proposal as a whole provides for gradual reconstruction of the Town centre over a period, rather than wholesale demolition which would be needed if regard had not been paid to existing features. A series of plans have been prepared showing how this changeover could take place although even these can be adjusted and varied as circumstances require.

This consideration of practicability has been the keynote in the preparation of the proposal. Imagination has played its part without being allowed to break out of the harness of reason.

KENT

A broad County Planning Survey of Kent was begun in 1944 and completed during 1945 by the County Planning Officer, James W. R. Adams, on the instructions of the Kent County Council, to provide a basis for planning operations in the County.

The Survey comprised the following matters : *Administration*, including local government, joint planning, education, advertisements regulation, petroleum filling-station bye-laws and restriction of ribbon development ; *Physical Conditions*, including topography, geological drift, rainfall, catchment areas and areas liable to flooding and waterlogging ; *Fertility of Agricultural Land ; Growth and Characteristics of Communities*, including special studies of the shopping habits of villages and of industries in rural areas ; *Public Services*, including transport, sewage-disposal, water, gas and electricity ; and *Buildings of Historic and Architectural Interest.*

In addition to the subjects referred to above other diagrams have been prepared showing " Green Belt " properties and other lands on which building operations are restricted round London together with scenic areas worthy of preservation.

The Survey has been illustrated upon a series of maps to a scale of ½ inch to the mile which have been exhibited in London, Maidstone, Bromley, Canterbury, Tonbridge and Gravesend. Special facilities were granted to senior schools in Kent to visit the exhibitions, which also attracted much public interest.

It is intended that the Survey shall be constantly kept up to date. A Report on the Survey is to be published during 1946 under the title *A Planning Basis for Kent.*

LEEDS

In common with all other cities which expanded rapidly during the Industrial Revolution, Leeds, on the north-east of the West Riding conurbation of industrial towns, with a population of half a million, has a legacy of densely congested areas adjoining the centre. The over-all density of 13 persons per acre is, however, not high in comparison with other similar cities, thanks to the size of the City itself and of the area of undeveloped land on its outer perimeter. The City Council has approved the reservation of an area of 12 sq. miles within the city to be kept as a green belt for use for agriculture, playing fields, market gardens and milk production.

The City is well served by 13 main arterial roads ; is situated on a navigable river ; and has canal communication with both the east and the west coast—facts which have contributed largely to its growth as a great industrial centre. During the last 40 years a progressive City Council has been alive to the necessity of street improvements, on which £3,000,000 had already been spent by 1920. Since then, The Headrow, a new artery, 80 ft. wide, has been constructed from east to west for a distance of half a mile. This thoroughfare is to be continued for half a mile further in a westerly direction as soon as possible. The buildings already redeveloped on the northern frontage of this street have been required to comply with an approved design and elevation. A 100 ft. wide outer ring-road has almost been completed through the outer suburbs and an intermediate ring-road is being planned which will partly follow the line of existing roads on the north of the City and on the south will be constructed largely through slum clearance areas ; in addition an inner ring-road to contain the civic centre and central

shopping and business areas has been planned so as to free the central area from traffic other than that having business there.

Before the war a slum clearance scheme was in progress for dealing with 30,000 of the oldest type of back-to-back houses and 45,000 more old houses have yet to be dealt with under the post-war reconstruction scheme.

A Reconstruction Committee has been set up and has received reports from the City Engineer, Housing Director, Development Officer, the Engineer and General Manager of the Transport Department, the Director of Education, and the Medical Officer of Health, and various proposals in connection with the departments they represent are being co-ordinated. In the post-war long-term plan for the 11 sq. miles of the densely built up central area, consideration is being given to redevelopment in neighbourhood and residential units. There will, however, be a large overspill which, owing to the proposed decrease in housing density, cannot be accommodated within the City, and proposals have been put forward for the construction of two self-contained satellite towns.

A surface utilisation survey has been completed for the whole of the central area, subjects under investigation being user, age, condition of all properties, social services and the location of industry. A similar survey is now being conducted for the whole of the remaining portions of the city.

A scheme for the layout of the civic centre has been prepared and is under consideration.

LEICESTER

The City Surveyor has presented an Interim Report on the proposals under consideration by the Special Reconstruction Committee of the City Council. For planning purposes the City is considered in relation to its adjacent areas of immediate influence, and as the County centre.

Assuming that priority in the immediate post-war years will be given to housing, a survey of conditions has been made. This reveals that there will be an urgent need for the immediate provision of 5,000 working-class houses. Sites for these are available but, pending a further examination of the problem, the rehabilitation of obsolescent houses and their conversion to flats will also be necessary. Slum clearance schemes will involve an additional 4,000 houses, and further land, now in private ownership, must be earmarked for the redevelopment programme in order to achieve a compact grouping of the population.

The County Council, the railway companies, the Trent Catchment Board and other such bodies are being consulted on constructional works with especial reference to roads. Proposals include the building of outer, inner and central ring-roads.

For the City plan, central, western and riverside development areas have been separately considered. Proposals for the central area are designed to secure diversion of through-traffic and omnibuses from the shopping and business areas, and to create a general zoning of the administrative, business, cultural, shopping and entertainment functions of the City. The basic principle in siting the central ring-road, apart from through-traffic requirements, is to obviate the widening of established

streets within it with consequent disturbance to the main shopping, business and commercial interests. All radial roads will be widened only from the central ring outwards. In the western area it is proposed to form three residential communities, but first priority is given to housing, roads and open spaces. With regard to the River Soar, it will be necessary to construct flood courses through the southern and northern sections of the City, and consultations as to the means of carrying this out are being conducted with the Trent Catchment Board. Additional proposals are being put forward for the improvement of the amenity aspect of the river by laying out recreation centres, wooded walks and cycle tracks.

After an examination of possible future trends of population and industry, joint action between the City and adjacent county districts is advocated with the main objects of preserving a rural belt round the City, with green wedges penetrating existing urban areas ; economy in public utility services and social services ; and a planned scheme of urban growth for the whole area, according to a pattern of selected nuclei of development, divided from each other by rural belts.

Detailed consideration of these proposals is proceeding, but the need is stressed for attention to the general question of acquisition of land, and it is pointed out that further national legislation is awaited before the scheme can be fully implemented.

LINCOLN

The reconstruction proposals of the Council are not yet ready for publication. So far as the cooling towers at the electricity generating station are concerned, the Council has accepted the direction of the Central Electricity Board to install cooling towers in connection with the extensions to St. Swithin's Generating Station at Lincoln.

LIVERPOOL

The preparation of plans for reconstruction is the responsibility of the City Engineer and Surveyor, in collaboration with the City Architect and Director of Housing. Much work has been done, and the policy of reconstruction has been widely discussed in the local press and in the 10,000 entries attracted by the Merseyside Civic Competition. Plans for redevelopment are considered to be greatly facilitated by the fact that the City of Liverpool owns the freehold of much of the land formerly occupied by war-destroyed buildings.

An advisory planning scheme was published in 1945 for the Merseyside Region, comprising two County Councils and 24 local authorities, of which the Port of Liverpool is the centre. The functions of the Merseyside Advisory Joint Planning Committee, in addition to that of co-operating with the Ministry of Town and Country Planning in preparing this outline provisional plan, are to advise in the promotion, co-ordination and linking-up of planning schemes, and to consider and make suggestions or recommendations on any planning matter which may be referred to it.

LONDON, BLOOMSBURY

Amongst the many proposals of the County of London Plan is the introduction of the precinct system of planning, the purpose of which is to preserve areas from the noise and danger of main roads and damaging intrusion of through-traffic and also to maintain and develop some special unit of planning.

There are already several areas in London which possess the characteristics of a precinct, notably the Temple, Lincoln's Inn and Bloomsbury, especially that part between the British Museum and Euston Road.

The area in Bloomsbury which the County Plan proposes to preserve in this manner is bounded by Euston Road to the north, Tottenham Court Road to the west, Great Russell Street to the south and to the east by Woburn Place and Southampton Row.

Fortunately the area possesses now the basis of a plan, peculiar to itself. The British Museum and the new London University building form a spine through the centre, with the old University College a little detached further north, and its more recent buildings stretching out along Gower Street to the south, flanked on either side by pleasant, tree-filled Squares. These Squares were orginally laid out for residential purposes, but have been losing their character for some time, many houses being used as the headquarters of professional bodies and the schools attached to them, whilst others have been occupied by professional and commercial firms. The remainder have, in the majority of cases, become hotels and boarding-houses for the students of the University and schools.

The County of London Plan and the more detailed plans outlined in a scheme prepared by the Borough Engineer and Surveyor of the Council of the Metropolitan Borough of Saint Pancras, recommend the extension and development of the area to improve the existing layout by opening up the vistas to existing buildings ; balancing the relation of the mass of open spaces ; and developing the existing characteristics to provide complete architectural unity. These proposals are considered preferable to any attempted replanning, as much redevelopment has already taken place.

Generally, the proposals provide for the London University, with its limestone Senate House, with its tall tower, which stands almost central in the area, to be extended by further blocks of buildings northward as far as Torrington Place. These buildings in red brick and stone facings are proposed to be grouped around lawns, shaded by the trees once in Torrington Square, and the gardens of the houses which the new buildings displace.

To the south is the compact mass of the British Museum, running along Great Russell Street, which is the southern boundary of the precinct.

Sites would be available for the professional bodies, who will, it is hoped, leave the houses that they have converted for their use, and construct for themselves more commodious and architecturally dignified quarters, whilst other professional institutions and bodies with academic interests will possibly find their permanent homes within the boundaries of the precincts.

For the many students who have so far found quarters in boarding houses situated along Gower Street, light airy buildings as hostels, with

quiet studies and ample garden space are urgently needed. A few already exist but are generally inadequate. These hostels, which would be conducive to good study, are envisaged as being grouped around the University Buildings.

On the west side of the precinct, Store Street and Torrington Place, a suitable shopping centre could be provided, space being allocated especially to the sale of books, scientific instruments and apparatus necessary to the life of the precinct.

Although many of the houses, all of which are nearly two centuries old, are falling into disrepair and, with the erection of new buildings, disappearing, it is hoped to preserve the design and character of Bedford Square as it becomes again a residential quarter.

The western boundary, Tottenham Court Road, is zoned in the County of London Plan for commercial development and the large stores, some of which are already built along this fringe, will act as a barrier to the busy highway which is protected as a wide tree-lined boulevard.

To the eastern boundary the precinct extends directly on to the boundary roads of Woburn Place and Southampton Row.

The northern boundary, Euston Road, is proposed in the County of London Plan as part of the "A" ring-road, with traffic divided and passing around either side of Euston Square, the northern side of which will probably form the site for a rebuilt Euston Station. Euston Road is shown widened, with a line of trees separating fast traffic lanes in the centre from the slow traffic lanes on either side. It connects with Tottenham Court Road at the north-east corner of the precinct with a spacious roundabout.

So as to avoid two roads, one running north and south and the other east and west, passing through the precinct, where they would meet on the north side of Bedford Square and necessitate the old square becoming a roundabout, these two roads, known as the "X" and "Y" radial roads respectively are taken underground beneath the precinct area, by wide approaches, which are tree-lined and have terraced public gardens. The northern approach is situated along the present northern end of Gower Street and as this area is zoned for commercial development has tall office buildings rising high along the top on either side. Similar approaches just outside the precinct area are provided for the other three boundaries.

So, by careful planning, can Bloomsbury maintain its charm and character with the University of London as its centre.

LONDON, CHELSEA

In a Report made by the Housing Committee to the Borough Council of Chelsea, the Committee, in referring to the Riley Street (Extended) Area Scheme says :

The Riley Street (Extended) Area Housing Scheme provides for the development of a site of 10·3 acres, including the existing Riley Street site and the land which would become available after the closing of the bend in King's Road. The extended area is bounded roughly by King's Road, the east side of Milmans Street so far as Moravain Place, thence

westward across Milmans Street back to Riley Street, and then along the boundary of the Chelsea Housing Improvement Society's estate to World's End ; but excluding the public house and the properties having access to Cheyne Walk.

The Committee adds that the Architect, in considering the layout of this area, expressed the opinion that it was not a very satisfactory site from the development aspect owing to its irregular boundaries and peculiar shape. Upon closer observation of the district it became evident to him that a very fine riverside development is possible (provided full advantage is taken of the possibilities of the site and its immediate surroundings) by extending the area to the river front and to Dartrey Road to the west. The Architect, therefore, suggested a comprehensive scheme for the whole locality.

The layout of this larger site would allow full use to be made of the area, with adequate provision of open spaces ; it is also designed to take the utmost advantage of the possibility of incorporating, as a riverside park, the land which, in the event of the extension of the Chelsea Embankment, would become available between the new embankment roadway and the present irregular building line facing Cheyne Walk. The extended scheme covers 20½ acres and would provide 623 dwellings, with accommodation for roughly 2,400 people ; a social centre ; a nursery school ; an estate laundry ; and 14 small shops.

The Committee has concurred in principle with these proposals as a long-term policy and has urged the Council to take full advantage of this unique opportunity to develop the western part of the Borough on modern town planning lines.

The proposals have been brought to the notice of the Ministry of Town and Country Planning, where the view was expressed that the erection of new buildings on isolated sites such as the Riley Street and Upcerne Road areas is an unsatisfactory method of development from the town planning point of view and that the whole of the area south of King's Road from Beaufort Street to Lots Road should be the subject of a comprehensive planning scheme. This could best be effected by the Borough Council, and the Works and Highways and Town Planning Committee was asked to request the London County Council to agree to the delegation to the Borough Council of their powers under the Town and Country Planning Act 1944 for the development of West Chelsea, south of King's Road.

At the time of going to press this delegation of powers was under consideration by the London County Council.

LONDON, CITY OF

The *Report of the Improvements and Town Planning Committee Relative to Post-war Reconstruction in the City*, drawn up by the Town Planning Committee of the Corporation, was submitted to the Court of Common Council of the Corporation of London in July 1944.

A brief historical introduction precedes the main report, which is divided into five sections : general basis ; zoning for use of land and height of buildings ; buildings and amenities ; traffic ; and legislation, procedure and realisation.

In general, the aim is to assist the rehabilitation of commerce within the City, while conserving wherever possible the City's traditional and archaeological features. The Report embodies plans which take account of the principal needs of the area which are practicable and capable of being realised over a period of 20-25 years by extending statutory powers at a cost commensurate with the benefits which would result. These proposals are put forward as a tentative basis for discussion.

With reference to the use of land and height of buildings, it is proposed that areas which have tended to become well-defined centres of certain types of commerce and industry should be re-formed upon their previous sites, while the wholesale markets—Smithfield, Leadenhall and Billingsgate—should be retained. Generally speaking, the City is divided into three main zones, *i.e.*, special business (mainly offices, including the Bank of England area) ; general business (offices, business premises and shops) ; and commercial (offices, business premises, shops and light industrial buildings, which include the hinterland of Fleet Street). The provision of flats with communal amenities, in conjunction with offices, is suggested, and these can easily be fitted in with a programme of higher buildings and additional areas of open space. The higher buildings are to be designed so as to leave the dome of St. Paul's as the dominant landmark.

In the section on buildings and amenities three principles are expressed: That the Cathedral should be freer of surrounding buildings (which should have a 60-ft. cornice and a uniform skyline), with a larger forecourt to the west and a wider stretch of greensward to the east and south ; that the Ludgate Hill approach should be retained and widened to 80 ft. so as to open up the view of the west front of the Cathedral ; and that open views of the total height of the Cathedral should be obtainable from the river front at the south and (providing a pedestrian approach) from the north. Four alternative proposals are put forward to the east end of St. Paul's, and it is suggested that an ultimate general solution might be arrived at through open competition. The other City churches are given prominence where possible, and it is proposed that their environment be developed in a manner sympathetic to and in scale with them. Special attention is given to London Wall.

The main traffic proposals relate to roads. The principle of the ring-road has been adopted, as have suggestions contained in the County of London Plan for new bridges near the City boundaries. The southern part of the ring-road is the most difficult to site, and part of it is proposed as a stretch of embankment. Pedestrian traffic in the City is regarded as exceptionally important ; and in cases where it is proposed to close a minor street, pedestrian right-of-way will generally be retained. The Committee anticipates the retention of the three main line railway stations.

In the final section it is pointed out that there is a pressing need for new legislation. About 40 acres of land would have to be acquired to carry out these proposals, excluding provision for open spaces.

In July 1945 the Court of Common Council received from the Minister of Town and Country Planning a letter stating that he would have great

difficulty in approving the plan and requesting the Corporation to prepare a new scheme.

The Corporation has expressed regret that the Minister should, after a period of 12 months' consideration of the provisional plan, find it necessary to suggest that it should be abandoned.

LONDON, COUNTY OF

In 1941 the London County Council, at the request of the Minister of Works and Buildings, decided that a provisional plan of redevelopment for the County of London should be prepared, which would be capable of any necessary adjustment as the war proceeded, and with which any reconstruction or redevelopment after the war could be made to conform.

The County of London Plan, prepared by the Architect to the Council and his staff in consultation with an eminent architect, was submitted to the Council in 1943, and the Council decided that it should be sent for observations to the Minister of Town and Country Planning and the Minister of War Transport and the other Government departments affected, and to the Corporation of the City of London, the metropolitan borough councils, the Port of London Authority, the Metropolitan Water Board, the main line railway companies, the London Passenger Transport Board, and any other public authorities and public utility undertakings who might be concerned.

Simultaneously, the Council arranged for a volume to be placed on sale, containing the letterpress of the Plan and a number of small-scale reproductions of the maps and drawings. The Council also arranged in 1943 for public exhibitions of the Plan at the County Hall and at the Royal Academy.

A preamble to the Plan states that the proposals are framed on " the confident assumption that the new conception of planning implicit in the reports of the Barlow Commission and of the Scott and Uthwatt Committees, and in the pronouncements of various Ministers of the Crown, will be translated into law." Similarly, the London County Council's Civil Defence and General Purposes Committee stated, in submitting the Plan, that the execution of its proposals and suggestions or of any other satisfactory plan, would involve considerable expenditure beyond the Council's normal resources, and it would therefore be necessary to make adequate and special financial arrangements with the Government ; also that the necessary and desirable replanning of the County of London could not be done without new legislation which, *inter alia*, would give the Council, as a planning authority, wider and more expeditious powers for planning, and for acquiring on equitable terms the necessary land and property, and which would enable the Council to share in just measure any enhancement of values arising from the large expenditure of public money involved.

The Plan deals with an area of 116 sq. miles for which the London County Council is the Town planning authority, comprising the Administrative County of London (excluding the City of London—about one sq. mile—for which the City Corporation is the town planning authority). The Plan selects four major defects of London as needing special attention

in any plan for the County, *i.e.*, the depressed areas of dreary and monotonous streets of poor and obsolete houses ; the haphazard mix-up of industry and housing ; traffic congestion ; and the lack of open spaces in some parts of London.

As regards housing, the Plan recognises that, although London appears to be one large built up area, it is in reality made up of a number of separate districts or communities, each with its own local characteristics and traditions. The Plan aims to develop these communities with their own public service buildings, schools, shops, community centres, etc., and it emphasises the identity of these communities by planning the new open spaces and new roads between them rather than in or through them.

The London County Council in July 1945, after full consideration of the Plan and the observations received from other authorities, approved the undermentioned planning principles :

(i) The main highway structure of London should be based on the conception of a series of ring-roads "A", "B" and "C" and a series of radial roads linked to the "A" and "B" rings. Wherever possible, new main traffic routes should be planned so as to create the minimum disturbance of existing communities. The precinctal idea should be applied in suitable instances.

(ii) Three principal density zones should be established, generally decreasing from the centre, with variations in each case according to topographical or other considerations, at densities respectively averaging 200, 136 and 70 persons per acre, a mixed development of flats and houses, subject to the density limits, being allowed in each zone.

(iii) The location of industry is a subject for national planning policy and should have regard to the actual or prospective housing provision in each locality, so that local authorities, when planning the creation or enlargement of residential areas, should be able to match the residential accommodation to the industrial provision.

(iv) In cases where it is desirable to segregate industry from residential areas within the County of London, industries should, as opportunity arises, be brought into industrial estates ; some of these estates should be sited in the outer parts of the County to provide work locally.

(v) The standard of open space to be provided per 1,000 of the population of the County of London should be four acres within the County, plus three acres outside the County. A substantial increase of riverside open space is desirable.

(vi) The community structure of London should be generally recognised. As occasion arises, and as circumstances allow, the re-planning of the County of London should take into account the suggestions of the County of London Plan for developing a series of communities comprising several neighbourhood units. Communities should be of mixed and balanced social types.

(vii) Endeavour should be made to safeguard the amenities of the County of London by harmonious architectural treatment in suitable cases ; by the preservation of buildings of historical and architectural importance and the improvement of their setting ; and by improvement in the design and location of street furniture and public advertisements.

At the same time, the Council also decided that the attack on London's

four major defects (traffic congestion, depressed housing, intermingling of housing and industry, and insufficiency of open space) should be opened in the immediate future by embarking on a short-term programme of road-works of the highest priority; commencing operations of redevelopment in certain reconstruction areas in the County of London, particularly the area in Stepney and Poplar; initiating redevelopment in the area on the South Bank of the Thames between Westminster Bridge and Waterloo Bridge; and concentrating (as a step towards the achievement of an ultimate standard of four acres of open space per 1,000 population) on the acquisition and reservation of sufficient land to increase to two and a half acres per 1,000 population open space in those areas where at present the provision falls short of that amount.

LONDON, " STAR " PLAN FOR THAMES SOUTH BANK

The plan sponsored by *The Star* newspaper for developing the South Bank of the Thames in Central London was orginally put forward in 1938. It deals with that stretch of the Thames between Vauxhall Bridge and London Bridge. The South Bank of the river between these two bridges has been tersely and aptly described by the authors of the County of London Plan as " a dull and monotonous decay." Two boroughs, Southwark and Lambeth, have a river frontage along this stretch. Of the 4,300-ft. frontage of the borough in Southwark, 3,400 are occupied by a jumble of wharves and warehouses and the remaining 900 by railway. viaducts. Lambeth has a frontage of 10,700 ft. of which 3,600 are given over to ugly industrial buildings, 800 to railway viaducts and 2,500 to wharves and warehouses. An embankment from County Hall to the vicinity of Vauxhall Bridge accounts for the rest.

The Star proposed the construction of an embankment for the whole distance between Vauxhall Bridge and London Bridge, to be built on the mud-banks which at present provide the final dismal touch to a depressing picture. The utilisation of the mud-banks in this manner would reduce to a minimum the cost of acquiring the required land and of compensating owners of existing buildings. The best of the existing buildings, County Hall and St. Thomas's Hospital, would in fact retain a riverside approach, as the new embankment road would be lowered and covered in front of them, thus ensuring quietness. The embankment would be 110 ft. wide and would carry a traffic artery, together with a 25-ft. riverside promenade; London Bridge would be widened, and one traffic lane, *i.e.* on the river side of the new embankment and over London Bridge, would be for fast west-to-east traffic only.

The production of the County of London Plan, which includes certain provisions for developing the south side of the Thames, has caused *The Star* again to bring forward its own plan so that the differences may be compared. An exhibition of this plan was accordingly held at Charing Cross Underground Station, London, in October 1945.

The main difference between the plan and the L.C.C. proposals is that the L.C.C. planners propose to use the river frontage (suitably embanked) for public gardens and for a tree-lined esplanade. A glance

at the map of proposed roads in the County of London Plan (facing page 62) shows, however, that access to the City from the west and south-west would still remain difficult in the absence of a south-side traffic artery. Furthermore, it is advocated that such an artery ought to flank the river, so as to avoid any need for road crossings. *The Star* plan claims that, while offering these considerable traffic advantages, it would in no way prevent the carrying out of the admirable proposals in the L.C.C. scheme for open spaces and social amenities.

The outstanding advantage of an embankment road is that it is free of traffic junctions ; provided, of course, that the bridges "fly over" it. (As an illustration of this *The Star* model, while showing a new Temple Bridge as suggested by the L.C.C., demonstrates how such a bridge ought to enter Temple Place over the Victoria Embankment.) A similar advantage could not be secured for a road in any other position south of the river except by prohibitive expense. *The Star* suggests that it would be unwise to ignore such an advantage when considering the means of access to the City from the west and south-west.

The L.C.C. planners advocate that the Victoria Embankment be continued through a tunnel from east of Charing Cross to Ebury Street, near Victoria Station, there to connect with an arterial road. *The Star* suggests that the road on the north embankment be continued through a tunnel under the river, in front and out of sight of the Houses of Parliament, to emerge at Millbank. Such a tunnel would be only a quarter of a mile long, whereas the tunnel proposed by the L.C.C. planners would be a mile and a quarter long. Both proposals serve the purpose of diverting the bulk of through-traffic from Westminster.

LONDON, TOWER HILL

The Technical Sub-Committee of the Tower Hill Improvement Trust was appointed to study and report upon the best layout for surface or other roads to provide for vehicular traffic passing Tower Hill, while at the same time preserving its amenities.

The Sub-Committee has studied the Bressey Report (1937), the two Royal Academy Planning Committee Reports (1942 and 1943), the City of London Plan (1944) and the County of London Plan (1943) in so far as they affect Tower Hill, and in relation to the traffic-flow and to the improvement of the vicinity of the Tower of London, which is the principal objective of the Trust.

The Report, issued in April 1945, proposes a single wide east-west thoroughfare immediately south of the Port of London Authority building and Trinity House, in continuance of Victoria Embankment via Lower Thames Street and linking with Royal Mint Street and Cable Street. All land between this new road and Tower Gardens should be incorporated into one public garden.

To cope with the traffic which converges in front of the Royal Mint, a clear area is proposed, to be developed as a main road junction, the detailed treatment of which should only be settled after experiment on a temporary layout of the site. The ring-road suggested in the Bressey Report is thought to be unnecessary.

It is proposed to widen Lower Thames Street and Great Tower Street, and link them by a thoroughfare adjoining the Tower, which would allow for the circulation of traffic and provide a parking place for vehicles.

The proposals involve the removal of the existing Mark Lane Station booking hall to the sub-surface under the road, and the removal of the London Passenger Transport Board's electrical sub-station in Trinity Place.

It is thought that East Smithfield and The Highway should be regarded as roads for dock and wharf traffic, but that full use should continue to be made of the Minories and Mansell Street for north and south traffic.

For the improvement of Tower Hill, the Sub-Committee proposes a greatly increased open space adjoining the Tower, amounting to seven acres, to be laid out as a public garden which will provide recreational facilities and improve the surroundings of monuments such as old London Wall.

In order to implement these recommendations, the Sub-Committee proposes that the Tower Hill Improvement Area should be defined to include the land between Mark Lane and Tower Bridge Approach. It is emphasised that the proposals fit into and can be combined with any one of the general replanning schemes for London, and that, therefore, a marked and needed improvement can be carried out now. It is recommended that the Trust should press for official adoption of the scheme by the statutory authorities for London, and that copies of the Report should be sent to the bodies concerned. It is pointed out that financial assistance could reasonably be expected from the Ministry of Works and from the Ministry of War Transport.

LOUGHTON, ESSEX (L.C.C.)

The Loughton L.C.C. housing site lies to the east of Loughton, Essex, and is bounded on the north by Wellfields Road and Pyrles Lane, on the south by the River Roding, on the west by Alderton Hall Road, and on the east by open land.

The site is about 576 acres in extent (including about 18 acres allocated for private development) and the tentative scheme of development provides for the erection of a total of 3,850 dwellings as follows : 3,358 5-room, 4-room and 3-room houses ; 384 2-room flats in 2-storey buildings ; and 108 1-room bungalows, suitable for aged persons. The dwellings will all be of a new type.

The tentative scheme provides also for the reservation of sites for five senior and six junior schools, four churches, 60 shops, a cinema and two refreshment houses. The house known as *Hatfields* will be retained as a building of historic interest, and Loughton Hall and the open space to the south will be reserved for use as a community centre. About 62 acres will be allocated for light industry and about 22 acres of this will be used temporarily for the erection of emergency factory-made houses. When the temporary houses are no longer required the site will be available for industry. Provision is also made for the widening of Chigwell Lane—Rectory Lane, a classified road, to 64 ft.

The cost of the buildings, roads and sewers is expected to be about £4,800,000.

MANCHESTER

The Post-war Reconstruction Special Committee has issued its first interim report, which deals generally with some of the post-war reconstruction problems. A complete report awaits Government decisions on national policy in the fields of health, education, social services, industry and land policy.

The Committee's chief functions are "to secure co-ordination between the various committees concerned, and to consider and report generally upon questions of post-war reconstruction in relation to the local government services of the City."

In physical replanning it estimates that it will be necessary to demolish one-third of the houses in the City ; to re-plan the location of commercial, industrial and public buildings in the centre ; to redesign the system of communications ; and to make further provision for open spaces. The Town Planning and Buildings Committee is preparing proposals. These include the redevelopment of residential areas on the basis of neighbourhood and district units ; provision for industrial sites based on an industrial survey now in course of preparation ; and the redevelopment of the City centre. Research on road facilities and the need for ring- and by-pass roads is being pursued. A committee set up by the Chamber of Commerce is considering planning problems in relation to railways. It is estimated that the redevelopment scheme will involve the dispersal of about 150,000 of the City's population.

The Post-war Reconstruction Committee is undertaking a review of social needs, existing social services and the need for their extension or adaptation, and the development of a deeper sense of civic responsibility in the individual citizen.

The economic aspect of full employment and local government services is primarily a national problem, and the city's contribution can only be worked out when Government policy has been defined. Meanwhile, reports and proposals received from various committees are being considered in this and later reports.

The Housing Committee has submitted a report to the effect that, of 76,272 post-war houses required, only 28,536 could be erected within the present City boundaries. A twelvemonth's housing programme for immediate needs, as required by the Government, has been prepared and approved, but a sub-committee has been appointed to consider a programme for successive years. Steps have been taken to initiate discussions with neighbouring local authorities, especially on such questions as housing " overspill."

MERSEYSIDE

An outline Plan, prepared by F. Longstreth Thompson, B.Sc., P.P.T.P.I., F.S.I., A.M.Inst.C.E., in consultation with a Technical Committee of the Merseyside Advisory Joint Planning Committee, was published in 1945.

In an introduction, the extent of the region is defined, and the purpose of the Plan is stated to be " to formulate a co-ordinated policy for the

reconstruction and future development of the communities in Merseyside. Its main objectives are to secure the best possible living conditions for the inhabitants and the best possible working conditions for the port, industry and agriculture upon which the prosperity of the region and the livelihood of its inhabitants depend."

After considering the nature of the problem, the author concludes that Central Merseyside in its present form is too big, and that the outstanding requirements are the establishment of good living conditions and more industry. The main regional planning problem is, therefore, the decentralisation and regrouping of the population displaced on the reconstruction of the congested areas of Central Merseyside, in conjunction with the distribution and location of the new industrial areas. The population is judged to be now at its maximum, but there will be considerable growth of urban development during the next 20 or 30 years, to accommodate the displaced population. It is suggested that the most suitable form of urban growth will be by improvement of the existing urban structure and its carefully controlled extension in the form of compact radial spurs with wide wedges of open land separating them and penetrating as far as possible towards the centre of the city, combined with the development of the existing residential suburbs and detached towns. Detailed planning should be done on the basis of forming well-defined communities.

In the section dealing with Central Merseyside, the importance of maintaining its port function at full efficiency is stressed. While no long-term estimate of the port's future requirements can be made, provision is made for an extension of the dock system, and it is recommended that the foreshore and land back to Crosby Road South for a distance of half a mile beyond Gladstone Docks should be treated as Reserve Port Area. The Plan also recommends that modernisation should be facilitated by an extension of the "Port Area" in order to provide behind the docks more space for roadways, railway-sidings and warehousing for the better handling of cargoes, and detailed proposals are made.

In connection with the industries of Central Merseyside, the author concludes that the outstanding need is for the introduction of new industries, which should be independent of the port and of the fluctuations of foreign trade, and which should employ skilled workpeople. These requirements are best satisfied by light industries manufacturing consumption goods, which are not at present well represented in Merseyside, and which would both satisfy the immediate need for post-war employment and make for a permanently better balance of industry in the region. The plan allows a total of 2,875 acres for this purpose (to provide for a post-war unabsorbed working population estimated at 100,000 on the basis of 40 persons per net acre with an allowance of 15 per cent. for amenities). It further provides an area of 260 acres for the re-accommodation of factories desiring to move out from the central areas of Liverpool, and 410 acres to provide more space for the better accommodation of existing industries in established industrial areas (outside the central area of Liverpool). Detailed recommendations are made for the location of industries on the basis of the general policy recommended for the structure of the region. Provision is made for the expansion of the port

industries near the docks on both sides of the Mersey ; for the extension of the other established industrial areas ; and for compact industrial estates on the outskirts to accommodate the new light industries, the total provision being 4,745 acres. Separate consideration is given to noxious industries, and the Report recommends that in future the establishment of noxious industry should, as a general rule, be strictly confined to land in or adjoining "special industrial" areas, while the Helsby and Frodsham marshes should not be developed unless additional land above the available sites at Ellesmere Port and Runcorn is needed for the chemical and oil industries requiring large sites and canal frontage.

In the urban development zones of Central Merseyside, it is estimated that to improve living conditions it will be necessary in Liverpool alone to replace at least 71,000 dwellings on a 25-year programme of reconstruction, and the basic consideration for urban zoning in Merseyside will be the redistribution and regrouping of the overspill in definite communities suitably placed in relation to the city centre, the docks and industrial areas, and without encroachment on valuable agricultural land. Tables are given setting out in detail the housing standards recommended for Liverpool and for the rest of Merseyside, the gross or neighbourhood densities for Liverpool resulting from the recommended standards of open space and community equipment, and the estimated overspill population ; the estimated requirements of land, on this basis, for Central Merseyside, are 12,787 acres, of which about 8,000 should be allocated to the Lancashire side. A brief description is given of the principal proposals for the distribution and allocation of the new urban zones, and a complete schedule of the urban zones for the region as a whole is given in the Appendix.

The third Section deals with the detached towns. Guiding factors in the zoning of mining towns and their surroundings are the probable location of future pits, land subsidence, the location of glass sands, clay excavations ; and recommendations are made separately for St. Helens, Skelmersdale, Rainford, Widnes and Runcorn, and Ellesmere Port. Recommendations are also made for the residential areas of Southport ; Formby ; Hoylake and West Kirby ; Greasby, Upton and Moreton ; Heswall, Pensby, Irby and Thingwall ; Neston ; and Stockton Heath ; and for the country towns of Ormskirk, Burscough, and Prescot and Rainhill.

The fourth Section is devoted to the rural area, and here the Report emphasises the importance of planning urban expansion as far as possible on land of poorer agricultural quality, and of keeping the urban area compact. The distribution of the proposed urban zones has been planned in accordance with the results of surveys of the agricultural land, and an agricultural zone has been defined, in which the only permitted buildings will be for agricultural purposes. The poor land not required for urban development or open spaces is included in a proposed rural zone for such purposes as country houses, institutions, golf courses and playing fields. Recommendations are made also regarding urban parks and playing fields, regional open spaces, coastal reservation, and nature reserves. Proposals affecting the design and equipment of holiday centres are included.

In the Section on communications, the Report describes a road classification including one-purpose motor roads, arterial roads, sub-arterial roads, major local-traffic roads and local roads. Detailed recommendations are given regarding width and design and restriction of access. The Report includes a map and list of the routes adopted for the main framework of the proposed regional road system. The proposals include replacement of the Transporter Bridge at Runcorn and an outer ring-road for Liverpool. With reference to railways, the main requirements are stated to be improved facilities for dealing with traffic at the docks ; provision for dealing with goods traffic in connection with the proposed new industrial areas ; and development of the suburban passenger services. Further electrification, and an underground railway in Liverpool are proposed. A properly co-ordinated system of public transport throughout the region is recommended. Future air transport needs are stated to be a major airport for intercontinental services, and local aerodromes. To meet these requirements the Report recommends the release of existing military aerodromes, which are suitably placed for conversion into civil aerodromes.

It is anticipated that increased water supplies will be needed and these will be available at reasonable cost. Systems of co-operative sewerage are favoured.

The Report includes a Section by C. H. James, A.R.A., F.R.I.B.A., on the improvement of urban and the preservation of rural amenities. This deals with architectural considerations ; methods of controlling design and materials ; control of the display of advertisements and neon signs ; petrol stations ; and the preservation of buildings of historical and architectural interest.

Finally, means of giving effect to the Plan are considered, and it is proposed that the constituent authorities should set up a Joint Executive Committee for the purpose of making a Statutory Regional Plan on the basis of this outline Plan, which would allow local planning to remain in the hands of individual authorities. After the Plan has been completed the Committee should remain in being to consider questions of principle and policy.

The Report includes numerous appendices and maps, illustrating relevant topics. Supplementary illustrations are published in a separate volume.

S.O. Code No. 70-463*; 70-463-1*.

MIDDLESBROUGH

The Middlesbrough Corporation were one of the first Town Councils to commission a comprehensive Survey and Plan. A team of experts was commissioned to undertake the task. It comprised geographers, sociologists, town planners and architects. The Corporation also accepted the generous gift of assistance of the Wartime Social Survey, whose 40 investigators interviewed one in every 23 families and were able to obtain a valuable cross-section of family structure throughout the Town. This planning team worked in close collaboration with the officials of the Corporation and consulted personally over 3,000 of

Middlesbrough's 138,000 inhabitants. The Survey aimed not only at diagnosing the conditions of blight caused chiefly by the over-rapid growth of the Town during the Victorian period of expansion of the great steel industry, but, even more, at establishing and assessing the Town's economic, industrial, social and administrative background, as well as the network of communications and power services which enable it to perform its vital function of redistributing in manufactured form its natural raw materials. These are ironstone, anhydrite, coal and salt, all of which are abundant and lie conveniently adjacent to the Town.

The Plan aims at welding the economic objectives of industrial planning with the social objectives of municipal planning. While it has provided sites for new heavy and light industries and new service industries, it has also aimed at diminishing the violent contrasts that exist as between the central "blighted areas" (where one-third of the people live), and the pleasant outer suburbs set against their charming background of the Cleveland Hills.

From the studies of Mrs. Glass (of the Association for Planning and Regional Reconstruction), the true neighbourhood pattern of the Town was established and the quality of its community life and services assessed ; a chief aim of the plan being to bring something of the friendliness and warmth of the slum areas that are to be demolished into both the new central reconstruction areas and into the new outer suburbs.

The Plan is divided into 5, 15 and 30 year periods : the "blighted areas" proposed, under the 1944 Town and Country Planning Act, for statutory designation as such fall within the 5 and 15 year periods. During this time (1945-46) 10,000 houses will be cleared and 13,000 rebuilt, approximately one-third of these in the central or reconstruction areas, and two-thirds in fingerlike neighbourhoods which are planned to spread out like an open hand towards the south, allowing green wedges of open space to penetrate into the heart of the Town. In these green wedges will be sited the groups of secondary schools required under the Education Act 1944, which, as applied to Middlesbrough, will mean that no less than one-fourteenth of the total acreage of the town must be utilised for schools —500 out of 7,000 acres.

With heavy industry stretching across the north of the Town as a broad band along the south bank of the Tees, Middlesbrough can only expand to the south, which necessitates very careful planning and the preservation of the open spaces between the proposed fingerlike extensions. None of the new neighbourhoods, however, will be more than two miles from the centre of the Town and each will contain its own quota of sites for service industry (0·7 acres per 1,000 population) as well as grouped community services, clinics, shops, and junior, infants' and nursery schools.

The policy for the central reconstruction areas, and for the Town centre, is to revitalise and re-utilise the existing strongly demarcated grid-iron plan, but to abolish about four out of every five residential streets, the multiplicity of which greatly adds to the number of street accidents in the main roads with which they connect.

No drastic alteration is envisaged in the Town centre where the Town Hall, the business and shopping areas, inter-linked by open spaces and

tree planting, have each their specific place. These vital sections of the heart of the Town are knit together by a broad traffic centre or "clearing place." This contains the railway station on one side and the bus terminus on the other, closely linked with the main shopping centre, an area within which only pedestrians may circulate, but around which the traffic flows and all cars are parked.

Planning by lease control, as outlined in Section XIX of the 1944 Act, and concurrent activity in development of the Plan by private and municipal agencies is prescribed in the proposals for implementation. These proposals recommend compulsory sinking funds for all new building, linked with a statutory limit of life, also provisions to prescribe the precise use to which all land shall be put, and a zoning plan for periodic reconsideration of each quarter of the Town, as and when its statutorily fixed economic life shall have expired.

Finally, the necessity is stressed of instituting and maintaining a full-time reconstruction office, under the direction of a good architect. This office should have powers to weld individual plans into a unified whole and to reconcile the conflicting interests that implementation of a plan inevitably brings, as well as to continue the vital process of fact finding, contacts with the Town officials and consultation with the public at all levels.

NEWPORT

Newport Borough Corporation has taken the first and essential steps in their proposals for the redevelopment of Newport. The scheme is part of a larger, long-term plan the completion of which will take many years.

The proposals which have now been passed by the Council in principle, will form the first part of such redevelopment. The exact time when work on them will start and be completed cannot accurately be foretold owing to the present shortage of labour and materials. Subject to these considerations, it is proposed to create in the neighbourhood of the new civic buildings a civic centre which will be, although not one of the largest, yet one of the finest in the kingdom.

The central part of the area will be laid out as gardens and will be dominated on the one side by the existing new civic centre. On its west side, there will be two new blocks of buildings, one being a new museum and art gallery, the other a new public library.

On the Godfrey Road side there will be a long block of new buildings to be used as offices and/or flats and at the Bridge Street end there will be a big circular turning point for traffic, culminating in a new block of offices which will be bounded on one side by the existing line of Bridge Street and on the other by the top of a proposed new road where it crosses the railway cutting.

All the buildings will be built in conformity with the style of the existing civic centre and will, therefore, present an architectural whole.

Behind the big block of offices and flats, and erected over the existing G.W.R. goods yard, will be a new omnibus station which will be erected in two parts. The first part will be sufficient to house the existing traffic

but capable of extension to take about double the load. The omnibus station will have ramps leading down to the two main platforms of the G.W.R. It will have a block of G.W.R. offices along one end of it and a hotel and ticket office with cloakrooms and all other conveniences adjoining. The passengers will stand on covered platforms and the most modern facilities of any bus station at present in existence will be provided.

As a temporary measure it is proposed that a station should be built at the foot of the new municipal buildings. This is indicated on the plan by a circle. It has long been felt that the approaches to the civic centre from the main streets are unworthy, and accordingly, it is proposed to redesign Bridge Street, which will entail the ultimate demolition from Station Street upwards of all existing buildings save only St. Luke's Church and the Lyceum Theatre.

At the same time a new road will be driven through, roughly on the line of the existing Baneswell Road, and from this it will follow the contours of the land up to approximately the position of the existing footbridge. The whole of the land between this new road and Bridge Street is to be redeveloped, leaving ample car parking spaces in the middle of the new buildings.

The other proposal is for a further road bridge across the River Usk, situated approximately on a line drawn between the intersection of Cardiff Road and Commercial Road with Maindee Square on the Chepstow Road. The approaches on both sides to this bridge form part of the scheme, and the whole forms part of an inner ring-road which will distribute traffic easily throughout the inner parts of the town.

The Ministry of War Transport have planned an outer road around part of the town, and there will be roads radiating out from the centre of the Town, both to the inner and the outer ring-roads, somewhat in the manner of spokes of a wheel.

This will give a road skeleton to the Town, and will facilitate the replanning of the whole, and should result in the Usk having ultimately three bridges giving considerable ease of crossing. It will also facilitate the splitting up of Newport into the neighbourhood units which form part of the modern conception of a well-planned town, and the planning committee, with the proposals now settled, are proceeding to the final stages of their replanning scheme, which will be brought before the Council at a later date.

NORWICH

A Plan for the City of Norwich, prepared for the Council by C. H. James, A.R.A., F.R.I.B.A., and S. Rowland Pierce, F.R.I.B.A., Consultants, and H. C. Rowley, A.M.Inst.C.E., M.I.M.& Cy.E., City Engineer, was published in May 1945 and has been adopted.

The Plan forms a basis for the orderly development of the City over the next 50 years, and while resolving the many problems inherent in such an aim, leaves the character of the City unchanged and its rich architectural inheritance intact.

The authors of the Plan describe the historical status and present

condition of the City and recommend the seizure of the unrivalled opportunity for replanning caused by its devastation through aerial bombardment.

The problem of transport is then discussed and suggestions made for the siting of an inner ring-road, and an outer ring-road ; the improvement of major and secondary roads within the City ; the provision of car parks ; and questions relating to public services vehicles, railways and river transport.

Industry, markets, water supply, sewerage and sewage disposal, electricity supply, gas supply, and refuse collection and disposal are dealt with in the next section of the Plan, which also refers to the possibilities of district heating.

A large section is devoted to residential development ; others to problems connected with shops and offices, the education services, open spaces and the hospital and clinical services.

A chapter covers the proposed Civic Centre, and the final section deals with the progress and control of development.

OXFORD

The City has appointed Thomas Sharp, town planning consultant, to prepare a plan, which is expected to be published in the autumn of 1946.

PLYMOUTH

A Plan prepared by the City Engineer in consultation with an eminent architect was presented to the City Council early last year.

It covers some 140 sq. miles, and assumes the co-operation of local authorities in the immediately adjacent areas.

In order to dilute the present extremely congested population of the Town, the scheme envisages the redistribution of some 63,847 people, 40,000 of whom, it is suggested, should be redomiciled outside the boundary, with a definite limitation of population within the City proper. A maximum housing density of 100 persons per acre is recommended.

Spectacular proposals completely change the old layout of the City centre, which is to rise again on its old site and be extended northwards. An imposing vista is planned from the Hoe, whence would stretch a great Way—"a Garden Vista, a Parkway, making use of the varying levels with slopes, steps, terraces, pools, avenues and other contrasting features" —right through the reconstructed area and terminating at the open space before the proposed Station Hotel.

The civic centre would contain a new Guildhall and other municipal buildings, flanked by the rebuilt St. Andrew's church—now a ruin—and with a theatre centre to the west. Behind all this, beautified by gardens and intersected by streets, would lie an extensive shopping centre, surrounded but not encroached upon by main traffic routes. This area again would be linked up with a business area comprising groups of offices set about a large open space, flanked by hotels, and leading, in its turn, through subways to the station, omnibus centre and car parks.

Skill and imagination have been bestowed on this impressive conception and full attention has been given to the preservation of old Plymouth, which largely escaped the worst of the bombing. It is to be restored in its medieval character, and walled.

Agricultural land within the City is to remain as such ; and this, with the re-siting of residential areas, will enable a very high degree of rural amenity to be retained. The scheme constitutes a pioneer attempt in the combination of rural and urban planning.

PORTSMOUTH

A special Replanning Committee was appointed in 1941 to consider and formulate plans for the City and its immediate environs. A preliminary Plan, drawn up by the Deputy City Architect, together with an interim report, was approved by the City Council in 1943.

The Plan visualises the maintenance of the City's close connection with the Navy, and provides for the extension of the Naval Dockyard. Land has been scheduled for this purpose, and such of the land as may not be required by the Crown will be zoned for industrial purposes. The City's interest in the future of air transport is reflected in the claim put forward for the use of Langstone Harbour as a seaplane base, and in the proposal to transfer the City airport to Farlington, where it could be enlarged as required by land reclamation, while the present airport site would prove an attractive one for development on account of its convenient road, rail and air communications. It is proposed to centralise the commercial shipping port, with provision for future extensions.

A City centre, of dignified proportions and impressive buildings, is to be created in a spacious setting which will be dominated by the Guildhall, now but an empty shell. The main commercial centre is planned to lie north of the railway, and there is provision for new shopping centres. It is hoped that there will be a cultural and educational centre, with a new municipal college which may become a university college, and a new technical school.

Portsmouth had many congested areas, and it is perhaps fortunate that the worst of these have suffered the most damage. The recommendations for the necessary new housing are that this should take the form of terraces, with a number of residential squares, and that flats should not be erected to accommodate more than one-fifth of the population in any district. The 60,000 surplus population which will result from this reduction in density would be transferred to two new towns in the north-eastern hinterland, one at Leigh Park, intended to be self-contained, with its own industries, and the other, more in the nature of a dormitory town, at Waterlooville.

In the City's holiday resort of Southsea, war damage necessitates replanning, especially in the older portion of the town. Provision is made for a much larger area of parks and recreation grounds, and for the reservation of attractive natural zones on the outskirts.

The interim report states that consideration has been given to the possibility of a road and rail tunnel between Portsmouth and Gosport, and of the electrification of the Southampton line.

RICHMOND (Surrey)

A Plan, prepared by the Reconstruction Committee of the Borough Council, was published in April 1945, and has been approved in principle by the Council. Its aim is to plan for "preservation and development, in order that this Town may become a living work of art and science in which people are enabled to lead lives which are satisfying in every respect." The Committee has kept in mind the fact that proposals must be for the benefit of the regions of Greater London and North East Surrey, of which Richmond forms a part.

In general, no large increase in the size of the Borough is recommended, and planning for a maximum population of 40,000 is proposed.

In a section dealing with communications, it is noted that the express arterial road from London to Exeter and Plymouth, via Chertsey, recommended in the Greater London Plan 1944, would pass through Richmond, and along this, road junctions must be kept to a minimum, local roads be over- or under-passed, and frontage development eliminated. To eliminate through-traffic from the main shopping streets, it is proposed to construct an alternative road linking Kew Road to Sheen Road and Richmond Bridge. Another proposed road improvement is a by-pass for the village of Petersham. In addition, detailed widening and improvement proposals are made, and the provision of car and cycle parks is recommended. Modernisation of Kew Gardens Station is advised.

In connection with open spaces and recreation, the Committee stresses the importance of preserving the riverside and the view from Richmond Hill. In general there is generous provision of open spaces already in Richmond, but the Committee recommends preservation of further land at Ham now used for gravel excavation ; an improved link for pedestrians between Cholmondeley Walk and the Old Deer Park ; and improved open spaces down-stream from Kew Bridge, so that the riverside will be preserved throughout its length within the Borough. Proposals for recreation include an open-air swimming pool ; provision for open-air concerts ; tennis courts ; a sports centre ; bowling greens ; a new café in the Terrace Garden ; and a new central propagating department for the adequate maintenance and improvement of the parks. Provision is made for allotments, and it is noted that due attention must be given to agricultural land.

In an analysis of the social group structure of Richmond, the five neighbourhoods of Kew, Richmond, North Sheen, Petersham and Ham are distinguished, while functionally the Richmond area provides the centre of civic, administrative, commercial, business, professional and recreational life. From the point of view of services to be provided, North Sheen and Kew, and Petersham and Ham, may be considered as regions. Planning should provide that each of these three main neighbourhoods should have its own local shops, schools, churches, local industries, open spaces and welfare and other services. The Committee has prepared a drawing showing the main functions of the land as a preliminary step to detailed site-planning, and a typical layout has been worked out in detail for the Petersham and Ham neighbourhood, to illustrate the Committee's general planning principles.

The Committee proposes the erection of a new civic centre, dominated by a clock tower to be situated on the axial line of Richmond Bridge, and on the centre line of a proposed new pedestrian shopping street linking George Street with the civic centre. The Parish Church and Ormond Terrace would be opened up, and the scheme, including an area of 2·97 acres, would also provide for the preservation of George Street, the Quadrant, part of Hill Street, Richmond Green and attractive by-streets. Future action should include acquisition and removal of the property affected by the new building.

With reference to housing, the problem is mainly one of redevelopment, and the Committee suggests for this purpose 12 congested and ill-planned areas, occupying 110 acres, with a 1939 population of 8,100. The existing densities in some of these are as much as 100 to 126 persons per acre, while the recommended net residential density for Richmond does not exceed 50. The overcrowding problem can be dealt with internally. It is considered that Richmond is adequately provided with public services.

Finally, attention is drawn to the importance of preservation in a town of Richmond's character, and to the advantages of development carried out accordingly to a plan which operates over a long period of time.

RICKMANSWORTH

A Report was submitted in May 1944, by F. Longstreth Thompson, B.Sc., F.S.I., A.M.Inst.C.E., P.P.T.P.I., on the draft planning scheme, and the provisional proposals in respect of the added areas, of the Urban District of Rickmansworth.

It is stated at the beginning that all development within the urban district is subject to Interim Development Control, and that two planning schemes are in course of preparation. The scheme covering the bulk of the original area of the urban district was approved by the Council in draft stage in 1936 and subsequently received amendments. A draft scheme for the areas added to the urban district in 1935 has been prepared, but has not yet been adopted by the Council.

With reference to the general planning policy, the Council is advised to adopt as the basis of post-war planning policy the plan submitted to Professor Abercrombie in 1943 in connection with the Greater London planning proposals. The main features of this plan are : Limitation of the area of the residential zones to that required for the suitable accommodation of the proposed ultimate population of the town ; the disposition of the proposed residential areas to encourage their development as separate and distinct communities ; and the proposed preservation of the land outside the urban communities as an agricultural belt or woodlands or parks. Existing planning proposals are reviewed in the light of this general policy.

With reference to residential areas, the Report approves the proposed ultimate population of 43,000, to be accommodated in the well-defined areas of Mill End and Rickmansworth town, Croxley Green, Moor Park and Batchworth Heath, and Batchworth, Batchworth Hill and Woodcock Hill ; these will be separated from each other and from neighbouring

communities by wedges and belts of open land. Detailed recommendations are made as to their boundaries and extent.

The business zones are thought to be too big and straggling, and new suggestions are made on the assumption that "existing" buildings will be allotted a reasonable life, after which they should be able to conform to a planning scheme, without compensation. Consequently part of the main shopping centre in Rickmansworth town is re-zoned as residential, the principal shopping zones in Mill End and Croxley Green are curtailed, while local shopping centres are proposed for Batchworth and Maple Cross.

The Report approves the zoning for industrial use of Croxley Mills, the land adjoining the Grand Junction Canal, and the land fronting Moor Lane. It is thought that land adjoining the Canal, below and including Long Valley Wood and Seigwart's factory and the Croxley Hall Farm area, should be reserved as open space. It is also thought that the western portion of the land at Batchworth alongside the Canal should not be industrialised, while there should be included in the industrial zone the eastern portion of Common Moor, which is considered to be the most suitable site in the district for industrial development.

Proposals regarding the rural areas and open spaces state that land surrounding building zones should be permanently free from urban development. An agricultural zone should contain the available good farming land, in which only agricultural buildings and dwellings should be permitted, and would suitably include practically the whole of the land on the west side of the line of the North Orbital Road. Poorer land, or land less suitable for farming on account of neighbouring urban conditions should be included in a rural zone, to be available for hospitals, institutions and certain types of country houses. The Colne valley gravel land should, after gravel excavations, be left in the form of a string of lakes, or if restored should not be zoned for building development. Two main areas of woodland, near Batchworth Heath and Chorleywood Cedars, should be preserved. The proposals for using as public open space the areas at Common Moor, Cassiobridge House Estate and Batchworth and Bury Lakes are approved, with recommendations for adding part of Parrott's Farm, Long Valley Wood and the triangular wood adjacent to Common Moor. The private open space proposals are also approved.

Finally, in connection with roads, it is stated that the main consideration should be to secure good road connections from the different parts of the town to the arterial roads and to improve the other roads taking the principal streams of local traffic. Accordingly detailed recommendations are made for road improvements, and for a new road across Common Moor.

The preparation of a single revised draft scheme for the whole district is recommended.

SHEFFIELD

The City Council has approved a plan showing the road and zoning proposals for the central area of Sheffield. The scheme as adopted covers 710 acres in the centre of the City. It provides for a civic circle road

100 ft. wide which will circumscribe the City centre proper. Within this civic circle road, which is roughly 500 yards in diameter, public service vehicles would be prohibited and carriageways would be narrowed and footpaths widened to form a shopping and civic precinct.

The plan also provides for an inner ring-road roughly elliptical in shape and with major and minor axes 2,000 and 1,000 yds. long respectively. Proposed civic buildings are grouped round a civic square 4 acres in extent ; the City centre will gradually be remodelled in accordance with the plan into ordered groups of business, shopping, light industry, markets and amusement interests. The proposals have been approved in principle by the officers of the various Ministries concerned.

SURREY, NORTH-EAST

The North-East Surrey Joint Planning Committee has been formed in Surrey with the approval of the Ministry of Town and Country Planning. It includes representatives of Croydon, Barnes, Richmond, Kingston-on-Thames, Esher, Surbiton, Wimbledon, Malden and Coombe, Merton and Morden, Sutton and Cheam, Beddington and Wallington, Mitcham, Epsom and Ewell, Carshalton, and Banstead. These 15 local government districts are to be planned as a single area. It includes industrial and residential neighbourhoods, parts of which suffered severely from flying bomb attacks, and has a total population of close on a million. The pre-war rateable value was more than £11 millions.

SWANSEA

Ranking high amongst the victims of air-raid damage throughout the country, Swansea is certainly the most severely damaged town in Wales, with a large area of devastation in the business district of the Town.

Plans for the reconstruction of the affected area were begun shortly after the "blitz," and a tentative but comprehensive scheme of reconstruction was completed and submitted to the Borough Council in the autumn of 1943. Exhaustive consultations with the various interests followed, and the scheme was re-submitted to and approved by the Council in a revised form in July 1944.

The scheme embodies modern ideas of traffic segregation by the diversion of heavy dock traffic from the Town centre and by the provision at all important road intersections of main traffic routes of generous width with dual carriageways and roundabouts of ample dimensions. There is provision for the more effective linking of road and rail transport, and an important feature of the scheme is a new central bus station.

An inner ring-road surrounds the new shopping area, which is designed to afford adequate accommodation for the re-establishment of businesses destroyed by air-raids, whilst limiting to 200 yds. the walking distance from its centre to any of the main perimeter roads. In the interests of public safety, all through-traffic and public service vehicles will be restricted to these perimeter roads. Ample parking space is provided, and wide footways in all streets will cater adequately for the pedestrian.

A central retail market has long been a traditional feature of the Town. It was destroyed by air raids, but in response to public desire it will be rebuilt near the shopping centre.

The existing civic centre to the west of the Town has fortunately escaped serious damage. This fine block of buildings closes the vista of a new wide road linking up the civic centre with the shopping area, and the scheme includes enough clearance to provide sites for additional buildings of a public character, including a large exhibition hall. A subsidiary civic centre is provided for buildings of a type which need to be more centrally located (such as health centres, a library, etc.) to the north of the shopping reservation and within easy reach of the rail and bus termini. Places of amusement, banks, offices and commercial buildings are generally situated on the fringe of the shopping area.

As the new shopping area extends into an existing residential neighbourhood, some displacement of existing population is involved, and the scheme, therefore, includes the remodelling of an adjoining area, mainly residential but at present lacking in essential amenities. A self-contained residential precinct has, therefore, been included in the scheme, designed primarily for those whose work makes it imperative that they should be as near as possible to the town and docks. With the exception of some of the light industries associated with the docks, the main industrial areas lie outside the central reconstruction area and no difficulty has been experienced in achieving separation of business and industrial areas.

The scheme gives consideration to the broader issues of regional planning and to the effect on traffic-flow of the proposed new bridges over the Severn and Neath rivers, which will tend to emphasise the importance of the south-eastern approaches to Swansea. Much detailed planning has still to be done to ensure the effective separation of road and rail traffic in the vicinity of the docks.

Long-term provision is made for the development of the foreshore, a previously neglected but very valuable asset to a Town so highly industrialised as Swansea. The existence of a fine stretch of sands immediately south of the main business centre of the Town, and of extensive parks and open spaces between Swansea and its dormitory suburbs to the west, obviates the need for new large open spaces in the redeveloped centre of the Town. The scheme, however, includes a number of smaller open spaces designed to enhance the surroundings of noteworthy buildings such as Swansea Castle, St. Mary's Church, and so on.

TAUNTON

A plan for the Borough is being prepared by Thomas Sharp, town planning consultant, and will probably be published in the summer of 1946.

TODMORDEN

The planning scheme, prepared by Thomas Sharp, town planning consultant, will be published in the spring of 1946.

TUNBRIDGE WELLS

A Report, presented at the request of the Borough Council by the Tunbridge Wells Civic Association in 1945, outlines a scheme for post-war development.

In this scheme an attempt is made to plan the Town in relation to the countryside and to protect the countryside. Transport proposals include a by-pass road, free from buildings, with dual carriageway and round-abouts, connected with an improved road from London to Hastings and also with a suggested new national east to west south road of Leigh, the whole resulting in a wide ring-road round the Town. No major change is suggested for the railways, but it is proposed that all long distance buses should start from and terminate at a central bus station, possibly at the lower part of the London road. Detailed proposals for traffic arrangements within the Town include suggestions for enlarging the central railway station and building an adjoining bus station, and for replanning the shopping area.

It is thought that the planning of neighbourhood units should be encouraged, and three main communities for Tunbridge Wells are described. A "green belt" around the town should be preserved, and the Borough boundary should be extended to include the immediate countryside and approaches to the Town. It is proposed that a Joint Advisory Planning Board be established to consist of Tunbridge Wells and the surrounding local authorities.

With reference to open spaces, it is proposed that the Commons should be largely preserved in their natural state, and that more land should be added to them. Suggestions are made for the more conventional treatment of the Calverley grounds, with a pavilion and amphitheatre, a water garden, bowling greens and tennis courts, a terraced rock garden, extended rose garden and additional planting. It is proposed that the Town Council should prepare a guide to the surrounding country.

Housing proposals are concerned with adjusting the proper balance between the homes of the employers and those of the wage-earners in each of the three communities ; with developing the smaller communities so that they justify the inclusion in the general plan of the necessary amenities; and with zoning further land included in the Borough. The wage-earners' houses should be near their work and the centre of the community, at a density of about 40 persons to the acre, while the more highly-rated houses should be on the outskirts of the communities, with only four houses to the acre in certain areas. Schemes should be drawn up for a whole area, with squares and terraces and open spaces. Proposals are also made for the improvement of slum areas.

Other features of the Report include proposals for a social and cultural centre at the Pantiles ; development of the Borough as an educational centre ; sports facilities ; youth and community centres ; and allotment gardens.

Regarding public utilities, suggestions are made for amalgamation of the water supply authorities, retention of local control of electricity supply, and combined action with other local authorities for sewage disposal.

Finally there is a number of separate reports dealing with proposals for the development of light industries, development of the Town as a spa, the establishment of a helicopter station, and for the churches, library, museum and musical activity.

TYNESIDE

The Tyne Improvement Commission has announced the submission to the Government of a plan to improve the shipping facilities of the River Tyne. It includes works and improvements amounting to nearly £3,000,000.

The recommendations include the extension of the Sutherland Quay, at Tyne Dock (a wartime construction) from 450 ft. to over 1,000 ft. Four coal-loading staiths at Tyne Dock will be replaced by two up-to-date erections. A 1,000 ft. new quay is to be constructed at the west side of Tyne Dock, on the site of an existing quay which was formerly used for discharging iron ore. Northumberland Dock is to be generally developed so as to enable larger ships to make use of it. Other projected works include the reconstruction of the south-east quay, repairs to the 30 ton crane berth, and reconstruction of the warehouse quay at Tyne Dock.

The general aim is to develop the port into one of world importance ; to increase the volume of trade ; to add to the wealth of the area ; and to help the labour problem. It is hoped to begin the schemes as soon as Government consent and financial help have been secured, and labour and materials are available.

WALES, SOUTH

In a Report on Post-war Reconstruction of Industry in South Wales* by Mr. W. C. Devereux, F.R.Ae.S., the following conclusions and recommendations are set out. The main opinion expressed is that more expenditure is needed on research in industry and in agriculture, and the argument for well-organised and intensive research on a scale compared with which our present efforts are insignificant, is throughout convincingly expounded. It is also emphasised that the first essential to reconstruction is the re-creation of mutual trust and respect between employer and employee.

Coal and Electric Power. Electricity must be fully developed at the cheapest possible price. South Wales is particularly suited for electro-metallurgical industries and the report by Hutton and Roskill on the relative costs of thermal- and hydro-electricity shows that it is possible at the 1937 price of coal (15s.) to generate electricity at 0·16d. per unit, including cost of transporting the coal. At the pithead the cost would be less. It is believed that electricity at such low cost would largely meet the problem of industry, and that public authorities should supply

* See *Books, Periodicals and Films.*

electricity even if it entails a subsidy recoverable by revenue from the industries established.

Electro-Metallurgical and Electro-Chemical Industries. A new process for the manufacture of aluminium, for which all materials required are near the coalfield, could replace the Bayer process, which proves uneconomic. This process reduces shale in an arc furnace with coke to form ferro-ferro-silicon and aluminium—the shale preferably being pre-treated. An alternative method is also outlined.

Cheap production of aluminium from local raw materials would greatly increase employment.

Oil from Coal. The only raw material required in oil production is coal and the process suggested is a combination of low temperature carbonisation with the Fischer-Tropsch synthesis process. The amount of coal available annually in South Wales for oil synthesis is about 8 million tons, which would be offset by a saving of 3 million tons of domestic coal, replaced by smokeless fuel. The value of the products obtained from this coal (1938 prices) would be £20 millions.

A Government subsidy would be required for the capital cost but the process could, in the writer's opinion, be operated successfully if oil duty did not exceed 3d. a gallon. Employment would be provided for 30,000 men on the processing plants, 10,000 at the collieries and additional labour on erecting the plant.

Sea Water Industries. The recovery of magnesium oxide, bromide and potassium from sea-water would form a valuable basis for an extensive chemical industry, and there are plentiful supplies of the limestone and dolomite required, ample coal and electricity, and good transport and shipping facilities. The potential uses of seaweed are also discussed and a vigorous policy recommended for the development of this industry.

Agriculture. The difficulty of harvesting in Wales, owing to prolonged wet periods in autumn, could be overcome by the artificial drying of crops, a method particularly suited to a cheap fuel location as half a ton of coal is required for every ton of dried crop. To overcome the high cost, central drying stores, run by a farmers' co-operative, could be erected, each serving 3,000 to 5,000 acres.

The drying of crops, coupled with the rational application of artificial insemination, might it is felt make farming in Wales one of its most successful industries.

Labour and Economics. To ensure a successful post-war era a capital extension of essential industries must be provided and a policy is required which would involve the operation of existing machinery of national and local government, trade unions and industry, and foster industries, suited to the district, which consume coal or electricity. Power would be made available at 0·15d. per unit to very large consumers, with a higher rate for small users.

Enough finance for a period of years and trouble-free labour by the trade unions, at the lowest rate compatible with the abolition of want, would be guaranteed. All profits in excess of a fixed amount would be returned to the industry for purposes of development, industrial and social research, and increase in capital ventures of the district when the demands of the particular industry were satisfied. This money would ensure the establishment of technical institutes and research organisation, resulting

in more economical production, more remunerative processes, increased wages, better working conditions and an improved standard of living.

A research institute, supported by a compulsory levy and administered by an industrialist, with the universities acting in the capacity of advisory bodies, would be essential.

In conclusion it is advocated that the scheme must be nationally planned, but managed by private enterprise, which would be judged entirely by results.

WINDSOR, PLAN BY COUNTY SCHOOL BOYS

The boys of Windsor County Boys' School, under the guidance of two masters, formed a Local Survey Club in 1943, with the object of working out a plan of redevelopment for Windsor. The members have made an historical study of the development of the Town ; have carried out a detailed survey of the existing Town ; and have worked out proposals for replanning.

Consideration of Windsor's future development has led to the study of such aspects as the tourist industry ; the planning relationship between the Castle and the Town ; the development of the riverside ; the relationship between Windsor and Slough ; the use of the Imperial Service College buildings ; neighbourhood units ; schools ; and industry.

Proposals for the future development of Windsor incorporate the new council estates and approved private building schemes. The Club's suggestions include the concentration of rail traffic at one station, making possible the development of the riverside area. A main road is planned along the course of Arthur Road linking up with the Dachet road, and Imperial Road is linked with a new road to be constructed west of Eton and carried over the Thames. Workers' flats are advocated on the site of the Victoria Barracks, with an open space in the vicinity of Bachelor's Acre. Other proposals include a bus station and a new shopping centre, a civic centre, baths, a social club, library, youth club, community centres, playing-fields and the opening up of the Guildhall district.

An exhibition of maps, plans, models and landscape paintings, prepared in connection with the scheme, was held in Windsor in October 1945.

WOLVERHAMPTON

Wolverhampton is co-operating with the adjoining authorities of Tettenhall, Cannock (rural), Wednesfield, Willenhall and Seisdon (part) in the formation of a Wolverhampton and District Joint Planning Committee.

A comprehensive social and industrial survey is being carried out in co-operation with Birmingham University. Sufficient research has been completed, however, to enable proposals to be put forward in broad principle for improving traffic facilities, for the redevelopment of the central area of the Town, and for the provision and location of houses for the immediate post-war years.

The most urgent post-war problem will be the provision of houses, as it is estimated that a minimum of 6,700 will be needed, and the aim is y•

to build 1,000 houses per year. In addition, 400 prefabricated bungalows have been allocated to Wolverhampton. Layouts have been prepared for two large housing estates, providing for approximately 2,100 houses, while negotiations are in progress for the acquisition of further land, and it is estimated that there are sites for some 2,700 houses on private estates.

Suggestions for the improvement of the Town's road system include construction of a central ring-road circumscribing the principal civic and administrative centre, the principal shopping and business areas, and the majority of places of amusement. The main radial roads will be widened, and a central covered bus station for long distance routes will be provided, as well as an adequate number of public and private car parks.

Proposals are made for the grouping of different types of development over a long period, and for control of development along the frontage of the central ring-road, with the minimum disturbance of existing shopping facilities. The long-term policy includes the proposals for the establishment of a civic centre, the removal of certain properties such as the retail and wholesale markets and the central library, and the development of an educational precinct.

It is thought that the necessary area of public open spaces and school playing-fields will be obtained by means of a long-term planning policy of redevelopment, but meanwhile certain areas are recommended to be zoned as public open spaces, school sites and playing-fields. Amenities are to be improved in existing parks and playing-fields.

Consideration of details of proposed swimming baths, branch libraries, clinics, health centres, hospitals, maternity homes, community and youth centres and schools, and industrial development awaits decisions on the ultimate redevelopment proposals for the borough and its surrounding areas, which should be based on neighbourhood units. These latter will be considered on completion of the industrial and social survey.

YORKSHIRE, WEST RIDING

The Reconstruction Committee of the West Riding County Council issued a Report in July 1944. This begins with a short statement on local government, which it is recommended should be the subject of a Government inquiry, and emphasises the necessity for local government to retain its democratic features.

"Under the heading "Agriculture," the Committee considers that the most successful statutory smallholding in the West Riding has been the self-supporting type or family farm, extending to about 50 acres of useful land, adequately drained and fenced, with modern buildings, and conveniently laid out. It is thought that safeguards should be applied to prevent the attempted settling of large numbers of inexperienced persons. The Committee proposes an inquiry into the existing administrative machinery relating to land drainage, and favours the retention by the County Council of its present powers, and the reduction in some cases of the powers of the War Agricultural Executive Committees.

In connection with "Education," the Committee has examined the

Government White Paper, and estimates of the West Riding's requirements include the establishment of 12 nursery schools and 200 nursery classes ; provision of adult instruction in the care and training of children; the establishment of 48 new junior and infant schools and a number of reconstructions ; 52 new modern schools and enlargement of 42 existing schools ; 4 new and 16 reconstructed grammar schools ; and 5 new and 6 reconstructed art schools, technical colleges and institutes, etc. In addition, recommendations are made regarding special schools, young people's colleges, technical education, agricultural education, continued provision of meals, youth service, adult education, training of teachers, dual control of schools, administrative areas and district education sub-committees. The importance of the greatest co-operation between the county authority and local authorities is stressed.

With reference to " Highways and Bridges," the Committee observes that much leeway must be made up if previous standards are to be recovered. A five-year programme of improvement was begun in 1938, in addition to 28 trunk-road schemes which were prepared, and the balance of these schemes will involve an estimated expenditure of £3,906,956 based on pre-war prices, while further schemes have been provided in town planning proposals. The Highways Committee is endeavouring to co-ordinate these schemes, and the need is stressed to achieve a high degree of co-operation between national planning and county planning, while local schemes of improvement will still be necessary to eliminate bottle-necks, congested areas and dangerous places. The Highways Committee is recommended also to direct its attention to a revision of the future planning programme and to prepare a long-term programme as well as shorter-term proposals. It is thought that Class I roads should be dealt with as trunk-roads where the volume of through-traffic and the importance of the road take away from it all local characteristics. A short-term policy of road improvement is suggested for the relief of unemployment immediately after the war. The long-term policy of road improvement works should only be decided in conjunction with the whole question of post-war planning. The Committee proposes that legislation should be introduced to provide for the compulsory transfer to highway authorities of the duty of maintaining all roads over bridges and the bridge structure. The Committee also proposes, in the interests of uniformity, economy and efficiency, the withdrawal of responsibility for road-maintenance from the scattered districts now operating the system in the West Riding.

In a section on " Public Health and Welfare," detailed recommendations are made as to types of institutional accommodation to be provided.

In a section dealing with "Town and Country Planning" full consideration is given to appropriate Parliamentary Acts and Reports. In connection with ribbon development, the Committee suggests that greater powers should be given to enable highway authorities to enforce the development of estates in depth without the payment of heavy compensation ; that procedure in connection with the adoption of standard widths should be simplified ; and that greater financial assistance should be given from the Treasury for payment of compensation. The Committee believes that County Councils should be in a position to co-ordinate and guide the major issues of planning principles, and that

in a county such as the West Riding, it is essential that the County Borough schemes should also be co-ordinated in a composite plan embracing the whole area. The County Council should assist local authorities financially, and should be assisted financially from Government funds. A Town and Country Planning Committee of the Council has been formed.

Recommendations are also made under headings "Civil Defence"; "Finance"; "Mental Deficiency"; "Weights and Measures"; "County Supplies" (in which the erection of a new centralised Supplies Department is advocated for the use of constituent authorities for their purchases); and "Rating and Valuation" (including a recommendation for the uniform application of the principles of valuation).

Regional Planning Authorities

JOINT TOWN PLANNING ADVISORY COMMITTEES

A List of Joint Town Planning Advisory Committees with names and addresses of Clerks or Secretaries.

(c) Indicates Clerk to Committee—where no letter against name, to be addressed as "Secretary."

Alston.—C. W. Allan Hodgson, The Courts, Carlisle.
Axbridge.—(*c*) F. R. Burdge, Rural District Council Office, Axbridge, Weston-super-Mare.
Bedfordshire.—(*c*) J. B. Graham, Shire Hall, Bedford.
Bridgwater and District.—(*c*) H. A. Clidero, Town Hall, Bridgwater.
Brighton, Hove and District.—(*Hon. Joint Sec.*) J. G. Drew, Town Hall, Brighton, 1.
Bristol (Schemes Nos. 1 and 2).—Josiah Green, The Council House, Bristol, 1.
Bristol (Scheme No. 3).—Josiah Green, The Council House, Bristol, 1.
Cheltenham and District.—F. D. Littlewood, 49, Promenade, Cheltenham.
Cheshire.—G. C. Scrimgeour, St. John's House, Chester.
Cumberland (A).—C. W. Allan Hodgson, The Courts, Carlisle.
Cumberland (B).—C. W. Allan Hodgson, The Courts, Carlisle.
Cumberland (C).—C. W. Allan Hodgson, The Courts, Carlisle.
Doncaster and District.—H. S. Essenhigh, 2, Priory Place, Doncaster.
Eastbourne and District.—(*Hon. Sec.*) H. S. Martin, County Hall, Lewes.
East Sussex (Northern Area).—H. S. Martin, County Hall, Lewes.
Frome and District.—(*c*) H. J. Allard, Public Offices, Frome.
Fylde Regional.—T. Trevor Jones, Town Hall, Blackpool.
Glamorgan.—(*c*) Henry Rowland, Glamorgan County Hall, Cardiff.
Gloucester and District.—L. O. Need, Shire Hall, Gloucester.
Hampshire.—(*c*) F. V. Barber, The Castle, Winchester.
Lake District—Three Counties.—C. W. Allan Hodgson, The Courts, Carlisle.
London Regional.—Vacant.
Merseyside.—W. H. Baines, Town Clerk's Office, Municipal Buildings, Liverpool, 2.
Midland.—(*Hon. Sec.*) Sir Frank Wiltshire, The Council House, Birmingham, 1.
Minehead and District.—(*c*) A. G. Mansfield, 39, Blenheim Road, Minehead, Som.
New Forest Advisory Planning Committee.—(*Hon. Sec.*) F. F. Freeth, Council Offices, Lyndhurst, Hants.
North East Surrey and West Kent.—(*Hon. Sec.*) E. Taberner, Town Hall, Croydon.
North Eastern Regional.—J. Atkinson, Town Hall, Newcastle-upon-Tyne.
North Middlesex.—(*Hon. Sec.*) C. W. Radcliffe, Guildhall, Westminster, London, S.W.1.
North and Mid-Lancashire Town and County Planning.—Archibald Glen, Town Hall, Burnley.
North Tyneside Regional.—(*Hon. Sec.*) John Atkinson, Town Clerk's Office, Town Hall, Newcastle-on-Tyne, 1.
North West Kent.—(*Hon. Sec.*) J. A. Crompton, Municipal Offices, Bromley, Kent.
North West Surrey.—F. H. Smith, Council Offices, Woking.
North West Sussex.—(*c*) F. Fraser Haddock, Comewell House, North Street, Horsham.
Norton Radstock and District.—(*c*) W. J. Landray, Council Offices, Midsomer Norton, Bath.
Nottingham Regional Area.—(*c*) K. Tweedale Meaby, Shire Hall, Nottingham.
Portsmouth and District.—(*Hon. Clerk*) Sir F. J. Sparks, Royal Beach Hotel, Southsea, Hants.

Sheffield and District.—John Hayes, Town Hall, Sheffield.
South East Essex.—J. Twinn, Town Hall, Romford.
South East Sussex.—(*c*) D. W. Jackson, Town Hall, Hastings.
South Lancs and North Cheshire.—(*Hon. Sec.*) R. H. Adcock, Town Hall, Manchester, 2.
South Wales and Monmouthshire Development Area (excluding the Borough of Pembroke).—V. Lawrence, County Hall, Newport, Mon.
Staffordshire.—(*Hon. Sec.*) T. H. Evans, LL.M., County Buildings, Stafford.
Taunton and District.—(*c*) L. Atwill, Municipal Buildings, Taunton.
Thames Valley.—(*Hon. Sec.*) Arthur C. Fox, The Council House, Mortlake, London, S.W. 14.
Wellington and Taunton Rural District.—(*c*) S. G. Glass, Urban District Council Offices, 35, Fore Street, Wellington, Som.
Wells and District.—(*c*) A. W. Foster, 1, Cathedral Green, Wells, Som.
West Essex.—(*Hon. Sec.*) J. W. Faulkner, F.C.I.S., Council Offices, Old Station Road, Loughton.
West Middlesex.—(*Hon. Sec.*) C. W. Radcliffe, Guildhall, Westminster, London, S.W.1.
Wincanton and District.—(*c*) S. L. Chane, Council Offices, Wincanton.
Winchester and District.—(*c*) J. A. Crompton, M.A., LL.B., The Guildhall, Winchester.
Worcestershire.—(*c*) C. H. Bird, Clerk's Office, Shirehall, Worcester.

JOINT TOWN PLANNING EXECUTIVE COMMITTEES

A list of Joint Town Planning Executive Committees with names and addresses of Clerks or Secretaries.

(*c*) Indicates Clerk to Committee—where no letter against name, to be addressed as "Secretary."

Alcester, Shipston and Stratford.—(*Hon. Sec.*) L. Edgar Stephens, Shire Hall, Warwick.
Amersham and Chesham.—(*c*) H. E. Buxton, Elmodesham House, Amersham.
Anglesey.—William Jones, Shire Hall, Llangefin.
Banbury and District Regional.—(*c*) E. Owen Reid, Municipal Buildings, Banbury.
Barnsley and District.—(*c*) A. E. Gilfillan, Town Hall, Barnsley.
Bath and District.—(*c*) J. Basil Ogden, Guildhall, Bath.
Batley and District Group.—J. N. Cowdell, Council Offices, Mirfield.
Berkhamsted and Tring.—(*c*) D. T. Thorne, 147, High Street, Berkhamsted, Herts.
Bolton and District Regional.—(*Hon. Sec.*) Philip S. Rennison, Town Hall, Bolton.
Brecon.—(*c*) P. R. H. S. Holbourn, Walton Mount, Brecon.
Bury and District Regional.—(*Hon. Sec.*) H. D. A. Robertson, Town Clerk's Office, Bury.
Caernarvonshire.—(*c*) William T. Jones, County Offices, Shirehall Street, Caernarvon.
Cambridgeshire.—J. Labrun, Shire Hall, Castle Hill, Cambridge.
Canterbury and District.—(*c*) W. L. Platts, County Hall, Maidstone.
Cardiff and District*
Cardiganshire.—Clerk, County Offices, Aberystwyth.
Carmarthenshire.—(*c*) Daniel Johns, County Offices, Carmarthenshire.
Central Bucks.—(*c*) H. Crooks, Town Hall, Aylesbury.
Central Cheshire.—(*c*) Mark Fletcher, Whitehall, Hartford, Northwich, Cheshire.
Central Middlesex.—(*Hon. Sec.*) Vernon Younger, Harrow Weald Lodge, Harrow.
Chard Area.—A. R. J. Dommett, Council Offices, Snowden House, Chard, Somerset.
Chesterfield Regional.—(*Hon. Sec.*) Richard Clegg, Town Hall, Chesterfield.
Chipping Norton and District and Woodstock.—(*c*) Edward Kenyon, 16a, Market Place, Chipping Norton, Oxon.
Chorley and District.—(*c*) G. Jackson, Town Hall, Chorley, Lancs.
Cirencester and Tetbury.—(*Hon. Sec.*) Mr. Davis, Shire Hall, Gloucester.

*Clerks or Secretaries have not yet been appointed.

Clevedon and District.—(*c*) H. B. Hanson, Council House, Highdale Road, Clevedon, Som.
Corby.—(*Hon. Sec.*) J. Allan Turner, County Hall, Northampton.
Cotswold.—(*Hon. Sec.*) Mr. Davis, Shire Hall, Gloucester.

Denbigh, County of.—(*c*) W. Jones, County Offices, Ruthin.
Dudley and District.—(*Hon. Sec.*) A. N. Williams, Town Hall, Bilston, Staffs.

East Berks Regional.—G. W. H. Childs, 78, St. Marks Road, Maidenhead.
East Cheshire.—A. Bond, Town Hall, Stockport.
East Cornwall.—G. Cedric Page, The Parade, Liskeard, Cornwall.
East Devon Regional.—R. T. Shears, The Castle, Exeter.
East Dorset.—(*c*) G. C. Willis, West Borough, Wimborne.
East Durham.—J. C. Edington, Council Offices, Seaham.
East Glamorgan.—(*c*) Bernard M. Murphy, Town Hall, Mountain Ash, Glamorgan.
East Herts.—(*c*) P. Elton Longmore, County Hall, Hertford.
East Kent.—(*c*) J. A. Johnson, Brook House, Dover, Kent.
East Lincolnshire.—H. Copland, County Offices, Lincoln.
East Monmouthshire.—(*c*) Vernon Lawrence, County Hall, Newport, Mon.
East Retford and Worksop.—(*c*) K. Tweedale Meaby, Shire Hall, Nottingham.
East Riding.—(Clerk) T. Stephenson, County Hall, Beverley.
East Suffolk (East Area).—(*Hon. Sec.*) Sir Cecil Oakes, County Hall, Ipswich.
East Suffolk (North Area).—(*Acting Sec.*) F. B. Nunney, Town Hall, Lowestoft.
East Suffolk (N.W. Area).—(*Hon. Sec.*) Sir Cecil Oakes, County Hall, Ipswich.
East Suffolk (S.E. Area).—(*Hon. Sec.*) Sir Cecil Oakes, County Hall, Ipswich.
East Suffolk (West Area).—(*Hon. Sec.*) Sir Cecil Oakes, County Hall, Ipswich.
Ely Urban and Rural.— A. E. Woodrow, Ely Urban District Council, Council Offices, Ely.
Evesham and Pershore.—(*c*) C. H. Gardiner, 64, Port Street, Evesham.

Flintshire.—(*c*) J. Harvey Davies, County Buildings, Mold.
Forest of Dean.—(*Hon. Sec.*) Mr. Davis, Shire Hall, Gloucester.
Fylde and Garstang.—Fred Taylor, Union Offices, Wesham, Kirkham, nr. Preston.

Gloucester and Newent.—(*Hon. Sec.*) Mr. Davis, Shire Hall, Gloucester.

Harrogate and District Regional.—(*c*) J. M. Dodds, LL.B., Municipal Offices, Harrogate.
Hartlepools Regional.—Eric J. Waggott, Municipal Buildings, West Hartlepool.
Herefordshire.—(*c*) R. C. Hansen, Clerk of the Council's Office, Shire Hall, Hereford.
Holland (Lincs.)—(*c*) R. D. Hastings, 11, Market Place, Spalding, Lincs.
Hove and Portslade.—(*c*) W. J. Harrison, B.A., Town Hall, Hove, 3.
Huntingdonshire.—(*c*) J. B. Kelly, County Offices, Huntingdon.

Ipswich.—(*c*) A. Moffat, Town Hall, Ipswich.
Isle of Ely.—(*c*) C. Dobb, A.C.C.S., Grove House, 74, High Street, Chatteris.
Isle of Thanet.—Clerk of the County Council, County Hall, Maidstone, Kent.
Isle of Wight Planning and Development.—(*c*) H. Walker, Newport House, Crocker Street, Newport, I.W.

Keighley and District Group.—(*Hon. Sec.*) S. Walker, Town Hall, Keighley.
Kesteven.—(*c*) G. H. Banwell, County Offices, Sleaford, Lincs.
Kidderminster and District.—J. H. Thursfield, Town Hall, Kidderminster.

Lancaster and District.—R. M. Middleton, O.B.E., Town Hall, Lancaster.
Leicestershire.—(*c*) Lucas E. Rumsay, County Offices, Grey Friars, Leicester.
Leigh and District.—(*c*) T. B. Bamber, Town Hall, Leigh, Lancs.
Lincoln and District.—J. H. Smith, Corporation Offices, Lincoln.

Maidstone and District.—(*c*) Graham Wilson, Town Clerk's Office, Tonbridge Road, Maidstone.
Malvern and Upton-on-Severn District.—(*c*) J. Bulman, The Council House, Malvern.
Manchester and District Regional.—(*c*) P. B. Dingle, Regional Planning Office, Town Hall, Manchester, 2.
Mansfield and District.—(*c*) A. C. Shepherd, Carr Bank, Mansfield.
Merioneth.—Hugh J. Owen, County Offices, Dolgelly.
Mid-Cheshire (Area No. 1).—(*c*) K. B. Edwards, Municipal Offices, Earle Street, Crewe.
Mid-Cheshire (Area No. 2).—(*c*) E. C. Francis, 27, Whitby Road, Ellesmere Port, Wirral.
Mid-Cheshire (Area No. 5).—(*c*) P. Harrison, 84, Prestbury Road, Macclesfield.

Mid-Derbyshire.—(*c*) T. Wilson, Belper, Derbyshire.
Mid-Essex Regional.—J. E. Lightburn, County Hall, Chelmsford.
Mid-Glamorganshire.—(*Hon. Clerk*) W. E. Bevan, Penybont Offices, City Road, Bridgend.
Mid-Norfolk.—C. H. Reeder, Quebec Road, East Dereham.
Mid-Northants.—(*Hon. Sec.*) J. A. Turner, County Hall, Northampton.
Mid-Oxfordshire.—*
Mid-Surrey.—(*c*) Heber Daires, Council Offices, Reigate.
Mid-West Herts.—(*c*) G. W. G. T. Kirk, Town Hall, Hemel Hempstead.
Montgomeryshire.—Col. Harrison, County Offices, Welshpool.

Neath and Afan Valleys.—(*c*) T. D. W. Williams, 8, New Street, Neath.
Newark and Southwell.—(*c*) K. Tweedale Meaby, Shire Hall, Nottingham.
New Forest and District.—(*c*) F. V. Barber, The Castle, Winchester.
Norfolk (East Central).—(*c*) B. H. Durrant, Tudor Hall, Rose Lane, Norwich.
Norfolk (North and East).—(*c*) A. Peploe, 25, Grammar School Road, North Walsham.
North Berks Regional.—F. A. Shorey, Council Offices, Belmont, Wantage.
North Cheshire Regional.—(*c*) H. Cliffe, Council Offices, Wilmslow.
North Devon Regional.—J. B. Cause, Queen Anne Chambers, The Strand, Barnstaple.
North Dorset.—(*c*) J. Steptoe, Council Offices, Sturminster Newton.
North East Bucks.—(*c*) R. L. Sherwood, Council Offices, Bletchley.
North East Cheshire Regional.—(*c*) L. A. Bottomley, 127, Stamford Street, Stalybridge.
North East Durham.—John Owen, Council Offices, East Boldon.
North East Essex.—(*c*) G. T. Lewis, Town Hall, Clacton-on-Sea.
North East Hants.—(*c*) Merion O. Jones, Municipal Buildings, Basingstoke.
North East Kent.—(*c*) K. Redfern, 57, Balmoral Road, Gillingham.
North East Lancashire (No. 1).—(*Hon. Clerk*) Chas. S. Robinson, Town Hall, Blackburn.
North East Lancashire (No. 2).—(*Hon. Sec.*) A. Glen, Town Hall, Burnley.
North East Surrey.—(*c*) Edwin M. Neave, Town Hall, Wimbledon.
North Herts.—J. D. Rowland, Council Offices, Broadway, Letchworth.
North Kent.—(*c*) W. Scrivens, County Hall, Maidstone.
North Lincolnshire.—(*c*) L. W. Heeler, B.A., LL.B., Town Hall, Grimsby.
North Lonsdale.—(*c*) Max Edwards, B.Eng., P.A.S.I., Virginia House, 24, Queen Street, Ulverston, Lancs.
North Middlesex and South East Herts.—*
North Riding of Yorkshire (Area No. 5).—(*c*) H. G. Thornley, County Hall, Northallerton.
North Tees.—E. Bellingham, Barclays Bank Chambers, 49 High Street, Stockton-on-Tees.
Northumberland.—(*c*) C. H. Carter, County Hall, Newcastle-upon-Tyne, 1.
North West Bucks.—(*c*) Philip Wood, Town Hall, Buckingham.
North West Durham.—T. W. Bell, Council Offices, Consett.
North West Essex.—(*Hon. Sec.*) S. R. Long, Union Offices, Halstead.
North Western Hampshire.—(*c*) G. H. Gardiner, 45, Romsey Road, Winchester.
North West Norfolk.—(*c*) W. A. Williamson, Council Offices, Wells-next-the-Sea.
North West Surrey.—T. H. Smith, Council Offices, Woking.
North Worcester.—(*c*) F. A. Jessop, The Council House, Bromsgrove.
Nottingham Regional.—(*c*) K. Tweedale Meaby, Shire Hall, Nottingham.

Oldham and District Regional.—T. Alker, Regional Planning Office, 47, Market Place, Oldham.

Peak.—B. G. Cadge, R.D.C. Offices, Bakewell, Derbyshire.
Pembrokeshire.—(*c*) W. E. Bufton, County Offices, Haverfordwest.
Penrith District.—(*Joint Hon. Secretaries*) J. W. Smith, C. H. Huntley, Town Hall, Penrith, Cumberland.
Plymouth.—(*Joint Clerks*) P. Loosemore and L. P. New, Council Offices, Plympton, South Devon.
Preston and District.—Herbert E. Nutter, Municipal Buildings, Preston, Lancs.

*Clerks or Secretaries have not yet been appointed.

Radnorshire.—Clerk of the County Council, County Offices, Llandrindod Wells, Radnor
Rochdale and District.—(*Hon. Clerk*) Harry Bann, Town Hall, Rochdale.
Rossendale Regional.—H. Isherwood, Town Hall, Rawtenstall, Rossendale, Lancs.
Rotherham Region.—C. L. des Forges, Municipal Offices, Rotherham.
Rugby and District.—(*Hon. Sec.*) L. Edgar Stephens, Shire Hall, Warwick.
Rutland.—R. C. Dalton, County Offices, " Catmose," Oakham, Rutland.

Salop (Eastern).—(*c*) W. L. Edge, Shire Hall, Shrewsbury.
Salop (Northern).—(*c*) W. L. Edge, Shire Hall, Shrewsbury.
Salop (North Western).—W. L. Edge, Shire Hall, Shrewsbury.
Salop (Southern).—(*c*) W. L. Edge, Shire Hall, Shrewsbury.
Salop (Western).—(*c*) E. P. Everest, M.B.E., 24, St. John's Hill, Shrewsbury.
Sevenoaks.—(*c*) J. Mudd, Inglewood, Oakhill Road, Sevenoaks, Kent.
Skipton and District.—E. Jones, Town Hall, Skipton.
Skyrack.—(*c*) R. Howard Moore, Town Hall, Baildon, Yorks.
Soke of Peterborough.—(*c*) A. J. Reeves, Town Hall, Peterborough.
Solihull and District.—(*Hon. Sec.*) L. Edgar Stephens, Shire Hall, Warwick.
South Berks Regional.—S. Widdicome, Municipal Buildings, Newbury.
South Bucks.—(*Hon. Sec.*) R. F. Nightingale, Abbeyfield, Windsor Road, Slough.
South Derbyshire.—(*c*) F. Bailey, Rural District Council Offices, The Poplars, Rolleston Road, Burton-upon-Trent.
South Devon Regional.—(*Hon. Sec.*) H. A. Hield, M.A., Town Clerk's Office, Town Hall, Torquay.
South Dorset.—(*c*) C. P. Brutton, County Offices, Dorchester, Dorset.
South Durham.—W. H. Haggie, Council Offices, Sedgefield, Stockton-on-Tees.
South East Dorset.—(*c*) C. F. J. Durant Lewis, West Port House, Wareham, Dorset.
South East Kent.—(*Hon. Sec.*) J. Sudlow, Council Offices, Ashford, Kent.
South East Staffordshire.—(*Hon. Sec.*) W. Stanley Brooks, Town Clerk's Office, The Council House, Walsall.
Southern Hampshire.—R. H. H. Meggeson, B.A., Municipal Offices, Civic Centre, Southampton.
South Norfolk.—(*c*) C. R. Cadge, Loddon, nr. Norwich.
South Northamptonshire.—(*Hon. Sec.*) J. Allan Turner, County Hall, Northampton.
South Oxfordshire.—T. L. Easby, Bank Chambers, 12, Hart Street, Henley-on-Thames.
South Tees-side.—Preston Kitchen, Town Clerk's Office, Middlesbrough.
South West Durham.—W. G. Omand, Council Offices, Crook.
South West Essex.—E. Cranfield, Town Clerk, West Ham.
South West Surrey.—(*c*) Gerald H. R. Wilson, Municipal Offices, Guildford.
Southwick.—E. Yates, Town Hall, Southwick, Sussex.
Stroud and District.—(*Hon. Sec.*) Mr. Davis, Shire Hall, Gloucester.

Taff Valleys.—*
Tewkesbury and Cheltenham.—(*Hon. Sec.*) Mr. Davis, Shire Hall, Gloucester.
Thame and District.—Vacant.
Thornbury and Sodbury.—(*c*) Mr. Davis, Shire Hall, Gloucester.
Tonbridge.—(*c*) B. Lees, 48, Pembury Road, Tonbridge.

Upper Agbngg.—(*c*) S. G. Dilnot, County Offices, Holmfirth.
Upper Calder.—W. Ushen, Town Hall, Halifax.

Wakefield and District.—W. S. des Forges, Town Hall, Wakefield.
Warsop.—(*c*) K. Tweedale Meaby, Shire Hall, Nottingham.
Warwick, Leamington, Kenilworth and District.—(*Hon. Sec.*) L. Edgar Stephens, Shire Hall, Warwick.
West Cornwall.—D. J. Beatie, Alphington House, Alverton, Penzance.
West Dorset.—(*c*) C. A. R. Thomas, Town Clerk's Offices, Bridport.
West Durham.—B. T. Gibson, Shire Hall, Durham.
West Glamorgan.—(*Acting Clerk*) E. A. Griffiths, Council Offices, West Street, Gorseinor, Glamorgan.
West Kent.—*
West Middlesex.—*
West Monmouthshire.—(*c*) N. Lawrence, County Hall, Newport.

*Clerks or Secretaries have not yet been appointed.

West Norfolk.—(*c*) W. J. Hyner, London Road, Downham Market.
West Riding (Eastern District).—(*Hon. Sec.*) G. Wilson, Town Clerk, Pontefract.
West Suffolk.—(*c*) L. G. H. Munsey, Shire Hall, Bury St. Edmunds, Suffolk.
Westmorland.—(*c*) H. B. Greenwood, Offices of the Clerk of the Peace and County Council, County Hall, Kendal.
Wigan and District.—(*Hon. Sec.*) W. H. Tyrer, C.B.E., LL.B., Municipal Buildings, Library Street, Wigan.
Wilts.—(*c*) P. A. S. Stringer, Clerk's Office, County Offices, Trowbridge.
Witney and District.—(*c*) R. A. G. Ravenor, 26, Church Green, Witney.
Worcester and District.—(*c*) C. H. Digby-Seymour, M.A., Guildhall, Worcester.
Worthing.—(*c*) E. G. Townsend, Town Clerk's Office, Town Hall, Worthing, Sussex.
Wycombe and Marlow.—(*c*) Allan Janes, 100, Easton Street, High Wycombe, Bucks.

Yeovil and District.—(*c*) Major H. C. C. Batten, D.S.O., Municipal Offices, Yeovil.

Directory of Organisations Interested in Planning and Reconstruction

Aberdeen Harbour Commission, Harbour Office, Aberdeen. (Aberdeen 91).
Abingdon, Friends of, *see* Friends.
Accidents, Royal Society for the Prevention of, *see* Royal.
Addington and District Association for the Protection of Amenities, 1, Church Way, Sanderstead, Surrey. (Sanderstead 2405).
Aerodrome Owners' Association, 32, Savile Row, London, W.1. (Regent 5215).
Agricultural Society, Royal, *see* Royal.
Aircraft Industries Research Organisation on Housing, 12, Grosvenor Street, London, W.1.
Aire and Calder Navigation, Dock Street, Leeds, 1. (Leeds 20957).
Allotments Society, National, *see* National.
Aluminium Development Association, 67, Brook Street, London, W.1. (Mayfair 2004).
Amalgamated Licensed Retailers Society, 1, Cooper Street, Manchester, 2. (Central 5569).
Amalgamated Union of Building Trade Workers of Great Britain and Ireland, The Builders, Crescent Lane, Clapham Common, London, S.W.4. (Macaulay 2442).
Ancient Buildings, Society for the Protection of, *see* Society.
Ancient Monuments Society, 78, Framingham Road, Brooklands, Cheshire. (Sale 1401).
Antiquaries, Society of, *see* Society.
Archaeological Association, British, *see* British.
Archaeological Institute, Royal, *see* Royal.
Archaeological Society, 207, Bath Street, Glasgow. (Central 5136).
Archaeology, Institute of, *see* Institute.
Architects, Institute of Registered, *see* Institute.
Architects of Ireland, Royal Institute of, *see* Royal.
Architects' Registration Council of the United Kingdom, 68, Portland Place, London, W.1. (Welbeck 9738).
Architects, Royal Institute of British, *see* Royal.
Architects in Scotland, Royal Incorporation of, *see* Royal.
Architects, South Wales Institute of, *see* South.
Architects and Surveyors, Faculty of, *see* Faculty.
Architects and Surveyors, Incorporated Association of, *see* Incorporated.
Architectural and Archaeological Society for the County of Buckingham, The Museum, Church Street, Aylesbury, Bucks. (Aylesbury 158).
Architectural Association (Inc.), 36, Bedford Square, London, W.C.1. (Museum 0974).
Architectural and Planning Group of the Society for Cultural Relations with the U.S.S.R., 98, Gower Street, London, W.C.1. (Euston 6272).
Architectural Science Board (R.I.B.A.), 66, Portland Place, London, W.1. (Welbeck 5721).
Architectural Students' Association, National Secretary, School of Architecture, 26, Abercromby Square, Liverpool, 7.
Architectural Students' Association, Publicity Centre, School of Architecture, College of Art, Waverley Street, Nottingham. (Nottingham 40860).
Art and Design, Central Institute of, *see* Central.
Arts, Royal Society of, *see* Royal.
Arts Centre, International, *see* International.
Arts Council of Great Britain (CEMA), 9, Belgrave Square, London, S.W.1. (Sloane 0421).
Ashton-under-Lyne and District Property Owners' Association, 36, Holden Street, Ashton-under-Lyne, Lancs. (Ashton-under-Lyne 2495).
Asphalt Roads Association, Ltd., 53, Victoria Street, London, S.W.1. (Abbey 3531).
Associated Country Women of the World, 46, Gloucester Terrace, London, W.2. (Paddington 1576).
Association of Bexhill Citizens, 13, Sackville Road, Bexhill, Sussex. (Bexhill 1511).

Association of British Roofing Felt Manufacturers, 69, Cannon Street, London, E.C.4. (City 4444).
Association of Building Technicians, 5, Ashley Place, London, S.W.1. (Victoria 0447).
Association of Constructional Floor Specialists, Victory House, Leicester Square, London, W.C.2. (Gerrard 5738).
Association of Consulting Engineers (Inc.), 36, Victoria Street, London, S.W.1. (Abbey 6557).
Association of County Councils in Scotland, 3, Forrest Street, Edinburgh, 3.
Association of Edinburgh's Homeless, c/o G.P.O., Edinburgh.
Association of Local Lands Valuation Assessors of Scotland, County Assessor's Office, Stirling. (Stirling 1000).
Association of London Property Owners, 15, Lower Grosvenor Place, London, S.W.1. (Victoria 9914).
Association of Manufacturing Builders, Ltd., 15, Hanover Square, London, W.1. (Mayfair 2248).
Association of Municipal Corporations, Palace Chambers, Bridge Street, London, S.W.1. (Whitehall 1184).
Association for Planning and Regional Reconstruction, 34, Gordon Square, London, W.C.1. (Euston 2158).
Association of Polish Engineers in Great Britain, 18, Devonshire Street, London, S.W.1. (Welbeck 9635).
Association for the Preservation of Rural Scotland, 44, Queen Street, Edinburgh. (Edinburgh 30317).
Association of Public Lighting Engineers, 68, Victoria Street, London, S.W.1. (Victoria 9132).
Association of Supervising Electrical Engineers, 54, Station Road, New Barnet, Herts. (Barnet 6731).
Auctioneers' and Estate Agents' Institute of the United Kingdom, 29, Lincoln's Inn Fields, London, W.C.2. (Holborn 1968).
Auctioneers, National Association of, *see* National.
Auctioneers and Landed Property Agents, Incorporated Society of, *see* Incorporated.
Automobile Association, Fanum House, New Coventry Street, London, W.1. (Whitehall 1200).
Automobile Club, Royal, *see* Royal.
Barnet Society, Winyatts, Leecroft Road, Barnet, Herts.
Bath Preservation Trust, Beau Nash House, Bath, Somerset. (Bath 5549).
Bath and West and Southern Counties' Society, 3, Pierrepont Street, Bath, Somerset. (Bath 3010).
Bedfordshire and Huntingdonshire Association of Architects, *see* Northamptonshire.
Belfast Civic Society, 146, Sandown Road, Belfast. (Belfast 54030).
Belfast Harbour Commission, Harbour Office, Belfast. (Belfast 24411).
Berkshire, Buckinghamshire and Oxfordshire Architectural Association, 11a, Grendon Street, High Wycombe, Bucks. (High Wycombe 430).
Berwick Harbour Commission, Harbour Office, Berwick-on-Tweed. (Berwick 404).
Bewdley Civic Society, Tickenhill, Bewdley, Worcs. (Bewdley 99).
Bexhill Citizens, Association of, *see* Association.
Birds, *see* Royal Society for the Protection of Birds, and Scottish Society for the Protection of Wild Birds.
Birkenhead and Wirral Districts Building and Allied Trades Employers Association, *see* Liverpool.
Birmingham and District House-Builders' Association, Dainier House, Paradise Street, Birmingham.
Birmingham and District Property Owners' Association, 31, Cannon Street, Birmingham, 2. (Midland 5665).
Birmingham and Five Counties Architectural Association, 8, Newhall Street, Birmingham. (Birmingham 5218).
Blackburn Property Owners' and Ratepayers' Association, 1a, Tacketts Street, Blackburn, Lancs. (Blackburn 5704).
Blackpool Hotel and Apartment House Association, 87a, Coronation Street, Blackpool, Lancs. (Blackpool 1891).
Blackpool Private Hotels Association, 8, Edward Street, Blackpool, Lancs. (Blackpool 2117).
Blackpool Property Owners' Association, 33, Birley Street, Blackpool, Lancs. (Blackpool 777).

Blyth Harbour Commission, Blyth, Northumberland. (Blyth 66).
Board of Greenkeeping Research, St. Ives Research Station, Bingley, Yorks.
Bootle Property Owners' Association, 149, Stanley Road, Bootle, Lancs. (Bootle 1417).
Boston Preservation Trust, Fydell House, South Square, Boston, Lincs. (Boston 3116).
Bournemouth and District Property Owners' Association, 172, Old Christchurch Road, Bournemouth. (Bournemouth 2442).
Bournville Village Trust, Estate Office, Bournville, Birmingham, 30. (King's Norton 1171).
Bradford Civic Society, 37, Bolton Road, Bradford, Yorks. (Bradford 8374).
Bradford and District Property Owners' and Ratepayers' Association, Victoria Chambers, Victoria Square, Bradford, Yorks. (Bradford 2267).
Bradford-on-Avon Preservation Society, Belcombe House, Bradford-on-Avon, Wilts.
Bridlington Piers and Harbour, Bridlington. (Bridlington 3022).
Bristol Civic Society, 12, Great George Street, Bristol, 1, Glos. (Bristol 23269).
Bristol and District Property Owners' Association, Atlas Building, 9, Clare Street, Bristol, 1. (Bristol 25139).
Bristol Replanning Association, 25, Orchard Street, Bristol, 1, Glos. (Bristol 22901).
British Archaeological Association, 11, Chandos Street, London, W.1.
British Association for the Advancement of Science, Burlington House, London, W.1. (Regent 2109).
British Association of Residential Settlements, 44, Nelson Square, London, S.E.1. (Waterloo 5958).
British Cast Concrete Federation, 17, Amherst Road, London, W.13. (Perivale 6869).
British Cast Iron Research Association, Alvechurch, Birmingham. (Redditch 716).
British Coal Utilisation Research Association (B.C.U.R.A.), 13, Grosvenor Gardens, London, S.W.1. (Victoria 1534).
British Colour Council, 28, Sackville Street, London, W.1. (Regent 3613).
British Commercial Gas Association, 1, Grosvenor Place, London, S.W.1. (Sloane 4554).
British Constructional Steel Work Association, Artillery House, Artillery Row, London, S.W.1. (Abbey 2424).
British Council, 3, Hanover Street, London, W.1. (Mayfair 8484).
British Door Association, 25, Victoria Street, London, S.W.1. (Abbey 7227).
British Ecological Society, c/o Botany School, Cambridge. (Cambridge 5113).
British Electrical and Allied Manufacturers' Association (Inc.), 36, Kingsway, London, W.C.2. (Holborn 0502).
British Electrical Development Association, 2, Savoy Hill, London, W.C.2. (Temple Bar 9434).
British Engineers' Association (Inc.), 32, Victoria Street, London, S.W.1. (Abbey 2141).
British Federation of Social Workers, 5, Victoria Street, London, S.W.1. (Abbey 2860).
British Gas Council, Gas Industry House, 1, Grosvenor Place, London, S.W.1. (Sloane 4554).
British Gas Federation, 1, Grosvenor Place, London, S.W.1. (Sloane 8266).
British Institute of Building Technology, 17-19, Stratford Place, London, W.1. (Mayfair 0812).
British Iron and Steel Corporation, Ltd., Steel House, Tothill Street, London, S.W.1. (Whitehall 1030).
British Iron and Steel Federation, Steel House, Tothill Street, London, S.W.1. (Whitehall 1030).
British Iron and Steel Research Association, Steel House, Tothill Street, London, S.W.1. (Whitehall 1030).
British Metal Window Manufacturers' Association, 2, Great Peter Street, London, S.W.1. (Whitehall 9606).
British Non-Ferrous Metals Research Association, Euston Street, London, N.W.1. (Euston 3372).
British Plastics Federation, Ltd., 47, Piccadilly, London, W.1. (Regent 4681).
British Records Association, 3n, King's Bench Walk, Inner Temple, London, E.C.4.
British Refrigeration Association (B.R.A.), 1, Lincoln's Inn Fields, London, W.C.2. (Holborn 0502).
British Road Federation, Ltd., 4a, Bloomsbury Square, London, W.C.1. (Holborn 3345).
British Road Tar Association, 1, Grosvenor Place, London, S.W.1. (Sloane 6119).
British Social Hygiene Council, Tavistock House (North), London, W.C.1. (Euston 4732).

British Spas Federation, Thermal Baths, Buxton, Derby. (Buxton 2060).
British Sports and Games Association, 22, Lancaster Gate, London, W.2. (No Telephone Number Available).
British Standards Institution, 28, Victoria Street, London, S.W.1. (Abbey 3333).
British Steelwork Association, Egginton House, Buckingham Gate, London, S.W.1. (Victoria 7301).
British Waterworks Association, 34, Park Street, London, W.1. (Grosvenor 1232).
British Wood Preserving Association, 48, Dover Street, London, W.1.
Buckingham, Architectural and Archaeological Society for the County of, *see* Architectural.
Buckinghamshire Architectural Association, *see* Berkshire.
Builders, Association of Manufacturing, *see* Association.
Builders, Federation of Master, *see* Federation.
Builders, Institute of, *see* Institute.
Builders' Labourers' Society, *see* National.
Builders' Registration Council, National House, 82, New Cavendish Street, London, W.1. (Langham 4041).
Builders' Working Parties Association, 10, Essex Street, London, W.C.2. (Chairman : Willesden 1760).
Building and Allied Trades Enquiry Bureau, 3, Berners Street, London, W.1. (Museum 7564).
Building Board Manufacturers' Association of Great Britain, Ltd., Melbourne House, Aldwych, London, W.C.2. (Temple Bar 6278).
Building Boards Joint Committee, Melbourne House, Aldwych, London, W.C.2. (Temple Bar 6278).
Building Centre, 9, Conduit Street, London, W.1. (Mayfair 2128).
Building Centre, Scottish, *see* Scottish.
Building Industries National Council, 11, Weymouth Street, London, W.1. (Langham 2785).
Building Industry Distributors, High Holborn House, 52, High Holborn, London, W.C.1. (Chancery 7772).
Building Industry, National Joint Council, *see* National.
Building Material Producers, National Council of, *see* National.
Building Research Station (Department of Scientific and Industrial Research), Garston, Watford, Herts. (Garston 2246).
Building Societies Association, 14, Park Street, London, W.1. (Mayfair 0515).
Building Societies Institute, 14, Park Street, London, W.1. (Mayfair 0515).
Building Technicians, Association of, *see* Association.
Building Technology, British Institute of, *see* British.
Building Trades Workers, Amalgamated Union of, *see* Amalgamated.
Building Trades Employers, *see* National Federation, North Western Federation, Northern Counties Federation, South Wales Federation, South Western Federation and Southern Counties Federation.
Caernarvon Harbour Trust, Harbour Office, Caernarvon. (Caernarvon 118).
Calder Navigation, *see* Aire.
Cambrian Archaeological Association, Town Hall, Pontypool, Mon. (No Telephone).
Cambridge and Hertfordshire Society of Architects, *see* Essex.
Cambridge Preservation Society, Cambridgeshire House, 7, Hills Road, Cambridge. (Cambridge 56850).
Canterbury Cathedral, Friends of, *see* Friends.
Canterbury Civic Society, 39, St. Margaret's Street, Canterbury. (Canterbury 2730).
Cardiff Civic Society, The Technical College, Cathays Park, Cardiff, Glam. (Cardiff 6813, Extn. 14).
Care of Churches, *see* Central Advisory Committee and Central Council.
Carnegie United Kingdom Trust, Comely Park House, New Row, Dunfermline, Fife. (Dunfermline 398).
Cast Concrete Federation, *see* British.
Cast Concrete Products Industry, National Joint Industrial Council for the, *see* National.
Cast Iron Heating Boiler and Radiator Manufacturers' Association, 69, Cannon Street, London, E.C.4. (City 4444).
Cast Iron Research Association, British, *see* British.
Cattewater Commission, 5, Athenaeum Terrace, Plymouth, Devon. (Plymouth 4242).
CEMA, *see* Arts Council of Great Britain.
Cement and Concrete Association, 52, Grosvenor Gardens, London, S.W.1. (Sloane 5255).

Cement Makers' Federation, 52, Grosvenor Gardens, London, S.W.1. (Sloane 2148).
Central Advisory Committee for the Care of Churches, Earlham, Dunster. (Dunster 367).
Central Council for the Care of Churches, Temporary Address: Earlham, Dunster, Somerset. (Dunster 367).
Central Council for Rivers Protection, Fishmongers Hall, London, E.C.4. (Mansion House 8591).
Central Council of Civic Societies, British Museum, Great Russell Street, London, W.C.1. (Museum 8196).
Central Council of Physical Recreation, 58, Victoria Street, London, S.W.1. (Victoria 3563).
Central Council of Poor Man's Valuer Associations, 21, Brunswick Square, London, W.C.1. (Terminus 7761).
Central Electricity Board, Trafalgar Buildings, 1, Charing Cross, London, S.W.1. (Whitehall 2121).
Central Institute of Art and Design, National Gallery, Trafalgar Square, London, W.C.2. (Whitehall 2415).
Central Land Owners' Association, 58, Victoria Street, London, S.W.1. (Victoria 6371).
Central Public House Trust Association, 193, Regent Street, London, W.1. (Regent 7348).
Central Valuation Committee, Caxton House East, Tothill Street, London, S.W.1. (Victoria 8540).
Chadwick Trust, Abbey House, Westminster, London, S.W.1. (Abbey 6872).
Chartered Surveyors Institution, 12, Great George Street, London, S.W.1. (Whitehall 5322).
Chelsea Society, 50, Hasker Street, London, S.W.3. (Kensington 6089).
Chesterfield and District Ratepayers' and Property Owners' Association, 71, Saltergate, Chesterfield, Derby. (Chesterfield 2955).
Children's Nurseries, National Society of, *see* National.
Church Army Housing, Ltd., 55, Bryanston Street. London, W.1. (Paddington 9211).
Church Estates Commissioners, *see* Ecclesiastical Commissioners.
Churches, *see* Central Advisory Committee, Council for the Care of Churches and Friends of City Churches.
City Churches, Friends of, *see* Friends.
Civic Societies, Central Council of, *see* Central.
Civil Engineering Contractors, Federation of, *see* Federation.
Civil Engineers, Institution of, *see* Institution.
Clay Industries, National Federation of, *see* National.
Cleethorpes and District Property Owners' Association, *see* Grimsby.
Clerks of Works Association, *see* Incorporated.
Clyde Navigation Trust, 16, Robertson Street, Glasgow, C.2. (Central 2695).
Clyde Pilotage Authority, 16, Robertson Street, Glasgow, C.2. (Central 2695).
Coal Commission, 29, Chester Square, London, S.W.1. (Sloane 0808).
Coal Utilisation Joint Council, 54, Victoria Street, London, S.W.1. (Victoria 9851).
Coal Utilisation Research Association, *see* British.
Cockburn Association, 2, Hill Street, Edinburgh.
Colour Council, British, *see* British.
Commercial Gas Association, British, *see* British.
Commissioners of Crown Lands, Fort Belvedere, Sunningdale, Ascot, Berks. (Ascot 1071).
Committee for the Industrial and Scientific Provision of Housing, 1, Old Burlington Street, London, W.1.
Commons, Open Spaces and Footpaths Preservation Society, 71, Eccleston Square, London, S.W.1. (Victoria 9274).
Community Associations, National Federation of, *see* National.
Concrete Associations, *see* Cement and Concrete Association and Reinforced Concrete Association.
Conservative and Unionist Party Organisation, Central Committee for Post-War Problems, 24, Old Queen Street, London, S.W.1.
Constructional Engineering Union, 18, The Grange, London, S.W.19. (Wimbledon 2341).
Constructional Steel Work Association, British, *see* British.
Contractors' Plant Association, 4, Southampton Row, London, W.C.1. (Holborn 5434).
Convention of Royal Burghs of Scotland, 21, Castle Street, Edinburgh. (Edinburgh 20321).

Coombe Civic Society, Maldens and, *see* Maldens.
Co-operative Holidays Association, Birch Heys, Comwell Range, Fallowfield, Manchester 14. (Rusholme 2887).
Cornwall Architectural Society, Devon and, *see* Devon.
Council for Education in the Appreciation of Physical Environment, *now* **Council for Visual Education,** *q.v.*
Council of Industrial Design, Tilbury House, Petty France, London, S.W.1. (Whitehall 6322).
Council for the Preservation of Rural England (C.P.R.E.), 4, Hobart Place, London, S.W.1. (Sloane 4280).
Council for the Preservation of Rural Wales, 4, Hobart Place, London, S.W.1. (Sloane 4280).
Council for Visual Education (formerly Council for Education in Appreciation of Physical Environment), 13, Suffolk Street, London, S.W.1. (Whitehall 2881).
Country Women of the World, Associated, *see* Associated.
County Architects' Society, Hon. Secretary, 5, Belmont, Shrewsbury, Salop. (Shrewsbury 3031).
County Councils Association, 84, Eccleston Square, London, S.W.1. (Victoria 5934).
County Councils in Scotland, Association of, *see* Association.
County Valuers' Association, County Hall, Wakefield, Yorks. (Wakefield 3781).
Courtauld Institute of Art, 20, Portman Square, London, W.1. (Welbeck 1388).
Coventry City Guild, 11, Eaton Road, Coventry, Warwick. (Coventry 61624).
Coventry and District Property Owners' Association, 15, Warwick Row, Coventry, Warwick. (Coventry 3765).
Coventry Family Health Club, *see* Family.
Cowes Harbour Commission, Cowes, Isle-of-Wight. (Cowes 17).
Crown Lands, Commissioners of, *see* Commissioners.
Cumberland Development Council, Ltd., 30, Roper Street, Whitehaven, Cumberland. (Whitehaven 470).
Cyclists' Touring Club, 3, Craven Hill, London, W.2. (Paddington 8271).
Cyclists Union, National, *see* National.
Dartington Hall Trustees, Totnes, South Devon. (Totnes 2271).
Dartmouth Harbour Commission, Lloyds Bank Chambers, Dartmouth, Devon. (Dartmouth 337).
Decorators, *see* Incorporated Institute and London Association.
Dee Catchment Board, River, *see* River.
Demolition Contractors, National Federation of, *see* National.
Derby and Lincoln Architectural Society, *see* Nottingham.
Design, Council of Industrial, *see* Council.
Design and Industries Association, c/o Central Institute of Art and Design, National Gallery, London, W.C.2. (Whitehall 2415).
Design Research Unit, 12, Bedford Square, London, W.C.1. (Museum 7644).
Development Commission, 6a, Dean's Yard, London, S.W.1. (Abbey 1177).
Devon and Cornwall Architectural Society, 78, Torr Lane, Hartley, Plymouth, Devon.
Distributors of Builders' Supplies Joint Council, 225, Upper Thames Street, London, E.C.4. (Whitehall 6123).
District Surveyors' Association, 58, Myddleton Square, London, E.C.2. (Hon. Sec. Hampstead 4867).
Dock and Harbour Authorities' Association, 7, Victoria Street, London, S.W.1. (Abbey 5781).
Door Association, British, *see* British.
Dorking and Leith Hill District Preservation Society, Grinstead's Dorking, Surrey. (Dorking 3401).
Douglas Haig Memorial Homes, 6, Duke Street, London, S.W.1. (Whitehall 2215).
Dover Harbour Board, 34, Castle Street, Dover, Kent.
Dublin Port and Docks Board, 19, Westmorland Street, Dublin.
Dundee Harbour Trust, Harbour Chambers, Dundee, Angus. (Dundee 4121).
Dundee Property Owners' and Factors' Association, 84, Commercial Street, Dundee, Angus. (Dundee 3702).
Durham Preservation Society, Ltd., Chapter Office, Durham. (Durham 59).
Durham Property Owners' and Ratepayers' Association, *see* Northumberland.
East Anglian Society of Architects, King's Knoll, Woodbridge.
East Yorkshire, Georgian Society for, *see* Georgian.
East Yorkshire Architectural Society, *see* York.

Eastern Federation of Building Trades Employers, 95, Tenison Road, Cambridge. (Cambridge 55418).
Eccles and District Property Owners' Association, 179, Liverpool Road, Patricroft, Eccles, Lancs. (Eccles 3814).
Ecclesiastical and Church Estates Commissioners, 1, Millbank, London, S.W.1. (Whitehall 8954).
Ecclesiological Society, Walcot House, 139, Kennington Road, London, S.E.11. (Reliance 4391).
Echelforde Society, 85, Clock House Lane, Ashford, Middlesex. (Ashford 2370).
Ecological Society, British, *see* British.
Economic and Social Research, National Institute of, *see* National.
Edinburgh and District Property Owners' Association, 40, Melville Street, Edinburgh. (Edinburgh 27175).
Edinburgh's Homeless, Association of, *see* Association.
Electric Lamp Manufacturers' Association of Great Britain, Ltd., 2, Savoy Hill, London, W.C.2. (Temple Bar 7337).
Electric Light Fittings Association, Kern House, 36, Kingsway, London, W.C.2. (Holborn 0502).
Electrical Association for Women, 20, Regent Street, London, S.W.1. (Whitehall 7481).
Electrical Associations, *see also under* British.
Electrical Contractors' Association (Inc.), Africa House, Kingsway, London, W.C.2. (Holborn 7584).
Electrical Engineers, *see* Institution.
Electrical Installations Contractors, National Register of, *see* National.
Electricity Board, Central, *see* Central.
Electricity Commission, Savoy Court, Strand, London, W.C.2. (Temple Bar 7565).
Elgin Society, 117, High Street, Elgin, Moray. (Elgin 26112).
Engineering Industries Association, 9, Seymour Street, London, W.1. (Welbeck 2241).
Engineers' Study Group, 20, Buckingham Street, Strand, London, W.C.2. (Temple Bar 8701).
England, Council for the Preservation of Rural, *see* Council.
English Forestry Association, Ltd., The Knowle Nurseries, Caversham Heights, Reading, Berks. (Reading 71547).
English Joinery Manufacturers' Association (Inc.), Sackville House, 40, Piccadilly, London, W.1.
English League for the Taxation of Land Values, 4, Great Smith Street, London, S.W.1. (Abbey 6665).
English Timber Merchants' Association, 69, Cannon Street, London, E.C.4. (City 4444).
Essex, Cambridge and Hertfordshire Society of Architects, 18-20, High Street, Watford, Herts. (Watford 4275).
Estate Agents, Institute of, *see* Auctioneers.
Factors, Scottish Federation of, *see* Scottish.
Faculty of Architects and Surveyors, 8, Buckingham Palace Gardens, London, S.W.1. (Sloane 2837).
Faculty of Surveyors of England, Ltd., 8, Buckingham Palace Gardens, London, S.W.1. (Sloane 2837).
Family Health Club and Housing Society (Coventry), Ltd., Springhill House, Keresley, nr. Coventry, Warwick. (Keresley 247).
Farm Property, Society for the Development of, *see* Society.
Farmers' Union and Chamber of Agriculture of Scotland, 6, Ainslie Place, Edinburgh, 3. (Edinburgh 31037).
Farmers Union, National, *see* National.
Federated Home Timber Associations, 69, Cannon Street, London, E.C.4. (City 4444).
Federation of Associations of Specialists and Sub-Contractors, Millbank House, 2, Great Peter Street, London, S.W.1. (Whitehall 9606).
Federation of British Industries, 21, Tothill Street, London, S.W.1. (Whitehall 6711).
Federation of Civil Engineering Contractors, Romney House, Tufton Street, London, S.W.1. (Abbey 2544).
Federation of Master Builders, 23, Compton Terrace, London, N.1. (Canonbury 2041).
Federation of Painting Contractors, 53-57, St. Stephen's House, Westminster, London, S.W.1. (Whitehall 3902).
Federation of Plastering Contractors, St. Stephen's House, Westminster, London, S.W.1. (Abbey 7165).
Fine Art Commission, Royal, *see* Royal.

Five Million Club (Playgrounds for Children), 93, High Street, Epsom, Surrey. (Epsom 9640).
Floor Specialists, Association of, *see* Association.
Footpaths Preservation Society, *see* Commons.
Forest of Dean Industrial Committee, Shire Hall, Gloucester.
Foresters, Society of, *see* Society.
Forestry Association, English, *see* English.
Forestry Commission, 25, Saville Row, London, W.1. (Regent 2688).
Forestry Society, Royal English, *see* Royal.
Forth Conservancy Board, 14, Prince's Street, Falkirk, Stirling. (Falkirk 83).
Forth (Trinity House of Leith) Pilotage Authority, Trinity House, Kirkgate, Leith, Edinburgh, 6. (Edinburgh 35962).
France, Société des Ingénieurs Civils de, *see* Société.
Fraserburgh Harbour Commissioners, Harbour Office, Fraserburgh, Aberdeenshire. (Fraserburgh 118).
Friends of Abingdon, 28, East St. Helen's Street, Abingdon, Berks. (Abingdon 200).
Friends of Canterbury Cathedral, 3, The Precincts, Canterbury. (Canterbury 2806).
Friends of the City Churches, 68, Coleman Street, London, E.C.2. (Monarch 2341).
Fuel, *see* Institute of Fuel.
Garden Village Society, Ltd., 153, Westbourne Terrace, London, W.2. (Acorn 0414).
Gas Association, British Commercial, *see* British.
Gas Companies' Protection Association, 5, Victoria Street, London, S.W.1. (Victoria 5303).
Gas Council, British, *see* British.
Gas Council, National, *see* National.
Gas Development Centre, Scottish, *see* Scottish.
Gas Engineers, Institution of the, *see* Institution.
Gas Federation, British, *see* British.
Gas Industries, Society of British, *see* Society.
Gas Research Board, Gas Industry House, 1, Grosvenor Place, London, S.W.1. (Sloane 8266).
Geographical Association, c/o Municipal High School of Commerce, Princess Street, Manchester. (Central 1300).
Geographical Society, Royal, *see* Royal.
Geological Society of London, Burlington House, London, W.1. (Regent 2356).
Geological Survey of Great Britain, Exhibition Road, London, S.W.7. (Kensington 5227).
Geologists' Association, Geological Survey, Exhibition Road, London, S.W.7.
Georgian Group, 4, Hobart Place, London, S.W.1. (Sloane 2844).
Georgian Society for East Yorkshire, Wawne Lodge, Hull, Yorks. (Central 33725).
Glasgow Institute of Architects, 21, West George Street, Glasgow, C.2. (Central 0015).
Glasgow Property Owners' and Factors' Association, Ltd., 35, Bath Street, Glasgow. (Douglas 4056).
Glasgow Tree Lovers Society, 21, Lynedoch Street, Glasgow, C.3. (Douglas 4463).
Glass Associations, *see* National Federation.
Glazing Employers' Federation, London, *see* London.
Glazing Employers, National Council of, *see* National.
Gloucester Harbour Trustees, Westgate Chambers, Gloucester. (Gloucester 2086).
Gloucester, Port of, *see* Port.
Grand Union Canal Co., Transport House, Reservoir Road, Ruislip, Middlesex. (Ruislip 4081).
Grangemouth Property Owners' Association, 9, Lumley Street, Grangemouth. (Grangemouth 86).
Granton Harbour, Ltd., Granton. (Edinburgh 84057).
Great Yarmouth Port and Haven Commission, 21, South Quay, Great Yarmouth, Norfolk. (Great Yarmouth 2518).
Greater London Advisory Council for Smoke Abatement, 383, High Street, Stratford, London, E.15. (Maryland 6622).
Greenkeeping Research, Board of, *see* Board.
Greenock Harbour Trust, Harbour Offices, Customhouse Quay, Greenock, Renfrewshire. (Greenock 2244).
Greenock Landlords' and House Factors' Association, 27, Hamilton Street, Greenock, Renfrewshire. (Greenock 220).

Grimsby, Cleethorpes and District Property Owners' Association, 93, Victoria Street, Grimsby, Lincs. (Grimsby 2792).
Groundsmen, National Association of, *see* National.
Guildford Society, Pewley Ridge, Pewley Hill, Guildford, Surrey. (Guildford 4466).
Haig Homes, *see* Douglas Haig Memorial Homes.
Halifax and District Property Owners' and Ratepayers' Association, Equitable Chambers, Central Street, Halifax, Yorks. (Halifax 3251).
Hampshire and Isle of Wight Architectural Association, Queen Anne Chambers, High Street, Winchester, Hants. (Winchester 2027).
Harwich Harbour Conservancy Board, 42, Church Street, Harwich, Essex. (Harwich 284).
Haslemere and District Preservation Society, Brinksway, Lynchmere, Haslemere, Surrey. (Haslemere 293).
Hastings and St. Leonards Civic Society, 59, London Road, St. Leonards-on-Sea, Sussex. (St. Leonards-on-Sea 1067).
Health and Cleanliness Council, Aldwych House, Aldwych, London, W.C.1. (Chancery 7319).
Heating and Ventilating Engineers, Institution of, *see* Institution.
Hertfordshire Society of Architects, *see* Essex.
Highland and Agricultural Society of Scotland, 8, Eglinton Crescent, Edinburgh, 12. (Edinburgh 23655).
Highway Engineers, Institution of, *see* Institution.
H.M. Land Registry, Temporary Address : Brooke Street, London, E.C.1. (Holborn 4451).
Holiday Camps, National Federation of, *see* National.
Holiday Fellowship, 142, Great North Way, London, N.W.4. (Hendon 3381).
Holidays Association, Co-operative, *see* Co-operative.
Horace Plunkett Foundation (Co-operative Reference Library), 10, Doughty Street, London, W.C.1. (Holborn 9304).
Horticultural Society, Royal, *see* Royal.
Hotels and Restaurants Association of Great Britain, 11, Southampton Row, London, W.C.1. (Holborn 6196).
House Agents, National Association of, *see* National.
House Builders' Association of Great Britain, 58, St. Stephen's House, London, S.W 1. (Whitehall 3704).
Housing Association for Officers' Families, 6, Duke Street, London, S.W.1. (Whitehall 8860).
Housing Association, Scottish Special, *see* Scottish.
Housing Centre, 13, Suffolk Street, Pall Mall, London, S.W.1. (Whitehall 2881).
Housing, Institute of, *see* Institute.
Housing Managers, Society of Women, *see* Society.
Housing Societies, National Federation of, *see* National.
Housing and Town Planning Council, *see* National and Scottish National.
Housing and Town Planning, International Federation, *see* International.
Housing Trust (Northern Ireland), *see* Northern.
Housing, *see also* Committee for the Industrial and Scientific Provision of.
Hoylake Civic Society, Medhurst, Old Village, West Kirby, Cheshire. (Hoylake 2005).
Huddersfield Art Society, 105, Fleminghouse Lane, Huddersfield, Yorks.
Hull and District Property Owners' Protection Association, Ltd., Room 7, Church Institute, Albion Street, Hull, Yorks. (Central 33379).
Humber Conservancy Board, Whitefriargate, Hull, Yorks. (Hull 35410).
Hundred New Towns Association, 1, Broadway, London, S.W.1. (Abbey 2782).
Huntingdonshire Association of Architects, *see* Northamptonshire.
Hyde and District Property Owners' Association, 399, Stockport Road, Hyde, Cheshire. (Hyde 197).
Hydro-Electric Board, North of Scotland, *see* North.
Illuminating Engineering Society, 32, Victoria Street, London, S.W.1. (Abbey 5215).
Imperial War Graves Commission, Wooburn House, Wooburn Green, Bucks. (Bourne End 594).
Improved Tenements Association, Ltd., 4, New Square, London, W.C.2. (Holborn 1891).
Incorporated Association of Architects and Surveyors, 75, Eaton Place, London, S.W.1. (Sloane 5615).

Incorporated Association of Rating and Valuation Officers, 26, Abingdon Street, London, S.W.1. (Bowes Park 3450).
Incorporated Clerks of Works Association of Great Britain and Ireland, 5, Broughton Road, Thornton Heath, Surrey. (Thornton Heath 1238).
Incorporated Institute of British Decorators, Painters' Hall, 9, Little Trinity Lane, London, E.C.4. (Central 4585).
Incorporated Society of Auctioneers and Landed Property Agents, 34, Queen's Gate, London, S.W.7. (Western 0034).
Independent Traders' Alliance, 283, Corn Exchange Buildings, Fennel Street, Manchester, 4.
Industrial Advisory Committee of the Student Christian Movement, Annandale, West Heath Avenue, London, N.W.11. (Speedwell 2311).
Industrial Christian Fellowship, 1, Broadway, London, S.W.1. (Abbey 2782).
Industrial Design, Council of, *see* Council.
Industrial Welfare Society (Inc.), 14, Hobart Place, London, S.W.1. (Sloane 6181).
Institute of Archaeology (University of London), Inner Circle, Regent's Park, London, N.W.1. (Welbeck 1697).
Institute of Builders, 48, Bedford Square, London, W.C.1. (Museum 7197).
Institute of Fuel, 30, Bramham Gardens, London, S.W.5. (Frobisher 3469).
Institute of Housing, 359, Strand, London, W.C.2. (Temple Bar 9514).
Institute of Landscape Architects, 12 Gower Street, London, W.C.1. (Museum 1783).
Institute of Metals, 4, Grosvenor Gardens, London, S.W.1. (Sloane 6233).
Institute of the Plastics Industry, Windsor House, Victoria Street, London, S.W.1. (Abbey 3895).
Institute of Public Administration, 18, Ashley Place, London, S.W.1. (Victoria 8000).
Institute of Refrigeration, Empire House, St. Martin-le-Grand, London, E.C.1. (Monarch 7391).
Institute of Registered Architects, 47, Victoria Street, London, S.W.1. (Abbey 6172).
Institute of Sociology, Le Play House, Albert Road, Malvern, Worcs. (Malvern 973).
Institute of Transport, 15, Savoy Street, London, W.C.2. (Temple Bar 6030).
Institute of Welding, 2, Buckingham Palace Gardens, London, S.W.1. (Sloane 9851).
Institution of British Engineers, Windsor House, Victoria Street, London, S.W.1. (Abbey 4100).
Institution of Civil Engineers, Great George Street, London, S.W.1. (Whitehall 4577).
Institution of Civil Engineers in Ireland, 35, Dawson Street, Dublin. (Dublin 61687).
Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2. (Temple Bar 7676).
Institution of Gas Engineers, 1, Grosvenor Place, London, S.W.1. (Sloane 8266).
Institution of Heating and Ventilating Engineers, 72-74, Victoria Street, London, S.W.1. (Victoria 0146).
Institution of Highway Engineers, Parliament Mansions, Abbey Orchard Street, London, S.W.1. (Abbey 6817).
Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1. (Whitehall 7476).
Institution of Municipal and County Engineers, 84, Eccleston Square, London, S.W.1. (Victoria 5083).
Institution of Sanitary Engineers, 118, Victoria Street, London, S.W.1. (Victoria 3017).
Institution of Structural Engineers, 11, Upper Belgrave Street, London, S.W.1. (Sloane 7128).
Institution of Water Engineers, Parliament Mansions, Abbey Orchard Street, London, S.W.1. (Abbey 6740).
Insulation Building and Hard Board Association, Columbia House, Aldwych, London, W.C.2.
International Arts Centre, 3, Orme Square, London, W.2. (Bayswater 5194).
International Federation for Housing and Town Planning Provisional Committee, 13, Suffolk Street, London, S.W.1. (Whitehall 2881).
Inverness Harbour Trust, 41a, High Street, Inverness. (Inverness 170).
Invisible Panel Warming Association, Pinners Hall, Austin Friars, London, E.C.2. (London Wall 4286).
Ipswich Authority, Port of, *see* Port.
Ireland, *see* **Northern Ireland.**
Irish Tourist Association, 19, Regent Street, London, W.1.
Iron and Steel Corporation, British, *see* British.
Iron and Steel Federation, British, *see* British.

Iron and Steel Institute, 4, Grosvenor Gardens, London, S.W.1. (Sloane 0061).
Iron and Steel Research Association, British, *see* British.
Isle of Wight Architectural Association, *see* Hampshire.
Joinery Manufacturers' Association, English, *see* English.
Junior Institution of Engineers (Inc.), 39, Victoria Street, London, S.W.1. (Abbey 6968).
King's Lynn Conservancy Board, Common Staithe Quay, King's Lynn, Norfolk. (King's Lynn 2776).
Labour Research Department, 45, Lincoln's Inn Fields, London, W.C.2. (Holborn 4079).
Lancaster and District Property Owners' Association, 17, Dalton Square, Lancaster. (Lancaster 204).
Lancaster Port Commission, Tonnage Office, 30, Cable Street, Lancaster. (Lancaster 148).
Land Agents' Society, 329, High Holborn, London, W.C.1. (Chancery 8439).
Land Nationalisation Society, 296, Vauxhall Bridge Road, London, S.W.1.
Land Owners' Association, Central, *see* Central.
Land and Property Federation, Scottish, *see* Scottish.
Land Registry, Temporary Address : Brooke Street, London, E.C.1. (Holborn 4451).
Land Settlement Association, Ltd., 43, Cromwell Road, London, S.W.7. (Kensington 9066).
Land Union, 15, Lower Grosvenor Place, London, S.W.1. (Victoria 0225).
Landed Property Agents, Incorporated Society of, *see* Incorporated.
Landscape Architects, Institute of, *see* Institute.
Larne Harbour, Ltd., Larne Harbour, Co. Antrim. (Larne 4).
Le Play Society, The Birlings, Birling Gap, Nr. Eastbourne, Sussex. (East Dean 208).
Lead Industries Development Council, Eagle House, Jermyn Street, London, S.W.1. (Whitehall 7264).
Lee Conservancy Board, Brettenham House, Lancaster Place, London, W.C.2. (Temple Bar 6416).
Leicester and Leicestershire Society of Architects, 1, Museum Square, Leicester. (Leicester 59962).
Leicester Property Owners' Association, 70, London Road, Leicester. (Leicester 20640).
Leith Dock Commission, Tower Place, Leith, 6, Midlothian. (Leith 36262).
Leith Hill District Preservation Society, *see* Dorking.
Leverhulme Grant Community Centres Joint Research Committee, 13, Suffolk Street, London, S.W.1. (Whitehall 2881).
Liberal Industrial and Social Reconstruction Committee, 23, Gayfere Street, London, S.W.1. (Abbey 4703).
Licensed Retailers' Society, Amalgamated, *see* Amalgamated.
Lift Makers, National Association of, *see* National.
Lighting Service Bureau, 2, Savoy Hill, London, W.C.2. (Temple Bar 7337).
Limerick Harbour Commissioners, O'Connell Street, Limerick. (Limerick 173).
Lincoln Architectural Society, *see* Nottingham.
Lincoln and District Property Owners' Protection Association, 5 and 7, Newland, Lincoln. (Lincoln 1452).
Liverpool Architectural Society, 41, North John Street, Liverpool, 2. (Central 5905).
Liverpool, Birkenhead and Wirral Districts Building and Allied Trades Employers' Association, 24, Sir Thomas Street, Liverpool. (Central 2066).
Liverpool and District Property Owners' Association, 22, Hackins Hey, Liverpool, 2. (Central 7357).
Llanelly Harbour Trust, Dock and Harbour Office, Llanelly, Carmarthen. (Llanelly 319).
Local Government Officers, National Association of, *see* National.
London Association of Master Decorators, 83, Avenue Chambers, Vernon Place, London, W.C.1. (Holborn 6889).
London Association of Master Slaters and Tilers, 52, High Holborn, London, W.C.1. (Holborn 5826).
London Association of Master Stonemasons, 47, Bedford Square, London, W.C.1. (Museum 3767).
London Council of Social Service, 7, Bayley Street, London, W.C.1. (Museum 4864).
London County Council (L.C.C.), County Hall, Westminster Bridge, London, S.E.1. (Waterloo 5000).
London County Council Town Planning Committee, County Hall, Westminster Bridge, London, S.E.1. (Waterloo 5000, Extn. 531).

London Employers Plate Glass Trades Association, Broad Street House, 54, Old Broad Street, London, E.C.2. (London Wall 1386).
London Glazing Employers Federation, Broad Street House, 54, Old Broad Street, London, E.C.2. (London Wall 1386).
London and Greater London Playing Fields Association, 38 Denison House, Vauxhall Bridge Road, London, S.W. 1. (Victoria 9274).
London Master Builders' Association, 47, Bedford Square, London, W.C.1. (Museum 3767).
London Master Plasterers' Association, 6, Tavistock Gardens, Ilford, Essex. (Seven-kings 2847).
London and Middlesex Archaeological Society, Bishopgate Institute, London, E.C.2. (No Telephone).
London Passenger Transport Board (L.P.T.B.), 55, Broadway, London, S.W.1. (Abbey 1234).
London Plate Glass Merchants Association, Broad Street House, 54, Old Broad Street, London, E.C.2. (London Wall 1386).
London, Port of, *see* Port.
London Property Owners, Association of, *see* Association.
London Property Owners' Protection Association, Ltd., Spencer House, South Place, London, E.C.2. (Monarch 8418).
London Society, British Museum, Great Russell Street, London, W.C.1. (Museum 8196).
London and Southern Counties Regional Association of the National Federation of Roofing Contractors, Bristol House, 18-23, Holborn Viaduct, London, E.C.1. (City 6893).
Londonderry Port and Harbour Commissioners, Harbour Office, Londonderry. (Londonderry 2553).
Luton Civic Society, 17, Dunstable Road, Luton, Beds. (Luton 1727).
Macclesfield and District Property Owners' and Ratepayers' Association, 8, Stanley Street, Macclesfield, Cheshire. (Auto 2086).
Maidstone Civic Society, Moray Holme, 104, Boxley Road, Maidstone, Kent.
Maldens and Coombe Civic Society, Municipal Offices, New Malden, Surrey. (Malden 2424).
Manchester Civic Advisory Committee, c/o The Whitworth Art Gallery, Oxford Road, Manchester, 15. (Ardwick 1880).
Manchester Geographical Society, 16, St. Mary's Parsonage, Manchester, 3. (Blackfriars 2965).
Manchester, Salford and District Licensed Retailers' Association, 1, Cooper Street, Manchester, 2. (Central 5569).
Manchester, Salford and District Property Owners' Association, 20, Booth Street, Manchester, 2. (Central 2796).
Manchester Ship Canal Company, Ship Canal House, King Street, Manchester, 2. (Deansgate 2244).
Manchester Society of Architects, 16, St. Mary's Parsonage, Manchester, 3. (Blackfriars 4610).
Mansfield and District Property Owners' and Ratepayers' Association, Midland Bank Chambers, Leeming Street, Mansfield, Notts. (Mansfield 108).
Mars Group (Modern Architectural Research), 46, Sheffield Terrace, London, W.8. (No Telephone).
Mass-Observation, 21, Bloomsbury Street, London, W.C.1. (Museum 6811 Extn. 218).
Mechanical Engineers, Institution of, *see* Institution.
Medway Conservancy Board, Rochester, Kent. (Chatham 2296).
Men of the Trees, Manor Farm, Puncknoll, Dorset. (Long Bredy 47).
Mersey Docks and Harbour Board, Dock Office, Liverpool 3. (Central 6010).
Merseyside Civic Society, 14, Castle Street, Liverpool. (Central 7728).
Metal Window Manufacturers' Association, British, *see* British.
Metals, Institute of, *see* Institute.
Metropolitan Association for Improving the Dwellings of the Industrious Classes, 44, Gordon Square, London, W.C.1. (Euston 2275).
Metropolitan Boroughs' Standing Joint Committee, Westminster City Hall, London, W.C.2. (Terminus 0111).
Metropolitan Public Gardens Association, 296, Vauxhall Bridge Road, London, S.W.1. (Victoria 5037).
Metropolitan Water Board, New River Head, Rosebery Avenue, London, E.C.1. (Terminus 3300).

Middlesbrough and District Property Owners' Association, 103, Grange Road, Middlesbrough, Yorks. (Middlesbrough 2032).
Middlesex Archaeological Society, London and, *see* London.
Midland Federation of Building Trades Employers, Chamber of Commerce Buildings, 95, New Street, Birmingham, 2. (Midland 1436).
Miners' Welfare Commission, Ashley Court, Ashstead, Surrey. (Ashstead 3262).
Mining Association of Great Britain, 53, Parliament Street, London, S.W.1. (Abbey 5852).
Mitcham Civic Society, Public Library, London Road, Mitcham, Surrey. (Mitcham 4070).
Morley and District Property Owners' Protection Association, 75, Springfield Lane, Morley, Yorks. (Morley 410).
Municipal Corporations, Association of, *see* Association.
Municipal and County Engineers, Institution of, *see* Institution.
National Adult School Union, 30, Bloomsbury Street, London, W.C.1. (Museum 1056).
National Allotments Society, Ltd., Drayton House, Gordon Street, London, W.C.1. (Euston 5920).
National Association of Auctioneers, House Agents, Rating Surveyors and Valuers, Ltd., 68, Gloucester Place, London, W.1. (Welbeck 8700).
National Association of Building Technicians, 113, High Holborn, London, W.C.1. (Victoria 0447).
National Association of Groundsmen, 15, Leicester Road, New Barnet, Herts. (Barnet 4621).
National Association of Lift Makers, 36-38, Kingsway, London, W.C.2. (Holborn 0502).
National Association of Local Government Officers, 24, Abingdon Street, London, S.W.1. (Whitehall 9351).
National Association of Operative Plasterers, 11, Carteret Street, London, S.W.1. (Abbey 4522).
National Association of Shopfitters, 47, Bedford Square, London, W.C.1. (Museum 3767).
National Builders' Labourers' and Constructional Workers' Society, 98, Garlands Road, Redhill, Surrey. (Redhill 1035).
National Buildings Record, 37, Onslow Gardens, London, S.W.7.
National Council of Building Material Producers, 2, Caxton Street, London, S.W.1. (Abbey 5111).
National Council of Glazing Employers, Broad Street House, 54, Old Broad Street, London, E.C.2. (London Wall 1386).
National Council of Social Service (Inc.), 26, Bedford Square, London, W.C.1. (Museum 8944).
National Council of Women of Great Britain, Post-War Reconstruction Committee, Drayton House, Gordon Street, London, W.C.1. (Euston 3618).
National Cyclists Union, 35, Doughty Street, London, W.C.1. (Terminus 4368).
National Farmers Union, 45, Bedford Square, London, W.C.1. (Museum 7525).
National Federated Electrical Association, Africa House, Kingsway, London, W.C.2. (Holborn 7584).
National Federation of Associated Paint, Colour and Varnish Manufacturers of the United Kingdom, Wartime Address : Cotswold, Pixham Lane, Dorking, Surrey. (Dorking 2278).
National Federation of Building Trades Employers, 82, New Cavendish Street, London, W.1. (Langham 4041).
National Federation of Building Trades Operatives (London District), 8, Breams Buildings, Chancery Lane, London, E.C.4. (Holborn 2881).
National Federation of Clay Industries, Drayton House, 30, Gordon Street, London, W.C.1. (Euston 2568).
National Federation of Community Associations, 26, Bedford Square, London, W.C.1.
National Federation of Constructional Glass Associations, Broad Street House, 54, Old Broad Street, London, E.C.2. (London Wall 1386).
National Federation of Demolition Contractors, 13, Bloomsbury Square, London, W.C.1. (Chancery 6731).
National Federation of Housing Societies, 13, Suffolk Street, London, S.W.1. (Whitehall 2881).
National Federation of Permanent Holiday Camps, Ltd., 23-25, Billiter Street, London, E.C.3. (Royal 2268).

National Federation of Property Owners, St. Stephen's House, Victoria Embankment, London, S.W.1. (Whitehall 3975).
National Federation of Registered House Builders, *now* **House Builders' Association of Great Britain,** *q.v.*
National Federation of Roofing Contractors, 52-54, High Holborn, London, W.C.1.
National Federation of Women's Institutes, 39, Eccleston Street, London, S.W.1. (Sloane 7212).
National Gas Council, 1, Grosvenor Place, London, S.W.1. (Sloane 4554).
National House Builders Registration Council, 82, New Cavendish Street, London, W.1. (Langham 4041).
National Housing and Town Planning Council, 41, Russell Square, London, W.C.1. (Museum 1264).
National Institute of Economic and Social Research, 53, Romney Street, London, S.W.1. (Abbey 5292).
National Joint Council for the Building Industry, 11, Weymouth Street, London, W.1. (Langham 1740).
National Joint Industrial Council for the Cast Stone and Cast Concrete Products Industry, 14, Queen Victoria Street, London, E.C.4. (City 4333).
National Master Tile Fixers' Association, 381, Salisbury House, London Wall, London, E.C.2. (Monarch 9235).
National Parks, Standing Committee on, *see* Standing.
National Playing Fields Association (Inc.), 71, Eccleston Square, London, S.W.1. (Victoria 9274).
National Register of Electrical Installation Contractors, 13, Victoria Street, London, S.W.1. (Abbey 3132).
National Road Transport Federation, Roadway House, 146, New Bond Street, London, W.1. (Mayfair 9050).
National Smoke Abatement Society, Chandos House, Buckingham Gate, London, S.W.1. (Abbey 1359).
National Society of Children's Nurseries, 117, Piccadilly, London, W.1. (Grosvenor 1556).
National Trust for Places of Historic Interest or Natural Beauty, 42, Queen Anne's Gate, London, S.W.1.
National Union of Ratepayers' Associations, 55a, Welbeck Street, London, W.1. (No Telephone).
National Union of Teachers, Hamilton House, Mabledon Place, London, W.C.1. (Euston 2442).
Nature Reserves, Society for the Promotion of, *see* Society.
New Forest Association, Brockenhurst, Hants. (Brockenhurst 3204).
New Forest Commoners' Defence Association, Shobley, Ringwood, Hants. (Ringwood 268).
New Plymouth Association, Savings Bank Chambers, 72, Mutley Plain, Plymouth, Devon. (Plymouth 2157).
Newcastle Society, *see* Northumberland.
Newlyn Pier and Harbour Commission, Harbour Office, Newlyn, Penzance, Cornwall. (Penzance 523).
Noise Abatement League, 105, Gower Street, London, W.C.1. (Euston 7117).
Non-County Boroughs Association, Town Hall, Crouch End, London, N.8. (Mountview 3220)
Non-Ferrous Metals Research Association, British, *see* British.
North of Scotland Hydro-Electric Board, 16, Rothesay Terrace, Edinburgh. (Edinburgh 27259).
North Western Federation of Building Trades Employers, St. Mary's Parsonage, Manchester. (Blackfriars 3967).
Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects, 35, St. Matthew's Parade, Northampton. (Northampton 4617).
Northern Architectural Association, 6, Higham Place, Newcastle-upon-Tyne, 2. (No Telephone).
Northern Counties Federation of Building Trades Employers, 15, Norfolk Street, Sunderland. (Sunderland 4457).
Northern Ireland Housing Trust, 3, Donegall Square South, Belfast. (Belfast 27971).
Northern Reconstruction Group, 41, St. George's Terrace, Newcastle-upon-Tyne.
Northumberland and Durham Property Owners' and Ratepayers' Association, 15a, Grey Street, Newcastle-upon-Tyne. (Newcastle 27407).

Northumberland and Newcastle Society, 11, Windsor Crescent, Newcastle-upon-Tyne, 2. (No Telephone).
Norwich Society, Poplar Avenue, Eaton, Norwich, Norfolk. (Eaton 235).
Nottingham, Derby and Lincoln Architectural Society, Park House, Friar Lane, Nottingham. (Nottingham 42381).
Nottingham and District Property Owners' Association, Ltd., 1, King John's Chambers, Bridlesmith Gate, Nottingham. (Nottingham 40557).
Nuffield College, 17, Banbury Road, Oxford. (Oxford 48323).
Nuneaton and District Property Owners' Association, 21, Newdegate Street, Nuneaton, Warwick. (Nuneaton 2295).
Nurseries, *see* National Society of Children's Nurseries.
Nursery School Association of Great Britain, 1, Park Crescent, Portland Place, London, W.1. (Welbeck 9269).
Officers' Families Housing Association, *see* Housing.
Oldham and District Property Owners' Association, 20, Clegg Street, Oldham, Lancs.
Open Spaces Preservation Society, *see* Commons.
Ordnance Survey Office, Chessington, Surrey. (Epsom 2660).
Oxford Preservation Trust, The Painted Room, 3, Cornmarket Street, Oxford. (Oxford 2918).
Oxfordshire Architectural Association, *see* Berkshire.
Paint Research Station, *see* Research Association of British Paint, Colour and Varnish Manufacturers.
Painting Contractors, Federation of, *see* Federation.
Paisley and District House Factors' Association, 14, High Street, Paisley, Renfrewshire.
Par, Port of, *see* Port.
Pedestrians' Association, 180, Fleet Street, London, E.C.4. (Holborn 3382).
PEP, *see* Political and Economic Planning.
Permanent Way Institution (Inc.), 19, Weald View Road, Tonbridge, Kent. (No Telephone).
Petersfield Society, Upper Mead, Heath Road, East Petersfield, Hants. (Petersfield 235).
Physical Recreation, Central Council for, *see* Central.
Pilgrim Trust, 1, Lowther Gardens, Exhibition Road, London, S.W.7. (Kensington 3665).
Planning Forum, 13, Lansdowne Crescent, London, W.11. (No Telephone).
Planning and Regional Reconstruction, Association for, *see* Association.
Plasterers, National Association of, *see* National.
Plastering Contractors, Federation of, *see* Federation.
Plastics Federation, British, *see* British.
Plastics Industry, Institute of the, *see* Institute.
Plate Glass Merchants' Association, Broad Street House, 54, Old Broad Street, London, E.C.2. (London Wall 1386).
Plate Glass Trades Association, London Employers, *see* London.
Playing Fields Association, National, *see* National.
Plumbers, Glaziers and Domestic Engineers Union, 15, Abbeville Road, London, S.W.1.
Plymouth, *see* New Plymouth.
Polish Architects Abroad, Ltd., Society of, *see* Society.
Polish Engineers in Great Britain, Association of, *see* Association.
Political and Economic Planning (PEP), 16, Queen Anne's Gate, London, S.W.1. (Whitehall 7245).
Poole Harbour Commission, 5, Parkstone Road, Poole, Dorset.
Poor Man's Valuer Associations, Central Council of, *see* Central.
Port of Bristol Authority, Queen Square, Bristol, 1. (Bristol 25381).
Port of Gloucester Authority, Dock Office, Gloucester. (Gloucester 4421).
Port of Ipswich Authority, Old Custom House, Ipswich. (Ipswich 3193).
Port of London Authority, London, E.C.3. (Royal 2000).
Port of Par, Ltd., The Estate Office, Par, Cornwall. (Par 277).
Port of Preston Authority, Dock Office, Preston, Lancs. (Preston 86711).
Preservation of the Fauna of the Empire, Society for the, *see* Society.
Preservation of Rural England, Scotland, and Wales, *see* Council for the and Association for the.
Pressed Brick Makers' Association, Ltd., 4, Southampton Row, London, W.C.1. (Holborn 5434).
Preston Civic Association, 5, Church Avenue, Penwortham, Preston, Lancs. (Preston 83208).

Preston Authority, Port of, *see* Port.
Prevention of Accidents, Royal Society for the, *see* Royal.
Prevention of Disfigurement in Town and Country, *see* Scapa Society.
Promotion of Nature Reserves, Society for the, *see* Society.
Property Owners, *see* National Federation and Scottish Federation.
Property Owners' Protection Association, Ltd., Spencer House, South Place, London, E.C.2. (Monarch 8418).
Protection of Ancient Buildings, *see* Society for the.
Protection of Birds, *see* Royal Society for the, and Scottish Society for the.
Public Administration, Institute of, *see* Institute.
Public House Trust Association, Central, *see* Central.
Public Lighting Engineers, Association of, *see* Association.
Railway Companies Association, 22, Palace Chambers, Bridge Street, London, S.W.1. (Whitehall 6434).
Ramblers' Association, 20, Buckingham Street, London, W.C.2. (Temple Bar 8701).
Ratepayers' Association, National Union of, *see* National.
Rating Surveyors and Valuers, National Association of, *see* National.
Rating and Valuation Officers, Incorporated Association of, *see* Incorporated.
Rawtenstall Borough and District Property Owners' Association, 18, Lord Street, Rawtenstall, Lancs. (Rossendale 18).
Reading and District Civic Society, 22, Eldon Road, Reading, Berks. (Reading 3725).
Records Association, British, *see* British.
Redhill Open Spaces and Footpaths Preservation Society, *see* Reigate.
Refrigeration Association, British, *see* British.
Refrigeration, Institute of, *see* Institute.
Reigate and Redhill Open Spaces and Footpaths Preservation Society, 7, Somers Road, Reigate, Surrey.
Reinforced Concrete Association, 94, Petty France, London, S.W.1. (Whitehall 9936).
Research Association of British Paint, Colour and Varnish Manufacturers, Paint Research Station, Waldegrave Road, Teddington, Middlesex. (Molesey 1063).
Residential Hotels Association, 46, Bloomsbury Street, London, W.C.1. (Museum 1275).
Retail Distributors Association (Inc.), 23, George Street, London, W.1. (Mayfair 4134)
Retailers' Society, Amalgamated Licensed, *see* Amalgamated.
River Dee Catchment Board, 45, Nicholas Street, Chester. (Chester 2147).
River Roding Catchment Board, South Street, Romford, Essex. (Romford 317).
River Wear Commissioners, St. Thomas Street, Sunderland. (Sunderland 3624).
Rivers Protection, Central Council for, *see* Central
Road Federation, British, *see* British.
Road Haulage Association, Roadway House, 146, New Bond Street, London, W.1. (Mayfair 9050).
Road Tar Association, British, *see* British.
Road Transport Association, Traders', *see* Traders.
Road Transport Federation, National, *see* National.
Roads Beautifying Association, 7, Buckingham Palace Gardens, London, S.W.1.
Roads Improvement Association (Inc.), 180, Clapham Road, London, S.W.9. (Reliance 2688).
Roding Catchment Board, *see* River Roding.
Roofing Contractors, National Federation of, *see* National.
Roofing Felt Manufacturers, Association of British, *see* Association.
Royal Academy of Arts (Royal Academy Planning Committee), Burlington House, Piccadilly, London, W.1. (Regent 4895).
Royal Agricultural Society of England, 16, Bedford Square, London, W.1. (Museum 0675).
Royal Archaeological Institute of Great Britain and Ireland, Lancaster House, St. James's, London, S.W.1. (Whitehall 2484).
Royal Automobile Club, Pall Mall, London, S.W.1. (Whitehall 2345).
Royal Burghs of Scotland, Convention of, *see* Convention
Royal English Forestry Society, 15, Lower Grosvenor Place, London, S.W.1.
Royal Fine Art Commission, 22a, Queen Anne's Gate, London, S.W.1. (Whitehall 3935).
Royal Fine Art Commission for Scotland, Scottish National Portrait Gallery, Edinburgh. (Edinburgh 25322).
Royal Geographical Society, Kensington Gore, London, S.W.7. (Kensington 5466).
Royal Horticultural Society, Vincent Square, London, S.W.1. (Victoria 4333).

Royal Incorporation of Architects in Scotland, 15 Rutland Square, Edinburgh. (Edinburgh 20396).
Royal Institute of Architects of Ireland, 8, Merrion Square, North Dublin. (Dublin 61703).
Royal Institute of British Architects, 66, Portland Place, London, W.1. (Welbeck 5721).
Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1. (Sloane 5134).
Royal Scottish Academy, Princes Street, Edinburgh. (Edinburgh 27590).
Royal Scottish Forestry Society, 8, Rutland Square, Edinburgh, 7. (Edinburgh 23842).
Royal Scottish Geographical Society, Synod Hall, Edinburgh. (Central 21720).
Royal Society of Arts, John Adam Street, Adelphi, London, W.C.2. (Temple Bar 8274).
Royal Society for the Prevention of Accidents, Terminal House, 52, Grosvenor Gardens, London, S.W.1. (Sloane 2246).
Royal Society for the Protection of Birds, 82, Victoria Street, London, S.W.1. (Victoria 2412).
Royal Society of St. George, 54, Victoria Street, London, S.W.1. (Victoria 9330).
Royal Tunbridge Wells Civic Association, 63, High Street, Tunbridge Wells, Kent. (Tunbridge Wells 1026).
Royal Welsh Agricultural Society, Ruabon, Nr. Wrexham, Denbigh. (Ruabon 2161).
Rural District Councils Association, 191, St. Stephen's House, Victoria Embankment, London, S.W.1. (Whitehall 6641).
Rural England, Council for the Preservation of, *see* Council.
Rural Reconstruction Association, The Severals, Seer Green, Beaconsfield, Bucks. (No Telephone).
Rural Wales, Council for the Preservation of, *see* Council.
St. Andrews Preservation Trust, Ltd., 90, South Street, St. Andrews, Fife. (St. Andrews 153).
St. Leonards Civic Society, *see* Hastings.
St. Margaret's-at-Cliffe Preservations Society, The Pines, St. Margaret's-at-Cliffe, Kent.
Salford and District Licensed Retailers' Association, *see* Manchester.
Salford and District Property Owners' Association, *see* Manchester.
Saltire Society, Lawn Market, Edinburgh. (Edinburgh 24683).
Sand Lime Brick Manufacturers' Association, Ltd., 24, Coleman Street, London, E.C.2. (Clerkenwell 2713).
Sandwich Port and Haven Commission, 1, Potter Street, Sandwich, Kent. (Sandwich 71).
Sanitary Engineers, Institution of, *see* Institution.
Sanitary Institute, Royal, *see* Royal.
Scapa Society for the Prevention of Disfigurement in Town and Country, 71, Eccleston Square, London, S.W.1. (No Telephone).
Scarborough Harbour Commission, 18, West Pier, Scarborough, Yorks. (Scarborough 1642).
Scotland, Association for the Preservation of Rural, *see* Association.
Scottish Building Centre, 425, Sauchiehall Street, Glasgow, C.2. (Douglas 0372).
Scottish Council on Industry, 51, Castle Street, Edinburgh. (Edinburgh 25179).
Scottish Development Council, 425-7, Sauchiehall Street, Glasgow, C.2. (Douglas 0372).
Scottish Federation of Property Owners and Factors, 35, Bath Street, Glasgow. (Douglas 4056).
Scottish Gas Development Centre, Helensburgh Corporation Gas Works, Helensburgh, Dumbartonshire. (Helensburgh 96).
Scottish Land and Property Federation, 26, Rutland Square, Edinburgh, 1. (Edinburgh 25444).
Scottish National Housing and Town Planning Council, Town Clerk's Office, Port Glasgow, Renfrewshire. (Port Glasgow 49).
Scottish Society for the Protection of Wild Birds, 131, Regent Street, Glasgow, C.2. (Douglas 0216).
Scottish Special Housing Association, 11, Drumsheugh Gardens, Edinburgh, 3.
Scottish Women's Group on Public Welfare, 16, Alva Street, Edinburgh, 2. (Edinburgh 26418).
Sevenoaks and District Civic Society, 114, High Street, Sevenoaks, Kent. (Sevenoaks 3704).
Sheffield, South Yorkshire and District Society of Architects and Surveyors, 15, St. James's Row, Sheffield.
Shopfitters, National Association of, *see* National.
Shoreham Harbour Trustees, Harbour Offices, Southwick, Brighton, Sussex. (Southwick 9613).

Slaters, London Association of, *see* London.
Slough Civic Society, 31, Sutton Avenue, Slough, Bucks. (Slough 23724).
Smoke Abatement, *see* National Smoke Abatement Society and Greater London Advisory Council for Smoke Abatement.
Smokeless Fuels Federation, Solid, *see* Solid.
Social Hygiene Council, British, *see* British.
Social Research, National Institute of Economic and, *see* National.
Social Service, National Council of, *see* National.
Social Workers, British Federation of, *see* British.
Société des Ingénieurs Civils de France (British Section), 82, Victoria Street, London, S.W.1. (Victoria 6838).
Society for the Development of Farm Property, 17, Henrietta Street, London, W.C.2. (Temple Bar 4729).
Society for the Preservation of the Fauna of the Empire, c/o The Zoological Society, Regent's Park, London, N.W.8. (Primrose 3333).
Society for the Promotion of Nature Reserves, British Museum (Natural History), London, S.W.7. (Kensington 6323).
Society for the Protection of Ancient Buildings, 55, Great Ormond Street, London, W.C.1 (Holborn 2646).
Society of Antiquaries, Burlington House, London, W.1.
Society of British Gas Industries, 56, Victoria Street, London, S.W.1. (Victoria 8948)
Society of Engineers (Inc.), 17, Victoria Street, London, S.W.1. (Abbey 7244).
Society of Foresters of Great Britain, 8, Rutland Square, Edinburgh, 1. (Edinburgh 23842).
Society of Friends (Industrial and Social Order Council), Friends House, Euston Road, London, N.W.1. (Euston 3603).
Society of Polish Architects Abroad, Ltd., 74, Cornwall Gardens, London, S.W.7 (Western 6148).
Society of Women Housing Managers, 12, Suffolk Street, London, S.W.1. (Whitehall 2881).
Sociology, Institute of, *see* Institute.
Solid Smokeless Fuels Federation, 1, Grosvenor Place, London, S.W.1. (Sloane 5136).
South Eastern Society of Architects, 9, Halsey House, 13, Red Lion Square, London, W.C.1. (Holborn 6284).
South Shields Property Owners' Protection Association, Estates House, 5, Winchester Street, South Shields, Durham. (South Shields 1675).
South Wales Federation of Building Trades Employers, 22, Castle Arcade Chambers, Cardiff, Glam. (Cardiff 2222).
South Wales Institute of Architects, 67, Queen Street, Cardiff, Glam. (Cardiff 971).
South Western Federation of Building Trades Employers, 22, Richmond Hill, Clifton, Bristol, 8. (Bristol 33522).
South Yorkshire District Society of Architects, *see* Sheffield.
Southampton Civic Society, 9, Glebe Court, Southampton, Hants. (Southampton 75842).
Southampton and District Property Owners' Association, 21, The Avenue, Southampton, Hants. (Southampton 68972).
Southampton Harbour Board, Town Quay, Southampton, Hants.
Southern Counties Federation of Building Trades Employers, 2, North Street, Horsham, Sussex. (Horsham 1325).
Southport Property Owners' Association, 15, Hoghton Street, Southport, Lancs. (Southport 2924).
Spas Federation, British, *see* British.
Special Housing Association, Scottish, *see* Scottish.
Specialists and Sub-Contractors, *see* Federation.
Sports and Games Association, British, *see* British.
Staffordshire Society, 3, Verulam Buildings, Gray's Inn, London, W.C.1. (Chancery 7748).
Standards Institution, British, *see* British.
Standing Committee on National Parks, 4, Hobart Place, London, S.W.1. (Sloane 4280).
Steelwork Association, British, *see* British.
Stockport and District Property Owners' Association, 50, Wellington Road South, Stockport, Cheshire. (Stockport 4446).
Stoke-on-Trent and District Property Owners' and Ratepayers' Association, Central Chambers, Cheapside, Hanley, Stoke-on-Trent, Staffs. (Stoke-on-Trent 5354).

Stone Products Industry, *see* National Joint Industrial Council.
Stonemasons, *see* London Association.
Structural Engineers, Institution of, *see* Institution.
Sub-Contractors, *see* Federation.
Sunderland Civic Society, Albion Chambers, 48, Frederick Street, Sunderland, Durham.
Surveyors, Faculty of, *see* Faculty.
Sutton Dwellings Trust, Victoria House, Southampton Row, London, W.C.1. (Holborn 6863).
Sutton-in-Ashfield Property Owners' Association, 69, Outram Street, Sutton-in-Ashfield, Notts. (Sutton-in-Ashfield 8).
Taxation of Land Values, United Committee, *see* United.
Teachers, National Union of, *see* National.
Technical Information Bureau of the Lead Industries Development Council, 25 Lower Belgrave Street, London, S.W.1. (Sloane 0474).
Tenements Association, Improved, *see* Improved.
Thames Conservancy, 23, Norfolk Street, London, W.C.2. (Temple Bar 5855).
Tile Fixers' Association, *see* National.
Tilers, London Association of, *see* London.
Timber Associations, *see also* Federated Home Timber Associations.
Timber Building Manufacturers' Association, 61, St. Paul's Churchyard, London, E.C.4. (City 6276).
Timber Development Association, Ltd., 75, Cannon Street, London, E.C.4. (City 6146).
Timber Merchants' Association, English, *see* English.
Timber Trades Federation, 81, Cannon Street, London, E.C.4. (City 1476).
Timber Trades Federation of the United Kingdom, 69, Cannon Street, London, E.C.4. (City 4444).
Tower Hill Improvement Trust, 18, Byward Street, London, E.C 3. (Royal 4178).
Town and Country Planning Association (T.C.P.A.), 28, King Street, London, W.C.2. (Temple Bar 5006).
Town Planning Council, *see* National and Scottish National.
Town Planning Institute (T.P.I.), 18, Ashley Place, London, S.W.1. (Victoria 8815).
Town Planning, International Federation for, *see* International.
Toynbee Hall, 28, Commercial Street, London, E.1. (Bishopgate 5946).
Traders' Road Transport Association, Roadway House, 146, New Bond Street, London, W.1. (Mayfair 9050).
Transport, Institute of, *see* Transport.
Travel and Industrial Development Association of Great Britain and Ireland, 6, Arlington Street, London, S.W.1. (Regent 6173).
Tree Lovers' Society, *see* Glasgow.
Tunbridge Wells, *see* Royal.
Tyne Improvement Commission, Bewick Street, Newcastle-upon-Tyne. (Newcastle 25541).
Ulster Tourist Development Association, Ltd., 41, Royal Avenue, Belfast. (Belfast 22027).
United Committee for the Taxation of Land Values, 4, Great Smith Street, London, S.W.1. (Abbey 6665).
Urban District Councils Association, Palace Chambers, Bridge Street, London, S.W.1. (Whitehall 4868).
U.S.S.R., Architectural and Planning Group of the Society for Cultural Relations with the, *see* Architectural.
Valuation Committee, Central, *see* Central.
Valuation Officers, Incorporated Association of, *see* Incorporated.
Ventilating Engineers, *see* Association and Institution.
Visual Education, Council for, *see* Council.
Wales, Council for the Preservation of Rural, *see* Council.
Wales Survey Board, Court Perrott, Llandegveth, Caerleon, Mon.
Walsall and District Property Owners' Association, 51, Lower Hall Lane, Walsall, Staffs. (Walsall 3112).
War Damage Commission, Devonshire House, Mayfair Place, London, W.1. (Mayfair 8866).
Warkworth Harbour Commission, Warkworth Harbour, Amble via Morpeth, Northumberland. (Amble 6).
Water Engineers, Institution of, *see* Institution.
Waterworks Association, British, *see* British.

Wear Commissioners, *see* River.
Welding, Institute of, *see* Institute.
Wessex Society of Architects, 15, Orchard Street, Bristol, Glos. (Bristol 20126).
West Cumberland Industrial Development Company, 30, Roper Street, Whitehaven, Cumberland. (Whitehaven 470).
West Midland Group on Post-War Reconstruction and Planning, Estate Office, Bournville, Birmingham, 30. (King's Norton 1171).
West Yorkshire Society of Architects, 11. Cavendish Road, Leeds, 1.
Westbury Civic Rights Society, 77, Warminster Road, Westbury, Wilts.
Westminster Housing Association, 41, Whitehall, London, S.W.1. (Whitehall 9392).
Weymouth Civic Society, 41, Icen Road, Weymouth, Dorset. (Weymouth 992).
Whitehaven Harbour Commissioners, Harbour Office, Queen's Dock Quay, Whitehaven. (Whitehaven 72).
Wirral Districts Building and Allied Trades Employers' Association, *see* Liverpool.
Wisbech Society, The Museum, Wisbech, Cambs. (Wisbech 809).
Women Housing Managers, Society of, *see* Society.
Women's Advisory Committee on Solid Fuel, 18, South Molton Street, London, W.1. (Mayfair 5358).
Women's Advisory Housing Council, 13, Suffolk Street, London, S.W.1. (Whitehall 2881).
Women's Engineering Society, 18-20, Regent Street, London, S.W.1. (Whitehall 7481).
Women's Farm and Garden Association, Courtauld House, Byng Place, London, W.C.1. (Euston 3651).
Women's Group on Public Welfare, 26, Bedford Square, London, W.C.1. (Museum 8944).
Women's Group on Public Welfare, Scottish, *see* Scottish.
Women's Institutes, National Federation of, *see* National.
Wood Preserving Association, British, *see* British.
Worcestershire Association, 5, New Court, Lincoln's Inn Fields, London, W.C.2. (Holborn 7240).
Workers' Educational Association, 38, St. George's Drive, London, S.W.1. (Victoria 5715).
Workers' Travel Association, Ltd., 49, Cannon Street, London, E.C.4. (City 6794).
Workington Harbour and Dock Board, Dock Office, Workington, Cumberland.
Worshipful Company of Masons, 9, New Square, Lincoln's Inn, London, W.C.2.
Worshipful Company of Paviours, 130, Mount Street, London, W.1. (Grosvenor 4862).
Worshipful Company of Plasterers, 9, Stone Buildings, Lincoln's Inn, London, W.C.2. (Holborn 5965).
Worshipful Company of Plumbers, 18, Temple House, London, E.C.4. (Central 8260).
Yarmouth, *see also* Great Yarmouth.
Yarmouth (Isle of Wight) Pier and Harbour Commissioners, Yarmouth. (Yarmouth 300).
York and East Yorkshire Architectural Society, 3, Duncombe Place, York. (York 2770)
Yorkshire Federation of Building Trades Employers, 38, Boar Lane, Leeds. (Leeds 22314).
Yorkshire, *see also* South Yorkshire.
Youth Hostels Association, Welwyn Garden City, Herts. (Welwyn Garden 1066).
Zinc Alloy Die Casters' Association, Lincoln House, Turl Street, Oxford. (Oxford 48088).
Zinc Development Association, Lincoln House, Turl Street, Oxford. (Oxford 47988).
Zinc Pigment Development Association, Lincoln House, Turl Street, Oxford. (Oxford 48088).

Careers in Professions Associated with Planning

ISABELLA WILLIAMS, M.A.

THE subject Planning includes, in addition to the obvious and important professions of Architecture, Town Planning and Building, certain branches of Civil Engineering, Surveying, Housing Management, Land Agency and Forestry. Entry to the majority of these is made by working for the examinations organised by the professional institutions, either by part-time or full-time study. In addition, university courses are available in architecture, town planning and civil engineering, and in some cases in estate agency and forestry. Details of scholarships and other financial assistance may generally be obtained from the appropriate universities, professional organisations and, in the case of ex-service men, from the Ministry of Labour and National Service (under the Further Education and Training Scheme).

ARCHITECTURE

Architecture combines the spheres of art and science, and is primarily concerned with the design of buildings and supervision of their erection (or alteration or extension). Its scope includes practical building, historical development of architecture, properties and uses of materials, methods of construction, heating and ventilation, equipment, legal knowledge and the handling of people and of finance. There are three common modes of entry to the profession, the oldest being through the system of pupilage ; this is allied to attendance at evening classes or correspondence courses, and takes seven to nine years before full qualifications are obtained. Full-time study at a school of architecture (*see* Appendix C) leads to professional status in five years, while the third method is by full-time study for three years (up to Intermediate Examination standard) followed by part time study and employment as an architectural assistant.

Authority to practise architecture in Great Britain is conferred by registration with the Architects Registration Council, after passing one of the professional examinations recognised by the Council (*see* Appendix B). These examinations are conducted and recognised by the Royal Institute of British Architects, which has conducted examinations since 1863, and which publishes a booklet *Membership of the R.I.B.A.* (1945) including a map and schedule showing the distribution of facilities for architectural education. Details of the various regulations, examinations and scholarships may be obtained from the various schools of architecture (*see* Appendix C). The Institute does not provide tuition, but maintains a Board of Architectural Education, which approves courses arranged by universities and schools of architecture, and certain of these are recognised for exemption from the Institute's Examinations (*see* Appendix C).

Men who joined the Armed Forces before 1st August, 1940, are entitled to benefit from the temporary provisions of the Architects' Registration

Act, 1938, and can apply for admission to the Register within six months after discharge from the Forces, without examination, if they fulfil certain conditions relating to practising architecture in 1938. Applications should be made to the Registrar, Architects Registration Council, 68, Portland Place, London, W.1.

In a memorandum issued at the end of 1944, the Royal Institute of British Architects estimated that when the Building Industry reaches its maximum strength, the number of fully qualified architects for whom full and regular employment can be provided will be only slightly larger than before the war. It has prepared a policy of demobilisation and recruitment to keep the supply of architects in pace with the proposed expansion of the building industry. This programme estimated that, apart from demobilisation, the increases needed during the expansion period can be met by students whose full-time studies were interrupted by national service, assistants whose training was interrupted by national service, and those who are or may become full-time students.

The Architectural Association reviewed the present-day needs and possibilities of architectural training in 1943-45, and, as a result, in the post-war reorganisation of its school of Architecture a technical section is being created with the help of the building industry. The basis of intake of the school has also been broadened, with the assistance of open entrance scholarships offered by the building industry. Details may be obtained from the Secretary, the Architectural Association, 36, Bedford Square, London, W.C.1. Refresher courses are organised by the School, for qualified architects returning from war service.

After becoming a fully qualified architect, employment may be secured as an assistant to a practising architect, with a Government Department at home or abroad, with a public utility or commercial undertaking, or with a local authority. The architect may continue thus, or may ultimately enter private practice. Teaching posts may be secured on the staffs of technical and art schools and universities. The R.I.B.A. card index is available for use in connection with post-war employment, and contains the names of architects who are fully qualified Fellows, Associates or Licenciates of the R.I.B.A., or otherwise fully qualified, who require posts. Particulars of students and probationers of the R.I.B.A. and others seeking posts as assistants are included. Inquiries should be sent to the Secretary, R.I.B.A., 66, Portland Place, London, W.1.

BUILDING

The building industry offers varied scope for work in such positions as managers, agents, estimating and costing clerks, building inspectors and clerks of works, in addition to work as teachers of building technology. Entry made be made from modern, technical and grammar schools or universities. A full-time course may be undertaken prior to employment and practical experience ; or the student may enter an office of a building contractor or builders' merchant with prior full-time or concurrent part-time study ; or thirdly the student may enter as a craft apprentice, or as a craftsman after training under the Ministry of Labour Vocational

Training Scheme, followed by part-time study and promotion through the grades of the industry.

Part-time courses are organised in day and evening classes in technical colleges and schools for those already employed in the industry. Full-time university courses are held at Manchester and Cardiff. Other full-time courses are held in technical colleges, lasting two or three years, offering training for youths of about 16 years at school certificate standard for eventual progress to positions of responsibility in technical, supervisory, managerial or professional posts in the industry. Full-time courses are also held at Government Training Centres under the Ministry of Labour Vocational Training Scheme, lasting for six months.

The National Diploma and National Certificates in Building are issued by the Institute of Builders in conjunction with the Ministry of Education and the Scottish Education Department (*see* Appendix E). Other technical qualifications in building are the Licenciate Diploma of the Institute of Builders, the Diploma of the Incorporated Clerks of Works Association, and the Building Inspectors' Certificate of the Institution of Municipal and County Engineers (*see* Appendix G). The Ministry of Labour conducts special training schemes for adults entering the industry.

The Building Apprenticeship and Training Council, in its second report in 1944, stated that 25,000 apprentices a year are needed to enter the building industry to make good the natural wastage on an assumed total force of 625,000 craftsmen. The scheme recommended to the industry includes the recording of particulars of all youths who enter the industry for the purpose of learning a craft. A welfare fund will be built up for the purpose of assisting in the establishment and maintenance of a high standard of technical knowledge and craftsmanship within the industry. The Council recommended a scheme of student apprenticeships, leading to senior full-time courses at technical schools, colleges and universities. Recommendations were also made regarding part-time senior day courses, junior education for building, and interim courses of training for apprentices whose training has been interrupted by war service.

As a result of the Council's earlier proposals the Government launched a scheme to train suitable boys who desire but cannot secure normal apprenticeship; building projects are carried out primarily for the training of apprentices, working under craftsmen instructors in the proportion of six or more to one, and carried out on behalf of any authority by an "apprentice master" nominated by a Joint Apprenticeship Committee. The Government's vocational training centres have been adapted to peace-time requirements, and priority is given to training for building crafts, through a six months' institutional training course followed by fourteen months' further training with an employer. A Scottish scheme of training includes attendance at a technical institute during each of the first three years of apprenticeship, and registration.

The Ministry of Education published a pamphlet on *Building Crafts*, 1945, outlining types of courses and syllabuses.

Information may be obtained from the Secretary, Building Apprenticeship and Training Council, Lambeth Bridge House, Albert Embankment, London, S.E.1.

CIVIL ENGINEERING

Civil Engineering is mainly concerned with constructional work in connection with transport (roads, railways, tunnels, bridges and harbours), services (water, gas, electricity, and sewerage) and construction of large buildings. The Institution of Civil Engineers' Examinations allow for specialisation in one of the following groups : Constructional and Public Works Engineering ; Aeronautical Engineering (*) ; Chemical Engineering (†) ; Electrical Engineering (†) ; Gas Engineering (†) ; Mechanical Engineering (†) ; Mining Engineering (†) ; Shipbuilding and Marine Engineering (†) ; Structural and Building Engineering.

Professional status is reached through membership of the Institution of Civil Engineers, and of other institutions such as that of Water Engineers (*see* Appendix G). There are various modes of training. A student may enter an engineering concern at the age of 16 as an apprentice or pupil, and by part-time study work for the Higher National Certificate in Civil Engineering, taking four to five years, and ultimately for an external engineering degree ; or having entered a works as an apprentice at 16 and taken a course of part-time study, he may later proceed to a full-time university course for a degree, and become a junior engineer.

A student having obtained a Higher School Certificate may proceed at the age of 18 direct to a university, or after one year as an apprentice ; and after taking a degree he may become a student apprentice in the office of a civil engineering concern ; practical experience in a mechanical engineering firm is an advantage.

Heating and Ventilating Engineering is concerned with the heating and ventilation of buildings, air conditioning in factories, refrigeration and cold storage, hot water supplies, and centralised fire prevention and vacuum cleaning. This is strictly a branch of mechanical engineering, and training in the principles and practice of mechanical engineering is necessary. Two years' practical training on site work is recommended. The Education Board of the Heating and Ventilating industry is responsible for organising training for craftsmen and professional heating and ventilating engineers. A three years' part-time course leads to the Ordinary National Certificate in Mechanical Engineering and may be followed in a technical college. A six months' full-time course of specialised instruction comprises the second part of the training, and has been introduced at the Borough Polytechnic, 103, Borough Road, London, S.E.1. Financial assistance is provided by the Association of Heating, Ventilating and Domestic Engineering Employers. Information may be obtained from the Secretary, Education Board of the Heating and Ventilating Industry, 103, Borough Road, London, S.E.1. Professional status is obtained by membership of the Institution of Heating and Ventilating Engineers (*see* Appendix G). After completion of training, employment is commonly sought with consultants and contractors in heating and ventilating engineering.

(*) See *Industrial Research* Reference Book

(†) See *Civil Aviation* Reference Book

MUNICIPAL AND COUNTY ENGINEERING

Municipal and County Engineers are concerned with the construction and maintenance of roads and bridges, sewerage, sewage disposal, town and country planning, construction and maintenance of swimming baths, flood prevention, river works, supervision and erection of residential and business premises, street lighting, refuse collection and disposal, water supply, construction and maintenance of tramway tracks, surveying and other related works. A knowledge of mechanical and electrical engineering is advantageous, while qualifications in architecture are useful. The recommendations made in the report of the Joint Committee of the Institution of Civil Engineers and the Institution of Municipal and County Engineers relating to engineering training of municipal and county engineers came into operation in July 1944. The scheme is administered by the two Institutions, and a standing joint committee is responsible for preparing and maintaining an index of engineers and local authorities willing and able to provide persons with practical engineering training under the stated conditions, and for keeping a register of indentures or undertakings of persons undergoing such training. The index of engineers is confined to corporate members of either or both of the Institutions. Persons receiving training are classified as pupils under indenture (including apprentices) ; graduate assistants under an undertaking (A) ; and engineering learners under an undertaking (B). Every engineer to a local authority wishing to be included in the index must undertake to give adequate practical training and to supervise such training with a view to signing a certificate on completion thereof ; he shall accept a limitation of the number of persons training under him at the same time, on a given basis. A pupil must be over sixteen, and the duration of his indentures must be at least three years and last up to the age of 20 ; he will undergo a probationary period of at least three months, pass the common preliminary examination or its equivalent, follow approved theoretical studies at a technical college or otherwise, and enter for sections A and B of the Associate Membership Examination of the Institution of Civil Engineers or the Testamur of the Institution of Municipal and County Engineers or the equivalent. A graduate assistant must hold an approved engineering degree, spend two years under an undertaking, receive practical training in all branches of the work and experience in the various departments of the office and on the works equivalent to those enjoyed by persons serving a pupilage. An engineering learner must be over 17, pass the Common Preliminary Examination or the equivalent, train for at least three years, study at a technical college or otherwise, and enter for Sections A and B of the Associate Membership Examination of the Institution of Civil Engineers or the Testamur of the Institution of Municipal and County Engineers or the equivalent. A Certificate is granted at the end of these periods of training. Professional status is granted by the Institutions of Civil Engineers and Municipal and County Engineers (*see* Appendix G). Employment is sought with local authorities, and the degree of specialisation will vary with the size of the authority. Further specialised qualifications are obtained by membership of the Institutions of Highway Engineers and Sanitary Engineers.

STRUCTURAL ENGINEERING

Structural Engineering is concerned with the erection of public and industrial buildings, bridges, theatres, water towers, hangars and similar structures. Knowledge of architecture, physics, chemistry, metallurgy, and geology is advantageous, in addition to the "strength of materials" and "theory of structures" branches of engineering science. The Institution of Structural Engineers issued in 1928 and revised in 1934 a report on Education, professional training and employment in structural engineering. This states that training may be taken at a university where a general science degree should be followed by a technical post-graduate course in engineering or building, after which entry to a firm of practising structural engineers would provide the practical experience necessary to prepare for the examinations of the Institution of Structural Engineers. Alternatively training may be taken by entry to a technical college at about 16 years, where a three years' full-time course would be followed by employment with a firm and part-time study at a technical college for the professional examinations, or by entry to the office of a structural engineering firm with part-time study at a technical college for five years for the professional examinations. The two latter courses would lead to the Ordinary and Higher National Certificates in Building or Engineering. Employment may be obtained with a Government department, local authority, public utility undertaking, industrial concern, civil engineering contractor, or firm of consulting engineers.

WATER ENGINEERING

Water Engineering is concerned with the conservation of water in lakes, rivers and artificial reservoirs, well supplies, making the water available in pure form in the communication pipe to the consumer's premises, the construction of dams and water towers, sinking of wells, erection and equipment of pumping stations and laying of trunk mains and distribution pipes, and land drainage and irrigation. Civil engineers require specialised knowledge of hydraulics and geology, pumping machinery, electricity and chemistry and bacteriology for this work. Training may be gained either by acquiring a university degree in civil engineering followed by employment as an assistant under agreement to a qualified water engineer; or by becoming, on leaving school, an articled pupil to a practising water engineer for four or five years, and attending part-time courses at a technical college, thus combining practical experience and study for the examinations of the Institution of Civil Engineers. Professional status is granted by the Institution of Water Engineers (*see* Appendix G). The Institution of Water Engineers issued a report on recruitment and training in 1944, recommending entry to the profession by means of a university or engineering college course, followed by practical training; for university students and pupils the report recommended a short pre-entry practical training (one year) and a course of practical training at the end of the university course or pupilage, lasting two years; the water engineer should aim at securing as varied an experience as possible up to the age of 30. Employment is secured with municipal authorities, water companies, consulting engineers, and Government departments at home and abroad.

FORESTRY

Forestry officers are employed mainly by the Forestry Commissioners, but may also work as estate officers or acquisition officers in connection with forested land. They are responsible for the planning and systematic development of woodlands and afforestation schemes.

Openings are generally restricted to men, who should be between 21 and 30 years and hold a university degree in forestry. University courses are available at Aberdeen, Bangor, Edinburgh and Oxford. The increased attention being paid to forestry by the Government may lead to increased openings for forestry officers.

HOUSING MANAGEMENT

Housing Management is concerned with the administration of housing estates, from both the business and social service point of view, and involves the control of lettings, collection of rents, maintenance and general relations between landlord and tenant. Training lasts for at least one year, and the student should be over 18 years and have a general education up to School Certificate standard. The Society of Women Housing Managers organises practical and theoretical training lasting from one to three years. Correspondence courses are conducted by the Society and by the College of Estate Management. Examinations at the end of the course lead to the Women Housing Managers' Certificate of the Chartered Surveyors Institution, B.Sc. Estate Management (London), Associateship of the Royal Sanitary Institute, or the full professional examinations of the Chartered Surveyors Institution. The Institute of Housing arranges practical training under a member of the Institute, and theoretical training by correspondence courses, lasting two to three years, for those employed in the housing department of a local authority or by a housing association. Employment is sought with local authorities, Government departments, housing associations, public and private trusts, and private persons.

LAND AGENCY

Land Agency includes the management of landed estates which are agricultural, moorland or woodland, the repair of property, alterations and additions, letting and valuation. Qualifications are secured through membership of a professional institution, the Chartered Surveyors Institution, or Land Agents' Society (*see* Appendix B). Training may be secured by taking a university degree in Estate Management (Cambridge or London), followed by practical experience in a land agent's office; or by one year's practical experience on a farm, one year at an agriculture college, and two or three years in a land agent's office as a pupil or assistant while working for the professional examinations ; or by three or four years in a land agent's office as an articled pupil or assistant with concurrent part-time study for the professional examinations. Tuition is provided at local technical colleges, and at the College of Estate Management, Rickmansworth, Herts, and at 11, Great George Street, London, S.W.1, which provides courses for the professional examinations, the London B.Sc. (Estate Management), and postal tuition. The qualified estate agent may obtain further experience as an assistant,

before securing a resident or non-resident post with one or more estates, or entering private practice. The Ministry of Agriculture and local authorities employ estate agents.

SURVEYING

Surveying has been described as "the art of determining the value of all descriptions of landed and house property, and of the various interests therein ; the practice of managing and developing estates ; and the science of admeasuring and delineating the physical features of the earth and of measuring and estimating artificers' work" (Royal Charter of Chartered Surveyors Institution). The student works by full-time study, or part-time study and practical experience, for membership of a professional body, and normally requires a general education up to School Certificate standard. Land surveyors are employed by the Ordnance Survey Department, Chessington, Surrey, which conducts its own training scheme, taking entrants at the age of 16 ; entrants aged over 20 require to have been trained in surveying, draughtsmanship, printing or photography. The Colonial Survey Service requires entrants of 21 to 28 years with a degree in mathematics, physical science, engineering or geography ; the Diploma in Land Surveying of the Chartered Surveyors Institution ; a licence to practise as a surveyor in one of the Dominions ; or a degree or distinction regarded as equivalent to one of these ; courses of instruction are given to selected condidates at the Ordnance Survey Office, and at Cambridge in certain circumstances.

BUILDING SURVEYING

Building Surveying involves supervision of building construction, surveys and reports on structural and sanitary conditions of buildings, advice on and supervision of alterations and repairs, reports on disputes over rights of light and air and party walls, preparation of layout plans for development of land for building and drawings of specifications for construction of roads and sewers. The various modes of entry include a two or three years' full-time course to Intermediate Professional Standard at a technical college or the College of Estate Management, Rickmansworth, together with two years' practical experience and part-time study for the final professional examination ; employment with a firm of architects and surveyors and part-time study ; employment in a building or premises department which undertakes building and surveying, with part-time study ; pupilage with a borough engineer and surveyor, with part-time study ; or employment with a large firm of builders and contractors and part-time study for professional examinations. Professional status is gained by membership of the Chartered Surveyors Institution, or of the Incorporated Association of Architects and Surveyors. The Royal Institute of British Architects holds an examination for candidates for the office of building surveyor under local authorities. The newly qualified building surveyor may remain with the firm with whom he completed his training or join another firm, and ultimately proceed to the head of the surveying department, or he may practise on his own account or in partnership with an architect, or may enter the employ of a Government department, bank or insurance company.

QUANTITY SURVEYING

Quantity Surveying is concerned with the preparation of estimates of the amount of materials and labour required for buildings and other constructional work, pricing bills of quantities, making estimates of costs of buildings, advising on alterations to buildings, preparing architects' specifications, and arbitrating in disputes in connection with building contracts. Training is secured either by a two or three years' full-time course at a technical college or the College of Estate Management, followed by two years' practical experience ; or by an articled pupilage or assistantship in a firm of quantity surveyors for four years with concurrent part-time study at a technical college or a correspondence course ; or by employment in a large firm of builders and contractors with part-time study, leading to the professional examinations of the Chartered Surveyors Institution or the Incorporated Association of Architects and Surveyors. After qualifying the surveyor may practise on his own account or in partnership, or enter a local authority or Government department, or a large firm of building contractors.

URBAN SURVEYING

Urban Surveying involves the management and development of urban estates, the sale or purchase and letting or renting of property, dilapidations, supervision of repairs, sanitation and valuations, and the law relating to land and buildings in towns. It may overlap with other branches of surveying, and professional status is granted by the Chartered Surveyors Institution, the Auctioneers' and Estate Agents' Institute, the Incorporated Society of Auctioneers and Landed Property Agents, and the Incorporated Association of Architects and Surveyors (*see* Appendix G). Training is secured either by an articled pupilage of four years or junior assistantship with an approved firm of urban surveyors with concurrent part-time study ; or by a two or three years' full-time course of study at the College of Estate Management or at a technical institute, leading to the Intermediate professional examination, followed by two years' practical experience in approved employment with part-time study for the final professional examination ; or by taking a B.Sc. degree in Estate Management (London), or a B.A. Estate Management (Cambridge), followed by two years' practical experience. Employment may be found with a large firm, a local authority, Government department, or in private practice.

TIMBER

The Timber Development Association, Limited, 75, Cannon Street, London, E.C.4, sponsors a three-year course in timber technology for those interested in the study of timber, primarily designed to meet the needs of young men and women between the ages of 16 and 20 employed in connection with the timber trade or timber consuming industries. Classes are held in technical institutions, and lead to the award of a certificate on successful completion of the course and examination at the end. Classes have been established at Cardiff, Bristol, Ipswich, King's Lynn,

Chelmsford, Northampton, Norwich, Cambridge, Portsmouth, Kingston-on-Hull, London, Canterbury, Gillingham, Nottingham, Birmingham, Newcastle-upon-Tyne, Sunderland, Liverpool, Glasgow, Torquay, Leeds, Exeter, Edinburgh, Stevenage, Letchworth, Hitchin.

TOWN PLANNING

Town Planning is concerned with the preparation and supervision of statutory schemes under the Town and Country Planning Acts, the preparation of development plans, and the issue of consultant advice. The student requires a good general education up to School Certificate standard, but technical training in architecture, civil engineering or surveying is desirable.

Professional status is obtained through membership of the Town Planning Institute (*see* Appendix D). Diplomas in Town Planning are offered by the Royal Institute of British Architects, the Chartered Surveyors Institution, and a Certificate by the Institution of Municipal and County Engineers. University courses are conducted at Birmingham, Durham, Liverpool and London. Certain technical and art colleges also offer courses. The School of Planning and Research for Regional Development conducts a correspondence course for members of H.M. Forces, in preparation for a three months' intensive course and examination. The three months' full-time day course in Town and Country Planning conducted by the School of Planning is designed primarily for men and women in the Forces who have completed the War Office Correspondence Course, or have passed the Intermediate Examination of the Town Planning Institute, or who hold recognised certificates in Town Planning and are eligible for Government grants on demobilisation. The School also offers a refresher course for planners, architects, engineers and surveyors who are fully qualified and members of the Forces. The School's pre-war comprehensive course in planning is to be restarted. An evening course in landscape design commenced in 1946. Information may be obtained from the Director of Studies, School of Planning and Research for Regional Development, 34, Gordon Square, London, W.C.1.

The qualifying examination for town planners is conducted by the Town Planning Joint Examination Board, in co-operation with the Royal Institute of British Architects, the Chartered Surveyors Institution, the Institution of Municipal and County Engineers, and the Town Planning Institute. The Board is also the examining body for the Town Planning Diploma of these institutions.

The Town Planning Institute organises an annual summer school which acts as a refresher course for practising planners.

Employment for the fully qualified town planners may be found with local authorities, with the Ministry of Town and Country Planning (in Scotland the Department of Health for Scotland), in private practice and in teaching.

Associated with town planning is the work of specialists in the field of economics, geography, sociology and geology. Research workers in these branches, and cartographers, are employed by the Ministry of Town and Country Planning, the Ministry of Agriculture and Fisheries, and local authorities.

APPENDIX A.

UNIVERSITY COURSES IN ARCHITECTURE, CIVIL ENGINEERING, PLANNING AND ASSOCIATED SUBJECTS :

University	*Courses*
ABERDEEN	B.Sc. Civil Engineering.
BELFAST (Queen's University)	B.Sc. Civil Engineering.
BIRMINGHAM	B Sc. Civil Engineering.
BRISTOL	B.Sc. Civil Engineering ; Post-graduate course in Structural Analysis and Design ; Diploma in Engineering.
CAMBRIDGE	B.A. Mechanical Sciences Tripos ; Certificate of Proficiency in Architectural Studies ; B.A. Estate Management , Diploma in Architecture.
DURHAM (King's College, Newcastle-on-Tyne)	B.Sc. Civil Engineering ; B.Architecture ; Diploma in Architecture ; Certificate in Architecture ; Diplomas in Town Planning , Certificate in Town Planning.
EDINBURGH	B.Sc Civil Engineering.
GLASGOW	B.Sc. Civil Engineering ; B Sc. Architecture.
LEEDS	B.Sc. Civil Engineering , Diploma in Civil Engineering.
LIVERPOOL	B.Engineering (Civil) , Certificate of Engineering , Diploma in Engineering , B.Architecture , Diploma in Architecture Certificate in Architectural Design ; Certificate in Civic Design ; Diploma in Civic Design.
LONDON King's College	B.Sc Civil Engineering , Diploma in Engineering , Certificate in Engineering , Post-graduate course in Civil Engineering.
Imperial College of Science and Technology	B.Sc. Civil Engineering and Surveying (including Highway Engineering) (at City and Guilds College) , Diploma of Associateship of City and Guilds of London Institute (A C.G I).
University College	Post-graduate courses in Civil Engineering (Advanced Surveying , Engineering Quantities, Specifications and Law , Advanced Theory of Structures ; Structural Design and Economics , Public Works ; Soil Mechanics).
at Bartlett School of Architecture	B A. Architecture , Certificate in Architecture , Diploma in Architecture ; Course in Design and Planning of Modern Buildings , Atelier for study of Advanced Architectural Design. Diploma in Town Planning and Civic Architecture ; Diploma in Town Planning and Civic Engineering , Certificate in Town Planning
London (External)	B.Sc. Engineering ; B.Sc. Estate Management , Certificate in Architecture.
MANCHESTER	B Sc. Civil Engineering , B Sc.Tech in Municipal Engineering , Certificate in Civil Engineering , B.A.Architecture , Diploma in Architecture , Professional course in Architecture (part-time) ; Preliminary Course in Town and Country Planning ; Diploma in Town and Country Planning , Certificate in Town and Country Planning , Post-graduate Courses in Civil Engineering and Municipal Engineering.
OXFORD	B.A in Engineering Science , Certificate in Estate Management , Diploma in Rural Economy.
ST. ANDREWS	B.Sc. Civil Engineering.
SHEFFIELD	B.Engineering in Civil Engineering ; Associateship in Engineering , Certificate in Architecture , Diploma in Architecture ; B A.Architecture.
WALES	
University College of North Wales, Bangor	First Year B.Architecture.
University College of South Wales and Monmouth, Cardiff	B.Sc. Civil Engineering, Building Engineering ; Diploma in Engineering ; B.Architecture (at Welsh School of Architecture, Cardiff).
University College, Swansea	B.Sc. Civil Engineering ; Diploma in Civil Engineering ; First Year B. Architecture.
University Colleges : NOTTINGHAM	B.Sc. Engineering (London External) ; Diploma in Civil Engineering ; Diploma in Architecture (at College of Art) ; Diploma in Town and Country Planning.
SOUTHAMPTON	B.Sc. Engineering (London External).

APPENDIX B.

EXAMINATIONS RECOGNISED BY THE ARCHITECTS REGISTRATION COUNCIL FOR ADMISSION TO THE REGISTER OF ARCHITECTS :

Architectural Association School of Architecture, 34-36, Bedford Square, London, W.C.1. : Diploma Final Examination ;
Bartlett School of Architecture, University College, London : Final Examination for Diploma in Architecture; Final Examination for Degree of B.A. in Architecture ;
Birmingham School of Architecture, Central School of Arts and Crafts, Birmingham : Diploma Final Examination ;
Durham University, King's College School of Architecture, Newcastle-upon-Tyne : Degree of B.Arch. Final Examination ; Diploma in Architecture Final Examination ;
Edinburgh College of Art School of Architecture : Diploma Final Examination ;
Glasgow School of Architecture : Diploma Final Examination ; Glasgow University Degree of B.Sc. in Architecture Final Examination ;
Leeds College of Art School of Architecture : Diploma Examination ;
Liverpool University School of Architecture : Final Examination for Degree of Bachelor of Architecture , Final Examination for the Diploma of Architecture ;
Manchester University School of Architecture ; B.A. Degree with Honours in Architecture Final Examination ; Certificate Final Examination ;
Northern Polytechnic School of Architecture, London, N.7 : Diploma Final Examination ;
Nottingham School of Architecture, College of Arts and Crafts : Diploma Final Examination ;
Regent Street Polytechnic, London, W.1. : Diploma Final Examination of School of Architecture ;
Robert Gordon's Technical College, Aberdeen, School of Architecture : Diploma Final Examination ;
Royal Institute of British Architects : Final and Special Final Examinations ;
Sheffield University Department of Architecture : B.A. Degree with Honours in Architecture Final Examination ; Diploma Final Examination ;
Welsh School of Architecture, Cardiff ; Final Examination for Degree of Bachelor of Architecture ; Diploma Examination.

APPENDIX C.

SCHOOLS OF ARCHITECTURE RECOGNISED FOR EXEMPTION FROM THE R.I.B.A. FINAL EXAMINATION :

Aberdeen : School of Architecture, Robert Gordon's Technical College ;
Birmingham : Birmingham School of Architecture ;
Cardiff : The Welsh School of Architecture, The Technical College ;
Edinburgh : Edinburgh College of Art ;
Glasgow : Glasgow School of Architecture ;
Leeds : Leeds School of Architecture, Leeds College of Technology ;
Liverpool : Liverpool School of Architecture, University of Liverpool ;
London : The Architectural Association, London ; The University of London ; The Polytechnic, Regent Street, London ; The Northern Polytechnic, London ;
Manchester : Vicotria University ;
Newcastle : School of Architecture, King's College, University of Durham ;
Nottingham : Nottingham School of Architecture ;
Sheffield : The University.

SCHOOLS OF ARCHITECTURE RECOGNISED FOR EXEMPTION FROM THE R.I.B.A. INTERMEDIATE EXAMINATION :

Bristol : Royal West of England Academy ;
Cambridge : The University ;
Dundee : Dundee Technical College and School of Art ;
Hull : City of Hull College of Art and Crafts ;
Leicester : The College of Arts and Crafts ;
Oxford : City of Oxford School of Art and Crafts ;
Portsmouth : Southern College of Art (Portsmouth Centre) ;
Southend : Municipal College.

SCHOOLS OF ARCHITECTURE GRANTED PERMISSION TO SUBMIT SCHOOL DRAWINGS INSTEAD OF THE R.I.B.A. INTERMEDIATE EXAMINATION TESTIMONIES OF STUDY :

Brighton : Brighton Municipal School of Art and Technical College ;
Burslem : Burslem School of Art ;
Hastings : Hasting School of Art ;
Plymouth : City of Plymouth School of Art.

TECHNICAL SCHOOLS AND SCHOOLS OF ART WITH ARRANGEMENTS FOR THE INSTRUCTION OF INTENDING ARCHITECTS :

Beckenham : Beckenham and Bromley Art School ;
Blackburn : Municipal Technical College and Art School ;
Bolton : Bolton Municipal Technical College and Art School ;
Bournemouth : Bournemouth Municipal College and Art School ;
Bradford : Bradford Technical College and School of Art ;
Burnley : Burnley Municipal Technical College and Art School ;
Canterbury : Canterbury Art School ;
Chatham : Chatham (Medway) Technical College and School of Art

Chelmsford : Mid-Essex Technical College and School of Art ;
Cheltenham : Cheltenham Art School ;
Coventry : Coventry Art School and Technical College ;
Croydon : Croydon School of Art and Crafts ;
Derby : Derby Technical College and Art School ;
Exeter : Exeter University College Evening Institute and Art School of the South West ;
Farnham : Farnham School of Art ;
Gloucester : Gloucester Art School ;
Guildford : Guildford Technical College and School of Art ;
Halifax : Halifax Municipal Technical College and School of Art ;
Huddersfield : Huddersfield Technical College School of Art ;
Keighley : Keighley Art School ;
Kidderminster : Kidderminster Art School ;
Kingston-upon-Thames : Kingston-upon-Thames Technical College and Art School ;
Lancaster : Storey Institute Technical College and School of Art ;
Leeds : Leeds College of Technology ;
Liverpool : City of Liverpool Technical College ;
London : Brixton School of Building ; Central School of Arts and Crafts, Southampton Row ; Hackney Technical Institute ; Hammersmith School of Building and Arts and Crafts ; Westminster Technical Institute ;
Maidstone : Maidstone Municipal Technical Evening Institute and Art School ;
Manchester . Manchester Municipal School of Art and College of Technology ;
Margate Margate (Thanet) Art School ;
Newport · Newport Technical College and Art School ;
Northampton : Northampton School of Art , Northampton College of Technology ;
Norwich : Norwich Technical College and School of Arts and Crafts ;
Paisley : Paisley Technical College and School of Art ;
Preston : Harris Institute ;
Reading : The University of Reading School of Art and Building Department ;
Rugby . Rugby College of Technology and Art School ;
Salford : Salford Royal Technical College and Art School ;
Shrewsbury : Shrewsbury Technical College and Art School ;
Southampton . Southampton University College and Art School ;
Southport : Victoria School of Art and Technical College ;
Stockport · Stockport School of Art and College for Further Education ;
Sunderland : Sunderland Technical College ;
Swansea · Swansea Technical College and Art School ;
Swindon · Swindon Art School ;
Taunton . Taunton Art School ,
Wakefield : Wakefield School of Arts and Crafts ;
Weston-super-Mare : Weston-super-Mare School of Art and Science ;
Wigan : Wigan Mining and Technical College and Art School ;
Wimbledon : Wimbledon Technical College and Art School ;
Wolverhampton : Wolverhampton Art School and Technical College ;
Worthing . Worthing Art School ,
Belfast : Municipal College of Technology.

APPENDIX D.

SCHOOLS OR DEPARTMENTS OF TOWN PLANNING RECOGNISED BY THE TOWN PLANNING INSTITUTE FOR EXEMPTION FROM ITS FINAL EXAMINATION AND BY THE R.I B.A. FOR EXEMPTION FROM THE EXAMINATION FOR THE R.I.B.A. DIPLOMA IN TOWN PLANNING :

Durham University, King's College, Newcastle-upon-Tyne ;
Edinburgh College of Art, Department of Town Planning ;
Leeds College of Art, Department of Town and Country Planning and Housing ;
Liverpool University, Department of Civic Design ;
London University, University College, Department of Town Planning ;
Manchester University, Division of Town and Country Planning ;
Nottingham College of Art and Crafts, Department of Town and Country Planning ;
Regent Street Polytechnic, London, W.1.
School of Planning and Research for Regional Development, 34. Gordon Square, London, W.C.1.

APPENDIX E.

NATIONAL CERTIFICATES :

Building : Ordinary National Certificate (Three years part-time) ; Higher National Certificate (two further years part-time) ; Ordinary Diploma (Two years full-time) ; Higher Diploma (One further year full-time) ; (Granted by the Ministry of Education in association with the Institute of Builders).
Civil Engineering : Higher National Certificate (Granted by the Ministry of Education in association with the Institution of Civil Engineers).

APPENDIX F.

CITY AND GUILDS OF LONDON INSTITUTE, DEPARTMENT OF TECHNOLOGY, 31, Brechin Place, South Kensington, London, S.W.7. EXAMINATIONS IN BUILDING SUBJECTS :

Carpentry and Joinery ; Woodcutting Machinists' Work ; Brickwork ; Masonry ; Plasterers' Work ; Painters' and Decorators' Work ; Plumbers' Work ; Ship Plumbing, and Marine Sanitary Engineering ; Sanitary and Domestic Engineering in relation to Plumbers' Work ; Builders Quantities ; Heating and Ventilating Engineering ; Structural Engineering.

APPENDIX G.

INSTITUTIONS GRANTING PROFESSIONAL QUALIFICATIONS

Architects and Surveyors, Incorporated Association of, 43 Grosvenor Place, Westminster, London, S.W.1.

Status	*Age*	*Qualifications*
Student	over 16	Approved general education; approved course of study or assistant or articled pupil.
Associate	over 21	Association's or other approved Examinations.
Graduate		Completed articles or four years with a qualified practitioner.
Licenciate	over 25	Approved practice.
Fellow	over 35	Election from Associated; approved practice.

Auctioneers and Estate Agents, Institute of the United Kingdom, 29, Lincoln's Inn Fields, London, W.C.2. (War-time address: Knole, Sevenoaks, Kent)

Status	*Age*	*Qualifications*
Student	16	Preliminary Examination of Institute or equivalent; articled pupil or assistant in approved office.
Licenciate		Intermediate Examination of Institute.
Associate	over 21	Intermediate and Final Examinations of Institute or equivalent; articled clerk for three years or assistant for five years or in professional practice as a principal for three years.
Fellow	over 30	Intermediate and Final Examinations of Institute or granted exemption, Professional practice as principal or assistant for five years.

Auctioneers and Landed Property Agents, Incorporated Society of, 34, Queen's Gate, London, S.W.7.

Status	*Age*	*Qualifications*
Student	over 16	Engaged in or about to enter approved office or following approved course of study.
Licenciate		Intermediate Examination of Society.
Associate, Member	over 21	Final examination of Society; practical knowledge of profession for three years.
Fellow	over 25	Final Examination of Society; three years' practical knowledge as principal or in managerial capacity.

Builders, Institute of, 48, Bedford Square, London, W.C.1.

Status	*Age*	*Qualifications*
Student		Part I of Institute's Examination.
Probationer		Part II of Institute's Examination or equivalent.
Licenciate	over 19	Licenciate Examination.
Associate		(*a*) Licenciate; three years as proprietor, partner, or director of a business, Associateship Examination. (*b*) Proprietor, Partner, or Director and specially recommended. (*c*) Licenciate; three years responsible position in the industry; Associateship Examination. (*d*) Responsible position in the industry, and specially recommended. (*e*) Licenciate; three years in responsible teaching appointment in Building, Associateship Examination. (*f*) Responsible teaching appointment, and specially recommended.
Member		(*a*) Associate or Licenciate; three years in business as master builder, Membership Examination of Institute. (*b*) In business as master builder and specially recommended.

Building Societies Institute, 14, Park Street, London, W.1.

Status	*Age*	*Qualifications*
Student		Good general education.
Associate	over 21	Final Examination of Institute.
	over 27	Five years employment by Building Society; responsible position or other approved qualifications.
Subscribing Member, Honorary Member		Employed by Building Society or engaged in Building Society work, and not eligible to be Associate or Student.
		Director of, Auditor, Solicitor or Surveyor to Building Society, or otherwise specially qualified; not in employment of a Building Society.

Chartered Surveyors, Institution of, 12, Great George Street, London, S.W.1.

Status	*Age*	*Qualifications*
Student	over 17	Approved general education; employed in a branch of the profession or full-time study for the profession.
Probationer		Institution's Examination or equivalent.
Professional Associate		Institution's Examination or equivalent.
Fellow	over 35	Institution's Examination or equivalent; Five years' responsible experience in profession.

Special Diploma in Town Planning to Corporate Members with three years' specialisation in Town Planning, Town Planning Joint Examination Board Examination.

Women Housing Managers' Certificate.

Civil Engineers, Institution of, Great George Street, Westminster, London, S.W.1.

Status	*Age*	*Qualifications*
Student	17—25	Recommended by member or associate member under whom he is training ; approved general education
Associate / Member	over 25	Associate Membership examination of Institution or approved equivalent , Approved practical training , and experience.
Member	over 33	Associate Membership qualifications and five years' responsible experience in design or execution of important engineering work , or degree of eminence in profession.

Clerks of Works Association, Incorporated, Temporary Address : 5, Broughton Road, Thornton Heath, Surrey.

Status	*Age*	*Qualifications*
Diploma Part I	over 23	Examination or approved equivalent.
Diploma Part II	over 28	Five years' supervisory experience in skilled building work.

Heating and Ventilating Engineers, Institution of, 72-74, Victoria Street, London, S.W.1.

Status	*Age*	*Qualifications*
Student	over 16	Apprentice, assistant, pupil or operative in profession , approved examination.
Graduate	over 20	Associate Membership Examination or approved equivalent
Associate / Member	over 25	Associate Membership Examination or approved equivalent ; Approved training.
	over 33	Good general and scientific educati n. , responsible position in profession.
Associate	over 27	Eminence or expert knowledge in related branches of science
Member	over 33	Associate Membership qualifications ; important responsible position in profession ; or eminent position in profession.

Housing, Institute of (Incorporated), 18, Ashley Place, Victoria Street, London, S.W.1.

Associate	Institute's Examination.

Highway Engineers, Institution of, Parliament Mansions, Victoria Street, Westminister, London, S.W.1.

Status	*Age*	*Qualifications*
Student	over 18	Approved general education.
Associate	over 22	Institution's Examination or approved equivalent
Member	over 25	Five years' experience in Profession , engaged in highway construction and maintenance.
Associate / Member	over 27	Engaged in a related profession , Seven years' experience , Institution's Examination or approved equivalent
Fellow	over 35	Institution's Examination or approved equivalent , considerable experience and eminence in profession

Land Agents' Society, 329, High Holborn, London, W.C.1.

Status	*Age*	*Qualifications*
Associate		Society's Examination.
Qualified Associate		Society's Examination.
Fellow		Society's Examination.

Municipal and County Engineers, Institution of, 84, Eccleston Square, London, S.W.1.

Status	*Age*	*Qualifications*
Student	17 to 25	Approved general education ; Either articled pupil or holding approved appointment , Or engaged on course of study approved.
Associate / Member	over 23	Testamur Examination or equivalent , Regular training and position as assistant to chief or deputy engineer or surveyor to a local authority.
Member	over 25	Chief appointment as engineer or surveyor to a local authority and corporate member before 1923 of Associate Membership Examination ; Position as deputy or chief assistant engineer or surveyor to a local authority and corporate member before 1923 or Associate Membership Examination ; Permanent appointment under a public authority and corporate member before 1923 or Associate Membership Examination.
Building Inspector's Certificate	over 21	One year's experience as a technical assistant or building craft apprenticeship and two years' experience, or one year's experience as clerk of works.
Certificate in Town Planning		Corporate member of Institution , Examination of Town Planning Joint Planning Examination Board.
Certificate in County and Highway Engineering.		
Diploma in Administration.		
Testamur.		

Royal Institute of British Architects, 66, Portland Place, London, W.1.

Status	*Age*	*Qualifications*
Probationer		Good general education ; knowledge of drawing.
Student		Intermediate Examination of R.I.B.A. or approved equivalent.
Associate		Final Examination of R.I.B.A. or approved equivalent ; one year's practical experience in architect's office or on a building.
Licenciate	over 30	On Register of Registered Architects ; five years' practice as principal or ten years' practice or study of architecture.
Fellow	over 30	Licenciate ; seven years' practice as principal ; samples of working drawings and photographs ; Examination.
Distinction in Town Planning	over 26	Fellow, Associate or Licenciate ; approved professional qualifications ; thesis and report ; interview.
Diploma in Town Planning		Examination of Town Planning Joint Examination Board ; Fellow, Associate or Licenciate of Institute.

Examination for office of Building Surveyor under local authorities.

Sanitary Engineers, Institution of, 118, Victoria Street, London, S.W.1.

Status	*Age*	*Qualifications*
Student	over 18	Institution's Examination or equivalent ; engaged in sanitary engineering work or articled to a sanitary engineer.
Associate	over 21	Good education ; practice as sanitary engineer or in allied work.
Associate Member	over 25 (or 21)	Institution's Examination or equivalent ; good general education ; approved training as sanitary engineer ; two years' experience.
Member	over 35 (or 30 if passed recognised examination)	Nominated by two corporate members ; good education ; approved training as sanitary engineer ; five years' responsible experience.
Fellow	over 36	Member for one year ; outstanding merit in profession.

Structural Engineers, Institution of, 10, Upper Belgrave Street, London, S.W.1.

Status	*Age*	*Qualifications*
Student	17 to 25	Studying or intending to study profession of structural engineering ; Preliminary or other approved examination.
Graduate	21 to 30	Studying or intending to study profession of structural engineering ; Institution's Graduateship examination or approved equivalent.
Associate Member	over 25	Qualified structural engineer ; regular training and practical experience in structural engineering ; Institution's Associate Membership Examination.
Associate	over 30	Member of profession allied or kindred to structural engineering ; or position of responsibility in connection with structural engineering ; professional standing equivalent to that of Member.
Member	over 30	Engaged in profession of structural engineering, and Associate Membership examination ; five years' responsible experience in important structural engineering work.
	over 35	engaged in profession of structural engineering ; 15 years' responsible experience ; eminence in profession.

Town Planning Institute, 18, Ashley Place, London, S.W.1.

Status	*Age*	*Qualifications*
Associate Member		Final Examination of Joint Examination Board ; Approved practical experience in town planning.
Member		Associate Member of Institute or other approved Institution ; approved practical experience.
Legal Associate Member		Legal Associateship Examination ; Qualified legal practitioner, town clerk, or chief assistant to a Legal Member of the Institute, or a responsible assistant working in connection with a planning scheme.
Legal Member		Qualified legal practioner ; practical experience in connection with town planning schemes ; Legal Associate Membership Examination of Institute or approved equivalent.

Water Engineers, Institution of, Parliament Mansions, Abbey Orchard Street, Westminster, London, S.W.1.

Status	*Age*	*Qualifications*
Student	over 18	Student of Institution of Civil Engineers.
Associate (temporarily closed)	over 40	Responsible position in Water Works
Professional Associate	over 40	Eminence in profession ; special knowledge or experience.
Associate Member	over 25	Corporate member of Institution of Civil Engineers ; passed Hydraulics section of Associate Membership Examination of Institution of Civil Engineers; responsible position in water engineering.
Member	over 33	Corporate member of Institution of Civil Engineers ; either Associate member of Institution of Water Engineers or equivalent qualifications ; important position of independent responsibility in water works.
	over 45	Suitable education as civil engineer ; 15 years' employment in responsible position ; eminence in profession of water engineering.

Statistics and Tables

Land

LAND AREA

No exact figures exist as to the areas of the surface of Great Britain used for various purposes. The following estimates are useful as a general guide :

Table 1.—Use of Land of Great Britain, 1939*

Use	England and Wales In 000's Acres	Per cent.	Scotland In 000's Acres	Per cent.	Great Britain In 000's Acres	Per cent.
Agriculture, etc.	24,643	66·4	4,551	23·8	29,194	52·0
Rough Grazings, Heaths, etc.	5,608	15·1	10,450	54·8	16,058	28·6
Woods and Forests	2,030	5·5	1,040	5·5	3,070	5·5
Total of above	32,281	87·0	16,041	84·1	48,322	86·1
"Non-Agricultural" ..	§ 4,852	13·0	3,028	15·9	7,880	13·9
Round total area	37,133	100·0	19,069	100·0	56,202	100·0

The 7·8 million acres of " non-agricultural " land is simply the land not included in the agricultural returns, and its use has not yet been fully analysed. This figure is far more than can be accounted for by land devoted to urban and other uses.† It includes in fact cities and towns

* *Source :* Ministry of Agriculture and Fisheries. *Agricultural Statistics, 1939.* Department of Agriculture for Scotland. *Agricultural Returns, 1939.* Forestry Commission. *Post-War Forest Policy. Report by H.M. Forestry Commissioners, June 1943.* (Cmd. Paper No. 6447.)

† According to the *Monthly Digest of Statistics, No. 1, January 1946,* "non-agricultural" land amounted only to some 5 million acres in 1939 and 1945. This seems a more likely approximation, although even that figure is probably too high to account for land devoted to urban and other uses.

and their buildings and gardens, most open spaces and recreation grounds, villages and rural buildings (farm houses and homesteads, country houses, rural cottages, etc.) and their gardens, all urban and rural roads and railways, aerodromes, disused excavations, derelict and waste lands, and some mountain land not grazed.

The area actually occupied by cities and towns is difficult to estimate. In 1931, in England and Wales, the area administered by urban authorities was about 4,500,000 acres, which has since increased. It increased by 500,000 acres between 1911 and 1931, and by some further 750,000 acres between 1931 and 1939, when it amounted to some 5,250,000 acres—*i.e.* by well over 80,000 a year. But this includes a considerable area of agricultural land, possibly approaching 1,000,000 acres.*

Conversely, houses, gardens, roads and railways in rural areas must exceed 500,000 acres and may approach 1,000,000 acres. It is probable that the truly urban area of England and Wales is of the order of 2,500,000 to 3,000,000 acres, including urban gardens and open spaces.

Table 2.—ADMINISTRATIVE AREAS, ENGLAND AND WALES†

Administrative Area	*1931*		*1939*	
	Acres	*Per cent.*	*Acres*	*Per cent.*
Rural areas	32,834,000	87–9	32,086,000	85–9
U.D.C.s and boroughs	3,670,000	9–9	4,310,000	11–6
County boroughs	760,000	2–0	868,000	2–3
L.C.C. and City of London ..	75,000	0–2	75,000	0–2
Total urban authorities	4,505,000	12–1	5,253,000	14–1
Total area (including inland water)	37,339,000	100–0	37,339,000	100–0

CLASSIFICATION OF LAND

The monumental study undertaken by the Land Utilisation Survey under the direction of Dr. L. Dudley Stamp has been completed for England and Wales, and detailed maps are available for the use of planners and others. Following is a summary of the classification :

* Board of Agriculture, *Evidence to Barlow Royal Commission, 1937.*

† *Source : Census of 1931* and *National Register, United Kingdom and Isle of Man : Statistics of Population on 29th September, 1939.*

Table 3.—Classification of Land (England & Wales)*

Class	Summary of Description	Per cent.	Acres	
A1	First-class Arable	4·8	1,785,000	
A2	Good Quality Arable	15·0	5,642,000	
A–G2	Good Quality General Purpose Farmland	3·8	1,446,000	
G3	First Quality Grass (Fatting Pastures, &c.)	2·0	758,000	
G4	Good Grassland	7·7	2,875,000	
A2 + G4	.. ..	3·9	1,460,000	
Various mixed categories	.. ..	7·0	2,613,000	
	Total Good Agricultural Land (excluding some found mixed with poorer land)	44·2		16,579,500
A–G5	Light land, downland	3·6	1,333,500	
	Some ploughable ditto mixed with other..	3·4	1,262,000	
A–G6	Medium Quality Farmland	22·1	8,281,000	
	Ditto mixed with other	5·3	2,010,000	
G7	Heavy Land	1·0	382,500	
	Ditto (part improved)	2·6	988,000	
	Total Medium Agricultural land ..	38·0		14,257,000
H8	Mountain moorland, &c.	9·9	3,735,000	
	Ditto, part improved	1·9	723,000	
H9	Lowland heaths, &c.	0·8	316,000	
	Ditto, mixed	3·2	1,200,000	
H10	Saltings, &c.	0·2	78,000	
		16·0		6,052,500
Chief towns, &c.	.. ..	1·8		640,000
		100·0		

LAND UNDER PLANNING

The Town and Country Planning Act 1943 brought all land under interim planning control. According to the Ministry of Health's Report for 1938–9, the area in England and Wales under planning control at March, 1939, was 26,281,000 acres of which 338,779 acres were under operative schemes.† At the end of 1941 the area under operative schemes had increased to about 1,056,000 acres, but schemes covering some further 4,356,000 acres had at the outbreak of war been deposited with the Minister for final approval.‡

In the planning schemes approved in the period 1934–38 the percentages of areas zoned were: Residential, 51·7 per cent.; Industrial, business and general, 8·5 per cent.; Open spaces and agricultural, 19·7 per cent. In the schemes approved in the year 1938–9 the percentages were: Residential, 8·1 per cent.; Business, etc., 1·9 per cent.; and open spaces and agriculture, 18·1 per cent.§

* *Fertility, Productivity and Classification of Land in England and Wales.* Geographical Publications, Ltd. 1942.

†*Report of Ministry of Health 1938–39* (Cmd. Paper No. 6089).

‡*Report of Committee on Land Utilisation* (Cmd. Paper No. 6378).

§*Report of Ministry of Health 1938–39.* (Cmd. Paper No. 6089).

Population

Table 4.—POPULATION, 1821—1939*

Year	England and Wales	Scotland	Great Britain
1821	12,000,000	2,092,000	14,092,000
1841	15,914,000	2,620,000	18,534,000
1861	20,066,000	3,062,000	23,128,000
1881	25,974,000	3,736,000	29,710,000
1901	32,528,000	4,472,000	37,000,000
1911	36,070,000	4,761,000	40,831,000
1921	37,887,000	4,882,000	42,769,000
1931	39,952,000	4,843,000	44,795,000
1939 (estimated)† ..	41,460,000	5,007,000	46,467,000

PAST INCREASE IN POPULATION

The population of Great Britain showed a steady acceleration of absolute increase from 1801 up to 1901, since when the increase has been slowing down. The past trend is indicated in the following table :

Table 5.—INCREASE OF POPULATION OF GREAT BRITAIN, 1801—1939‡

Year	Population	Increase p.a.	Increase per cent. p.a.
1801	10,501,000	—	—
1851	20,801,000	206,000	—
1871	26,072,000	264,000	—
1881	29,710,000	364,000	1·30
1891	33,028,000	332,000	1·06
1901	37,000,000	397,000	1·13
1911	40,831,000	383,000	·98
1921	42,768,000	194,000	·46
1931	44,831,000	203,000	·46
1938	46,200,000	201,000	·44
1939	46,467,000	267,000	.58

* *Source : Census Returns* and *The Registrar-General's Statistical Review of England and Wales for the Year 1939.*

† The populations of England and Wales for the years 1940—1945 were provisionally estimated as follows :

1940	41,863,000	1943	42,143,000
1941	41,748,000	1944	42,449,000
1942	41,897,000	1945	42,636,000

(*Registrar-General's Quarterly Return, 30th September, 1945*). But the post-1939 estimates of the total population of England and Wales include members of its Armed Forces and Merchant Marine at Home and overseas. For years prior to 1940 the figures exclude Armed Forces and Merchant Seamen absent from the country approximating to 180,000 in recent years.

‡ *Source : Census Returns* and *The Registrar-General's Statistical Review of England and Wales for the Year 1939*, and the *White Paper : Current Trend of Population in Great Britain, 1942*, (Cmd. Paper No. 6358.)

FORECASTS OF FUTURE POPULATION

Much attention has been given in recent years to estimates of the future population of Great Britain. The birth rate declined steadily from 35·4 per 1,000 population in the period 1871–75 to 14·7 in 1933, since when it has remained at about 15 per 1,000. One of the most discussed estimates of the future trend of population is that of Dr. Enid Charles, whose figures were prepared on various hypotheses, as, for example, that the number of births per annum per 1,000 women of child-bearing age would : (1) remain unaltered ; or (2) would decline in accordance with the recent trend. On one of Dr. Charles' hypotheses (it should not be taken as a prediction), the calculations showed that the population of Great Britain, which was 45,508,000 in 1935, could fall by 1985 to 30,076,000, and by 2035 to 25,351,000. Another of her calculations, which assumed a static fertility rate and death rate, showed a less spectacular but still formidable decrease of population to 38,376,000 in 1985 and 24,616,000 in 2035 ; while her most favourable assumptions produced an increase of 3,000,000 or so from 1935 to 1965, followed by a decrease to about 37,500,000 by 2035.

The Registrar-General's White Paper, *Current Trend of Population in Great Britain (1942)* sets out the relevant facts and experience of the population of Great Britain in an objective manner. It explains the inherent complexity of the subject, and draws attention to the impossibility of a forecast for a long period ahead, because so many factors are changing and may reverse or intensify any of the trends. The birth rate since 1923 has been definitely insufficient to maintain a stationary population—in fact present rates are of the order of about 75 per cent. only of a full standard reproduction rate. The current increase of population is therefore due to the " peculiar age shape " of the present population, and to a less extent to inward migration. The meaning of these facts together is that the number of the older people in proportion to the younger people is increasing, and for some time at least must continue to increase.

The objective forecast in the White Paper of the changes in population up to 1971 is of importance to those concerned with Planning and Reconstruction, and is reproduced below.

The assumptions made (fully explained in the White Paper) are briefly : (*a*) that the death rate will continue to fall ; (*b*) that the fertility rate (that is, the birth rate per 1,000 women of child-bearing age) will be static at the recent level ; and (*c*) that net migration will be inwards at a declining rate up to 1951, and nil thereafter. Deviations of plus and minus 10 per cent. in factors (*a*) and (*b*) would give, on these assumptions, a population in 1951 between 47,200,000 and 47,800,000 ; in 1961, between 46,400,000 and 48,000,000 ; and in 1971, between 44,400,000 and 47,500,000. A population maximum of 47,000,000 to 48,000,000 may therefore be expected to be reached between 1951—61 "if events are allowed to take their natural course."

The most significant thing in this table is the forecasted change in the age distribution. It anticipates that in 1971 there will be 2,000,000 fewer children than in 1941, and 2,600,000 fewer people between 15 and 30, but 2,600,000 more people between 45 and 65, and 3,500,000 more people over 65. And that is disregarding the effects of the present war.

Table 6.—Forecast of Population of Great Britain 1941-1971*

	Actual Population	*Forecast Population*			
	1937	1941	1951	1961	1971
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Total Population	46,008	46,565	47,501	47,192	45,980
Deviations†	—	±25	±280	±805	±1,579
Age and Sex groups					
0–15, persons	10,179	9,573	9,054	8,433	7,600
15–30—					
Male	5,614	5,541	4,975	4,443	4,274
Female	5,691	5,539	4,907	4,319	4,471
30–45—					
Male	4,913	5,260	5,436	5,099	4,413
Female	5,438	5,637	5,557	5,069	4,351
45–65—					
Male	4,751	4,867	5,579	6,382	6,542
Female	5,552	5,822	6,482	6,957	6,790
Over 65, persons	3,870	4,326	5,511	6,490	7,863
Age and Sex groups	*Distribution per 1,000 total population*				
0–15, persons	221	205	191	179	165
15–30—					
Male	122	119	105	94	93
Female	124	119	103	92	90
30–45—					
Male	107	113	114	108	96
Female	118	121	117	107	95
45–65—					
Male	103	105	117	135	142
Female	121	125	137	147	148
Over 65, persons	84	93	116	138	171

These figures indicate the variations which would be produced under more favourable and less favourable assumptions, the modifications for this purpose being as follows :

More favourable assumptions : the ultimate mortality and fertility reached in 1971 to be 10 per cent. lower and 10 per cent. higher than the standrad respectively, with rateable differences for intervening years.

Less favourable assumptions : the same procedure but with factors 10 per cent. higher and 10 per cent. lower respectively in 1971.

The positive and negative deviations on the bases adopted are so nearly equal that they are shown as a single figure preceded by a plus and minus sign.

**Current Trend of Population in Great Britain.* (Cmd. Paper No. 6358. 1942).

Other authoritative estimates of the future Population of England and Wales will be found in : D. V. Glass, *Population Policies and Movements in Europe*, Oxford, 1940, and in the recent book : *Children for Britain* (London, 1945) by Grace Leybourne-White and Kenneth White.

VITAL STATISTICS

In the last few years of the war an improvement was shown in the vital statistics relating to mothers and children. Live births numbered some 745,000. This represents a provisional rate of 17·5 per thousand, compared with 14·5 in 1940, the first year of the war. The higher birth rate for 1944 is particularly noteworthy when taken in conjunction with the fall in the infant mortality rate to 45 per thousand live births. This figure has to be compared with 56 in 1940, the first year of the war, when the fall in infant mortality suffered a check, and with 50 for 1939 the previous lowest on record.

The maternal mortality rate declined to 1·95 per thousand total births, the lowest ever recorded, being 0·35 below the rate of 1943, the best previously attained. Taken in perspective, these figures are in themselves evidence of the great improvements made in maternity and child welfare services between the two wars. In the second year of the war of 1914—1918, the infant mortality rate was 110.*

Table 7.—BIRTH AND DEATH RATES. ENGLAND AND WALES, 1939-1944.†

Year	*Live Births per 1,000 population*	*Death Rate per 1,000 population*	*Maternal Mortality per 1,000 Births*	*Infant Mortality*	
				Number	*Rate per 1,000 live births*
1939 ..	14·9	12·1	3·10	31,190	50
1940 ..	14·5	13·9	2·60	33,892	56
1941 ..	1·41	12·8	2·76	34,550	59
1942 ..	15·6	11·5	2·47	32,258	49
1943 ..	1·62	11·9	2·30	33,431	49
1944‡ ..	17·5	11·6	1·95	33,455	45

REGIONAL DISTRIBUTION OF POPULATION

The remarkable changes in the distribution of the population in the various regions of Great Britain in recent times were fully described in the evidence given to the Barlow Royal Commission. Table 8 illustrates these changes. The figures have been brought up to 1939.

*Ministry of Health. *Summary Report, 1939—1941.*
†*Source : The Registrar-General's Statistical Review, 1940.*
Ministry of Health : *Summary Report, 1945.*
Registrar-General's Quarterly Returns.
‡*Provisional*

Table 8.—Distribution of the Total Population*

Area	Population in thousands							Proportionate population						
	1801	1861	1901	1911	1921	1931	1939	1801	1861	1901	1911	1921	1931	1939
London and the Home Counties	1,892	4,653	8,655	9,616	10,040	11,123	12,012,000	18·0	20·1	23·4	23·6	23·5	24·8	25·9
Lancashire	673	2,429	4,387	4,768	4,969	5,039	5,014,000	6·4	10·5	11·9	11·7	11·6	11·2	10·8
West Riding, Notts. and Derby	891	2,181	3,953	4,415	4,674	4,915	4,996,000	8·5	9·4	10·7	10·8	10·9	11·0	10·7
Staffs., Warwick, Worcs., Leics. and Northants	851	2,081	3,404	3,740	4,043	4,298	4,520,000	8·1	9·0	9·2	9·2	9·5	9·6	9·7
Northumberland and Durham	318	852	1,791	2,067	2,238	2,248	2,208,000	3·0	3·7	4·8	5·1	5·2	5·0	4·8
Mid Scotland	387	1,174	2,277	2,489	2,639	2,645	2,763,000	3·7	5·1	6·2	6·1	6·2	5·9	5·9
Glamorgan and Monmouth ..	116	492	1,158	1,517	1,729	1,663	1,557,000	1·1	2·1	3·1	3·7	4·0	3·7	3·4
Rest of Gt. Britain	5,373	9,267	11,375	12,219	12,436	12,900	13,397,000	51·2	40·1	30·7	29·8	29·1	28·8	28·8
Total	10,501	23,129	37,000	40,831	42,768	44,831	46,467,000	100	100	100	100	100	100	100–0

*Source : *Report of the Barlow Royal Commission on the Distribution of the Industrial Population, 1940.* Cmd. Paper No. 6153 (with the permission of the Controller of H.M. Stationery Office), and *The Registrar-General's Statistical Review of England and Wales. 1939* and *85th Annual Report of the Registrar-General for Scotland, 1939.*

EVACUATION FROM CITIES

At the outset of the war, the Government adopted a policy of dispersal of certain classes of persons from the large congested areas and of distribution more evenly over the rest of the country. The number of persons in the priority classes was estimated at 3,000,000—mostly school-children and children under school age accompanied by their mothers. In the four days from September 1st to 4th, 1939, 1,062,000 were moved. Supplementary evacuation movements between September 11th and November 8th brought the total to 1,208,970, made up as follows :

Table 9.—Persons Evacuated from Congested Areas, 1939*

	From the Metropolitan area	*From other Evacuation areas*	*Total*
School-children	393,700	371,200	764,900
Mothers and young children	257,000	169,500	426,500
Expectant Mothers	5,600	6,700	12,300
Blind persons	2,390	1,880	4,270
Cripples	50	950	1,000
Total	658,740	550,230	1,208,970

There being little or no bombing at this period, many drifted back, and by January 1940 the numbers in the reception areas had fallen to 420,000 school-children and 57,500 mothers with young children.

Under the second evacuation scheme early in 1940, designed to cover 550,000 of the 1,100,000 school-children still in evacuation areas, only 239,000 were registered by June 1940, and of these 138,200 were evacuated in June and July. After intensive bombing began in September 1940, a third scheme was started, and under this 169,000 (chiefly mothers and their children) were evacuated from Central London by March 1941. In addition, it was estimated that Government aid enabled 430,000 people to put their personal arrangements for evacuation into operation.

A count taken at 28th February, 1941, showed the total number of persons billeted in Reception and Neutral Areas as 1,225,000, including 479,000 unaccompanied school-children, 210,000 mothers accompanied by 325,000 children, and 221,000 adults. The number varied constantly throughout the war, with the lull or intensification in air-raids. At the end of March 1942 there were only 606,000 people—331,000 school-children and 275,000 mothers and children—billeted in reception areas, as against 872,000 at the end of September 1941. In July 1944, following the flying bombs, evacuation was resumed again on a large scale. It is estimated that nearly 1,250,000 left the danger areas between July and September 1944. From the Metropolitan evacuation area 285,000

*Ministry of Health *Summary Report 1939-41*. (Cmd. Paper No. 6340.)

mothers and children—including 101,000 unaccompanied children—were moved under organised arrangements. In addition, 525,000 persons, including old people and invalids, used the facilities provided by the Government, and a considerable number went out under their own arrangements. At the start of the flying bombs, about 250,000 persons evacuated in earlier movements were still officially billeted in reception areas. A census at 30th September, 1944, showed that the total number of evacuees officially billeted was 1,012,700, including 284,000 unaccompanied children and 601,000 mothers and children.

In September, as the Allied armies advanced on the Continent and the flying bomb attacks diminished, evacuation in organised parties, as well as assisted private evacuation, was suspended. Throughout the subsequent attacks by long-range rockets, it was found necessary to re-open evacuation facilities although Government assistance for evacuation continued to be available for people in the priority classes.

At 31st March, 1945, the number of evacuated persons still remaining in the reception areas was 438,000. Of these, 132,000 were unaccompanied children and 243,000 mothers with children, the remainder being aged and invalid people, teachers and helpers. Special arrangements were made by the Minister of Health to facilitate the return of the evacuees to their home-towns, and for the continuance of accommodation provision in the reception areas for those who, through loss of their homes, could not return for the time being.

Table 10.—Number of Evacuated Persons Billeted in Reception Areas.*

Date	*Total*	*Unaccompanied Children*	*Mothers and Children*	*Others*
Nov. 1939 ..	1,209,000	765,000	427,000	17,000
Jan. 1940.. ..	†	420,000	58,000	†
Feb. 28th, 1941 ..	1,225,000	479,000	535,000	221,000
Sept. 30th, 1941 ..	872,000	†	†	†
March 31st, 1942	606,000	331,000	275,000	†
July, 1944 ..	250,000	†	†	†
Sept., 1944 ..	1,013,000	284,000	601,000	128,000
March 31st, 1945	438,000	132,000	243,000	63,000
Sept. 30th, 1945..	†	13,268	†	†

* *Source :* Compiled from Ministry of Health *Summary Reports*, and information supplied by the Ministry of Health.
† Not available.

TOWN STRUCTURE OF GREAT BRITAIN

Table 11.—Number and Size of Towns in Great Britain*

Class†	*England and Wales (1939)*				*Scotland (1938)*			
	No.	*Loc. Auth. Areas*	*Population*	*Per cent.*	*No.*	*Loc. Auth. Areas*	*Population*	*Per cent.*
Towns 0— 5,000	215	215	675,000	1·6	118	118	275,000	5·5
„ 5— 10,000	168	168	1,222,000	3·0	34	34	238,000	4·8
„ 10— 20,000	164	164	2,356,000	5·7	17	17	230,000	4·6
„ 20— 30,000	76	76	1,847,000	4·4	5	5	121,000	2·4
„ 30— 50,000	64	64	2,405,000	5·8	7	7	282,000	5·6
„ 50— 100,000	32	32	2,299,000	5·5	1	1	68,000	1·4
„ 100— 150,000	7	8	831,000	2·0	1	3	110,000	2·2
„ 150— 250,000	12	32	2,345,000	5·7	2	2	356,000	7·1
„ 250— 750,000	8	22	2,894,000	7·0	1	1	469,000	9·4
„ 750—2,500,000	5	104	7,998,000	19·3	1	7	1,360,000	27·3
„ Greater London	1	110	9,311,000	22·5				
„ Total	752	995	34,183,000	82·5	185	195	3,509,000	70·3
Rural Districts ..			7,277,000	17·5				
Landward							1,484,000	29·7
Total Population ..			41,460,000	100			4,993,000	100

* *Source : Registrar-General's Statistical Reviews.*

† *Note :* The administrative line of demarcation between urban and rural areas has, for the purposes of this classification, been accepted. Accordingly, all administrative areas of Urban District, Municipal or County Borough status have been classified as "Towns" (in Scotland similar administrative areas are large and small burghs)—unless such an area is deemed to constitute part of a larger urban district or region, as in the seven conurbations (*see* footnote to Table 13).

Table 12.—Towns over 100,000—England and Wales, 1939.

8 Towns : 250–750,000			*12 Towns : 150–250,000*			*7 Towns : 100–150,000*		
Town	*Local Auth. Areas*	*Pop.*	*Town*	*Local Auth. Areas*	*Pop.*	*Town*	*Local Auth Areas*	*Pop.*
Sheffield ..	1	522,000	Cardiff-Penarth ..	2	242,000	Southend-on-Sea	1	138,000
Bristol ..	3	450,000	Plymouth ..	1	221,000	Derby ..	1	138,000
Hull	1	318,000	Coventry ..	1	220,000	Norwich ..	1	122,000
Portsmouth and Gosport	2	308,000	Blackburn ..	8	223,000	Preston ..	1	113,000
Leicester and Wigston ..	2	276,000	Brighton ..	4	229,000	St. Helens	2	118,000
Nottingham ..	5	389,000	Bournemouth	3	209,000	York ..	1	102,000
Stoke-on-Trent ..	3	350,000	Sunderland	1	182,000	Reading ..	1	100,000
Middlesbrough	5	281,000	Southampton	1	181,000			
			Swansea ..	1	161,000			
			Burnley ..	1	161,000			
			Rhondda ..	2	158,000			
			Blackpool ..	2	154,000			
Total ..	22	2,894,000		32	2,345,000		8	831,000
Per cent. of total population of England and Wales		7·0			5·7			2·0

Table 13.—Conurbations*

Conurbation	*Loc. Auth. Areas*	*Population*
1. Greater London	110	9,311,000
2. Manchester	37	2,236,000
3. Birmingham	25	2,102,000
4. W. Riding	24	1,537,000
5. Liverpool	8	1,274,000
6. Newcastle	10	850,000
All conurbations in England and Wales (1939)	214	17,310,000
Per cent. of total population of England and Wales (1939)		47·1
7. Glasgow (1938)	7	1,960,000
Per cent. of total population of Scotland (1938)		27·3

*Note : Conurbation defined as a virtually continuously built-up area.

HOUSING BETWEEN THE WARS

Whatever may be thought of the nation's planning policy the amount of house-building in Great Britain from 1919 to 1939 represents one of the most remarkable achievements of modern times in any country. The following Tables give the total number of houses built year by year in England and Wales and in Scotland, respectively. The figures have been supplied by the Ministry of Health and the Scottish Department of Health.

Table 14.—TOTAL NUMBER OF HOUSES BUILT BY LOCAL AUTHORITIES AND PRIVATE ENTERPRISE FROM 1ST JAN. 1919 TO 30TH SEPT. 1939. ENGLAND AND WALES.

Period	*By Local Authorities*		*By Private Enterprise*		*Grand Total Local Authorities and Private Enterprise*
	Under the Housing Acts		*Under the Housing Acts (with State Assistance)*	*Otherwise than under the Housing Acts (without State Assistance)*	
	With State Assistance	*Without State Assistance*			
(1)	(2)	(3)	(4)	(5)	(6)
1st Jan., 1919 to 31st March, 1920 ..	576		139		
Half-year ended 30th Sept., 1920	2,926		2,486	30,000 (Estimated)	
Year ended 30th Sept.,					
1921 ..	47,651		20,294		1,398,163 Average 127,105 per annum
1922 ..	85,976		20,189		
1923 ..	25,241		748	52,749	
1924 ..	14,544		21,915	73,032	
1925 ..	32,090		60,201	66,735	
1926 ..	61,402		70,493	65,689	
1927 ..	113,274		99,642	60,313	
1928 ..	59,220		42,571	64,624	
1929 ..	60,367		71,993	71,083	
1930 ..	49,052	2,965	2,272	107,410	161,699
1931 ..	60,169	3,119	1,866	129,790	194,944
1932 ..	66,434	2,056	2,656	130,830	201,976
1933 ..	47,977	1,236	2,456	166,644	218,313
1934 ..	49,679	3,663	2,581	257,746	313,669
1935 ..	32,685	10,660	230	275,069	318,644
1936 ..	63,749	1,125	306	274,348	339,528
1937 ..	70,630	709	1,564	264,231	337,134
1938 ..	87,494	878	3,625	248,923	340,920
1939 ..	68,282*	11,207*	3,451*	197,209	280,149
Totals ..	1,099,418	37,618	431,678	2,536,425	4,105,139
	1,137,036		2,968,103		
Per cent.	27·7		72·3		100

* Period—1.10.38 to 31.7.39.

Table 15.—Total Number of Houses Built by Local Authorities and Private Enterprise from 1st Jan. 1919 to 30th Sept. 1939. Scotland.

Year	By Local Authorities.				By Private Enterprise. (*including Public Utility Societies and Housing Associations*)			*Grand Total Local Authorities and Private Enterprise*
	With State Assistance.		*Without State Assistance*	*Total*	*Assisted*	*Unassisted* *	*Total*	
	Ordinary schemes, including de-crowding	*Slum Clearance Schemes*						
1919	—	—	—	—	—	—	—	—
1920	817	—	—	817	140	800	940	1,757
1921	4,342	—	—	4,342	1,237	800	2,037	6,379
1922	9,445	—	18	9,463	1,027	1,200	2,227	11,690
1923	6,243	208	—	6,451	167	1,200	1,367	7,818
1924	2,343	621	—	2,964	1,424	1,050	2,474	5,438
1925	3,275	1,547	—	4,822	3,375	1,236	4,611	9,433
1926	6,383	2,000	—	8,383	5,209	1,341	6,550	14,933
1927	13,533	2,046	234	15,813	4,577	1,502	6,079	21,892
1928	12,481	2,266	—	14,747	3,349	1,703	5,052	19,799
1929	11,982	2,334	—	14,316	3,924	917	4,841	19,157
1930	6,395	1,523	—	7,918	3,138	1,048	4,186	12,104
1931	6,103	2,212	—	8,315	2,339	1,465	3,804	12,119
1932	6,689	4,942	—	11,631	4,187	1,456	5,643	17,274
1933	8,480	7,328	—	15,808	5,237	2,550	7,787	23,595
1934	6,121	8,709	358	15,188	3,723	5,479	9,202	24,390
1935	2,135	15,146	1,533	18,814	—	6,578	6,578	25,392
1936	2,224	12,187	1,633	16,044	—	7,328	7,328	23,372
1937	9,052	3,805	484	13,341	12	7,617	7,629	20,970
1938	18,198	650	312	19,160	2	6,902	6,904	26,064
1939	18,682	32	216	18,930	246	5,980	6,226	25,156
Total	154,923	67,556	4,788	227,267	43,313	58,152	101,465	328,732
Per cent.				69·1			30·9,	100

* These are houses of five apartments and under. In addition, 8,307 houses of more than five apartments have been built.

Employment

Table 16.—Regional Distribution of the Occupied Population, 1801–1931*

Area	*Gainfully occupied population (thousands)*					
	1801	1861	1901	1911	1921	1931
London and the Home Counties	519	2,129	3,838	4,361	4,614	5,417
Lancashire	321	1,242	2,090	2,331	2,448	2,591
West Riding, Notts. and Derby	356	1,038	1,794	2,047	2,153	2,351
Staffs., Warwick, Worcs. Leics. and Northants	439	969	1,522	1,716	1,864	2,104
Northumberland and Durham	92	356	705	810	897	928
Mid Scotland	130	543	1,021	1,088	1,197	1,212
Glamorgan and Monmouth	43	222	473	627	692	682
Rest of Great Britain	2,316	4,054	4,869	5,371	5,557	5,770
Total	4,216	10,553	16,312	18,351	19,422	21,055

Area	*Proportionate number of gainfully occupied persons*					
	1801	1861	1901	1911	1921	1931
London and the Home Counties	12·3	20·2	23·5	23·8	23·8	25·7
Lancashire	7·6	11·8	12·8	12·7	12·6	12·3
West Riding, Notts. and Derby	8·4	9·8	11·0	11·2	11·1	11·2
Staffs., Warwick, Worcs. Leics. and Northants	10·4	9·2	9·3	9·4	9·6	10·0
Northumberland and Durham	2·2	3·4	4·3	4·4	4·6	4·4
Mid Scotland	3·1	5·1	6·3	5·9	6·2	5·8
Glamorgan and Monmouth	1·0	2·1	2·9	3·4	3·6	3·2
Rest of Great Britain	55·0	38·4	29·9	29·2	28·5	27·4
Total	100	100	100	100	100	100

*Source: *Report of the Barlow Royal Commission on the Distribution of the Industrial Population*, 1940. Cmd. Paper No. 6153 (with the permission of the Controller of H.M. Stationery Office).

Table 17.—Distribution of Total Manpower in Great Britain, 1939–1945*

	June 1939	June 1943	1945		
			June	Sept.	Dec.
Total working population	19,750	22,281	21,569	21,335	20,969
Males	14,656	15,028	14,846	14,834	14,794
Females	5,094	7,253	6,723	6,501	6,175
Armed Forces and Auxiliary Services	477	4,754	5,092	4,783	3,859
Males	477	4,293	4,655	4,426	3,563
Females	—	46	437	357	296
Civil Defence, National Fire Service and Police	80	323	127	113	107
Agriculture, horticulture, etc.	910	1,032	1,025	1,030	1,010
Mining and quarrying	873	818	799	789	785
National Government Service†	53	986	994	963	939
Local Government Service	846	800	829	850	852
Gas, water and electricity supply	242	200	196	201	214
Transport, shipping and fishing	1,273	1,191	1,267	1,285	1,312
Manufacturing industries	6,940	7,849	6,928	6,588	6,371
Building and Civil Engineering	**1,310**	**726**	**722**	**790**	**895**
Distributive trades	2,887	2,009	1,958	1,990	2,050
Commerce and finance, professional and personal services, entertainments, catering, laundries, etc.	2,105	1,513	1,488	1,495	1,540
Ex-members of H.M. Forces who have not yet taken up employment	—	20	40	285	750
Insured persons registered as unemployed	1,270	60	103	173	285

EMPLOYMENT RELATED TO BUILDING

The question of the number of persons employed in the building and allied industries arises in several ways in connection with Planning and Reconstruction. First, there is the capacity of the industries to carry out the necessary amount of rebuilding and new building in relation to the post-war demand. Second, there is the problem of expansion of the industries and of the expectation of long-term work on which recruitment to the industry could reasonably be asked for. And third, there is the extent to which government-fostered building and development can be used as a means of securing continuity of employment during periods of economic dislocation or slumps. The following factual tables are of value as showing the number of workers engaged at various periods in the building and constructional and building materials industries and the other industries which are directly affected by new construction.

*Source : *Monthly Digest of Statistics, No. 2, February, 1946.*

Note : Males aged 14–64 and females 14–59. The figures include employers and self-employed as well as employees, but exclude private domestic service. Women in part-time paid employment (estimated at 620,000 in December 1945) are included, two being counted as one unit.

†Including British civilian staffs of U.N.R.R.A. and Allied Control Commissions.

Table 18.—Number of Workpeople Insured in the Building, Public Works Contracting and Constructional Engineering Industries Compared with some Other Industries, July, 1939.*

Industry	*Number (in 000's)*		
	Males	*Females*	*Total*
Building	1,028·2	13·3	1,041·5
Public Works Contracting	361·6	2 0	363·6
Constructional Engineering	47·6	1·9	49·5
Total	1,437·4	17·2	1,454·6
Distributive Trades	1,258·9	832·0	2,090·9
Transport and Communication	849·4	42·1	891·5
Coal Mining	835·1	3·9	839·0
Agriculture	663·0	47·0	710·0
General Engineering	598·8	62·9	661·7
Cotton, Wool and Worsted Textiles	221·5	370·9	592·4
Motor Vehicles, Cycles and Aircraft	415·5	43·7	459·2
Gas, Water and Electricity Supply	210·8	11·6	222·4
Steel Melting, Iron Pudding, Iron and Steel Rolling	183·1	5·8	188·9
Ship Building and Ship Repairing	172·8	3·2	176·0

Table 19.—Number of Workpeople Insured in Industries Almost Entirely Dependent upon Building and Public Works Activity, July, 1939.*

Industry	*Number (in 000's)*
Brick-, Tile-, Pipe-, etc., making	100·5
Stove, Grate, Pipe, etc., Iron Founding (excluding Engineers' Iron Founding)	97·4
Saw Milling and Machined Woodwork	67·1
Stone-Quarrying and Mining	50·8
Electric Wiring and Contacting	42·8
Artificial Stone and Concrete	31·4
Paint, Varnish, Red and White Leads	25·1
Heating and Ventilating Apparatus	22·0
Clay, Sand, Gravel and Chalk Pits	18·7
Cements, Limekilns and Whiting	18·1
Slate-quarrying and Mining	9·3
Wallpaper-Making	7·6
Total	490·8

Table 20.—Numbers (in 000's) of Insured Workers (Aged 16–64) in the Building Industry, 1929—1939†

Mid-1929	*-1930*	*-1931*	*-1932*	*-1933*	*-1934*	*-1935*	*-1936*	*-1937*	*-1938*	*-1939*
826·0	832·3	858·2	856·9	883·8	928·3	976·8	1,019·7	1,035·3	1,050·1	1,01·6

*From : B. S. Townroe, *The Building of a New Britain*, Building Industries National Council, 1941 (with permission).

†*Source : Ministry of Labour Gazette*

Table 21.—ESTIMATED NUMBER OF MALES EMPLOYED IN THE BUILDING AND CIVIL ENGINEERING INDUSTRIES IN GREAT BRITAIN, 1944–1945. Thousands*

End of month	Insured workers aged 16–64			Employed operatives aged 16 and over (1)						
	Total	Employed (2)	Unemployed	Total	Construction of new houses by Local Authorities(3)	Conversions and adaptations to houses, etc.(4)	War damage repairs to houses	Other war damage repairs	Industry and agriculture (5)	Other work(6)
1944 January	545	535	10	—	—	—	—	—	—	—
June	496	488	8	—	6	—	—	—	—	—
December	521	513	8	—	5	—	—	—	—	—
1945 January	527	519	8	481	5	23	179	12	53	209
June	578	572	6	520	26	34	204	15	61	180
September	650	642	8	594	47	51	210	17	73	196
December	745	733	12	682	72	72	192	19		

* *Source: Monthly Digest of Statistics, No. 2, February, 1946.*

(1) These figures are based on returns collected by the Ministry of Works. They are not strictly comparable with those in the second column of this table since they include operatives aged 65 and over but exclude (*a*) clerical and administrative workers and (*b*) some workers who are classified in the building and civil engineering industries for the purpose of Unemployment Insurance, but are not covered by the returns collected by the Ministry of Works.

(2) Including insured clerical and administrative workers and men in transit from one job to another.

(3) Preparation of sites and buildings of permanent and temporary houses, but excluding private enterprise housing under Local Authorities' licences

(4) Including private enterprise housing under Local Authorities' licences.

(5) Factories and storage, shops and commercial premises, docks, public utilities, farms and agricultural premises.

(6) Including maintenance and repair of houses and new construction and maintenance of other buildings not included elsewhere.

Slightly different but more detailed figures are given in the first Monthly Housing Return of the Ministry of Health:

Table 22.—Housing Labour Force, 1945–1946.*

Operatives employed on (1)	*At 31st July, 1945*		*At 31st January, 1946*	
	England and Wales (2)	*Scotland* (2)	*England and Wales* (4)	*Scotland* (5)
Housing				
(1) War Damage Repairs to Houses ..	203,400	600	197,100‡	900‡
(2) Preparation of Housing Sites (exclusive of German Prisoners of War, *see* note below)	11,500	1,700	15,700	2,700
(3) Erection of Temporary Houses ..	13,100	1,400	32,400	4,400
(4) Erection of Permanent Houses ..	400	3,800	28,050	6,400
(5) Repair and Maintenance to Houses	60,000	10,000	70,000‡	10,000‡
(6) Conversions and Adaptations ..	36,000	6,000	60,850‡	6,900‡
Total	324,400	23,500	404,100‡	31,300‡
	347,900		435,400	
(7) Other Building and Civil Engineering	177,460		255,400	
Grand Total (British Labour) ..	525,360†		690,800†	

Table 23.—Estimated Numbers Employed in the Building Materials Industries, 1939–1945. Analysis by Destination of Product. Thousands.§

	Building materials, pottery and glass industries					
	Total	*Males*	*Females*	*Employed on orders for*		
				Supply depts.	*Home market*	*Export*
1939 June	259·7	203·5	56·2	—	—	—
1943 June	166·1	10·81	58·0	76·0	75·5	14·3
1945 June	153·5	97·7	55·8	34·7	97·0	21·8

*Source: Ministry of Health. *Housing Return for England and Wales, 31st January, 1946.*

†These figures represent the estimated number of operatives employed and exclude men in transit between jobs, unemployed and clerical workers, and German Prisoners of War engaged on preparation of Housing Sites (30,686.)

‡Provisional estimates.

§*Source: Monthly Digest of Statistics, No. 25,* February, 1946.

Note: Great Britain. Males aged 14–64 and females aged 14–59, but excluding non-manual workers earning over £420 per annum. Part-time female workers are included, two such workers being counted as one unit.

Table 24.—Estimated Numbers Employed in the Building Materials, Pottery and Glass Industries, 1939–1945. Thousands.*

	Cement manufacture, lime-kilns, cast stone and concrete, patent fuel, etc.			*Bricks, tiles, pipes and fire-clay goods*		
	Total	*Males*	*Females*	*Total*	*Males*	*Females*
1939 June	48·1	44·9	3·2	96·4	90·7	5·7
1943 June	43·4	32·7	10·7	40·6	34·4	6·2
1944 June	40·0	30·2	9·8	35·6	30·2	5·4
1945 June	34·4	26·3	8·1	34·3	29·0	5·3
September ..	35·2	27·4	7·8	35·8	30·4	5·4
December ..	37·8	30·1	7·7	41·0	35·0	6·0

	Pottery, earthenware china, porcelain and glazed tiles			*Glass and glass bottles (excluding scientific glass)*		
	Total	*Males*	*Females*	*Total*	*Males*	*Females*
1939 June	67·0	30·0	37·0	48·2	37·9	10·3
1943 June	36·7	14·6	22·1	45·4	26·4	19·0
1944 June	36·2	14·3	21·9	44·5	25·9	18·6
1945 June	39·0	14·7	24·3	45·8	27·7	18·1
September ..	41·3	15·3	26·0	46·5	28·2	18·3
December ..	44·9	16·8	28·1	49·7	31·0	18·7

Table 25.—Production of Building Materials and Components, 1938—1946 Monthly Averages or Calendar Months.*

	Cement†	*Building bricks‡*	*Slates‡*	*Roofing tiles‡*	*Asbestos cement sheets‡*	*Metal windows and doors ‡*	*Gas and electric cookers‡*
	Thousand tons	*Millions*			*Thousand tons*	*Tons*	*Thousand*
1938	643	610	—	—	—	—	—
1941	591	385	—	—	—	—	—
1942	621	248	—	—	—	—	—
1943	584	161	—	—	—	—	—
1944	380	119	—	—	—	—	—
1945	338	102	4–90	10·98	20·41	—	—
1945 January ..	206	95	4–19	8·48	21·59	606	—
June ..	358	101	5–19	10·68	21·58	1,385	—
September	364	102	5–21	12·62	22·13	2,462	17·18
December	387	114	4–77	13·22	20·84	2,928	23·72
1946 January ..	—	140	—	15·95	24·33	4,572	28·34

*Source : *Monthly Digest of Statistics, No. 2, February, 1946.*

Note : Great Britain. Males aged 14-64 and females aged 14-59, but excluding non-manual workers earning over £420 per annum. Part-time female workers are included, two such workers being counted as one unit.

†Figures relate to nearly all the firms in the industry. ‡Great Britain.

MEASURES AND EQUIVALENTS

The following tables contain some measures and equivalents, likely to be useful to town and country planners, and not always available in suitable form.

Table 26.—Measures and Equivalents

A. Measures of Length : Metric Equivalents.

1 inch	=	0·0254 metre	1 metre	=	39·3708 inches
1 foot	=	0·3048 metre	1 metre	=	3·2809 feet
1 yard	=	0·9144 metre	1 metre	=	1·0936 yards
1 chain	=	20·1164 metres	1 metre	=	0·0497 chain
1 mile	=	1·6093 kilometres	1 kilometre	=	0·6214 mile

B. Measures of Length : Other Equivalents

1 chain	=	22 yards	=	66 feet
1 furlong	=	220 yards	=	660 feet
1 mile	=	1,760 yards	=	5,280 feet
1 verst (Russia)			=	0·663 mile

C. Measures of Area : Metric Equivalents

1 sq. foot	=	0·0929 sq. metre	1 sq. metre	=	10·6743 sq. ft.
1 sq. yard	=	0·8361 sq. metre	1 sq. metre	=	1·1960 sq. yds.
1 pole	=	25·2919 sq. metres	1 are	=	3·9538 poles
1 acre	=	0·4047 hectare	1 hectare	=	2·4711 acres

D. Measures of Area : Other Equivalents, etc.

1 sq. yard	=	9 sq. ft.	=	1,296 sq. inches
1 pole	=	30¼ sq. yards	=	272¼ sq. feet
1 rood	=	1,210 sq. yards	=	10,890 sq. feet
1 acre	=	4,840 sq. yards	=	43,560 sq. feet
1 sq. mile	=	640 acres	=	27,878,400 sq. feet

E. Measures of Cubic Content : Metric Equivalents

1 cubic inch	=	16·386 cubic centimetres	1 cubic centimetre	=	0·061 cu. inch
1 cubic foot	=	0·028 cubic metre	1 cubic metre	=	35·317 cu. feet
1 cubic yard	=	0·765 cubic metre	1 cubic metre	=	1·308 cu. yards
1 gallon	=	4·546 litres	1 litre	=	0·220 gallon

F. Measures of Cubic Content : Other Equivalents

1 cubic foot	=	6·232 gallons	=	1,728 cubic inches
1 cubic yard	=	27 cubic feet	=	46,656 cubic inches
1 gallon	=	0·1605 cu. feet	=	277·274 cubic inches
	=	7¾ × 6 × 6 inches (abt.)		

G. Measures of Weight : Equivalents

16 drams	=	1 ounce	=	28·3495 gr.
16 ounces	=	1 lb.	=	453·5927 gr. 0·4536 kg.
28 lb.	=	1 quarter	=	12,7006 kg.
112 lb.	=	1 cwt.	=	50·8024 kg.
2,240 lb. 20 cwt.	=	1 ton	=	1016·0475 kg. 1·01605 tonnes
		1 gramme	=	0·03527 oz.
10 grammes	=	1 decagramme	=	0·3527 oz.
100 grammes	=	1 hectogramme	=	3·52739 oz.
1,000 gr.	=	1 kilogramme	=	2·2046 lb.
1,000 kg.	=	1 tonne	=	2204·621 lb. 0·9842 ton

AREAS WITHIN LARGE CIRCLES

For many practical purposes (for example the population served by a shopping centre or school), as well as for important theoretical discussions of planning principles (for example the optimum size of towns) it is frequently necessary to calculate the land area within a given radius. The following table is intended to facilitate such calculations. The areas are calculated to the nearest square mile and the nearest ten acres respectively. The value used for π is 3·14159 (Log. 0·4971499). The curvature of the earth is ignored, being negligible for these areas.

The figures of equivalent population at an overall density of 20 persons per acre are given as a very rough guide to the *maximum* population which could be accommodated by a fully built-up town or city within the corresponding radius. Actually that average density is rarely attained within an urban unit, but almost all the figures available are vitiated by the fact that the areas of local government units which are also complete towns, for which statistics are available, almost always include, not only badly congested parts, but also some land on the outskirts which is in agricultural use. On the other hand, few cities have adequate recreation space.

In the U.S.A. in 1925 the cities of 500,000 and over (which then contained 17,000,000 people) had an average density of 18·55 persons per acre; those between 100,000 and 500,000 about 10 per acre; and those between 30,000 and 100,000, 7·47 persons per acre. But on Manhattan Island, which is the central core of New York, the density was 138 per acre. The area of Greater London (the Metropolitan Police District), about 692 square miles, contained in 1936 about 8¼ million people, or about 19 persons per acre. The Water Board area of 573 sq. miles held about 7¼ million people, or about 20·5 per acre, but this excluded much of built-up London, and included much rural land. On the other hand the County of London had a population of over 4,140,000 in 117 square miles, or rather over 55 persons per acre, and while no appreciable part of the County was unbuilt-on, certain parts had a grossly excessive density, and by accepted standards there was an acute shortage of space for recreation and proper housing, as well as for business purposes.

These widely varying figures account for much confusion of thought on the subject. But theoretical calculations, and experience in completely planned towns, confirm the view that city populations and all their urban purposes cannot be comfortably provided for in a large city at an overall density in excess of 20 persons per acre. Variations from the density used in the table can, however, easily be made by anyone using it. The figures in the population column towards the end of the table have of course only academic interest.

Table 27.—Areas of Circles of Given Radii

Radius in Miles	*Area in Square Miles*	*Area in Acres*	*Equivalent Population at 20 persons per acre*
0·125	0·0491	31	625
0·25	0·1964	126	2,510
0·5	0·7854	503	10,050
1	3·1416	2,011	40,200
2	12·56	8,042	160,800
3	28·27	18,100	362,000
4	50·26	32,170	643,400
5	78·54	50,266	1,005,300
6	113	72,382	1,447,600
7	154	98,520	1,970,400
8	201	128,680	2,573,600
9	254	162,860	3,257,000
10	314	201,060	4,021,000
11	380	243,280	4,866,000
12	452	289,530	5,791,000
13	531	339,800	6,795,000
14	616	394,080	7,882,000
15	707	452,390	9,048,000
20	1,256	804,250	16,085,000
30	2,827	1,809,560	36,191,000
40	5,027	3,217,000	64,340,000
50	7,854	5,026,560	100,500,000
100	31,416	20,106,240	402,000,000

Books, Periodicals and Films

Books

TOWN AND COUNTRY PLANNING

Abercrombie, Sir Patrick. *Town and Country Planning.* (Oxford University Press) 1943. 3s. 6d.

Adburgham, J. F. and E. E. Halton. *Planning our Country.* (English Universities Press) 1944. 4d.

Adshead, S. D. *A New England.* (Muller) 1942. 7s. 6d. *New Towns for Old.* (Dent) 1943. 6d. *Town Planning and Town Development.* (Methuen) 1938. 10s.

Architectural Association of Ireland. *When Ireland Builds Again.* 1945. 1s.

Association for Education in Citizenship, 51, Tothill Street, London, S.W.1. *Our Towns,* by E. E. Halton. 1942. 3d.

Association for Planning and Regional Reconstruction, 34 Gordon Square, London, W.C.1. *The Delimitation of Regions for Planning Purposes : The Concept of a Functional Region* (Broadsheet). 1942. 6d. (Reprinted 1943). *Garden Space.* 1941. 1s. 6d. *Habitation Wastes. A Review of Existing Methods of Treatment.* 1944. 5s. *Habitation Wastes :* Part I, *Introduction : Discussion of Principles of Treatment ;* Part II, *Methods of Treatment : A Technical Analysis of Present Systems ;* Part III, *General Recommendations ;* Part IV, *Layout of Sewers.* 1944. 6d. each part. *Household Classification.* 1946. 2s. 6d. *Integration of Home, School and Neighbourhood.* 1942. 1s. 6d. *Planning and Climate.* 1946. 5s. *Planning Prospects,* by Prof. E. G. R. Taylor. (Lund Humphries) 1945. 6s. *The Problem of Density—A Framework for Research.* 1941. 1s. 6d. *A Profile of Bethnal Green.* 1946. 5s. *Rebuilding Devastated France after 1918* (Broadsheet). (Available May. 1946). 6d. *Rebuilding Devastated France 1918-22.* (Report). 1943. 1s. 6d. *Regional Boundaries of England and Wales : An Examination of Existing and Suggested Boundaries.* 1943. 6d. (Reprinted 1946). *Retail Shops.* 1943. 1s. 6d. *The Scope and Content of Planning Surveys.* 1942. 1s. 6d. *Survey Before Plan—a Method of Industrial Survey.* 1944. 2s. 6d. A *Warning to Planners : The Story of Honor Oak Estate,* by R. Glass. (Reprint from *The National House Builder* and *The Building Digest*). 1945. 6d.

Badmin, S. R. *Village and Town.* (Penguin) 1942. 2s.

Betjeman, J. *English Cities and Small Towns.* (Collins) 1943. 4s. 6d.

Bossom, A. C. *Post-War Building.* (Dent) 1944. 6d.

Boumphrey, G. M. *Town and Country Tomorrow.* (Nelson) 1941. 3s. 6d.

Bournville Village Trust. *When We Build Again.* (Allen & Unwin) 1941. 8s. 6d.

Bullock, E. H. *Planning Tomorrow's Britain.* (Muller) 1944. 7s. 6d.

Calder, R. *The Lesson of London.* (Secker & Warburg) 1941. 2s.

Cole, G. D. H. *Britain's Town and Country Pattern.* (Faber) 1943. 2s. 6d. *Building and Planning.* (Cassell) 1945. 10s. 6d.

Cotton, C. A. *Geomorphology: An Introduction to the Study of Landforms.* (Whitcombe & Tombs) 1942. 25s. *Landscape: As Developed by Processes of Normal Erosion.* (Cambridge University Press) 1941. 21s.

Dennison, S. R. *The Location of Industry and the Depressed Areas.* (Oxford University Press) 1939. 10s. 6d.

Devereux, W. C. *Post-War Reconstruction of Industry in South Wales.* (Cardiff: Western Mail and Echo) 1943. 6d.

Dickinson, R. E. *City, Region and Regionalism.* (Routledge). (In preparation 1946). About 25s.

Ecclesiological Society, Walcot House, 139 Kennington Road, London, S.E.11. *The Continuity of the English Town.* 1943. 4s. 6d.

Escritt, L. B. *Regional Planning.* (Allen & Unwin) 1943. 12s. 6d.

Fagg, C. and G. E. Hutchings. *An Introduction to Regional Surveying.* (Cambridge University Press) 1930. 7s. 6d.

Fawcett, C. B. *A Residential Unit for Town and Country Planning.* (University of London Press) 1944. 3s.

Finer, H. *The T.V.A.; Lessons for International Application.* (International Labour Office) 1944. 6s.

Fontain, H. P. C. de La. *National Planning and Re-Development.* (Dent) 1943. 6d.

Forshaw, J. H. *Town Planning and Health.* (King & Staples) 1945. 1s. 6d.

Gibbon, Sir Gwilym. *Reconstruction and Town and Country Planning with an Examination of the Uthwatt and Scott Reports.* (Rolls House Publishing Co.) 1942. 15s.

Glass, D. *The Town.* (Lane) 1945. 3s. 6d.

Gutkind, E. A. *Creative Demobilisation.* Vol. 1, *Principles of National Planning.* Vol. 2, *Case Studies in National Planning.* (Kegan Paul) 1943. 21s.

Hinks, A. R. *Maps and Survey.* (Cambridge University Press) 1942. 16s.

Housing Centre, 13, Suffolk Street, London, S.W.1. *How Allotments could be Made an Amenity Asset to the Community,* by Lady Allen of Hurtwood. 1936. 6d. *Playparks,* by T. Adams. 1937.

Howard, E. *Garden Cities of Tomorrow.* (Faber) 1898, reprinted 1946. 6s.

Huxley J. *T.V.A.: Adventure in Planning.* (Architectural Press) 1943. 8s. 6d.

Idle, E. D. *War Over West Ham.* (Faber) 1943. 6s.

Independent Traders' Alliance, 283, Corn Exchange Buildings, Fennel Street, Manchester, 4. *Town Planning and the Independent Shopkeeper: Report of Committee of Independent Traders' Alliance.* 1945.

Institute of Fuel, 30, Bramham Gardens, London, S.W.5. *Joint Conference of the Institute of Fuel and National Smoke Abatement Society.* 1945. 2s. 6d.

Institute of Housing, 359, Strand, London, W.C.2. *The Recent Trend of Town Planning,* by C. G. Craven. 1939. 6d.

Institute of Landscape Architects, 12 Gower Street, London, W.C.1. *Garden Space.* 1942. 1s. 3d. *The Landscape Treatment of New Towns.* 1946. 1s. 3d.

Land Settlement Association, 43, Cromwell Road, London, S.W.7. *Town Planning and the Part-time Use of Land.* 1945. 3d.

Le Corbusier. *The City of Tomorrow.* (Rodker) 1930. (Out of print).

Liepmann, K. *The Journey to Work.* (Kegan Paul) 1944. 15s.

Lilienthal, D. E. *T.V.A. : Democracy on the March.* (Penguin) 1944. 1s.

Lobeck, A. K. *Geomorphology. An Introduction to the Study of Landscapes.* (McGraw) 1939. 25s.

McAllister, E. G. *Houses and Towns after the War.* (Dent) 1944. 6d.

McAllister, G. and E. McAllister (Ed.). *Homes, Towns and Countryside.* (Batsford) 1945. 18s. *Town and Country Planning : A Study of Physical Environment : The Prelude to Post-War Reconstruction.* (Faber) 1941. 12s. 6d.

McCallum, I. (Ed.). *Physical Planning : The Groundwork of a New Technique.* (Architectural Press) 1945. 21s.

Marchant, Sir James (Ed.). *Post War Britain.* (Eyre & Spottiswoode) 1945. 12s. 6d.

Mears, F. C. *Interim Report on Population Trends in Relation to Industrial Development and Housing Needs.* 1945.

Mumford, L. *City Development.* (Secker & Warburg) 1946. 8s. 6d. *The Culture of Cities.* (Secker & Warburg) 1938. 15s. (Reprinting).

National Council of Social Service, 26, Bedford Square, London, W.C.1. *Dispersal : An Inquiry into the Advantages and Feasibility of the Permanent Settlement out of London and other great Cities of Offices and Clerical and Administrative Staffs.* (Oxford University Press) 1944. 3s. 6d. *Playing Fields.* (Under revision). *Town and Country Planning.* 1945. 6d.

National Institute of Economic and Social Research, 53, Romney Street, London, S.W.1. *Size of Plant, Location and Investment : An Enquiry into the Structure of Different Industries,* by P. Sargant Florence, assisted by W. Baldamus. (Cambridge University Press). (In preparation). *The Distribution of Wealth and the Location of Industry,* by R. M. Titmuss. (Cambridge University Press). (In preparation).

National Playing Fields Association, 71, Eccleston Square, London, S.W.1. *The Lay-out of a Playing Field,* by P. W. Smith. 1946. 6d. *The Selection of Land for the Purpose of a Playing Field,* by P. Maud. 1946. 6d.

National Smoke Abatement Society, Chandos House, Buckingham Gate, London, S.W.1. *Measures for Smoke Prevention in Relation to Plans for Post-War Reconstruction : Proceedings of the 11th Annual Conference of the National Smoke Abatement Society.* 1943. 1s. *Smoke Prevention in Relation to Initial Post-War Reconstruction.* 1942. 2d.

Nuffield College, 17, Banbury Road, Oxford. *Britain's Town and Country Pattern.* Prepared by the Nuffield College Social Reconstruction Survey. (Faber) 1943. 2s. 6d. *Prospects of the Industrial Areas of Great Britain,* by M. P. Fogarty. (Methuen) 1945. 32s.

Nursery Schools Association of Great Britain. *Planning the New Nursery Schools.* (University of London Press) 1945. 2s. 6d.

Osborn, F. J. *Green Belt Cities.* (Faber) 1946. 12s. 6d. *Land and Planning.* (Faber) 1942. 1s. *New Towns After the War.* (Dent) 1942. 4s. 6d. *Overture to Planning.* (Faber) 1941. 1s.

PEP, 16, Queen Anne's Gate, London, S.W.1. *The Location of Industry.* 1939. 13s. (Binding).

Pearson, S. V. *London's Overgrowth, and the Causes of Swollen Towns.* (Daniel) 1939. 8s. 6d.
Pirone, P. P. *Maintenance of Shade and Ornamental Trees.* (Oxford University Press) 1941. 19s.
Pool, P. and F. Stephenson. *A Plan for Town and Country.* (Pilot Press) 1944. 4s. 6d.
Potter, M. and A. Potter. *The Building of London.* (Penguin) 1945. 2s. (Reprinting).
Pumphrey, R. *Industry and Town Planning.* (Faber) 1941. 1s.
Purdom, C. B. *Britain's Cities Tomorrow.* (King, Littlewood & King) 1942. 1s. *The Building of Satellite Towns.* (Dent) 1925. 25s. *How Should We Rebuild London?* (Dent) 1945. 12s. 6d.
Ramblers' Association, 20, Buckingham Street, London, W.C.2. *Right of Way.* 1944. 9d.
Rautenstrauch, W. *Industrial Surveys and Reports.* (Chapman & Hall) 1940. 15s.
Reddaway, T. F. *The Rebuilding of London after the Great Fire.* (Cape) 1940. 18s.
Retailers' Advisory Committee on Town Planning. *The Planning of Shopping Areas.* (National Chamber of Trade, 3, Victoria Street, London, S.W.1.) 1945. 4d.
Robertson, M. and R. S. Wilshere. *Town Planning in Ireland.* (Irish Association : Dundalgan Press) 1944. 6d.
Royal Institute of British Architects, 66, Portland Place, London, W.1. *Rebuilding Britain.* (Lund Humphries for the R.I.B.A.) 1943. 3s. 6d. (Out of print). *Towards a New Britain.* (R.I.B.A. and Architectural Press) 1943. 1s. 6d. (Out of print).
Royal Society of Ulster Architects, 7, College Square North, Belfast, N. Ireland. *Planning and Reconstruction in Northern Ireland.* 1945.
Saltire Society, Gladstone's Land, Lawnmarket, Edinburgh. *Building Scotland,* by A. Reiach and R. Hard (Ed.). 1945. 5s.
Schumacher, E. F. *Planning for Reconstruction.* (Architectural Press, Cheam) 1944. 1s. *What will Planning Mean in Terms of Money?* (Architectural Press, Cheam) 1945. 6d.
Scottish Association of Scientific Workers. *Highland Power.* 1945. 3s. 6d.
Scottish Women's Group on Public Welfare. *Our Scottish Towns.* (Hodge, Edinburgh) 1944. 1s. 6d.
Segal, W. *Planning and Transport : Their Effects on Industry and Residence.* (Dent) 1945. 3s. 6d.
Sharp, T. *Town and Countryside.* (Oxford University Press) 1937. 6s. *Town Planning.* (Penguin) 1940. 1s.
Simon, Sir Ernest. *Rebuilding Britain.* (Gollancz) 1945. 6s.
Sitte, C. *The Art of Building Cities.* (Chapman & Hall) 1946. 33s.
Slough Estates, Ltd. *Adapting War-Time Sites to Post-War Uses,* by A. Noel Mobbs. (For private circulation). 1945.
Smith, W. *The Distribution of Population and the Location of Industry on Merseyside.* (University Press of Liverpool) 1942. 5s. (Out of print).
Soule, E. S. and C. Mackenzie. *Community Hygiene.* (Macmillan) 1941. 7s. 6d.
Swarbrick, J. *Easements of Light.* (Batsford). Vol. 1, 1930. 35s. Vol. 2, 1933. 40s. Synopsis, 1938. 1s. 6d.

Town and Country Planning (King and Staples) 1942. 2s.

Town and Country Planning Association, 13, Suffolk Street, London, S.W.1. *Country Towns in the Future England: A Report of the Country Towns Conference to the Association.* S. Baron (Ed.). (Faber and Faber) 1944. 8s. 6d. *Evidence to Royal Commission on the Distribution of Industrial Population.* (The Association) 1938. 2s. 6d. *Houses, Towns and Countryside,* by E. Halton. 1943. 1s. *Industry and Rural Life: Being a Summarised Report of the Cambridge Conference of the Town and Country Planning Association, Spring, 1942.* H. B. Newbold (Ed.) (Faber and Faber) 1942. 8s. 6d. *The New Planning: Report of the Association's Conference on Redevelopment and Relocation.* B. Bliss (Ed.) (Faber and Faber) 1945. 8s. 6d. *Replanning Britain: Report of the Oxford Planning Conference.* F. E. Towndrow (Ed.) (Faber and Faber) 1941. 7s. 6d. *Replanning Scotland.* J. Mann (Ed.) (The Association) 1943. 5s.

Town Planning Institute, 18, Ashley Place, London, S.W.1. *Model Form of Agreement between Planning Authority and Planning Consultant.* 1943. 2s. *Report on Compensation and Betterment.* 1940. 1s. *Report on the National Survey and National Planning Committee.* 1938. 1s. *Town and Country Planning Summer School Reports.* W. Loftus Hare (Ed.) 1933. 1934. 1936. 1937. 1938. 2s. 6d. to 1s. each. *Report of the Town and Country Planning Summer School, Birmingham, 1943, St. Andrews, 1944, Bristol, 1945.* 3s. 6d. each. *Twenty-One Years of Town Planning in England and Wales,* by G. L. Pepler. 1934. 1s. *Year Book.* 1945-6. 2s.

Tripp, H. A. *Town Planning and Road Traffic.* (Arnold) 1942. 10s.

Trystan Edwards, A. *A Hundred New Towns?* (Dent) 1944. 6d.

Tubbs, R. *Living in Cities.* (Penguin) 1942. 2s. 6d. (New edition in preparation).

Tunnard, C. *Gardens in the Modern Landscape.* (Architectural Press, Cheam) 15s. (Out of print).

Tyerman, D. (Ed.) *Ways and Means of Rebuilding.* (Faber and Faber) 1944. 8s. 6d.

Voronin, N. *Rebuilding the Liberated Areas of the Soviet Union.* (Hutchinson) 1945. 6s.

Walker, R. A. *The Planning Function in Urban Government.* (Cambridge University Press). 1941. 18s.

Watkins, E. S. *According to Plan.* (Architectural Press, Cheam) 1945. 5s. *How will Planning Affect Land Ownership?* (Architectural Press, Cheam) 1944. 6d.

West Midland Group on Post-War Reconstruction and Planning, Estate Office, Bournville, Birmingham. *Reports on the Control of the Use of Land and the Administrative and Financial Problems of Town Planning with a Note on the Size and Function of Local Government Units.* 1944. 1s. *Survey of Land Classification in the West Midland Region.* In preparation, 1946.

Whyte, Sir W. E. *Scotland's Housing and Planning Problems.* (Dent) 1943. 6d. *Town and Country Planning in Scotland.* (Hodge, Edinburgh) 1934. 2s. 6d.

Williams-Ellis, C. *Britain and the Beast.* (Dent) 1937. 10s. 6d. *Plan for Living.* (Faber and Faber) 1942. 1s. *Your Inheritance.* (Architectural Press, Cheam) 1942. 1s.

Wilmore, A. *Industrial Britain : A Survey.* L. R. Latham (Ed.) (Harrap) 1939. 6s.
Wolfe, L. *The Reilly Plan.* (Nicholson and Watson) 1945. 6s.
Women's Group on Public Welfare, 26, Bedford Square, London, W.C.1. *Our Towns—A Close Up.* (Oxford University Press) 1944. 5s.
Workers' Educational Association, 38, St. George's Drive, London, S.W.1. *Houses and Towns to Live In.* 1944. 3d.
Young, G. M. (Ed.) *Country and Town : A Summary of the Scott and Uthwatt Reports.* (Penguin) 1943. 9d.

REFERENCE BOOKS

Guides to Study

Royal Institute of British Architects, 66, Portland Place, London, W.C.1. *Outline of Studies in Town Planning.* Prepared at the request of the R.I.B.A. Committee on the Training of Architects in Town Planning, by H. V. Lanchester. 1944. 1s.
Town and Country Planning Association, 28, King Street, London, W.C.2. *Study Outlines : Town and Country Planning for the Local Community.* 1944. 2s. 6d.
Town Planning Institute, Maxwell House, 11, Arundel Street, London, W.C.2. *Examination Syllabus and Instructions to Candidates.* 1s.

Maps and Surveys

Association for Planning and Regional Reconstruction, 32, Gordon Square, London, W.C.1. *A Catalogue of some Recent Town Planning Survey Maps: Prepared by Local Authorities.* 1945. 1s. 6d. *Maps for the National Plan.* (Lund Humphries) 1945 (reprinted 1946). 15s. (Maps forming a background to the Barlow, Scott, etc. reports). *A Rapid Method of District Survey* (with specially printed maps). 1944. 5s. 6d.
Bartholomew, J. (Ed.) *Survey Gazetteer of British Isles.* (Bartholomew) 1944. 52s. 6d.
Council for the Preservation of Rural England, 4, Hobart Place, London, S.W.1. *Landscape Survey Map of the Country.* 1944.
Oakley, C. A. *Industrial Map of Scotland.* (Oliver & Boyd) 1939. 5s.
Ordnance Survey. *Maps Series. Base Map 2s. Land Utilisation* (not yet published) ; *Administrative Areas ; Topography* (not yet published) ; *Population Density, 1931 ; Types of Farming ; Land Classification, 1939 ; Population of Urban Areas, 1938* (in press) ; *Roads* (not yet published) ; *Coal and Iron* (not yet published) ; *Iron and Steel* (not yet published) 5s. each. 1945.
See also Geological Survey in the Section *Official Statements.*

TOWN PLANNING : LOCAL

(Reports, Proposals, Surveys and Comments)

Abergavenny :

East Monmouthshire Joint Planning Committee. *Borough of Abergavenny Town Planning Scheme. Civic Survey, Parts 1 to 3,* by M. E. Taylor, Planning Officer. Two Parts. 1942 and 1943. (Typescript).

Bath :

A Plan for Bath : Prepared for the Bath and District Joint Planning Committee by Sir Patrick Abercrombie, Consultant ; J. Owens, City Engineer ; H. A. Mealand, Town Planning Officer. (Obtainable from the Local Authority) 1945. (Typescript).

Report and Recommendations on the Preservation of Terraced Houses in Bath by Adaptation to Meet Present-Day Requirements. (Society for the Protection of Ancient Buildings in collaboration with the Bath Preservation Trust). 1945.

Belfast :

Government of Northern Ireland. *Planning Proposals for the Belfast Area : Interim Report of the Planning Commission* (Belfast : H.M.S.O.) 1945. 2s. 6d.

Billericay :

Council for the Preservation of Rural England (Essex Branch). *A Plan for Billericay.* 1945.

Birmingham :

City of Birmingham. *Duddeston and Nechells Redevelopment Area : Report to the Public Works Committee,* by H. J. Manzoni, City Engineer and Surveyor. (Obtainable from the City Surveyor) 1945.

Our Birmingham—The Birmingham of our Fore-Fathers and the Birmingham of our Grandsons. (London University Press) Reprinting 1946. 1s.

Brierley Hill :

Brierley Hill Urban District. *Town Planning and Post-War Reconstruction Official Brochure.* (Obtainable from the Local Authority) 1944. 6d.

Bristol :

English City. The Growth and Future of Bristol. (London University Press) 1945. (Reprinting 1946). 10s.

Canterbury :

Canterbury Plan, by C. Holden and H. M. Enderby. 1945.

Carlisle :

Carlisle Trades Council. *The Future of Carlisle.* 1944. 3d.

Cheltenham :

Georgian Group. *Report on Cheltenham.* 1945. 2s.

Clyde Valley :

Clyde Valley Regional Planning Advisory Committee. *Report by Planning Consultant and Deputy Consultant on Housing Sites within the Region.* 1944. (Typescript).

Cork :

County Borough of Cork and Neighbourhood Town Planning Report : Sketch Development Plan, by Manning Robertson. (Cork Corporation ; Obtainable from the City Manager, City Hall, Cork) 1941. 2s. 6d.

Coventry :

Corporation of Coventry. *The Future Coventry.* 1946. 2s. 6d.

Cumberland, West :

Report, by W. C. Devereux. 1944.

Dagenham :

Reconstruction Report, by the Rotary Club of Dagenham. 1945.

Dublin :

County Borough of Dublin and Neighbourhood. *Town Planning*

Report : Sketch Development Plan, by Sir Patrick Abercrombie, S. A. Kelly and M. Robertson. (Corporation of Dublin) 1941. 2s.

Dudley :

County Borough of Dudley : *Town Planning and Post-War Reconstruction.* Report prepared by T. A. Lloyd and H. Jackson, Planning Consultants. Adopted by the Council, 5th December, 1944. (Obtainable from the Local Authority).

Dunstable :

Borough of Dunstable. *A Design for Dunstable :* Prepared for the Corporation by A. D. Harvey and G. Ashton. (Local Authority) 1944. 3d.

Durham :

Cathedral City : a Plan for Durham, by T. Sharp. (Architectural Press, Cheam ; for the Durham City Council) 1945. 5s.

City Beautiful : A Vision of Durham, by F. H. Rushford. (Durham County Advertiser) 1944. 7s. 6d.

Eastbourne :

County Borough of Eastbourne. *Post-War Reconstruction : First Report of the Post-War Reconstruction Committee.* (Obtainable from the Local Authority) 1943.

Edinburgh :

City and Royal Burgh of Edinburgh. *The Future of Edinburgh : Report of the Advisory Committee on City Development, 1943.* (Obtainable from the Local Authority) 1943. 6d.

City of Edinburgh. *The Royal Mile : Report by the City Architect.* (Obtainable from the Local Authority) 1945.

Exeter :

Exeter Phoenix : A Plan for Rebuilding (Official), by T. Sharp. (Architectural Press) 1946. 10s.

Glasgow :

First Planning Report to the Highways and Planning Committee of the Corporation of Glasgow, by R. Bruce. 1945.

Halewood :

Rural District Council of Whiston, Lancs. *Design for the New Community Town of Halewood near Liverpool*, by W. Garbutt, Architect, Surveyor and Planning Officer. 1945.

Herefordshire :

West Midland Group on Post-War Reconstruction and Planning. *English County : Planning Survey of Herefordshire.* (Faber). In preparation.

Hull :

Hull Reconstruction Plan, by Sir Patrick Abercrombie. (To be published 1946).

Ireland, Northern :

Government of Northern Ireland : Ministry of Home Affairs. *Preliminary Report on Reconstruction and Planning*, by W. R. Davidge, Planning Consultant. (Belfast : H.M.S.O.) 1942. 6d. *See also* Belfast.

Isle of Man :

Island Survey : a Review of Existing Conditions together with an Outline of suggested Planning Proposals in the Isle of Man, by C. N. Hadfield. (Isle of Man Examiner Ltd., Hill Street, Douglas) 1944. 5s.

King's Lynn :

King's Lynn Chamber of Commerce. *Post-War Plans for King's Lynn.* 1944. 6d.

Leicester :

City of Leicester : Interim Report of the City Surveyor on Proposals under consideration by the Special Reconstruction Committee of the City Council. (Obtainable from the Local Authority) 1944.

London :

London Replanned : Interim Report of the Royal Academy Planning Committee. (Country Life) 1942. 2s. 6d.

Your London Has its Plan, ed. D. Percival. (Association of Building Technicians, 113, High Holborn, London, W.C.1.) 1943. 6d.

County of London Plan, by J. H. Forshaw and Sir Patrick Abercrombie. (Macmillan) 1943. 12s. 6d. (Out of print).

The County of London Plan, by E. J. Carter and E. Goldfinger. (Penguin) 1945. 3s. 6d.

Observations on the County of London Plan, by Mars Group. (Private circulation).

Plan for London County, by L. Mumford. (Faber) 1945. 1s. 6d.

Greater London—Towards a Master Plan : Second Interim Report of the London Regional Reconstructional Committee, Royal Institute of British Architects (Royal Institute of British Architects, 66, Portland Place, London, W.1.)

Greater London Plan, 1944, by Sir Patrick Abercrombie. A Report prepared on behalf of the Standing Conference on London Regional Planning at the request of the Ministry of Town and Country Planning. (H.M.S.O.) 1945. 25s.

Greater London Plan, 1944. A Selection of Maps. (H.M.S.O.) 1945. 10s.

Greater London Plan, 1944. Master Plan. (H.M.S.O.) 1945. 2s. 6d.

A Plan for London City, by R. Davey. (Forest Press : Nutley, Sussex) 1944. 6s. 6d.

Road, Rail and River in London : Second Report of the Royal Academy Planning Committee. (Country Life) 1944. 2s. 6d.

Corporation of London. Report of the Improvements and Town Planning Committee on the Preliminary Draft Proposals for Post-War Reconstruction in the City of London, 1944. (Batsford) 1945. 10s. 6d.

Memorandum on the City of London Rebuilding Plan, by the Chartered Surveyors Institution, 12, Great George Street, London, S.W.1. 1945.

Royal Fine Arts Commission. *Observations by the Commission on the City of London's Report on Post-War Reconstruction, 1944.* 1945. 2d.

Tower Hill Improvement Trust. *Tower Hill Replanned.* Report by Technical Sub-Committee. (The Trust, 18, Byward Street, London, E.C.3.) 1945.

Thames Barrage Association. *Tideless Thames in Future London,* by J. H. O. Bunge. (Muller) 1944. 10s. 6d.

Luton :

The New Luton, by F. L. Fraser. 1946. 1s.

Macclesfield :

Towards a New Macclesfield : A Suggestion for a New Town Centre, by W. Dobson Chapman, Town Planning Consultant. (Macclesfield : Cloister Press) 1944.

Malvern :

Malvern Urban District Council : Report of Post-War Planning Committee. (Obtainable from the Local Authority) 1944. 6d.

Manchester :

Manchester and District Regional Planning Committee. *Report on the tentative Regional Planning Proposals*, by R. Nicholas, in collaboration with the Members of the Surveyors Sub-Committee. (Jarrold) 1945. 12s. 6d.

Manchester City Plan. (Jarrold) 1945. 12s. 6d.

Manchester City Plan. (Abridged Edition). (Jarrold) 1945. 3s. 6d.

Merseyside :

Merseyside Plan, 1944, by F. Longstreth Thompson. Prepared in consultation with a Technical Committee at the request of the Minister of Town and Country Planning. (H.M.S.O.) 1945. 7s. 6d. *Supplementary Illustrations* (H.M.S.O.) 1945. 7s. 6d.

Merseyside of the Future, by Merseyside Civic Society. (Liverpool Daily Post) 1944. 2s. 6d.

The Future of Merseyside, by W. G. Holford and W. A. Eden. (University Press of Liverpool) 1937. 2s. 6d. (Out of print).

Middlesbrough :

County Borough of Middlesbrough Survey and Plan. A Plan for Middlesbrough : the Proposals in Outline. Address to the Council by M. Lock. (Obtainable from the Housing Centre, 13, Suffolk Street, London, S.W.1.) 1945. 2s. 6d. (Another edition, containing only one plan, 9d.)

Newcastle :

Plan : Newcastle-upon-Tyne (Report of the Town Planning Sub-Committee). (Obtainable from the Local Authority) 1945. 3d.

Newmarket :

Newmarket Urban District Council. *Interim Report for the Development of Newmarket*, presented by the Town Planning Committee to the Council. 1945. 6d.

Northampton :

Preliminary Town Planning Proposals for Northampton's Central Area : published for the Exhibition in the Guildhall, Whitweek, 1945, by the Town Planning and Development Committee. (Obtainable from the Local Authority) 1945. 3d.

Norwich :

City of Norwich Plan : prepared for the Council by C. H. James and S. Rowland Pierce, Consultants, and H. C. Rowly, City Engineer. (City of Norwich Corporation) 1945. 7s. 6d.

Nottingham :

City of Nottingham : Report of the Reconstruction Committee on Post-War Development in the City of Nottingham, 1943. (Obtainable from the Local Authority).

Oxford :

Report of the Committee on Planning and Reconstruction. Two Parts. (Oxford University Press for the Oxford Preservation Trust). 1941-2. Part 1, 3d. Part 2, 1s.

Towards a Plan for Oxford City, by T. L. Dale. (Faber) 1944. 6s.

Plymouth :

A Plan for Plymouth : the Report prepared for the City Council, by J. P. Watson and Sir Patrick Abercrombie. (Underhill : Plymouth) 1944. 10s.6d.

A Handbook of the Plymouth Plan, by A. Scotland. A Summary of the Report prepared for the City Council by J. P. Watson and Sir Patrick Abercrombie. (Nisbet) 1945. 5s.

Richmond :

Towards a Plan for Richmond, Surrey. (Obtainable from the Local Authority) 1945. 1s.

Sheffield :

Sheffield Replanned : A Report setting out the Problems in Replanning the City and the Proposals of the Sheffield Town Planning Committee. (Obtainable from the Local Authority) 1945. 5s.

Southampton :

The Planning of Southampton : Report of S. D. Adshead, Consultant, and H. T. Cook, Town Planning and Development Officer to the Council of the County Borough of Southampton. (Obtainable from the Local Authority) 1942.

Southend-on-Sea :

County Borough of Southend-on-Sea. Report of the Special Committee appointed to consider the subject of Post-War Development. (Obtainable from the Local Authority) 1944.

Surrey :

Town and Country Plan for Surrey. (Surrey Federation of Labour Parties, 35, Nelson Road, New Malden) 1943. 6d.

Swindon :

Planning for Swindon : Survey and Report, by W. R. Davidge, and Report prepared by the Post-War Planning Sub-Committee as approved by the Town Council. (Obtainable from the Local Authority) 1945.

Teignmouth :

Teignmouth : Report on Improvement and Development, 1945, by S. D. Adshead. (Urban District Council).

Tunbridge Wells :

Tunbridge Wells : A Report presented at the request of the Borough Council by the Tunbridge Wells Civic Association, 1945, ed. H. Spalding. (Courier Printing and Publishing Co., Tunbridge Wells) 1945. 10s. 6d.

Wales, South :

Post-War Reconstruction of Industry in South Wales, by W. C. Devereux. (Cardiff : Western Mail and Echo) 1943. 6d.

Winchester :

City of Winchester. First Report on the Redevelopment of the City and Neighbourhood Unit Principles, by P. H. Warwick. 1945.

Wolverhampton :

Wolverhampton of the Future. A Report on Post-War Planning. (The Reconstruction Committee by authority of the Wolverhampton Council) 1944.

AGRICULTURE AND RURAL RECONSTRUCTION

Addison, Lord. *A Policy for British Agriculture.* (Gollancz) 1939. 7s. 6d.

Programme for Agriculture, ed. B. V. Fitzgerald. (Joseph) 1941. 10s. 6d.

Agricultural Economics Research Institute. *Country Planning : A Study of Rural Problems*, ed. C. S. Orwin. (Oxford University Press) 1944. 7s. 6d.

Association for Planning and Regional Reconstruction, 32, Gordon Square, London, W.C.1. *A Country Estate Replanned*, ed. B. Hearnden. (Art and Education Publishers) 15s. (In preparation, 1946). *Land Settlement in Ten Countries*. 1941. 5s. *Planning and the Countryside*, by J. Tyrwhitt. (Art and Education Publishers) 1946. 1s. 6d.

Astor, Viscount and B. S. Rowntree. *British Agriculture*. (Penguin) 1939. 6d.

Ayres, O. C. and D. Scoates. *Land Drainage and Reclamation*. (McGraw) 1939. 26s.

Bennett, H. H. *Soil Conservation*. (McGraw) 1940. 40s.

Bloom, U. *The Changed Village*. (Chapman & Hall) 1945. 12s. 6d.

Blunden, E. *English Villages*. (Collins) 1941. 3s. 6d.

Boulton, E. H. B. *Timber Buildings for the Country*. (Country Life) 1939. 10s. 6d. (Out of print).

Browning, G. *Rural Public Welfare : Selected Records*. (Cambridge University Press) 1943. 24s.

Building Rural Communities. (Cambridge University Press) 1943. 12s.

Central Landowners' Association, 58, Victoria Street, London, S.W.1. *Post-War Rural Reconstruction Problems*, 1942. 1s.

Conservative and Unionist Party, 24, Old Queen Street, London, S.W.1. *Looking Ahead : Agricultural Reconstruction*. Being the First Interim Report of the Sub-Committee on Agriculture. 1943.

Council for the Preservation of Rural England, 4, Hobart Place, London, S.W.1. *Rural Housing : Memorandum to Rural Housing Sub-Committee of Central Housing Advisory Committee of Ministry of Health*. 1943. 2d. *Building in Cheshire*. (Council for the Preservation of Rural England—Cheshire Branch) 1939. 1s. *The Future of the Lancashire Countryside*. (Council for the Preservation of Rural England—Lancashire Branch) 6d. *Save Leicestershire's Countryside*. (Council for the Preservation of Rural England—Leicestershire Branch) 1s.

Cox, J. F. and L. Jackson. *Field Crops and Land Use*. (Chapman & Hall) 1943. 22s. 6d.

Davies, M. F. *Pembrokeshire : Land Utilisation Survey*. (Geographical Publications) 1941. 2s. 6d.

Drummond, J. *Charter for the Soil*. (Faber) 1944. 10s. 6d.

Fordham, M. *The Land and Life*. (Routledge) 1942. 4s. *The Restoration of Agriculture*. (King & Staples) 1945. 1s.

Fry, A. J. *Wiltshire : Land Utilisation Survey*. (Geographical Publications) 1941. 2s. 6d.

Gardiner, C. H. *Your Village and Mine*. (Faber) 1944. 4s.

Graham, E. H. *Natural Principles of Land Use*. (Oxford University Press) 1945. 16s.

Gunn, E. *Farm Buildings, New and Adapted*. (Lockwood) 1946. 10s. 6d.

Hall, A. D. *Reconstruction and the Land*. (Macmillan) 1941. 12s. 6d. (Out of print).

Harkness, D. A. E. *A Tract on Agricultural Policy*. (King & Staples) 1945. 2s. 6d.

Holliday, M. F. *Merioneth : Land Utilisation Survey*. (Geographical Publications) 1941. 3s. 6d.

Housing Centre, 13, Suffolk Street, London, S.W.1. *Housing in Rural Areas.* 1942. 3d. (The Housing Centre's Evidence to the Scott Committee on the Rural Problem). *Housing in Rural Areas.* 1945. 1s. (Report of Conference held at the Housing Centre on 4th May, 1945.)

Howard, A. *An Agricultural Testament.* (Oxford University Press) 1940. 15s.

Joad, C. E. M. *An Old Countryside for New People,* ed. G. S. Hutchinson. (Dent) 1942. 6d.

Labour Party, Transport House, Smith Square, London, S.W.1. *Our Land : the Future of Britain's Agriculture.* 1943. 2d. (Out of print).

Land Union, 15, Lower Grosvenor Place, London, S.W.1. *Agricultural Reconstruction : The Land and its Equipment—Houses, Buildings, Electricity, Water, Drainage, Fertility, Forestry.* 1943. 1s.

Leamington Rotary Club. *Report on Rural Reconstruction.* 1944.

McWilliams, C. *Ill Fares the Land.* (Faber) 1945. 12s. 6d.

Massingham, H. J. and others. *The English Countryside : A Survey of its Chief Features.* (Batsford) 1939. 7s. 6d.

Melbourne, R. W. L. *Isle of Ely : Land Utilisation Survey.* (Geographical Publications) 1941. 2s. 6d.

Moore, C. (Ed.). *Countrygoer.* (Countrygoer Books) 1944. 2s. 6d.

National Council of Social Service, 26, Bedford Square, London, W.C.1. *Recreative and Social Facilities in Villages.* (Under revision). *Village Halls and Social Centres in the Countryside.* 1945. 3s. 9d. *Village Halls : Their Construction and Management.* 1938. 1s. 6d.

Northamptonshire Women's Institute. *Cottages of Rural Workers.* (Available from the Secretary of the Northamptonshire Women's Institute, 33, Marefair, Northampton) 1944. 1s.

Northbourne, Lord. *Look to the Land.* (Dent) 1940. 7s. 6d.

Orwin, C. S. *Problems of the Countryside.* (Cambridge University Press) 1945. 3s. 6d.

Peattie, D. C. *Immortal Village.* (Cambridge University Press) 1945. 16s. 6d.

Potter, M. and A. Potter. *A History of the Countryside.* (Penguin) 1944. 2s. (Reprinting).

Reid, D. M. *The Problem of the Highlands.* (Mackay) 1943. 1s. 6d.

Richmond, A. C. *Land Settlement and Town Planning.* (Faber) 1945. 1s. 6d.

Robbins, R. M. *Our Landed Heritage : the Public Domain, 1776-1936.* (Oxford University Press) 1945. 33s. 6d.

Sanderson, D. *Rural Sociology and Rural Social Organisations.* (Chapman & Hall) 1943. 24s.

Sharp, T. *Village Planning.* (Penguin) 1946. 2s. 6d.

Smith, F. T. *Sutherland : Land Utilisation Survey.* (Geographical Publications) 1941. 2s. 6d.

Sommer, J. Van. *Town Farms : A Plea for the Entry of County Boroughs and Towns into the Work of Agricultural Production by the People and for the People.* (Author, Meadville, Lansdown, Bath) 1942. 4d.

Street, A. G. *Farm Cottages and Post-War Farming.* (Dent) 1943. 6d.

Thomas, F. G. *The Changing Village.* (Nelson) 1939. 3s. 6d.

Tory Reform Committee. *The Control of Land Use.* 1944.

Town and Country Planning Association, 28, King Street, London, W.C.2. *Planning and the Countryside : Evidence to Lord Justice Scott's Committee on Industry in Rural Areas.* (Faber) 1942. 1s.
Wright, F. B. *Rural Water Supply and Sanitation.* (Chapman & Hall) 1939. 12s. 6d.

REFERENCE BOOKS

Agricultural Register, The, 1938-9. (Agricultural Economics Research Institute, Oxford) 1939. 5s.
Farming and Mechanised Agriculture. (Todd Publishing Co.) Annual. 21s.

ARCHITECTURE

Arts Council of Great Britain. *Plans for an Arts Centre.* (Lund Humphries) 1945. 1s. 6d.
Atkinson, T. D. *English Architecture.* (Methuen) 1938. 5s.
Bertram, A. *The House.* (Black) 1945. 6s.
Bombed Churches as War Memorials. (Architectural Press, Cheam) 1945. 3s. 6d.
Braddell, D. *How to Look at Buildings.* (Methuen) 1938. 6s.
Braun, H. *The Story of the English House.* (Batsford) 1940. 10s. 6d.
Building Industries National Council, 11, Weymouth Street, London, W.1 *Report on Means of Escape in Case of Fire.* 1945. 2s.
Casteels, M. *The New Style of Architecture and Design.* (Batsford). 12s. 6d. (Out of print).
Central Council for the Care of Churches, Earlham, Dunster, Somerset. *The Churches and War Damage.* (Published for the Churches Main Committee by the Press & Publications Board) 1944. 4d. *Eighth Report of the Central Council for the Care of Churches.* (Press & Publications Board) 1940. 1s. *Salving the Art Treasures of the Church : being the 9th Report of the Central Council.* (Press & Publications Board) 1945. 2s. 6d. *War Damage to Churches.* A Memorandum for the Guidance of Diocesan Authorities issued on behalf of the Archbishops' Church War Damage Committee. (Press & Publications Board) 1944. 3d.
Chatterton, F. *English Architecture at a Glance.* (Architectural Press, Cheam) 1945. 2s. 6d. (Reprinting).
Cotton, A. C. *Town Halls.* (Architectural Press, Cheam) 1945. 10s. 6d.
Creswell, H. B. *The Honeywood File.* (Faber) 1929. (Reprinting 1946). 7s. 6d. *The Honeywood Settlement.* (Faber) 1930. (Reprinting 1946). 7s. 6d.
Davenport, C. *Architecture in England.* (Methuen) 1938. 6s.
Davidge, W. R. *Architecture in the New Age.* (Dent) 1942. 6d. *Plan for the New Architecture.* (Dent) 1942. 6d.
Eden, W. A. *The Process of Architectural Tradition.* (Macmillan) 1943. 6s.
Edwards, A. T. *Good and Bad Manners in Architecture.* (Tiranti) 1945. 8s. 6d. *Style and Composition in Architecture.* (Tiranti) 1945. 7s. 6d.

Faczynski, J. *Studies in Polish Architecture.* (University Press of Liverpool) 1945. 21s.
Field, W. B. *House Planning.* (McGraw) 1940. 21s.
Fletcher, Sir Banister. *History of Architecture.* (Batsford) 1945. 42s.
Fletcher, Sir Banister and H. Phillips. *Architectural Hygiene.* (Pitman) 1943. 15s.
Fry, M. *Fine Building.* (Faber) 1944. 15s.
Gardner, A. H. *Outline of English Architecture : An Account for the General Reader.* (Batsford) 1945. 12s. 6d.
Gay, C. N. and H. Parker. *Materials and Methods of Architectural Construction.* (Chapman & Hall) 1944. 36s.
General Nursing Council for England and Wales, 23, Portland Place, London, W.1. *Improved Construction in Hospital Building and Planning.* 1945. *Gratis.*
Gibberd, F. *The Architecture of England—from Norman Times to the Present Day.* (Architectural Press, Cheam) 1945. 6s.
Giedion, S. *Space, Time and Architecture.* (Oxford University Press) 1941. 21s.
Gloag, J. *The Englishman's Castle.* (Eyre & Spottiswoode) 1944. 16s.
Godfrey, W. H. *Our Building Inheritance.* (Faber) 1944. 10s. 6d.
Gropius, W. and others. *Bauhaus.* (Allen & Unwin) 1939. 16s. *The New Architecture.* (Faber) 1935. 6s.
Gunn, E. *Economy in House Design.* (Architectural Press, Cheam) 1945. 7s. 6d. *Modern Building Technique.* (Rolls House) 1945. 10s. 6d.
Hamlin, T. *Greek Revival Architecture in America.* (Oxford University Press) 1944. 42s.
Heape, R. G. *The Soul of Bath : An Architectural Study.* (Methuen) 1939. 10s. 6d.
Hiscox, W. J. *Factory Lay-out, Planning and Progress.* (Pitman) 1939. 7s. 6d.
Junge, H. *Plan for Film Studios.* (Focal Press) 1946. 7s. 6d.
Leathart, J. *Style in Architecture.* (Nelson) 1940. 3s. 6d. (Reprinting).
Lethaby, W. R. *Architecture.* (Oxford University Press) 1939. 3s.
Lloyd, N. *A History of the English House.* (Architectural Press, Cheam) 1945. 63s. (Out of print).
Lucas, E. *Light Buildings.* (Technical Press) 1935. 9s.
Mars Group. *What is Modern Architecture ?* 1945. (Private circulation).
Mendelsohn, E. *Three Lectures on Architecture.* (Cambridge University Press) 1944. 15s.
Messent, C. J. W. *A Guide to English Architecture.* (Hutchinson) 1941. 2s. 6d.
Mills, E. *Architecture.* (Rolls House) 1945. 2s. 6d.
Modern Cinemas. (Architectural Press, Cheam) 1945. 3s. 6d. (Out of print).
Newcomb, R. *Outlines of the History of Architecture.* Part 4, *Modern Architecture with Particular reference to U.S.A.* (Chapman & Hall) 1939. 20s.
Newton, W. G. *Prelude to Architecture.* (Architectural Press, Cheam) 1945. 2s. 6d.
Pevsner, N. *An Outline of European Architecture.* (Penguin) 1943. 1s.

Polish School of Architecture, 1942-5. (University of Liverpool) 1945. 30s.
Reilly, C. H. *Architecture as a Communal Art.* (Batsford) 1944. 6d.
Richards, J. M. *The Bombed Buildings of Britain.* (Architectural Press, Cheam) 1942. 15s. (Out of print). *An Introduction to Modern Architecture.* (Penguin) 1940. 6d. *A Miniature History of the English House.* (Architectural Press, Cheam) 1945. 4s. 6d. (Reprinting).
Richardson, A. E. and H. O. Corfiato. *The Art of Architecture.* (English Universities Press) 1938. 52s. 6d. (Reprinting). *Design in Civic Architecture.* (English Universities Press). Vol 1, *Streets, Squares and Courtyards.* Probably 25s. In preparation.
Robertson, H. *Architecture Arising.* (Faber) 1944. 10s. 6d. *Modern Architectural Design.* (Architectural Press, Cheam) 1945. 15s. (Out of print). *The Principles of Architectural Composition.* (Architectural Press, Cheam) 1945. 10s. 6d.
Royal Institute of British Architects, 66, Portland Place, London, W.1. *Planning Our New Schools : Report of Conference convened by the R.I.B.A., the National Union of Teachers and the Association of Building Technicians.* 1945. 1s. 6d. *Report of R.I.B.A. School Design and Construction Committee.* 1945. *Gratis.*
Seymour, W. D. *The Heating, Ventilation and Lighting of School Buildings.* (Oxford University Press) 1939. 12s. 6d.
Sitwell, S. *British Architects and Craftsmen.* (Batsford) 1945. 21s.
Society for Cultural Relations with the U.S.S.R., 98, Gower Street, London, W.C.1. *Architecture in the U.S.S.R. Chronicle No. 6-7.* 1945.
Society for the Protection of Ancient Buildings, 55, Great Ormond Street, Queen Square, London, W.C.1. *Report of the Committee for the Sixty-fourth—Sixty-sixth Year, including the Report of the Georgian Group, 1943.* 1943. 3s.
Soltynski, R. *Glimpses of Polish Architecture.* Translated from Polish by P. Jordan. (Maxwell Love : Barmerlea) 1945. 7s. 6d.
Summerson, J. *Georgian London.* (Pleiades Press) 1946. 21s.
Townroe, B. S. *Reconstruction of Bombed Buildings.* (Individualist Bookshop) 1941. 6d.
Townsend, G. *How to Remodel a House.* (Technical Press) 1945. 34s.
Townsend, G. and J. R. Dalzell. *How to Plan a House.* (Technical Press) 1945. 31s. 6d.
Tubbs, R. *The Englishman Builds.* (Penguin) 1946. 2s. 6d.
Turner, H. H. *Architectural Practice and Procedure.* (Batsford) 1945. 18s.
Waugh, A. *Planning the Little House.* (McGraw) 1939. 15s.
Week-End Houses, Cottages and Bungalows. (Architectural Press, Cheam) 1945. 7s. 6d. (Out of print).
Westwood, B. and N. Westwood. *Smaller Retail Shops.* (Architectural Press, Cheam) 1945. 12s. 6d. (Out of print).
Whittick, A. *Civic Design of the Home.* (Faber) 1943. 1s. 6d.
Wright, F. L. *An Autobiography.* (Faber) 1945. 35s. *When Democracy Builds.* (Cambridge University Press) 1945.
Wright, H. M. *The Design of Nursery and Elementary Schools.* (Architectural Press, Cheam) 1945. 10s. 6d. (Out of print). *Small Houses—£500-£2,500.* (Architectural Press, Cheam) 10s. 6d. (Temporarily out of print).

York Georgian Society. *Some Hints on the Maintenance and Repair of 17th and 18th Century Premises.* 1946. 2s.
Yorke, F. R. S. *The Modern House.* (Architectural Press, Cheam) 21s. (Temporarily out of print).
Yorke, F. R. S. and F. Gibberd. *The Modern Flat.* (Architectural Press, Cheam) 1945. 30s. (Out of print).
Yorke, F. R. S. and C. T. Penn. *A Key to Modern Architecture.* (Blackie) 1939. 5s.

REFERENCE BOOKS

Dictionaries and Encyclopaedias

Atkinson, T. D. *A Glossary of Terms Used in English Architecture.* (Methuen) 1938. 6s. (Reprinted 1946).
Gwilt's Encyclopaedia of Architecture. (Longman) 1899.
Ware, D. and B. Beatty. *A Short Dictionary of Architecture.* (Allen & Unwin) 1944. 6s.

Miscellaneous

Architects', Builders' and Civil Engineers' Technical Catalogue. (Newnes) In preparation. 50s.
Architects', Builders' and Contractors' Pocket Book, ed. W. H. Fowler. (Scientific Publishing Co.) 1944. 7s. 6d.
Architects' and Builders' Pocket Price Book, ed. C. Young and B. Engel. (Spon) 1945. 9s.
Architects' Journal Library of Planned Information. Five volumes. (Architectural Press, Cheam) 1939. 21s. each volume. (Out of print).
Architects' Yearbook, ed. Jane B. Drew, M. Fry, Sir Charles Reilly, H. Read. (Elek) 1945. 35s.
Architectural Students' Handbook, by F. R. Yerbury. (Architectural Press, Cheam) 1945. 7s. 6d. (Out of print).
Builders' and Architects' Manual. (Littlebury, Worcester). In preparation. 8s. 6d.
Handbook of Architectural Practice, by W. S. Parker. (Mitre Press) 1944. 25s.
Handbook of British Standards for Building Materials and Components, by British Standards Institution. (Simpkin Marshall) 1945. 12s. 6d.
Laxton's Builders' Price Book, ed. P. T. Walters. (Kelly) Annually 15s. (Published irregularly during the war).
Specification. (Architectural Press, Cheam) Annual. 21s. (Standard technical reference work for architects, surveyors and engineers).

BUILDING TRADE (*see also* HOUSING)

Achobinger, G. and A. M. Lackey. *Business Methods in the Building Field.* (McGraw) 1940. 23s.
Barham, H. *Building as Public Service.* (Socialist Book Centre, 158, Strand, London, W.C.2.) 1945. 9d.
Briggs, M. S. *Building Today.* (Oxford University Press) 1945. 5s.

Building Industries National Council, 11, Weymouth Street, London, W.1. *The Building Congress, 1943. Report of Proceedings.* 6s. 6d. *Building Congress, 1945 : Report of Proceedings.* (Printing). *The Building of a New Britain : the Building Industries' Responsibility for Reconstruction,* by B. S. Townroe. 1943. 6d. *Report on Long-term Public Works Policy.* 1935. 1s.

Building Industry in the U.S.S.R. (Lawrence & Wishart) 1943. 6d.

Lucas, E. *Building as a Career.* (Pitman) 1939. 3s. 6d.

Robinson, H. W. *The Economics of Building.* (King) 1939. 10s. 6d.

Wallis, L. *The Building Industry : Its Work and Organisation.* (Dent) 1946. 3s. 6d.

Reference Books

The Building Encyclopaedia, ed. S. G. Blaxland Stubbs. (Waverley Book Co. Ltd.) New edition in preparation, 1946. 115s.

Building Industries National Council, 11, Weymouth Street, London, W.1. *Year Book for 1938.* 1939. 9d.

Building Trade Facts : A Manual for Builders, House Owners and Investors, by W. T. S. Smith. (Technical Press) 1945.

Directory of Contractors and Public Works Annual, 1944. (Wightman & Co.) 1944. 40s.

Directory of Quarries, Clayworks and Sand and Gravel Pits. (Quarry Managers' Journal) 1943-4. 6s.

Concise Building Encyclopaedia, by T. Corkhill. (Pitman) 1943. 12s. 6d.

Practical Builder—A Comprehensive and Authoritative Guide to the Latest Methods of Modern Building Practice, ed. R. Greenhalgh. (Odhams) 1944. 9s. 6d.

Spon's Practical Builders' Price Book, 1946. (Spon) 1946. 12s. 6d.

ENGINEERING

(*see also* PUBLIC UTILITIES AND ROADS, TRANSPORT AND TRAFFIC)

Engineering Industries Association, 39, New Broad Street, London, E.C.2. *A Report on the Engineering Industries and the Rebuilding Programme,* by R. Chapman and R. Perry. 1945. 5s.

Institution of Civil Engineers, Great George Street, London, W.1. *Aesthetic Aspect of Civil Engineering Design.* 1945. 6s. *Civil Engineering as a Career.* 1946. 1s. *The Organisation of Civil Engineering Work.* 1944. 2s. 6d. *The Position of the Engineer in Relation to Town and Regional Planning.* 1945. 3s.

Institution of Civil Engineers and Institution of Municipal and County Engineers. *Practical Planning : Engineering Science applied to the Development of Great Britain.* (Institution of Civil Engineers, Great George Street, London, W.1.) 1943. 2s. 6d.

Institution of Municipal and County Engineers, 84, Eccleston Square, London, S.W.1. *Post-War Planning and Reconstruction.* 1942. 1s.

REFERENCE BOOKS

Civil Engineers' Reference Book, ed. J. C. Trautwine. (McGraw) 1940. 35s.
Civil Engineering Handbook, by L. C. Urquhart. (McGraw) 1940. 35s.
Constructional Engineer's Compendium. (Appleby-Frodingham Steel Co., Ltd., Scunthorpe, Lincs.) 1945. 21s.
Engineers' Who's Who, 1939. A Register of Engineering Appointments and Attainments, compiled etc. by M. E. Day. (Glenwood, Dorking) 1939. 20s.
Yearbook of the Institution of Structural Engineers. (The Institution, 11, Upper Belgrave Street, London, S.W.1.) 1944. 2s. 4d.

FORESTS, NATIONAL PARKS, NATURE RESERVES AND OPEN SPACES

Ackers, C. P. *Our Woodlands—Their Sacrifice and Renovation.* (Torchstream) 1945. 1s.
Arnold, E. C. *Bird Reserves.* (Witherby) 1940. 15s.
Association for Planning and Regional Reconstruction, 32, Gordon Square, London, W.C.1. *National By-Ways: The Case for a Nation-Wide Organisation to Meet the Needs of the Holiday Walker.* 1944. 6d.
Badmin, S. R. *Trees in Britain.* (Penguin) 1943. 9d.
Bell, J. H., E. E. Bozman and J. F. Blakeborough. *British Hills and Mountains.* (Batsford) 1940. 8s. 6d.
Birkett, Sir Norman. *National Parks and the Countryside.* (Cambridge University Press) 1945. 1s. 6d.
British Ecological Society. *Memorandum on Wild Life Conservation and Ecological Research from the National Standpoint.* (Cambridge University Press) 1945. 6d. *Nature Conservation and Nature Reserves.* (Cambridge University Press) 1944. 1s. 6d.
Claxton, W. J. *British Trees and Woodlands.* (Wells Gardner) 1939. 2s. 6d.
Commons, Open Spaces, and Footpaths Preservation Society, 71, Eccleston Square, London, S.W.1. *Barbed Wire Nuisances.* 1d. *The Closing or Diversion of Public Ways.* 2d. *Commons, Village Greens and other Open Spaces: with special reference to the powers of Parish Councils.* 6d. *Commons—What they are and How they are Protected.* 3d. 1940. *The Dedication of Highways.* 6d. *Footpath Maps and Surveys.* 3d. *The Maintenance of Public Ways.* (Reprinting) 6d. *Our Commons and Footpaths.* 1d. *The Ploughing of Public Ways.* 1d. *Roadside Waste.* 6d. (Reprinting).
Cornish, V. *The Beauties of Scenery: A Geographical Survey.* (Muller) 1943. 6s. *The Preservation of our Scenery.* (Cambridge University Press) 1937. 7s. 6d.
Coronation Planting Committee. *The Royal Record of Tree Planting, the Provision of Open Spaces, Recreation Grounds and other Schemes, undertaken in the British Empire and elsewhere, especially in U.S.A. in honour of the Coronation of H.M. King George VI.* (Cambridge University Press) 1939. 21s.

Council for the Preservation of Rural England, 4, Hobart Place, London, S.W.1. *National Nature Reserves and Conservation Areas in England and Wales.* 1945. 3s. *National Parks: Their Creation and Administration.* 1944. 3d. *Sheffield's Green Belt.* (Sheffield and Peak District Branch) 1945. 1s.

Institute of Landscape Architects, 12, Gower Street, London, W.C.1. *The Design and Planting of Open Spaces in Urban Areas.* 1942. 1s. 3d. *Forestry.* 1943. 1s. 3d.

James, H. *Romance of the National Parks.* (Macmillan) 1939. 15s.

Joint Committee for the Peak District National Park, Endcliffe Vale House, Sheffield, 10. *The Peak District a National Park.* 1944. 6d.

Kent Preservation Committee. *Kent Today.* 1s.

Lees-Milne, J. (Ed.) *The National Trust: Account of 50 Years' Achievement.* (Batsford) 1945. 15s. (Reprinting).

National Trust for Places of Historic Interest or Natural Beauty. *Annual Report, 1944-5.*

New Forest Advisory Planning Committee. *Protection of the New Forest.* 1945. 5s.

Royal Scottish Forestry Society and Royal English Forestry Society. *Post-War Forestry Policy.* (Royal English Forestry Society, 15, Lower Grosvenor Place, London, S.W.1). 1944. *Gratis.*

Society for the Promotion of Nature Reserves. *National Geological Reserves in England and Wales.* 1945. 1s. 6d.

HOLIDAYS AND TOURIST INDUSTRY

Council for the Preservation of Rural England, 4, Hobart Place, London, S.W.1. *The English Coast: its Development and Preservation,* by W. Dougill. 1s. 6d.

National Council of Social Service. *Holidays.* (Oxford University Press) 1945. 3s. 6d.

Nuffield College. *Holiday Making and Holiday Trades,* by E. Brunner. (Oxford University Press) 1944. 2s. 6d.

Ogilvie, Sir Frederick Wolff. *The Tourist Movement.* (Staples Press) 1945. 14s.

Town and Country Planning Association, 28, King Street, London, W.C.2. *Planning Problems of Holiday Areas: Report of a Conference.* 1945. 5s.

Reference Books

British Health Resorts Association. *British Health Resorts, Spa, Seaside and Inland, including British Dominions and Colonies.* 1939. 2s. 6d.

Caravan and Camp Site Annual, 1940. (Open-Air Publications). 6d.

Housing Centre, 13, Suffolk Street, London, S.W.1. *Camps Exhibition Handbook.* 1939. 1s. Contains brief notes on the location and planning of school and holiday camps and some details of some typical camps shown in the Exhibition. The Housing Centre also submitted evidence to the Scott Committee on the location and design of holiday camps, duplicated copies of which are available from the Housing Centre library.

Official Guide to the Holiday Resorts of Scotland, 1940. (London, Midland and Scottish Railway Co., L.M.S. Headquarters, Watford, Herts.) 1940. 3d.

Out-of-Doors Tourist Guide and Rest House Directory, 1940. (Open-Air Publications) 1940. 6d.

Rambler's Handbook, The. Official Yearbook of Southern Federation of Ramblers' Association. (Larby) 1939. 6d.

Scottish Youth Hostels Handbook. (Scottish Youth Hostels Association) Annual. 6d.

Youth Hostels Handbook. (Youth Hostels Association) Annual. 6d.

HOUSING

Abercrombie, Sir Patrick. *The Book of the Modern House.* (Hodder) 1939. 20s.

Amalgamated Union of Building Trade Workers, "The Builder", Crescent Lane, London, S.W.4. *The Struggle for Homes,* by L. Fawcett. 1944. *We can Build all the Houses,* by L. Fawcett. 1944.

Aronovici, C. *Housing and the Masses.* (Chapman & Hall) 1939. 21s. (New edition in preparation).

Association for Planning and Regional Reconstruction, 34, Gordon Square, London, W.C.1. *Housing Digest.* An Analysis of Housing Reports, 1939-45. (Art and Education Publishers) 1946. 21s. *Hygiene and Sanitation : the Hub of the House,* ed. E. M. Willis. (Lund Humphries) (In preparation, 1946).

Association of Building Technicians, 5, Ashley Place, London, S.W.1. *Homes of our War World.* (Elek) 1946. 7s. 6d.

Bell, E. M. *Octavia Hill.* (Constable) 1942. 15s.

Bowley, M. E. A. *Britain's Housing Shortage.* (Oxford University Press) 1944. 6d. *Housing and the State, 1919-44.* (Allen & Unwin) 1945. 15s.

Britain's Post-War Homes. (Daily Mail) 1944. 8s. 6d.

British Broadcasting Corporation. *Homes for All.* (Littlebury & Co.) 1945. 7s. 6d.

British Electrical Development Association, 2, Savoy Hill, London, W.C.2. *Electric Kitchen Plans for Low-Cost Post-War Homes.* 1944.

Browne, R. *Housing Societies.* (Dent) 1944. 6d.

Building Industries National Council, 11, Weymouth Street, London, W.1. *Report on Prefabrication.* 1944. 6d.

Casson, H. *American Housing.* (Penguin) 1948. 3s. 6d., *Houses by the Million.* (Penguin) 1946. 2s. 6d.

Cole, G. D. H. *Building Societies and the Housing Problem,* ed. E. C. Fairchild. (Dent) 1943. 6d.

Committee for the Scientific and Industrial Provision of Housing, 1, Old Burlington Street, London, W.1. *Housing Production, or, The Application of Quantity Production Technique to Buildings : Its Social, Commercial and Technical Possibilities and Requirements.* 1943.

Communist Party, 179a, Cricklewood Broadway, London, N.W.2. *A Memorandum on Housing.* 1944. 9d.

Community Council of Lancashire : Old Peoples Welfare Committee. *Report of the County Conference on the Housing of Old People.* 1944.

Conservative and Unionist Party, 24, Old Queen Street, London, S.W.1. *Foundation for Housing : Being an Interim Report of the Conservative Sub-Committee on Housing.* 1944. 3d. *Looking Ahead : A Policy for Housing in England and Wales.* 1945. 6d.

Council for the Preservation of Rural England, 4, Hobart Place, London, S.W.1. *Housing and the Scott Report.* 1944. 6d. *Rural Housing, see* Agriculture.

Cox, B. H. *Prefabricated Homes.* (Elek) 1945. 2s.

Denby, E. *Europe Re-Housed.* (Allen & Unwin) 1939. 14s.

Douglas, E. C. R. *Rating and Taxation in the Housing Scene.* (Dent) 1943. 6d.

Elsas, M. J. *Housing Before the War and After.* (King & Staples) 1945. 7s. 6d.

Fairchild, E. C. *Housing in a Well-Planned Britain.* (Dent) 1943. 6d. *Twelve in Search of a House.* (Dent) 1944. 6d.

Fitzgerald, M. *The Small House,* ed. E. C. Fairchild. (Dent) 1943. 6d.

Graham, J. (Jr,) *Housing in Scandinavia ; Urban and Rural.* (Oxford University Press) 1940. 11s. 6d.

Hackney and Stoke Newington Social Workers' Group. *What Kind of Homes?* 1944. 9d.

Hill, W. *What Housing Costs.* (Dent) 1946. 3s. 6d.

Houghton, D. *Building Societies at Your Service.* (Franey & Co.) 1945. 6d.

House Builders' Association of Great Britain, 58, St. Stephen's House, London, S.W.1. *Post-War Houses,* by C. Boot. 1944. 2s.

Housing Centre, 13, Suffolk Street, London. S.W.1. *Housing in Rural Areas.* 1942. 3d. (The Housing Centre's Evidence to the Scott Committee on the Rural Housing Problem). *Housing in Rural Areas.* 1945. 1s. (Report of Conference held at the Housing Centre on 4th May, 1945).

Institute of Housing, 359, Strand, London, W.C.2. *Administration of the Housing Acts and Organisation of the Housing Department in Bristol,* by A. W. Smith. 1936. 6d. *Disinfestation,* by A. W. McKenny Hughes. 1938. 6d. *Housing and Estate Management,* by J. Pritchard Lovell. 1937. 6d. (Out of print). *Housing in London and Greater London,* by L. Silkin. 1938. 6d. *Housing in Norwich,* by R. J. Allerton. 1938. 6d. *Housing for Old and Single People,* by O. Matthews. 1938. 6d. *The Housing Problem of the Small Authority,* by L. R. Wright. 1936. 6d. *Housing Progress in a Border City with Special Reference to Community Centres,* by M. Thompson. 1937. 6d. *Problems of Estate Management,* by J. Greenwood-Wilson. 1939. 6d. *Re-Development Areas, by* H. J. Manzoni. 1936. 6d. *The Re-Distribution of Overcrowded Families,* by A. Powell. 1937. 6d. *Social Service on Housing Estates,* by A. H. Salway. 1936. 6d. *Welfare Work of a Housing Department,* by B. Smith. 1937. 6d. (Out of print).

Jenkinson, C. *Our Housing Objective.* (Dent) 1944. 6d.

Jones, H. J. *Industrial Background of Housing.* (Dent) 1943. 6d.

Labour Party, Transport House, Smith Square, London, S.W.1. *Housing and Planning After the War.* 1945. 2d.

Labour Research Department. *Houses for the People.* (Central Books) 1945. 1s.
Lanchester, H. V. *The Post-War Home.* (Dent) 1943. 6d.
Leaver, J. B. *Building Societies—Past, Present and Future.* (Dent) 1942. 6d.
Liberal Land and Housing Committee. *Land and Housing; Report and Summary of the Land and Housing Committee.* (Liberal Publications Department, 8, Gayfere Street, London, S.W.1.) 1945. 4d.
London County Council. *Annual Reports of the L.C.C. on Housing and Public Health.* (King & Staples). 5s. to 1s. each. *Construction of Buildings in London.* (King & Staples) 1938. 5s. *County of London Overcrowding Survey.* (King & Staples) 1935. 1s. *London Housing.* (King & Staples) 1937. 3s. 6d.
Lucy, K. *The Purchase of House Property.* (Lockwood) 1946. 5s.
Madge, J. *The Rehousing of Britain.* (Pilot Press) 1945. 4s. 6d.
Tomorrow's Houses. (Pilot Press) 1946. 18s.
Manchester University Settlement. *A Survey of Housing and Social Amenity on Belle-Vue Housing Estate.* 1945. 6d.
Mass Observation. *The People's Homes.* (Murray) 1943. 10s.
National Federation of Registered House Builders, 82, New Cavendish Street, London, W.1. *Physical Reconstruction in Britain.* 1944. 1s.
Orr, J. B. and F. Wells. *Housing and Health.* (Dent) 1944. 6d.
Polkinghorne, R. K. and M. I. R. Polkinghorne. *Other People's Houses.* (Harrap) 1945. 12s. 6d.
Post-War Home. (Studio) 1942. 2s. 6d.
Proskaner, A. E. and B. E. Brenchley. *Mass Produced Homes.* (Elek) 1946. 7s. 6d.
Quigley, H. and I. Goldie. *Housing and Slum Clearance.* (Methuen) 1938. 7s. 6d.
Reiss, R. L. *Municipal and Private Enterprise Housing.* (Dent) 1945. 3s. 6d.
Rowntree, B. S. *Portrait of a City's Housing.* (Faber) 1945. 2s.
Royal Incorporation of Architects in Scotland, 15, Rutland Square, Edinburgh. *Approved House Designs.* (Department of Health for Scotland) 1945.
Royal Institute of the Architects of Ireland, 8, Merrion Square, Dublin. *Prefabrication: Report of a Committee of the Institute.* 1945. 6d.
Royal Institute of British Architects, 66, Portland Place, London, W.1. *Housing: Report of the Housing Group of the R.I.B.A. Reconstruction Committee.* 1944. 1s.
Schultz, H. *Housing and the Home.* (Appleton) 1939. 8s. 6d.
Society of Women Housing Managers, 13, Suffolk Street, London, S.W.1. *Housing Estate Management by Women.* 1938. 6d.
Sooy, L. P. and V. Woodbridge. *Plan Your Own Home.* (Oxford University Press) 1940. 14s.
Swift, S. *Housing Administration.* (Butterworth) 1938. 27s. 6d.
Townroe, B. S. *A Handbook of Housing.* (Methuen) 1938. 6s.
Watkins, W. P. *Co-operative Home Building.* (Dent) 1943. 6d.
Webb, A. *Signposts of Building Society Finance*, ed. G. S. Hutchinson. (Dent) 1942. 6d.
Westminster City Council, City Hall, Charing Cross Road, London, W.C.2. *Pimlico Housing Scheme.* 1946.

Whyte, Sir William Edward and W. Gordon. *Law of Housing in Scotland, 1919-25.* (Hodge : Edinburgh) 1938. 42s.
Willshire, N. A. D. *Rent, Rates and Housing.* (Estates Gazette) 1944. 11s. 6d.
Wilson, R. *Financial Freedom for Housing.* (Dent) 1945. 3s. 6d.
Windsor Labour Party. *Your Windsor.* 1945. 6d.

Reference Books

Building Societies Year Book, 1945. (Franey) 1945. 12s. 6d.
Ministry of Health. *List of Architects, Engineers and Surveyors available to assist Local Authorities in Connection with Housing in all areas of England except the London Civil Defence Region.* 1945.
Institute of Housing, 359, Strand, London, W.C.2. *Examination Syllabus and Regulations.* 1946. 2s.

LAW

Bidder, H. F. *Memorandum upon the War Damage Act, 1941.* (Chartered Surveyors Institution, 12, Great George Street, London, S.W.1.) 1941. 9s.
Burke, J. *War Damage Guide.* (Sweet & Maxwell) 1943. 10s. 6d.
Campion, H. *Public and Private Property in Great Britain.* (Oxford University Press) 1939. 8s. 6d.
Clarke, J. J. *Law of Housing and Planning, including Public Health, Highways and the Acquisition of Land.* (Pitman) 1937. 17s. 6d.
Collier, R. *Valuation for War Damage.* (Butterworth) 1945. 15s.
Commons, Open Spaces and Footpaths Preservation Society, 71, Eccleston Square, London, S.W.1. *The Access to Mountains Act, 1939 : Its History and Significance, together with an Analysis of the Act.* 6d. *The Rights of Way Act, 1932 : Its History and Meaning.* The Text of the Act with a Commentary. 3d. *Parish Councils and the Rights of Way Act.* 2d.
Creswell, W. T. and N. P. Greig. *London Building Acts (Amendment) Act 1939.* (Eyre & Spottiswoode) 1940. 15s. *The Law Relating to Building and Engineering Contracts.* (Pitman)1940. 16s.
Crew, A. and F. Jones. *Rates and Rating, embodying the Rating and Valuation Acts, 1923-38.* (Pitman) 1939. 12s. 6d.
Elphinstone, L. H. *A Concise Summary and Guide to the War Damage Act, 1941.* For the use of the Legal Profession. (Solicitors' Law Stationery Society) 1941. 5s.
Eve, H. B. *Requisitioning of Land and Property.* (Estates Gazette) 1943. 9s. 6d.
Georgian Group, 4, Hobart Place, London, S.W.1. *Protection by Law of National Monuments and National Buildings.* 1945. 2s.
Hargreaves, A. D. *An Introduction to the Principles of Land Law.* (Sweet & Maxwell) 1944. 16s. 6d.
Hazard, J. N. *Soviet Housing Law.* (Oxford University Press) 1940. 11s. 6d.

Head, E. D. *War Damage and Property Act.* (C. Double, 14, Sergeants Inn, 49, Fleet Street, London, E.C.4.) 1941. 2s. 6d.

Heap, D. *An Outline of Planning Law, 1943-1945.* (Sweet & Maxwell) 1945. 5s. *Planning Law for Town and Country.* (Sweet & Maxwell) 1938. 12s. 6d. *Planning and the Law of Interim Development.* (Sweet & Maxwell) 1944. 1s. *The Town and Country Planning Act, 1944: An Annotated Analysis of the Act in Three Parts.* (Sweet & Maxwell) 1945. 21s.

Hill, H. A. *Complete Law of Town and Country Planning and the Restriction of Ribbon Development.* (Butterworth) 1937. 33s. (Out of print—new edition in preparation). *Town and Country Planning Act, 1944.* (Butterworth) 1945. 10s. 6d.

Housing Centre, 13, Suffolk Street, S.W.1. *Overcrowding,* by P. R. Rathbone. 1938. 2d. (Some legal provisions explained).

Jennings, W. I. *Law of Housing.* (Knight) 1936. 38s. 6d.

Jennings, W. I. and J. R. Howard-Roberts. *The Law Relating to Town and Country Planning.* (Second edition by J. R. Howard-Roberts). (Knight) 1946. 45s.

Kahn, I. J. *War Damage Handbook.* (Bear, Hudson) 1944. 2s. 6d.

Knight's Public Health Acts, 1875-37. (Knight) 1937. 30s. 3d.

Lawson, A. *Guide to the War Damage Acts.* (News Chronicle) 1942. 2s. 6d.

Mahaffy, R. P. *Highway and Road-Traffic Law.* (Arnold) 1935. 15s.

Mekie, E. C. and H. B. Williams. *Town and Country Planning Law.* (Spon) 1946. 37s. 6d.

Merlin, S. J. P. assisted by C. W. Skinner. *War Damage Precedents, being the Landlord and Tenant (War Damage) Acts.* (Butterworth) 1941. 15s.

Meston, Lord Dougall. *The War Damage Act, 1941.* (Sweet & Maxwell) 1941. 12s. 6d. *The War Damage Act, 1943.* (Sweet & Maxwell) 1943. 20s.

Mitchell, G. E. *Model Building Byelaws Illustrated.* (Batsford) 1939. 10s. 6d. (Out of print).

Montgomery, R. M. *The War Damage Act, 1941.* (Eyre & Spottiswoode) 1942. 30s. *War Damage (Amendment) Act, 1942.* (Eyre & Spottiswoode) 1942. 5s. *War Damage Act, 1943.* (Eyre & Spottiswoode) 1943. 10s. *War Damage (Amendment) Act, 1943.* (Eyre & Spottiswoode) 1943. 6s.

Pedler, T. S. *The War Damage Act, 1941. Explanatory Synopsis.* (National Federation of Property Owners, St. Stephen's House, Victoria Embankment, London, S.W.1.) 1941. 6d.

Potter, H. *The Principles of Land Law under the Land Registration Act, 1925.* (Sweet & Maxwell) 1941. 10s.

Price Davies, B. *Building Laws, Byelaws and Regulations.* (Educational Publishing) Revised 1944. 30s.

Pritchard, H. G. *Middlesex County Council Act, 1944.* (Annotated). (Solicitors' Law Stationery Society) 1945. 30s.

Robertson, W., C. Porter and J. Fenton. *Sanitary Law and Practice.* (Sanitary Publishing Co.) 1935. 25s.

Safford, A. *The Rent and Mortgage Interest Restrictions Acts, 1920-39.* (Sweet & Maxwell) 1939. 12s. 6d.

Samuels, H. *War Damage Act, 1941.* (Pitman) 1941. 10s. 6d.

Skinner, C. W. *The Law of Compulsory Acquisition of Land.* (Estates Gazette) 1939. 17s. 6d.
Smith-Saville, J. R. *Planning Acts 1943-5 and Compensation for Acquisition of Land.* (Estates Gazette) 1945. 16s. 6d.
Sophian, T. J. *The War Damage Act, 1941.* (Jordan) 1941. 10s. 6d.
The War Damage (Amendment) Act, 1942, and Noter-Up of War 'Damage Legislation. (Jordan) 1942. 5s.
Stephenson, C. H. S. and E. C. Spencer. *Revised Compensation for War Damage.* (C. H. S. Stephenson, 19, Churchgate, Retford) 1942. 2s.
Town Planning Institute, Maxwell House, 11, Arundel Street, Strand, London, W.C.2. *Town and Country Planning—Amending Legislation,* 1941. 1s.
Wallace, J. Stewart-. *Brickdale and Stewart-Wallace's Land Registration Act, 1925.* (Stevens & Sons) 1939. 30s.
Williams, H. B. and M. Evans. *Law and Practice of War Damage Compensation.* (Heffer) 1941. 21s.
Wontner, J. J. *Guide to Land Registry Practice.* (Solicitors' Law Stationery Society) 1944. 17s. 6d.
Woodfall, W. *Law of Landlord and Tenant.* (Sweet & Maxwell) 1939. 52s. 6d.
Law of Landlord and Tenant. Supplement No. 1 : Emergency Legislation to Dec. 1939, ed. L. A. Blundell. (Sweet & Maxwell) 1940. 5s.
Law of Landlord and Tenant : Cumulative Supplement No. 2. (Sweet & Maxwell) 1941. 6s. 6d.
Law of Landlord and Tenant : Cumulative Supplement No. 3. 1943. 10s.
Woods, C. R. W. *Knight's Annotated Model Byelaws.* (Knight) 1938. 38s. 6d.
Wurtzburg. *Law of Building Societies.* (Sweet & Maxwell) 1940. 21s.

REFERENCE BOOKS

Encyclopaedia of the Laws of England. (Sweet & Maxwell) 1939. 50s.
Encyclopaedia of the Laws of Scotland—Fourth Supplement. (Green : Edinburgh) 1941. 42s.

LOCAL GOVERNMENT

Astor, Lord, Sir Ernest Simon, and Alderman Burgess. *Local Government Areas.* (Argus Press) 1945. 7d.
Building Industries National Council, 11, Weymouth Street, London, W.1. *Memorandum on the Control of Building by Local Authorities.* 1935. 1s. 3d.
Central Council of Physical Recreation, 58, Victoria Street, London, S.W.1. *Facilities for Physical Recreation : Some Suggestions for Local Authorities.* 1944. 6d.
Clarke, J. J. *Local Government of the United Kingdom.* (Pitman) 1939. 15s.
Commons, Open Spaces and Footpaths Preservation Society, 71, Eccleston Square, London, S.W.1. *Powers of District and Parish Councils under the Local Government Act, 1929.* 1d. *Powers and Duties of Parish Councils.* 3d.

Finer, H. *English Local Government.* (Methuen) 1945. 25s.
Gibbon, G. and R. W. Bell. *History of the London County Council, 1889-1939.* (Macmillan) 1939. 21s.
Harris, G. M. *Municipal Self-Government in Britain : a Study of the Practice of Local Government in Ten of the Large British Cities.* (King) 1939. 15s.
Jackson, W. E. *Local Government in England and Wales.* (Penguin) 1945. 9d.
Laski, H. J., W. J. Jennings and W. A. Robson. *A Century of Municipal Progress : The Last Hundred Years.* (Allen & Unwin) 1940. 12s. 6d.
National Institute of Economic and Social Research, 53, Romney Street, Smith Square, London, S.W.1. *Incidence of Local Rates in Great Britain,* by J. R. and U. K. Hicks. 1945. 6s. *The Problem of Valuation for Rating,* by J. R. Hicks, U. K. Hicks and C. E. V. Leser. 1944. 7s. 6d.
Radcliffe, C. W. *Middlesex : The Jubilee of the County Council, 1889-1939.* (Evans) 1945. 2s. 6d.
Shelley, A. N. C. *The Councillor.* (Nelson) 1939. 2s.
Smith, F. *Coventry : Six Hundred Years of Municipal Life.* (Coventry Corporation : Coventry Evening Telegraph) 1945. 15s.
Swift. *Sanitary Administration.* (Butterworth) 1945. 35s.
Tiptaft, N. *I Saw a City.* (Cornish Bros.) 1945. 7s. 6d.
Whyte, Sir William Edward. *Local Government in Scotland.* (Hodge : Edinburgh) 1936. 25s.

REFERENCE BOOKS

The Councillor's Handbook, by H. T. Rose and H. R. Page. (Pitman) 1945. 7s. 6d.
Local Government Finance. (Knight) Annual. 17s. 6d.
Local Government Manual and Directory. (Knight) Annual. 35s.
Municipal Year Book, J. Forbes (Ed.) (Municipal Journal) Annual. 42s.

PUBLIC UTILITIES

Association for Planning and Regional Reconstruction, 32, Gordon Square, London, W.C.1. *District Heating.* 1944. 5s. *Electricity in its Regional Setting.* (Reprinted from *Architectural Review*) 1945. 3s. 6d.
Babbitt, H. E. and J. J. Doland. *Water Supply Engineering.* (McGraw) 1939. 36s.
Bransby-Williams, G. *The Purification of Water Supplies.* (Chapman & Hall) 1944. 7s. 6d.
British Electrical Development Association, 2, Savoy Hill, Strand, London, W.C.2. *Look to Your Lights.* 1945. (Free to non-members on application).
British Gas Federation, 1, Grosvenor Place, London, S.W.1. *Report on the Planning of the Gas Industry.* 1943.
Electrical Power Engineers' Association, 102, St. George's Square, London, S.W.1. *Post-War Planning for the Electricity Supply Industry :* Part 1, *Technical and Social Organisations as a Public Service.* 1943. 1s.

Hammond, R. *Water, Drainage and the Community.* (Dent) 1945. 3s. 6d.

Illuminating Engineering Society, 32, Victoria Street, London, S.W.1. *Lighting of Public Buildings.* 1944. 1s. *The Lighting of Schools.* 1944. 1s. *Making Work Lighter.* 1945. 6d. *Natural Lighting.* 1944. 1s. *Principles of Good Lighting.* 1944. 1s. *Public Lighting in the City and Highway.* 1944. 1s.

Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2. *Electricity Supply, Distribution and Installation: A Report to the Council from the Post-War Planning Committee.* 1944.

Institution of Gas Engineers, 1, Grosvenor Place, London, S.W.1. *First Report of the District Heating Committee of the Institution of Gas Engineers.* 1945.

Institution of Water Engineers, Parliament Mansions, Abbey Orchard Street, Victoria Street, London, S.W.1. *Post-War Water Supply.* 1944. 1s.

Joint Committee of Electricity Organisations, Wellington House, Strand, London, W.C.2. *Memorandum on Electricity Distribution; with Recommendations Relating to future Policy and Practice.* 1944.

Mitchell, E. G. *Sanitation, Drainage and Water Supply.* (Newnes) 1945. 12s. 6d.

National Federation of Women's Institutes, 39, Eccleston Street, London, S.W.1. *Water and Sewerage Survey.* 1944. 3d.

Sales, H. S. and J. Bland. *England's Water Problem. A Survey of Rainfall, Drought and Distribution.* (Country Life) 1939. 18s.

Williams, G. B. *The Purification of Water Supplies.* (Chapman & Hall) 1944. 7s. 6d.

Wright, F. B. *Rural Water Supply and Sanitation.* (Chapman & Hall) 1939. 12s. 6d.

Reference Books

Blue Book. The Electrical and Engineering Trades Directory. (Benn) Annual. 30s.

British Waterworks Year Book and Directory. (British Waterworks Association, 34, Park Street, London, S.W.1.) 1936. 31s. 6d. to non-members. (Publication suspended during war).

Garcke's Manual of Electrical Undertakings and Directory of Officials, ed. F. C. Garret. (Electrical Press) 1940-1. 42s.

Gas Times Pocket Directory of Gas Undertakings, 1945. (Hallows & Slaughter, Leighton Buzzard) 1945. 5s.

Water Engineers' Handbook and Directory. (Colliery Guardian) 1945. 8s. 6d.

ROADS, TRANSPORT AND TRAFFIC

Agg, T. R. *The Construction of Roads and Pavements.* (McGraw) 1940. 26s.

Association for Planning and Regional Reconstruction, 32, Gordon Square, London, W.C.1. *Inland Waterways.* 1946. 2s. 6d. *The Location of Trunk Roads in Urban Areas,* by L. B. Escritt. 1945. 1s. 6d.

Bateman, J. H. *Introduction to Highway Engineering.* (Chapman & Hall) 1943. 24s.
Boumphrey, G. *British Roads.* (Nelson) 1939. 2s.
British Road Federation, 4a, Bloomsbury Square, London, W.C.1. *Memorandum on Car-Parking Facilities in Towns.* 1945. 3d. *New Roads for Britain,* by G. C. Curnock. 1944. 2s. 6d. *Roads and Road Transport.* 1944. 1s.
Burke, T. *Travel in England: From Pilgrim and Pack-Horse to Light Car and Plane.* (Batsford) 1943. 10s. 6d.
Council for the Preservation of Rural England, 4, Hobart Place, London, S.W.1. *Report of the Trunk Roads Joint Committee.* 1s. 6d.
Hadfield, E. C. R. *British Rivers and Canals.* (Collins) 1946. 4s. 6d.
Institute of Landscape Architects, 12, Gower Street, London, W.C.1. *Roads in the Landscape.* 1946. 1s. 3d.
Institution of Highway Engineers, Parliament Mansions, Abbey Orchard Street, London, S.W.1. *The Post-War Development of Highways.* 1944.
Knight, B. H. *Modern Road Construction.* (Lockwood) 1946. 5s.
Liepmann, K. *The Journey to Work.* (Kegan Paul) 1944. 15s.
O'Gorman, M. *Road Transport and the National Plan.* (British Road Federation, 4a, Bloomsbury Square, London, W.C.1.) 1942.
Royal-Dawson, F. G. *Vertical Curves for Roads.* (Spon) 1946. 15s.
Standing Joint Committee of the R.A.C., A.A. and R.S.A.C., 66, Whitcombe Street, London, W.C.2. *Post-War Roads and Traffic.* 1944.
Turton, F. *The History of the Solent Tunnel Scheme and Railways associated with it.* (Stockwell) 1945. 2s. 6d.

REFERENCE BOOKS

Bartholomew's Road Atlas of Great Britain. (Bartholomew) 1944. 7s. 6d.
British Road Federation, 4a, Bloomsbury Square, London, W.C.1. *Basic Road Statistics.* 1945. 1s.
Map of the Navigable Fenland Rivers. (Rapidfile Ltd., 15, Newman Street, London, W.1.) 1945. 2s.
"*Motor Transport*" *Year Book and Directory, 1939-40.* (Electrical Press) 1940. 30s.
Road and Road Construction Year Book and Directory. (Carriers Publishing Co.) 10s. 6d.

SOCIOLOGY

Abrams, M. *The Population of Great Britain.* (Allen & Unwin) 1945. 3s. 6d.
Association for Planning and Regional Reconstruction, 32, Gordon Square, London, W.C.1. *Social Aspects of Town Planning.* (Reprint of the *Architectural Review*) 1945. 3s. 6d.
Barlow, K. E. *A Home of their Own.* (Faber) 1946. 4s. 6d.
Bartlett, E. C., M. Ginsberg, E. J. Lindgren and R. H. Thouless. *The Study of Society: Methods and Problems.* (Kegan Paul) 1939. 10s. 6d.
Bird, C. *Social Psychology.* (Appleton) 1940. 18s.
Bogardus, E. S. *Sociology.* (Macmillan) 1941. 12s. 6d.
Doncaster and District Council of Social Service. *An Interim Report on Social Conditions in Doncaster and Districts,* by E. D. Evans. 1944. 6d.

Durant, R. *Watling : A Survey of Social Life on the New Housing Estate.* (King & Staples) 1939. 10s.

Faris, R. E. L. and H. W. Dunham. *Mental Disorders in Urban Areas : An Eclogical Study of Schizophrenia and other Psychoses.* (Cambridge University Press) 1939. 11s. 6d.

Goodfellow, D. M. *Tyneside : The Social Facts.* (Co-operative Printing Society, Rutherford Street, Newcastle-upon-Tyne) 1941. 1s.

Harrod, R. F. *Britain's Future Population.* (Oxford University Press) 1943. 6d.

Hicks, J. R. *The Social Framework.* (Oxford University Press) 1942. 7s. 6d.

Housden, L. G. *Home Life and the Community.* (Eyre & Spottiswoode) 1945. 3s. 6d.

Housing Centre, 13, Suffolk Street, London, S.W.1. *Community Centres.* A Survey by F. and G. Stephenson. (Community Centres Joint Research Committee, address as above). 1942. 4s. (Reprinting).

Hubback, E. M. *Population, Facts and Policies.* (Allen & Unwin) 1945. 2s. 6d.

Jones, D.C. *Social Survey of Merseyside.* (University of Liverpool Press) 1934. Three vols. 15s., 21s., 25s. respectively. 45s. the set. Vol. 1 out of print.

London Council of Social Service, 7, Bayley Street, London, W.C.1. *The Communal Restaurant : A Study of the Place of Civic Restaurants in the Life of the Community.* 1943. 6d. *Community Restaurants in Design.* 1945. 2s. 6d. *The Need for Community Centres in Inner and Outer London.* 1945. 2d.

London Diocesan Church of England Temperance Society. *Our Street, A Survey in London, 1943.* (British Association of Residential Settlements, 32, Gordon Square, London, W.C.1.) 1944. 6d.

London School of Economics. *New Survey of London Life and Labour.* (King & Staples). Vols. 3 and 6, *Housing.* 1932, 1934. 22s. 6d. each.

Lundberg, G. A. *Social Research.* (Longmans) 1942. 18s.

Lynd, R. S. and H. M. Lynd. *Middletown.* (Constable) 1937. 16s. *Middletown in Transition.* (Constable) 1937. 25s.

Mass Observation. *Britain :* arranged by C. Madge and T. Harrison. (Penguin) 1939. 6d. *The People's Homes.* (Murray) 1943. 10s. *The Pub and the People.* (Gollancz) 1943. 16s.

Mess, H. A. *Social Groups in Modern England.* (Nelson) 1940. 2s. 6d. *Social Structure.* (Allen & Unwin) 1942. 6s.

Mumford, L. *The Social Foundations of Post-War Planning.* (Faber) 1943. 1s. 6d.

Myrdal, G. *Population—A Problem for Democracy.* (Oxford University Press) 1940. 8s. 6d.

National Council of Social Service, 26, Bedford Square, London, W.C.1. *British Restaurants.* (Oxford University Press) 1946. 3s. 6d. *Community Centres and Associations,* by E. S. Harris. 1945. 1s. 6d. *Eating Out.* (Oxford University Press) 1946. Printing. 3s. 6d. *Living Communities.* 1945. Single Copies *gratis. New Housing Estates and their Social Problems.* 1937. 1s. *Old Age in the New World,* by E. D. Samson. (Pilot Press) 1945. 4s. 6d. *Report of Community Centres and Associations Conference.* 1943. 1s.

National Institute of Economic and Social Research. *The New Population Statistics*, by R. R. Kuczynski. (Cambridge University Press) 1942. 1s. 6d. (Out of print). *The Population of Bristol*, by H. A. Shannon and E. Grebenik. (Cambridge University Press) 1943. 7s. 6d. *The Population Problems of Post-War Britain*, by R. R. Kuczynski. (Cambridge University Press). In preparation.

Neurath, O. *Modern Man in the Making*. (Secker & Warburg) 1939. 16s.

Paneth, M. *Branch Street*. (Allen & Unwin) 1944. 6s.

Pearce, I. H. and Crocker, L. H. *The Peckham Experiment : A Study in the Living Structure of Society*. (Allen & Unwin) 1945. 5s.

Pink, M. A. *Social Reconstruction*, ed. A. J. J. Ratcliff. (Nelson) 1943. 3s.

Rowntree, B. S. *Poverty and Progress : A Second Social Survey of York*. (Longmans) 1941. 15s.

Sanderson, D. *Rural Sociology and Rural Social Organisations*. (Chapman & Hall) 1943. 24s.

Scottish Council of Social Service, 10, Alva Street, Edinburgh, 2. *A Social Survey of Hawick*, by A. M. Struthers. 1944. 6d.

Sinclair, R. *Metropolitan Man*. (Allen & Unwin) 1937. 10s. 6d.

Titmuss, R. M. *Problems of Population*. (English Universities Press) 1945. 6d.

Wright, F. J. *The Elements of Sociology : An Introduction to Social and Political Science*. (London University Press) 1942. 6s. 6d.

SURVEYING

Bagley, J. W. *Aerophotography and Aerosurveying*. (McGraw) 1942. 24s. 6d.

Breed, C. B. and G. L. Hosner. *The Principles and Practice of Surveying*. (Chapman & Hall) 1945. 24s.

Clark, D. *Plane and Geodetic Surveying for Engineers*. Vol. 1, *Plane Surveying*. (Constable) 1940. 27s. 6d.

Davis, R. E. *Elementary Plane Surveying*. (McGraw) 1942. 21s.

Eversheld, W. L. *Quantity Surveying for Builders*. (Chapman & Hall) 1936. 12s.

Fletcher, B. and H. P. Fletcher. *Quantities : A Guide to the Measurement and Valuation of Building and Engineering Works*, ed. A. E. Baylis. (Batsford) 1939. 16s.

Hart, G. A. *Air Photography Applied to Surveying*. (Longmans) 1940. 25s.

Higgins, D. A. L. *Higher Surveying*. (Macmillan) 1944. 25s.

Rea, R. T. *How to Estimate*. (Batsford) 1945. 16s.

Story, J. A. *Traverse Surveys*. (Lockwood) 1946. 5s.

Willis, A. J. *Elements of Quantity Surveying*. (Lockwood) 1944. 15s. *More Advanced Quantity Surveying*. (Lockwood) 1946. 25s. *Some Notes on Taking off Quantities*. (Architectural Press, Cheam) 1945. 3s. 6d.

Reference Books

Chartered Surveyors Institution, 12, Great George Street, London, S.W.1. *List of Members*. 1940. *Supplement*. 1945.

Register of Chartered Surveyors, Chartered Land Agents, and of Auctioneers and Estate Agents, 1939. (Skinner) 1939. 20s.

MISCELLANEOUS

Association for Planning and Regional Reconstruction, 32, Gordon Square, London, W.C.1. *Disposal of the Dead.* Part 1, *The Problem.* 1945. 6d. Part 2, *Some Proposals.* 1945. 6d.

Barfod, B. *Local Economic Effects of a Large-Scale Industrial Undertaking.* (Oxford University Press) 1939. 3s. 6d.

Clay, H. *The Sanitary Inspectors' Handbook.* (Lewis) 1942. 18s.

Dawson, R. B. *Practical Lawncraft.* (Lockwood) 1946. 15s.

Gloag, J. *Design in Modern Life.* (Allen & Unwin) 1935. 10s. 6d.

Incorporated Association of Rating and Valuation Officers, 26, Abingdon Street, London, S.W.1. *Report on Reconstruction.* 1945.

Jarvis, A. *The Things We See, Indoors and Out.* (Penguin) 1946. 2s. 6d.

PEP, 16, Queen Anne's Gate, London, S.W.1. *The Market for Household Appliances.* 1945. 18s.

Royal Society of Arts, 6-8, John Adam Street, London, W.C.2. *War Memorials Advisory Council.* 1944. *Gratis.*

GOVERNMENT PUBLICATIONS

Available from H.M. Stationery Office

Barlow, Scott and Uthwatt Reports. *Report of the Royal Commission on the Distribution of the Industrial Population. (Barlow Report).* 1940. 5s. *Report of the Committee on Land Utilisation in Rural Areas. (Scott Report).* 1942. 2s. *Interim Report of the Expert Committee on Compensation and Betterment. (Uthwatt Report).* 1941. 2s. 6d. *Final Report of the Expert Committee on Compensation and Betterment. (Uthwatt Report).* 1942. 2s. 6d.

Department of Scientific and Industrial Research. *Atmospheric Pollution Research Technical Paper No. 1. Atmospheric Pollution in Leicester: A Scientific Survey, 1944.* 1945. 3s.

Building Research Board. *Annual Report.* (Publication suspended during war). *Building Science Abstracts,* compiled by the Building Research Station. Monthly, 1s. 6d., annual subscription, 19s. *Wartime Building Bulletins.* (Various dates and prices).

Forest Products Research Board. *Annual Report.* (Publication suspended during war). *Research Bulletins.* No. 1. *Dry Rot in Wood.* 1945. 1s. *The Growth, Structure and Properties of Wood,* by S. H. Clarke. 1939. 9d. *A Handbook of Empire Timbers.* 1945. 3s. *Handbook of Home-Grown Timbers.* 1941. 1s. 6d. *Principal Decays of Softwoods Used in Great Britain,* by K. St. G. Cartwright and W. P. K. Findlay. Sept. 1938. 1939. 2s. 6d. *Recognition of Decay and Insect Damage in Timbers for Aircraft and other Purposes.* Feb. 1943. 1943. 6d. Etc.

Fuel Research Board. *Annual Report.* (Publication suspended during war). *Physical and Chemical Surveys of the National Coal Resources.* (Various dates and prices).

Road Research Board. *Annual Report.* (Publication suspended during war). *Aerodrome Abstracts.* Compiled by the Road Research Laboratory and issued in collaboration with the Air Ministry. Alternate months. *Road Abstracts.* Compiled by the Road Research Laboratory and the Ministry of War Transport. Issued monthly in neostyled form to technical press. Printed in full by Institution of Municipal and County Engineers in co-operation with Institution of Civil Engineers and issued as monthly supplement (1s. each and 15s. per annum) to *Journal of the Institution of Municipal and County Engineers. Wartime Road Notes.* (Various dates and prices).

Water Pollution Research Board. *Annual Report.* (Publication suspended during war). *Summary of Current Literature.* Monthly, 2s., annual subscription 24s.

Geological Survey and Museum. *Sheet Memoirs, District Memoirs, and Special Reports on the Mineral Resources of Great Britain.* (Various dates and prices).

National Physical Laboratory. *The Natural Lighting of Houses and Flats, with Graded Daylight Factor Tables,* by T. Smith and E. D. Brown. 1944. 4d.

Home Office. *Fire Precautions in Schools.* 1945. 1s.
Report of Committee on War Damaged Licensed Premises and Reconstruction. (Morris Committee). (Cmd. 6504). 1944. 1s.

Ministry (formerly Board) of Education. *Community Centres.* 1945. 9d.
Education for Industry and Commerce: Building Crafts. 1945. 1s.
Memorandum on the Draft Building Regulations, being the Draft dated November 3rd, 1944, of the Regulations prescribing Standards for School Premises, 1944, proposed to be made under Section 10 of the Education Act, 1944. 1944. 6d.
Suggestions for the Planning, Construction and Equipment of Gymnasia in all Types of Schools and Educational Institutions, 1938. 1939. 1s.
Training of the Architect: Memorandum, by M. S. Briggs. 1943. 9d.

Ministry of Fuel and Power. *Coal Mining: Report of the Technical Advisory Committee (Reid Committee).* 1945. 1s.
Gas Industry: Report of the Committee of Enquiry (Heyworth Committee). (Cmd. 6699). 1945. 2s.
Regional Survey Reports. *The Coalfields of the Midland Region.* 1945. 2s. *Durham Coalfield.* 1945. 1s. *Kent Coalfield.* 1945. 9d. *North-Eastern Coalfield.* 1945. 1s. 6d. *North Midland Coalfield.* 1945. 1s. 6d. *North Western Coalfields.* 1945. 2s. *Northumberland and Cumberland Coalfields.* 1945. 1s. 3d.
Report on the Severn Barrage Scheme, by A. G. Vaughan-Lee, Sir William Halcrow and S. B. Donkin. 1945. 2s. 6d.

Ministry of Health. *Summary Report* for the year ended 31st March, 1945. (Cmd. 6710). 1945. 1s. 3d.
Central Advisory Water Committee, Third Report: River Boards. (Cmd. 6465). 1943. 1s. 3d.

Central Housing Advisory Committee. *Conversion of Existing Houses: Report of the Sub-Committee of the Central Housing Advisory Committee, 1945.* 1946. 1s. *Design of Dwellings: Report of the Design of Dwellings Sub-Committee (Dudley Committee) of the Central Housing Advisory Committee, and Report of a Study Group of the Ministry of Town and Country Planning on Site Planning and Layout in Relation to Housing.* 1944. 1s. *Housing Management: Management of Municipal Housing Estates: Second Report of the Housing Management Sub-Committee of the Central Housing Advisory Committee, 1945.* 1945. 6d. *Private Enterprise Housing: Report of the Private Enterprise Sub-Committee (Pole Committee) of the Central Housing Advisory Committee.* 1944. 1s. *Rural Housing: Third Report of the Rural Housing Sub-Committee (Hobhouse Committee) of the Central Housing Advisory Committee, 1943.* 1944. 1s

Housing Return for England and Wales, 1946. (Cmd. 6744). 1946. 3d. *Appendix B.* 1946. 1s. 3d. *Local Government in England and Wales during the Period of Reconstruction.* (Cmd. 6579). 1945. 4d.

Report of the Committee on the Restoration of Land Affected by Iron Ore Working (Kennet Committee). 1939. 2s.

Report of the Departmental Committee on Valuation for Rates (Fitzgerald Committee), 1939. 1944. 1s.

Technical Note on Some Types of Permanent Prefabricated Houses. (Circular 182/45 of 16th October, 1945—from the Ministry).

Ministry of Health and Department of Health for Scotland. *Report of the Inter-departmental Committee on Rent Control.* (Cmd. 6621). 1945. 1s.

Ministry of Health, Ministry of Agriculture and Fisheries, and Department of Health for Scotland. *A National Water Policy.* (Cmd. 6515). 1944. 6d.

Ministry of Health and Ministry of Works. *Housing Manual, 1944.* 1944. 2s.

Housing Manual: Technical Appendices, C-L. 1944. 1s. 6d.

Temporary Accommodation: Memorandum for the Guidance of Local Authorities. 1944. 6d.

Ministry of Health and Secretary of State for Scotland. *Report of the Interdepartmental Committee on the Selling Price of Houses (Morris Committee).* (Cmd. 6670). 1945. 6d.

Ministry of Labour. *Careers for Men and Women Series.* 1945-6. *Architecture; Auctioneering and Estate Agency; Building Industry—Managerial, Executive and Technical Posts; Civil Engineering; Forestry; Housing Management; Land Agency; Surveying; Town and Country Planning;* 3d. each.

Cloakrooms and Washing Facilities, Drinking Water and Sanitary Accommodation in Factories. 1945. 1s.

Commission for Special Areas, England and Wales; Committee of Enquiry into Land Settlement (Dampier Committee) Report. 1939. 2s. 6d.

The Staggering of Holidays: Report to the Ministry by the Catering Wages Commission. 1945. 6d.

Ministry of Town and Country Planning. *Greater London Plan, 1944,* by P. Abercrombie. 1945. 25s. *Extracts from the Volume; a Selection of Maps.* 1945. 10s. *Master Plan.* 1945. 2s. 6d.

Merseyside Plan, 1944, by F. Longstreth Thompson. 1945. 7s. 6d. *Supplementary Illustrations.* 1945. 7s. 6d.

National Parks in England and Wales : Report by J. Dower, 1945. (Cmd. 6628). 1945. 1s.

Report on Derelict Land in the Black Country, by S. H. Beaver, 1945. 1946. From the Ministry.

Town and Country Planning Act, 1944 : Explanatory Memorandum. 1945. 6d.

Ministry of Town and Country Planning and Secretary of State for Scotland. *The Control of Land Use.* (Cmd. 6537). 1944. 3d.

Ministry of War Transport. *Administration of Road Fund : Annual Report, 1944-45.* 1d.

Committee on Electricity Distribution (McGowan Committee). Report. 1936. 2s.

Design and Layout of Roads in Built-up Areas : Report of Departmental Committee. 1946. 4s.

Interim Report of the Committee on Road Safety (Noel-Baker Committee), 1944. 1945. 1s.

Lay-out and Construction of Roads. 1943. 6d.

Memorandum on Bridge Design and Construction. 1945. 1s.

Report of the Clyde Estuary Committee (Cooper Committee) 1945. 1946. 1s.

Restriction of Ribbon Development Act, 1935. Memo. R.R.D. 1. (Reprinted 1944, revised price and code). 2d.

Traffic Signs : Report of Departmental Committee, 1944. 1946. 2s.

Ministry of Works. Building Apprenticeship and Training Council. *First Report, 1943.* 1944. 6d. *Second Report, 1944.* 1945. 9d.

Central Council for Works and Buildings. *Report on the Placing and Management of Building Contracts.* 1944. 1s. *Standard Schedule of Prices, 1942.* 1942. 1s.

Codes of Practice Committee for Civil Engineering, Public Works, Building and Constructional Work (Hindley Committee). First Report, Jan. 1943. 4d. *Second Report, Sept. 1943.* 3d.

Committee on Brick Industry. (Simmonds Committee). First Report, 1941. 1942. 6d. *Second Report, 1942.* 6d. *Third Report, 1943.* 9d.

Demonstration Houses : A Short Account of the Demonstration Houses and Flats erected at Northolt. 1944. 1s.

Methods of Building in the U.S.A. : Report of a Mission. 1944. 4d.

Post-War Building Studies. (*1*) *House Construction.* By an Interdepartmental Committee appointed by the Minister of Health, the Secretary of State for Scotland and the Minister of Works. 1944. 2s. (*2*) *Standard Construction for Schools.* By a Committee appointed by the President of the Board of Education. 1944. 6d. (*3*) *Plastics.* By a Committee convened by the British Plastics Federation. 1944. 1s. (*4*) *Plumbing.* By the Plumbing Committee of the Building Research Board of the Department of Scientific and Industrial Research. 1944. 1s. (*5*) *The Painting of Buildings.* By a Committee convened by the Paint Research Association. 1944. 1s. (*6*) *Gas Installations.* By a Committee convened by the Institution of Gas Engineers. 1944. 6d. (*7*) *Steel Structures.* By a Committee convened by the Institution of Civil Engineers. 1944. 6d. (*8*) *Reinforced Concrete Structures.* By a Committee convened by the Institution of Structural Engineers. 1944. 6d. (*9*) *Mechanical Installations.* By a Committee convened by the Institution of Mechanical Engineers. 1944.

2s. (*10*) *Solid Fuel Installations.* By a Committee convened by the British Coal Utilisation Research Association. 1944. 9d. (*11*) *Electrical Installations.* By a Committee convened by the Institution of Electrical Engineers. 1944. 1s. 6d. (*12*) *The Lighting of Buildings.* By the Lighting Committee of the Building Research Board of the Department of Scientific and Industrial Research. 1945. 2s. 6d. (*13*) *Non-Ferrous Metals.* By a Committee convened by the British Non-Ferrous Metals Research Association. 1944. 1s. (*14*) *Sound Insulation and Acoustics.* By the Acoustics Committee of the Building Research Board of the Department of Scientific and Industrial Research. 1944. 1s. (*15*) *Walls, Floors and Roofs.* By a Committee convened by the Royal Institute of British Architects. 1945. 9d. (*16*) *Business Buildings.* By a Committee convened by the Royal Institute of British Architects. 1944. 1s. (*17*) *Farm Buildings.* By a Committee appointed by the Minister of Agriculture and Fisheries. 1945. 3s. (*18*) *The Architectural Use of Building Materials.* (Not yet published). (*19*) *Heating and Ventilation of Dwellings.* By the Heating and Ventilation (Reconstruction) Committee of the Building Research Board of the Department of Scientific and Industrial Research. 1946. 2s. 6d. (*20*) *Fire Grading of Buildings.* (Not yet published). (*21*) *School Buildings for Scotland.* By a Committee appointed by the Secretary of State for Scotland. 1945. 1s. (*22*) *Farm Buildings for Scotland.* (Not yet published).

Prime Cost Contract to be used by Local Authorities in England and Wales for the Repair of War Damage to Dwellings. 1945. 3d.

Production and Building in Civil Engineering: a Pamphlet dealing with the Analysis of Man-Hours and Machine-Hours expended in the execution of Building and Civil Engineering Works. 1945. 6d.

Programme and Progress: a Pamphlet dealing with the preparation of Charts for Civil Engineering and Building Contracts. 1944. 9d.

Progress Charts for Housing Contracts. 1945. 9d.

Report of the Committee on Cement Production. (Cmd. 6282). 1941. 2d.

Report of a Mission on Methods of Building in the U.S.A. 1944. 4d.

Standard of Wartime Building. 1943. 9d.

Statistical Tables Relating to the Building and Civil Engineering Industries in Wartime. 1945. 3d.

Temporary Housing Programme. (Cmd. 6686). 1945. 2d.

Training for the Building Industry. Report, 1942. 1943. 1s.

Use of Standards in Building: First Progress Report of Standards Committee (Tatchell Committee). 1944. 6d.

Office of the Minister of Reconstruction. *Housing, 1945.* (Cmd. 6609). 1945. 2d.

Welsh Reconstruction Advisory Council: First Interim Report, 1943. 1944. 2s.

Commissioners of Crown Lands. *Annual Report.*

Council of Agriculture for England. *Report on the Principles and Objectives of Long-Term Agricultural Policy.* 1943. 3d.

Forestry Commission. *Annual Report.*

Forest Operations Series No. 1. The Thinning of Plantations. 1946. 9d.

Forestry as a Career. 1946. 3d.

Forestry Practice : A Summary of Methods of Establishing Forest Nurseries and Plantations with advice on other Forestry Questions for Owners and Agents. Revised 1939. 1s. 6d.

National Forest Park Committee (Hardknott) Report, 1944. 1945. 4d.

National Forest Park Committee (Glentrool) Report (Sutherland Committee). 1945. 9d.

Post-War Forest Policy. Report, 1943. (Cmd. 6447). Reprinted 1945. 2s.

Post-War Forest Policy. (Supplementary Report, 1943). Private Woodlands. (Cmd. 6500). 1944. 2d.

Land Registry. *Annual Report by the Chief Land Registrar. 4d.*

Local Government Boundary Commission. *Practice Notes (First Series) being Concise Notes on certain matters arising in connection with the Review of Areas by the Local Government Boundary Commission.* 1946. 1d.

Royal Commission on the Distribution of the Industrial Population, *see* Barlow Report above.

Royal Commision on Population. *Statement.* 1945. 2d.

Royal Fine Arts Commission. *Observations by the Commission on the City of London's Report on Post-War Reconstruction, 1944.* 1945. 2d.

Select Committee on National Expenditure, 1944-5. *Report on Release of Requisitioned Land and Buildings.* 1945. 3d.

Treasury. *Severn Barrage Committee Report, 1933.* Reprinted 1945. 2s. 6d.

War Damage Commission. *Cost of Works (England and Wales):* Explanatory Pamphlet issued in agreement with the National Federation of Building Trades Employers, as to Procedure in arranging for the Repair of War Damage and the Assessment of Payments of Cost of Works (Form R.O.D.1.). 1944. 3d. each ; 25 for 5s.

Cost of Works (Scotland). Explanatory Pamphlet issued by the War Damage Commission in agreement with the Scottish National Building Trades Federation (Employers) as to procedure in arranging for the Repair of War Damage and the Assessment of Payments of Cost of Works. (Form R.O.D.1.)—Scotland). 1944. 3d.

Practice Notes, (First Series) being Concise Notes of certain matters arising out of the administration of Part I of the War Damage Act, 1943. 1945. 9d.

Practice Notes (Second Series). Additional Notes for the Guidance of Claimants for Cost of Works Payments under Part I of the War Damage Act, 1943. 1945. 2d.

War Damage to Land and Buildings. A Short Explanatory Pamphlet on Claims under Part I of the War Damage Act, 1943. 1944. 1d.

Scottish Office. *Committee on Hydro-Electric Development in Scotland: Report.* 1942. 9d.

Utilisation of Land in the Rural Areas of Scotland : Report of a Committee (Normand Committee) appointed by the Secretary of State for Scotland in reference to the recommendations of the Committee on Land Utilisation in Rural Areas in England and Wales. (Cmd. 6440). 1943. 1d.

Department of Agriculture for Scotland. *Land Settlement in Scotland: Report by the Scottish Land Settlement Committee (Douglas Committee) 1944.* (Cmd. 6576). 1945. 1s. 3d.

Department of Health for Scotland. *Summary Report for the year ended June 30th, 1945.* 6d.

National Parks, a Scottish Survey : Report by the Scottish National Parks

Survey Committee (Ramsay Committee), 1944. (Cmd. 6631). 1945. 6d.

Scottish Housing Advisory Committee. *Planning our New Homes : Report of Scottish Housing Advisory Committee on Design, Planning and Furnishing of New Houses in Scotland.* 1944. 3s. *Distribution of New Houses in Scotland : Report by the Scottish Housing Advisory Committee, 1944.* 1944. 2s. *Provision of Houses for Owner-Occupation in Scotland.* (Cmd. 6741). 1946. 1s. 3d. *Town and Country Planning (Scotland) Act, 1945. Explanatory Memorandum.* 1945. 6d.

Department of Health for Scotland and Ministry of Works. *Temporary Accommodation (Scotland) : Memorandum for the Guidance of Local Authorities, 1944.* 6d.

Scottish Home Department. *Scottish Coalfields : the Report of the Scottish Coalfields Committee (Murray Committee).* (Cmd. 6575). 1944. 3s.

Scottish Rating System : Report of the Committee (McIntyre Committee) appointed to enquire into the Effect of the Rating System on the Provision of Houses, and Liability for Rates in respect of Empty and Unused Premises, 1944. (Cmd. 6595). 1945. 6d.

Valuation and Rating of Hydro-Electric Undertakings in Scotland : First Report of the Committee appointed to enquire into certain aspects of the Scottish Rating and Valuation System (McIntyre Committee). (Cmd. 6526). 1944. 4d.

North of Scotland Hydro-Electric Board. *Constructional Scheme No. 1 (Loch Sloy, Loch Morar, Lochalsh).* (Cmd. 6596). 1044. 3d. *No. 2. (Tummel-Garry, Gairloch).* The Board, 16, Rothesay Terrace, Edinburgh (*not* H.M.S.O.). 1945. 2s. 6d.

Legislation. *Local and Private Acts. Table of the Short Titles with an Index. Annual.* 1s.

Public General Acts and Church Assembly Measures. With Tables of the Short Titles and of the Effect of Legislation and an Index. Annual. 10s.

(For titles of individual Acts, etc., *see* Section *Legislation and Policy*).

NOTE ON LIBRARIES

(1) *Government Libraries.* The Department of Scientific and Industrial Research (Building Research Station, Forest Products Research Laboratory, Road Research Station, etc.), Ministry of Health, Ministry of Town and Country Planning, and Ministry of Works all have libraries which should be of interest to the planner.

(2) *University Libraries.* Brief descriptions of the various university libraries are given in the *Yearbook of the Universities of the Empire* (*see* Guides to Libraries below).

(3) *Public Libraries.* Books which are not directly available in a Public Library may usually be borrowed through that library from the National Central Library.

(4) *Special Libraries.* The following bodies maintain libraries and/or information services ; not all of these are available to the public, but arrangements can sometimes be made for *bona fide* inquirers whose needs cannot be met elsewhere. The addresses and telephone numbers of the organisations listed will be found in the section *Organisations.*

Association for Planning and Regional Reconstruction (Library and Information Service).
British Electrical Development Association (Advisory Service).
British Road Tar Association (Advisory Service).
British Standards Institution (Library and Inquiry Bureau).
Building Centre (Library of technical trade papers, and Information Service).
Building Societies Institute (Library ; available to members only).
Chartered Surveyors Institution (Library ; available to non-members for reference only).
Commons, Open Spaces and Footpaths Preservation Society (Advisory Service).
Council of Industrial Design (Library and Information Service).
Housing Centre (Library and Information Service).
Institute of Builders (Library ; available to members only).
Institute of Welding (Library and Information Service ; available to non-members for reference only).
Institution of Civil Engineers (Library ; available to members only).
Institution of Municipal and County Engineers (Library ; available to members only).
Institution of Sanitary Engineers (Library ; available to non-members for reference only).
Institution of Structural Engineers (Library ; available to members only).
International Federation for Housing and Town Planning (Information Service).
Metropolitan Public Gardens Association (Free Advisory Service—Horticultural Expert).
National Allotments Society (Information and Advisory Service).
National Buildings Record (Library of Photographs).
National Council of Social Service (Subscription Library ; Books Advice Service).
National Institute of Economic and Social Research (Library ; available to non-members on application).
National Smoke Abatement Society (Library ; available to non-members on application).
Royal Institute of British Architects (Library ; available to non-members for reference on payment of a fee. *See* Section *Unofficial Statements* for further details).
Royal Sanitary Institute (Library ; available to members only).
Society for the Protection of Ancient Buildings (Library ; available to non-members for reference).
Society of Women Housing Managers (Library ; available to members only).
Timber Development Association (Reference Libraries at Headquarters and Branches ; available to non-members for reference).
Town and Country Planning Association (Library and Information Service ; available to members only).
Town Planning Institute (Library).

Guides to Libraries

Association of Special Libraries and Information Bureaux, 52, Bloomsbury Street, London, W.C.1. *The Aslib Directory to Sources of Specialised Information.* (Oxford University Press) 1928. 20s. (Out of print).

Esdaile, A. *National Libraries of the World.* (Grafton) 1934. 21s.

Libraries, Museums and Art Galleries of the World. (A. J. Philips: Gravesend) 1937. 33s.

Rye. *Guide to the Libraries of London.* (University of London Press) 1927.

Yearbook of the Universities of the Empire. (Bell) 1940. 15s.

Periodicals

TOWN AND COUNTRY PLANNING

Association for Planning and Regional Reconstruction's Information Bulletin, 34, Gordon Square, London, W.C.1. Alternate months, 6d., annual subscription 5s.

Housing and Planning News-Bulletin, see Housing.

Journal of Reconstruction, Amen House, Warwick Square, London, E.C.4. Quarterly, 6s., annual subscription 21s.

Journal of the Royal Society of Arts, The Society, York House, Portugal Street, London, W.C.1. Alternate weeks, 2s., annual subscription 56s. 4d.

News-Sheet of the International Federation of Housing and Town Planning, see Housing.

Planning, PEP, 16, Queen Anne's Gate, London, S.W.1. Irregular (about once a month), prices vary—1s. 6d. to 2s. 6d., annual subscription minimum 20s.

Quiet, Noise Abatement League, 105, Gower Street, London, W.C.1. Quarterly, 1s., annual subscription 10s. 6d.

Smokeless Air, National Smoke Abatement Society, Chandos House, Buckingham Gate, London, S.W.1. Quarterly, annual subscription 2s. 6d.

Soviet Reconstruction Series: Town Planning, Architecture and Building, Society for Cultural Relations with the U.S.S.R., 98, Gower Street, London, W.C.1. Monthly, annual subscription 7s. 6d.

Town and Country Planning, 28, King Street, Covent Garden, London, W.C.2. Quarterly, 2s. 6d., annual subscription 10s.

Town Planning Institute Journal, The Institute, 18, Ashley Place, London, S.W.1. Alternate months, 4s., annual subscription to non-members 21s.

Town Planning Review, 175, Brownlow Hill, Liverpool. Irregularly, single copy, 3s., per vol. of 4 issues 10s. 6d.

AGRICULTURE AND RURAL RECONSTRUCTION

Agriculture (The Journal of the Ministry of Agriculture), Block 4, Bickenhall Mansions, Bickenhall Street, London, W.1. Monthly, annual subscription 6s.

Council for the Preservation of Rural England, Quarterly Report, 4, Hobart Place, London, S.W.1. Quarterly, 6d.

Estates Gazette, Audrey House, Ely Place, London, E.C.1. Weekly, 9d., annual subscription 45s. 6d.

Estate Magazine, Country Gentlemen's Association, Ltd., Carlton House, Lower Regent Street, London, S.W.1. Monthly, 1s., annual subscription 10s. 6d.

Journal of the Central Landowners' Association, Coppid Hall, Henley-on-Thames. Quarterly, 2s. 6d.

Journal of the Land Agents' Society, 318, Bank Chambers, 329, High Holborn, London, W.C.1. Monthly, 2s. 6d., annual subscription 30s.

Land Agents' Record and Real Property Guide, 61, Chandos Place, London, W.C.2. Weekly, 6d., annual subscription 30s.

Land Union Journal, 15, Lower Grosvenor Place, London, S.W.1. Alternate months, annual subscription 2s. 6d. to members, 6s. to non-members.

National Farmers Union Record, 45, Bedford Square, London, W.C.1. Monthly, 2s. 6d.

Property Owners' Gazette, National Federation of Property Owners, St. Stephen's House, Westminster, London, S.W.1. Monthly, 3d., annual subscription 3s.

Village, The, National Council of Social Service, 26, Bedford Square, London, W.C.1. Quarterly, 6d., annual subscription 2s.

ARCHITECTURE

Architect and Building News, Rolls House, Bream's Buildings, London, E.C.4. Weekly, 6d., annual subscription 27s. 6d.

Architects' Journal, 45, The Avenue, Cheam, Surrey. Weekly, 9d., annual subscription 35s.

Architectural Association Journal, 34-6, Bedford Square, London, W.C.1. Monthly, 1s., annual subscription 12s.

Architectural Design and Construction, 26, Bloomsbury Way, London, W.C.1. Monthly, 1s. 6d., annual subscription 15s.

Architectural Review, 45, The Avenue, Cheam, Surrey. Monthly, 3s. 6d., annual subscription 40s.

Architecture Illustrated, 78, Middle Street, Stroud, Glos. Monthly, 1s., annual subscription 10s.

Journal of the Royal Institute of British Architects, 66, Portland Place, London, W.1. Monthly, 1s. 6d., annual subscription 21s.

Official Architect, 28, Essex Street, London, W.C.2. Monthly, 1s. 6d., annual subscription 15s.

Parthenon, 75, Eaton Place, London, S.W.1. Monthly, 1s., annual subscription 12s.

BUILDING MATERIALS

Cement and Lime Manufacture, 14, Dartmouth Street, London, S.W.1. Alternate months, 1s., annual subscription 6s.

Cement, Lime and Gravel, Salisbury Square House, London, E.C.4. Monthly, 1s., annual subscription 10s.

Concrete Building and Concrete Products, 14, Dartmouth Street, London, S.W.1. Monthly, 4d., annual subscription 4s.

Iron and Steel, 22, Henrietta Street, London, W.C.2. Monthly, 1s. 6d., annual subscription 21s.

Journal of the Institute of Metals, 4, Grosvenor Gardens, London, S.W.1. Monthly, 7s. 6d., annual subscription 80s.

Journal of the Iron and Steel Institute, 4, Grosvenor Gardens, London S.W.1. Two vols. per annum, 40s. per vol., annual subscription 80s.

National Master Painter, 19, Brasennose Street, Manchester. Monthly, confidential to members.

Paint Manufacture, 17, Stratford Place, London, W.1. Monthly, 1s., annual subscription 10s.

Paint Technology (*Incorporating Synthetic and Applied Finishes*), 5, Grange Court, Pinner, Middlesex. Monthly, 1s. 6d., annual subscription 15s.

Plastics, Bowling Green Lane, London, E.C.1. Monthly, 1s. 6d., annual subscription 19s.

Slate Trade Gazette, Alfred Gelder Street, Hull. Monthly, 4d., annual subscription 5s.

Stone Trades Journal, Salisbury Square House, London, E.C.4. Monthly, 6d., annual subscription 7s. 6d.

Timber Development Association Quarterly Review, 75, Cannon Street, London, E.C.4. Quarterly, at present circulated to members only.

Timber and Plywood, 194-200, Bishopgate, London, E.C.2. Weekly, 8d., annual subscription 30s.

Timber Trades Journal and Sawmill Advertiser, 154, Fleet Street, London, E.C.4. Weekly, 8d., annual subscription 32s. 6d.

Wood, 33, Tothill Street, London, S.W.1. Monthly, 1s., annual subscription 12s.

Zinc Abstracts, Zinc Development Association, Lincoln House, 15, Turl Street, Oxford. Monthly, *gratis* to interested persons.

BUILDING TRADE

Builder, 4, Catherine Street, London, W.C.2. Weekly, 10d., annual subscription 50s.

Builders' Merchants' Journal and Builders' Ironmonger, Premier House, Southampton Row, London, W.C.1. Monthly, 1s. 3d., annual subscription 13s. 6d.

Building, 33, Tothill Street, London, S.W.1. Monthly, 1s., annual subscription 12s.

Building Industries, 148, Renfield Street, Glasgow, C.2. Monthly, 1s. 6d., annual subscription 15s. 6d.

Building Industries Survey, Building Industries National Council, 11, Weymouth Street, London, W.1. Quarterly, 3s. 6d., annual subscription 17s. 6d.

Building Science Abstracts, *see Government Publications*, Department of Scientific and Industrial Research.

Building Societies Gazette, *see* Housing.

Contract Journal, 127-30, Temple Chambers, Temple Avenue, London, E.C.4. Weekly, 1s., annual subscription 52s.

Contractor, 127-30, Temple Chambers, Temple Avenue, London, E.C.4. Weekly, 2d., annual subscription 8s. 8d.

Contractors' Record and Municipal Engineering, Lennox House, Norfolk Street, London, W.C.2. Weekly, 9d., annual subscription 39s.

Irish Builder and Engineer, 8, Avenue Chambers, Southampton Row, London, W.C.1. Alternate weeks, 3d., annual subscription 8s. 8d.

Irish Decorators' and Builders' Review. 39, Lower Dodder Road, Rathfarnham, Dublin. Monthly, 3d., annual subscription 4s. 6d.

Keystone, Association of Building Technicians, 6, Ashley Place, London, S.W.1. Monthly (except June and August), 6d., annual subscription 6s. 3d.

Labour News, Public Works and Building Trades Weekly, 69, Fleet Street, London, E.C.4. Weekly, 3d., annual subscription 17s. 4d.

Master Builder, Salisbury Square House, London, E.C.4. Monthly, 3d., annual subscription 4s.

National Builder, 82, New Cavendish Street, London, W.1. Monthly, 1s., annual subscription 10s.

New Builders' Leader and Electricians' Journal, 104, Woodlands Park Road, London, N.15. Monthly, 2d., annual subscription 3s.

ENGINEERING

Air Treatment Engineer, 7, Princes Street, London, S.W.1. Monthly, 1s., annual subscription 10s.

Civil Engineering and Public Works Review, Aldwych House, London, W.C.2. Monthly, 1s. 6d., annual subscription 15s.

Concrete and Constructional Engineering, 14, Dartmouth Street, London, S.W.1. Monthly, 1s. 6d., annual subscription 18s.

Constructional Engineering Journal, 18, The Grange, Wimbledon, London, S.W.19. Quarterly, *gratis*.

Engineer, 28, Essex Street, Strand, London, W.C.2. Weekly, 1s., annual subscription 65s.

Engineering, 35-6, Bedford Street, London, W.C.2. Weekly, 1s., annual subscription 65s.

Heating and Ventilating Engineer and Journal of Air Conditioning, 8, Southampton Row, London, W.C.1. Monthly, 6d., annual subscription 7s.6d.

Journal of the Institution of Civil Engineers, Great George Street, London, S.W.1. Eight issues per annum, 2s. 6d., annual subscription 20s.

Journal of the Institution of Heating and Ventilating Engineers, The Institution, 72-4, Victoria Street, London, S.W.1. Alternate months, *gratis* to members, sometimes available to *bona-fide* research workers on written application to the Institution.

Journal of the Institution of Municipal and County Engineers, The Institution, 40, Eccleston Square, London, S.W.1. Monthly, 2s., annual subscription 42s.

Municipal Engineering, 8, Bream's Buildings, London, E.C.4. Weekly, 4d., annual subscription 24s. 6d.

Structural Engineer (Journal of the Institution of Structural Engineers), 2, Bream's Buildings, London, E.C.4. Monthly, 1s., annual subscription 14s. 6d.

Surveyor and Municipal and County Engineer, *see* Surveying.

The Times Trade and Engineering, Printing House Square, London, E.C.4. Monthly, 6d., annual subscription 10s.

Transactions of the Institute of Welding, The Institute, 2, Buckingham Palace Gardens, London, S.W.1. Quarterly, 7s. 6d., annual subscription 30s.

Welding, Dorset House, Stamford Street, London, S.E.1. Monthly, 1s. 6d., annual subscription 20s.

FORESTS, NATIONAL PARKS, NATURE RESERVES AND OPEN SPACES

Journal of the Commons, Open Spaces and Footpaths Preservation Society, The Society, 71, Eccleston Square, London, S.W.1. Quarterly, 1s., annual subscription 10s. 6d. (Including all publications, advice and Journal).

Journal of Forestry, Hampton House, The Avenue, Twickenham, Middlesex. Quarterly, confidential to members.

Journal of the National Allotments Society, Drayton House, Gordon Street, London, W.C.1. Quarterly, 3d., annual subscription 1s. 4d.

Journal of the Men of the Trees, Manor Farm, Puncknoll, nr. Dorchester. Quarterly, confidential to members.

Journal of Park Administration, Horticulture and Recreation, Lennox House, Norfolk Street, London, W.C.2. Monthly, 1s., annual subscription 10s.

Parks and Sports Grounds, 92, Victoria Street, London, S.W.1. Monthly, 9d., annual subscription 10s.

Playing Fields, National Playing Fields Association, 71, Eccleston Square, London, S.W.1. Quarterly, 1s. 3d., annual subscription 5s.

HOUSING

Building Societies Gazette, Graham House, Tudor Street, London, E.C.4. Monthly, 1s. 3d., annual subscription 18s.

Bulletin of the Housing Centre, 13, Suffolk Street, London, S.W.1. Monthly, 6d., annual subscription 20s.

Housing, Institute of Housing, 62, Lionel Street, Birmingham. Quarterly, 2s., annual subscription 8s.

Housing and Planning News Bulletin, National Housing and Town Planning Council, 41, Russell Square, London, W.C.1. Alternate months (owing to paper shortage circulation is mainly confined to members), annual subscription 21s.

News-Sheet of the International Federation for Housing and Town Planning, 13, Suffolk Street, London, S.W.1. Irregularly, 2s.

Society of Women Housing Managers' Bulletin, The Society, 13, Suffolk Street, London, S.W.1. Quarterly, 6d., no annual subscriptions.

LOCAL GOVERNMENT

County Councils Association Official Gazette, 84, Eccleston Square, London, S.W.1. Monthly, 6d., annual subscription 8s.

County and Municipal Record, 12, Bank Street, Edinburgh. Weekly, 6d., annual subscription 30s.

Knight's Local Government and Magisterial Reports, Statutes and Orders, 11-12, Bury Street, London, E.C.3. Published in twelve monthly parts with a supplementary number at the end of each year, annual subscription 84s.

Local Government Chronicle and Magisterial Reporter, 11-12, Bury Street, London, E.C.3. Weekly, 7½d., annual subscription 32s. 6d.

Local Government Journal, 1, Norwich Street, London, E.C.4. Monthly, 4d., annual subscription 5s.

Local Government Service, National Association of Local Government Officers, 24, Abingdon Street, London, S.W.I. Monthly, 3d., annual subscription 4s.

Municipal Journal, Local Government Administrator and Public Works Review, 3-4, Clement's Inn, Strand, London, W.C.2. Weekly, 6d., annual subscription 30s.

Municipal Review, Association of Municipal Corporations, Palace Chambers, Bridge Street, London, S.W. Monthly, 6d., annual subscription 7s. 6d.

Official Circular of the Urban District Councils Association, Palace Chambers, 9, Bridge Street, London, S.W.1. Confidential to members.

Scots Town and County Councillor, 137, West Regent Street, Glasgow. Monthly, 1s., annual subscription 15s.

PUBLIC HEALTH

Journal of the Institution of Sanitary Engineers, 118, Victoria Street, London, S.W.1. Quarterly, 2s., annual subscription 8s.

Journal of the Royal Institute of Public Health and Hygiene, 28, Portland Place, London, W.1. Monthly, 2s., annual subscription 24s.

Journal of the Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1. Monthly, 4s., annual subscription 15s.

Medical Officer, 72-8, Fleet Street, London, E.C.4. Weekly, 1s., annual subscription 52s. 6d.

Proceedings of the Institute of Sewage Purification, 34, Cardinal's Walk, Hampton-on-Thames. Two issues per annum, 12s. 6d., annual subscription 25s.

Public Cleansing, Institute of Public Cleansing, 68, Victoria Street, London, S.W.1. Monthly, 1s. 6d., annual subscription 15s.

Public Health, Society of Medical Officers of Health, Tavistock House (South), Tavistock Square, London, W.C.1. Monthly, 2s. 6d., annual subscription 31s. 6d.

Royal Sanitary Institute Kalender, 90, Buckingham Palace Road, London, S.W.1. Irregularly (yearly when circumstances permit), 5s.

Sanitarian, Sanitary Inspectors' Association, 19, Grosvenor Place, London, S.W.1. Monthly, 1s. annual subscription 14s.

PUBLIC UTILITIES

Distribution of Electricity, W. T. Henley's Telegraph Works Co., Ltd., Milton Court, 51-3, Hatton Garden, London, E.C.1. Quarterly, 6d., annual subscription 2s. 8d.

General Lighting Information Service Bulletin, 25, Victoria Street, London, S.W.1. Ten issues per annum, subscriptions only, 30s.

Journal of the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2. Part I, *General*, Monthly, 5s., annual subscription 21s. ; Part II, *Power Engineering*, alternate months 7s. 6d., annual subscription 31s. 6d. ; Part III, *Radio and Communication Engineering*, Quarterly, 6s., annual subscription 22s. 6d. ; all three parts 69s. 9d.

Light and Lighting, Illuminating Engineering Society, 32, Victoria Street, London, S.W.1. Monthly, 9d., annual subscription 10s. 6d.

Public Lighting, Association of Public Lighting, 68, Victoria Street, London, S.W.1. Quarterly, 1s., annual subscription 4s. 6d.

Transactions of the Illuminating Engineering Society (London), The Society, 32, Victoria Street, London, S.W.1. Monthly, 2s., *gratis* to members.

Transactions of the Institution of Gas Engineers, 1, Grosvenor Place, London, S.W.1. Annually, 25s.

Transactions of the Institution of Water Engineers, Parliament Mansions, Abbey Orchard Street, London, S.W.1. Annually, 21s.

Water Pollution Research : Summary of Current Literature, see Government Publications, Department of Scientific and Industrial Research.

Water and Water Engineering, 30-31, Furnival Street, London, E.C.4. Monthly, 1s., annual subscription 15s.

ROADS, TRANSPORT AND TRAFFIC

Aerodrome Abstracts, see Government Publications, Department of Scientific and Industrial Research.

Highway Engineer and Local Government Surveyor, 7, Burford Lane, Broomedge, Lymm, Warrington. Monthly, 1s. 3d., annual subscription 15s.

Highways, Bridges and Aerodromes, Crescent House, Ashford, Middlesex. Weekly, 3d., annual subscription 15s.

Journal of the Institute of Transport, The Institute, 15, Savoy Street, Victoria Embankment, London, W.C.2. Quarterly, 2s. 6d., no annual subscriptions.

Modern Transport, 105, Strand, London, W.C.2. Weekly, 3d., annual subscription 15s., abroad 20s.

Road Abstracts, see Government Publications, Department of Scientific and Industrial Research.

Roads and Road Construction, 66, Victoria Street, London, S.W.1. Monthly, 1s., annual subscription 20s.

SOCIOLOGY

Sociological Review, Le Play House Press, Malvern. Two issues per annum, 10s., annual subscription 21s.

SURVEYING AND VALUATION

Journal of the Chartered Surveyors Institution, 12, Great George Street, London, S.W.1. Monthly, 2s. 6d., confidential to members.

Surveyor and Municipal and County Engineer, Acre House, Long Acre, London, W.C.2. Weekly, 6d., annual subscription 28s.

Transactions of the Chartered Surveyors Institution, 12, Great George Street, London, S.W.1. Published monthly during the session and included with parts of the *Journal*.

MISCELLANEOUS

Industrial Welfare and Personnel Management, Industrial Welfare Society, 14, Hobart Place, London, S.W.1. Alternate months, 2s., annual subscription 12s.

Journal of the Institute of Fuel, 30, Braham Gardens, London, S.W.5. Alternate Months, 10s., annual subscription 60s.

Standards Review, British Standards Institution, 28, Victoria Street, London, S.W.1. Approximately quarterly, 2s., four issues 7s.

Women and Council, National Council of Women of Great Britain, Drayton House, Gordon Street, London, W.C.1. Monthly, 3d., annual subscription 2s. 6d.

Films

Title	*Size*	*Sound (Sd) or Silent (Si)*	*Length*	*Reference*	*Distributors*
TOWN AND COUNTRY PLANNING					
Children at School (Contrast of the best in modern elementary schools with those that are overcrowded, ill-ventilated and out of date.)	35 mm. 16 mm.	Sd.	24 mins.		B.C.G.A.
The City (Film essay on the need for town-planning in order to solve the problems created by lack of planning in the 19th century; closely based on Lewis Mumford's book *The Culture of Cities*).	35 mm. 16 mm.	Sd.	35 mins.		C.F.L.
A City Reborn (This film dramatises a discussion of the problems and opportunities presented by the task of rebuilding Coventry).	16 mm.	Sd.	23 mins.	U.K.580	M.O.I.
Development of the English Town (Made for the British Council, surveys town planning in England from pre-Roman settlements to modern housing estates).	16 mm.	Sd.	17 mins.		Gebescope
Face of Britain (Survey of industrial evolution in England with suggestions that with co-operative planning industry can be freed from its former restricted areas and the country need no longer be clouded with smoke).	35 mm. 16 mm.	Sd.	17 mins.	VI.82	G.B.I. Gebescope
Green Girdle (Technicolour—London's Green belt).	35 mm.	Sd.	10 mins.		M.G.M.
Moscow (Planning and rebuilding the city).	35 mm.	Sd.	10 mins.		S.F.A.
New Towns for Old (Through an industrial town the film shows what has already been done and the opportunities that now exist for replanning towns after the war).	35 mm. 16 mm.	Sd.	7 mins.		C.F.L.
The Plan and the People (The general proposals for a re-planned County of London are in this film related to the lives of the people living in one Borough).	16 mm.	Sd.	19 mins.	UK.731	M.O.I.

Title	Size	Sound (Sd.) or Silent (St.)	Length	Reference	Distributors
Power for the Highlands (This film presents the case for the development of the Scottish Highlands by the North of Scotland Hydro-Electricity Board).	16 mm.	Sd.	15 mins.	UK.432	M.O.I.
Proud City (The proposals for a re-planned County of London are here expounded by those chiefly responsible for them).	16 mm.	Sd.	26 mins.	UK.595	M.O.I.
Reconstruction of Stalingrad (The complete rebuilding of a city showing the new hospitals and schools and clearing of the rubble).	35 mm.	Sd.	(in preparation)		S.F.A.
Smoke Menace (Story of a campaign for a cleaner atmosphere)	16 mm.	Sd.	14 mins.		B.C.G.A.
This is Tomorrow (Social document on industrial development of lands around factory centres, contrasted with cities as they might be built in America).	35 mm.	Sd.	10 mins.		M.G.M.
Town Settlement (Geographical conditions which have contributed to the development of a market town).	16 mm.	Sd.	11 mins.		Gebescope
Valley of the Tennessee (The story of the Tennessee Valley Authority set up by the U.S. Congress under the inspiration of President Roosevelt).	16 mm.	Sd.	28 mins.	US.226	M.O.I.
When We Build Again (Rehousing and town planning based on the survey published by the Bournville Village Trust).	35 mm. 16 mm.	Sd.	30 mins.		C.F.L. Anglo-Am.

AGRICULTURE AND RURAL RECONSTRUCTION

Medieval Village (Social history of Laxton, where the openfield system still survives).	35 mm. 16 mm.	Sd.	19 mins.		G.B.I.
Rural Reconditioning, *see* Housing.					
The Village that found itself, *see* Public Utilities.					

ARCHITECTURE

Architects of England (The past and present of England's architecture).	16 mm.	Sd.	13 mins.	UK.107	C.F.L.
Edinburgh (Old and new in the ancient capital city: centuries old churches and buildings side by side with modern buildings and broad sweeping highways of today).	16 mm.	Sd.	5 mins.		C.F.L.
The Home Place (A survey of the outstanding types of American rural domestic architecture, showing how they followed traditions brought from Europe but also conformed to the local needs and materials discovered by the settlers).	35 mm. 16 mm.	Sd.	30 mins.		C.F.L.
Our Heritage No. 2 (Architecture and sculpture, 12th to 18th century).	35 mm. 16 mm.	Sd.	16 mins.		C.F.L.

Title	Size	Sound (Sd.) or Silent (St.)	Length	Reference	Distributors
BUILDING TRADES					
The Builders (Made by the Amalgamated Union of Building Trade Workers and shows the value of the work of the Union to its members).	16 mm.	Sd.	40 mins.		W.F.A.
Builders (A bricklayer, a navvy and a crane-driver, building a war factory, talk about their jobs and the kind of building they expect to do after the war).	35 mm. 16 mm.	Sd.	8 mins.		C.F.L.
New Builders (Training boys in the building industry).	35 mm. 16 mm.	Sd.	20 mins.		C.F.L.
HOUSING					
The Challenge (Slum clearance and work of the church).	16 mm.	St.	64 mins.		St.Pan. H.
The Great Crusade (Housing problems in industrial towns; Government five-year plan for rehousing; the achievements of Rowntree's at York; new workers' housing estates and improved flats at Wandsworth).	16 mm.	Sd.	18 mins.	III.35	B.I.F.
Hot Evidence (Electric water heating systems).	16 mm.	Sd.	17 mins.		B.E.D.A.
Housie Housie (The construction of prefabricated houses).	35 mm.	Sd	18 mins.		Warner
Housing in Scotland (This film shows a few examples of Scotland's housing plans)	16 mm.	Sd.	14 mins.	UK.581	M.O.I.
Housing Problems (Story of the slums from the inside).	35 mm. 16 mm.	Sd.	16 mins.		N.F.L.
Kensal House (Life in a new housing estate in London).	35 mm. 16 mm.	Sd.	15 mins.		C.F.L.
Motion Study in the Kitchen (Best way of placing kitchen equipment).	16 mm.	Sd.	16 mins.		Elec.A.
A New Kitchen (The gas industry plans for labour-saving kitchens both for the new houses that will be built and for reconditioned houses).	16 mm.	Sd.	7 mins.		B.C.G.A.
Pots and Pans (Film on kitchen planning).	35 mm. 16 mm.	Sd. & St.	13 mins.		B.C.G.A.
Re-Housing in Gt. Britain (Examples of congested and slum areas and the way in which they have been rebuilt under the Housing Acts between the wars).	16 mm.	St.	20 mins.		Housing C.
Rural Reconditioning (Shows that slums in the country are often as bad as those in towns. Reconditioning is shown in progress and after completion. Various types of cottages are illustrated).	16 mm.	St.	8 mins.		Housing C.
Silver Lining (The re-housing of a family from the slums to a modern labour-saving flat).	35 mm. 16 mm.	Sd. & St.	14 mins.		H.& C.C.
Ten Tear Plan (Steel prefabricated houses).	35 mm.	Sd.			G.F.D.
Warming up (Problems of suitable heating in the home).	35 mm. 16 mm.	Sc.	9 mins.		B.C.G.A.

Title	Size	Sound (Sd.) or Silent (St.)	Length	Reference	Distributors
LOCAL GOVERNMENT					
The Londoners (The Story of 50 years of self-government in London and of the progress made in the provision of better houses, hospitals and schools).	35 mm. 16 mm.	Sd.	24 mins.		B.C.G.A.
PUBLIC UTILITIES					
Country Currents (The various ways in which electricity can be used in country districts).	16 mm.	Sd.	16 mins.	V.227	B.E.D.A.
New Worlds for Old (Progress made in the gas industry during the past two centuries).	35 mm. 16 mm.	Sd.	28 mins.		B.C.G.A.
The Village that Found Itself (The varied problems of electrical development in rural areas—removing prejudices, giving expression to the known and unknown needs of our rural population—in their workaday social and domestic spheres).	16 mm.	Sd.	35 mins.		B.E.D.A.
ROADS, TRANSPORT AND TRAFFIC					
Big City (The varied working-and-living district of London and the structure of the transport system).	16 mm.	Sd.	12 mins.		C.F.L.
Moscow Underground (The modern Metro and how it operates).	35 mm.	Sd.	11 mins.		S.F.A.
Roads Across Britain (After a general introduction, this film deals with road development and refers to the Bressy report as a solution to road problems of this country).	35 mm. 16 mm.	Sd.	17 mins.		C.F.L.
Roadways (Development of road transport since 1918).	35 mm. 16 mm.	Sd.	17 mins.		C.F.L.

Further details regarding hire charges, etc., should be addressed to the distributors and not to the publishers.

DISTRIBUTORS

Anglo-Am.—Anglo-American, 119-125, Wardour Street, London, W.1.
B.C.G.A.—British Commercial Gas Association, 1, Grosvenor Place, London, W.1.
B.E.D.A.—British Electrical Development Association, 2, Savoy Hill, W.C.2.
B.I.F.—British Instructional Films, Ltd., 11, Wardour Street, London, W.1.
C.F.L.—Central Film Library, Imperial Institute, South Kensington, London, S.W.7.
Elec.A.—Electrical Association for Women, 18 and 20, Regent Street, London, W.1.
Gebescope—Gebescope Library, Tower House, Woodchester, nr. Stroud, Glos.
G.B.I.—Gaumont British Instructional, Lim Grove Studios, Shepherds Bush, London.
H.& C.C.—Health and Cleanliness Council, Aldwych House, Aldwych, London, W.C.2.
Housing C.—Housing Centre, 13, Suffolk Street, Haymarket, London, W.1.
S.F.A.—Soviet Film Agency, 5, Kensington Palace Gardens, London, W.1.
M.O.I.—Ministry of Information, apply to :—Film Office, Ministry of Information at the Regional Office for the area in which the show is to take place.
M.G.M.—Metro-Goldwyn-Mayer, 19-21, Tower Street, London, W.C.2.
Warner—Warner Bros. Pictures, Warner House, Wardour Street, London, W.1.
Workers Film Association, Transport House, Smith Square, London, S.W.1.

Who's Who in Planning and Reconstruction

Abbott, Lionel, *M.B.E.*, M.T.P.I., P.A.S.I.; Planning Officer, South East Staffordshire Joint Planning Committee. Address: Hatherton House, Walsall.

Abercrombie, Sir Leslie Patrick, M.A., F.R.I.B.A.; Professor of Town Planning, University College, London since 1935; Consultant for re-building and planning London, Plymouth, Hull, Bath, Bournemouth and the Clyde Region; Chairman, Council for the Preservation of Rural England and Housing Centre; Member, Royal Fine Art Commission. Address: 33, Welbeck Street, London, W.1.

Adams, James W. R., F.R.G.S., M.T.P.I., F.I.L.A.; Chairman, Town Planning Officers Section, Town Planning Institute; County Planning Officer for Kent; Joint Author of *Recent Advances in Town Planning*. Address: County Hall, Maidstone.

Aldred, D. Winston, F.R.I.B.A., F.S.I., A. M. T. P. I., A. M. I. Struct. E., M.R.San.I.; Head, Department of Architecture, South-West Essex Technical College and School of Art, Walthamstow. Address: 48, Monkham's Lane, Woodford Green, Essex.

Allen of Hurtwood, Lady Marjory, F.I.L.A.; Landscape Architect; Vice-President, Institute of Landscape Architects; Chairman, Nursery School Association of Great Britain and Coronation Planting Committee, 1937-39. Address: Hurtwood House, Albury, nr. Guildford.

Allen, J. S., B.Arch., A.R.I.B.A., M.T.P.I.; Head, Leeds School of Architecture and Planning; preparing report on Planning Report on West Cumberland for Minister of Town and Country Planning (jointly with R. H. Mattocks). Address: 7, Blenheim Terrace, Woodhouse Lane, Leeds, 2.

Allen, W. S.; Regional Director, Region No. 1 (Newcastle-upon-Tyne). Address: 81, St. Mary's Place, Newcastle-upon-Tyne.

Ansell, W. H., *M.C.*, F.R.I.B.A.; University Extension Lecturer on Architecture in connection with the University of London; Past President, Royal Institute of British Architects and Architectural Association. Address: 5, Verulam Buildings, Gray's Inn, London, W.C.1.

Ashforth, G. E., *C.B.E.*, M.Sc., M.Inst. C.E.; County Surveyor and Bridgemaster, Cheshire. Address: County Hall, Chester.

Atkinson, Robert, F.R.I.B.A.; Chairman, Building Centre; Architect for the Bath Improvement Scheme and many private and other works. Address: 13, Manchester Square, London, W.1.

Balfour of Burleigh, The Rt. Hon. Lord, D.L.; Chairman, Kensington Housing Trust since its foundation and Sub-Committee on the Management of Municipal Housing Estates; Member, Housing Committee (Association of Municipal Corporations), Housing and Town Planning Committee (Kensington Borough Council) and Central Housing Advisory Committee, 1935-45; Contributor, *Planning and Reconstruction*, 1946. Address: Lloyds Bank Ltd., 71, Lombard Street, London, E.C.3.

Barker, Frances, A.R.I.B.A., R.I.B.A. Dip.T.P., A.A.Dip.; Architect to Okehampton Rural District Council. Address: Upton Cottage, Chagford, Devon.

Barlow, The Rt. Hon. Sir Montague, Bt., *P.C.*, *K.B.E.*, M.A., LL.D., F.S.A., Barrister-at-law; Vice-President, Town and Country Planning Association; Chairman, Royal Commission on Location of Industry, 1938, and Royal Commission on Coal Industry in Alberta, 1935; Minister of Labour, 1922-24. Address: National Provincial Bank, Trafalgar Square, London, W.C.2.

Beaufoy, S. L. G., F.R.I.B.A., M.T.P.I., Dist.T.P.; Assistant Secretary, Ministry of Town and Country Planning. Address: 32, St. James's Square, London, S.W.1.

Beaver, Sir Hugh, M.Inst.C.E., M.I. Chem.E., M.E.I.C.; Formerly Director General, Ministry of Works. Address: 11, Chelsea Embankment, London, S.W.3.

Bennet, Thomas Penberthy, *C.B.E.*, F.R.I.B.A., Hon.F.I.O.B., Hon.F.I. B.D.; Head, Northern Polytechnic School of Architecture, Surveying and Building; Architect to Housing Estates being developed by London County Council, Hornsey and Chingford Borough Councils; late Director of

Works, Ministry of Works. Address: 43, Bloomsbury Square, London, W.C.1.

Berry, Henry, F.R.S.A., A.I.Struct.E., M.I.Mech.E., M.P.; Chairman Metropolitan Water Board and Conjoint Conference of Public Utility Associations; Vice-President, Royal Society of Arts; Member, Thames Conservancy and London County Council; Treasurer, National Allotments Society since 1922. Address: 110, Greenholm Road, Eltham, London, S.E.9.

Bevan, Aneurin, M.P.; Minister of Health. Address: 2, Queen Square, Tredegar, Mon.

Beveridge, Sir William Henry, *K.C.B., C.B.*, Hon.D.Litt., Hon.LL.D., F.B.A., Barrister; Vice-President, Town and Country Planning Association. Address: Tuggal Hall, Chathill, Northumberland.

Black, Misha, M.Inst.R.A., M.S.I.A.; Architect and Industrial Designer to Empire Tea Bureau; Member, Design Directorate, Design Research Unit and Domestic Planning Committee, Gas Light and Coke Company. Address: Design Research Unit, 12, Bedford Square, London, W.C.1.

Blandford, John B., M.Eng., D.Eng.; Administrator, National Housing Agency since 1942; General Manager, Tennessee Valley Authority, 1937-39; Co-ordinator and Secretary, Board Tennessee Valley Authority, 1934-37; Contributor, *Planning and Reconstruction*, 1946. Address: Fairfax Road, McLean, Washington, D.C., U.S.A.

Boardman, H. W., B.Sc. (Eng.), A.M. Inst.C.E., A.M.T.P.I., M.I.M.& Cy.E., F.S.I., F.R.San.I., F.I.S.E.; County Planning Officer, Carmarthenshire. Address: County Hall, Carmarthen.

Boase, Thomas Sherrer Ross, M.A. (Oxon.); Professor of History of Art, University of London; Director, Courtauld Institute of Fine Art; Member, Management Committee, National Buildings Record. Address: 20, Portman Square, London, W.1.

Bonham-Carter, Sir Edgar, *K.C.M.G., C.I.E., C.M.G.*, Hon.M.T.P.I.; Chairman, National Housing and Town Planning Council, 1940-42. Address: 17, Radnor Place, London, W.2.

Bossom, Alfred C., F.R.I.B.A., J.P., M.P.; Founded, The Bossom Building Research Lectures given under the Chadwick Trust and Travelling Scholarship awarded annually by the Royal Institute of British Architects; Member, British Building Mission to the U.S.A., 1943; Chairman, Slum Clearance Sub-Committee, London County Council, 1930-34. Address: 5, Carlton Gardens, London, S.W.1.

Bott, W. A., A.M.Inst.C.E., F.S.I.; City Engineer and Surveyor, Stoke-on-Trent. Address: Town Hall, Stoke-on-Trent.

Boyce, E. C., B.Sc., A.M.Inst.C.E., M.I. M.& Cy.E.; County Surveyor, Gloucestershire County Council. Address: Shire Hall, Gloucester.

Braddock, Thomas, F.R.I.B.A., M.P.; Member of Council, Town and Country Planning Association; Wimbledon Borough Councillor; Surrey County Councillor. Address: Orchard House, 14, Great Smith Street, London, S.W.1. London, S.W.1.

Bressey, Sir Charles Herbert, *C.B., C.B.E., D.L.*, D.Sc., Hon.M.T.P.I., Hon.M.I.M. & Cy.E.; Member, Senate and Court, University of London; Army Welfare Officer; Past President, Chartered Surveyors' Institute; Author (in consultation with Sir Edwin Lutyens, P.R.A.) of the Highway Development Survey of Greater London (1938). Address: 17, Leicester Road, Wanstead, London, E.11.

Briggs, Brig. R., *D.S.O., M.C.*, R.E.; Regional Director, Region No. 4 (Cambridge), Ministry of Works. Address: Shaftesbury Road, Brooklands Avenue, Cambridge.

Bristow, C., *O.B.E.*, A.R.I.B.A.; Assistant Director of Works (Architectural Temporary Housing). Address: Abell House, John Islip Street, London, S.W.1.

Bristow, Frederick G., *C.B.E.*, F.C.I.S., M.Inst.T.; Chairman, Royal Society for the Prevention of Accidents; Member, Ministry of War Transport Road Safety and Traffic Signs Committees: British Government representative on the Permanent International Commission of Road Congresses. Address: 50, Pall Mall, London, S.W.1.

Brocket, The Rt. Hon. Lord, M.A., J.P., Barrister-at-law; Chairman, Hertfordshire Society, Hertfordshire Agricultural Society, Land Union and National Playing Fields Association; Member, Hertfordshire County Council since 1931, National Trust Historic Building and Reports Committee, Executive Committee (Council for the Preservation of Rural England), Town Planning Committee (Hertfordshire County Council), and House of Lords Select Committee on Road Accidents, 1935-39. Address: Brocket Hall, Welwyn, Herts.

Brown, David Hownam, *C.B.E.*, M.Inst. C.E., M.T.P.I.; County Surveyor and Bridgemaster, Warwickshire County

Council; Honorary Surveyor to Executive Joint Planning Committees for County of Warwickshire; Past President, Institution of Mechanical and Civil Engineers. Address: Shire Hall, Warwicks.

Brown, F. Collin, F.R.I.B.A., M.T.P.I., Chief Housing Inspector, Ministry of Health. Address: Ministry of Health, Whitehall, London, S.W.1.

Brown, Sir John, F.R.I.B.A., F.S.I., F.I.S.E.; Senior Partner, Sir John Brown and A. E. Henson (Chartered Architects); Housing Architects to Towcester, Daventry and Eton Rural District Councils and the Borough of Beachley Address: 117, Sloane Street, London, S.W.1.

Brown, Ivor, F.R.S.I.; Editor, *Observer*; Member, New Towns Committee (Ministry of Town and Country Planning). Address: Dawn Cottage, Gt Kimble, Aylesbury, Bucks.

Bruce, R., B.Sc., M.Inst.C.E., M.I.M. & Cy.E.; Master of Works, City Engineer and Town Planning Officer, Glasgow Address: Office of Public Works, City Chambers, Glasgow.

Brueton, B. F., A.R.I.B.A., M.T.P.I., Planning Officer. Address: 6, College Fields, Clifton, Bristol, 8.

Bunch, A. C., F.R.I.B.A.; Architect to Warwickshire Joint Planning Committees; Member of West Midland Group on Post-War Reconstruction and Planning; formerly, County Architect for Warwickshire and Vice-President, Royal Institute of British Architects. Address: 23, Binswood Avenue, Leamington Spa.

Burt, Sir George, M.Inst.C.E., F.I.O.B., Chairman, Building Research Board, Department of Scientific and Industrial Research and Interdepartmental Committee on House Construction: Member, Road Research Board (D.S.I.R.). Address: 91, Ebury Bridge Road, London, S.W.1.

Cadbury, Dame E. M., *O.B.E.*, M.A., J.P.; Chairman, Bournville Trust since 1922. Address: The Manor House, Northfield, Birmingham, 31

Cadbury, George, M.Inst.T.; Trustee, Bournville Village Trust; Member, Severn Commission and West Midland Group on Post-War Reconstruction and Planning. Address: 39, Weoley Hill, Birmingham, 29.

Cadbury, Paul S.; Trustee, Bournville Village Trust; Member, Birmingham City Council and Birmingham Public Works and Reconstruction Committees; Honorary Secretary, West Midland Group on Post-War Reconstruction and Planning. Address: Priorsfield, Edgbaston Park Road, Birmingham, 15.

Cameron, Col. W. S., *T.D.* M.Inst.C.E., M.I.M.& Cy.E.; City Engineer and Surveyor, Leeds; Past President, Town Planning Institute; Past Chairman, Northern Division, Town Planning Institute Address: Civic Hall, Leeds

Carter, Francis Edward, *O.B.E.*, Bailiff, Royal Parks since 1938. Address: Ministry of Works, 44, Lowndes Square, London, S.W.1.

Catchpole, E. G., A.R.I.B.A., City Architect, Plymouth. Address: Compton Park House, Plymouth

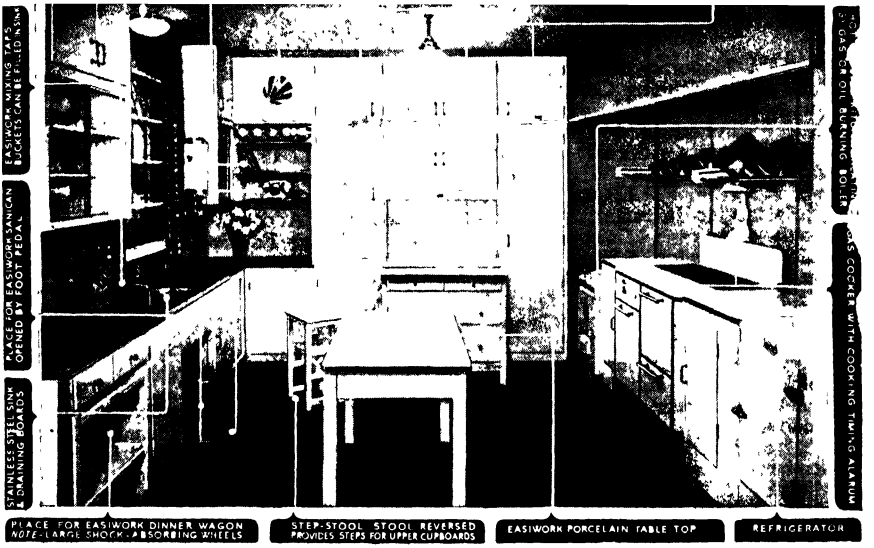
Chapman, W. Dobson, F.I.L.A., L.R.I.B.A.; Lecturer in Planning Practice, Victoria University, Manchester; Planning Consultant to Cheshire, West Riding of Yorkshire and Staffordshire County Councils, Consultant and Executive Planner to Mid-Cheshire (Areas Nos. 1, 2, and 5) Regional Planning Committees, Central Cheshire and North East Cheshire Regional Planning Committees, Skipton and District Regional Planning Committee and to various local authorities in Cheshire, Durham, Lancashire, West Riding of Yorkshire, Derbyshire and Staffordshire; Past President, Town Planning Institute. Address Jordan-gate, Macclesfield

Chubb, Sir Lawrence, A.T.P.I., General Secretary, National Playing Fields Association; Secretary, Commons, Open Spaces and Footpaths Preservation Society and Scapa Society for the Prevention of the Disfigurement of Town and Country; Honorary Treasurer, National Smoke Abatement Society, Joint Founder, Federation of Rambling Clubs Address 71, Eccleston Square, London, S.W.1.

Citrine, The Rt. Hon. Sir Walter McLennan, *K.B.E.*, Member, Consultative Panel of Ministry of Works and Reconstruction Joint Advisory Committee, General Secretary, British Trades Union Congress. Address: c/o T.U.C., Smith Square, London, S.W.1.

Clark, Geoffrey, L.R.I.B.A.; Regional Land Utilisation Officer, Ministry of Agriculture; Planning Consultant to Dorset County Council and for the North, South, South-East and West Dorset Planning Committees; Architect to Sturminster Rural District Council and Shoplesborough Borough Council; Contributor to *Planning and Reconstruction*, 1946. Address: The Old Rising Sun, The Quay, Wareham, Dorset.

Clarke, John J., M.A., F.S.S., L.M.T.P.I.; Lecturer in the Law of Housing and



The above is an illustration of the English Kitchen designed by Easiwork Ltd., and shown in the "Kitchens of the Nations" at the Daily Mail Ideal Home Exhibition, 1937.

Easiwork for Modern Kitchens

From the first introduction of the Easiwork Kitchen Cabinet 24 years ago—to the development of the War-time Easiwork Mobile Kitchen, our designers have pioneered common sense Kitchen Planning based on the requirements for efficiency in operation.

In addition to the Easiwork Kitchen Cabinet, which is the first essential of a labour-saving Kitchen, Easiwork storage, pantry and sink units have been introduced to give flexibility in design and to provide for the requirements of any household from a One-Room Flat to a Country Mansion.

Kitchens designed by Easiwork experts for Architects, Builders and Home Makers—before the war did—and after the war will—equal or surpass the Kitchens of any other country in practical efficiency.

Easiwork experts popularised or introduced Porcelain Enamelled Tables, Electric Refrigerators, Stainless Steel Sinks, Automatic lighted enamelled Gas Cookers, Parcel Receivers, Service Wagons, etc., etc., while the Easiwork Health Cooker is considered the greatest cooking development of modern times.

If you are considering post-war plans for the building of Houses or Flats—let Easiwork experts collaborate in the design of your Kitchens.

Easiwork LTD.

242, TOTTENHAM COURT ROAD,
LONDON, W.1.

Planning: Universities of London and Liverpool, Law Society, Regent Street and Northern Polytechnic of London, Essex County School of Architecture and Brixton School of Building. Address: 3, Paper Buildings, Temple, London, E.C.4

Clay, Henry, M.A.(Oxon.), Hon.D.Sc. (Capetown); Warden, Nuffield College, University of Oxford; Contributor to *Planning and Reconstruction*, 1946. Address: Nuffield College, 17, Banbury Road, Oxford.

Cole, G. D. H.; Fellow, All Souls and Nuffield College and Chichele Professor of Social and Political Theory, University of Oxford; Chairman, Fabian Society. Address: 74, Holders Hill Road, London, N.W.4

Collin Brown, F., F.R.I.B.A., A.M.T.P.I.; Chief Housing Inspector, Ministry of Health. Address: Ministry of Health, Whitehall, London, S.W.1

Collins, Herbert, F.R.I.B.A., M.T.P.I.; Architect to Swaythling Housing Society; late Chairman, Planning Committee, Southampton Civic Society. Address: 38, Brookvale Road, Southampton.

Coote, Thomas Charles, *M.B.E.*, B.Sc., M.T.P.I., T.P.Dip.(Lond.), Research Officer, Ministry of Town and Country Planning; Town Planning Officer, Urban Rural District Council, Surrey. Address: 237, Sussex Gardens, London, W.2.

Conolly, Harold, F.R.I.B.A.; County Architect, Essex County Council. Address: County Hall, Chelmsford, Essex.

Coppock, Richard, *C.B.E.*, Hon.A.R.I.B.A., J.P.; President, International Federation of Building and Wood-workers; Member: Housing Committee (London County Council), Joint Consultative Council, Payment by Results Joint Advisory Panel, Building Programme Joint Committee (Ministry of Works), Building Labour Advisory Panel (Ministry of Labour and National Service), Central Housing Advisory Council (Ministry of Health), General Secretary, National Federation of Building Trades Operatives; Operatives Secretary, National Joint Council for the Building Industry. Address: Dalton Hill, Albury, Nr. Guildford, Surrey.

Cordingley, Reginald Annandale, M.A., F.R.I.B.A., M.T.P.I.; Professor of Architecture and Director, School of Architecture and Town Planning, University of Manchester. Address: 244, Oxford Road, Manchester, 13.

Courthorpe, The Rt. Hon. Sir George Loyd, *P.C.*, *M.C.*, *T.D.*, J.P., Hon.M.A. (Oxon.), D.L.; Forestry Commissioner; Vice-President, Land Agents' Society; Member, Royal Commission on Land Drainage. Address: Whilgh, Sussex.

Craven, C. G., M.T.P.I., M.I.M.& Cy.E., M.R.San.I., County Planning Officer, Lancashire County Council. Address: Lancashire County Council, County Offices, Preston.

Cullen, Alexander, F.R.I.B.A., F.S.I., M.T.P.I.; Architect and Planning Officer to the County Council of Inverness. Address: The Castle, Inverness.

Culpin, Ewart G., F.R.I.B.A., R.I.B.A. Dist.T.P., Chairman, Standing Conference on London Regional Planning; Past President, Town Planning Institute; Past Chairman, London County Council. Address: 18, Selwyn House, Manor Fields, Putney Hill, London, S.W.15.

Curton, Arthur William, M.Inst.B.E., J.P.; Chairman, Housebuilding Allied Industries Joint Committee; Member, Housebuilding Registration Council; Mayor of Hendon; Freeman, City of London. Address: 71, Edgwarebury Lane, Edgware.

Dale, T. L., F.R.I.B.A.; Housing Architect to Addison Scheme of Banbury Rural District Council; Member, Reconstruction Committee (Royal Institute of British Architects) and Mid-Oxon Regional Planning Committee, Author, *Towards a Plan for Oxford City*. Address: Lloyds Bank Chambers, Carfax, Oxford.

Dalley, F. W.; Member, Executive Council, Town and Country Planning Association and Labour Party Sub-Committee on Housing and Planning. Address: 45, Valley Road, Welwyn Garden City, Herts.

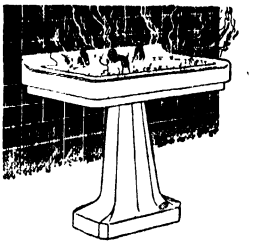
Darling, Sir William Young, *C.B.E.*, *M.C.*, M.P.; Chairman, Scottish Council on Industry and Scottish Construction Council; Lord Provost of Edinburgh, 1941-44. Address: 124, Princes Street, Edinburgh.

Davidge, W. R., Assoc.M.Inst.C.E., F.R.I.B.A., F.S.I.; Planning Consultant to a large number of local authorities in many parts of the country; Past President, Town Planning Institute. Address: 5, Victoria Street, London, S.W.1.

Dawbarn, Graham Richard, M.A., F.R.I.B.A., F.R.Ae.S., M.I.Struct.E; President, Architectural Association, Member, Royal Institute of British Architects' Council, Board of Architectural Education and Demobilisation Committee. Address: 5, Gower Street, London, W.C.1.

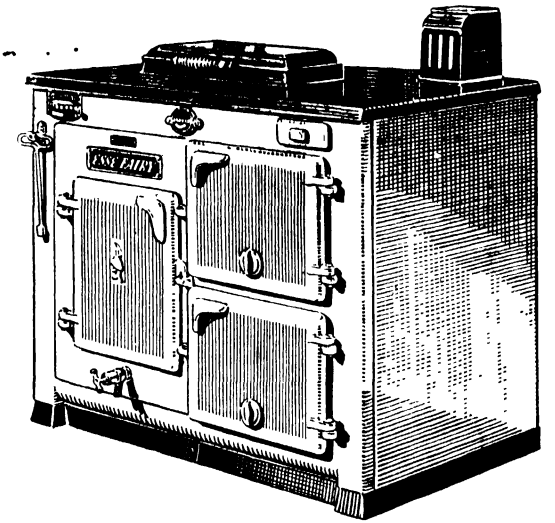
Daysh, G. H. J., B.Litt., F.R.G.S.; Professor of Geography, King's College,

Constant hot water



WITH THE

ESSE FAIRY No. 3



70/90 galls.
of water
at **150°** F.
per day.

The one fire in the Esse Fairy No. 3 combines the supply of domestic hot water with all the advantages of a Heat Storage Cooker. Continuously alight, using smokeless solid fuel, the Esse is always ready to provide deliciously cooked food with an amazingly low fuel consumption.

Larger sizes, Esse Minor and Esse Premier are also available with or without Water Heaters.

THE ESSE COOKER CO.

Proprietors Smith & Wellstood, Ltd *Established 1854*

HEAD OFFICE & WORKS - - - BONNYBRIDGE SCOTLAND

London Showrooms and Advisory Dept. - - - - - - - **46 DAVIES STREET, W.1**

LIVERPOOL 20 Canning Place · EDINBURGH 17 Greenside Place · GLASGOW. 11 Dixon St., C 1

University of Durham; Senior Research Officer, Ministry of Town and Country Planning. Address: 2, Dunkirk Terrace, Corbridge, Northumberland.

Denby, Elizabeth, Hon A R I B A., Housing Consultant: Co-opted Member, London County Council Housing Committee; Author *Europe Rehoused* Address: 11, Princes Street, Hanover Square, London, W 1

Dibben, Major C. R., *O B E*, Member, West Midland Group on Post-War Planning and Reconstruction, Secretary, Midland Area and Member, Grand Council, Federation of British Industries. Address: c/o Federation of British Industries, 5, Bennetts Hill, Birmingham, 2.

Dodd, K. S., *M C*, M A, A M Inst C E, M T P I; Chief Regional Planning Officer, Ministry of Town and Country Planning. Address: 53-7, Sloane Gardens, London, S.W 1.

Doubleday, E. H., P A.S I., M I M & Cy E, M.T P I; Regional Planning Officer of Midland Region Address 75, Westfield Road, Edgbaston, Birmingham

Dower, John, M.A., A R.I.B A, M T.P I, Consultant to Ministry of Town and Country Planning; Member, National Parks Committee. Address: Cambo House, via Morpeth, Northumberland

Drury, Francis Edson, M Sc Tech, F I San.E, M I Struct E, President, Institution of Structural Engineers, Chairman, Educational Committee of the Building Apprenticeship and Training Council; formerly Principal, London County Council School of Building Address Homecroft, Crofton, Orpington, Kent

Duff, James P., J.P.; Chairman, Cookstown Rural District Council, Vice-Chairman, Tyrone County Council, Member, Northern Ireland Housing Trust, etc. Address: Urbal House Coagh, Co. Tyrone.

Eccles, John F., A C A; Managing Director, Welwyn Garden City, Ltd. Address: c/o Welwyn Garden City, Ltd., Wigmores North, Welwyn Garden City, Herts.

Eccles, Francis C., *O.B.E*, D.Litt., F.S.A., F.R.Hist.S.; General Secretary, Central Council for Care of Churches; Member, College of Council of Liverpool Cathedral and War Memorials Advisory Council. Address: Church House, Westminster, London, S W.1.

Edgar, Norman, A.R.I.B.A.; Chief Architect, Borough Surveyor's Office, Tynemouth. Address: Thurloe, Broom CC*

Lane, Whickham, Newcastle-upon-Tyne.

Egerton-Banks, S. J.; Regional Director Region No 12 (Tunbridge Wells), Ministry of Works. Address: Foresty Road, Hawkenbury, Tunbridge Wells.

Elford, E. J., M Inst C.E, M I M.& Cy E., Consulting Civil Engineer, Chairman, Building Divisional Council, British Standards Institution, Past President, Institution of Municipal and County Engineers, Past Chairman, British Standards Institution, Author *Municipal Engineers and Surveyors Department* and joint author, *Road Making and Administration* Address, 6, Parkside Avenue, London, S W 19.

Elgin and Kincardine, The Earl of, *C.M G*, LL D.(Hon.), President, Scottish Development Council, Chairman, Carnegie United Kingdom Trust and Land Settlement Association of England and Wales, Director, Highland and Agricultural Society, Member of Council, Royal Agricultural Society of England; Member, Scottish Council of Industry. Address: Broomhall, Dunfermline

Elgood, Sir Frank M., *C B E*, F R.I B.A., F S I, M T.P I; Chairman, Church Army Housing, Ltd, Past Chairman, National Housing and Town Planning Council Address 1, Bentinck Street, London, W.1

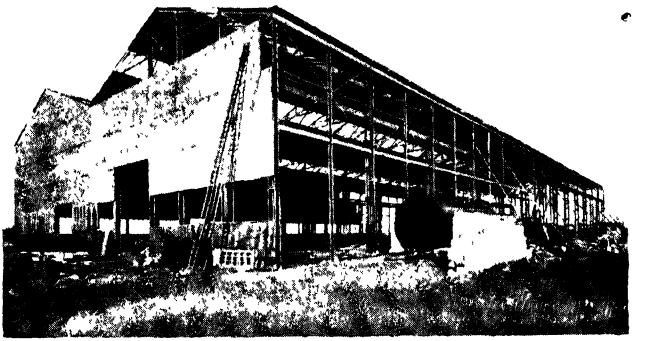
Ellicott, L. P., A R I B A, M T P I., R I B A Dist T P; Chief Senior Technical Officer, Ministry of Town and Country Planning Address: 32, St. James's Square, London, S W.1.

Elmar, George Edward, J.P, Vice-President, National Federation of Building Trades Operatives, Member, St. Marylebone Borough Council. Address: 98, Garlands Road, Redhill, Surrey.

Enderby, H. M., *O B E*, A I A A., M I M. & Cy E, City Surveyor, Town Planning Office, Canterbury Address: Municipal Buildings, Dane John, Canterbury

Esher, Viscount, Hon.A.R.I B A; Chairman. Society for the Protection of Ancient Buildings, Finance Committee of National Trust, London Society, Oxfordshire Branch of the Council for the Preservation of Rural England and Central Council of Civic Societies; Member, Arts Council of Great Britain, Planning Committee of the Royal Academy, Thames Regional Planning Committee; Member of Council, National Buildings Record. Address: Watlington Park, Oxfordshire.

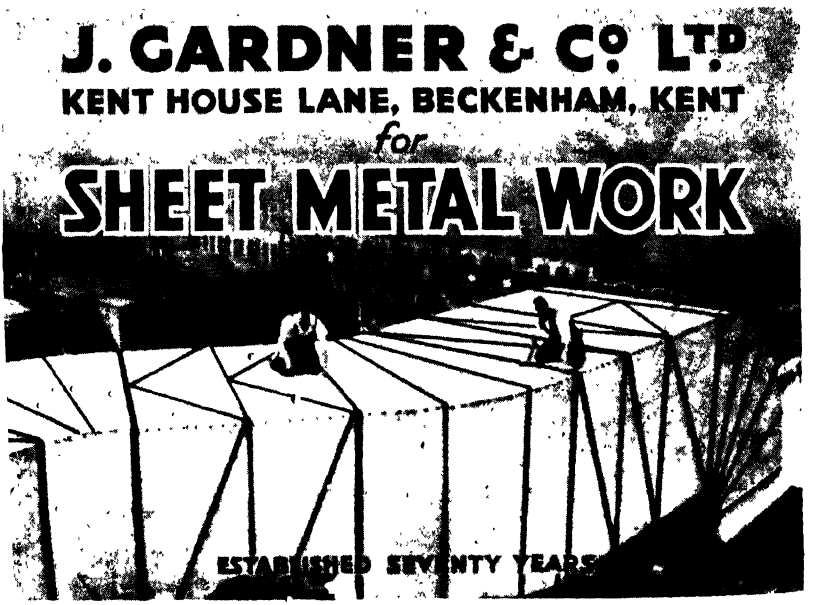
STEEL FRAMED BUILDINGS



J. GARDNER & Co. LTD

KENT HOUSE LANE, BECKENHAM, KENT

Tel.: Sydenham 6080 (7 lines) Established 70 years



Eve, C. Gerald ; Member, Uthwatt Committee and Advisory Committee on Town Planning of the Ministry of Health ; Senior Partner, Gerald Eve & Co. (Chartered Surveyors) ; Past President, Chartered Surveyors Institution. Address: 6, Queen Street, London, W.1.

Eve, Sir Malcolm Trustram, *M.C.*, K.C.; Chairman, War Damage Commission and Building Apprenticeship and Training Council. Address : Devonshire House, Piccadilly, London, W.1.

Falconer, The Rt. Hon. John I., W.S. ; President, Convention of Royal Burghs of Scotland ; Lord Provost of Edinburgh. Address : 51, Castle Street, Edinburgh.

Farrier, A. V., A.R.I.B.A. ; Assistant Director of Works (Architectural). Address : Abell House, John Islip Street, London S.W.1.

Fasnacht, G. E., M.A. ; Secretary to the Warden and Fellows, Nuffield College, University of Oxford. Address : 17, Banbury Road, Oxford.

FitzGibbon, E., M.A., B.A.I., M.T.P.I. ; Inspector, Ministry of Town and Country Planning ; formerly Regional Planning Officer Eastern Region. Address : Larkhurst, Ashtead, Surrey.

Fitzsimons, J. E., Deputy Chairman, Wythenshawe Committee and Airports Committee ; Member, Post-war Reconstruction General and Parliamentary Committee ; Manchester City Council, Town Planning and Building Committee of Manchester National Housing and Town Planning Council, Wythenshawe Estate Committee ; Member and Past Chairman, Housing Committee. Address : 282-4, Cheetham Hill Road, Manchester, 8.

Florence, P. Sargant, M.A., Ph.D. ; Professor of Commerce, University of Birmingham; Consultant to U.S.A. National Resources Planning Board ; Chief Investigator in West Midland Region for Nuffield College Survey ; Director, Worcester Civic Survey ; Member, West Midland Group for Post-War Reconstruction and Planning. Address: Department of Commerce, University of Birmingham, Edgbaston, Birmingham, 15.

Fogarty, H. P., M.A. ; Official Fellow, Nuffield College, Oxford ; Author, *Prospects of the Industrial Areas of Great Britain ;* Contributor, *Planning and Reconstruction*, 1946. Address : Nuffield College, 17, Banbury Road, Oxford.

Ford, Ernest Home, *O.B.E.*, F.R.S.A., F.R.San.I., M.Inst.C.E., M.I.M.& Cy.E., M.T.P.I.; City Engineer, Surveyor and Town Planning Officer, Coventry. Address : Council House, Coventry.

Forrester, The Lord, M.A., F.I.L.A. Chairman, Association for Planning and Regional Reconstruction and School of Planning for Regional Development. Address : 35, Gordon Square, London, W.C.1.

Forshaw, J. H., *M.C.*, M.A., F.R.I.B.A., F.I.L.A., M.T.P.I. ; Chief Architect and Housing Consultant, Ministry of Health ; formerly Architect to the London County Council and Superintending Architect of Metropolitan Buildings ; Deputy Architect to the London County Council, 1939-41 ; Chief Architect, Miners' Welfare Committee, 1936-39 ; Joint Author, *County of London Plan*, 1943. Address : Ministry of Health, Whitehall, London, S.W.1.

Frank, Sir Peirson, F.S.I., M.Inst.C.E., M.T.P.I. ; President, Institution of Civil Engineers ; Chief Engineer and County Surveyor, London County Council since 1930 ; Author of a number of engineering papers. Address : Room 240 County Hall, London, S.E.1.

Fraser, W. T., L.R.I.B.A. ; Assistant Director of Works (Architectural). Address : Abell House, John Islip Street, London, S.W.1.

Fry, Major E. Maxwell, F.R.I.B.A. ; Town Planning Officer to the West African Colonies. Address : c/o Resident Minister, Accra, Gold Coast, West Africa.

Gardner-McLean, Col. G. H., *O.B.E., T.D.*, F.R.S.E., F.R.I.B.A., F.R.I.A.S.; Member of Council, Town and Country Planning Association ; Past Chairman, Town and Country Planning Association. Address : 6, India Street, Glasgow, C.2.

Gascoigne, Charles William ; Chairman, Town Planning and Civic Centre Committee ; Vice-Chairman, Estates Committee, Sheffield Corporation; Member, Sheffield Corporation. Address : 109, Prince of Wales Road, Sheffield, 2.

Gaunt, Walter Henry, *C.B.E.*, C.C. ; Chairman, Town Planning Committee of Hertfordshire County Council ; Member of Council, Town Planning Institute; Fellow, Land Agents' Society; Past Chairman, National Housing and Town Planning Council. Address : Ladybarn, Letchworth, Herts.

Gee, Muriel ; Director, Cavendish Investment Trust Company, Liverpool Property Investment Corporation, House Conversion Advice Service, Housing Centre, etc. Address : 808, Honard House, Dolphin Square, London, S.W.1.

"BRITAIN'S BEST"

KETTON CEMENT

KETCO

DISTRIBUTED BY
THOS W. WARD LTD., SHEFFIELD.
Tel: 26311 (15 Lines) Grams: "KETCO."

STOCKHOLDERS JOISTS, CHANNELS, ANGLES PLATES, FLATS. TEL. 26311

Gibson, D. E., B.A.(Hons.Arch.), M.A., A.R.I.B.A., A.M.T.P.I.; City Architect, Coventry; Director of Housing; Joint Town Planning Officer. Address: 1a, Warwick Road, Coventry.

Gilbert, Mary, M.C.A., M.R.I P.H.H.; Graduate, National Society's Training College for Teachers of Domestic Subjects; E.A.W. Teacher's Diploma in Electrical Housecraft; Editorial publicist, British Electrical Development Association; formerly Public Relations Officer, Women's Press Liaison, Ministry of Food; Contributor, *Planning and Reconstruction*, 1946. Address: 56, Howitt Road, Hampstead, London, N.W.3.

Gill, Charles, R., *M.B.E.*, J.P.; Chairman, Bristol Housing Committee; Member, Bristol Corporation. Address: 6, Aubrey Road, Bedminster, Bristol, 3.

Glasgow, Mary Cecilia, *M.B.E.*, B.A.; Secretary-General, Arts Council of Great Britain (CEMA) since 1939; Inspector of Schools, Board of Education, 1933-39; Contributor, *Planning and Reconstruction*, 1946. Address: 5, Justice Walk, Chelsea, London, S.W.3.

Godfrey, Walter Hindes, F.S.A., F.R.I.B.A.; Chairman and Editor, London Survey Committee and London Topographical Society; Director, National Buildings Record; Member, Royal Commission on Historical Monuments (England) and Advisory Committee of Special Architecture of Historic Interest; Life Trustee, Soane Museum; Contributor, *Planning and Reconstruction*, 1946. Address: 81, The Causeway, Steventon, Abingdon, Berks.

Goodale, C. C. W., *O.B.E.*; Director of Contracts, Ministry of Works. Address: Lambeth Bridge House, London, S.E.1.

Gosling, A. H., B.Sc.(Forestry, Edin.), F.R.S.E.; Director of Forestry, Scotland. Address: 25, Drumsheugh Gardens, Edinburgh.

Grant, Clara E.; Honorary Warden, Fern Street Settlement. Address: Fern Street Settlement, London, E.3.

Gray, Milner, R.D.I., F.S.I.A.; President, Society of Industrial Artists; Member, Modern Architectural Research Group and Design Directorate (Design Research Unit). Address: 8, Holly Mount, Hampstead, London, N.W.3.

Griffin, H. G., *C.B.E.*; General Secretary, Council for the Preservation of Rural England; Joint Honorary Secretary, Standing Committee on National Parks (Council for the Preservation of Rural England and Council for the Preservation of Rural Wales). Address: 4, Hobart Place, London, S.W.1.

Haggie, W. H.; Member, National Housing and Town Planning Council, Northern Ireland Housing Council and Council of Rural District Council's Association; Clerk, Sedgfield Rural District Council; Secretary, South-East Durham Joint Planning Committee. Address: Council Offices, Sedgefield, Stockton-on-Tees.

Harland, H. C., C.S., F.I.O.B.; Member, National Council for the Building Industry and Payment by Results Committee (Ministry of Works); Past President, London Master Builders Association. Address: Mill Hill, London, N.W.7.

Harmsworth, Lord, B.A., M.A., LL.D.; Chairman: Council of Town and Country Planning Association, Commons, Open Spaces and Footpaths Preservation Society and Council of Garden Cities Association. Address: 13, Hyde Park Gardens, London, W.2.

Harrison, Tom; Founder and Director, Mass Observation. Address: 82, Ladbroke Road, London, W.11.

Haslett, Caroline, C.E.E.,C.I E.E.,M.R.I.; President, British Federation of Business and Professional Women; Vice-President, Royal Society of Arts and International Federation of Business and Professional Women; Chairman, Hosiery Working Party, Board of Trade and International Women's Service Groups; Director, Electrical Association for Women, Inc.; Honorary Secretary, Women's Engineering Society; Member of Council, King's College Household and Social Science, National Industrial Alliance and Industrial Welfare Society; Member, Women's Consultative Committee (Ministry of Labour) and various engineering and electrical committees. Address: 20, Regent Street, London, W.1.

Haynes, G. E., *C.B.E.*; General Secretary, National Council of Social Service. Address: 26, Bedford Square, London, W.C.1.

Heck, H. W. J., M.T.P.I.,M.I.M.& Cy.E.; Regional Planning Officer, South Western Region, Ministry of Town and Country Planning. Address: 15, Tyndall Avenue, Bristol, 2.

Hellier, M.J., A.M.I.M.& Cy.E.,M.T.P.I.; Planning Officer to South Lancashire and North Cheshire Advisory Planning Committee. Address: Town Hall, Manchester, 2.

Hill, E. S.; Principal Assistant Secretary, Ministry of Town and Country Planning. Address: 32, St. James's Square, London, S.W.1.

FOUNDED 1850
HOLMES
HUDDERSFIELD

W. C. HOLMES & CO. LTD

ENGINEERS & CONTRACTORS

HUDDERSFIELD

Manufacturers of

PLANT AND EQUIPMENT FOR THE GAS INDUSTRY

COMPLETE BY-PRODUCT RECOVERY PLANT. EXHAUSTERS, BOOSTERS AND METERS. IMMERSION HEATING EQUIPMENT AIR BLOWING INSTALLATIONS.

DUST EXTRACTION PLANT (ELECTROSTATIC OR MECHANICAL) FOR ALL INDUSTRIES

WELDED WORK
GAS VALVES
C.I & M.S. PIPES

THE SOCIETY OF BRITISH GAS INDUSTRIES 1905

Head Office: TURNBRIDGE, HUDDERSFIELD
London Office: 119 VICTORIA STREET, LONDON, S.W.1
Midlands Office: 21 BENNETT'S HILL, BIRMINGHAM, 2

Telephones:
Huddersfield 5280; London, Victoria 9971; Birmingham, Midland 6830

C216

Hill, G. Noel, F.R.I.B.A., M.T.P.I., R.I.B.A.Dist.T.P. ; County Architect, Preston. Address: County Hall, Preston.

Hinchcliffe Davies, H., A.R.I.B.A. ; Deputy Controller General of Building Industries, Economic Division, Control Commission for Germany since 1945 Chief Allocation Officer and Deputy Director of Building Programmes, Ministry of Works, 1941-45. Address : Main H.Q.Bldg., Ind Branch, Econ. Div., CCG Minden, B A.O.R.

Hiorns, Frederick Robert, F.S.A , F.R.I. B.A., M.T.P.I , R.I.B.A.Dist.T.P. ; Member · Advisory Committee on Town and Country Planning (Ministry of Health), Central Advisory Committee on National Planning (Royal Institute of British Architects), Royal Academy Planning Committee, London Regional Planning Committee (Royal Institute of British Architects), Council of National Buildings Record, Consultative Panel (Ministry of Works), 1941-43, etc. ; late Chief Architect, London County Council. Address . 3, Eton Villas, London, N.W.3.

Hobhouse, Sir Arthur Lawrence, M A , C.C J.P. ; Chairman : Somerset County Council since 1940, National Parks Committee, Bath and District Town Planning Committee, South East Regional Planning Conference. Address : Hadspen House, Castle Cary, Somerset.

Holden, Charles, Litt.D , F.R.I.B A , M.T.P.I. ; Architect to University of London, London Passenger Transport Board, etc. Address : Harmer Green, Welwyn, Herts.

Holford, W. G., B.Arch , A.R.I.B.A., F.I.L.A , M T.P I. ; Lever Professor of Civic Design, University of Liverpool : Director of Research, Ministry of Town and Country Planning. Address : 13, Little Chester Street, London, S.W.1

Holloway, Ernest C., F.I.O.B. ; President, Institute of Builders. Address : 48, Bedford Square, London, W.C.1.

Horder, The Rt. Hon. Lord, *G.C.V.O.*, M.D., B.Sc., F.R.C.P. ; Adviser to Ministry of Food ; Consultant to Ministry of Pensions ; President : Noise Abatement Society, Cremation Society ; Chairman, National Council for Rehabilitation of Industrial Workers ; Member, Committee on National Parks. Address: 32, Devonshire Place, London, W.1.

Houghton, Thomas, M.T.P.I., F.A.S.I. ; Lecturer in Town Planning Practice. Leeds School of Architecture, Assistant Regional Planning Officer of No 2 Region. Address : Hopewell House 173, Woodhouse Lane, Leeds, 2.

Hudson, M. W., F.S.I. ; Deputy Director of Emergency Works and Recovery, Ministry of Works. Address : 13-6, Onslow Gardens, London, S.W.7.

Hudson, R. A., M.T.P.I. ; Regional Planning Officer, Minister of Town and Country Planning, North Midland Region ; formerly Surveyor to Brighton, Hove and District, Joint Town Planning Advisory Committee; formerly Housing and Town Planning Inspector, Ministry of Health. Address : 2, Lucknow Drive, Mapperley Park, Nottingham.

Hughes, Major-Gen. H. B. W.; Regional Director, Region No. 2 (Nottingham), Ministry of Works. Address : Government Buildings, Clifton Boulevard, Nottingham.

Hughes, P. L., A.M.T.P.I., L.R.I.B A. ; Regional Planning Officer, North-Western Region. Address : 100, Palatine Road, West Didsbury, Manchester, 20.

Hull, C.; Regional Director, Region No. 5 (London), Ministry of Works. Address : Lambeth Bridge House, London, S.E.1.

Hutson, L. W., F.R.I.B.A. ; Director of Building Materials, Ministry of Works. Address : Lambeth Bridge House, London, S.E.1.

Jackman, F., F.R.I.B.A. ; Architect, Ministry of Education. Address : Belgrave Square, London, S.W.1.

Jackson, W. Theodor, *M.B.E.*, A.R.I.B.A., A.M.T.P I.; Director of Mobile Labour Services, Ministry of Works. Address: Fairlawn, 3, Lucerne Road, Orpington, Kent.

Jay, Douglas; Assistant Secretary, Ministry of Supply since 1941. Address: 42, Well Walk, London, N.W.3.

Jeffreys, W. Rees; Chairman, Roads Improvement Association, Inc.; Member, Statutory Panel of Experts (Ministry of War Transport) and Council of Town Planning Institute. Address : Wivelsfield Hall, nr. Haywards Heath, Sussex.

Jellicoe, Geoffrey Alan, F.R.I.B.A., M.T.P.I. ; President, Institution of Landscape Architects ; formerly Chairman, Royal Institute of British Architects Housing Group. Address : 12, Gower Street, London. W.C.1.

Jones, I. Ernest, B.Sc., M.A.(Cantab.) ; Chief Industrial Official, National Federation of Building Trade Employers ; Convenor, Uniformity Joint Agreement of the Building and Civil Engineering Industries ; Honorary Sec-

Ranalah

INSTANTANEOUS GAS WATER HEATERS

★

Sales Office

RANALAH LTD. 5 QUEEN ANNE'S GATE, LONDON, S.W.1.

Phone WHITEHALL 8369

retary, Building Industries National Council; Employers Secretary, National Joint Council for the Building Industry. Address: 82, New Cavendish Street, London, W.1.

Jones, R. D., F.R.I.B.A., M.T.P.I., R.I.B.A.Dist.T.P.; Planning Officer for Wales, Ministry of Town and Country Planning. Address: 6, Park Place, Cardiff.

Jupp, Percy William, *C.B.E.*, F.A.I.; Director of Lands and Accommodation, Ministry of Works. Address: 17, Castelnau Gardens, London, S.W.13.

Keay, L. H., *O.B.E.*, M.Arch., F.R.I.B.A.; City Architect and Director of Housing, Liverpool; Vice-President, Royal Institute of British Architects; Member, Central Housing Advisory Committee and Advisory Panel, Ministry of Works. Address: Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2.

Keens, Sir Thomas, *D.L.*, F.S.A.A., J.P., Chairman, Bedfordshire County Council, Lee Conservancy and Catchment Boards. Address: Highfield, Luton.

Kegie, James, A.M.T.P.I., A.I.A.S., Dip. T.P.; County Planning Officer, East and West Monmouthshire Joint Planning Committees. Address: County Hall, Newport, Mon.

Keir, D. Lindsay, M.A.; Chairman, Planning Advisory Board, Ministry of Health, Northern Ireland. Address: Stormont, Belfast.

Kenrick, Gerald; Chairman, County Planning Committee of Worcestershire County Council; Corresponding Member, West Midland Group on Post-War Reconstruction and Planning; Member, Stourport Urban District Council. Address: Hammer Hill, Nr. Bridgnorth, Salop.

Key, C. W.; Parliamentary Secretary, Ministry of Health. Address: Ministry of Health, Whitehall, London, S.W.1

Kitchin, Capt. C. H.; Regional Director, Region No. 7 (Bristol, Ministry of Works). Address: 5, Priory Road, Bristol.

Knapp-Fisher, A. B., F.R.I.B.A., Hon. A.R.C.A.; Temporary Secretary, Royal Fine Art Commission. Address: 22a, Queen Anne's Gate, London, S.W.1.

Knight, E. R., M.Eng.(Liv.), M.Inst.C.E., M.Inst.M.& Cy.E., F.S.S.; Borough Engineer and Surveyor, Fulham. Address: Town Hall, Fulham, London, S.W.6.

Kohnor, R. O.; Northern Technical Manager, Colt Ventilation Ltd.; Contributor, *Planning and Reconstruction*, 1946. Address: Colt Ventilation, Ltd., Surbiton, Surrey.

Lanchester, Henry V., Litt.D., F.R.I.B.A., M.T.P.I.; Member of Reconstruction Committee, Royal Institute of British Architects; Past President, Town Planning Institute; Author of *The Art of Town Planning*, etc. Address: 10, Woburn Square, London, W.C.1.

Leask, Peter Shearer, A.R.I.B.A., Dip. Arch.(Aberdeen), R.I.B.A.Dip.T.P.; County Architect, Ross and Cromarty County Council. Address: County Architect's Department, Old Academy, Tulloch Street, Dingwall, Ross-shire.

Leith-Ross, Sir Frederick, *G.C.M.G.*, *K.C.B.*; Chief Economic Adviser to H.M. Government; Chairman, European Committee of UNRRA. Address: 1, Arkwright Road, London, N.W.3.

Lewis, Brian Bannatyne, B.Arch.(Melbourne), M.A., F.R.I.B.A.; Architect to the Great Western Railway. Address: Architect's Department, G.W.R., Paddington Station, London, W.2.

Lloyd, T. Alwyn, F.R.I.B.A., M.T.P.I., J.P.; Chairman of Committee and Honorary Lecturer, Welsh School of Architecture; Member, Advisory Council on Education (Wales); Preparing town planning schemes for Pembrokeshire, Dudley, Bilston, Stowbridge; Great Western Railway Housing and many municipal schemes; Past Chairman, National Housing and Town Planning Council; Past President, Town Planning Institute, Address: 6, Cathedral Road, Cardiff.

Lock, Max, A.R.I.B.A., A.M.T.P.I., A.A.Dip.; Town Planning Consultant, Middlesbrough Corporation; Late Head, Hull School of Architecture; Late Director, Hull Regional Survey. Address: Little Stratford, Langley Road, Watford.

Long, A. P., *O.B.E.*, B.A., Dip.Forestry, Dip.Agriculture(Cantab.); Director of Forestry, Wales. Address: Camp House, Promenade, Bristol, 8.

Lowe, R. Mark, *C.B.*; M.A., Chief Land Registrar. Address: 25, Launceston Place, London, W.8.

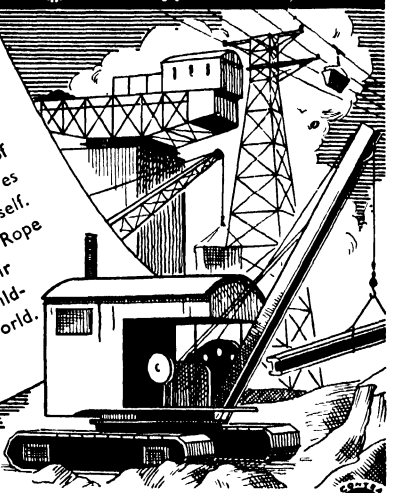
Lytton, The Earl of, *K.G.*, *P.C.*, *G.C.S.I.*, *G.C.I.E.*, Hon LL.D., D.L., J.P.; President, Garden Cities and Town Planning Association. Address: 18, Chester Street, London, S.W.1.

McAllister, Elizabeth Glen, M.A.; Public Relations Officer, Town and Country Planning Association; Editor, *Town and Country Planning*; Joint Author, *Town and Country Planning*. Address: Planning Centre, 28, King Street, London, W.C.2.

McAllister, Gilbert, M.P.; Chairman, London Planning Group; formerly

Re CONSTRUCTION

The Whitecross Company of Warrington have always insisted upon the fact that each constructive effort towards improved methods of lifting and haulage by Steel Wire Ropes, requires a special type of construction of the rope itself. Hence—specialised Whitecross Wire Rope constructions designed to pull their weight for years to come in the building up of a new Industrial World.



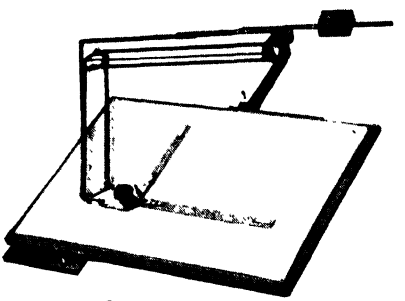
STEEL WIRE ROPES

THE WHITECROSS COMPANY LIMITED

WARRINGTON (Established 1864) ENGLAND

Telephones—Warrington 1509 (5 lines). *Telegrams—"Whitecross, Warrington"*

MAVITTA DRAFTING MACHINES



100% BRITISH—VARIOUS TYPES AND SIZES

THE MAVITTA DRAFTING MACHINES LTD.

PARK ROAD • ASTON • BIRMINGHAM, 6

editor, *Town and Country Planning*; joint author, *Town and Country Planning*; Author of several planning books and contributor on housing and planning to *Encyclopaedia Britannica* and *Encyclopaedia Britannica Book of the Year*. Address: 28, St. Edmund's Court, St. Edmund's Terrace, London, N.W.8.

Macauley, James, F.S.I., M.T.P.I., M.Inst. R.A.; Member of Council, Town Planning Institute; Honorary Secretary and Treasurer, Scottish Branch, Town Planning Institute. Address: 37, St. Vincent Crescent, Glasgow, C.3

McDonald, G. S., F.I.S.E., M.I.C.E., M.I Struct.E., M.Inst M.& Cy.E., M.R. San.I., M Cons.E.; President, Institution of Sanitary Engineers; Chairman, Institution of Structural Engineers (Midland Branch); Sanitary Adviser to Eastern Command, War Office. Address: 359, Birmingham Road, Wylde Green, Birmingham.

Macfadyen, Sir Eric, M.A., J.P.; Chairman, First Garden City, Ltd.; Vice-President, Town and Country Planning Association; Contributor, *Planning and Reconstruction*, 1946. Address: 1-4, Great Tower Street, London, E.C.3

Maclagan, Sir Eric, *C.B.E.*, Hon.LL.D.; Chairman, National Buildings Record. Address: 5, Ashburn Gardens, London, S.W.7.

Madge, John, M.A., A.R.I.B.A.; Research Fellow in Economics, University of Bristol; In charge of Reconstruction Research Group, University of Bristol; Author, *Rehousing Britain*. Editor, *Tomorrow's Houses*; Co-author, *Housing Estates*. Address: Wills Hall, Stoke Bishop, Bristol, 9.

Mann, Jean, J.P., M.P.; Organising Secretary, Town and Country Planning Association (Scotland); Vice-Chairman, Housing and Town Planning Council (Scotland); Editor, *Replanning Scotland*; Contributor, *Planning and Reconstruction*, 1946. Address: 9, Victoria Park Corner, Glasgow, W.4.

Manzoni, Herbert J., *C.B.E.*, M.Inst.C.E., M.T.P.I; City Engineer and Surveyor, Birmingham; Honorary Survey, Midland Joint Town Planning Advisory Council; Member, West Midland Group on Post-War Reconstruction and Planning. Address: Council House, Birmingham, 3.

Marshall, Fred, J.P., M.P.; Parliamentary Secretary, Ministry of Town and Country Planning. Address: 32, St. James's Square, London, S.W.1.

Martin, Major J. G., *M.B.E.*; Secretary, National Housing and Town Planning Council. Address: 41, Russell Square, London, W.C.1.

Matthew, Robert Hogg, A.R.I.B.A.; Chief Architect and Chief Town Planning Officer, Department of Health for Scotland. Address: St. Andrew's House, Edinburgh.

Mattocks, R. H., F.I.L.A., Dip.C D.; Town Planning Consultant; Lecturer in Landscape Design and History of Town Planning, Leeds School of Architecture Address: 7, Blenheim Terrace, Woodhouse Lane, Leeds, 2.

Mauff, Edward, M.A (Oxon.), A.R.A., F.R.I B A.; Honorary Fellow, St. John's College, University of Oxford; Consultant Architect for Reconstruction of Middle Temple; Architect of Guildford Cathedral, etc.; Principal Architect, U.K. Imperial War Graves Commission; Member, Planning Committee Royal Academy. Address: 139, Old Church Street, Chelsea, London, S.W.3.

Maurice, F. H. P.; Director of Temporary Housing, Ministry of Works since 1945. Address: High House, Curdridge, Hampshire.

Mears, F. C., LL.D.. F.R.S.E., F.R.I.B A., M.T.P.I.; President, Royal Society of Arts. Address: 44, Queen Street, Edinburgh, 2.

Minter, Chas. John, A.M.I.Mech.E., M.I.M.& Cy.E., M.T.P.I.; City Engineer and Architect, York. Address: Guildhall, Yorks

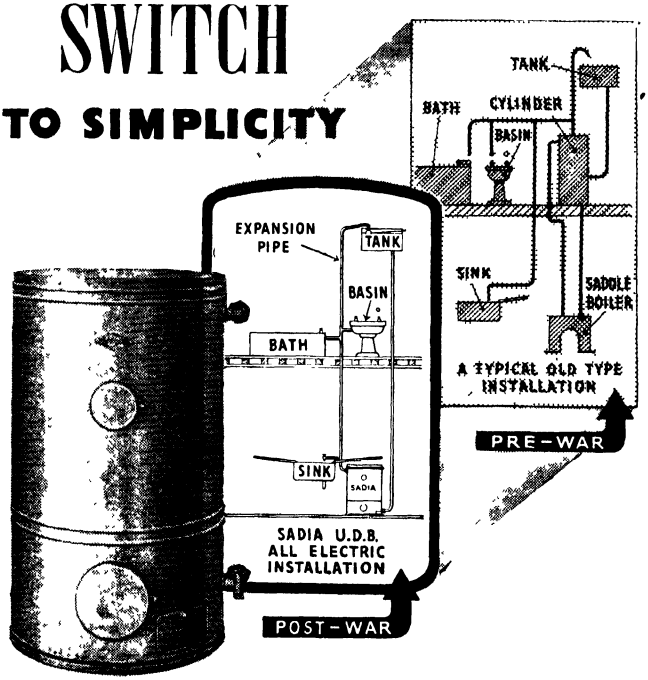
Mitchell, Sir M. E., J.P.; Chairman, Housing Committee and General Purposes Committee (Association of Municipal Corporations); Member, Housing Advisory Committee, Ministry of Health. Address: Grange House, Grange Avenue, Levenhulme, Manchester.

Mole, Charles Johns, *O.B.E.*, *M.V.O.*, F.R.I.B.A.; Director General of Works Ministry of Works; Member Building Research Board (Department of Scientific and Industrial Research) and Official Architects' Committee (Royal Institute of British Architects). Address: Ministry of Works, Lambeth Bridge House, London, S.E.1.

Monks, A. E., J.P.; Member, Scalt Committee, Central Housing Advisory Committee, Rural Housing Sub-Committee and Joint Advisory Committee on Agricultural Education. Address: 13, St. Thomas Road, Spalding, Lincs.

Morris, A., F.R.San.I., M.Inst.C.E., M.T.P.I., M.Inst.M.& Cy.E.; Planning Inspector, Ministry of Town and Country Planning. Address: 32, St. James's Square, London, S.W.1.

SWITCH
TO SIMPLICITY



SADIA TYPE U.D.B. *A completely automatic Hot Water system for the small house*

UNIT : — Small and compact, designed to fit in with future kitchen units and occupy the least possible space.

INSTALLATION : — There is a minimum of pipe-work, no flues or ventilation. No constructional alteration to existing buildings.

ADVANTAGES:—Cheap to run : no maintenance or servicing necessary. Silent, fumeless, odourless. A system in itself or can be used as an alternative to an existing solid fuel boiler.

Further particulars on request.

SADIA TYPE U.D.B.
AUTOMATIC ELECTRIC WATER HEATER

AIDAS ELECTRIC Ltd., Sadia Works, Rowdell Rd., Northolt, Middlesex. *Phone:* WAXlow 1607.
Scottish Agents. W. Brown & Co (Engineers) Ltd , 89, Douglas Street, Glasgow, C.2.

Morris, M., M.A. ; Honorary Secretary, Council of Social Service for Stoke-on-Trent and North Staffordshire ; Local Investigator for Nuffield College Reconstruction Survey ; Member, West Midland Group on Post-War Reconstruction and Planning. Address Kingsway Chambers, Kingsway, Stoke-on-Trent, Staffs.

Morrison, Rona H. Inch, A.R.I.B.A., A.R.I.A.S., A.M.T.P.I. ; Acting Regional Planning Officer, Northern Area, Department of Health for Scotland. Address : 2, Hill Street, Edinburgh, 2.

Morrison, The Rt. Hon. William Shepherd, *P.C.*, *M.C.*, K.C., LL.D. ; formerly Minister of Town and Country Planning ; Contributor, *Planning and Reconstruction*, 1946. Address : The Manor House, Withington Glos.

Neal, Lawrence E. ; Deputy Secretary, Ministry of Town and Country Planning. Address . 32, St. James's Square, London, S.W.1.

Ness, Mrs. Patrick ; President, National Council of Women of Great Britain Address · Drayton House, Gordon Street, London, W.C 1.

Nicholas, Rowland, B Sc , M.I.C.E. M.Inst.M.& Cy E , M.T.P.I. ; City Surveyor, Manchester ; Honorary Surveyor, Manchester and District Regional Planning Committee and South-Lancashire and North Cheshire Advisory Planning Committee ; Contributor, *Planning and Reconstruction*, 1946 Address Town Hall, Manchester, 2.

O'Brien, F. Lucius ; Chairman, Housing Trust. Address : Ministry of Health, Stormont, Belfast.

O'Hagan, The Rt. Hon. The Baron ; President, Rural Reconstruction Association. Address : Little Salterns, Beaulieu, Hants.

O'Neil, B. H., M A.(Oxon.) ; Chief Inspector of Ancient Monuments, Ministry of Works. Address: Inspectorate of Ancient Monuments, 72, Onslow Gardens, London, S.W.7.

Osborn, F. J. ; Chairman, Executive Council, Town and Country Planning Association ; Honorary Treasurer, Town Planning Summer School; Author, *Overture to Planning*, etc. ; Advisory Editor, *Planning and Reconstruction*. Address : 16, Guessens Road, Welwyn Garden City, Herts.

Oyler, A. W., *O.B.E.*, J.P. ; Chairman, London Youth Committee ; Member, Central Planning Group of National Council of Social Service. Address : Greenways, Chase Ridings, Enfield, Middlesex.

Parkes, C. Bertram, L.R.I.B.A. ; Chief Architect, Bournville Village Trust ; Member of Council, Royal Institute of British Architects ; Secretary, West Midland Group on Post-War Reconstruction and Planning ; Member, Town Planning Committee of Birmingham and Five Counties' Architectural Association. Address . Estate Office Bournville, Birmingham, 30.

Passmore, H., F R.I.B.A. ; Official Architect to the Ecclesiastical Commissioners for England ; Honorary Advisory Architect to the Canterbury Division Board and Bath and Wells District Board ; Advisory Architect to the Charity Commissioners. Address 3, Great College Street, London, S.W 1.

Pearson, S. Vere, M.A., M D , M.R.C P. ; Member of Council, Town and Country Planning Association ; Author, *The Growth and Distribution of Populations*, etc. Address : Rillbank, Mundesley, Norfolk.

Pepler, G. L., *C B* , F.S.I.; Chief Technical Adviser, Ministry of Town and Country Planning ; Chairman, Town Planning Joint Examination Board and International Federation for Housing and Town Planning (Provisional Committee) ; Past President, Town Planning Institute. Address: 49, Rivermead Court, Hurlington, London, S.W.6

Post, K. G., *C B E.* , Director of Prefabricated Housing Development, Ministry of Works. Address : 11, Queens Elm Square, London, S.W.3.

Potter, A. R., L.R.I B A , M.T.P.I. ; Secretary, Town Planning Institute Address : 18, Ashley Place, London, S W 1

Powell, Clive, D.A., F.S.I , Chairman, Warwickshire, Staffordshire and Worcestershire Branch Chartered Surveyors Institution ; Member, Advisory (Limitation of City) Planning Panel of Birmingham Public Works Committee and West Midland Group on Post-War Reconstruction and Planning. Address: c/o Messrs, Chesshire Gibson & Co., 21, Waterloo Street, Birmingham, 2.

Preston, Frank, A.B., L.R.I.B.A , F.R.I. A S., F.R.San.I., F.R S.E., M.T.P.I., M.I.M.& Cy.E., M.I.Struct.E ; Lecturer on Town Planning, Royal Technical College, Glasgow ; Town Planning Adviser to Milngavie Urban District Council ; Chairman, Scottish National Housing and Town Planning Council ; Vice-President, Institution of Municipal and County Engineers and Scottish Branch Town and Country Planning Association ; Member, Scottish Housing Advisory Committee.

Annual Reference Books

●

PLANNING and RECONSTRUCTION

Advisory Editor

F. J. OSBORN

●

AIR TRANSPORT and CIVIL AVIATION

Advisory Editor

The Rt. Hon. LORD SEMPILL

●

HEALTH and SOCIAL WELFARE

Advisory Editor

The Rt. Hon. LORD HORDER

●

FARMING and MECHANISED AGRICULTURE

Advisory Editor

Sir GEORGE STAPLEDON

●

INDUSTRIAL RESEARCH

Advisory Editor

Professor E. N. da C. ANDRADE

●

About 500 pages Demy 8vo

Price **21s.** *net each*

Todd Publishing Company Ltd.

LONDON and NEW YORK

Distributed by HARRAPS

Address: 6, Buchanan Street, Milngavie, Scotland.

Price, G. Vernon, *M.B.E.*, F.C.I.S.; Member, General Committee of National Housing and Town Planning Council. Address: Imperial Buildings, Wrexham.

Priestley, Raymond, E., M.A.; Vice-Chancellor, University of Birmingham; Chairman, West Midland Group on Post-War Reconstruction and Planning. Address: University of Birmingham, Edmund Street, Birmingham, 3.

Radley, Oswald Alfred, *C.B.E., M.C.*, LL.B., F.I.P.A., M.T.P.I.; Legal Member of Council, Town Planning Institute; Member of Executive Committee, North of England Division, Town Planning Institute; Town Clerk of Leeds; Past President, Town Planning Institute. Address: Civic Hall, Leeds, 1.

Raynes, W. L., M.A.; Chairman, Central Valuation Committee. Address: Caxton House East, Tothill Street, London, W.I.

Reed, Major George Letchworth, B.Sc.; Housing Consultant; Connected with public housing since 1935; Principal Planner for U.S. Housing Authority, Puerto Rico Housing programme; Area representative, Federal Public Housing Authority, Virginia, 1942 and first housing Attaché of the U.S. Foreign Service since 1945. Address: United States Embassy, Grosvenor Square, London, W.1.

Reilly, Sir Charles, *O.B.E.*, M.A., LL.D., F.R.I.B.A.; Emeritus Professor of Architecture, University of Liverpool; Member of Council, Royal Institute of British Architects; Honorary Member, Town Planning Institute, etc.; Author of various architectural publications. Address: South End House, Montepelier Row, Twickenham, Middlesex.

Reiss, Richard Leopold; Chairman, London Labourers' Dwellings, Ltd.; Director, Welwyn Garden City, Ltd., Hampstead Garden Suburb Trust, Ltd.; Author various planning and housing publications; Contributor, *Planning and Reconstruction*, 1946. Address: High Oaks, Welwyn Garden City, Herts.

Reith of Stonehaven, The Rt. Hon. the Lord, *P.C., G.C.V.O., G.B.E., C.B.*, Hon.D.C.L., Hon.LL.D., M.Inst.C.E., Hon.F.R.I.B.A., Hon.M.T.P.I., Hon. F.I.L.A., Hon.M.Inst.M.& Cy.E.; First Minister of Works and Buildings, 1940-2; Effected establishment of Ministry of Works and Planning; appointed Scott and Uthwatt Committees. Address: The Athenaeum, Pall Mall, London, S.W.1.

Rhodes, G. W., A.R.I.B.A., A.M.Inst.M. &Cy.E.; Borough Architect, Maidenhead. Address: 14, Grawford Rise, Maidenhead.

Rhys, J. P., F.S.I., M.T.P.I.; Planning Consultant to the Land Union and London Brewers' Council; Contributor, *Planning and Reconstruction*, 1946. Address: 26, Central Chambers, Ealing Broadway, London, W.5.

Richard, Cyril, B.Sc., P.A.S.I., A.M.Inst. M.& Cy.E.; City Engineer and Surveyor, Bangor. Address: Town Hall, Bangor, Caernarvonshire.

Richmond, Arthur Cyril; Vice-Chairman and Controller, Land Settlement Association, Ltd.; Contributor, *Planning and Reconstruction*, 1946. Address: 10, Paultons Square, London, S.W.3.

Riley, Charles, F., A.R.I.B.A., M.T.P.I.; Lecturer in Town Planning, Victoria University, Manchester, Town Planning Consultant and Executive Planner to various Joint Committees and Local Authorities in Cheshire, Durham, Lancashire, West Riding of Yorkshire, Derbyshire and Staffordshire. Address: Jordangate, Macclesfield.

Ritchie, J. D.; Secretary and Manager, First Garden City, Ltd. Address: Letchworth, Herts.

Roberts, R. Hugh; Regional Port Director, South-West Area; Member, Scott Committee. Address: Dorsington Manor, nr. Stratford-on-Avon.

Robertson, Howard, F.R.I.B.A., M.R.I.B.A., S.A.D.G.; President, Building Industries National Council; Member of Council, Royal Institute of British Architects. Address: 54, Bedford Square, London, W.C.1.

Robinson, Sir (Frederick) Percival, *K.C.B., C.B.*, M.A.; Permanent Secretary, Ministry of Works since 1943. Address: 211, Carrington House, Hertford Street, London, W.1.

Robinson, M. W., F.C.S.I., M.T.P.I.; County Planning Officer, Oxfordshire County Council. Address: County Hall, Oxford,

Robinson, Sir Roy Lister, *O.B.E.*; Chairman, Forestry Commission. Address: 25, Saville Row, London, W.1.

Robson, John H.; Chairman, National Allotments Society, Ltd. Address: Hawthorn Bank, Silverdale, Nr. Carnforth, Lancs.

Robson, W. A., B.Sc., Ph.D., LL.B.; Reader in Administrative Law, London School of Economic and Political Science; Member of Council, Town and Country Planning Association; Member of Board of Management, School of Planning for Research and

Regional Development ; Author *Planning and the War Outlook*, etc.; Contributor, *Planning and Reconstruction*, 1946. Address : 6, Westbourne Park Road, London, W.2.

Rosevear, Major John A., F.S.I., M.R. San.I., M.T.P.I., Dip.T.P. ; Member of Council, Town and Country Planning Association ; Director, First Garden City Ltd. ; Fellow Auctioneers and Estates Agents Institute. Address : 4, Sloane Street, London, S.W.1.

Russell, S. Gordon ; Chairman, Design Panel Board of Trade ; Member, Utility Furniture Committee, Furniture Production Committee and Council of Industrial Design ; Contributor, *Planning and Reconstruction*, 1946. Address: Kingscombe, Campden, Glos.

Salvesen, Capt. Cedric A., *M.C.*, M.Inst B.E. , County Councillor, Stirlingshire, Chairman, Forth Conservancy Board, L.E.C. Falkirk and Disabled Persons Act Committee, Falkirk ; Member, Stirlingshire and Falkirk Water Board Address : Wallacerig, Polmont.

Samuely, Felix J., B.Sc.Eng.(Lond), A.M.I.C.E., F.R.A.S., M.I.Struct.E., M.I.W., C.R.Ae.Soc. ; Lecturer-in-Charge in Structural Engineering Architectural Association's School of Architecture. Address : 15, Adelme Place, Bedford Square, London, W.C.1

Sanderson, The Lady ; Chairman, Women's Advisory Housing Council ; Member, Central Housing Advisory Committee (Ministry of Health), 1942-5 and Sub-Committee on Design of Dwellings, 1943-45. Address : 88, Cranmer Court, Sloane Avenue, London, S W.3.

Sangar, O. J., *M.C.* ; Director, Forestry for England ; H.M. Forestry Commissioner. Address: Camp House, Promenade, Bristol 8.

Sankey, Rt. Hon. Viscount, *G.B.E., D.C.L.*, LL.D.; President, Building Societies Association. Address : 13, Albert Place, London, W.8.

Scott, The Rt. Hon. Lord Justice, Hon. A.R.I.B.A., Hon.F.S.I. ; Chairman of Committee on Land Utilisation in Rural Areas ; Member of Executive Council, Council for Preservation of Rural England. Address : The Red House, Sotwell, Wallingford, Berks.

Scott, Sir Giles Gilbert, *O.M.*, R.A. ; Architect ; Principal works include: Waterloo Bridge, Liverpool Cathedral, new Nave, Downside Abbey, New Buildings, Clare College, Cambridge, etc. Address : 3, Field Court, Gray's Inn, London, W.C.1.

Sharp, Thomas, M.A., F.I.L.A., L.R.I. B.A., M.T.P.I. ; Town Planning Consultant ; President, Town Planning Institute ; Author, *Town and Countryside*, etc. ; Has prepared plans for Durham, Exeter, Oxford, Taunton, etc. Address : 65, St. Aldate's, Oxford.

Shepherd, P. E., *O.B.E.*, M.Inst.C.E. ; Director of Works, Government of Northern Ireland. Address : Ministry of Finance, May Street, Belfast.

Silkin, L. ; Minister of Town and Country Planning. Address : 32, St. James's Square, London, S.W.1.

Simon, Sir Ernest D., LL.D., M.Inst.C.E , M.I.Mech.E., Hon.A R.I.B.A. ; Chairman, University of Manchester; Author *How to Abolish Slums*, *The Anti-Slum Campaign*, etc. Address : Roomcroft, Didsbury, Manchester.

Simson, R. S. F. ; Chairman, National Federation of Housing Societies ; County Councillor, East Surrey County Council. Address : Blunts, Haywards Heath, Sussex.

Soutar, John C. S., F R I.B.A , M.T.P.I.; Senior Assessor to War Damage Commission ; Architect to Hampstead Garden Suburb , Member of Council, Town and Country Planning Association. Address : Wyldes, North End, Hampstead, London, N.W.3.

Spragg, Cyril Douglas ; Secretary, Royal Institute of British Architects. Address: 66, Portland Place, London, W.1.

Stamp, L. Dudley, B.A., D.Sc., A.J.C., F.Inst.Pet. ; Professor of Geography, University of London at the London School of Economics ; Chief Adviser on Rural Land Utilisation, Ministry of Agriculture ; Director, Land Utilisation, Ministry of Agriculture ; Director, Land Utilisation Survey of Great Britain ; Vice-Chairman, Scott Committee ; Member, Maps Committee (Ministry of Town and Country Planning) and West Midland Group on Post-War Reconstruction and Planning. Address : 556, Whitehall, London, S.W.1

Stephenson, G., B.Arch., F.R.I.B.A., M.C.P. ; Senior Research Officer, Ministry of Town and Country Planning. Address : 32, St. James's Square, London, S.W.1.

Stewart, Harry, M.T.P.I. ; Chief Technical Officer, Advisory Committee for London Regional Planning ; late Inspector, Ministry of Town and Country Planning. Address : 1, Pall Mall East, London, S.W.1.

Stillman, C. G., F.R.I.B.A. ; Chairman, Royal Institute of British Architects' School of Design Council and County Architects' Society ; County Architect, Middlesex County Council. Address :

Middlesex House, Vauxhall Bridge Road, London, S.W.1.

Strauss, Henry; Member Executive Committee, National Trust, Design and Industries Association and Georgian Group. Address: 25, Cheyne Walk, London, S.W.3.

Summerson, John, B.A.(Arch.),A.R.I.B.A., F.S.A.; Deputy Director, National Building Record; Member of Council, Architectural Association and Society for the Protection of Ancient Buildings. Address: 13, Lincoln's Inn Fields, London, W.C.1.

Symonds, J. B.; Chairman, Jarrow Housing and Town Planning Committee and North Housing Council for Local Authorities in Northumberland, Durham and North Yorkshire; Member: Borough Council of Jarrow-on-Tyne, Tyneside Council of Community Centres Planning Council, North-Western Joint Town Planning Committee, General Council of National Housing and Town Planning Council. Address: 3, Raby Gardens, Jarrow-on-Tyne, Co. Durham.

Tallents, Sir Stephen, *K.C.M.G., C.B., C.B.E.*; Principal Assistant Secretary, Ministry of Town and Country Planning. Address: 32, St. James's Square, London, S.W.1.

Tetlow, M.B., B.A., A.R.I.B.A., M.T.P.I., Dip.T.P.; Regional Planning Officer (Northern Region); Assistant Regional Planning Officer, South East and Eastern Regions; Borough Architect and Planning Officer, Macclesfield; Assistant Architect to the Oxford, Dundee and Leeds Corporations. Address: 12, Sydenham Terrace, Newcastle-upon-Tyne.

Thomas, Percy E., *O.B.E.*, LL.D., J.P.; President, Royal Institute of British Architects; Chairman, Wales Regional Board for Industry; Member, National Production Advisory Council. Address: 11, Cathedral Road, Cardiff.

Thompson, Frank; Chairman, Epsom and Ewell Borough Council's Town Planning and Plans Committees; Member, Epsom and Ewell Borough Council, General Committee of National Housing and Town Planning Council and North-East Surrey Joint Planning Committee. Address: 61, Temple Road, Epsom, Surrey.

Thompson, J. B., M.Inst.C.E., M.I.M.& Cy.E., F.R.San.I.; Borough Engineer and Surveyor, Southall. Address: Town Hall, Southall, Middlesex.

Thompson, W. Harding, *M.C.*, F.R.I.B.A., M.T.P.I.; Planning Consultant to Joint Regional Planning Committees in Oxfordshire, Dorset and Hertfordshire; Past President, Town Planning Institute; Author of Regional Survey Reports on Cornwall, Devon and Somerset. Address: 8, Blackhall Road, Oxford.

Thomson, Major T. F., R.E., F.I.L.A., F.I.Arb., L.R.I.B.A., M.T.P.I.; County Planning Officer, Hampshire; Past Chairman and Honorary Secretary, Planning Officers' Section, Town Planning Institute; Member of Council, Town and Country Planning Association and Institute of Landscape Architects; Author, *Planning Procedure*. Address: Litton Lodge, Winchester.

Tidbury Beer, F., Hon.A.M.T.P.I., F.R.S.A., F.S.S., F.R.Econ.S.; Chairman, Improvements and Town Planning Committee; Member, Court of Common Council; Sheriff, City of London. Address: 9, Bishopgate, London, E.C.2.

Towndrow, F. E., F.R.I.B.A.; Consulting Architect to various organisations including Precision Building (Research and Development) Ltd.; formerly Senior Architect and Controller of Experimental Building Development, Directorate of Post-war Building, Ministry of Works. Address: 8, Selwyn Court, Church Road, Richmond.

Townroe, B. S., M.A.(Oxon.), Hon.A.R.I.B.A., D.L., J.P.; Director, Franco-British Society; Member, Central Housing Advisory Committee (Ministry of Health); Honorary Treasurer, Building Industries National Council. Address: Maresfield, Yateley, Camberley, Surrey.

Tripp, Sir Alker, *C.B.E.*; Assistant Commissioner of Police, Scotland Yard; Assistant Commissioner of Police in charge of Traffic; Member, London and Home Counties Traffic Advisory Committee and Planning Committee (Royal Academy); Author, *Road Traffic and its Control*, etc. Address: Lee Cottage, Thames Ditton, Surrey.

Tubbs, Ralph, A.R.I.B.A.; Vice-President, Architectural Association; Member of Executive Committee, Royal Institute of British Architects; Associate Member of Council, Royal Institute of British Architects; Author, *Living in Cities*, etc. Address: 8, Clarges Street, London, W.1.

Tyrwhitt, Jaqueline, A.I.L.A., A.M.T.P.I.; Director of Research, Association for Planning and Regional Reconstruction; Director, School of Planning for Regional Development; Contributor *Planning and Reconstruction*, 1946. Address: 36, Gordon Square, London, W.C.1.

Voyce, E. R., M.T.P.I., Dip.T.P.; Regional Planning Officer, Ministry of Town and Country Planning, Region No. 2. Address: 173, Woodhouse Lane, Leeds.

Waide, W. L., D.I.P., A.M.I.P.I.; Regional Planning Officer, Cambridge (Ministry of Town and Country Planning); Member, Town Planning Institute Council and Town and Country Planning Association Council; Honorary Organising Secretary, Town and Country Planning Summer School. Address: Block H., New Court, Trinity College, Cambridge.

Walker, R. B., F.R.I.B.A., M.T.P.I., Dip.T.P.; Regional Planning Officer, Southern Region (Ministry of Town and Country Planning). Address: 61, Western Elms Avenue, Reading.

Wallace, William Robert, Chairman, Housing Committee of Newcastle-upon-Tyne since 1935. Address: 192, Moorside, Newcastle-upon-Tyne.

Wardill, H. R., F.S.I., M.T.P.I.; Regional Planning Officer, South-Eastern Region (Ministry of Town and Country Planning). Address: 24, Calverley Park, Tunbridge Wells.

Warter, Sir Philip; Controller-General, Factory and Storage Premises, Board of Trade. Address: Board of Trade, Millbank, London, S.W.1.

Watts, G. Goodard; Chairman of Propaganda Committee and Member, Council and Executive Committee, Town and Country Planning Association. Address: 34, Ebury Street, London, S.W.1.

Wells, Henry W., F.S.I., F.A.I.; Chief Estate Officer, Ministry of Town and Country Planning. Address: c/o Ministry of Town and Country Planning, 32, St. James's Square, London, S.W.1.

West, Edward George, B.Sc. (Hons.), Ph.D.; Technical Director, Aluminium Development Association since 1941; Contributor, *Planning and Reconstruction*, 1946. Address: 63, Temple Row, Birmingham, 2.

Westwood, The Rt. Hon. J., M.P.; Secretary of State for Scotland. Address: Fielden House, 10, Gt. College Street, London, S.W.1.

Whiskard, Sir Geoffrey, *K.C.B., K.C.M.G.*; Permanent Secretary, Ministry of Town and Country Planning. Address: 32, St. James's Square, London, S.W.1.

Whittick, Arnold; Lecturer to H.M. Forces on Planning and Housing; Chairman, Research Committee, Beckenham Planning Group; Author, *Symbolism in Design*, etc.; Editor, *National House Builder* and *Building Digest*. Address: 59, Ernest Grove, Beckenham, Kent.

Whyte, Sir William Edward, *O.B.E.*, F.R.S.E.; President, Scottish National Housing and Town Planning Council and Town and Country Planning Association (Scotland); Clerk and Treasurer, Clyde Valley Regional Planning Advisory Committee; Member, Royal Commission on Location of Industry and War Damage Commission; Past Chairman, Town Planning Institute, Scottish Branch; Author of many works on Scottish local government and housing and planning. Address: Balgay, Uddingston, Glasgow.

Wilkie, James, M.A., F.R.S.E.; Secretary Carnegie United Kingdom Trust; Member, Executive Committee of Land Settlement Association, National Central Library; National Federation of Young Farmers' Clubs and Scottish Council of Social Service. Address: Carnegie United Kingdom Trust, Comely Park, Dunfermline, Fife.

Williams-Ellis, Clough, *M.C.*, F.R.I.B.A., M.T.P.I., F.I.L.A.; Chairman, Council for the Preservation of Rural Wales; Member, Council for Welsh Reconstruction and National Parks Committee; Town Planning Consultant to Caernarvonshire, Bewdley, Redditch, Littlehampton, Weston-super-Mare and Hunstanton. Address: Romneys House, Hollybush Hill, Hampstead, London, London, N.W.3.

Williamson, D. B., B.Sc.; Chairman, Planning Forum of the Town and Country Planning Association; Author of various planning publications. Address: 8, Woodside Avenue, Walton-on-Thames.

Wilson, G. C., F.R.I.B.A.; Assistant Director of Works, Ministry of Works. Address: 31, Medway Court, London, N.W.11.

Winston, Denis, M.A.; Senior Architect, Ministry of Health. Address: Stormont, Belfast.

Woolton, The Rt. Hon. Lord, *D.C., D.L., C.H.*, B.Sc., M.A., LL.D.; Minister of Reconstruction, 1943-5; Minister of Food, 1940-3. Address: 68, Brook Street, London, W.1.

Wycherley, R. Bruce, F.C.I.S.; Chairman, Building Societies Association; Joint Managing Director, Abbey National Building Society; Contributor, *Planning and Reconstruction*, 1946. Address: Abbey House, Baker Street, London, N.W.1.

Yerbury, F. R., A.R.I.B.A.; Director, Building Centre. Address: 9, Conduit Street, London, W.1.

Classified List of Advertisers

ACID-PROOFING PRODUCTS — Page
Prodorite, Ltd. . 33

ALUMINIUM
Northern Aluminium Co. Ltd. 27

ASBESTOS
Bell's Asbestos & Engineering Ltd 13

ASPHALT
Val de Travers Ltd 41

ASSOCIATIONS & COUNCILS
Aluminium Development Association 64
British Cast Iron Research Association 42
British Electrical Development Association *facing page 260*
English Joinery Manufacturers Association Incorporated 66
The British Gas Council 51

BOOKS
George Allen & Unwin Ltd. 34
Todd Publishing Co., Ltd. 764

BROADCAST RELAY
Broadcast Relay Service Ltd. 62

BUILDING CONTRACTORS
Henry Boot & Sons Ltd. 21
Hampton & Sons Ltd. 52
Kent & Sussex Contractors Ltd. 30

CEMENTS
Thos. Ward Ltd. 754

CONCRETE
F Bradford & Co., Ltd. 31

DRAFTING MACHINES
The Mavitta Drafting Machines Ltd. 760

ELECTRIC CLOCKS
Smiths English Clocks Ltd. 23

ELECTRICAL ACCESSORIES
S. O. Bowker Ltd. 38
J. A. Crabtree & Co. Ltd. 25
C. H. Parsons Ltd. 15

FENCING (Wire)
Penfold Fencing Ltd. 39

FIRE PROTECTION
Bell's Asbestos & Engineering Ltd. 13

FLOOR FINISHES
The Granwood Flooring Co. Ltd. 6

FLOORING — Page
Hollis Bros & Co Ltd. 45
The North British Rubber Co. Ltd. 70
Ruberoid Co. Ltd. 5

FOLDING BEDS
Greaves & Thomas Ltd. 46

GARDEN CITIES
First Garden City Ltd (Letchworth) 18
Welwyn Garden City Ltd. 11

GAS INDUSTRY—PLANT & EQUIPMENT
W. C. Holmes & Co Ltd. 756

GLASS INDUSTRY
Pilkington Bros Ltd 34

HEATING
Allied Ironfounders Ltd. 37
British Trane Co. Ltd 20
Crane Ltd 16 & 17

INSULATING MATERIALS
Bell's Asbestos & Engineering Ltd 13
Celotex Ltd 8
Ruberoid Co. Ltd 5
J. H. Sankey & Sons Ltd 40
Versil Ltd 35

INTERIOR DECORATION
Hampton & Sons Ltd 52

KITCHEN EQUIPMENT
Acme Wringers Ltd. 56
Belling & Co Ltd 29
Easiwork Ltd. 748
The Esse Cooker Co. 750

METAL WINDOWS & DOORS
Crittall Manufacturing Co Ltd *Back Cover and jacket*
Henry Hope & Sons Ltd. 60
John Thompson Beacon Windows Ltd. 10

PIPELINE FITTINGS
Crane Ltd. 16 & 17

PLANT CONTRACTORS (for Excavation and Demolition)
Abelson & Co. (Engineers) Ltd. 50

PLASTER
The British Plaster Board Ltd 32

PLASTICS
Lacrinoid Products Ltd. 43
Tenaplas Ltd. 19

Classified List of Advertisers—*contd.*

PREFABRICATION (Building) — Page
Uni-Seco Structure Ltd. 68

PREFABRICATION (Contractors)
Accles & Pollock Ltd. 26
British Plaster Board Ltd. 32
Celotex Ltd. 8

PRESSED STEEL TANKS
Braithwaite & Co. Ltd. 9

REFRIGERATORS
Electrolux Ltd. . . . 2
Pressed Steel Co. Ltd. .. 28

REINFORCEMENT (Steel Bars, Wire and Mesh)
Birmetals 14

REMOTE CONTROL
Arens Controls Ltd. 48

ROOFING
Ruberoid Co. Ltd. 5
C. Davidson & Sons Ltd. 24

RUBBER FLOORING
The North British Rubber Co. Ltd. . 70

SHEET METAL WORKS
J. Gardner & Co. Ltd. 752

SINK UNITS
Stainless Steel Sink Co. Ltd 4

STEEL SCAFFOLDING
Mills Scaffolding Co. Ltd. 36

STEEL STAMPINGS FOR FURNITURE MANUFACTURERS — Page
Greaves & Thomas Ltd. 46

STEEL WIRE ROPES
Whitecross Co. Ltd. 760

STRUCTURAL STEELWORK
Dawnays Ltd. 49
Dowsett Engineering Construction Ltd. .. 12
J. Gardner & Co. Ltd. 752
Thos. Ward Ltd. 754

TIMBER & JOINERY
English Joinery Manufacturers Assen. Incorporated 66
Hollis Bros. & Co. Ltd. .. . 45
The Midland Woodworking Co. Ltd . 47
Travis & Arnold . . . 44
Venesta Products 54

VENTILATING EQUIPMENT
Greenwood's & Airvac Ventilating Co. Ltd. 7
Colt Ventilation Ltd. 58

WALL BOARDS
British Plaster Board Ltd. .. 32
Celotex Ltd. . . . 8
P.L.M. Board Co. Ltd. 22

WATER HEATERS
Aidas Electric Ltd. . 762
Ascot Gas Water Heaters Ltd. . 72
Ranalah—Gas Water Heaters 758

Made and Printed in Great Britain by C. Tinling & Co., Ltd., Liverpool, London, & Prescot