



*putting a different complexion
on the subject...*

The trouble with "applied complexions"—both in the case of Genus Femina, as also with Buildings—is their impermanence when exposed to the ravages of the weather.

Periodically—applied "cosmetics" in the case of a Building—whether polishing, lacquering or painting of metal parts, all cost money.

Hence the advantages of REYNOLDS Light Alloy Sheet and Strip for the facades of Buildings, and with a PERMANENT "complexion" needing no renewal as the years pass by.

Reynolds Light Alloy Sheet and Strip can be supplied in plain, polished or anodically-coloured finish—all corrosion-resistant and requiring minimum effort in periodical cleaning.

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REYNOLDS TUBE CO., LTD. (LIGHT ALLOY DIVISION) &
REYNOLDS ROLLING MILLS LTD.
BIRMINGHAM, II.

Consult before deciding

ALL electrical installations provided by Telephone Rentals conform with the strictest engineering standards. We have the strongest possible reason for assuring this, since the T.R. Services referred to below are normally rendered on terms that throw the whole responsibility and cost of maintenance upon our own shoulders for a term of years.

We do not claim that faults never occur; but we have skilled maintenance staffs in all parts of the country, whose work is organised on a basis of periodical routine inspection. As a consequence the fault rate is very low and our maintenance resources enable us to attend to all reported faults at short notice—never exceeding 24 hours.

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Microphones and Loud
speakers as required.



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Synchronised Time—
uniform to the eye, the
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Relieves fatigue, increases
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LTD.

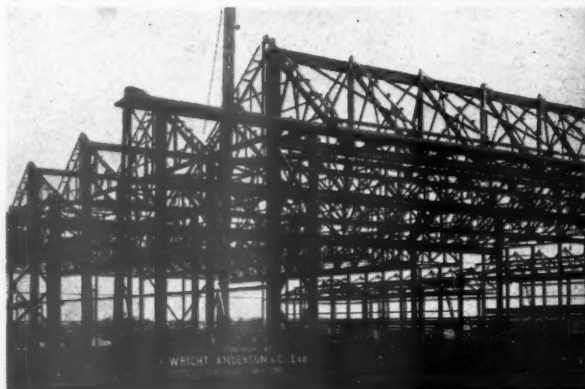
Head Office: KENT HOUSE • KNIGHTSBRIDGE • LONDON, S.W.7

Installation Companies in London, Birmingham, Bristol, Cardiff, Leeds, Manchester, Newcastle-on-Tyne, Sheffield, Glasgow, Belfast, Dublin; and Maintenance Engineers throughout the Country.



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Experience at work involves the creation of new ideas in design and the ability to translate those ideas into practical realities. If your post-war schemes and problems demand greater facilities for output, our staff of experienced engineers and designers will be glad to be of service in helping you to secure the utmost efficiency for your projects. We are fully equipped to deal with light, medium and heavy structures, and bridge work, welded or riveted.

You are invited to consult us on your post-war problems.

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This is

Corrugated,
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TRADE MARK

*the new roof lighting
material*

'Perspex', the transparent plastic sheet famous for its service in British aircraft, is now available in corrugated form for building. Shaped to match standard types of metal and asbestos roofing sheets corrugated 'Perspex' has many advantages over ordinary roof glazing. It is tough and non-splinterable. It is lighter in weight. Frames and lead flashing are not needed and corrugated 'Perspex' sheets are easily transferable from one position to another in roofs should alterations be desirable. Corrugated 'Perspex' weathers well and has high resistance to shocks and vibrations. For full information please write to



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PRESS GANG

In factories, institutions, schools and offices in most parts of the country there is a press gang at work saving fuel. But it is an unusually willing and well-behaved press gang.

These Prestex non-concussive self-closing taps have to be pressed to serve and as soon as you stop pressing they stop serving! That's the beauty of them as water savers.

With these Prestex self-closers on the job you need no longer worry about the thoughtless people who always forget to turn off the tap.

The use of these taps is approved by most Water Companies throughout the country (including the Metropolitan Water Board).

Prestex

PEGLERS LTD.

BELMONT WORKS, DONCASTER

and 58 SOUTHWARK STREET, LONDON S.E.1



Comfort heating and HOT WATER

This modern gas-fired installation at the Bristol Aeroplane Company's works consists of three boilers equipped with automatic temperature regulators, constant gas pressure governors and special silencers.

This plant feeds a system of Invisible Embedded Warming Panels throughout the building, which is extensively insulated with 2 in. slab cork. A minimum temperature of 65°F. is maintained by a modulator type of regulating valve.

The water-to-water calorifier with automatic temperature control is capable of heating 300 gallons per hour from 50°F. to 150°F.

Heat for the inlet ventilating system is supplied by high pressure mains direct from boiler plant to heater batteries, automatically controlled for temperature.

The whole system operates without attention beyond occasional cleaning of burners and setting of thermostats. Tests show that gas consumption is very reasonable.

For clean, quick, controllable heat



the choice is GAS

BRITISH GAS COUNCIL 1 GROSVENOR PLACE SW1

The Machines...



*that make
profit out of waste!*

The "Emperor" Presses shown in this illustration are being used for the manufacture of Sand Lime Bricks. They also give excellent results in manufacturing bricks from waste materials such as shale, clinker, ashes, etc. "Emperor" Presses are made in various sizes capable of producing from 1,200 to 2,400 bricks per hour and of exerting a pressure of from 100 to 200 tons. We have been manufacturing Brickmaking and Briquetting plant for over 50 years and undertake the erection of complete brick works, including the constructional work. We're always ready to give the benefit of our experience to people who make bricks or are interested in doing so.

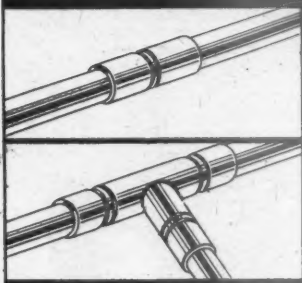
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AND COMPANY LTD., LEIGH, LANCASHIRE

LONDON OFFICE: 82 KING WILLIAM STREET, E.C.4.

TELEPHONE: MANSION HOUSE 1286

THE MBL CAPILLARY JOINT

(patent applied for)



Unsightly joints abolished by this new copper capillary joint, a production having behind it the workmanship of an organisation skilled in the manufacture of non-ferrous metal small-ware. Soft solder, either in paint, or stick form, is used for jointing. Our light gauge COPPER TUBE is, of course, known everywhere.

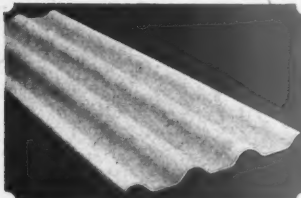
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BIRMINGHAM, 18

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**AND THUS EMINENTLY
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SHEETS**

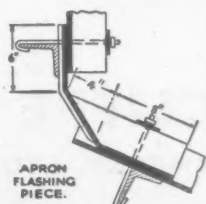
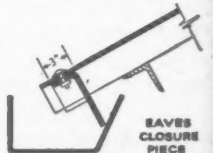
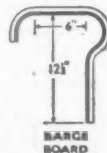
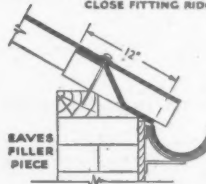
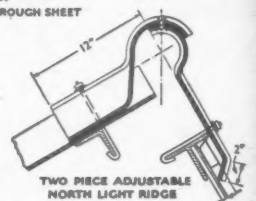
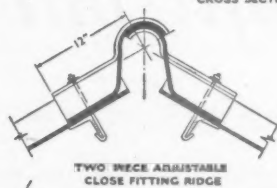
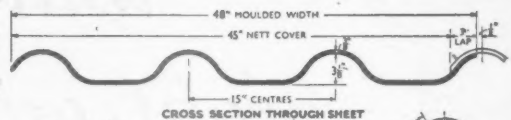
DETAILS

1. Made in lengths which are multiples of 6' and are stocked up to 10' 0" lengths. Standard width, 48". Standard thickness, 3/4".
Made and stocked in: Grey, Red, Russet Brown and Green.
2. Overall depth of corrugations, 3 1/2".
3. Actual cover of a 7' 0" sheet as laid, 6' 6" x 3' 9".
4. Spacing of purlins up to 6' 6" centres. Horizontal supports for side sheeting up to 6' 6" centres if sheets are fixed vertically.
5. Number of square yards of sheeting per ton is approximately 100.
6. Minimum end lap of roofs, 6". Side lap, 3".
7. The weight of 100 sq. ft. as laid for roofing with fixing accessories is approximately 455 lbs., or 4 1/2 lbs. per sq. yd.

Fix to steel purlins with hook bolts, with special galvanised diamond and bitumen washers, and to timber purlins with 6" mushroom head drive screws.

FIXING

ACCESSORIES
Close-Fitting Ridge Capping.
Plain Wing Ridge Capping.
North Light Ridge Capping.
Barge Boards.
Ridge Finials.
Eaves Filler Pieces.
Eaves Closure Pieces.
Hip Tiles.
Dormer Ventilators.
"S" Type Louvre Blades.
"Z" Type Louvre Blades.
Apron Flashing Pieces.
Corner Pieces.
Soaker Flanges.
Dead Lights.
Opening Lights.
Curved Sheets.
Curved-End Sheets.
Window Units, etc.



AREA & WEIGHT TABLE			COVERING CAPACITY			
SIZE	AREA IN SQ. YDS.	APPROX. WEIGHT IN LBS.	No. OF SHEETS	COVERING WIDTH	No. OF SHEETS	COVERING WIDTH
10' 0"	4.444	157.87	1	4' 0"	14	52' 9"
9' 6"	4.222	149.98	2	7' 0"	15	56' 6"
9' 0"	4.000	142.08	3	11' 6"	16	60' 3"
8' 6"	3.778	134.19	4	15' 3"	17	64' 0"
8' 0"	3.556	126.30	5	19' 0"	18	67' 9"
7' 6"	3.333	118.40	6	22' 6"	19	71' 6"
7' 0"	3.111	110.51	7	26' 3"	20	75' 3"
6' 6"	2.889	102.62	8	30' 0"	21	79' 0"
6' 0"	2.667	94.72	9	34' 0"	22	82' 9"
5' 6"	2.444	86.83	10	37' 6"	23	86' 6"
5' 0"	2.222	78.94	11	41' 3"	24	90' 3"
4' 6"	2.000	71.04	12	45' 0"	25	94' 0"
4' 0"	1.778	63.15	13	49' 0"	26	97' 9"

FOR COMPLETE TECHNICAL DETAILS AND METHOD OF FIXING WRITE FOR CATALOGUE SECTION 25

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Painting by Doris Zinkeisen

This Present Age . . . 8

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unusual applications in practice. Developments in engineering result from the discovery of new alloy steels and collaboration with all specialised engineering research is fostered. There is free interchange of knowledge with the many national, official or industrial research organisations both in this country and elsewhere in the world. The latest discoveries in all branches of science are thus available for the many planned investigations in our own laboratories and the vigorous development of new ideas is regarded as a realistic measure for the greater prosperity of the nation.



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In the many new buildings which will be required in this country and on the continent after the war, Invisible Panel Warming will inevitably play an important role. The inherent success of this all British invention is the result of the low temperature employed in establishing the final comfort conditions. It affords many advantages and these may be broadly classified as follows:—

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CRITTALL, RICHARD & COMPANY, LTD., Aldwych House, London, W.C.2.	NORRIS WARMING CO. LIMITED, Burley House, Theobalds Road, London, W.C.1.	YOUNG, AUSTEN & YOUNG, LTD., 19, Buckingham Street, Strand, London, W.C.2.

or to the Secretaries, Invisible Panel Warming Association, Pinners Hall,
Austin Friars, London, E.C.2. 'Phone: London Wall 4286

Issued by the
INVISIBLE PANEL WARMING ASSOCIATION
formed to promote and to exchange and codify technical information

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ALTHOUGH the use of Mazda Fluorescent Lamps is mainly industrial at the moment, their versatility and efficiency are such that they will be in universal demand when restrictions are removed.

BTH Research has played no small part in originating and developing fluorescent lighting, and the amazing Mazda Fluorescent Lamp gives a quality of light almost indistinguishable from daylight. It is, therefore, of immense value as a means of reinforcing daylight in those parts of a building remote from the windows, thereby increasing the effective floor space available.

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Our Lighting Advisory Service will be ready, when released from present restrictions, to place their experience and technical resources at your disposal and to collaborate in producing the most modern, efficient and architecturally-pleasing lighting that research and science can achieve.

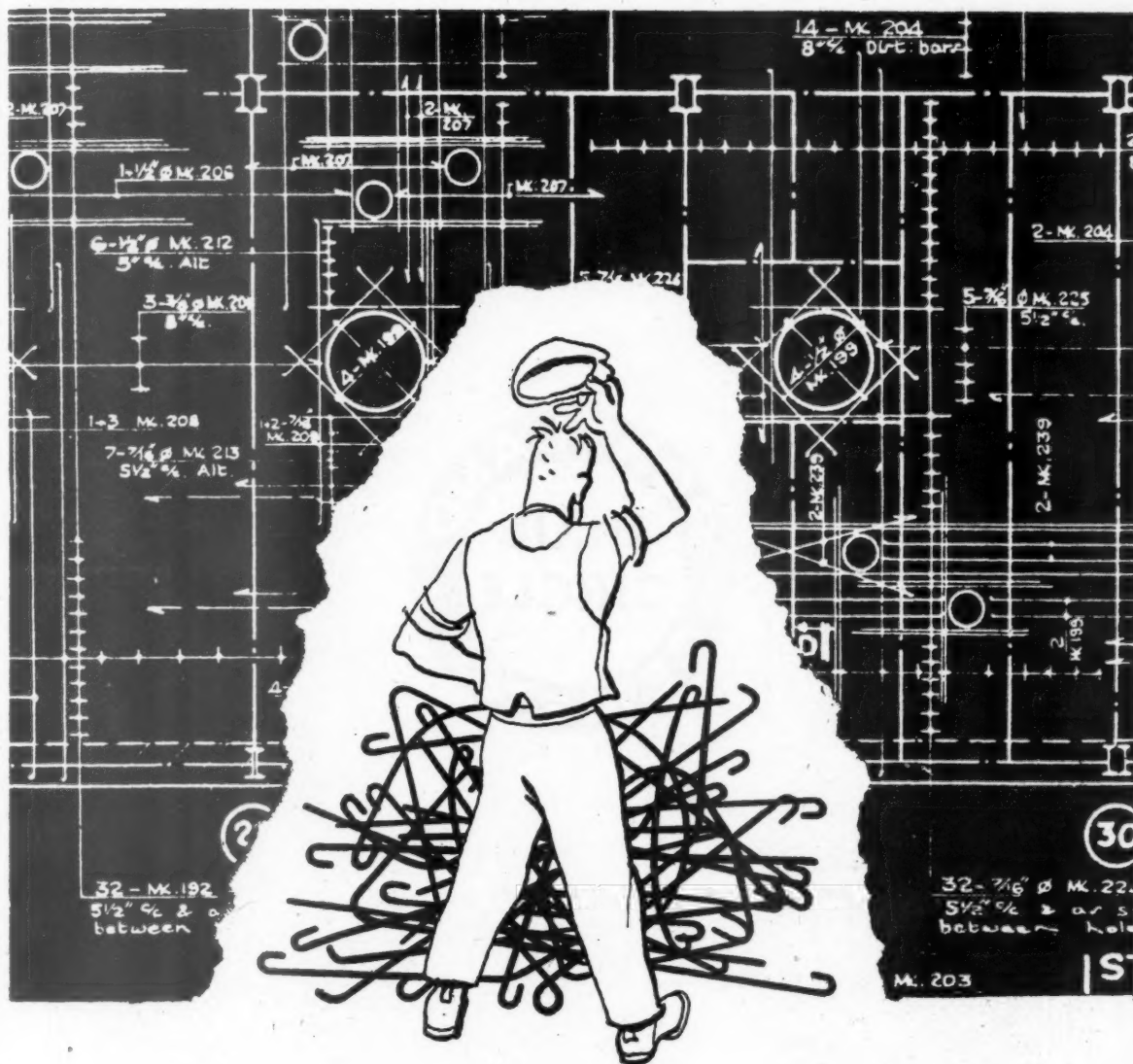
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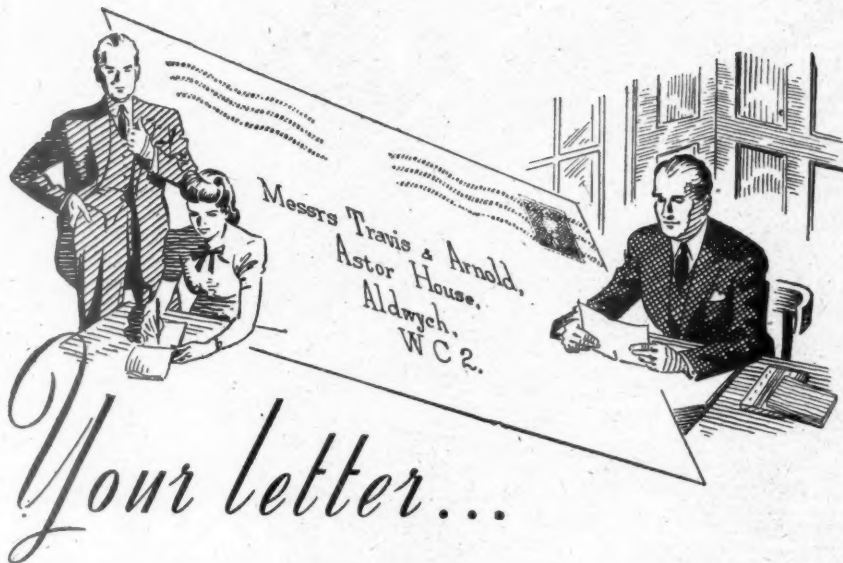
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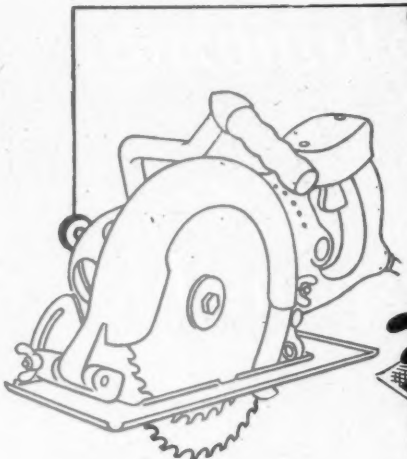
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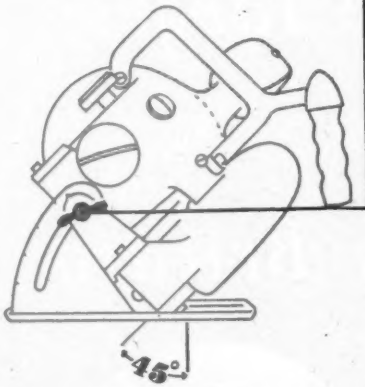
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TELEPHONE : BATTERSEA 2525 (6 LINES).

Straight or Angle Cuts



The 'Ripsnorter' Saw is easily adjustable for depth of cut.



Angle cuts can be made from 0-45 degrees by sliding the saw table into required position.



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Get to work with a 'Ripsnorter' Saw—it's ten times faster than hand sawing and will simplify any sawing job.

Straight or angle cuts are easily obtained by simple adjustments whether the material is timber, brick or tile. A variety of saw blades adapt the 'Ripsnorter' for cutting corrugated iron, non-ferrous metals and old flooring with occasional nails. Add an abrasive disc, and the 'Ripsnorter' will cut through all materials normally found in a builders' yard.

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Time is
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WIMPEYS AT WORK

Scientific methods in planned Building construction



CHECKING PERFORMANCE WITH PROMISE

In the Operations Control Room at Wimpey Headquarters every job is charted and the sequence of each operation can be checked at a glance. This day-to-day control of progress from the preliminary excavations to the final stages is a guarantee that performance is being constantly matched with promise.

is scheduled to begin at the right moment and to end as precisely, by the movement of materials from depot to site. Time in building is money—big money. Time saved is money saved but it means also better building, for both men and materials are best utilised by planned organisation.

In the Wimpey organisation, building starts with intelligent anticipation of everything in the complete job—putting all the skill and brains into the thinking before the building operations actually begin. Men and materials, methods and machinery, each of these four important factors is picked with scrupulous care.

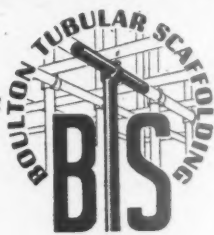
Wherever science can help in the laboratory in research, in organisation, it is utilised to the full.

Sixty years of steady growth have taken Wimpeys to the front rank of a great industry.

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Safe, Simple, Speedy.

The design of Boulton Couplers combine safety with speed and will stay put if only hand-tight. When a fixed-cross coupler (most commonly used) is on the upright the lid forms a ledge for the other tube to rest on. This saves a lot of time and labour in erection as well as in dismantling.

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Solve your scaffolding problems by specifying

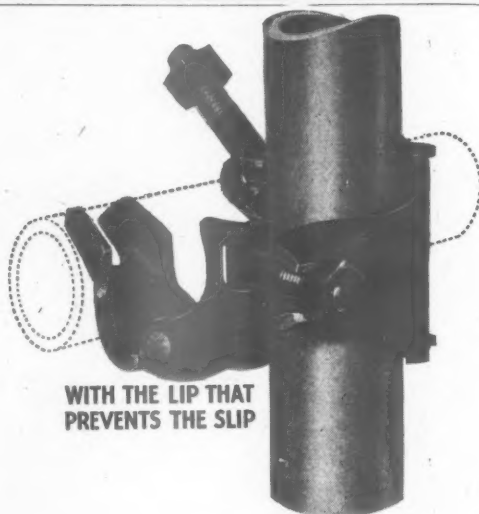
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Associated Company: BUCKLEYS LTD. HANDSWORTH, BIRMINGHAM. 'Phone: Smethwick 0046.

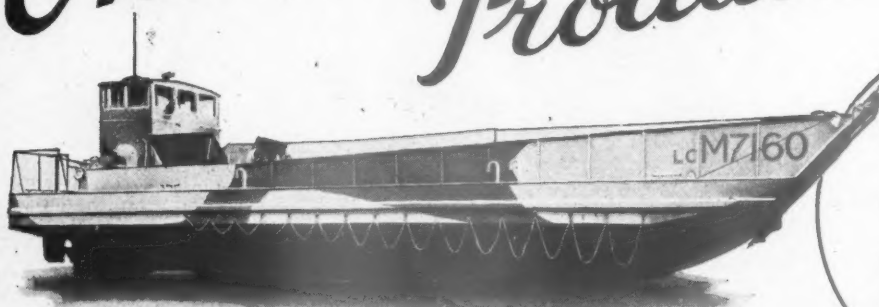


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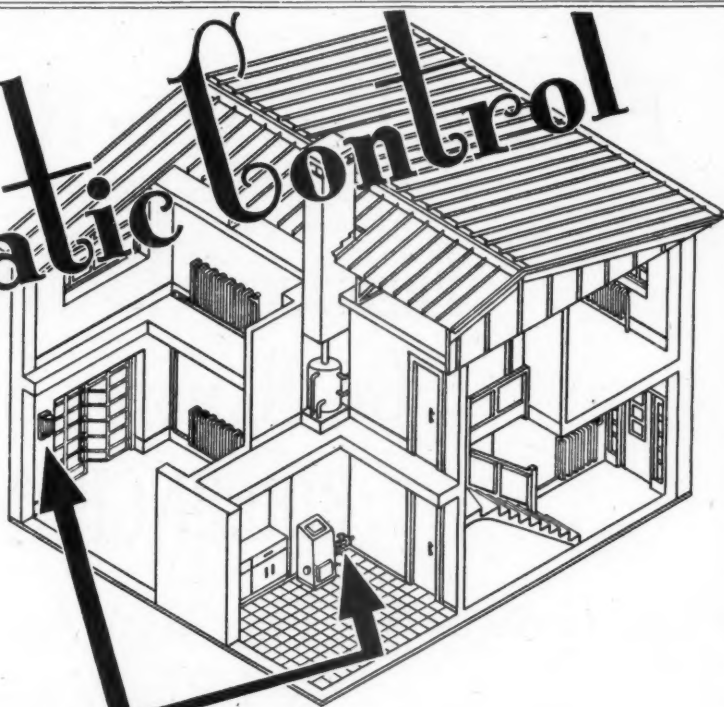
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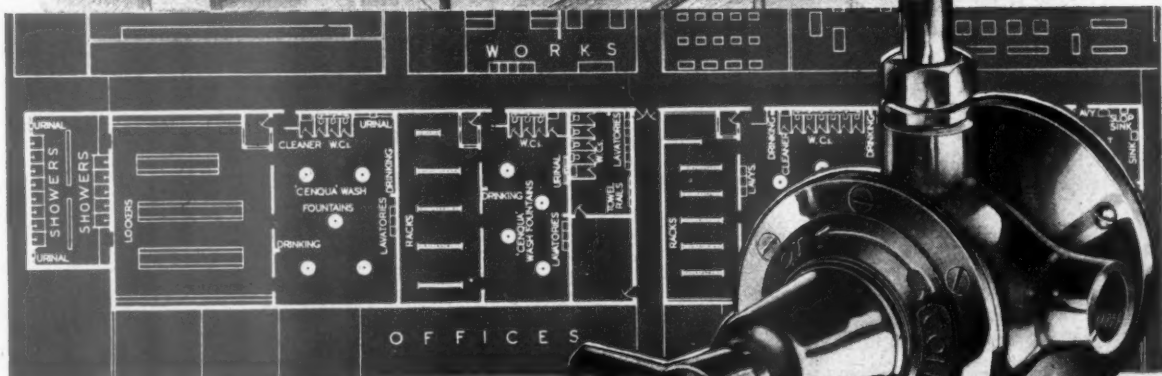
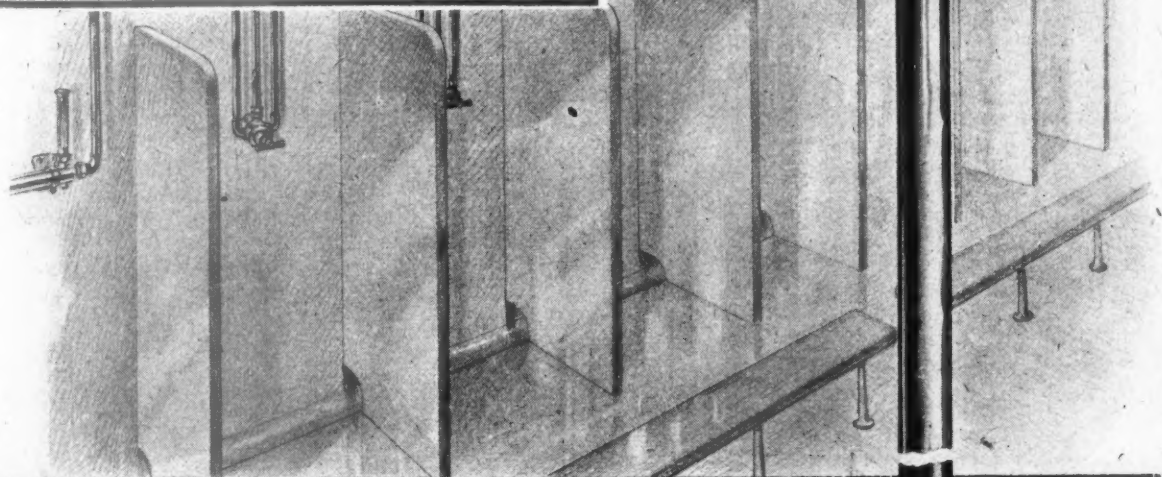
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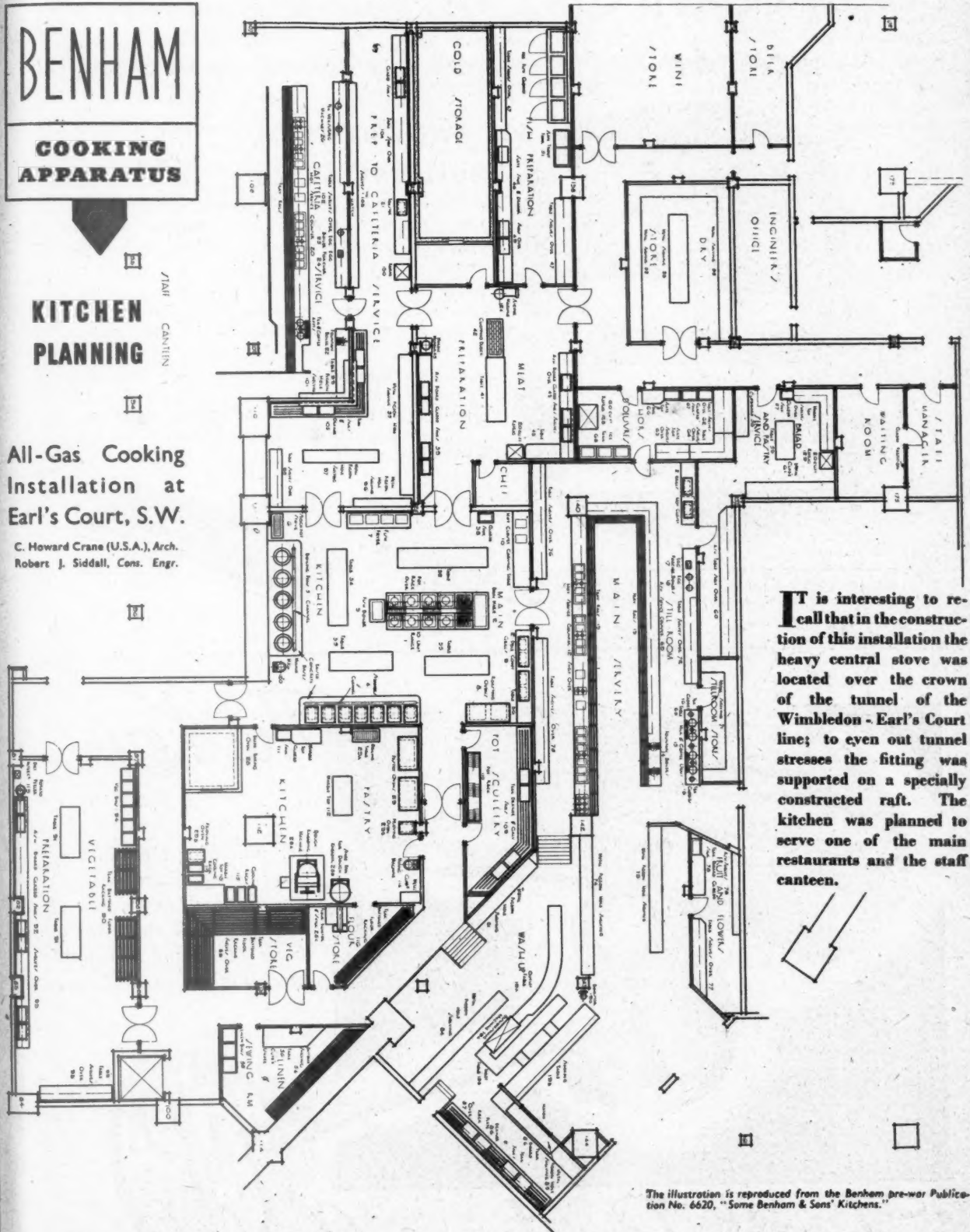
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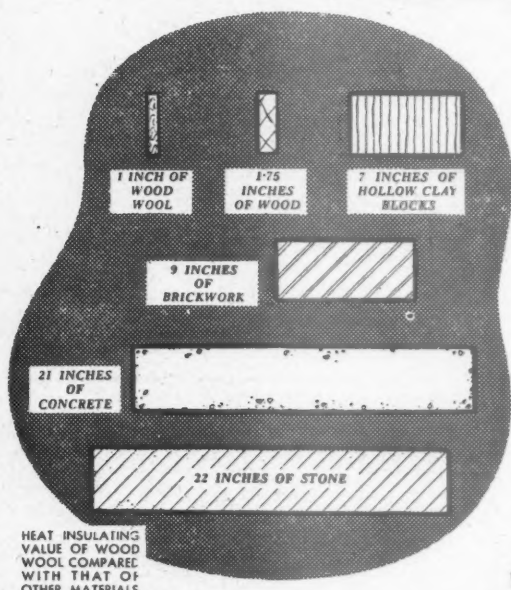
It is interesting to recall that in the construction of this installation the heavy central stove was located over the crown of the tunnel of the Wimbledon - Earl's Court line; to even out tunnel stresses the fitting was supported on a specially constructed raft. The kitchen was planned to serve one of the main restaurants and the staff canteen.

The illustration is reproduced from the Benham pre-war Publication No. 6620, "Some Benham & Sons' Kitchens."

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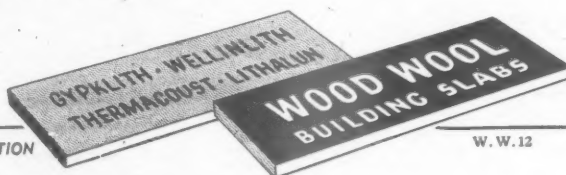
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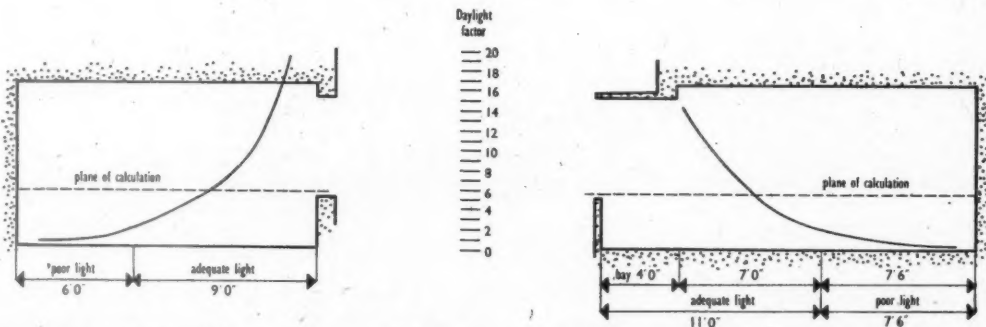
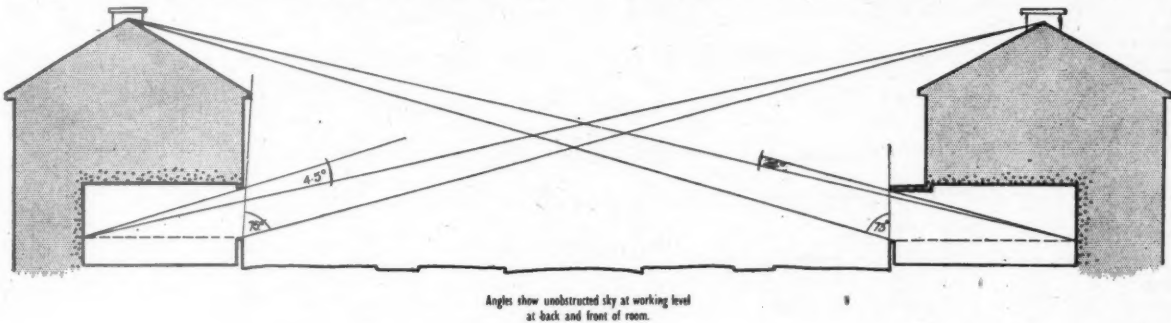
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BUILDING FOR DAYLIGHT

No. 13 FACTS FOR ARCHITECTURAL STUDENTS

DAYLIGHTING IN HOUSES: The position and size of windows in rooms, as well as the transmission powers of the window glass, determine the quality of daylight in interiors. In the examples given here, the method used for

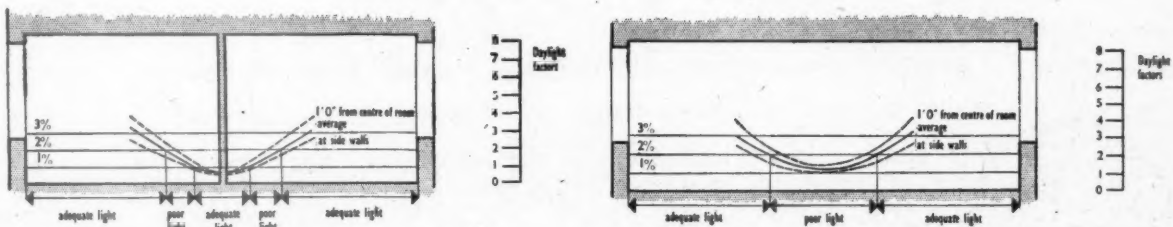
calculating daylight factors takes no account of reflected light, therefore in all examples the actual daylighting would be higher than that indicated. The figures given represent the percentage of daylight available from the completely unobstructed sky.



(1) LIGHTING THE LIVING ROOM. (Above): Projecting a bay window in front of the general building line does not improve the overall lighting in the average room. The effect is to deepen the room, giving a high intensity of light near the window and in the projecting bay, but at the same time greatly increasing an inadequately lit area at the back of the room. The normal window area for such a room with windows on the short wall, does not give adequate lighting

at the back of the room, even when no bay is used. Here a terrace was shown. In semi-detached or detached development the daylighting would be improved.

(2) THE "THROUGH" LIVING ROOM. (Below): The gain in daylighting in the centre of the room comes from having windows at both ends, an effect increased in practice since these calculations take no account of sunlight.



This is published by Pilkington Brothers Limited, of St. Helens, Lancashire, whose Technical Department is always available for consultation regarding the properties and uses of glass in architecture.

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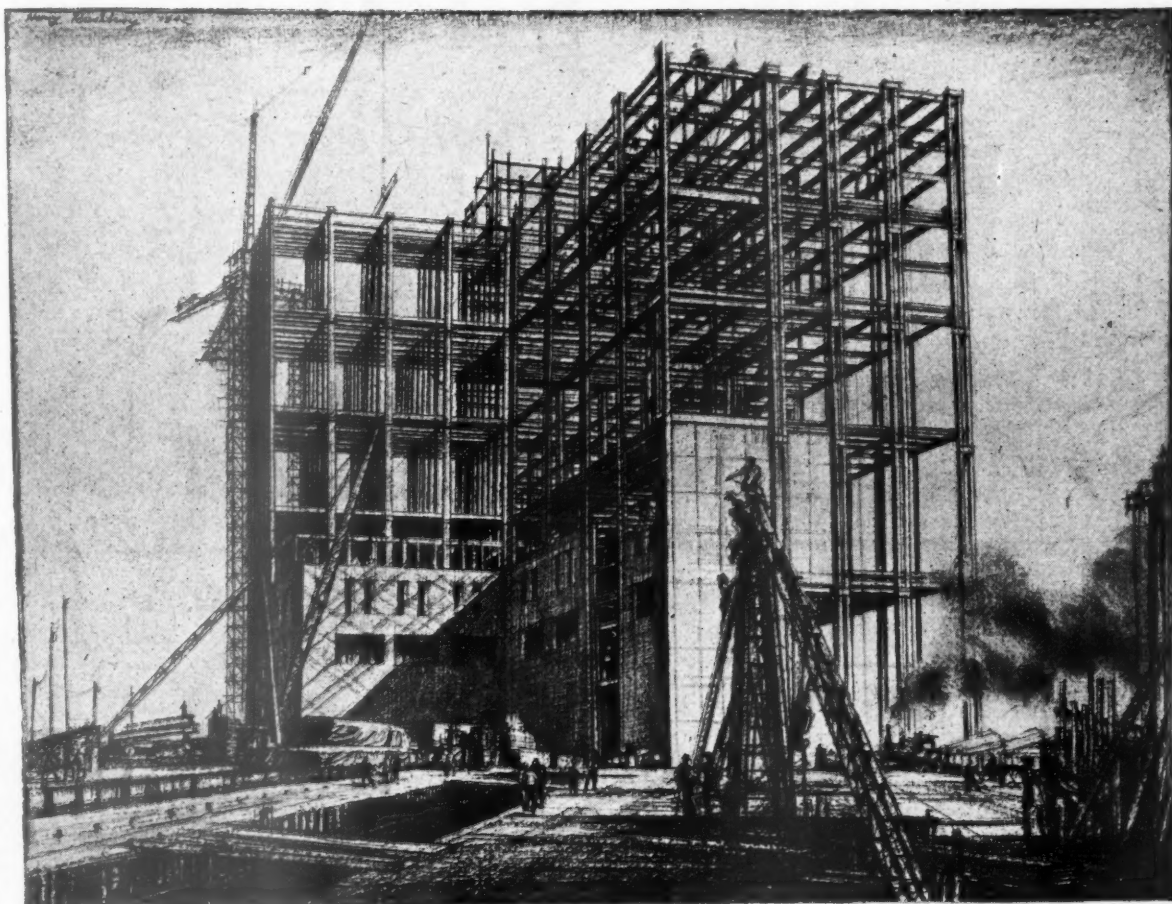
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	2' 9" x 6' 6" x 1 $\frac{3}{4}$ " finish.	No. 3X—Three-Panel	No. 2XG—Two-Panel, Top Glass.
Casement Doors ..	2' 6" x 6' 6" x 1 $\frac{3}{4}$ " finish.	No. 4X—Four-Panel	No. 3XG—Three-Panel, Top Glass.
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	Pairs 3' 10" x 6' 6" x 1 $\frac{3}{4}$ " finish.		
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		<div> <div>No. 30—Single Light.</div> <div>No. 40—Single Light.</div> </div>	
		<div> <div>(Lay Panel below)</div> <div>(Lay Panel below)</div> </div>	
		<div> <div>No. 50—Three Lay Bars.</div> <div>No. 70—Three Lay Bars.</div> </div>	
		<div> <div>No. 80—Two Lay Bars.</div> <div>No. 90—Two Lay Bars.</div> </div>	
		<div> <div>(Lay Panel below)</div> <div>(Lay Panel below)</div> </div>	
		<div> <div>No. 6X—Six Panels in each Leaf.</div> <div>No. 6XG—Similar, but Top Two Panels in each Leaf for Glass.</div> </div>	

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Tarran Industries, Ltd. are at present engaged on Ministry of Works contracts for 11,000 temporary houses. Of these, 1,000 houses in the Hull programme will be manufactured by autumn, and erected before the end of the year.

At the same time, the organization of the Company is being extended to accommodate a greatly increased future production of Kingston factory-made permanent homes.

1 The Company at present operates factories at Hull, Thorpe, Middlesbrough and Bellshill, Glasgow.

2 The Company proposes to acquire or erect a further seven factories in carefully chosen districts dividing the country into regions. This makes possible the full utilization of local labour and minimizes transport difficulties.

3 The Kingston method of construction is based on the principle of producing the complete house in the factory and reducing site work to a minimum.

4 The Kingston method of construction is not tied to any one material. Materials are used according to their suitability.

5 Kingston factory-made permanent homes offer a diversity of colour and texture in the outer skin in order that they may be in keeping with varying local traditions and landscapes.

6 Interior equipment is efficient and comprehensive and great care has been given to the planning of the kitchen and bath room. Every home will have constant hot water and an open fire in the living room.

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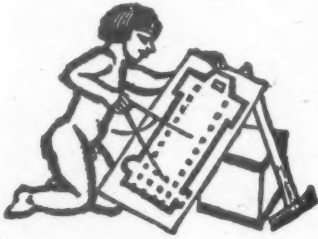
Local Authorities desiring further information should write to:

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In common with every other periodical this JOURNAL is rationed to a small part of its peacetime needs of paper. Thus a balance has to be struck between circulation and number of pages. We regret that unless a reader is a subscriber we cannot guarantee that he will get a copy of the JOURNAL. Newsagents now cannot supply the JOURNAL except to a "firm order."

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DIARY FOR SEPTEMBER OCTOBER AND NOVEMBER

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

BIRMINGHAM. *Modern Building Tools Exhibition.* At Big Top Site, New Street, (Sponsor, MOW.) OCT. 9-13

BRENTWOOD. *Country Life and Country Needs Exhibition.* At Brentwood School. (Sponsor, BIAE.) SEPT. 27-29

BRISTOL. *Modern Building Tools Exhibition.* At Black Boy's Hill. (Sponsor, MOW.) OCT. 23-27

CAMBRIDGE. *Institute of Welding, East Counties Branch. Visit to Welding Research Laboratory, Cambridge.* 2.30 p.m. SEPT. 29

EDINBURGH. A. Stephenson and D. Llewellyn. *Welding, Past, Present and Future.* At Heriot Watt College, Edinburgh. (Sponsor, Institute of Welding, East Scotland Branch.) 7.30 p.m. SEPT. 28

FINSBURY. *NALGO Exhibition.* At the Town Hall. (Sponsor, BIAE.) SEPT. 27-OCT. 1

GRAVESEND. *NALGO Exhibition.* SEPT. 27-29

HOMERTON. *NALGO Exhibition.* At Homerton College. (Sponsor, BIAE.) SEPT. 27-OCT. 8

ILKLEY. *NALGO Exhibition.* At the Grammar School. (Sponsor, BIAE.) OCT. 1-8

IPSWICH. F. Clark. *Design and Welding Techniques.* (Sponsor, Institute of Welding, East Counties Branch.) OCT. 10

LONDON. *NALGO Exhibition.* At the YWCA. (Sponsor, BIAE.) OCT. 6-13

NALGO Exhibition. At the Geffrye Museum, Kingsland Road, E. (Sponsor, BIAE.) DEC. 3-15

Dr. F. Klingender. *Socialist Realism: The Aesthetics of Soviet Architecture.* Second of a series of introductory lectures to the study of Soviet architecture. At the RIBA, 66, Portland Place, W.1. Chairman, E. J. Carter. Tickets from SCR Architecture Group, 98, Gower Street, W.C.1. Admission free to members of the Group, non-members 1s. 6d. 6.30 p.m. OCT. 22

Dr. E. G. West. *Aluminium.* Second of three lectures on *Materials.* At the Royal Society, Burlington House, W.1. Chairman, Hon. Geoffrey Cunliffe. Buffet lunch 12.45 p.m. Lecture 1 p.m. (Sponsor, DIA.) OCT. 4

Arthur Ling. *Town Planning in Action: The Moscow Plan.* Fourth and last of a series of introductory lectures to the study of Soviet architecture. At the RIBA, 66, Portland Place, W.1. Tickets from SCR Architecture Group, 98, Gower Street, W.C.1. Admission free to members of the Group, non-members 1s. 6d. 6.30 p.m. DEC. 11

Nikolaus Pevsner. *Visual Planning and the City of London.* At the AA, 34-36, Bedford Square, W.C.1. (Sponsor, AA.) 6 p.m. NOV. 27

Report from Members of the Association for Planning and Regional Reconstruction, attending the Town Planning Summer School. At the Association Headquarters, 34, Gordon Square, W.C.1. (Sponsor, APRR.) 6 p.m. SEPT. 27

A. F. Russell. *Planning for New Housing Standards.* Chadwick Public Lecture. At the Royal Society of Tropical Medicine and Hygiene, 26, Portland Place, W.1. Chairman, Frederick R. Hiorns. (Sponsor, Chadwick Trust.) 2.30 p.m. OCT. 2

Current Town Planning in Canada and USA. 3. Middle West and the TVA. At the Association for Planning and Regional Reconstruction, 34, Gordon Square, W.C.1. Speaker, Miss J. Tyrwhitt. Chairman, Major Reed. (Sponsor, APRR.) 1 p.m. OCT. 4

MANCHESTER. *Modern Building Tools Exhibition.* (Sponsor, MOW.) SEPT. 27-29

RUGBY. *NALGO Exhibition.* (Sponsor, BIAE.) OCT. 20-NOV. 3

SALISBURY. *Homes to Live In Exhibition.* (Sponsor, BIAE.) OCT. 1-20

SHEFFIELD. R. Sillifant. *Industrial Application of Automatic Submerged Arc Welding.* At the Royal Victoria Hotel, Sheffield. (Sponsor, Institute of Welding, Sheffield Branch.) 6.30 p.m. SEPT. 27

VENTNOR. *The Future of British Resorts. Planning Our Holiday Areas.* Town and Country Planning Association Conference at the Winter Gardens Pavilion, Ventnor, Isle of Wight. The conference will be opened on October 6 by the Rt. Hon. Ernest Bevin and end on October 9. Among those taking part in the discussions will be Sir Patrick Abercrombie, representatives of all the main resort towns, of the travel and holiday organizations, of the hotel, catering and resort industries, and by interested members of the public. The conference will be preceded by a holiday week, from September 29 to October 6, at the Wellington Hotel, Ventnor. The Holiday Week has been designed primarily as a holiday meeting of town and country planners, members of the Association and their friends. Excursions and a limited number of lectures on subjects related to town and country planning are being arranged. (Sponsor, TCPA.) SEPT. 29-OCT. 9

YORK. *NALGO Exhibition.* At Holgate Hill Settlement. (Sponsor, BIAE.) FEB. 10-23

NEWS

THURSDAY, SEPTEMBER 27, 1945
No. 2644. VOL. 102

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Though no feature in the JOURNAL is without value for someone, there are often good reasons why certain news calls for special emphasis. The JOURNAL's starring system is designed to give this emphasis, but without prejudice to the unstarred items which are often no less important.

★ means spare a second for this, it will probably be worth it.

★★ means important news, for reasons which may or may not be obvious.

Any feature marked with more than two stars is very big building news indeed.

Work has begun on the building of the first of twenty-seven pairs of DEMONSTRATION PERMANENT HOUSES AT OADBY, Leicester.

The demonstration houses are being built from plans selected in the recent national competition organized by the House-Building Industries' Standing Committee on the Highcroft Estate, Oadby, Leicester, by Messrs. Bradshaw Bros. (Contractors), Ltd., of Leicester. When completed, with one of the houses furnished in co-operation with the Council of Industrial Design, the pair will be open to the public for viewing and criticism. The building of the houses, as with the other 26 pairs, is to be made a centre of research into technical details, such as site man-hours needed in the new permanent type housing, and the public reaction to the improved planning, insulation and plumbing. The architects are Messrs. E. H. Smith and A. J. Wood, A.R.I.B.A. The House-Building Industries' Standing Committee's competition was launched in April, and closed in June. In building these demonstration houses, the builders will have the assistance of experts for thirty associations allied with house-building, such as the clay industries, timber, concrete, joinery, copper, brass, lead, heating and ventilation. The houses will be built in accordance with the specification of the National House-Builders' Registration Council, which ensures investigation of the houses at least five times during construction, and, when completed, a certificate is issued guaranteeing that, if any fault develops within two years, it is rectified without charge to the purchaser.

Eric Cole, A.R.I.B.A.



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From AN ARCHITECT'S Commonplace Book

A FOLK ART SURVIVES ON THE CANALS. [*From Narrow Boat, by L. T. C. Rolt (Eyre and Spottiswoode)*] Each boat carries two watercans, one an open dipper which, as its name implies, is dipped into the canal and used for a hundred and one domestic uses, from peeling potatoes to washing the captain's wool vest; the other is a tall can with handle, spout and lid, like a mammoth hot-water jug, in which drinking-water is stored. Both are elaborately decorated with flowers, and often carry the owner's name in white letters on a red circumferential band. The boatmen brought these cans to Mr. Tooley when they needed a repaint, for the old man excelled at this work. To behold him, as I did, when he sat before the bench in his narrow workshop, the battered bowler firmly planted on the back of his head and a tray of many-coloured paints at his elbow, was to see the past miraculously living in the present. Not a past preserved in a museum or spuriously recreated in an Art and Craft shop, but a vital tradition. Handling his fine camel-hair brushes with wonderful sureness and delicacy, he first of all painted little shaded discs of sepia, ochre and pink on the green ground of the can and surrounded them with a garland of pale green leaves. These were the centres of the roses. When they were dry, the petals, red on sepia, yellow on ochre and white on pink, were superimposed so simply and swiftly that only in the way a mere blob of paint seemed suddenly to blossom forth was the skill revealed. The bright work was completed when the veining of the leaves had been painted in with a very fine brush and a coat of varnish applied to preserve it.

★ **The Town and Country Planning Association is holding a weekend conference on the PLANNING PROBLEMS OF HOLIDAY AREAS at the Winter Gardens Pavilion, Ventnor, from October 6 to 8.**

The conference will be opened by Mr. Lewis Silkin, M.P., Minister of Town and Country Planning. The subjects to be discussed are: *The Development of the Holiday Industry*; Chairman, Councillor F. S. Bouquet, Chairman of the Health and Pleasure Resorts Association; Speaker, Lt.-Col. G. W. Spencer, Hotels and Restaurants Association. *Physical Planning of Resorts*; Discussion Openers, Mr. G. Poole, Engineer and Surveyor, Ventnor Urban District Council; Mr. H. V. Overfield, Borough and Water Engineer, Borough of Scarborough; Mr. W. O. Humphrey, County Planning Officer, East Sussex County Council; Chairman, Sir Arthur Allen-Williams, Chairman, Planning Committee, West Sussex County Council; Speaker, Major Clough Williams-Ellis, Member of the National Parks Committee, Ministry of Town and Country Planning. *Mobile Holidays*; Chairman, Mr. Herbert Collins, F.R.I.B.A.; Speaker, Mr. E. St. John Catchpool, Secretary, Youth Hostels Association; Discussion Openers, Mr. E. W. Wimple, Secretary, Workers Travel Association, Dr. L. Dudley Stamp, D.Sc., Vice-President, Camping Club, Great Britain and Ireland. *Holidays With Pay for the Family*; Chairman, Mr. Peter Scott, Hon. Secretary, Wales Survey Board; Speakers, Mr. John B. Henderson, O.B.E., General Secretary, Holiday Fellowship, Limited; Mr. Robert R. Hyde, Director, Industrial Welfare Society (Inc.); Discussion Openers, Mr. Lionel Fewster, L.R.I.B.A., Capt. H. J. Warner, Member of Executive Committee of the National Federation of Permanent Holiday Camps.

★ **The Dean and Chapter has submitted a plan on the treatment of THE ENVIRONS OF ST. PAUL'S to the Corporation of London.**

The Dean and Chapter of St. Paul's, says *The Times*, have submitted to the Corporation of London a detailed plan and report embodying the general principles which they have already laid down as the mini-

mum requirements for an adequate treatment of the environs of St. Paul's. The plan and report have been drawn up by Dr. Charles Holden, who has obtained all the information he required from Mr. Godfrey Allen, the surveyor to the fabric. A copy has been sent to the Ministry of Town and Country Planning and to the Royal Fine Art Commission, but it is not intended to make the plan public at this stage.

Prefabricated houses to be shipped to England are NOT UP TO SWEDISH STANDARD.

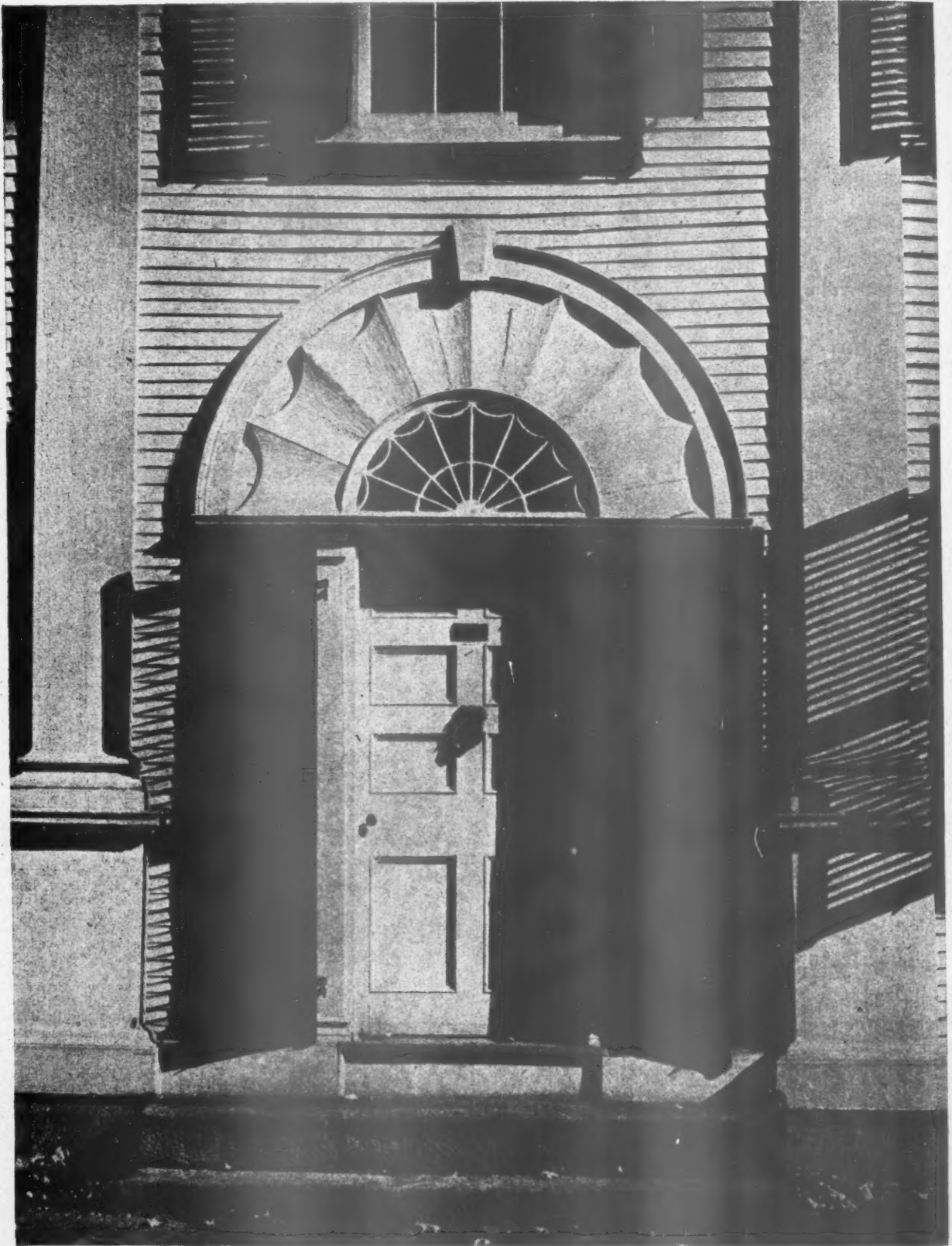
A first sample consignment of the prefabricated houses ordered here for England is now ready for shipment. Four expert carpenters will travel to England with them to serve as constructional instructors. According to *The Times* correspondent, the houses are built strictly according to British designs, but are not up to the ordinary Swedish standard, and the manufacturers seem to fear that Britain may get a wrong impression of Swedish housing from these emergency productions. There is, for instance, no double flooring, and the wall insulation is not so good.



Mr. Adrian Gilbert Scott, who has been appointed successor to the late Sir Edwin Lutyens as architect of Liverpool's Roman Catholic Cathedral.

★ **Mr. Adrian Gilbert Scott—architect for the only large cathedral (Cairo, Anglican, 1938) to be completed in this generation and partner with his brother, Sir Giles Gilbert Scott, in the design of the new House of Commons—has been appointed successor to the late Sir Edwin Lutyens as ARCHITECT OF LIVERPOOL'S ROMAN CATHOLIC CATHEDRAL.**

Born in 1882, the youngest son of the late George Gilbert Scott and grandson of Sir Gilbert Scott, R.A., Mr. Adrian Gilbert Scott was educated at Beaumont College, articulated to the late Temple Moore, and from 1914 to 1919 served in the Royal Engineers (Major, M.C. and mentioned in despatches). In 1918 he married the youngest daughter of the late Charles Napier Henry, R.A., and has two sons, both educated at Beaumont, and two daughters. Among his principal works are the following:—St. James Church, Vancouver, B.C. (Anglican); Tower to Anglican Church, Port Sudan. *Catholic Churches*: Church of the Holy Name, Manchester (Tower); Memorial Chapel, Mount St. Mary's, Chesterfield; St. Joseph's, Wealdstone; St. Aidan's, Coulsdon; Church of Christ the King, Wimbledon Park; Our Lady and St. Thomas, Woodseats, Sheffield; St. Teresa's, Beaconsfield (G. K. Chesterton Memorial). *Catholic Schools and Convents*: Farnborough Hill (Chapel, Hall and School Extensions); Mayfield (School Hall); Beaumont College (Infirmary); Raynes Park Schools; Holy Trinity, Dockhead (Schools). *Domestic Works*: Own House, Shepherd's Well, Froggall Way, Hampstead; Spaniards Mount, Winton Road, Hampstead; Studio, 26, Church Row, Hampstead; Squire's Mount, Hampstead (Restoration). *Offices*: Messrs. Newton Chambers & Co., Ltd., Colliery Offices, Thorncliffe, Sheffield; Business Premises in Vincent Square, Westminster. *Projected Schemes*: Rebuilding of RC Convent, St. Leonard's; St. Oswald's RC Church, Old Swan, Liverpool; Parish Church, St. Leonard's (Anglican); St. Alban's, Holborn (Anglican). From 1940 to 1942 he was Deputy Controller, Ministry of Aircraft Production, South-western Region; from 1942 to 1944 at Ministry of Works, in London; and in 1944 resigned to work on the House of Commons Rebuilding Scheme in partnership with his brother, Sir Giles Gilbert Scott. (See pages 233-234.)



New England Texture

The doorway of the Fiske House at Chelmsford, Massachusetts (built in 1790) has that indigenous character of New England architecture whose charm lies typically in the texture of white horizontal boarding and slatted window

shutters. The illustration comes from *Ever New England*, a book of photographs by Samuel Chamberlain, recently published by Hastings House, New York. More of Mr. Chamberlain's photographs are shown on page 222.

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SPACE HEATING

A MISLEADING title has been chosen on purpose, so as to provide the occasion for pointing out a current misconception. The term Space Heating was coined to denote any form of heating in buildings—a concept for which a general expression was lacking. The current rediscovery that architecture is chiefly a matter of spatial enclosure, rather than an esoteric exercise in stylized sculpture, made this expression acceptable for its flavour of modern architecture. Also, a half-conscious uncertainty as to whether the proper object of heating installations was to heat buildings, or the people inside them, produced as a compromise the reference to heating spaces.

The truth is that the heating engineer's ultimate aim should not be to heat anything—neither buildings, nor people, nor even spaces. His is a science that is in great need of humanizing. The perverse reactions of the mere humans that are subjected to heating and ventilating installations are too often regarded by the specialist as tiresome irrelevancies easily discounted by the readings from his instruments. Some of them do realize that their instruments are wrong and should be approximated to the reactions of the human body. Unfortunately the eupatheostat, or comfort-measurer, must have a surface area of the same order as an average person, which makes it cumbersome.

Heating then, with ventilation, should be aimed at human comfort. The human body does not require to be heated, but to be cooled. The cooling must proceed at a definite rate—not too fast or one feels cold, nor too slow or one feels too hot. The required rate of cooling varies according to the bodily activity—from minimum when lying down, to maximum when at heavy physical work. Failure to apply the standards of human comfort gives results like the Factory Act where standards of air temperature are set up which do not, for example, provide against acute discomfort due to radiation of heat from the body to corrugated-iron walls, although bathed in over-heated air; or a room in which the calculated output from the heating apparatus balances the average loss of heat from the building due to all causes, but neglects the poor human whose front is toasted by the fire whilst his back is chilled by draught through an ill-fitting casement or up between the floor boards.

But do not let us over-emphasize the physical aspect. It is conceivably possible to design a house with a heating and ventilating apparatus that pays complete attention to human comfort: in every location the occupant gives off heat at the comfortable rate according to the amount of bodily activity. Such an arrangement could disappoint by being *too* perfect. There are factors where the physical merges into the psychological. Some stimulus is required, so that comfort promotes activity rather than relaxation. Ventilating engineers have begun to realize that a measure of turbulence is needed, that air-conditioning can fail by being too unobtrusive.

The Swedish plywood industry has been able to survive the years of war with its STABILITY WELL MAINTAINED, notwithstanding the difficulties frequently experienced in procuring the necessary raw materials, and especially in buying the requisite quantities of glue substances.

This relatively favourable situation is largely attributable, states Director C. G. Rothelius, chairman of the Swedish Plywood Manufacturers Association and Managing Director of the Ljusne-Woxne Company, to the fact that no new domestic factories have been set up in the course of these years owing to the increasing difficulty in procuring domestic supplies of suitable plywood timber; in fact even existing factories may have to restrict production. The domestic market is still developing satisfactorily, and Sweden's biggest market for plywood, Great Britain, has secured a certain quantity in good time. Britain will no doubt be a buyer of Swedish pine plywood for years to come. Denmark, too, has practically covered her entire requirements for the current year. Sales have been effected to other countries, including transatlantic markets, and there will clearly continue to be a good demand for plywood in future also. Although the future prospects may be regarded as more or less favourable, the competition which Sweden always had to face before the war must not be forgotten, and it will no doubt be revived by the American and Canadian factories as soon as they have had time to revert to peace-time production, Director Rothelius emphasises. The same applies in all probability to the plywood which Finland, Russia and Poland eventually place on the market.

★

Mr. J. S. Galbraith, President of the London Master Builders' Association: If the Government will allow the industry to get on without undue restriction, WORK WILL GO A LOT FASTER.

Speaking in London, Mr. J. S. Galbraith said: The building industry will make its best contribution to the rebuilding of Britain if it is allowed a certain amount of freedom of action. If the Government, in consultation with the industry as to its practicability, will decide on the work that must be done, and then allow the industry to get on with it without undue restriction, the work will go a lot faster than it has in the past. One Government department has now come to us and says that it wants certain things done and wants us to get them done in the soonest possible time and in our own way. I feel that the response will be immediate and the benefit to the country considerable.

The Minister of Works has appointed Mr. H. N. de Villiers to be an additional DEPUTY SECRETARY IN THE MINISTRY OF WORKS, with effect from October 1. Mr. de Villiers will take charge of the administrative work for which the Controller General has hitherto been responsible.

Similarly, the open window in hot weather, and the visibly radiant source of heat in winter are important aids to a feeling of comfort. Comfort may also depend upon the electrical condition of the environment, about which little as yet has been formulated.

The present trend in heating apparatus for the small house is dominated by the requirements of fuel economy—grates designed for better combustion, recovery of the heat lost behind the grate and piping it to the other rooms for background heat. For the future, the greatest promise of economy lies in the Heat Pump—an application of the principle of refrigeration to the reverse effect, heat being pumped *into* the enclosure from outside.

But if the aim of mechanical efficiency, very laudable within its proper sphere, is to be subordinated to the prime aim of bodily comfort, we prophesy a return to the method used by the Romans in this country—the hypocaust brought up to date, not with hot water in the pipes as in panel heating, but with hot air as the medium, circulated through ducts in the floors and some of the partitions.



The Architects' Journal

War Address: 45, The Avenue, Cheam, Surrey

Telephone: Vigilant 0087-9

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HOUSING AND MONEY

Two publications have recently appeared that could not be a greater contrast. The first is *Financial Freedom for Housing* by Dr. R. McNair Wilson, published by Messrs. J. M. Dent & Sons for the Co-Operative Building Society at 3s. 6d. The other is the Report of the Inter-Departmental Committee on the *Selling Price of Houses*, published by the Stationery Office at 6d. The second is by far the more interesting.

It is difficult to describe the first. I am not, thank Heaven, an economist, but, then, the book is not written for economists. It is written for just such as me, and it leaves me in a pink haze. Dr. Wilson's thesis is that once a stable price level is established all over the world everything will be grand and the problem of finance, for housing in particular, will be solved. That seems as though a doctor said that once the patient's temperature falls and his pulse is normal he is well on the road to recovery. Of course, but what caused the illness? What was the maladjustment that brought about the high temperature and the rapid (or slow) pulse? In other words, the price level is merely a symptom, not a cause.

This book is not a serious contribution to housing, finance, or even building societies. On the other hand, congratulations are due to the enterprise of this Building Society in fostering the series of books of which this is only one. It is encouraging to see a Building Society taking a wide view of its social obligations.

The other publication is a closely-argued and intelligible account of the factors at present involved in the mounting prices of existing houses. It flies over no fences, it dodges no issues

and it comes to the tentative conclusion that control of the selling price of houses is possible, provided we establish the necessary controls and machinery and give the chosen instrument (they suggest the Valuation Offices) enough men to do the job.

We have now had Reports on Land, Housing programmes, suggestions for Rent Control and Rent Tribunals. Here is another piece to fit into the mosaic. The only conclusion we can come to is that we must deal with land, and everything on it, future and contemplated, in one comprehensive plan or fail utterly to make the slightest impression on the existing jungle.

CHELTENHAM

Latest publication of the Georgian-Plus Group—"plus" for chronology as well as energy now that Georgian seems to reach to 1850—is an illustrated Report on Cheltenham prepared by the Group at the request of the Cheltenham Borough Council. It consists of a brief history of the town, an analysis of its architectural development, and advice on how to preserve and adapt the Regency squares and crescents for which the town is so famous.

The price—two shillings—seems a little high for so slight a volume, but its main value (and presumably its cost also) lies in the appendix, which contains not only a full list of every building of architectural interest in the town, but also an explanation of what legal powers at present exist to help those who wish to preserve them.

Congratulations to Cheltenham for its initiative and sense of responsibility in asking for such a report, and to the Group for providing so valuable and constructive an answer. Let us hope we shall see some constructive results from their co-operation.

OWNER AND CLEARANCE

I see that Section 42 of the Housing Act, 1936, has recently been considered by the Courts. The section is an important one for those interested in houses likely to be affected by a clearance scheme under this Act, for it provides that where property affected by a clearance scheme has been well maintained, the owner may

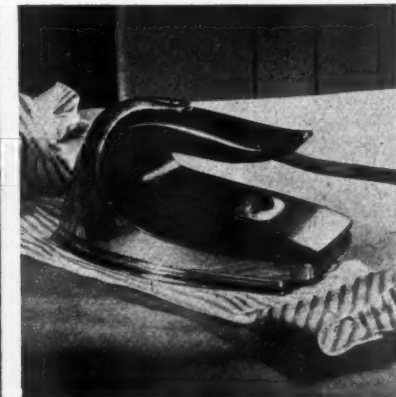
be given a higher rate of compensation for that normally payable in respect of property that is unfit for human habitation, which is, of course, the bare site value only.

In this case, which arose out of a clearance scheme in Chelsea originated by the London County Council, the owners did object to the original scheme. There was a public inquiry, and the scheme was finally confirmed by the Minister under Section 29. The Minister gave no direction for the payment of any higher rate to the owner, who subsequently brought this action, and his proceedings before the Court produced a ruling that the power of the Minister to direct this higher rate of compensation is a purely discretionary one and that the Court cannot interfere with the exercise of this discretion, provided, of course, that it is made *bona fide*.

It is to be hoped that it will not be too long now before clearance schemes are once more under way, and those who have to advise property owners likely to be affected should bear in mind the powers of the Minister and the fact that only very rarely indeed does a case arise where any subsequent appeal to the Court will achieve any change in the position of the owner.

THERE'LL ALWAYS BE AN AD-MAN

Reproduced below are photographs of the prototype models designed for B. & T. (Components), Ltd., by Sir William Crawford & Partners, Ltd.—



Two prototype models by Sir William Crawford & Partners, referred to by Astragal this week. Left, an electric heater-cooker; right, an electric iron. The designer was Mr. Louis Ososki, N.R.D. working under Mr. Warnett Kennedy, Director of Design.

one of the many advertising firms who now run industrial design departments.

According to the illustrated brochure which accompanied these pictures, Messrs. Crawford's design organization includes a drawing-office of about twenty assistants, an experimental workshop full of atomic looking machinery, a plastic extrusion plant and a laboratory complete with white-coated assistant.

It is perhaps unfair to say that the iron and heater illustrated below, while shapely enough in their way, seem hardly distinguished enough to warrant so elaborate a background, but we all know about brochures—and ad-men—and we can't expect less build-up for their own achievements than for those of their clients. All the same, while encouraging Messrs. Crawfords to carry on with the good work, our advice is to get that white-coated assistant to put the brochure through the extrusion plant.

Incidentally, Messrs. Crawford's have discovered by market research methods that foreign opinion places British goods top in reliability and workmanship and fairly near bottom in design and presentation—a fact which bodes ill for our enforced export drive, unless more industrialists realize that good design pays and is not just a canal to drain off E.P.T.

ASTRAGAL



LETTERS

E. V. Penn,
General Secretary, Association of
Building Technicians

G. F. Newcombe

John Gloag

Salaries

SIR,—I should like to draw your attention to the salary offered by the Crown Agents for the Colonies to an Assistant Draughtsman in the Public Works Department, Trinidad.

The particulars of the appointment issued by the Crown Agents state that: "Candidates must be trained draughtsmen and have had considerable experience as a senior architectural assistant in a large drawing office, preferably county or municipal, or with a large firm of architects. They should have a good knowledge of structural design, including reinforced concrete design, and of estimating and specification writing, and must be able to prepare all working drawings and details required in connection with various works."

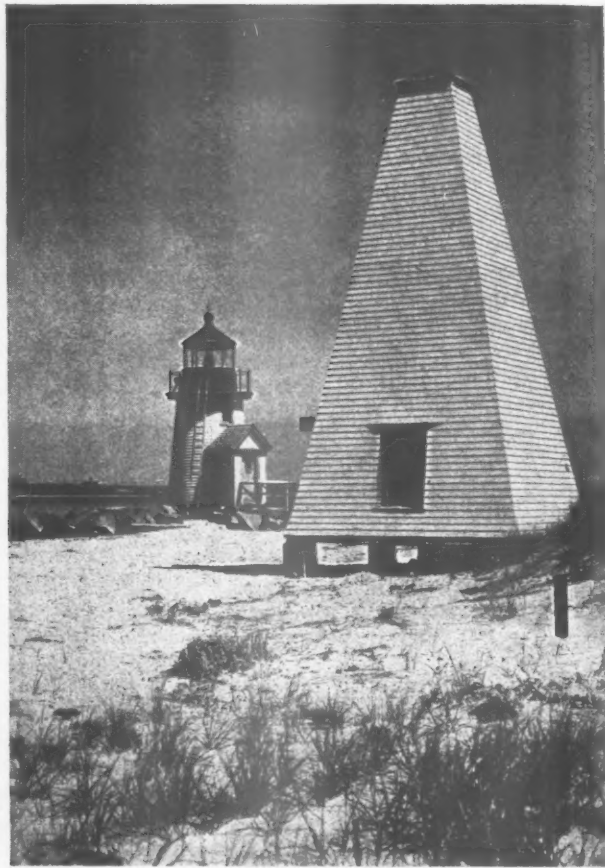
The duties include: "The designing and preparation of full working drawings and details for Government buildings of various descriptions, including preliminary sketches and perspectives and the preparation of detailed estimates and specifications."

The salary offered (translated into sterling and including all temporary war allowances) is approximately £354, rising in five years to £464, and in four years more to £574.

Houses are scarce in Trinidad, and it is stated that rents vary from about £105 to £250 a year, but that it may be necessary in the first instance to live at a boarding house or hotel and to pay even more.

It seems, therefore, that the "successful" applicant for this job may expect to pay at least a third of his salary in rent, and it is

MARINE ARCHITECTURE OF NEW ENGLAND



The frontispiece of this week's issue shows a typical New England doorway, photographed by Samuel Chamberlain. Here are four more of his photographs which show the vigorous qualities of form and texture in the lighthouses of the East Coast of America. Top left, West Quoddy Head, Maine. Top right, Brant Point, Nantucket, Massachusetts. Below left, Saybrook, Connecticut. Below right, Stonington, Connecticut.



reasonable to assume that the cost of living is at least as high as in England. We are taking this matter up with the Crown Agents for the Colonies.

E. V. PENN,
General Secretary,
ABT.

London

heat capacity becomes more important than air to air transmittance or U values. I think you bring out this point more or less; but it is important, and so far, has had little attention.

London.

G. F. NEWCOMBE

during a century of industrial enterprise, and demonstrate the new mastery we have secured in the field of industrial art. Accommodating such an exhibition is primarily a problem for the architect. May I venture to suggest that the designing of a large exhibition hall to occupy a site in Hyde Park, is a subject which senior students in architectural schools might well be directed to study. The more young, inventive minds that are giving attention to this stimulating problem, the better. No doubt, if anything is done about such an Exhibition, the appropriate authorities will organise a competition for the design of the building. Let us hope that this time a practical solution will come from the architectural profession.

London

JOHN GLOAG

Thermal Insulation

SIR,—I was glad to see an article on Insulation in the JOURNAL. May I draw your attention to *Coke*, August, 1945. Fig. 2 on page 157 shows the rough daily use of heat for (a) cooking, (b) hot water, (c) space heating in winter, useful and gross heat. Always intermittent heat is used in domestic houses; therefore

Hold Another Great Exhibition

SIR,—In a letter which *The Times* published on September 11, I suggested that the centenary of the Great Exhibition might be celebrated in 1951 by another Great Exhibition. This would enable Great Britain to show the world the progress achieved

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This article is contributed by a young Captain whose service in the Army recently took him to Norway. Here he describes the new buildings he saw in Oslo, including the Town Hall. The photographs were taken by the author. In a forthcoming article he will describe some new industrial design, including furniture, which is now being produced in Norway.



New Buildings in OSLO

[by Alec E. Davis]

"... It depends what you mean by new." England has had so little news out of Norway since 1939 that buildings which have lost their first freshness will still be new to English readers. This is a rubberneck's account of some of them.

First, the background. Oslo is a capital city which has not grown to unmanageable size—and a city whose inhabitants show a lively interest in their architectural surroundings. Oslo is not an ancient city, by English standards; you have to search hard to find a building that dates back beyond the nineteenth century.

From the first half of that century there survive pleasant porticoed buildings in the classical manner; from the second half, yellow-brick horrors in no particular style, of which the most hideous example is probably the Storting, Norway's parliament building.

About twenty years ago, the modern style reached Norway. Since then many new

buildings have gone up both in the centre of the town and the outskirts; unexpectedly in side-turnings as well as conspicuously in the main streets and squares. How plentiful they are you do not realise until you try to photograph one modern building and find one or two others looming up in your viewfinder at the same time. There are few places in England where that could happen.

You can find a starting-point for the story of Oslo's modern architecture in the Skansen summer restaurant on a small hill overlooking the harbour. Flat-roofed, with yellow-washed concrete walls and the main entrance set in a rounded end and surmounted by a neon name-sign, Skansen is built in a style familiar enough today, but you appreciate its significance when you learn that it was built in 1926. (Incidentally, it only just managed to survive the German occupation; plans which have recently been discovered show that the Quislings intended to raze it and build a palatial party headquarters on its site.)

The most discussed of Oslo's new buildings is the Radhus or Town Hall. The first competition for its design was held about thirty years ago, but apparently no design pleased the judges, for a second competition took place. An entry by Arnstein Arneberg and Magnus Poulsson was eventually accepted; the architects, in their desire to keep abreast of the times, modified their designs again and again. The original plans included a slender decorative tower; this was abandoned in favour of two towers broad enough to contain offices and lifts. The story goes that it was when Poulsson was sailing up Oslofjord that he looked at the site of the building and decided it must have two towers.

The Oslo guide-book gives 1938 as the date of completion of the Town Hall, but this is optimistic; the second tower was still in scaffolding when English tourists aimed their Kodaks at it before the war, and there are yet details to be completed. But

its outlines are now firm and it stands out boldly from almost any viewpoint in Oslo—a little too boldly, as it dwarfs everything else, except when seen, as it was obviously meant to be seen, by the traveller arriving in the harbour.

The second biggest of Oslo's modern buildings also materialised in a different shape from the original plan. This is the Folketeater, originally designed, as a building of moderate height with a pitched roof. Before it was built, Big Business took an interest in it, the People's Theatre which gave it its name was tucked away in one corner, and it materialised as a flat-roofed skyscraper of red brick. Few Oslo architects today consider it an adornment of their city, but, remembering the pretentiousness of much big-business architecture at home—Romanesque insurance offices, mock-Georgian stores—one is forced to conclude that the Folketeater might have been much worse.

For good modern buildings in quantity you must see Henrik Ibsen's Gate, where you have on one side of the street a fire-station and a block of brick-built offices housing the fire-service headquarters, and on the other office blocks in light grey stone; stone bridges, carrying minor roads over major ones, link them together, while a fountain makes a focus in the foreground.

Of the stone buildings in Henrik Ibsen's Gate, No. 7 is structurally interesting because the upper floors facing the street are set well back from the building-line of the first two floors to accommodate a broad public footpath at this level. There is a powerful bas-relief on the wall above the main entrance, which serves as a useful signboard, as the block which it ornaments was intended for the offices of a builders' trade union.

Just below Henrik Ibsen's Gate, at Torvgaten 17, is another modern building, which was due for completion on April 14, 1940. On April 9 the Germans marched into Oslo



The new Radhus or Town Hall in Oslo by Arneberg and Poulsson seen from the harbour. The original design, a competition winner, included a slender decorative tower; this was abandoned in favour of two towers broad enough to contain offices and lifts.



Above left, the Folketeater, by Norgesteirne and Eide, second largest building in Oslo ; Germanic in character, American in scale, it is in red brick and contains offices and shops as well as the People's Theatre. Above centre, the office building at No. 7 Henrik Ibsens Gate on the left, designed by Frode Rinnan with Olav Tveten ; the bridge carries a road over the fire station and in front of the fire-service offices seen on the right. Right, the bas relief over the entrance to No. 7 Henrik Ibsens Gate by Gunnar Janson ; the building was originally designed as the headquarters of a building trade union. Below, two photographs of No. 17 Torvgaten designed by Ove Bang and completed in 1940 ; it contains shops, offices, flats, a concert-hall and a cinema ; the left hand view is from the south-west and the right hand from the south-east.

and on April 10 they occupied Torvgaten 17. Its architect, Ove Bang, did not live to see his job put to the use for which he had intended it, as he died in 1942.

This building is a notable example of surface interest gained not from added ornamentation but from allowing internal needs to determine the shape and to some extent the materials of the exterior; a wall of glass bricks marks a lift-shaft, the ground floor is almost entirely fronted by shops on all four sides, and on one side the whole third-floor wall is set back behind pillars to provide a balcony for a concert-hall within. Besides this hall and numerous offices and flats, Torvgaten 17 contains a small cinema with a simple and very pleasing decorative scheme—a combination of panelling in pale silvery wood with walls and ceiling partly of dove grey, partly of deep blue. Most of the illumination comes from lamps pro-

jecting from the wall on either side and throwing their light on to large white discs against the blue background.

In most of Oslo's modern buildings there are practical as well as æsthetic merits; notably, the excellence of plumbing and electric services. The average standard of plumbing is higher than in Britain (though several installations bear the familiar name of Shanks, Barrhead). A bath without a shower is rare. Some flats have an ingenious type of wc which flushes automatically when the seat-cover is raised and lowered.

Electricity is plentiful in this land of swift-running streams. Most of the big buildings are well served by automatic electric lifts; in one office block, the lift cars and lift shafts have walls of glass, so that the passenger shares the emotions of a tiddler in Brighton aquarium.

Nineteen-forty must have been a busy year in Oslo architecture, for Torvgaten 17 is by no means the only building into which the Herrenvolk marched before the rightful tenants had arrived; in particular, several schools suffered in the same way. Since then, loyal Norwegian architects have had to content themselves with planning for post-war needs—and the Germans took a hand in this activity also. Having destroyed a string of small towns by bombing in 1940, they then produced plans for rebuilding on orderly, regimented Prussian lines. These plans were approved by local authorities (presumably on an "or else—" basis) and Norwegian architects are now trying to get the Germanic plans replaced by their own. If they fail, the individual character of the towns will be lost; if they succeed, the bombing may have proved architecturally a blessing in disguise.



PHYSICAL PLANNING SUPPLEMENT



THE BLUE BELT

coastal preservation and planning

the first instalment of a survey of the island shores by

James Alfred Steers

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University Lecturer in Geography.

The shores of Britain are a priceless possession. Public health, scenery, wild life, minerological value, all demand that its many uses be positively planned for all. When in 1943, on the initiative of the Ministry of Town and Country Planning, a coastal survey was called for, Mr. Steers generously volunteered for the immense task, which has already taken him over 2,700 miles, so far only of England and Wales, and has yielded an invaluable series of maps, now being used for Regional Planning, detailing the various kinds and qualities of scenery, and the innumerable natural and artificial features of the coastline. The Survey links with National Parks by the sea, such as those for Cornwall and Pembroke, and indicates that minerological developments such as cliff mining should not necessarily be banned, but wisely zoned. It is for defence against the careless developer, the invader from within, that the Survey calls for a new kind of home guard. The headline air view shows the beaches of South Devon, and the following article by Mr. Steers is reprinted by kind permission of the Royal Geographical Society.

In the future of the countryside the coastline is of special importance. There is no need to attempt physiographical or legal definitions, but the word coastline rightly suggests a narrow belt of country all round this island. There is only one such belt and it is extremely easy to spoil it. The narrow limits of the coastal belt and its great attraction are two of the principal factors involved in preservation problems and policies.

England and Wales

Before, however, discussing these problems, some notes on the maps prepared and on the field-work on which it is based are necessary. All the coastline of England and Wales, except for the part between Swanage and the Thames, has already been visited, and apart from a few small prohibited areas (some of which I knew before the war) a detailed survey of the whole has been made. Experience soon showed that it was far better not to attempt an elaborate classification of coastal quality: the personal factor is bound to play an important part, and a large number of categories encourage unnecessary differentiation. In the field the

1/25,000 maps were used, and by a simple scheme of colours and notes, all relevant details were inserted directly on to the map sheets. In addition, a written report was made of that part of the coast covered in any one visit.

hinterland

It was assumed that any unspoiled part of the coast: cliffs, dunes, salt marsh, estuary, should be rated basically as good natural scenery. On the other hand certain parts of the coast can be regarded as of outstanding quality. Most people would probably include the Mawddach and Dyfi estuaries, parts of the Pembrokeshire coast, the Hartland district, and the southern extremity of Devon. There remains an intermediate category about which there may be considerable difference of opinion. The survey was concerned primarily with the coast, but obviously had to take account of the immediate hinterland. Nevertheless some distinction between the two is desirable. Exmoor is beautiful, and the adjacent coast very fine, yet it cannot stand comparison *sensu stricto* with the exposed coast, magnificent cliffs, and intricacy of detail that exist between Hartland Point and

Morwenstow. There is a striking difference, in part accentuated by the coalfield, between the Cumberland coastal strip and the Lake District. Or again, Dunwich cliffs in Suffolk, in themselves and especially in their setting, are very beautiful. They are, however, very different from those near Land's End or some of those in Dorset. Notwithstanding this, careful consideration suggests that they should go into the same category.

Any assessment of coastal quality is likely to meet with criticism. In this survey an attempt has been made to evaluate the various parts of the coast impartially, and to put them into classes based on a constant standard. If this has been achieved, it does not matter if the standard is too high or too low: it can be easily adjusted. No one, however, could claim an absolute standard.

coastal amenities

The distribution of industrial areas, residential districts, quarries, and buildings are clearly shown on the field-maps. Particular notes were made of all shacks, huts, ugly, and misplaced buildings. Good, well-built, and often artistic houses may be quite as offensive as meaner dwellings, especially if they are on open cliffs or if the individual houses or groups are poorly planned and sited. A tour round parts of Anglesey and Cornwall illustrates this point very well.

The Ministry of Town and Country Planning handled all the field-maps and reports, and under Dr. E. C. Willatts' supervision produced a detailed coastal amenities map based on the one-inch sheets. Other maps on a smaller scale were also made, including one on a scale of 1/625,000. It will be easily understood that many generalizations are unavoidable on these maps.

After the war there is every reason to expect that the number of visitors to the seaside will increase; and the holidays-with-pay schemes will bring to the coast many who have seldom, or perhaps never, visited it in the past. It does not need a very detailed knowledge of the coast to realize that this belt falls into many categories, physiographical and economic. There are parts of it which cater for many thousands of visitors, others that are the haunt of a few regular *habitués*, others again that are given over to huts, caravans, and shacks. Moreover, there is a distinction between the select resorts and the more popular ones: the latter, incidentally, not only offer a holiday to multitudes, but also have acted as safety valves and undoubtedly have saved other parts of our coast from unsightly buildings of all descriptions. Above all there are still long lines of unspoiled coast, the paradise of the walker and naturalist.

careful siting

It may be taken for granted that all parts of the coast will become increasingly popular, but in particular it is extremely probable that a steadily growing percentage of British people will find more and more pleasure and genuine interest in getting to know the fine unspoiled stretches of the coast. Walkers and others need food and shelter, but it must not follow that camps, hotels, cafés, restaurants, and other buildings need appear at random on or near any viewpoint: they must be sited with the utmost care. It is the haphazard placing of buildings on the coast that forms one of the worst features of its desecration.

rocks and cliffs

In these islands there is a wide variety of rock types, nearly all of which reach the sea at some point or another. The most casual glance at a geological map will remind us for example of the fine chalk cliffs of Kent, Sussex, and Yorkshire; of the magnificent scenery associated with the Carboniferous rocks of North Devon; of the limestones, also of Carboniferous age, of the Gower and Tenby peninsulas in South Wales; of the granite cliffs of Land's End; of the sandstones of St. Bees Head in Cumberland; of the Jurassic cliffs of Dorset and Yorkshire; of the siting of Bamburgh and Dunstanburgh castles and the Great Whin Sill in Northumberland; and also of the fine boulder clay cliffs of Holderness and North Norfolk.

dunes and marshes

In striking contrast to our cliff scenery there are extensive areas of dunes and marshes, still largely unspoiled, including

those at Blakeney Point and Scolt Head Island in Norfolk, Cheswick and Goswick sands in Northumberland, the Ravenglass estuary in Cumberland, Newborough Warren and Red Wharf Bay in Anglesey, and the many sandy wilds of South Wales. Moreover, along our coast lie many fine examples of salt marshes decorated according to season with the sea pink, sea lavender, or sea aster. The North Norfolk marshes are perhaps our finest, but there are also beautiful expanses in the Dyfi and Dwyryd estuaries, in Morecambe Bay, Poole Harbour, Southampton Water, and along the coast of Essex.

estuaries and inlets

During recent geological time, especially in the glacial period, the level of the sea fluctuated considerably in relation to the land. The last general movement of sea-level has been upward, amounting in all to some 200 feet, and has drowned the lower ends of our river valleys. This process has been in part responsible for the present scenery of such regions as the Upper Bristol Channel, the Thames estuary, and the numerous and very picturesque inlets of Cornwall and Devon; for example, Carrick Roads, Fowey River, Plymouth Sound, Salcombe Harbour, the Dart, and several others. The effects of these vertical movements on rocks of different degrees of hardness must be considered however together with the work of marine and sub-aerial erosion. The smooth, flowing outlines of the Channel and North Sea coasts where faced with Mesozoic and later rocks stand in strong contrast to the indented shores of the south-western peninsula and much of the Welsh littoral. Any elementary geological text-book emphasizes this point: and it is indeed clear even on a small-scale map. Yet perhaps because it is so obvious its significance in coastal detail can be overlooked. The crenulate pattern of the Cornish and Devonian shores, their intricacy of detail, their numerous sandy coves and beaches, the frequent occurrence of old cliffs behind low raised beach platforms often "head"-covered, all stand in most marked contrast to the characteristics of the softer rocks farther east with their simpler curves, often higher cliffs, occasional hanging valleys, and beaches at times continuous at the foot of cliffs and across re-entrants. Thus despite their beauty and even grandeur, cliffs in Mesozoic and later rocks seldom, if ever, give a sense of the wild and the rugged; the qualities which many holiday-makers consider indispensable to first-rate scenery. The cliffs near Marloes and Musselwick Bays in Pembrokeshire and those between Nash Point and Southern-down in Glamorgan are beautiful in each case; yet the former, composed of hard, ancient rock, possess a far greater variety of detail and form than the latter and suggest a spectacular wildness which makes the contrast between the two places as emphatic as that between the cliffs on either side of Salcombe Harbour and those between Budleigh Salterton and Sidmouth.

But to turn to a completely different landscape: the drowning of the river mouths on the east coast partly explains the long, serene inlets like those of the Blackwater, Orwell, and Deben, while farther north, in East Anglia, great shingle spits have deflected the rivers in historical time; those across the mouths of the Yare and Alde are well known. The whole of the coastal scenery between Flamborough Head and the North Foreland is distinctive, even if simpler and gentler, than that of the south and west. Moreover, these flatter coasts with their dunes and marshes often have a remarkable past in human activity. Small medieval vessels could reach the staithe then unobstructed by shingle spits and bars as they are to-day. Finally on this littoral, continuous changes in the channels caused by silting, the growth of new marsh, or the wearing away of soft cliffs, produce interesting landscape changes which are largely absent from more spectacular rocky shores, and which need not by any means attract the scientist only.

many colours

There is a quality of scenery to which brief reference is due but to which full justice within the bounds of a short paper is impossible, that is to say, the colours and setting of parts of our coastline. Everyone is familiar with the whiteness of the chalk, impressive because so often that is the only colour present in the faces of the cliffs. It is rare, however, for one colour to prevail, and when this occurs, as for example in the New Red Sandstone cliffs of South Devon and in the Old Red Sandstones near St. Bride's in Pembrokeshire, it is unforgettable. As a rule our finest cliffs show a variety of colours and shades, not only those of the rock itself, but those also of the plants on the higher parts of the cliffs. It is difficult, for instance, to find a more beautiful range of cliffs than the variegated ones between St. David's and Newgale in Pembrokeshire. Occasionally contrasts in colouring may be very emphatic, like those in Alum Bay in the Isle of Wight and the brown, red, and white of the Hunstanton cliffs in Norfolk.

What has been said will serve to call attention to some of the better-known parts of our coasts. Those who know them in detail will realize how much has been omitted and they will know, too, how much of them is already spoiled. A full analysis of the spoiled and surviving coastal landscapes is plainly not practicable in a single short paper. What matters is an explanation of the process of spoiling, with some reference to specific places.

careless industrialists

It is common knowledge that some forms of industrial development have had noticeably bad results, especially mining and quarrying. This is only too clear in the remarkably fine and varied cliffs in the Magnesian Limestone of Durham, the



Coastal erosion: at Rhyll, left, a collapsed breakwater; at Swanage, right, geological dogtoothing. Defence against large scale natural erosion, which shapes and beautifies the coast, is usually uncalled for.

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The Invader from within: left, cliff mining unwisely sited at Penmaenmawr; right, Flamborough Head, Yorkshire, showing hutted tentacles of a speculative estate creeping towards the cliff edge.



natural beauty of which derives largely from the deeply cut and well-wooded dunes which run down to sea-level. Scarcely any part of this coast has escaped disfigurement by a coal-tip shaft, winding-gear, or associated ugly mining village, while nearer some of the larger towns, which in themselves are far from beautiful, railway sidings and trucks run right to the cliff edge. Farther north much the same is true of most of the Northumberland coast between the Tyne and Coquet rivers. Again in the west the coalfield coast of Cumberland is a desolation, and the Flintshire side of the Dee estuary is nearly as bad. On the other hand industrial growth has affected the coastal scenery of South Wales far less than might have been supposed. Even in the crowded Port Talbot, Briton Ferry, and Swansea district the dunes and sands are remarkably free from serious disfigurement. But in parts of Cornwall, including St. Agnes and St. Just, former mining has left bad scars; they do not compare with the coal areas in ugliness, but they are symptomatic of indifference to the beauty of coastal scenery. Attention must also be called to the iron workings in Furness in Lancashire and at Skinningrove in north-east Yorkshire, and to the widespread and truly deplorable effects of quarrying of which the scars at Penmaenmawr, the Little Orme, and Tan Penmaen Head on the North Wales coast are horrible examples. Perhaps the worst case of all is on Yr Eifl in the Llyn peninsula. Other aspects of geography, that is to say the commercial, must of course be recognized: iron ore of a useful kind must result in iron-fields and stone must be quarried with reference to quality, position, labour, and market. But the planner has a right to ask whether it be necessary to dispose of mining waste so untidily, whether ugly dwellings be quite inevitable in industrial areas, and whether the only suitable stone occurs in some of the more conspicuously misplaced quarries? Obviously a great deal must be forgiven in war time, but even then there is seldom compelling need for a callous disfigurement of the coastal or rural inland areas. The recent protest against the destruction of the Roman Wall is a case in point.

desecration by huts

In many places the ugly and misplaced huts and shacks that sprang up between the two world wars are almost worse than the industrial areas. There are many instances of these hideous settlements: amongst the worst is Flamborough Head where a whole town of hutments has completely ruined the scenery of that fine chalk headland. In North Wales travellers along the Holyhead railway will be familiar with the extensive and unsightly spread of shacks between Point of Air and Prestatyn. Miles of the Lincolnshire and Norfolk coasts are disfigured by long lines of jerry-built wooden erections. The Holderness coast affords many examples of shocking desecration, and parts of Essex and the

south-east coast are notorious for it. It must also be emphasized that a single hut, a few scattered ones, or a small group are very often as disfiguring as a large mass. The eyesore of the few huts near Cocker-sand Abbey will serve as an illustration of this point. The abbey ruins are in a surprisingly remote part of Lancashire, so that it seems all the more unhappy that its amenities should thus be spoiled.

holiday camps

A full analysis of this problem is out of place in a short paper, but one or two comments claim attention. It is only fair to recognize that the possession or renting of a hut, caravan, converted bus, or any other dwelling probably represents in the first place a desire for an open-air holiday away from towns and smoke. But the drive for seaside holidays has overreached itself in two important ways. On the one hand unregulated building has often resulted in serious overcrowding, bad sanitation, and complete lack of privacy; on the other hand there has come about the very serious ruination of many parts of our coastline which we have just described. There are, happily, at least partial remedies for these evils: they include the building in proper sites of camps, both great and small; the resiting of certain huts; the regrouping of some; the total destruction of others. The cost of doing this would be well worth while in the long run—and now is the time to plan and put into effect a systematic policy.

the military

Just recently another kind of defacement has appeared which is in a category by itself. A necessary, but regrettable, feature of the war has been the taking over of certain coastal areas for military purposes, and the erection of defence works and other buildings on the foreshore of many sections of the coast. This suggests problems of control and restoration no less urgent than those arising from industry and unregulated shack building.

overbuilding

The spoiling of our coasts by huts and buildings derives from geographical conditions just as directly as disfigurement from the industrial use of natural wealth. It is hardly accidental, for example, that so much of the east coast is overbuilt for holiday purposes: it is the drier side of the country, and there are many miles of fine attractive beaches along it. These are features which are bound to draw holiday-makers, and unfortunately lack of any effective planning has led to uncontrolled and disorderly overgrowth. Nearly

every sandy cove in Wales and south-western England, where bathing is reasonably safe, is partly, or wholly, spoiled. As an illustration, the north Cornish coast between Padstow and Newquay may be cited. A little to the west of Padstow lie Trevone, Harlyn, Booby's Bay, Constantine Bay, Treyarnon, Porthcothan, and Mawgan Porth. The whole district represents a considerable development of the seaside house for the most part of a good type, all sited near to sandy beaches. Whatever may be the advantages accruing to the owners or occupiers of these houses, and even though dwellings may imply individual prosperity and good taste, it is undeniable that the settlement pattern, as it stands, detracts from the beauty of the coastline which without the seaside houses, would be one of some variety and distinction. A comprehensive scheme of development for the whole area would have allowed just as much pleasure for all owners and tenants, and would at the same time have gone far to preserve the natural beauties of the coast. The evil of over-conspicuous siting would, above all, have been avoided. Again on the Dorset coast at Charmouth, Seatown (Chideock), Eype Mouth, and West Bay (Bridport) the existing huts even if limited in number locally ruin the landscape. A little careful planning would easily have meant an escape from this evil, and this particular district has not gone beyond recall.

beaches and coves

A shingly or rocky beach or foreshore is frequently untouched. This immunity is not surprising, but it is important that it should be realised. Sand or shingle beaches give great beauty and character to our coasts, and it is right that they should be used and enjoyed. There is much less justification, however, for a comparatively small number of people building huts on them and thereby making them less attractive. Access to beaches and coves is also an important matter, and in peace time the planner must face the very thorny problem of holiday car traffic. Here again the bearing on geographical conditions is plainly that of space relationships between the coast and the great inland cities. We know only too well that the cheap car and the week-end habit have played no small part in the deterioration of our coastal scenery.

coast consciousness

It is, however, plain enough that the public fully sympathises with, and supports the magnificent work of the National Trust. Moreover, in an area like Scolt Head Island, where sea birds breed and certain geographical and ecological experiments are made, slight restrictions of access to certain parts of the island have caused no difficulty. Requests can easily be made to, and explanations obtained from, the Watcher or



The Invader from within: above, sprawl near Burnham Overy, Norfolk; below, villas at Tre-Arddur Bay. Examples of discord beside the seaside. But both developments could have been suitably designed and compactly harmonised with their surroundings.



other authorities. It is indeed not too much to say that the opening up of official bird sanctuaries around our coasts has helped enormously to draw public attention to the reason for, and value of, setting aside certain areas as sacrosanct to nature. It is, after all, education, whatever form it may take, that will bring home effectively to one and all the need for preserving, not only our coastline, but also our whole countryside. What is more, this education must begin at school, and might well be associated with the teaching of geography. This is the subject above all directly concerned with the study of landscape, and intelligent knowledge and appreciation of the local region by school pupils should do much to guarantee the proper use of the countryside in the future.

a national policy

It is plain, therefore, that nothing less than a national policy will do. And over and above the physical conditions, which suggest large-scale planning, there are the financial. In the first place the disappearance of land by erosion around our coasts becomes a national liability despite the fact that private persons may be the immediate financial losers. Accretion, on the contrary, has in the past often meant only private or small-scale gain. Protective works against erosion are very expensive and likewise extensive and well-planned

reclamation schemes. Both, in the future, will probably be beyond the capacity of private owners. Even if there is no counterpart of the Zuider Zee in this country, there are extensive areas that by a national policy could be reclaimed.

national parks link

In the second place it is obvious that the less populated and poorer districts have not the means of protecting their amenities or of providing proper accommodation for the public. Cardiganshire, with a long and good coast but with a small population and no large town, cannot possibly spend on the same scale as Sussex; but it must never allow its coast to suffer like that of Sussex. The coast should be regarded as a unit and should be used and enjoyed under the ægis of the Ministry of Town and Country Planning. This suggestion is certain to provoke discussion and may even arouse opposition, but it is none the less a rational solution of a vast problem. Not only could the intricate physical problems of erosion and accretion be handled as indeed they should be, as national questions, but also the equally complicated questions of the proper use of the coast by the country's inhabitants. Clearly there must be improved accommodation for visitors, and often in places where at present there is little or none. This need may result in a varied policy of building hotels, communal camps to hold anything between fifty and five thousand youth hostels, an inn or road house, or simple lodgings. The whole matter is clearly closely related to the proposed scheme of National Parks, some of which may be coastal in position. But what body, other than a national body, can advise judiciously on the location of these buildings both as to situation and site? Only such an organization can visualize the whole, have access to complete and informative statistics about relative numbers visiting the various parts of the coast, assimilate and compare the data on different localities, and deal with the resulting problems impartially.

reconstruction

Coastal planning is, after all, only part of the replanning of the whole countryside. It must also be considered in relation to the rebuilding of our bombed cities. A new and well-planned Hull, for example, may quite likely affect the number of people visiting the Holderness coast. Should sufficient pleasure and recreational facilities be provided in or near the city, many of its inhabitants might think twice before spending time and money on reaching a coastal hut or caravan. That this again is connected with post-war transport problems is obvious, but the essential point is that planning must be comprehensive.

Compromise is one of our characteristics as a nation: it may be a good or a bad one, but in this matter, at least, it should be the means of solving many difficult points. Clearly no national body would wish to ride roughshod over the traditions and interests of a big town, or even those of a small rural district authority. The moral effect of a national authority, however, would be enormous, and such a body might very usefully aid the larger units in major and expensive schemes, or, if need be, act as a brake or complete deterrent. There is no need in this country to suppose that a national authority would act dictatorially but it should have effective powers so that it could take decisive action if necessary.

conclusions

A few major conclusions only need final emphasis. (1) Every possible step must be taken to prevent any disfigurement of those parts of the coast which remain unspoiled. (2) Careful replanning can do much to clear up the squalor that already exists. (3) Access to the coast for walkers by means of cliff and beach paths and improved ferry services should be made as easy as possible. (4) In considering the coast it is essential to visualize a limited and therefore highly vulnerable zone, although there can be no rigid conception of its boundaries. In general, local physical features, for example an up-slope, a prominent crest line, a wood or even the course of a river, will suggest natural small-scale frontier to the coastal belt which needs protection from uncontrolled development. Moreover, in this same zone, and perhaps even farther inland, the natural beauty must not be spoiled by making new motor roads out of harmony with the landscape. (5) All coastal problems should be under the review of the Ministry of Town and Country Planning.

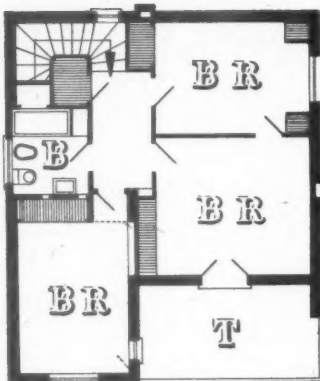
for the people

The whole matter is basically one of geography. We have some 2,751 miles of coast in England and Wales; a wide variety of coastal scenery and climate; an unequal network of roads and railways, better and more numerous in some regions than in others; a complex distribution of industry; and a high population settled in irregular clots. These people have a great desire to visit the seaside, either in vast numbers at Blackpool or Southend, for example, or in rather more manageable masses at scores of other seaside resorts, or in large and small camps, or as individuals on the remoter coasts. It is the last type of coastal region which is likely to become more and more popular in the right sense. Let us think of national authority as a co-ordinator and judge, in the last resort, of all forms of planning for the use and enjoyment of the coast, whether scientific, economic, or popular.

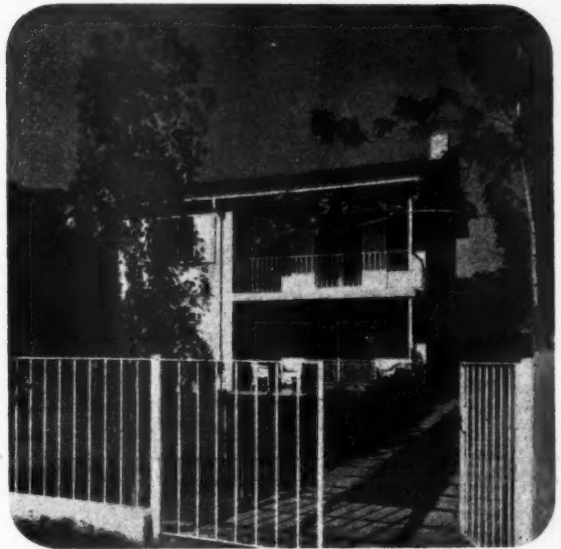


Preservation: at Yealm Mouth and Treen, Cornwall. The National Trust steps in. Coastal Planning will not only preserve beauty spots, but will develop the beauty line in which all coastal activities are appropriately placed.





FIRST FLOOR PLAN



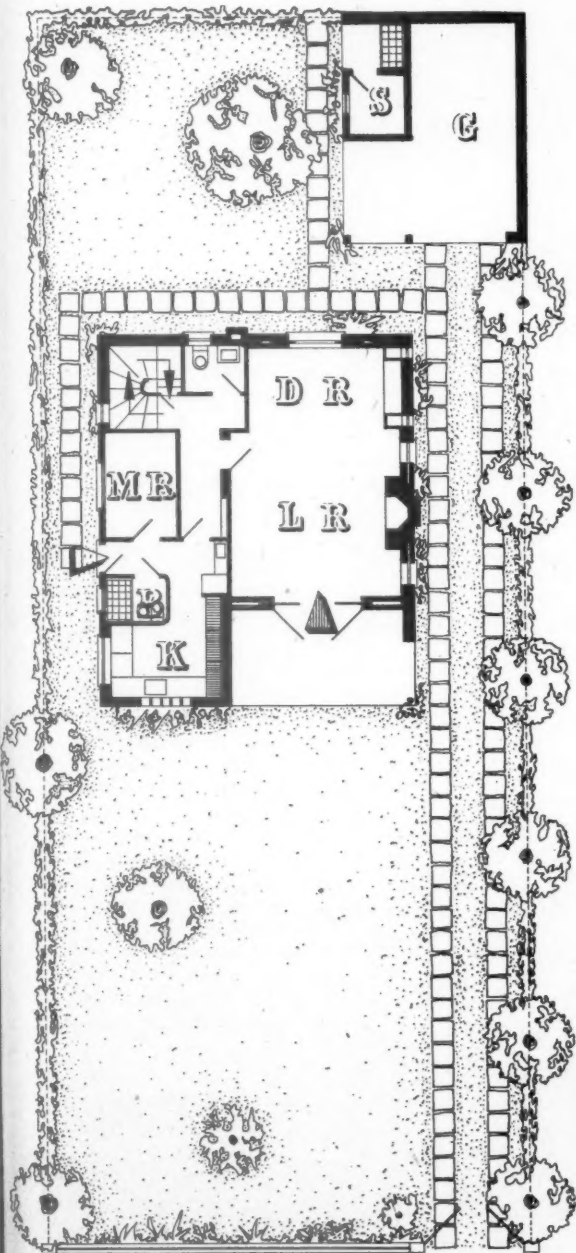
HOUSE

IN ARGENTINA

NO. 1: DESIGNED BY
ALEJO MARTINEZ

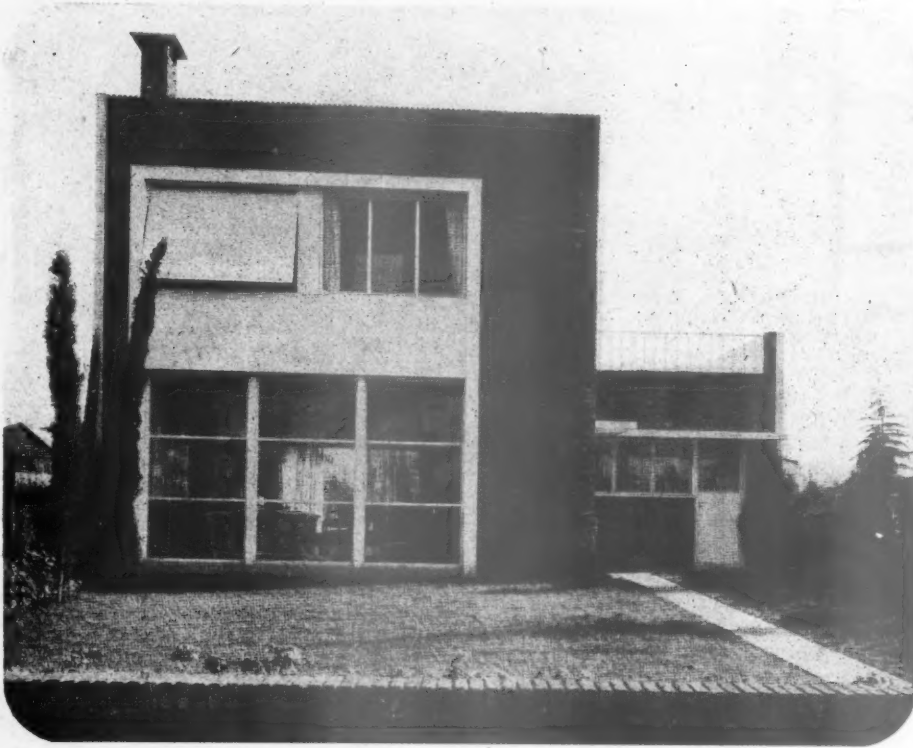
The contemporary architecture of the Argentine lacks the virility, unity and confidence of that of Brazil. Most of the design is borrowed, eclectic, and unadventurous. But on this page and the following are illustrated two small houses of some character which are culled from the pages of a recent publication received from Buenos Aires called *Viviendas Argentinas: Selección de Casas Individuales Modernas, Rusticas, Californianas, Etc. Proyectadas Por Conocidos Arquitectos*, published by Editorial Contemporanea.

The house illustrated here has great charm with its pantiled roof, its stuccoed brick wall colour-washed in white and terra-cotta and its simple wrought iron balcony railing repeated along the garden front and contrasting with the elaborate wrought ironwork of the French windows of the living room. The plan is interesting in having a main entrance of double doors leading from the loggia straight into the living room. Though the distance from kitchen to the dining space of the living room is rather excessive, the plan is otherwise neat and compact.



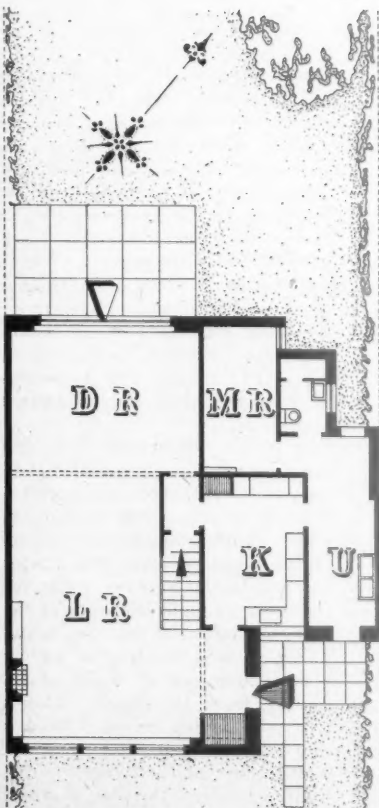
GROUND FLOOR PLAN

[Scale: $\frac{1}{4}$ " = 1' 0"]

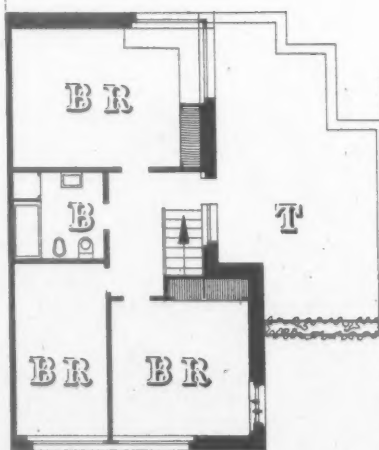


HOUSE IN ARGENTINA NO. 2 : DESIGNED BY CARLOS VILAR

In this example as in the preceding one, the living room with dining space runs from back to front of the whole house, though here the stairs are also contained within the living room. The service area of the ground floor plan is perhaps rather clumsily handled and results in a north-west elevation that is less satisfactory than the south-east elevation which has considerable character. An interesting detail is the removal of the pointing along the top angle of the brick coping, which breaks the harsh skyline with a fine serration.



GROUND FLOOR PLAN



FIRST FLOOR PLAN [Scale: 1/4" = 1'0"]

INFORMATION CENTRE

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

STRUCTURE

2120 Reinforced Concrete in Brazil

BRAZILIAN CONCRETE BUILDING DESIGN COMPARED WITH UNITED STATES PRACTICE. A. J. Boase. (*Engineering News-Record*, June 28, 1945, pp. 902-910.) Cost of reinforced concrete structure of 16-storey apartment building recently erected in Rio de Janeiro compared with cost of similar structure designed in accordance with American Concrete Institute (ACI) Building Regulations.

In two previous articles (see No. 1859, 15.4.45, and No. 2043: 9.8.45) the author reviewed South American building practice. The present article compares details and cost of a 16-storey block of flats as actually built and as it would have been built in USA. In the floor system, the ACI design requires 32 per cent. more concrete and 26 per cent. more steel than the Brazilian design, although in the comparison higher grade steel has been assumed with ACI design than has been used in the building. Even more striking is the comparison of columns. For axial load the Brazilian code allows 85 per cent. higher stress on concrete and 66 per cent. higher stress on steel. The maximum steel percentage is 6 in the Brazilian code compared with 4 in the ACI code.

The difference in the permissible load bearing capacity can best be seen in numerical examples. If the concrete strength at 28 days is 2,500 lb./sq. in. and intermediate grade steel is used (equivalent to medium tensile steel in this country) the maximum permissible load on an 18 in. square column is 310,000 lb. according to the ACI code, but 690,000 lb. in Brazil. For eccentric loading the difference is still greater.

The Brazilian code does not recognize concrete strengths in excess of 2,670 lb./sq. in. For 2,500 lb./sq. in. concrete, ACI

columns cost approximately 60 per cent. more than Brazilian columns. Even 5,000 lb./sq. in. concrete ACI columns are 20 per cent. more costly, which is due to the difference in the permissible steel stresses.

The minimum column size is 8 in. x 8 in. in Brazil as against 10 in. x 12 in. in the ACI code. This is of particular importance in hospitals, blocks of flats, offices, etc. An 8-in. column may be concealed in the brickwork whereas a 10-in. column will project beyond the face of the wall, and this is often undesirable as well as uneconomical.

The author points out that the Brazilian code of 1943 specifies substantially the same requirements as the German code of 1932, although in some respects the Brazilian code is more liberal. American engineers may find the comparison astonishing, but it has to be admitted that Brazilian engineers and constructors have had more experience in tall buildings, and their methods and procedures must be regarded with considerable respect.

2121 Two-Stage Housing

PROPOSING TO-MORROW'S HOUSE TODAY BY TWO-STAGE PERMANENT HOUSING. (Pamphlet issued by John McDonald [*Contractors*], Glasgow.) Disadvantages of temporary and Duplex houses. Proposed two-stage permanent housing more economical.

The pamphlet enumerates the basic drawbacks of Duplex houses and suggests two-stage permanent housing. The advantages of two-stage housing were described in No. 1654: 2.11.44, and No. 2076: 30.8.45. Structurally various methods are proposed. One of them is the erection of a pitched roof over the first stage bungalow, composed of rafter panels hinged at the eaves. When the pitched roof for the second stage is completed, the panels are to be pivoted into vertical position so as to form the inner leaf of the upper floor walls. Since the

rafters are longer than the height of the upstairs rooms, the extreme peak of the first stage roof is lost at the change over. Although this roof-pivoting idea may appear attractive on paper, a flat roof is no doubt the more economical solution, requiring less labour in the first stage when labour saving is of the greatest importance.

MATERIALS

2122

Glass

GLASS IN HOUSE DESIGN. Frank G. Lopez. (*Pencil Points*, May, 1945, pp. 93-100.) New properties of glass. New forms. Solid glass: sheet forms, block forms, cellular glass. Fibrous forms. Applications in house design. Possible future uses.

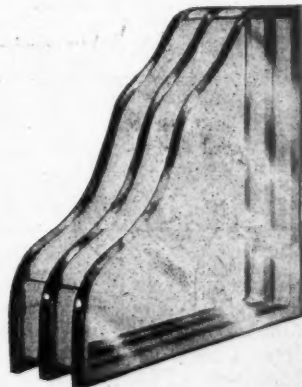
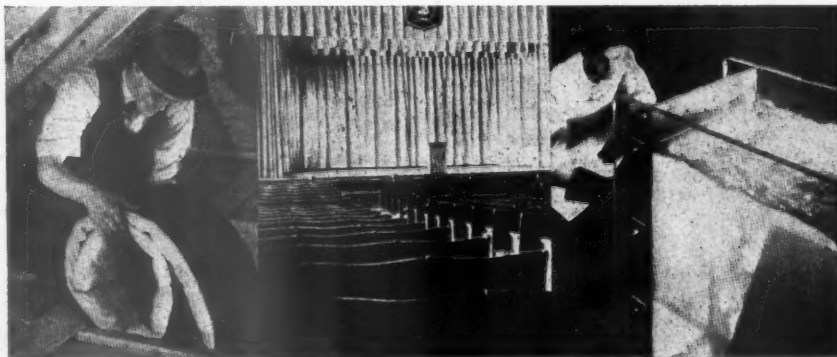
In only a few years glass has been changed into a completely new material and the very properties which were considered to be characteristic of glass have been transformed. It is no longer hard, brittle and transparent, it can be flexible; sawed and cut to size; woven, tied, twisted, felted, coated; bonded to other materials. It has become something more than a weather-proof light-transmitter. The architect asking himself "What can I do with this material?" must become familiar with the variety of new forms in which glass is to-day obtainable. The article reviews some of these new forms and discusses their applications. Some of the newer glass block developments are of great interest since they provide a pretty good thermal insulation. Cellular glass can be bonded with flexible agents direct to masonry. Cellular glass slabs are extremely light, can be used in floors and roofs or as cores of walls to provide thermal insulation. Potential developments are very promising and may lead to more structural uses. Proper use of glass in house design must depend on many considerations. The illustrations give some fine examples of what might be done with judicious use.

2123

Natural Cement

NATURAL CEMENT BLEND IMPROVES CONCRETE. C. E. Lovewell. (*Engineering News-Record*, July 26, 1945, pp. 100-102.) Concrete made from blend of air-entraining natural cement and normal portland cement more durable, more plastic and workable, more watertight, more resistant to sulphates and certain dilute acids, and has lower heat of hydration than concrete made with portland cement alone.

It is generally recognized that concrete



Newer forms of glass: left to right, fibrous glass in blanket form for insulation; fibrous glass woven into drapery materials used to make theatre fire-curtain; tempered glass used where strength and acid-resistance are needed; triple thickness insulating glazing (also available double thickness). See No. 2122.

containing from 3 to 6 per cent. air in the form of microscopic bubbles is highly resistant to freezing and thawing and to scaling (see No. 1675: 16.11.44). The substitution of a sack of natural cement for a sack of normal portland cement in a cubic yard mix produced concrete having also other outstanding characteristics (extreme plasticity, minimum of bleeding, increased watertightness and resistance to chemical influences, etc.). The fatigue endurance of cement mortar beams made of blended cement is markedly superior to that of beams made of straight portland cement.

In its manufacture, natural cement is not fused as is the case with portland cement. Its particle structure is less glassy and the ground product is considerably finer than that of portland cement. The chemical compounds of natural portland cement generate less heat upon hydration than those of portland cement. This is important in mass concrete. When natural cement is used as a blend, more accurate control of air content in concrete is secured than when air-entraining portland cement is used.

The article contains practical recommendations for the design of concrete mixes using a blend of portland and natural cements.

2124 Dry Rot

DRY ROT IN WOOD. *Fourth Edition.* Forest Products Research Bulletin, No. 1. (HMSO, 1945. Price 1s.) Fungi causing dry rot in wood. Detection and practical treatment of dry rot. Precautions to be taken in use of timber in new buildings to prevent outbreaks.

The increased prevalence of dry-rot in war-damaged houses made the re-issue of the Bulletin desirable. (Third edition issued 1938.) New material has been included and especially Part III, dealing with new buildings, has been revised in order to draw attention to precautions necessary to prevent decay of timber in construction that may be used after the war. The illustrations are a very lively commentary on the damage wrought by dry-rot and the way *Merulius Lacrymans* acts. (See also No. 2106: 13.9.45.)

2125 Fibre Board

FIBRE BUILDING BOARD FOR GENERAL BUILDING PURPOSES. *War Emergency British Standard 1142:1943.* (British Standards Institution, 2s.) Amendment No. 1, April, 1945, referring to flame-retardent fibre building boards. Definition and classification.

The amendment draws attention to the fact that boards which have been treated for flame-retardent properties, might necessitate the use of some special primers or paint before they can be decorated. The properties of fibre building board (e.g., sound absorption) may be affected by the flame-retardent treatment.

HEATING and Ventilation

2126 Fire Hazards

SAFETY IN POST-WAR HOUSES. *F. L. Ahern.* (Technology Review [Cambridge, Mass.], November, 1944, p. 32.) Fire hazards arising from heating appliances.

The article deals chiefly with the fire hazards arising from the improper installation of heating and cooking appliances.

Sufficient clearance between the appliance and its stove pipe and the walls and ceiling of the room are essential for safety. Some suggested clearances (suitable for American practice) are given, and many references are included.

2127 Electrical House Heating

ELECTRICALLY HEATED HOUSES IN THE TENNESSEE VALLEY. *B. H. Martin.* (Electrical Engineering [New York], December, 1944, p. 437.) Summary of experience gained in Tennessee Valley.

In the Tennessee Valley there are to-day about 1,000 electrically-heated homes. The average annual electricity consumption is shown in the Table below:—

No. of rooms	Volume	Annual Consumption	
		Total	Heating
	(cu. ft.)	(kWh)	(kWh)
4	6,240	14,848	9,314
5	7,500	16,910	10,186
6	11,750	22,399	15,551
9	11,922	23,751	17,763

The average connected load amounted to 2.18 watts per cu. ft., and the average consumption to 1.35 kWh. per cu. ft.

Most of the houses are well-insulated and have an hourly heat loss of about 500 B.Th.U. per deg. F. The theoretical consumption for a four-room house heated to 70 deg. F. would be 12,600 kWh. per annum. The actual consumption is usually less, since the bedrooms are not heated to full comfort temperature.

The heaters are of the radiant-convection type, with thermostat control. Continuous operation of the heaters gives a much lower maximum demand and higher load factor than for appliances which are switched off at night. This is of some importance to the supply authority.

2128 Smokeless Zones

SMOKELESS ZONES. (National Smoke Abatement Society, 12 pp. Price 3d.) As a first step to a general prohibition of smoke emission, booklet proposes prohibition of smoke in certain zones of large towns. Central (business) and industrial areas first on list as present least difficulty. Difficulties of extension to residential areas discussed.

2129 District Heating

DISTRICT HEATING AND THE SMOKELESS CITY. *D. H. V. Smith.* (Heating and Ventilating Engineer, April, 1945, p. 425.) Survey of advantages of district heating, with particular reference to smoke abatement. Dismissal of objections and discussion of economics of Dundee scheme.

2130 Tobacco Smoke Control

TOBACCO SMOKE CONTROL: A PRELIMINARY STUDY. *C. S. Leopold.* (Heating, Piping and Air Conditioning, March, 1945, p. 164.) Control of tobacco smoke in sports arenas. Visibility, eye-irritation and odour.

Author states that three effects of tobacco smoke need to be considered—impairment of visibility, eye-irritation, and odour. With a uniform distribution of smoke throughout the air, the density of the smoke-cloud is proportional to the number of particles per cu. ft. Assuming a con-

stant rate of emission of smoke, and ventilation with smoke-free air at a uniform rate, the density of the smoke cloud in the steady state should be inversely proportional to quantity of air introduced per occupant. This was found to be the case at Madison Square Garden.

The transparencies obtained at the Garden were of the order of 60 to 70 per cent. It is given as an opinion that eye-irritation commences when the transparency is less than about 67½ per cent. Visibility is seriously impaired when transparency is less than 70 per cent., but 80 per cent. is taken as a commercial standard. The question of odour is less important, since olfactory fatigue is rapid, and ventilation sufficient for visual satisfaction is enough to avoid sensations of odour to the acclimatised spectator.

The author emphasises that the data apply only to the Madison Square Garden.

2131 Hospital

HEATING AND VENTILATION DESIGN PROBLEMS IN A STATE HOSPITAL FOR MENTAL CASES. *R. W. Tuer.* (Heating and Ventilating [New York], March, 1945, p. 62.) General discussion of the problems.

2132 Controlling Light and Air

LIGHTING, AIR CONDITIONING AND AIR CLEANING. *S. R. Lewis.* (Illuminating Engineering, January, 1945, p. 37.) Arguments and data for having artificial control of light and air in buildings.

The article contains a number of familiar arguments for ignoring internal sources of light and air, and using artificial control in buildings. The argument takes two lines of approach. The first is, that variability in the air affects the accuracy of machines; this has recognised validity for fine work. The other is the familiar American dislike of variable environment for human comfort.

QUESTIONS and Answers

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential, and in no case is the identity of an enquirer disclosed to a third party. Questions should be sent to: THE ARCHITECTS' JOURNAL, 45, The Avenue, Cheam, Surrey.

2133 ILA

Q Has the Institute of Landscape Architects a system of membership by examination? Are its interests limited to the subjects of garden and park lay-out? Or do they cover much wider aspects of landscape appreciation and design involved in Town and Country Planning?

A There are four classes of membership—Fellows, Associates, Probationers, and Students. Prospective members, other than students, have to send samples of their own drawings for the judgment of the Membership Committee, but for students it is sufficient for them to express their interest in the subject.

The interests of the Institute are not only concerned with garden and park layouts, but much wider aspects such as landscape designs concerning industries, etc. The Institute is a professional one.

R



EW

REMOVE RESTRICTIONS

on Planning

"The use of a local Gas Geyser system for a domestic hot water supply means greater freedom in house planning. With a centralized hot water system the draw-off taps must be carefully related to the heating source and to the hot water storage, and this greatly detracts from the flexibility of any building plan. Other considerations may, upon occasion, make it undesirable to plan compactly; but it should be remembered that an open plan embodying a central system of supply necessitating long pipe-runs entails high circulation losses. A local gas geyser system, however, imposes no planning restrictions; the geyser itself occupies no floor space and storage space for fuel and water is unnecessary. These advantages suit the present tendency in domestic designing to make use of every square foot of space. Gas geysers also allow considerable economies in flue construction and plumbing."

C. R. FOWKES, A.R.I.B.A., A.M.T.P.I.

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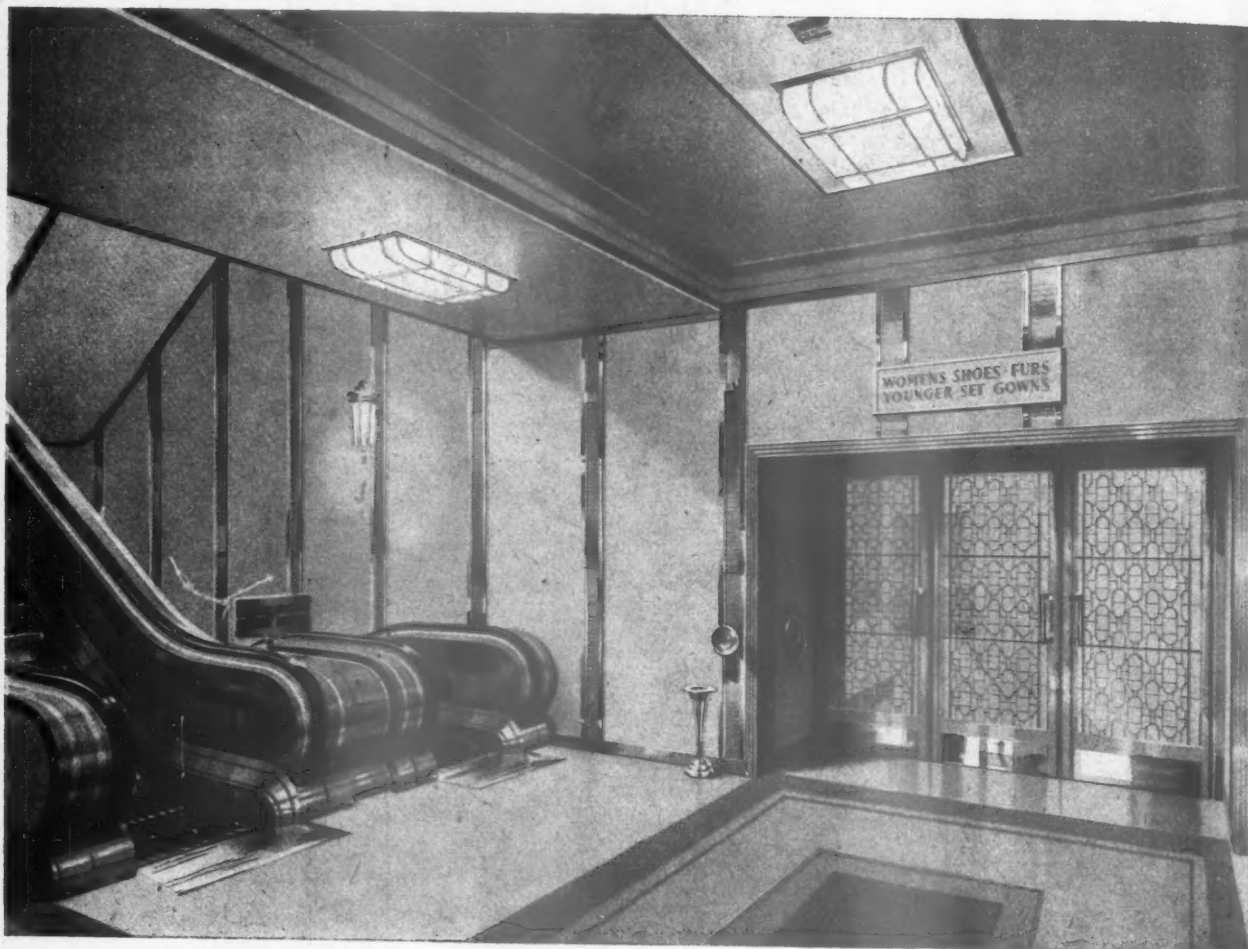
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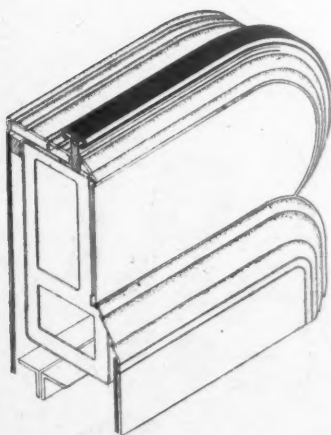
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ALUMINIUM

in Store Architecture



Modern Store Architecture offers a vast field for the introduction of Aluminium and its alloys, already exploited by the ambitious designer with notable effect. The charm of aluminium, now enhanced greatly by anodising, has been unfaltering in its appeal; its qualities of permanence have been underlined by a half-century of practical experience. Beautiful doors and grilles, panelling, lighting fixtures, window and roof glazing, showcases, counters and wall storage, ornamental columns and many structural uses have emphasized its remarkable flexibility. Illustration shows an escalator — that revolutionary method of making continuous progress without effort — added more recently to the many store improvements embodying anodically treated and Imprest Aluminium.

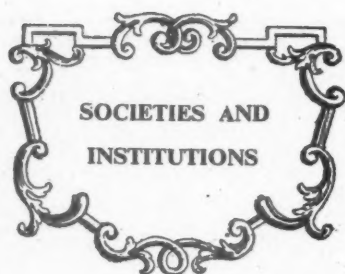
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Speeches and lectures delivered before societies, as well as reports of their activities, are dealt with under this title, which includes trade associations, Government departments, Parliament and professional societies. To economize space the bodies concerned are represented by their initials, but a glossary of abbreviations will be found on the front cover. Except where inverted commas are used, the reports are summaries, and not verbatim.

TCPA

A. Gilbert Scott

August 30 at the Planning Centre, 28, King Street, W.C.2. Lunch-time meeting of the Town and Country Planning Association. Talk on REBUILDING THE HOUSE OF COMMONS by Adrian Gilbert Scott, M.C., F.R.I.B.A. Chairman: the Rt. Hon. Sir Arthur Salter, M.P.

A. Gilbert Scott: I propose to confine this talk to the problems encountered in designing and planning a place like the House of Commons, where the Mother of Parliaments is a lady of very decided views, though not above changing her mind. And although we received definite instructions from the Select Committee on all vital matters, it is interesting to examine the reasons why they arrived at some of their conclusions—particularly as to the shape of the Chamber.

As you know, we were instructed to retain the rectangular shape, with exactly the same seating arrangements on the Floor of the House as existed in 1940, though we were free to enlarge the Chamber above the Gallery level. It is curious that this rectangular shape for the Mother of Parliaments should remain unique, all other legislative assemblies having semi-circular arrangements of the seating.

The earliest meeting place of the House of Commons was in the octagonal Chapter House at Westminster Abbey, which was used for some two hundred years up to the Dissolution in 1550, when they moved into the long and narrow rectangular Collegiate Chapel of St. Stephen, on the site of the existing St. Stephen's Hall; there they remained for close on three hundred years, during which time the "party" system seems to have been evolved, probably owing to the shape of the Chamber, and when this was destroyed by fire in 1834,

the House of Commons met in the old Court of Requests (the original Banqueting Hall of the Palace), again a rectangular building, the lay-out of which may have influenced Barry, as it was of much the same dimensions as his Chamber, though considerably lower. Thus for the last four hundred years the House has sat in a series of rectangular Chambers, and Mr. Churchill had some interesting comments to make on this in a little known speech of his to the Architectural Association in 1924, when he was laying bricks and Hitler was papering walls. He then instanced the House of Commons to show the influence of building structure upon human character and action, saying:—

"We make our buildings, and afterwards they make us; they regulate the course of our lives. The whole character of British parliamentary institutions depends upon the fact that the House of Commons is an oblong and not a semi-circular structure." He then continued:—

"The Party system undoubtedly depends upon the shape of the House of Commons, so that when you are called upon to build council chambers for legislative bodies, be very careful to bear in mind the immense responsibility. You may do more in the lay-out of the chamber to affect the history of your country than if you were spending your time in framing the clauses of the Constitution itself."

Hence our interest in this matter, which tends to support the theory that the collapse of France may have been due to an architect planning a semi-circular chamber of the country's legislators.

Bound up with history, come tradition and procedure, which we found to be not merely a blind following of what had been done before, but the carrying on of a system evolved after many years of trial and error until it has been perfected. For instance, the actual seating in the Chamber has undergone many alterations, even since Barry built it a hundred years ago, when the Peers used to occupy the cross benches behind the Bar, while the Division Lobbies did not extend across the north end. (Big Ben, by the way, is at the north end of the Palace, the river running north and south at this point.)

The new seating decided on was as follows:

Members	437	including 91 in the Side Galleries, all as before.
Strangers	326	
Reporters	161	an increase of 67
Officials	15	" " 68
		" " 2
Total	939	a total increase of 137

There is, actually, an increase of 171 seats within the Chamber, as some three rows of seats outside and behind the old north screen have now been brought inside.

This is a bigger number than in other legislative assemblies, which average between 700 and 800 total, the old House of Commons seating 802.

We were instructed to retain the old spacing of the Strangers' Seats, as to bring this up to modern standards would have entailed the loss of nearly 50 seats—the slogan that carried the day was "Numbers before comfort." However, as there are no divisions between the seats and the galleries are only occasionally filled to capacity, this was not so unreasonable as it sounds. I noticed that a remark that under the Building Act the House of Commons would have been classified as "a place of public entertainment" did not amuse the Members.

The provision of only 437 seats for the 615 (or, rather, 640 now) Members caused a lot of discussion, but this seating used to provide for 670 Members when the Irish were there and the good old English system of trial and error seems to have proved 437 to be sufficient, regardless of logic.

As regards the style of architecture to be

adopted, the Select Committee decided that the new building should be in late Gothic, to blend with the existing Palace. It is difficult to see what other decision they could have come to in view of the fact that the portion to be rebuilt represents only about 10 per cent. of the whole, with the remaining 90 per cent. fairly reeking of Victorian Gothic. Within these rather drastic limitations they left the architects free to improve on the design and details as much as possible. At first sight this did not appear a very congenial task, but when one got down to it, it was surprising how much designing was involved and how interesting the work became.

The first consideration was how to enlarge the Chamber itself above the Gallery level to accommodate the extra strangers and reporters, and it was decided to enlarge the north Gallery for the reports, to match an enlarged south Gallery for the strangers, and also to add a third row of seating to the side Galleries. Incidentally, this replanning entailed moving the whole Chamber some 5 feet northwards. It was also decided to retain the stone screens at each end, at the level of the side windows, so as to preserve the horizontal band of stonework which was a good feature of the old design. After this the ceiling was entirely redesigned by my brother, Sir Giles, together with the windows and the panelling generally, with the carved ornament definitely concentrated in broad horizontal bands instead of being scattered over the whole surface as before, the character being in general much more domestic and less ecclesiastical than previously.

Barry's original Chamber had a high coffered ceiling, as in the House of Lords, but I understand the Commons never held a sitting in this, as, after an apparently hilarious visit to it when first completed, they felt so lost in it after fifteen years' use of a 30-ft. high Chamber that they immediately ordered Barry to lower the ceiling. What Barry and Pugin thought or said at the time is not recorded, but Pugin died that year. Barry was tougher and survived another eight years, having rather ingeniously lowered the ceiling by springing it from the transoms of high traceried windows, which thus became dummies and only showed from the outside; but with no Pugin to help, the new ceiling was of rather poor design and detail.

We were warned at the beginning that working for Parliament usually led to an asylum or the grave, but as regards the height of the new Chamber we should be more fortunate than Barry, in that the Members will now be moving from the high ceilinged House of Lords to the lower new Chamber, where we hope they will experience the reverse feeling and appreciate the more intimate atmosphere of the lower new House, despite its enlargement—if they ask for a higher ceiling, we shall be sunk.

The Select Committee also asked for the maximum of additional accommodation adjoining the Chamber to be provided for Members and officials. Fortunately, there was a space nearly 30 feet high beneath the old Chamber and Division Lobbies, consisting of heavy brick vaults provided by Barry for Dr. Reid's elaborate ventilation scheme which never materialised. This space we are dividing into two floors, thus providing nearly 20,000 square feet of new accommodation for Members; much of this will have to be artificially lit and air-conditioned as in modern hotels. Again, above the Chamber and Commons Lobby we have been able to provide another 10,000 square feet of new accommodation for officials without breaking the skyline of the Palace; while the adoption of a steel frame, with thinner walls, and the omission of some inadequate light-wells, has enabled the accommodation for reporters and other offices to be nearly doubled in area.

The floor levels proved to be very complicated, as although Barry insisted on his principal floor being kept at one level throughout the 8 acres of Palace, all the other floors in the six wings abutting on to our new work were at varying levels and all had to be linked to our new building.

The detailed planning involved much research into the complicated procedure and customs of the House, and our difficulty here was that, owing no doubt to the vastness of the building, although each department knew its own procedure, no one authority could give us a complete picture of its working, and it often happened that the only person who could tell us how two departments interlocked was a messenger or policeman. For instance, the only person who could tell us which doors had to be locked on a Division was the actual door-keeper who had to lock them. It came as a revelation to everyone to find there were no less than 19 doors to be locked at each Division.

The necessity of strictly segregating the Members, strangers and reporters, except in certain specified areas, accounts for the number of staircases, but the decision to reserve the south Gallery for strangers and the north Gallery for reporters greatly simplified the access problem, though minor problems, such as enabling unruly strangers to be hustled secretly away to the Police Superintendent's office, had to be solved, together with the provision of a secluded Gallery from which VIPs like the Princesses could view and hear debates without formality.

The reporters' requirements were somewhat complex, involving free access to each seat without disturbing anyone else and elaborate telephone arrangements, but, as I see it, they are now getting the additional accommodation they have been in need of for years, but which it had not been physically possible to provide until Hitler took a hand.

As it was impossible to construct a Chamber of this size and shape which could be guaranteed acoustically perfect throughout with Members speaking from all sorts of positions, it was decided to instal sound amplification under the auspices of the BBC and 456 loudspeakers are being installed in the Chamber, one to every two persons, and all these have to be incorporated inconspicuously in the seating and made proof against damage by Members, who are reported to be in the habit of dismantling anything within reach during a dull debate, leaving a heap of screws and other components on the floor. They are also confirmed Doodlers in telephone boxes, and we have been to some pains to

evolve an acoustic surface proof against this and think we have discovered something which will annoy them very much.

No provision is being made for either public broadcasting or television, though every other known service is being installed, including annunciators, division bells, electric clocks, pneumatic tubes, vacuum cleaning, in addition to all types of heating and air-conditioning to every room and telephone box, so that the building is developing into one mass of ducts and conduits, all of which have to be discreetly hidden.

The Palace was reputed to stand on a vast 10-ft. thick concrete raft, but a series of borings disclosed that each wing (but not the courtyards) was carried on a 6-ft. raft of lime concrete, resting on sand and gravel some 16 ft. above blue clay, with a constant water level unaffected by the river tides some 4 ft. below the bottom of the raft. This raft has proved satisfactory, and as our new building, with its thinner walls, will weight less than the old, we are retaining it, with modifications to suit the new point loads.

The south and east sides of the old mediæval Cloisters were entirely destroyed by a H.E. bomb, and the north and west sides badly shaken, but the Ancient Monuments branch of the Ministry of Works has undertaken the repair of these latter, while we rebuild the remainder. These two-storeyed Cloisters, built in the 16th century with elaborate fan vaulting, were badly damaged in the fire of 1834 and practically rebuilt by Barry and Pugin to the old design.

The Commons Lobby south of the Chamber will have to be entirely rebuilt, and as this formed an integral part of the Palace, balancing the Peers' Lobby, it was decided to rebuild this generally to the old design, but with more refined detail and a less cumbersome wood ceiling. This will enable the so-called "Churchill Arch," namely, the archway between the Commons Lobby and the House, to be reinstated in its calcined condition.

As satisfactory ventilation of the Chamber was of the utmost importance, Dr. Oscar Faber was asked by the Select Committee to prepare a scheme, which is now being incorporated in the building. The chief problem, as in a theatre, was not the heating, but the cooling, of the Chamber and the elimination of hot air. But, unlike a theatre, the audience is liable to violent fluctuations without notice, necessitating correspondingly quick adjustments of the ventilation so that this should, as it were, follow the Members about to the Division or Commons Lobbies. To enable this to be done, it is proposed to instal a periscope in the Chamber ceiling, so that the control

engineer may observe any large movements of Members or strangers and immediately adjust the ventilation accordingly.

Each occupant of the Chamber will be provided with a heating panel under his feet and a gentle current of air from varying directions around his head, the air being introduced horizontally above head-level and extracted mainly at the ceiling of the Chamber.

A full-size model of a portion of the Chamber has been erected by the National Physical Laboratory, who are conducting experiments in collaboration with Dr. Faber, which are proving very satisfactory, the air currents following the exact tracks forecast by Dr. Faber to the apparent surprise of everyone but himself.

Air-conditioning, with humidification and cleaning by electric filtration, including the telephone boxes, involves extensive plant-chambers and an elaborate system of ducts.

In the old Chamber the air was introduced vertically through an iron-grilled floor covered with carpet, which resulted in the undesirable condition for Members of Parliament of "hot heads and cold feet"—this we hope to reverse.

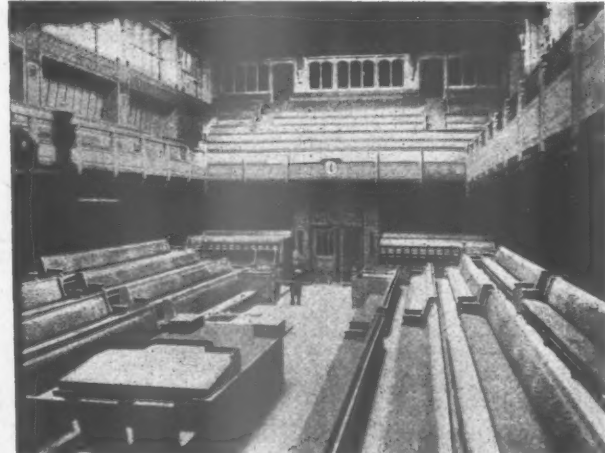
The necessary demolition work is now proceeding and should be finished by November, when the foundation contract is due to commence. It will take from three to five years to complete the whole work, depending on the number of hours and shifts we are permitted to work, the amount of labour provided and the extent of interruptions during sittings, etc. All delays from any of these causes will, of course, be blamed on to the architects.

RIBA ASB Lectures

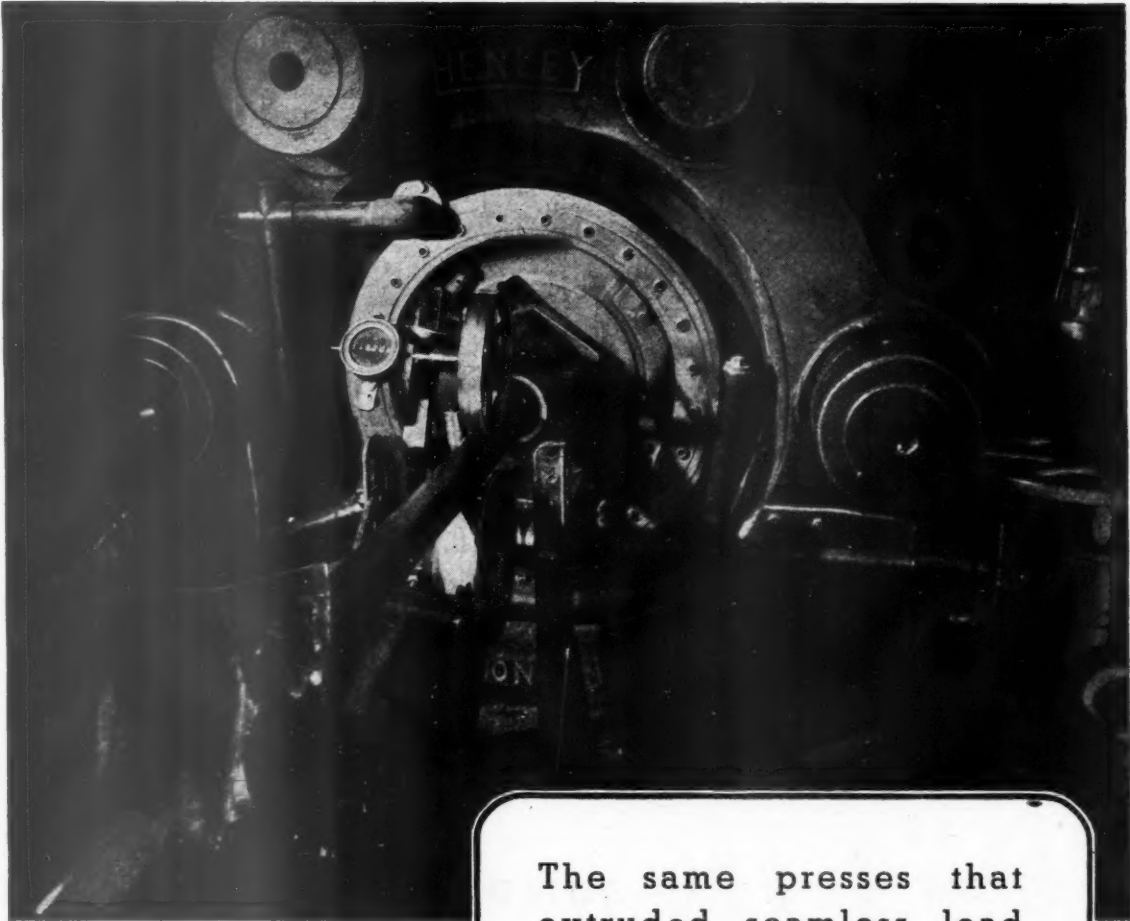
The Architectural Science Board has arranged the following SERIES OF LECTURES for the Session November, 1945, to June, 1946. The lectures will take place at 5.45 p.m. at the RIBA, 66, Portland Place, London, W.1.

Wednesday, November 7: Joint Meeting with the Institution of Structural Engineers. Lecture on *The Construction of an Underground Factory*, by H. V. Lobb, F.R.I.B.A.

Wednesday, December 5: *Painting: An Exposition of the Ministry of Works Study Report No. 5*, by James Laurance, with an introduction by Dr. L. A. Jordan (Paint Research Station).



Model of the new Chamber in the House of Commons as proposed in the Report from the Select Committee on House of Commons (Rebuilding) (H.M.S.O. 7s. 6d.) Left, looking north towards the Speaker's Chair; right, looking south towards the entrance.



Lead alloy tubing for operation "Pluto" being extruded on the Henley Straight Through Lead Press.

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Wednesday, January 2, 1946: *Plastering*, by Dr. H. Andrew (Building Research Station).

Wednesday, February 6: *Painting Plastered Surfaces*, by H. M. Llewellyn (Building Research Station).

Wednesday, March 6: *Building Research*, by Professor J. D. Bernal, M.A., F.R.S.

Wednesday, April 3: *Colour in Building*, by William Allen, A.R.I.B.A. (Building Research Station).

Wednesday, May 1: *The Relationships of Air Photographs to Architecture and Town Planning*, by Frank Scarlett, B.A., F.R.I.B.A.

Wednesday, June 5: *Sociology in Architecture*, by a member of Study Group No. 1 of the Architectural Science Board.

To develop the discussions which take place at the lectures, it has been decided to print the papers for circulation before the date on which they are to be given. Copies of the lectures may be obtained two weeks before they are due to be delivered on application to the RIBA Librarian-Editor, 66, Portland Place, W.1. A register will be kept at the RIBA of those who ask for copies of lectures or who express themselves interested in any particular lecture.

In addition, announcements giving synopses of the various lectures will be published from time to time in the RIBA Journal and the professional press.

Announcements

Mr. F. Ratcliff, A.R.I.B.A., chartered architect and surveyor, has resumed practice at 70, Surrey Street, Sheffield, 1, and would be glad to receive trade catalogues.

Mr. Brian Peake, A.A.D.P.(HONS.), A.R.I.B.A., is now conducting his practice from 13, Dover Street, London, W.1. Telephone: Regent 4914/5.

Mr. W. J. A. Osburn, A.R.I.B.A., late Squadron Leader, R.A.F., has resumed practice with the firm of Tubbs, Duncan & Osburn, Chartered Architects, at 31/33, High Holborn, W.C.1. (Holborn 9631/2). He will be glad to receive trade catalogues.

The name of New Geysers (1931) Limited, has been changed to Barralets Limited. The offices and works will remain at 24, 25 and 27, Addington Square, London, S.E.5. Phone: Rodney 2696/7.

The War Office has released Major Leonard C. Howitt, B.A.R.C., F.R.I.B.A., A.M.T.P.I., to resume his appointment as Deputy City Architect of Manchester.

The address of the Newcastle office of Messrs. George Ellison, Limited, is Victor Buildings, 15, New Bridge Street, Newcastle-on-Tyne 1. Previously the postal area number was 2. The change has been made by the postal authorities in an effort to speed up the delivery of mail.

The partners of Searle & Searle, Norman O. Searle, I. Keir Hett, E. C. Kent and J. C. Casey, have moved their offices to Amen House, Warwick Square, E.C.4. Telephones, City 1639 and 1630. Cecil J. Searle is in the office of the City Architect, Hull, Yorks. David O. Searle is shortly expected at Amen House.

Mr. Henry Darsa, L.R.I.B.A., has resumed practice at 59a, Connaught Street, Hyde Park Square, W.2, telephone Pad. 9867, and would be glad to receive trade catalogues, etc.

Mr. Louis De Soissons, A.R.A., F.R.I.B.A., has moved his office to Midland Bank Chambers, Howardsgate, Welwyn Garden City. Telephone: Welwyn Garden 3456 (temporarily).

Messrs. Geoffrey Denham & Son, F.I.A.A. & S., have removed their offices to their pre-war address at 41, Jewry Street, Winchester, and would be glad to receive trade lists, etc.

The Ministry of Supply announces that the Timber Controller; Branch I/1 (a) (Imported Softwood Buying); Plywood Department Purchasing and Supply Sections; and Building and Machinery Licences Section (Department III) have been transferred to 7, Cadogan Square, S.W.1. (Tel.: KENsington 5131). All correspondence for the Controller and for these branches should be addressed to Cadogan Square. All other correspondence should continue to be addressed to Timber Control Headquarters, Clifton Down Hotel, Bristol, 8. The Deputy Controllers Departments I, II and IV; the Assistant Controllers Department III; and the Assistant Controller Pitwood Department will have alternative offices at Cadogan Square, where they will be in attendance during a part of each week. The Deputy Assistant Controller, Branch I/1 Shipping, and the Chartering Section of the Branch have moved from Bristol to the Control's London Shipping Office, Nash House, 39a, Maddox Street, London, W.1. (Tel.: Mayfair 0767.)

Mr. Raglan Squire, F.R.I.B.A., has been released from the Army and has rejoined the firm of Arcon, chartered architects, 81, Piccadilly, W.1, as a partner.

Messrs. G. Hamilton Gould and Bevil Greenfield, A.R.I.B.A., Chartered Architects, will be pleased to receive trade catalogues at their office, 1, Bloomsbury Square, London, W.C.1.

The Ministry of Works Library is establishing a central collection of trade literature for reference by the technical officers of the Ministry. Manufacturers are invited to supply two copies of catalogues and like material on house and building equipment, building materials, plant and machinery. They should be addressed to Librarian, Ministry of Works, Lambeth Bridge House, London, S.E.1.



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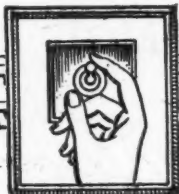
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The Electrical Section at the Building Centre, Maddox Street, London, W.1, provides interesting illustrations of electrical applications in domestic and industrial premises.



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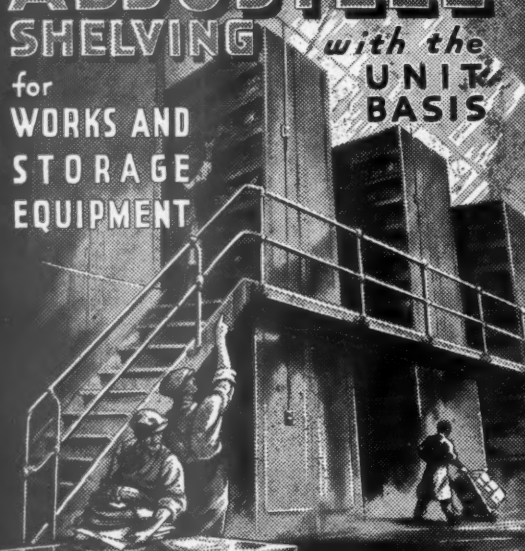
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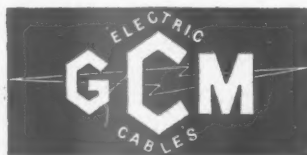
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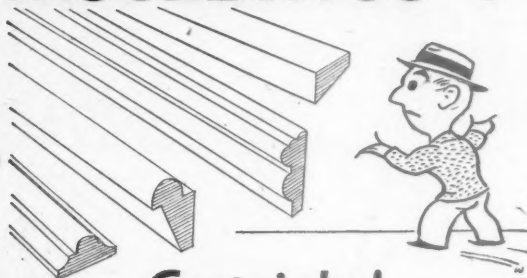
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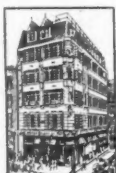
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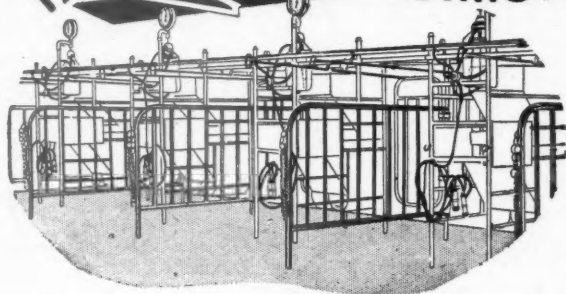
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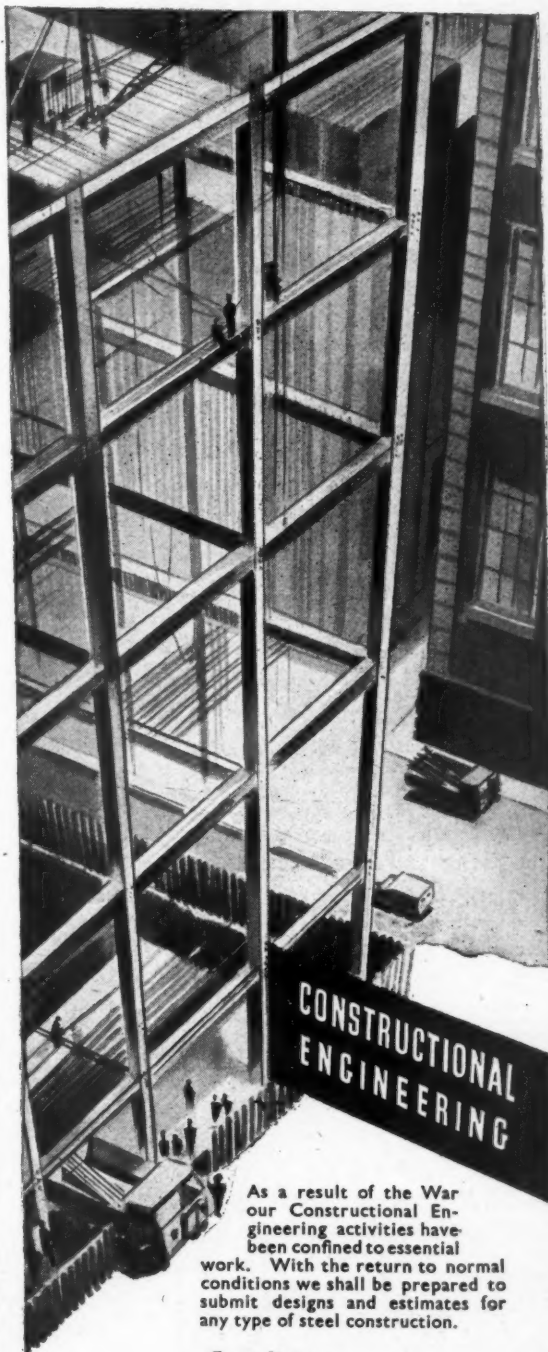
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CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

THE INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS maintains a register of qualified architects and surveyors (including assistants) requiring posts, and invites applications from public authorities and private practitioners having staff vacancies. Address: 75, MATON PLACE, LONDON, S.W.1. TEL.: SLOANE 5615. 991

CITY OF CANTERBURY.

SENIOR ASSISTANT ARCHITECT.

Applications are invited for the appointment of a Senior Assistant Architect in the City Architect's Department at a salary of £420 by £20 to £500 per annum, plus cost-of-living bonus, at present 23s. per week.

Preference will be given to candidates trained in a recognised School of Architecture and who are A.R.I.B.A. Consideration will be given to serving men. Previous experience of municipal work, including schools, is desirable, but not essential.

The successful candidate will be required to pass a medical examination for the Local Government Superannuation Act, 1937.

Applications, endorsed "Senior Assistant Architect," giving age, full particulars of experience and qualifications, and the name of three persons to whom reference may be made, should be received by Mr. L. Hugh Wilson, A.R.I.B.A., A.M.T.P.I., City Architect, not later than 31st October, 1945.

J. BOYLE,
Town Clerk.

Municipal Buildings, Dane John,
Canterbury.
5th September, 1945. 660

UXBRIDGE URBAN DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited from Registered Architects for the appointment of Architectural Assistant on the permanent staff of the Engineer and Surveyor, at a commencing salary of £460, rising by annual increments of £25 to £560 per annum, plus cost-of-living bonus, at present £59 15s. per annum. Preference will be given to candidates who have passed a recognised qualifying examination, and experience in the preparation and administration of Town Planning Schemes would be deemed an advantage. Candidates should have had experience in municipal housing design and lay-out, and in the design of public buildings.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, terminable by one month's notice on either side, and the successful candidate will be required to pass a medical examination.

Applications endorsed "Architectural Assistant," stating full particulars of age, qualifications, experience and present and previous appointments, and giving the names of three persons to whom reference may be made, must be delivered to the undersigned not later than Monday, 8th October. Canvassing will be deemed a disqualification.

JOHN POOLE,
Clerk of the Council.

Council Offices, 265, High Street,
Uxbridge.
12th September, 1945. 679

COUNTY OF BERKS.

COUNTY PLANNING OFFICER.

Applications are invited from persons who hold a recognised town planning qualification and who have had considerable experience in planning work, for the appointment of County Planning Officer for the County of Berks, at a salary to be within a scale of £800 per annum, rising annually by £50 to £1,000 per annum, according to experience, subject to the initial salary not exceeding £900 per annum, plus the appropriate cost-of-living bonus.

Fuller particulars and conditions of appointment and forms of application can be obtained, on receipt of a stamped addressed envelope, from the undersigned, to whom completed applications should be returned not later than Wednesday, 31st October, 1945.

Canvassing either directly or indirectly will be a disqualification.

H. J. C. NEOBARD,
Clerk of the Council.

Shire Hall, Reading. 683

NORTHERN POLYTECHNIC, HOLLOWAY, LONDON, N.7.

The Governing Body invite immediate applications for appointment as lecturers in the Evening School of the Department of Architecture, Surveying and Building on one or more of the following subjects: Building Construction and Working Drawings; Geometrical Drawing; Drainage and Sanitation; Structural Mechanics; Builders Quantities. Applicants should in the first instance submit written particulars of training and professional experience; teaching experience is desirable, but not essential. Details of salary and times of classes will be sent to suitable applicants.

R. H. CURRELL,
Secretary. 678

NORTHERN POLYTECHNIC, HOLLOWAY ROAD, N.7.

SCHOOL OF ARCHITECTURE.
Vacancies exist for full-time and part-time (day and evening classes) STUDIO MASTERS in Architecture.

Intending applicants should apply by letter in the first instance, giving details of previous experience and qualifications, to the Secretary. 688

SOMERSET COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for:—
TEMPORARY QUANTITY SURVEYORS, at a salary within the scale £310 per annum, by annual increments of £15 to £415 per annum.

The commencing salaries will be determined by experience and qualifications. War bonus in accordance with the Council's scale to be paid in addition to the above salaries.

The successful candidates will be required to pass a medical examination by the County Medical Officer of Health.

Applications, stating age, training, experience, qualifications, position in regard to Military Service and length of time required to take up new appointment, together with copies of three recent testimonials, should be sent to the undersigned not later than the 6th October, 1945.

R. O. HARRIS, A.R.I.B.A.,
County Architect.

Park Street, Taunton, Somerset
20th September, 1945. 713

CITY OF OXFORD EDUCATION COMMITTEE.

SCHOOLS OF TECHNOLOGY, ART AND COMMERCE.

Applications are invited for the full-time post of SENIOR ASSISTANT in the School of Architecture and Building.

Candidates must be Fellows or Associates of the Royal Institute of British Architects. The Degree or Diploma of a recognised School will be an additional recommendation. The successful candidate may be required to undertake limited teaching duties in connection with National Certificate Courses in Building in addition to Studio Instruction and lecture courses in Architecture. The successful applicant will be expected to take up duty in January, 1946.

Approval is being sought from the Ministry of Education for the recognition of this post at a salary of £600 + £25 to £750, in accordance with the Burnham (Technical) Scale.

Forms of application and further particulars may be obtained on receipt of a stamped addressed foolscap envelope from the Chief Education Officer, City Education Office, 77, George Street, Oxford, to whom completed forms must be returned within a fortnight from the date of the appearance of this advertisement. 695

COUNTY BOROUGH OF SOUTH SHIELDS.

APPOINTMENT OF ENGINEERING ASSISTANT (TEMPORARY).

Applications are invited for the above appointment at a salary of £375 per annum, rising on satisfactory service by annual increments of £15, to a maximum of £420 per annum, plus war bonus, at present 23s. per week.

Candidates must be qualified as Associate Members of the Institution of Civil Engineers, or hold the Testamur of the Institution of Municipal and County Engineers.

The appointment, which is for an indefinite period, is subject to one month's notice in writing on either side, and will be subject to the provisions of the Council's Superannuation Act. The successful candidate will be required to pass satisfactorily a medical examination.

Applications, suitably endorsed, stating full particulars of age, qualifications, etc., and accompanied by not more than three recent testimonials, should reach the undersigned not later than 15th October, 1945.

Canvassing, either directly or indirectly, will disqualify.

HAROLD AYREY,
Town Clerk.

Town Hall, South Shields. 706

MARSHLAND AND WISBECH RURAL DISTRICT COUNCILS.

JUNIOR ASSISTANT-ARCHITECT'S DEPARTMENT.

The Councils invite applications for the appointment of a temporary Junior Assistant in their Architect's Department, at a salary not exceeding £200 per annum. Commencing salary to be fixed in accordance with qualifications and experience. Applicants should be capable of preparing working drawings, and preference will be given to those who have had experience of local authorities' housing schemes.

Applications, stating age, experience, and qualifications, accompanied by three recent testimonials, should be sent to the undersigned by 9th October, 1945.

Canvassing in any form will be a disqualification.

This advertisement is published by permission of the Ministry of Labour and National Service under the Control of Engagement Order, 1945.

A. W. LAIDMAN,
Clerk to the Councils.

Council Offices, Alexandra Road, Wisbech.
14th September, 1945. 690

CITY AND COUNTY OF THE CITY OF EXETER.

Applications are invited for the appointment of ASSISTANT ARCHITECTS on the permanent staff of the City Architect's Department.

The salary in the first instance will be £420 per annum, and will be subject to review. In addition there will be a cost of living bonus, which at present is £59 15s. 3d. per annum.

Candidates should preferably be A.R.I.B.A.'s, with experience in large scale Municipal Housing and/or Educational Buildings.

The appointments will be subject to one calendar month's notice on either side and to the provisions of the Local Government Superannuation Act, 1937. The persons appointed will be required to pass medical examinations.

Applications, stating age, qualifications, previous and present appointments with salaries and exact designations, full details of experience and date when available, together with copies of three recent testimonials, should be sent to F. R. Steele, F.R.I.B.A., F.S.I., A.M.T.P.I., City Architect, 2, Southernhay West, Exeter, not later than 12th October, 1945.

Members serving with H.M. Forces overseas may wire their applications in the first instance.

C. J. NEWMAN,
Town Clerk.

Town Clerk's Office, Exeter.
13th September, 1945. 700

NANTWICH URBAN DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the Engineer and Surveyor's Department at a salary of £400 per annum, plus bonus, at present £59 15s.

Applicants should be Associates of the Royal Institute of British Architects, or hold equivalent qualifications, and are registered Architects.

Candidates must have had experience in the design, preparation of working drawings, specifications, etc., for Housing and other architectural work normally carried out by a Local Authority, under the direction of the Engineer and Surveyor.

The appointment is an established post, and will be terminable by one month's notice on either side, and will be subject to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination.

Applications, on forms obtained from the Engineer and Surveyor, Mr. E. H. Bailey, F.S.I., M.Inst.M. & Cy. E., Council Offices, Barker Street, Nantwich, stating age, qualifications and experience, accompanied by three recent testimonials, and endorsed "Architectural Assistant" must be received not later than 13th October, 1945.

D. TUDOR EVANS,
Clerk of the Council.

18th September, 1945. 704

COUNTY BOROUGH OF ROCHDALE.

TEMPORARY ARCHITECTURAL ASSISTANT.

Applications are invited for a Temporary Architectural Assistant, in the Department of the Borough Surveyor and Architect, at a salary of £360, rising to £405 per annum, plus war bonus, at present amounting to £59 15s. per annum.

Applicants should be qualified Architects and have had experience of school, hospital, and general work.

Applications, on forms to be obtained from the Borough Surveyor and Architect, Town Hall, Rochdale, must be delivered at the office of the undersigned not later than 9 a.m. on Monday, 15th October, 1945.

HARRY BANN,
Town Clerk.

Town Hall, Rochdale.
20th September, 1945. 712

DUNDEE COLLEGE OF ART. SCHOOL OF ARCHITECTURE.

The Governors of the Dundee Institute of Art and Technology invite applications for the position of Full-time STUDIO INSTRUCTOR AND LECTURER, in the School of Architecture, Dundee College of Art.

Salary scale: £300 by £15 to £400, plus £60 war bonus, with placing according to qualifications and experience. The salary scales are at present under revision, and the person appointed will benefit by any increase which may be decided upon.

Applications by letter, giving details of training and experience, and the names and addresses of three persons to whom reference may be made, should be sent to the undersigned as soon as possible. Applications from members of H.M. Forces will be considered.

GEORGE H. THOMSON,

Clerk and Treasurer.

Bell Street, Dundee.
19th September, 1945.

708

GWYRFAI RURAL DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited for the following appointments:—

(1) Senior Architectural Assistant, at a salary of £375 per annum, plus cost-of-living bonus (at present £59 16s. per annum).

Candidates should be suitably qualified Registered Architects, and must have had experience of Municipal Housing Schemes.

(2) Junior Architectural Assistants, at a salary of £250 per annum, plus cost-of-living bonus (at present £59 16s. per annum).

Candidates should have been trained in a Registered Architect's office, and must be a good draughtsman.

The successful candidates will be subject to the Local Government Superannuation Act, 1937, and the appointment will be terminable by one calendar month's notice on either side.

These appointments are also open to persons at present serving in the Armed Forces, and, if appointed, the Council will apply for their release.

Applications, accompanied by copies of two recent testimonials, to reach the undersigned on or before 1st November, 1945.

R. T. GRIFFITH,

Clerk of the Council.

Cwellyn, Caernarvon.

709

BOROUGH OF BEXLEY.

APPOINTMENT OF THREE ASSISTANT ARCHITECTS.

Applications are invited for the appointment of Assistants in the Architect's Section of the Borough Engineer and Surveyor's Department.

The salary will be at a rate of £465—£20—£525 per annum, and at present carries a cost-of-living bonus of £59 16s. per annum.

The appointments will be terminable by one month's notice on either side, and subject to the Council's Superannuation Scheme.

Candidates should be Associates of the Royal Institute of British Architects, and have considerable experience in housing.

Applications, giving age, present and previous appointments and experience and supported by testimonials, should be received by Giff Joy, F.S.I., M.Inst. M. & Cy.E., M.R.S.I., Borough Engineer and Surveyor, by 6th October, 1945.

Applicants must state in their application whether to their knowledge they are related to any member of or the holder of any senior office under the Council. Failure to do so or canvassing in any way will disqualify.

W. WOODWARD,

Town Clerk.

Council Offices, Bexleyheath.

715

Tenders

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

CHIPPING NORTON RURAL DISTRICT COUNCIL.

Tenders are invited for the erection of Cottages as follows:—

Ascott-under-Wychwood, Heritage Lane 2 Houses
Chadlington, Chipping Norton Road ... 2 "
Charlbury, Hixet Wood ... 20 "
Leafield, Fairspear Road ... 8 "
Wootton, Castle Road ... 6 "

Applications for plans, specifications, etc., should be made to the Council's Architect, Mr. T. Rayson, F.R.I.B.A., 35, Beaumont Street, Oxford.

Persons tendering for more than one site must state separately the price for each site.

Tenders, marked "Housing Tenders," should reach the Clerk's Office not later than the first post on the 15th day of October, 1945.

The Council do not bind themselves to accept the lowest or any tender.

EDWARD KENYON,

Clerk to the Council.

16a, Market Place, Chipping Norton, Oxon.
18th September, 1945.

705

CITY OF DURHAM.

TO BUILDERS.

ERECTION OF PERMANENT HOUSES. CONTRACT NO. 1-50 HOUSES.

Tenders are invited from Building Contractors having labour available and able to be placed upon the works, for the erection of 50 houses on the Corporation's Sunderland Road-Kepler Lane Housing Site.

Plans, specifications, general conditions, and full particulars may be obtained on application to the City Engineer and Architect, Town Hall, Durham, upon cheque deposit of £2 2s., which will be refunded on receipt of a bona fide Tender and return of all plans and documents.

Tenders in plain sealed envelopes, endorsed "Housing Tender," to be received by the undersigned not later than first post on Monday, 15th October, 1945.

The Corporation do not bind themselves to accept the lowest or any Tender.

GEORGE R. BULL,

Town Clerk.

32, Claypath, Durham.

714

Financial

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

GENTLEMAN will purchase Builder's Collateral Deposits with Building Society; North of England preferred. Box 696.

Architectural Appointments Vacant

Four lines or under, 4s.; each additional line, 1s.

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ARCHITECTURAL ASSISTANT, with housing and surveying experience, required. Telephone Central 6683 or write Box 621.

ARCHITECT to commercial firm with Employees' Superannuation Scheme, requires Four Junior Assistants who are about to take or have passed the R.I.B.A. Intermediate Examination. Applications, stating age, experience and salary required, to Box 675.

ARCHITECT'S ASSISTANTS required, preferably R.I.B.A. Intermediate Standard but not essential; interesting work and good prospects; North Staffs. Box 672.

ARCHITECTURAL ASSISTANT required for Housing and Factory work, etc., in Yorkshire. Apply, stating age, experience and salary required, to Johnson & Crabtree, 20, Priory Place, Doncaster. 670

JUNIOR ASSISTANT with ability to prepare working drawings, mostly houses, or similar work; neat tracer; preferably with experience in surveying and levelling. Reply, giving details of experience, etc., to Box 673.

JUNIOR ASSISTANT required in old-established London Architect's office; must be neat draughtsman. Apply Box 698.

REQUIRED by Croydon Architects: (a) Senior Architectural Assistant, either sex, with experience in working-class flats, housing and industrial work; (b) Junior Assistant, with 2 or 3 years' office experience; must be neat draughtsman.—Write, stating experience and salary required, to Box 699.

JUNIOR DRAUGHTSMAN required in the office of an Architect to an industrial Company in London; every opportunity to learn, but one with some experience preferred. Reply to Box 702.

ARCHITECT'S ASSISTANT required in busy office in South London; must be good draughtsman, working drawings, details, and good knowledge of construction; experience in supervision an asset. Write stating previous experience and salary required, to Box 707.

LONDON SURVEYORS require Architectural Assistant for the preparation of drawings and specifications for reconstruction of bomb damaged houses. Write fully, Box 716.

ARCHITECT required by leading West End firm of Surveyors; must be not over 40, have had practical experience, and can prove ability and initiative, responsible position with good prospects. Applications, stating age, experience, and salary required, to H.K.N., Box 710.

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YOUNG ARCHITECT seeks position as Assistant in modern Architect's Office, engaged on housing or schools; London district. Box 128.

A.R.I.B.A., Dip. Arch. (just released from the Forces), fully experienced and possessing completely equipped studio, offers to Architects anywhere in the British Isles assistance, in free lance capacity; in a position to undertake any quantity of work, including preparation of contract drawings, sketch schemes, specifications, perspectives, etc.; also able to pay personal visits for purpose of discussions and taking instructions. Box 129.

ASSISTANT (29) requires post in progressive office; experienced in preparation of working drawings, sketch plans, surveys, supervision of works, etc.; preparing for R.I.B.A. special final examination; S.E. England preferred. Box 130.

CHIEF ASSISTANT to well-known Architects desires change; University degree; 15 years' excellent experience in housing, flats, civic buildings, hospitals, factories, etc.; seeks responsible position; salary £800 p.a.; alternatively, arrangement with view to partnership where prospects are good. Box 131.

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DRAUGHTSWOMAN requires full- or part-time homework; detailing, mapping, tracing and other work considered. I. B. Stevens, 109, Station Approach Road, Ramsgate. Box 118.

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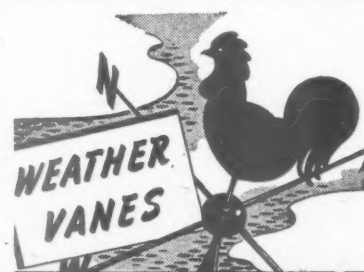
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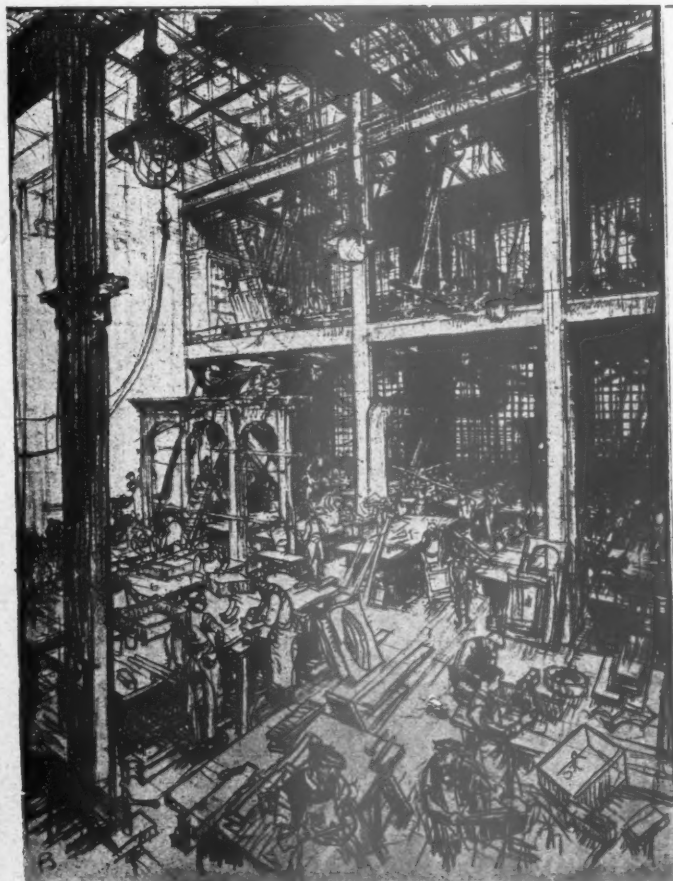
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