The Architects' JOURNAL for March 19, 1959

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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ii one week, Il to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

ILA	Institute of Landscape Architects. 1, Park Crescent, Portland Place, W.1.	Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10 Norfolk Street, Strand .W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1.	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W.1.	Welbeck 9966
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee) Fire Research Station, Boreham Wood, Herts.	Elstree 1341/1797
LDA	Lead Development Association. 18, Adam Street, W.C.2.	Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1.	Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2.	Gerrard 6933
MOT	Ministry of Transport, Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record, 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers, 10, Storey's Gate, S.W.1	Abbey5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2.	Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1.	Whitehall 1693
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1.	Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1.	Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1.	Whitehall 5322/9245
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35. Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, E.C.3.	Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1.	Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk. Rutherglen	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75. Cannon Street, E.C.4.	City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. 34. Berkeley Square, W.1.	Grosvenor 6636

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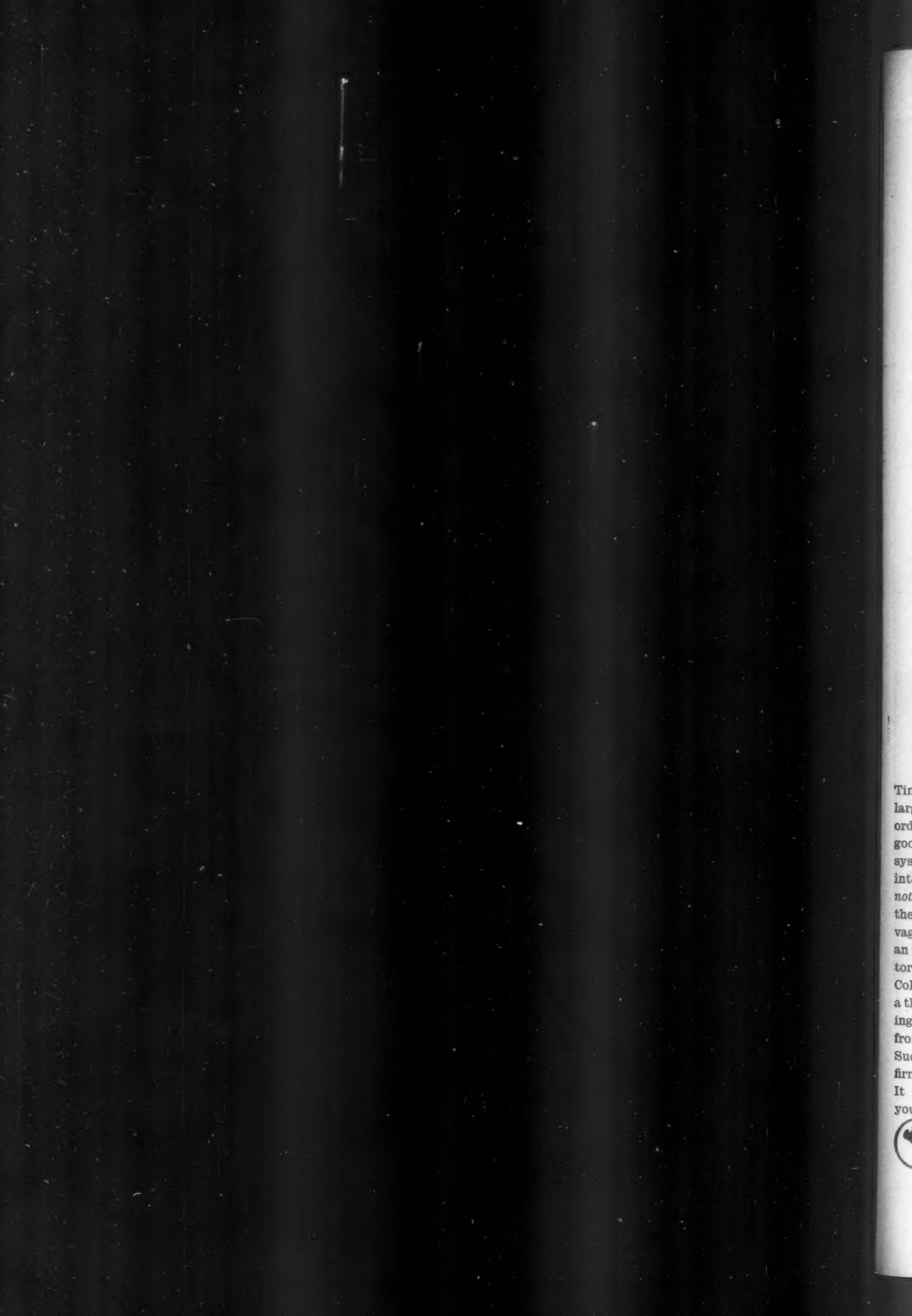

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11 contracts:	*Thomas Hedley & Co. Ltd.*
15 contracts:	*Hoover Ltd.*
22 contracts:	*Lever Bros., Port Sunlight Ltd.*
9 contracts:	*Joseph Lucas Ltd.*
29 contracts:	*National Coal Board*
19 contracts:	*Philips Electrical Industries Ltd.*
21 contracts:	*The Plessey Co. Ltd.*
20 contracts:	*Ruston & Hornsby Ltd.*
20 contracts:	*Courtaulds Ltd.*
14 contracts:	*Bristol Aircraft Co. Ltd.*
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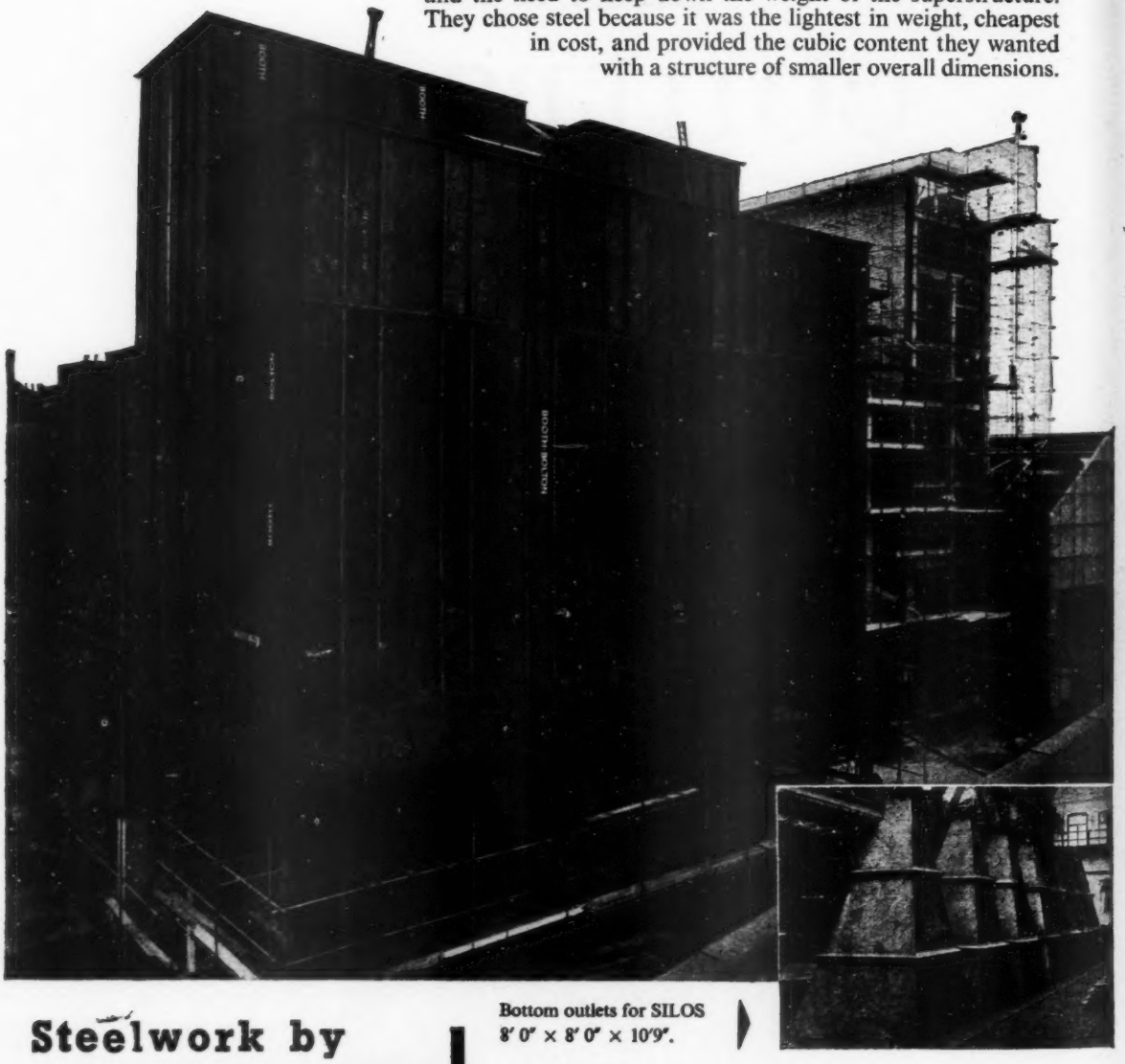

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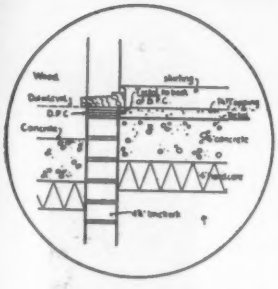

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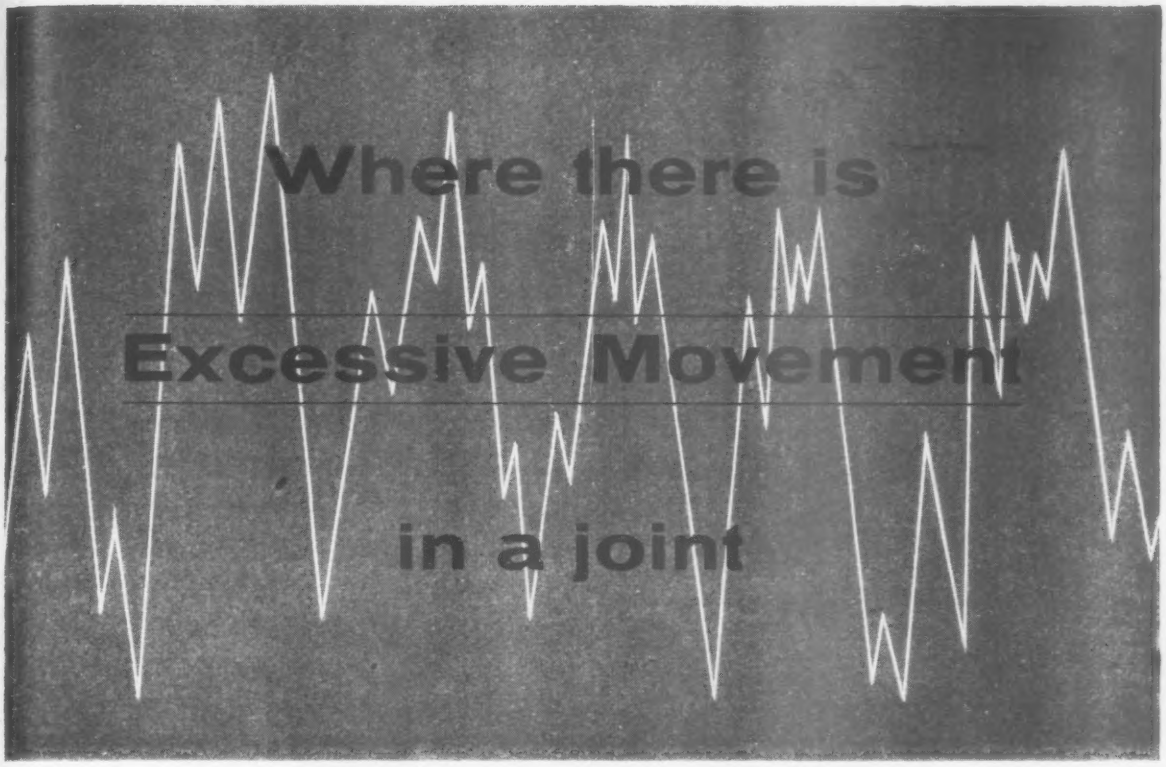

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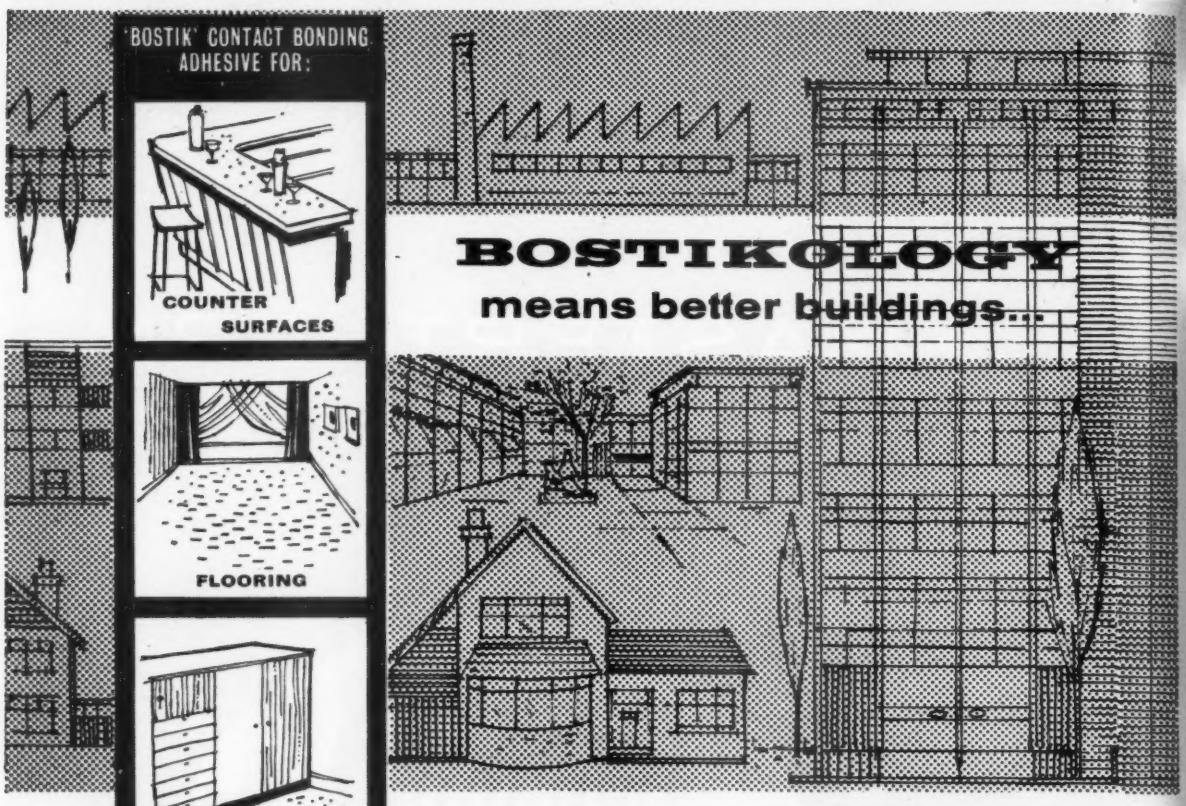

...and better building methods

Broadly speaking, Bostikology *does* mean better building methods. In the strict sense, though, Bostikology means the specialised knowledge of sealing and securing with the extensive range of 'Bostik' products. That knowledge has terms of its own to describe the characteristics of 'Bostik' products : one is Bostikacity — their tenacity : and another is Bostikilience — their resilience.

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modern houses call for modern materials

Building has made enormous strides in recent times. Only a generation ago, the construction of a home was a comparatively slow process. The choice of materials was strictly limited and techniques matched the leisurely tempo of the period.

Today, the picture is very different. Speed is vital because it affects costs. In order to achieve quick completion, architects and builders specify and use new materials that answer their requirements exactly.

To protect life and property against the danger of fire, there are fire-resisting building boards. To reduce fuel costs and ensure greater comfort, there are materials with high thermal insulating properties. To conserve space, there are prefabricated partitions. To mask the junction of walls and ceilings, there are factory-made cornices. The list is virtually endless.

To design and build successfully, speedily and with security, architects and builders need to be aware of the most recent developments.

turn the page for detailed information

EARLY CO-OPERATION WILL ENSURE GOOD DESIGN

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British Plaster Board

Paramount Plasterboard

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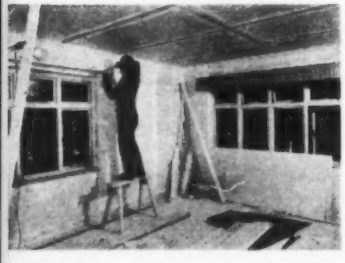
aramount Water Resisting Plasterboard also available for use wherever conden-ation is a problem.

Paramount Plasterboard in use as a dry lining to the external walls of a modern bungalow.

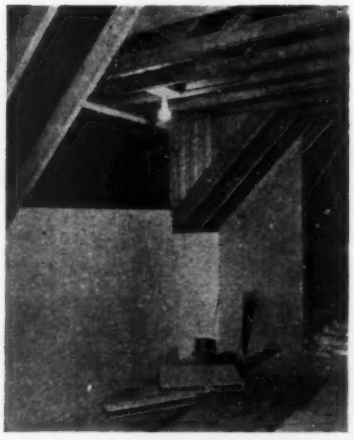


A new house fitted with a Paramount Plasterboard ceiling.

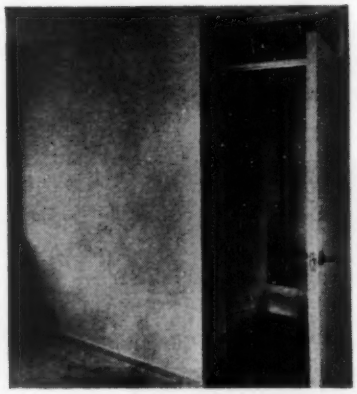
Paramount Dry Partition

The perfect ready-made internal dividing wall—light in weight, space-saving, highly fire-resisting and possessing thermal and sound insulating properties. Easy to handle, cut and erect, it is low in cost and saves considerably on site labour. Off-cuts have the same strength as the original panel and are most useful for constructing built-in wardrobes, airing and meter cupboards, decorative alcoves, etc.

Paramount Dry Partition consists of two Paramount Plasterboards enclosing a fibrous, square-celled interior. Being a "dry" product, it can be decorated immediately after erection.



Paramount Dry Partition used in the conversion of an attic.

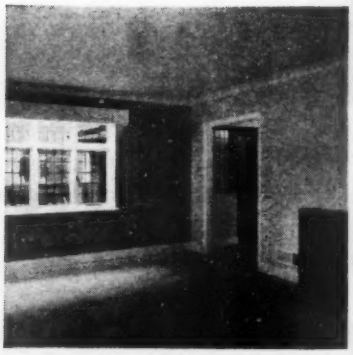


Paramount Dry Partition employed to divide living space in a new house.

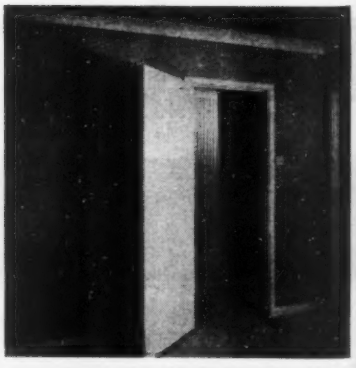
Paramount Cove

This is a factory-made cornice that is easy to cut, simple to fix and low in cost. Consisting of a core of Gypsum plaster encased in strong paper liner, it is, in fact, plasterboard moulded into a cove section. As such, it is highly fire-resisting.

Paramount Cove is an excellent means of masking unsightly cracks that often appear at the junctions of walls and ceilings. Its simple but distinctive lines greatly enhance the appearance of any room. Decoration can follow as soon as fixing is completed.



Paramount Cove masks the junctions of walls and ceilings in a new house.



Paramount Cove employed to modernise an interior.

house construction products

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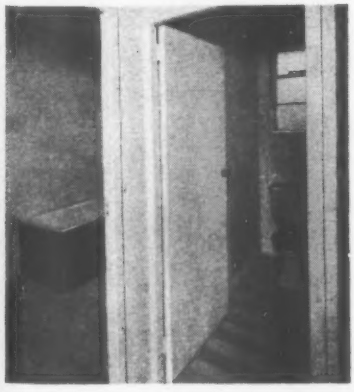
Paramount 2" Solid Partition

An extremely strong, rigid fire-resisting partition constructed from ¾" Paramount Plasterboard erected vertically and anchored at top and bottom with looped box channels and joint clips. It is coated on site with a thickness of ⅝" Gypsum plaster on both sides. Has excellent thermal and sound insulating properties. Paramount 2" Solid Partition occupies less than half the space of most other types of solid partition and weighs only 14 lb. per sq. ft.—less than ⅓ the weight of a 4½" brick partition.

Paramount 2" Solid Partition in position before plastering.



Paramount 2" Solid Partition erected in a private house at Shrewsbury.

Thistle Plaster Lath

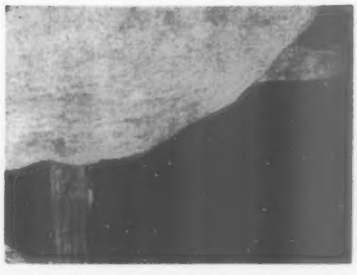
Manufactured specially as a base for Gypsum plaster. Made in convenient, easy-to-handle sizes, its long edges are rounded to enable strong joints to be made without the use of scrim cloth. Resists fire and does not shrink.

Thistle Gypsum Plasters

Manufactured under controlled conditions by the most modern equipment, these retarded hemi-hydrate Gypsum plasters offer the maximum uniformity in setting time and workability. Highly fire-resistant, non-shrinking, time-saving and providing an ideal base for decoration, Thistle Gypsum Plasters possess advantages that reduce costs appreciably.

The range, conforming to B.S.1191, is wide enough to meet all requirements.

Thistle Plasters being applied to plasterboard.



Scrimmed joints and one coat of Thistle Plaster on Thistle Plaster Baseboard.

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This modern flooring comes in tiles 9 inches square. Each tile has a hardwood surface with a resin-bonded sand base. Combining the natural beauty of grained wood with the strength and durability of tile, it offers the advantages of a decorative appearance and long service at moderate cost. Laid as easily as a quarry tile, but the surface is hardwood.

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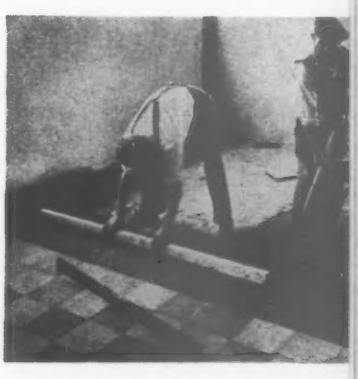

Workmen laying Blue Hawk Flooring in a modernised building.

Blue Hawk Flooring laid in a contemporary house.

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- ☐ Dry Partition
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Blue Hawk

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AP 158

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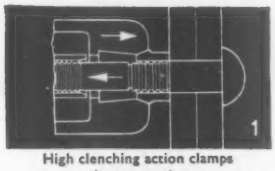
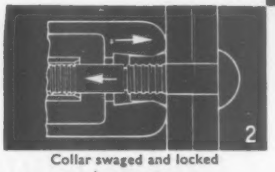
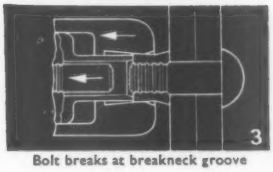
HUCKBOLTS being used by Andrew Air Conditioning Ltd. for on the site assembly of trunking.



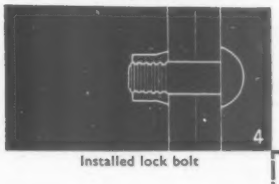
High clenching action clamps sheets together



Collar swaged and locked into grooves



Bolt breaks at breakneck groove



Installed lock bolt

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* Manufactured under licence from the Huck Manufacturing Company of Detroit, U.S.A. Huck Patents 629098, 766137, 790785

AD28

The unjust punishment of Higgins minor...

Caned he was, and undeservedly! Of course he *had* been whispering a moment or two before but not at the precise moment when "old baldy" thought he caught him. The ghastly truth came out some days later when Smith major nearly went the same way. It turned out to be the old heating system, making enough noise to keep the whole class awake. Nowadays of course, modern schools have Tempaflex—quiet, efficient and unobtrusive Tempaflex. Total installations to date exceed 900. If you would like to do a little swotting, why not send for our technical literature?

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Quiet heating for Schools

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APRIL 7—17, 1959
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Not only do hand made tiles by Colthurst Symons offer the architect great scope for creative achievement, but their low maintenance cost will pay tribute to his practical sense of values
PANTILES No. 6: The natural rough texture gives an individual character
Size 13⅞" x 9¾", 1,000 tiles cover 70 square yards (approx)

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The wonderful Rivington range offers unlimited opportunities for brilliant colour schemes. Over 50 vibrant living colours make it possible to blend or contrast with every conceivable setting—doing full justice to the most elegant designs. Consider Rivington Carpets. There's nothing else like them in the whole world.

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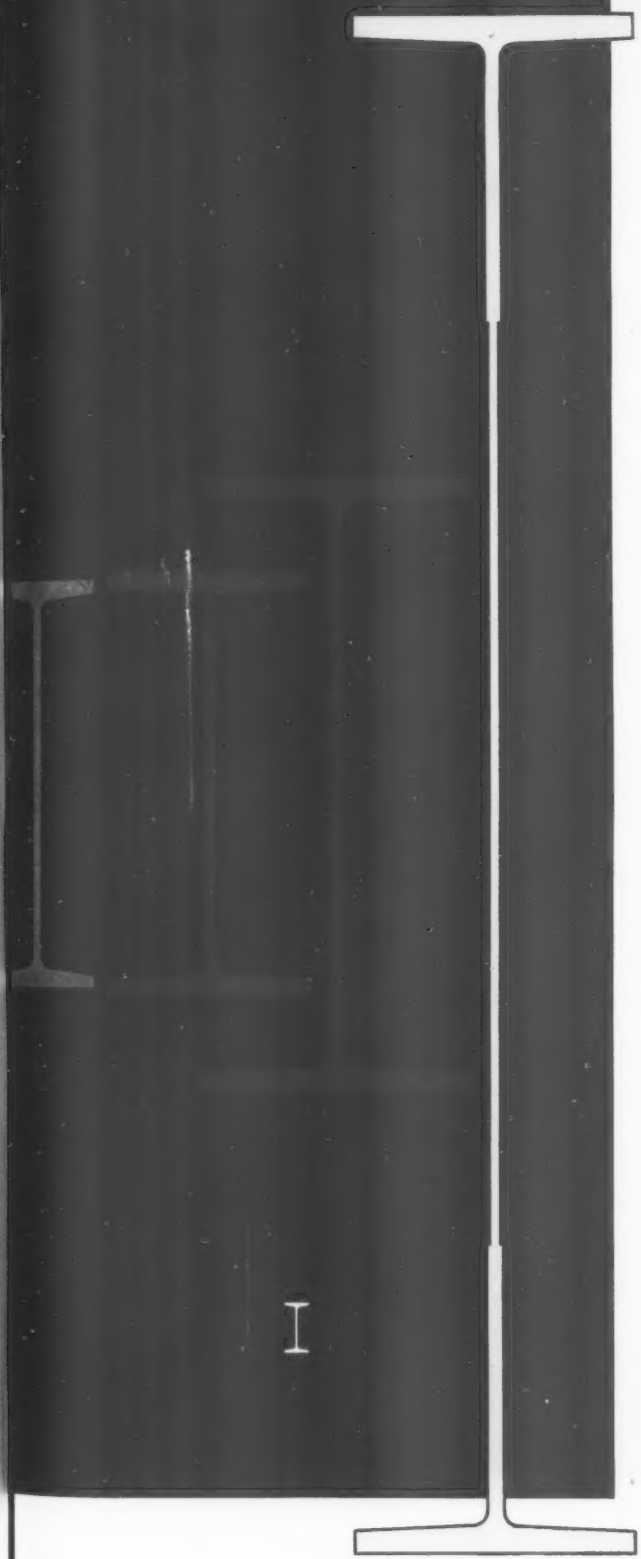

Extending the range of simplification

The Dorman Long Universal Beam Mill is rolling beams having several times the load-carrying capacity of any previously rolled in this country: these are suitable for bridge spans or heavily loaded buildings without the need for additional flange reinforcement.

A great deal of plating and compounding of girders is thereby eliminated.

The range of simplification is still further extended by the availability of heavy Tee-sections cut from the large universal beams. Two such Tees, with a web-plate welded in, provide a deep plate girder of great load capacity.

The yellow section shows this construction; in red is the 36″ by 16½″ universal beam, in blue the 24″ by 12″, previously the largest rolled in this country, now available in three weights, and in grey is shown the largest of the B.S. sections, 24″ by 7½″. By way of contrast the little white section is the B.S. 3″ by 1½″, the smallest I section rolled by us.

EARLY DELIVERY OF THE FULL RANGE OF SECTIONS

DORMAN LONG

Shower Song

Bending and turning and gaily carolling
Loving the feel of the tropical rain
Leaving to Leonard the job of controlling
Once she gets in she just wants to remain.

Gone are the quirks of the old fashioned mixer
Everything else but never just warm,
Thermostat Leonard is fitted to fix her
And keep the temp. fast at divinity's norm.

"Keeping the temp. fast" is just what Leonard control by thermostat does. It turns stone-cold and stinging-hot into steady warm–immovable until the bather moves it. It makes the shower, the Leonard shower, the best bath in the world. That's why the Leonard valve has come to be specified by architects everywhere not just for showers in hospitals and schools, but also in factories and mines and ships.

Please let us tell you more about Leonard thermostatic valves. We have composed literature to cover all applications in detail. Write for engrossing publication SB/2 to: Walker, Crosweller, Cheltenham. The impetuous should 'phone us at Cheltenham 56317 or, in London, at Holborn 2986.

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KEEP THEM IN THE CLEAR

A Series of informative articles on smokeless coke and gas appliances

is appearing, giving technical data and information on installation.

The following, together with binder, are now available

from your Area Gas Board or from the address below:

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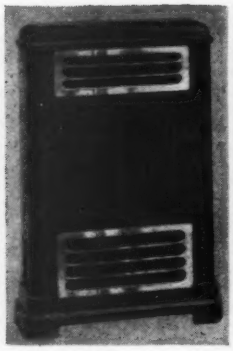
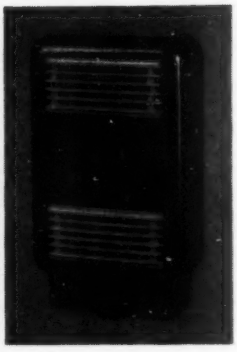
THE GAS COUNCIL, (Department A), 1, Grosvenor Place, London, S.W.1.

Why should I specify Harper Gas Radiators?

Model No. 3161. *Finish—Base and body heat resisting coinage bronze paint. Baffle vitreous enamelled. Louvres cream vitreous enamelled.*
Burner—Cast iron with luminous bray jets. ¼in. gas inlet, can be fitted for R.H. or L.H. feed. Governor—Constant pressure.
Gas consumption—18 cu. ft. per hour at 2½in. W.G.
Maximum output per hour—8,100 B.Th.U. at 500 c.v.
Dimensions—Height 29½in. Width 17¾in. Depth 7in. Weight 42 lb.
Retail Price £11.0.4. *(inc. P.T.).*



Model No. 3160. *Finish—Heat resisting coinage bronze. The top louvre and the door (which has concealed hinges) are cream vitreous enamelled.*
Burner—Cast iron with luminous bray jets ¼in. B.S.P. inlet for R.H. or L.H. feed.
Governor—Constant volume. Gas Consumption 12 cu. ft. per hour at 2½in. W.G.
Maximum Output per hour—5,400 B.Th.U. at 500 c.v.
Dimensions—Height 25in. Width 17in. Depth 6¼in. Weight 31 lb.
Retail Price £7.4.9. *(inc. P.T.).*



Model No. 4008. *Finish—Base and body heat resisting coinage bronze or pearl blue. Baffle vitreous enamelled, Louvres cream vitreous enamelled.*
Burner—Cast iron with luminous bray jets ¼in. gas inlet, can be fitted for R.H. or L.H. feed. Governor—Constant Pressure.
Gas Consumption—8 cu. ft. per hour at 2½in. W.G.
Maximum Output per hour—3,600 B.Th.U. at 500 c.v.
Dimensions—Height 20⅜in. Width 12⅛in. Depth 5¾in.
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Harper Radiators fit in to so many plans conveniently because they are so economical, require virtually no maintenance and are available in a range which meets the most fastidious tastes in design.

We shall be happy to send you illustrated leaflets of the full range.

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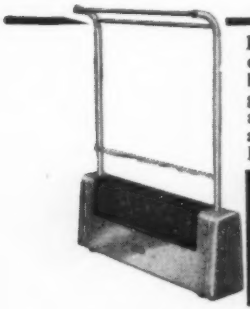

Harper No. 325 Gas Heated Towel Rail. Easily installed, compact and economical. A single luminous burner keeps bathroom towels warm and dry. A governor controls gas consumption (4½ cu. ft. per hour). Finished in ivory and green. Provision is made for screwing to the floor although it is stable enough to stand unsupported. Retail Price £7 3 7 (inc. P.T.).

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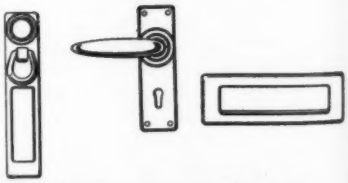

Harper's make a comprehensive range of door furniture in cast iron and finished in bronze lustre vitreous enamel to withstand exposure to severe weather conditions. May we send you details of the full range?

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people are beginning to expect warmth and comfort – peace and quiet with FIBREGLASS

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specially for use in chipboard

If you work with chipboard, you will know that different types of board vary considerably in screw holding power.

GKN Chipboard Screws have been produced to overcome this difficulty. Their large helix angle provides greater holding power than any other screw.

GKN Chipboard Screws are specially pointed for easy starting—with pilot holes or without—and their double start thread makes driving faster. For quicker, more reliable fastenings in chipboard, these are the screws you need.

GKN CHIPBOARD SCREWS

PACK	1 gross
HEAD STYLES	Phillips Recess Countersunk or Slotted Countersunk
SIZES	Lengths—$\frac{3}{8}$" to 2" Diameters—4 s.g. to 8 s.g.
MATERIAL	Steel

Other sizes, head styles and materials can be supplied, quantity permitting.

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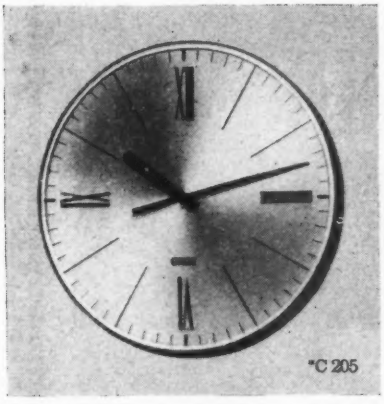
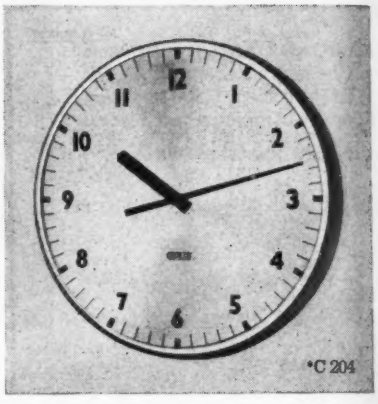
S/CB/1901

Face Value!

These models have been specially designed by a leading Industrial Designer for use in modern surroundings. They are available in a range of sizes to suit most normal requirements. If required clocks can be made to special designs to suit particular circumstances or decorative schemes.

* *These Clocks have been accepted by the Council of Industrial Design for inclusion in Design Index.*





The model numbers given refer to Mains operated clocks but the same designs are available for operation on our Controlled Electric "Master" Clock System.

Details of our full range of clocks for Mains operation are given in our catalogue book 5 section 7 and for our Controlled Electric "Master" Clock System, in our catalogue book 5 section 1. The appropriate catalogue will be sent to you on request.

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Problems solved from cold NO. 6 IN A SERIES

By Appointment to Her Majesty the Queen
Manufacturers of refrigerating machinery
Pressed Steel Company Limited

How we brought fresh air to the Old Bailey

The 200-year-old problem—hot and stuffy courtrooms

Before every new session at the Old Bailey the judge receives a nosegay as he goes into court. The tradition dates from when prisoners were so unwashed, and often so infectious, that the judge was glad of flowers under his nose. But however good flowers may be against 'gaol fever', they are no cure for fuggy courtrooms. Nor do they make wigs and gowns any cooler on hot days. So when the Old Bailey was rebuilt it was decided to install complete air-conditioning. That was the obvious, simple answer—and Prestcold were the obvious people to provide the refrigerating equipment.

THE SIMPLE ANSWER WAS NOT SO SIMPLE

But in fact nothing could have been less simple. To air-condition a building as large as the Old Bailey calls for no small amount of machinery, and storage for 5,000 gallons of water. Yet the only room for it all was in a small basement. 'Dungeon' would be a better word, for it was completely cut off from the outside world. All the equipment had to be lifted over the roof, and lowered down the old ventilation shaft by crane.

THE PRESTCOLD SOLUTION—FOUR COMPACT WR 2500s

The whole operation was possible only because the Prestcold condensing units would fit into the tiny space provided. For the Prestcold WR 2500 is extremely compact. Its compressor and motor are mounted together on a base which incorporates the water-cooled condenser. To save more space the four chilled water tanks were assembled together and insulated to form one unit. So there they are in their dungeon today—four Prestcold WR 2500s. They can be counted on to serve a long life sentence—and with good conduct taken for granted.

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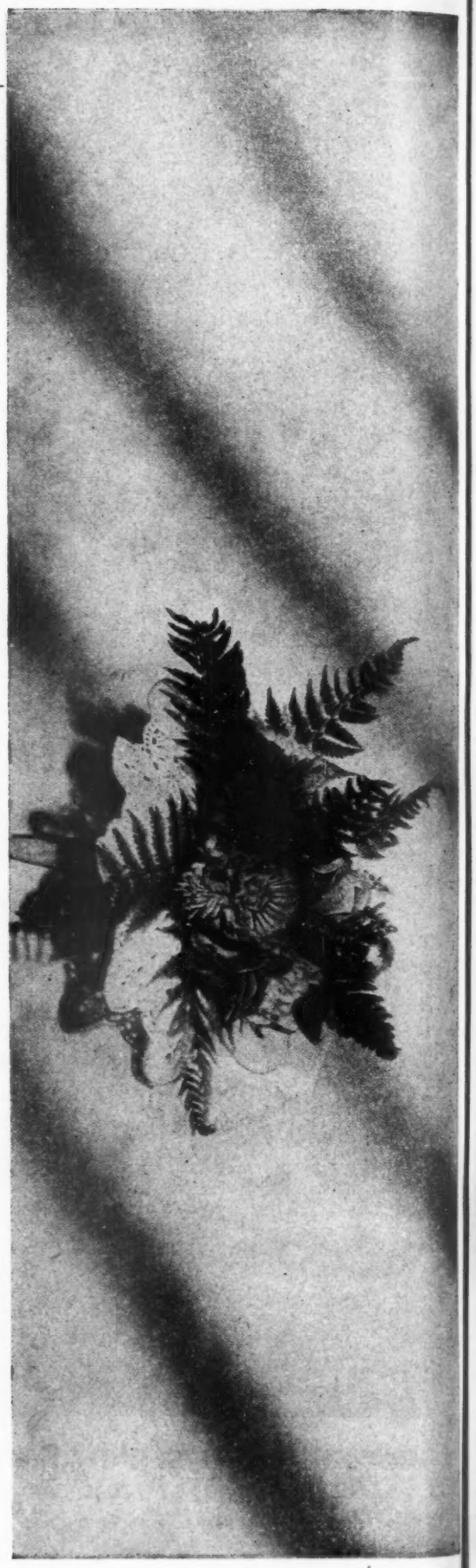
If you have a problem in refrigeration write to your Prestcold Distributor, or to Prestcold Commercial Sales Department, Cowley, Oxford.



FOR FRESH IDEAS...IT'S

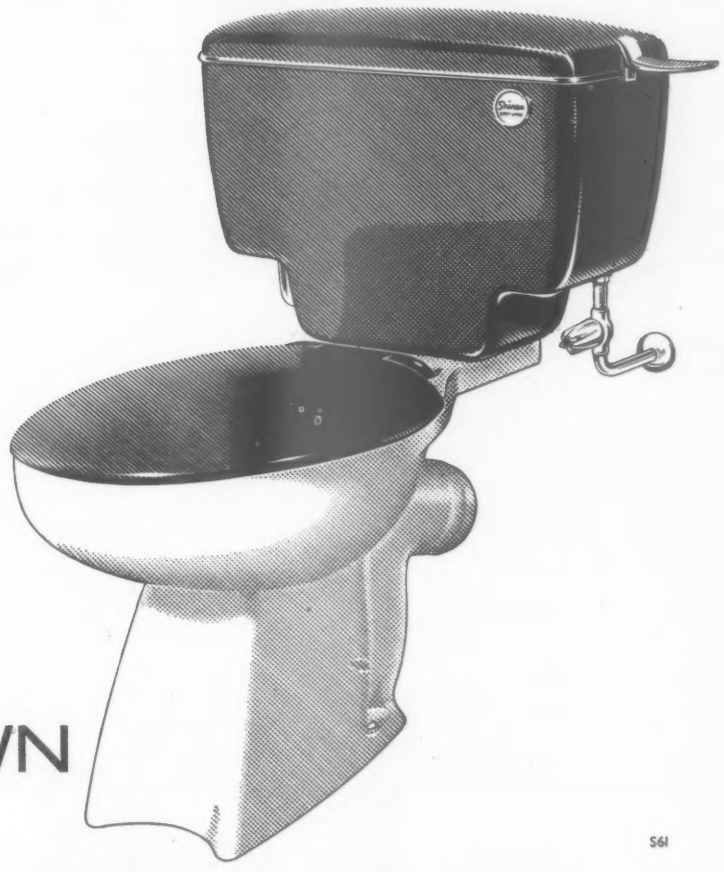
Prestcold

PRESTCOLD DIVISION

PRESSED STEEL COMPANY LIMITED, COWLEY, OXFORD

REVOLUTIONARY!

FIRST CLOSE-COUPLED SUITE WITH PLASTIC CISTERN AND POTTERY WASH-DOWN PAN



S61

Shires UNI-LYNX

The Shires UNI-LYNX is the first close-coupled suite to combine plastic cistern and pottery wash-down pan. It's years ahead in design—scientifically *and* aesthetically. That's why it was chosen by the Council of Industrial Design for inclusion in a display of sanitary and plumbing equipment that was awarded a Gold Medal at the 1958 Brussels International Exhibition.

- Unfailingly efficient! The UNI-LYNX has Shires silent-flush 'Hydromatic Action'—a design of ducts and channels directing water in correct volume to the right places to effect controlled maximum efficiency.
- Neat, compact—low height—short projection.
- Wash-down pan with trap to BSS 1213 dimension to eliminate risk of blockage.
- Chromium-plated, all-brass supply fittings—incorporating Shires registered design volume control valve.
- So easy to install! No flush pipes or brackets required. Replaces high level suites at minimum cost.
- Fitted with Shires 'Continental' seat—beautifully designed, flexible, immensely strong—and no buffers!
- Virtually unbreakable Duranite cistern and seat in black. Seat cover in choice of ten colours. Also available with Keramic cistern and matching pan in choice of seven colours.

SHIRES ARE THE LARGEST MANUFACTURERS OF FLUSHING CISTERNS IN THE WORLD

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for your convenience

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Whether it is a question of building a large housing estate or a block of flats, or finding a new material to fit a particular need, The Unit Construction Company bring to the task imagination, scientific research methods, efficient organisation and skilful craftsmanship.

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May we send you details of our services and of our "Wallframe" construction?

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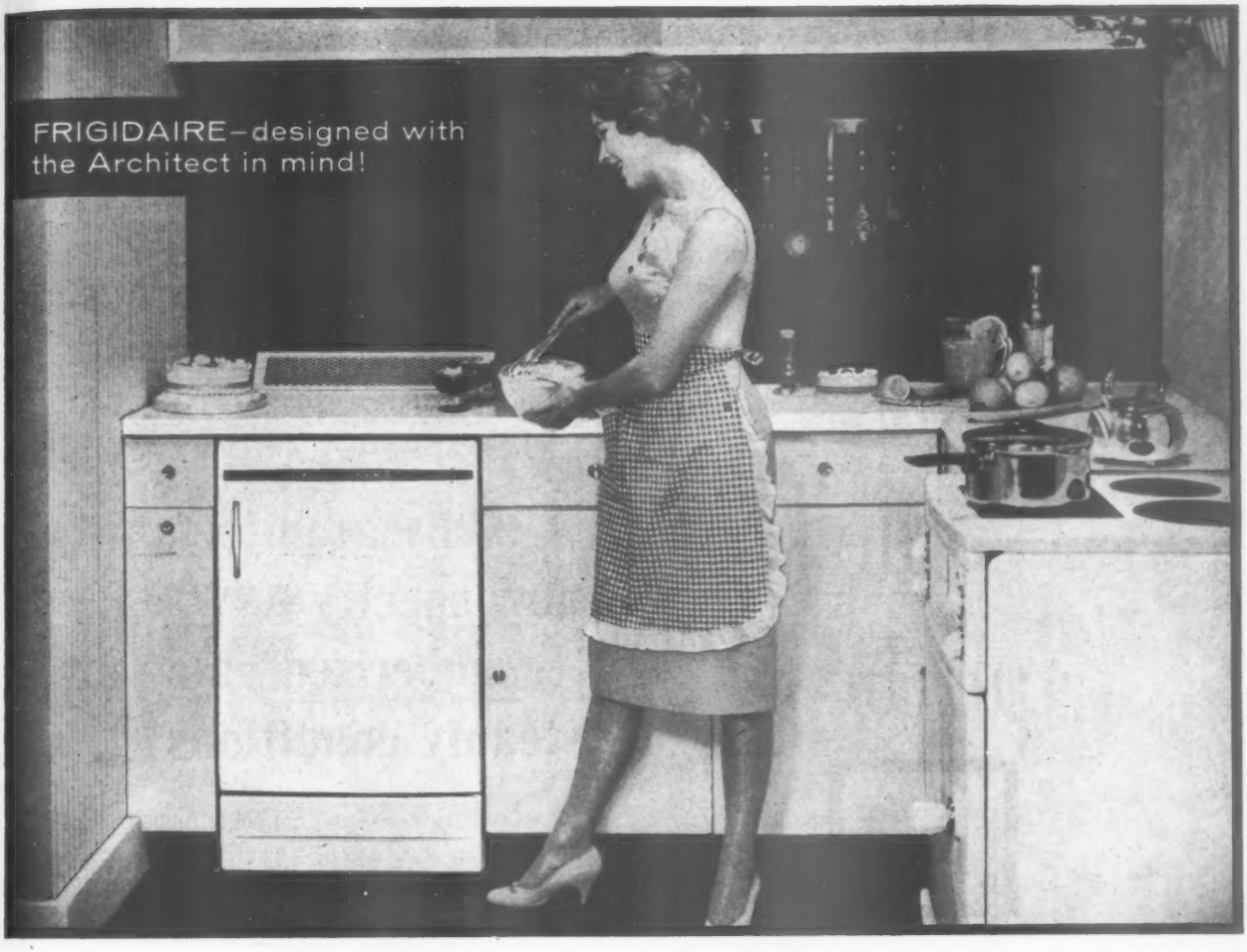
Head Office: Faggs Road, Feltham, Middlesex



Plan with FRIGIDAIRE

–REFRIGERATORS DESIGNED FOR BUILDING-IN

Frigidaire's most popular model, the MZ-33A (gross capacity 3.3 cu. ft.), is ideal for building-in at floor or waist level. The door of this luxury Frigidaire opens within its own width and models are supplied with left- or right-hand door opening. The MZ-33A is available in the full range of Frigidaire colours. The larger Frigidaire models, the MZ-45A and the DZ-45A (both with a gross capacity of 4.4 cu. ft.) can also be built-in at floor or waist level. Like all Frigidaires they are quality-built; they give the largest possible storage capacity in the minimum of room; they are powered by the 5-year warranted, cost-cutting "Meter-Miser".

Frigidaire's models range from 3.3 to 10.1 cu. ft. capacity. Let them help *you* in your planning of up-to-date kitchens.

Frigidaire has best commercial refrigeration equipment, too

Frigidaire's complete commercial range includes: display cases and service cabinets for shops and supermarkets; cold rooms for the conservation of food; ice cube makers, beverage and water coolers for hotels and public houses; low temperature cabinets and mortuary chambers for hospitals. Frigidaire equipment gives perfect service in all fields of industry and commerce.

Now all Frigidaire compressors carry a Five Year Warranty —one of the benefits of Frigidaire's Five Point Programme for commercial refrigeration. Specification sheets on building-in, literature and further details of commercial refrigeration equipment available on request. Write (address below), or see your nearest Frigidaire Distributor, *today*.

FOR YOU, TOO ...

GREATEST PROFITS WITH

FRIGIDAIRE

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GREATEST NAME IN REFRIGERATION

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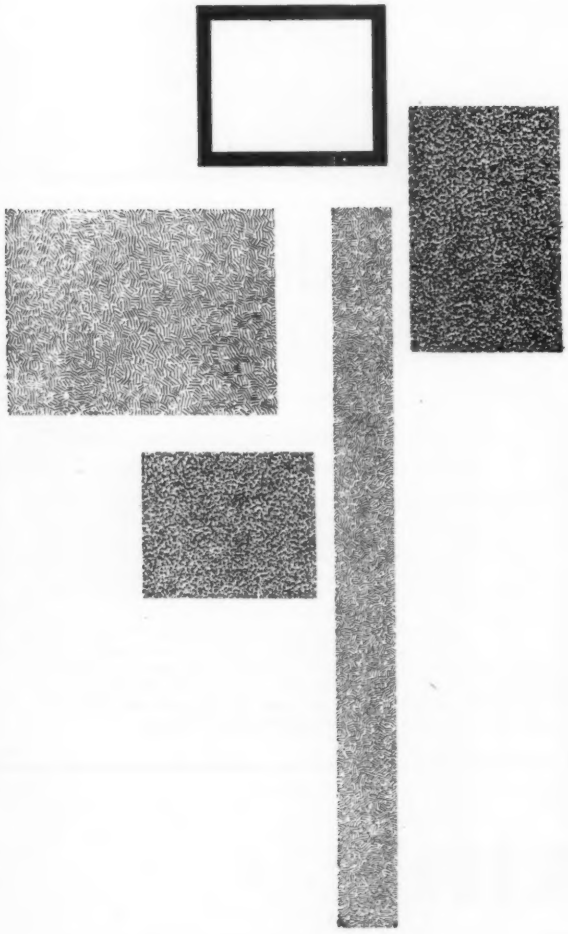

Why architects now specify a rubberised paint for steamy conditions

SISCOMATTE is the leading rubberised paint in Britain. It has been specified by architects throughout the country for kitchens, bathrooms, canteens, factories, and other situations where steam or condensation presents a problem. They have chosen Siscomatte because:

(a) It has the maximum resistance to steamy conditions.

(b) It has an unusually high titanium oxide content, which gives outstandingly good opacity. Where a surface can be covered in one coat, Siscomatte can do it.

(c) It is the easiest Wall Paint there is to apply.

(d) It is the most beautiful thing in Wall Paint, which makes it ideal for all rooms.

We shall be very pleased to supply samples and full information.

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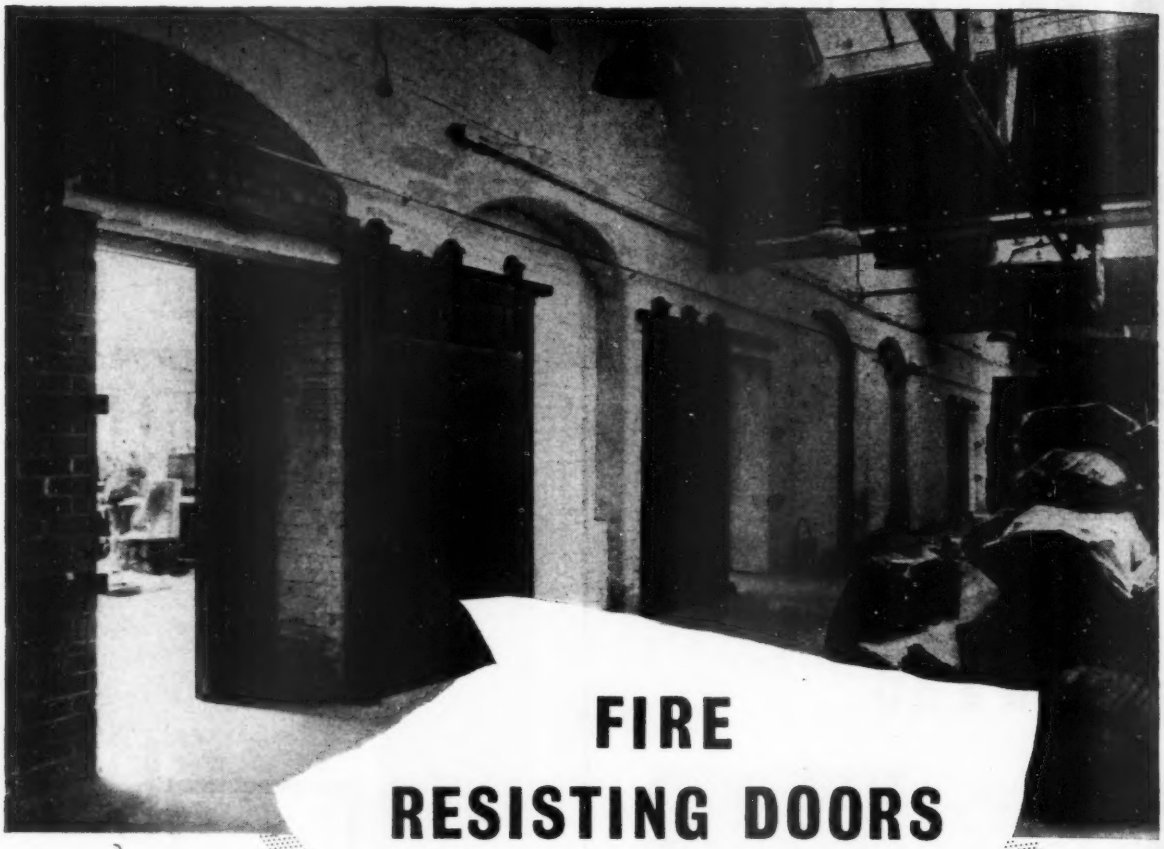
STEAMPROOF
rubberised paint

There is a full range of Sissons paints for every decorating purpose, backed by 150 years' experience. Among them:—

TUNGOLAC
SUPER GLOSS FINISH
CALCARIUM WATER PAINT
SISSONS FLOOR DRESSING

COLOUR SCHEME SERVICE
Our representative will gladly call to discuss special requirements for contract work

SISSONS BROTHERS AND CO. LTD., BANKSIDE, HULL



Three pairs of non-automatic armoured sliding fire doors.

FIRE RESISTING DOORS

armoured or composite types

Mather and Platt Armoured Fire Doors are constructed from three or four layers of thoroughly seasoned tongued and grooved pine boards, each board being sterilized and treated with special preservative against dry rot. The boards are fastened with iron nails driven flush and clinched. This wooden core is encased in terne or tinned steel sheets in such a way that, though the door is free to expand when subjected to the heat from a fire, air is excluded from the core and the sheets will not become detached. The laminated construction prevents warping.

For use in elaborately decorated buildings the Mather and Platt Composite Fire Door has been developed. It combines fire-resisting qualities with an appearance suitable for any decorative scheme. Mather & Platt composite fire doors are constructed of steel and asbestos and, like the armoured fire doors, form a real fire check. Both types of doors can be sliding, hinged or folding to suit requirements. Automatic or non-automatic doors can be supplied as required.

Mather & Platt LIMITED

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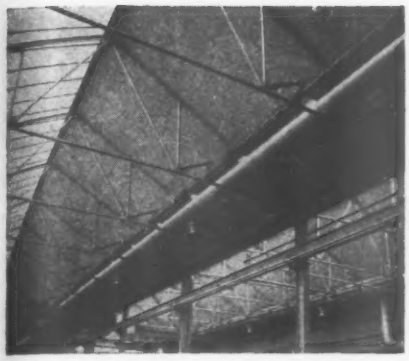

Thermal Insulation at Bristol's

The roof of the 194,400 sq. ft. shop where aero engine components are manufactured has been insulated with ½ inch Insulating Gypsum Plasterboard. The year following insulation was, on average, 3.3°F colder than the preceding year, yet fuel consumption dropped by 20.6%, cold spots were eliminated within the shop and a steady temperature maintained.
Bristol Aeroplane Company Limited.

INSULATION and INSURANCE

Insulating Gypsum Plasterboard, fixed adjacent to an air space provides a structure with a U value comparable with that obtained when any other building board is used—and only at a cost of about 5d. per square foot. It conforms to Section II of B.S.476, having Class I surfaces of very low flame spread on both sides, and very low fire insurance premiums can be obtained for building linings in this class.

Plain plasterboard, which has the same qualities of fire resistance, costs approximately 4d. per square foot. Gypsum Plasterboard of either type is readily available and has much to commend it as a building material, being easy to handle, erect and decorate.

IT'S THE CORE THAT COUNTS

All plasterboard has an incombustible core of Gypsum, which contains 20% combined water. During a fire this water is gradually released in the form of vapour, which provides an effective barrier to the fire's progress.

FACTS AND DIAGRAMS
concerning fire resistance and thermal insulation are contained in our free illustrated brochure.
Write today to:
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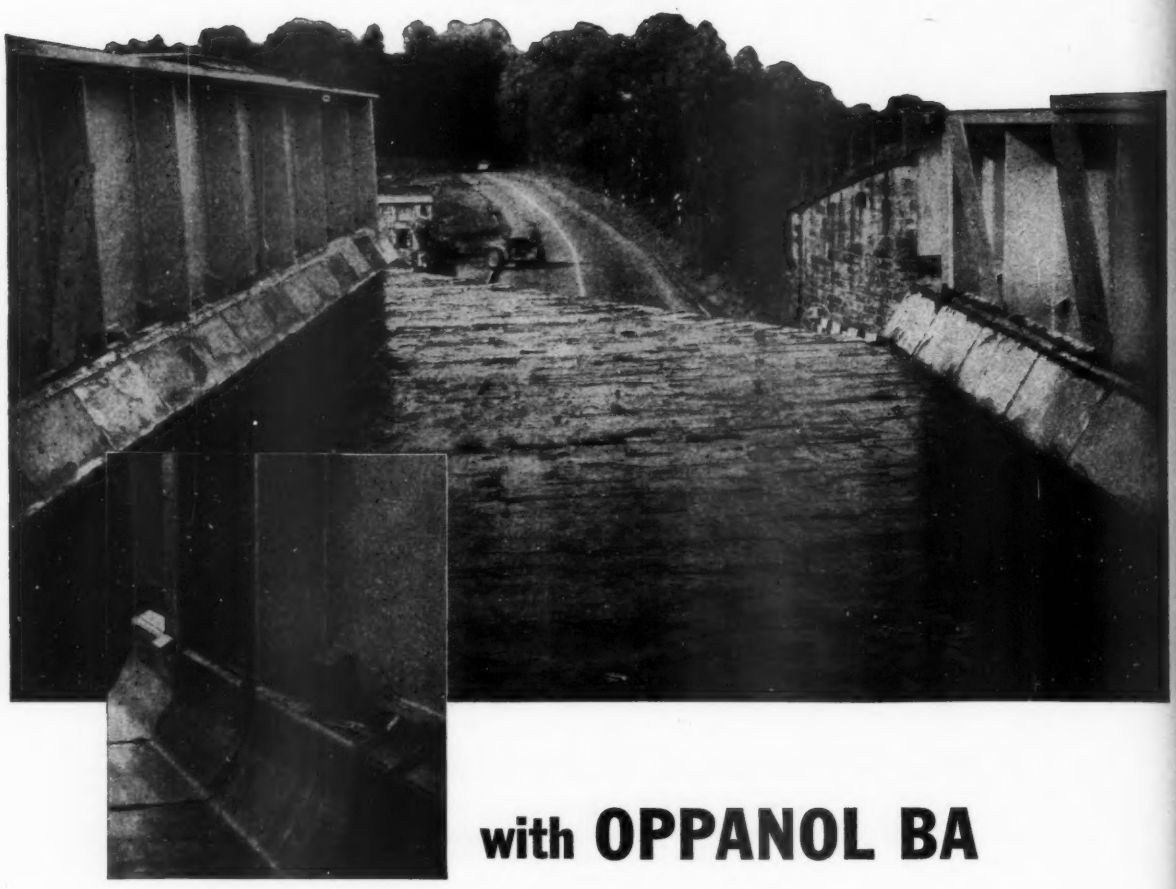
ABI.

bridging the years



with OPPANOL BA

the waterproof plastic membrane

Photograph shows the deck before completion, with the bridge superstructure still to be rolled into its final position. (Courtesy of British Railways, Scottish Region)

Once laid it's laid for life.
The most durable of all waterproofing materials, Oppanol BA is now protecting the steel plate flooring on a new bridge carrying the railway over the Glasgow/Greenock Trunk Road at Langbank, Renfrewshire . . . flooring which is then covered with concrete slabs and ballast and hidden from inspection. Easily laid, Oppanol BA has the essential strength and flexibility to withstand continued vibration in a structure of this kind. It does not swell, rot or age, and its use completely eliminates the need for periodic maintenance work. Ideally suitable for proofing bridges, and for all roofs, floors, foundations, tanks and tunnels, Oppanol BA ensures lifelong protection wherever waterproofing is a problem.
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'INSULIGHT' *Double-Glazing Units in ¼" Polished Plate in house at Elstree, Herts. Architect: E. F. Peat* A.R.I.B.A., *Elstree.*

There's double benefit in "INSULIGHT" Double Glazing Units

Thanks to 'INSULIGHT' Double Glazing Units, large picture windows need no longer bring heating problems. In fact, through their heat insulation properties and the way they restrict draughts, 'INSULIGHT' Double Glazing Units reduce the amount of fuel needed for heating, and cut fuel costs. Comprising two panes of glass separated by a metal spacer and a sealed cell of dry air, 'INSULIGHT' units are available in sizes up to 120" x 72". For further details write to the manufacturers:—Pilkington Brothers Limited, St. Helens, Lancs. (Tel: St. Helens 4001), or Selwyn House, Cleveland Row, St. James's, London, S.W.1 (Tel: WHItehall 5672-6).

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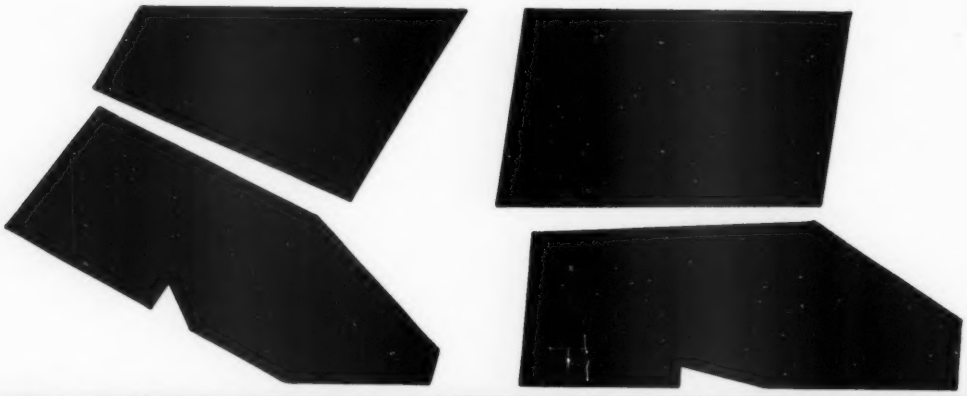


GLAMOROCK TAKES THE FLOOR

with a magic carpet of natural *stone*

GLAMOROCK LIMITED announce with pride two truly revolutionary surfacing materials of *natural* stone for floors and also walls. Their names? Glamorock Glaze and Glamorock Granite. Both are beautiful and very hardwearing. Both are *outstandingly economical.*

GLAMOROCK GLAZE

Glamorock Glaze possesses all the decorative and wear-resistant advantages of polished granite or Terrazzo, plus a far greater and altogether more attractive range of *natural* stone colours. It is simple to lay and highly economical. Depending on the size of the job, and the locality, its cost works out at between 25/- and 45/- per square yard. Glamorock Glaze is the ideal material for private dwellings, or wherever a modern, very beautiful floor or wall surface is required.

GLAMOROCK GRANITE

Glamorock Granite was evolved to give an exceptional degree of wear-resistance under the most severe conditions, while retaining the beauty, colour and design possibilities of Glamorock Glaze. Glamorock Granite makes a perfect surfacing for factories, schools, hospitals, public buildings and similar places. It is completely slip-proof and after a normal floor polish has been applied it can be thoroughly cleaned simply by water.

Neither Glamorock Glaze nor Glamorock Granite will fade, craze or crack, structural faults excluded. Both surfaces are unaffected by oil, acid and other normally harmful substances. They are easy to keep clean and are comfortable to stand or walk on, maintaining room temperature. And they are both available in a superb range of 22 fade-free colours of the natural rock, without any added pigments whatsoever. These standard colours can be mixed to give an infinite variety of attractive blends.

Both materials (which are supplied ready-mixed) can easily and very rapidly be applied "in situ" on practically any surface—timber, stone, cement, etc.—provided it is free of oil and grease. And they are ideal for prefabrication in tile or sheet form. In either case only a comparatively thin application (say 3/16") is needed.

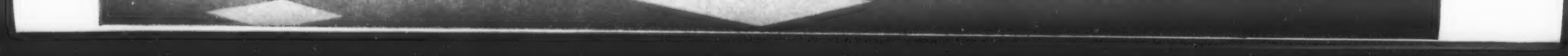
Glamorock Glaze and Granite open a new world of design and economy possibilities. They are of the utmost importance to every Architect, Designer and Contractor.

Important Note to Flooring Contractors

In view of the revolutionary nature of these products and the impact they will have on the Flooring Industry, you are invited to make full use of the Demonstration Service offered by:—

GLAMOROCK LIMITED, Monza Street, Wapping Wall, London, E1. Royal 6785/6 *or*

Montague L. Meyer Ltd. *(Branches in principal cities)*, 14, Buckingham St., London, WC2
Surface Protection Limited, 28, South Street, London, W1



Glamorock Glaze used dramatically on a corridor floor and wall. The right hand wall is faced with standard Glamorock.

Check-out Counter made by Rudduck & Co. (Shopfitters) Ltd., Old St., London, E.C. Tel.: CLE. 2116. Size 4'6" x 3'0" x 2'6" high, constructed in stout laminated timber, the top covered with No. PP19 maroon Perstorp relieved by black beaded edge, and the front covered with No. PP20 white Perstorp complete with recessed black skirting. The interior is fitted with pot-board and centre shelf polished light oak.

PERSTORP DISTRIBUTORS: **London & Home Counties** C. F. Anderson & Son Ltd. *Harris Wharf, Graham Street, London, N.1.* Geo. E. Gray Ltd. *Joinant House, Eastern Avenue, Ilford, Essex.* Heaton Tabb & Co. Ltd. *Cobbold Road, N.W.10.* **West Country & Wales** Channel Plastics Ltd. *Flowers Hill, Brislington, Bristol 4.* **Midlands & Area** Rudders & Paynes Ltd. *Chester Street, Aston, Birmingham 6.* **N. E. England** A. J. Wares Ltd. *King Street, South Shields.* **N. W. England** Heaton Tabb & Co. Ltd. *55 Bold Street, Liverpool 1.* **Scotland** Nevill Long & Co. (Boards) Ltd. *Rivaldsgreen, Linlithgow, West Lothian.* **N. Ireland** John McNeil Ltd. *109 Corporation Street, Belfast.*

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So, when you require an extremely high-quality plastic laminate, suitable for both horizontal and vertical surfaces . . . simple to cut, shape and apply, and, once in place, there for ever . . . specify Perstorp. It is immune to ill-treatment, heat and grease and the least expensive of the better plastic laminates.

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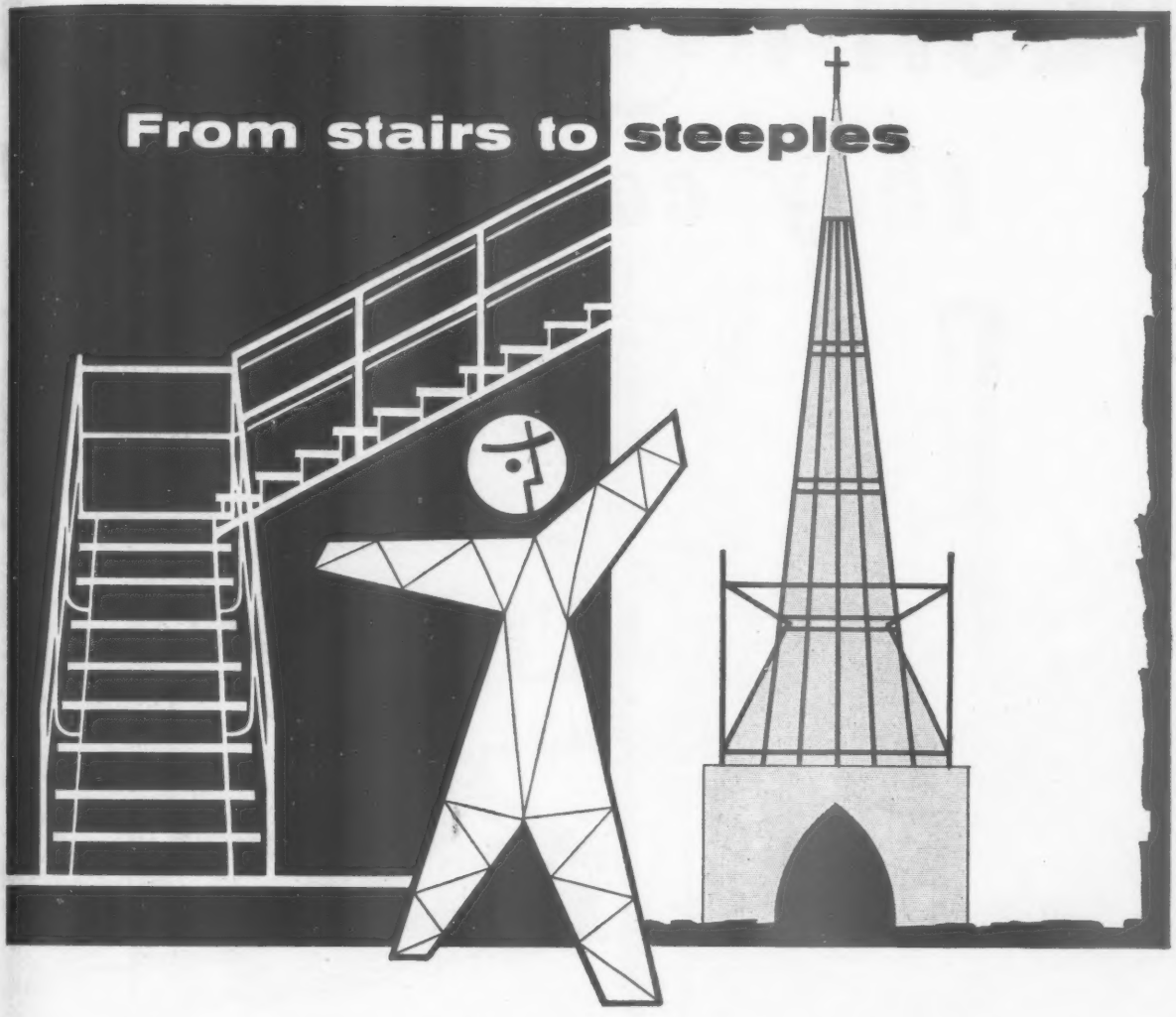
Now available in a range of *'House & Garden'* colours



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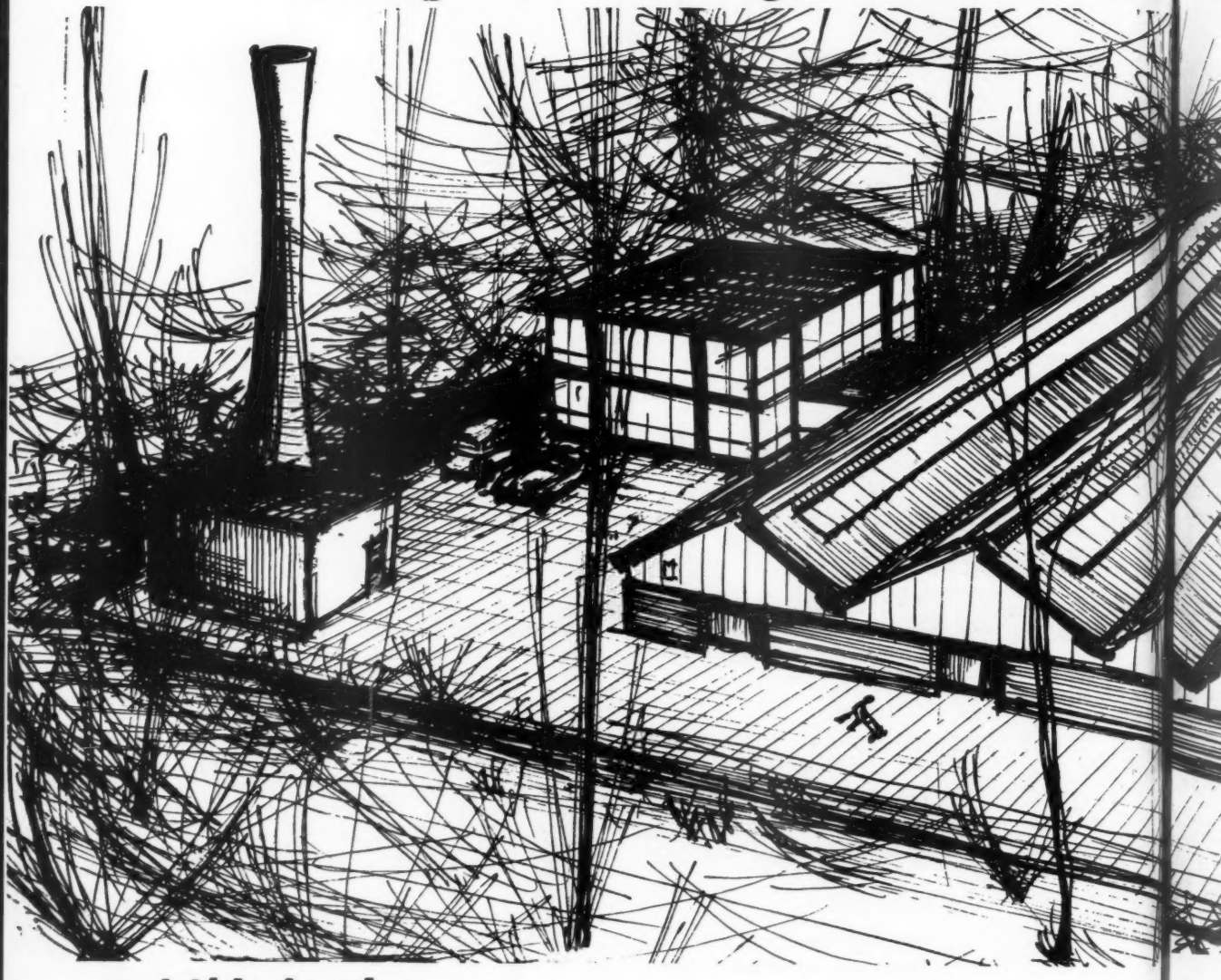

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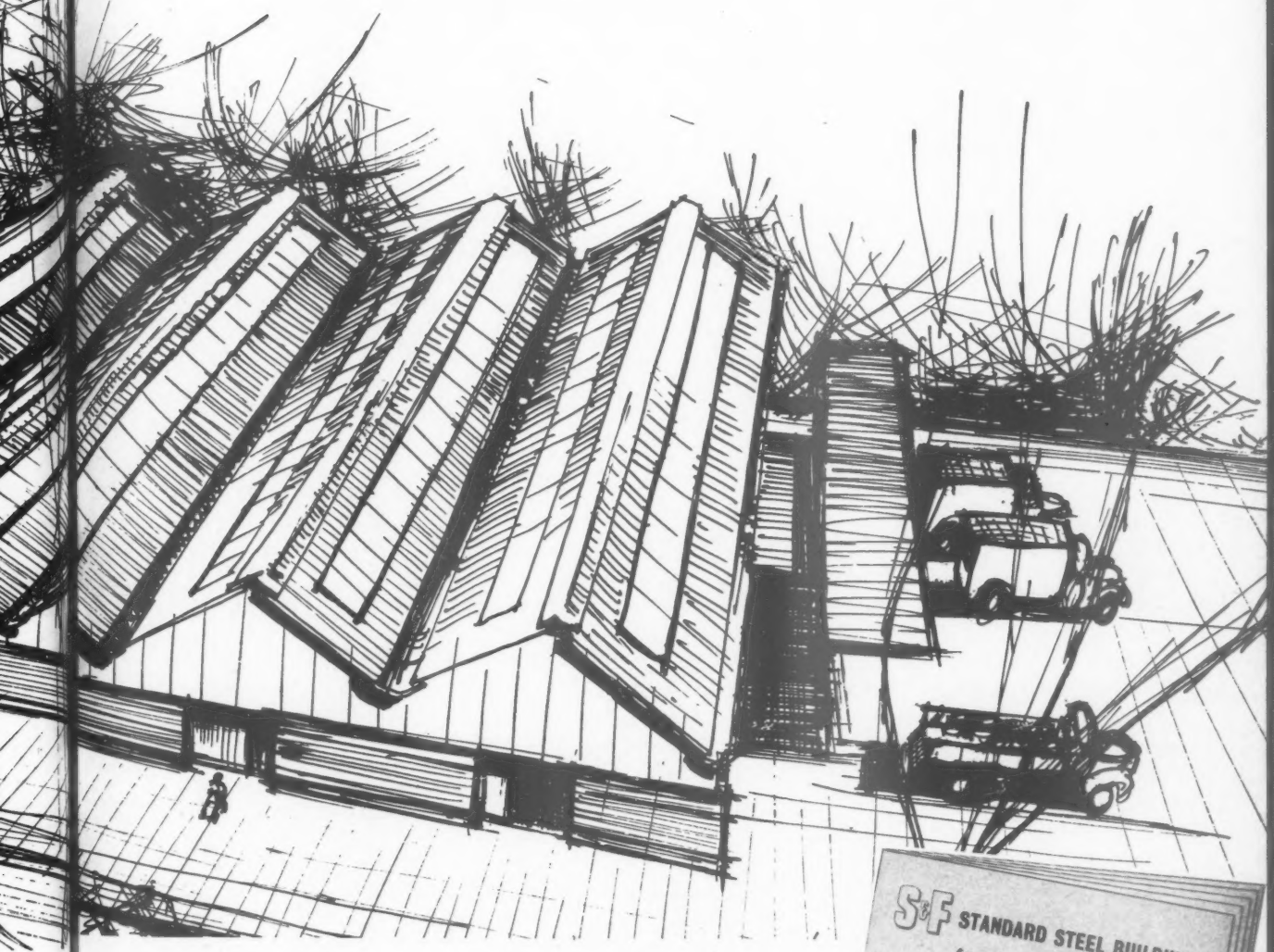
Sanders & Forster Buildings are produced in a wide variety of standard types and sizes but can also be adapted to match your exact needs. Either way, they cost you less.



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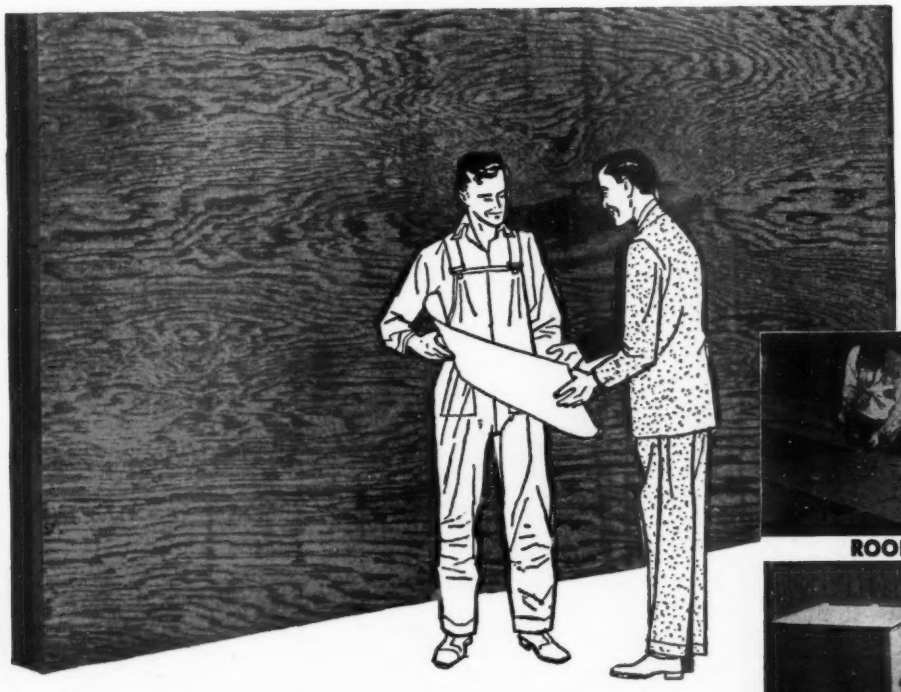

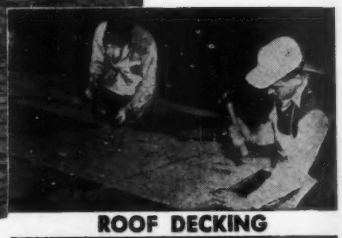

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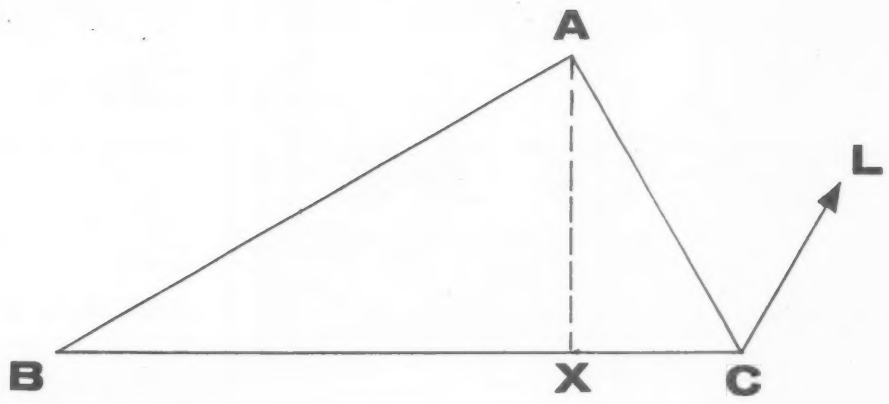

That the use of Diffusing Plyglass on a substantially flat roof, in place of a larger expanse of conventional steeply-angled glazing provides better and more economical daylighting.

Let ABC be a section through a sawtooth, northlight roof, and let AX be perpendicular to BC.
Then CX is equal to half AC, and one quarter of BC.
And, since CX is the horizontal projection of AC, CX is a section of the Diffusing Plyglass required, in a flat roof, to equal the amount of daylighting supplied by the conventional glazed north roof on section AC.
Therefore, for a given amount of daylighting, the use of Diffusing Plyglass reduces the necessary glazing by half.
And, since ABC represents space needlessly enclosed, AB + AC — BC indicates the area of roof-decking saved—approximately 27%

Now Let L be the length of the roof, so that CXL is the area of Diffusing Plyglass, and BCL the area of a *flat* roof. Because of the optimum exposure of Plyglass to the zenith—that part of the sky from which we receive most light—its equivalent area may be placed anywhere within BCL; over either one slot or several, or over a 'pepper-pot' arrangement of roof-openings. Roof-design, therefore, is made freer and more attractive.
Moreover, the Plyglass-transmitted light will be diffused perfectly under all conditions of weather; glareless, and virtually shadowless; permitting unrestricted utilisation of the floor area below.

Illustrating the use of *Diffusing Plyglass* on a factory roof at Harlow.

And, because of the smaller glazing area and the much more efficient insulation of Plyglass, heat loss in cold weather is substantially reduced.

PLYGLASS

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SPUR

ADJUSTABLE SHELF SUPPORT

for good looks and functional efficiency

Here is a scientifically-designed shelf support which has the strength required for industrial applications, yet is attractive enough for use in showrooms, libraries and the home. SPUR is scientifically-designed, simple in principle, easy to install and flexible in arrangement. There are only two main components — slotted U-channel uprights, and flanged brackets which key into the slots.

FOR INDUSTRIAL STORES, HOMES, OFFICES, LIBRARIES, SHOPS, LABORATORIES, EXHIBITION STANDS

FLEXIBILITY OF ARRANGEMENT

The height of SPUR brackets can be altered without the use of tools whenever storage needs change. Alignment is automatic. Both right-angled and slanting brackets are available.

UNOBSTRUCTED ACCESS

No upright supports at front or side are needed with SPUR. This means a more pleasing design as well as easier access to shelves.

PRE-DETERMINED STRENGTH

Uprights are available in lengths up to 94½ in., and brackets are supplied in seven standard sizes up to a maximum of 18½ in. Loadings have been calculated for each size, and the largest will support 1½ cwt.

WALL FIXING OR FREE STANDING

The uprights are easily screwed to walls, but where free standing units are required with shelves both sides—in libraries or storerooms for example—double-sided uprights can be used. Special collars are available for fixing uprights to the floor and ceiling.

ATTRACTIVE FINISH

SPUR uprights and brackets are attractively finished in four standard colours: Willow Grey, Terra Cotta, Frost White and Jet Black. Alternatively they can be nickel or chromium plated, zinc sprayed or galvanised when required for special service.

RANGE OF FITTINGS

A full range of accessories such as shelf straps and book supports give the Spur system added flexibility.

Shelve those problems of support on

SPUR

Write for further details to ▶ SAVAGE AND PARSONS LIMITED · WATFORD · HERTFORDSHIRE · WATFORD 6611

PLAXSTELE Suspended Ceilings erected over showrooms for Maple & Co. Ltd., Tottenham Court Road, London.
Architects: Dalgliesh & Pullen, F/F.R.I.B.A.
Contractors: Ashby & Horner Ltd.

GYPROC AT LONDON W.1

. . . provided a plastered suspended ceiling at Maples that combines excellent appearance with high fire resistance, using the

PLAXSTELE SYSTEM

HEAT & SOUND INSULATION EXHIBITION
EARLS COURT
APRIL 7—17, 1959
SEE OUR EXHIBIT

*The Plaxstele ceiling meets the One-Hour grade of fire resistance when plastered with Paristone, and the Two-Hour grade when plastered with Gyplite.

The superb quality of the PLAXSTELE System can be considered suitable for all types of buildings. It is adaptable to any form of construction. It can be suspended at any level without timber framing for support or suspension. It can be erected quickly and easily. The reinforced plaster finish offers a high degree of fire resistance. The PLAXSTELE suspended ceiling system is fully described in a leaflet which we have prepared for your reference. Write for Information Sheet A.22.F1.

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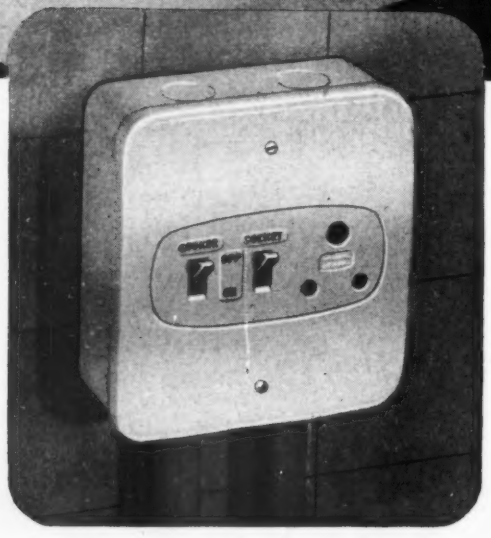

Top illustration shows a flush-mounted model with 13 amp. socket. Underneath is a surface-mounted model with 15 amp. socket.

The new Siemens Ediswan 'Cambridge' cooker control units are being produced in a really comprehensive range to satisfy all possible requirements. In two basic styles, for flush or surface wall mounting, they are available with socket controls for either 13 amp. or 15 amp. circuits (to BSS 1833 and 438). All models can be supplied with pilot lights. The housings are of zinc-coated steel, finished in cream stove enamel, and the front plate of the flush unit is specially adjustable to ensure correct mounting.

Although officially rated at 30 amp., all Cambridge units will carry up to 45 amp. continuously on the cooker circuit as well as supplying the socket outlet.

For full information send for leaflet PD 18/1952.

List Prices (inclusive of plug)

Surface or flush-mounting unit with 13 amp. socket control	26s 0d
Surface or flush-mounting unit with 15 amp. socket control	29s 8d
Pilot light for all units, extra	9s 0d

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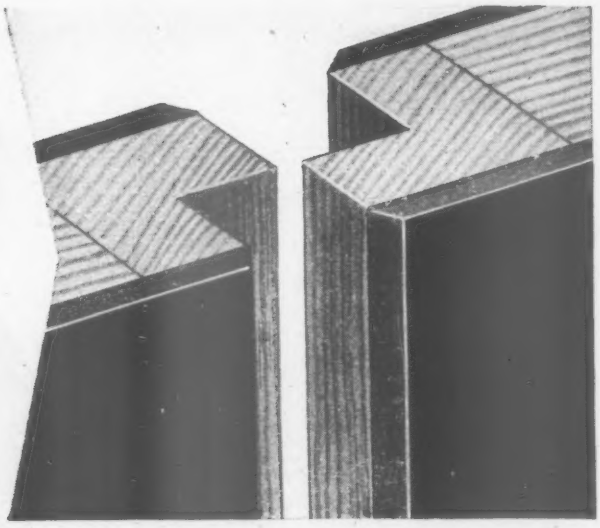
B 1718

Here's something NEW in partitions



★ RAPID DRY-CONSTRUCTION

★ FLEXIBLE LAYOUT

★ DE-MOUNTABLE

★ LOW COST

★ HARD SURFACE

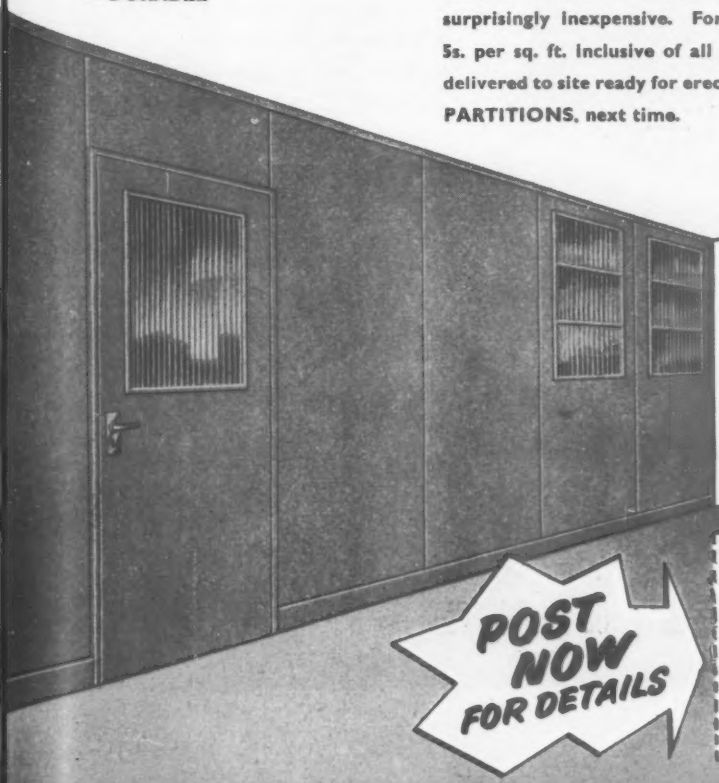
★ SOUND REDUCING

★ DURABLE

Thanks to their ingenious design, STRAMIT 'MOVAFLUSH' PARTITIONS can be erected really quickly. Whilst top and bottom edges of each hardboard-faced Stramit panel are finished with square timber, the long edges have an L-shaped member. This means that successive panels can be rapidly, easily fitted together to give a flush finish. These new, dry-construction partitions are simply placed on a sole-plate and secured, being fixed to one another with screws which are neatly seated in brass cups.

STRAMIT 'MOVAFLUSH' PARTITIONS comprise essentially the familiar and well-tried Stramit building slabs and so have all the advantages of Stramit. They are strong, rigid, fire-resistant and have remarkable sound-deadening properties. As STRAMIT 'MOVAFLUSH' PARTITIONS are faced with hardboard, they offer an exceptionally good surface for decoration.

In spite of their many advantages, STRAMIT 'MOVAFLUSH' PARTITIONS are surprisingly inexpensive. For schemes of average size, the approximate cost is 5s. per sq. ft. inclusive of all timber sections, doors, screws, etc. (excluding glass) delivered to site ready for erection and decoration. Try STRAMIT 'MOVAFLUSH' PARTITIONS, next time.



STRAMIT 'MOVAFLUSH'

-THE EASY-TO-ERECT PARTITION

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Please send me, without obligation, full details of Stramit 'Movaflush' partitions

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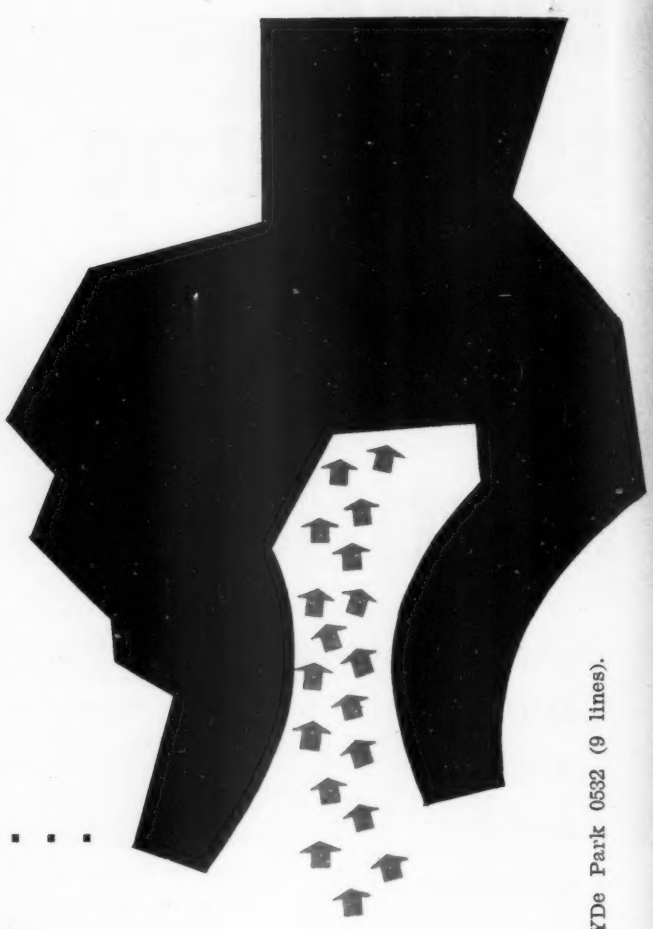
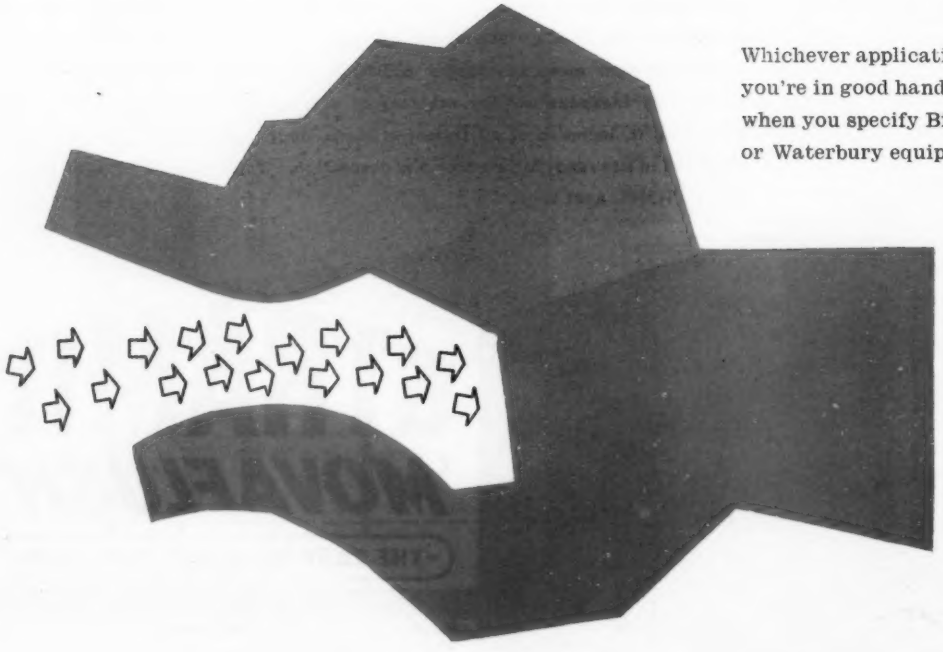


Convection or Warm Air . . .



Whichever application, you're in good hands when you specify Biddle or Waterbury equipment.

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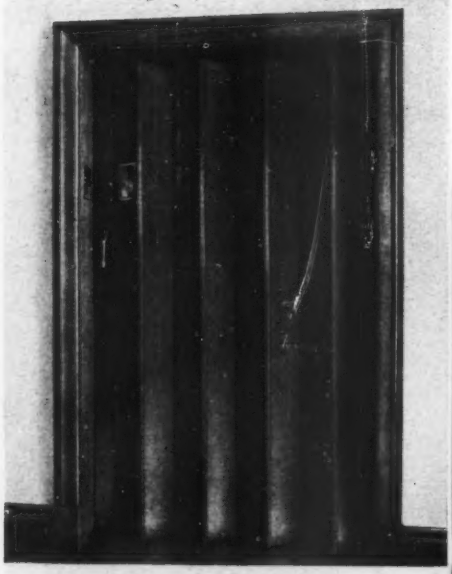
Our latest development...

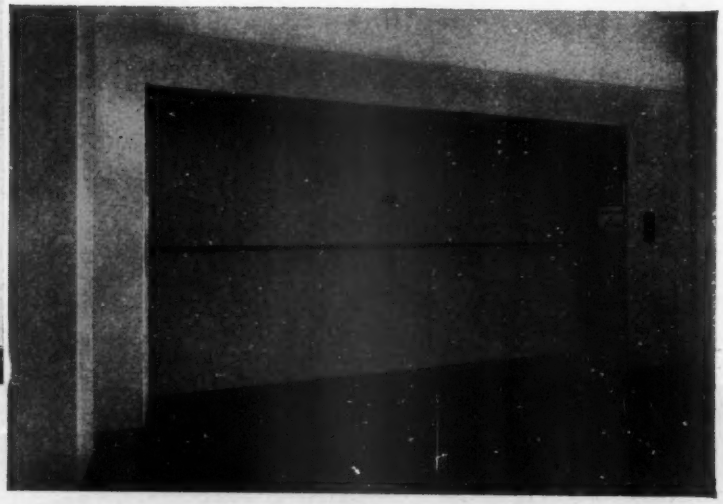
. . . for lift cars is the Multi-Panel Sliding Door illustrated left. The door is constructed from Patent Hollow Aluminium Alloy Interlocking Panels which negotiate the 6" radius of the curved top track smoothly and quietly. Whilst the Multi-Panel Sliding Door is designed to run inside or outside the lift car, it may be adapted as a Landing Door running between the lift car and shaft wall. This new door like every other Bolton Lift Door can be arranged to receive lift makers lock beaks and vision panels.

There's a BOLTON lift door...

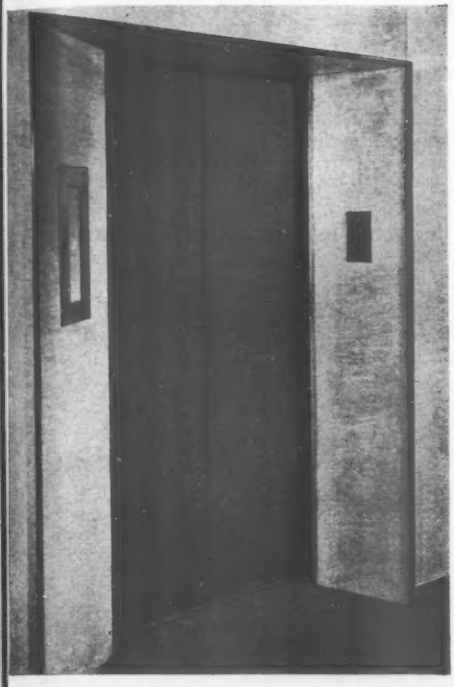


Bolton Patent Shutter Doors for lifts, illustrated above, embody all the well-known quality features of the industrial door and are available for hand or power operation.

Vertical Sliding Bi-parting Doors, illustrated below, slide above and below the lift car giving an unrestricted opening ideal for goods lifts. The upper edge of the lower panel can be reinforced to form a trucksable cill of equal weight capacity to the lift.

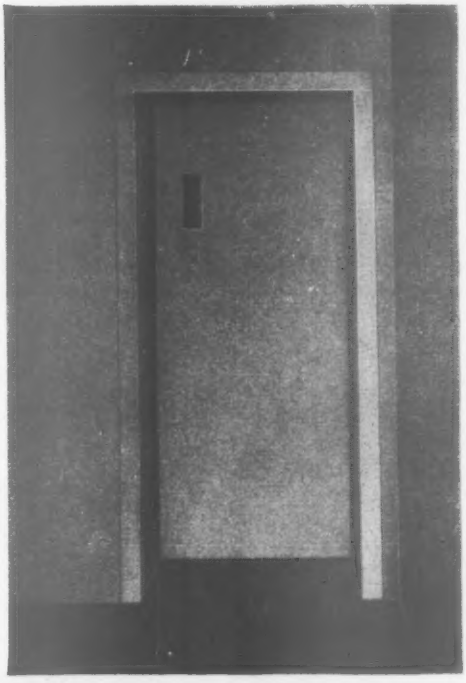


*** Write now for the latest Bolton Lift Door Leaflet AJ 312**



The power operated Single Panel Sliding Door, illustrated right, glides smoothly and quietly behind the wall allowing an unrestricted opening. Flush or alternatively fluted panels of aluminium alloy are available.

The power operated 2 Speed Sliding Door, illustrated left, is smooth and silent in operation and is arranged to give maximum clearance. Panels may be flush or of fluted aluminium alloy.

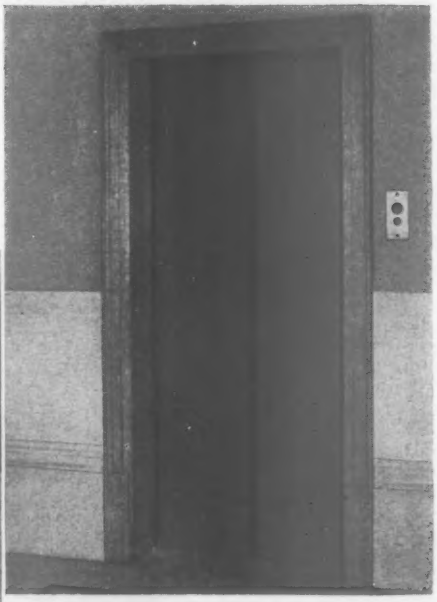


...to suit your requirements

The comprehensive range of Bolton Lift Doors includes doors which are suitable for every situation, from factory goods lifts to the most modern hotel lift. The variety of finishes available is such that harmony with existing decorations can readily be achieved. All Bolton Lift Doors can be fitted with vision panels to your requirements and can be arranged to receive lift makers' lock beaks, handles, etc.

The Multi-leaf Door, illustrated right, is among the most popular of lift doors and is available in a variety of finishes.

The 2 Panel Centre Opening Doors, illustrated right, are supplied with a sympathetic action gear and slide smoothly and quietly behind the wall allowing maximum clearance. A variety of finishes is available.



BOLTON The BIG name in doors

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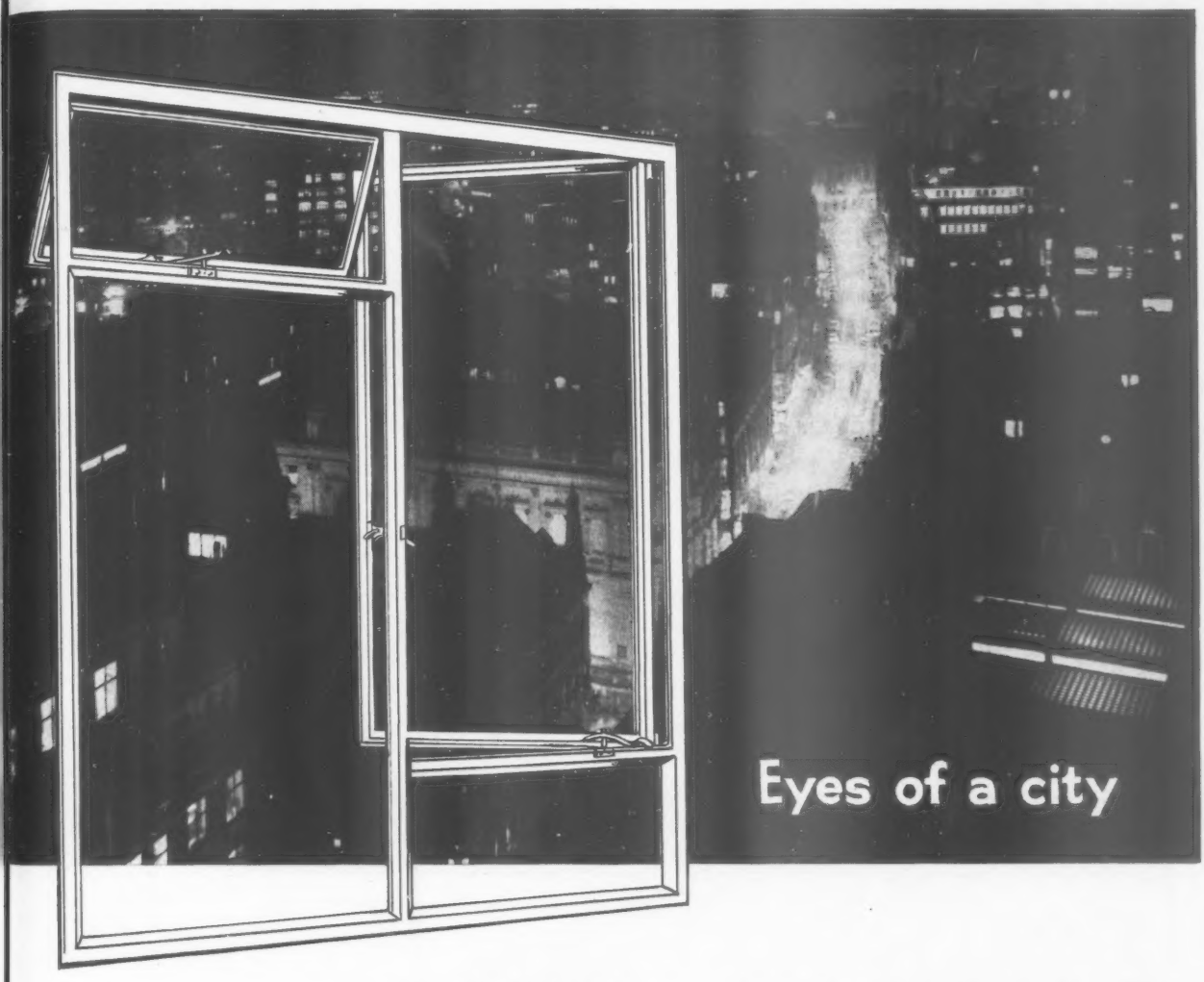

ANTICIPATING the practical needs of extensive multi-storey building developments in our Cities, the Beacon Inside-Glaze Window is a low-cost solution to the glazing problems of high buildings. All Beacon windows in the B.S.S. 990 range can be specified with inside glazing and yet maintain one-piece construction and identical overall sizes: coupling is not required.

Beaconplast No. 1

Beaconplast No. 1 is a new *permanent* and *impervious* coating developed so that steel windows are delivered to the site *really* finished. With Beaconplast No. 1, no finishing coats of paint are required. Beaconplast No. 1 is a coating physically bonded to the metal section and is highly resistant to impact, abrasion, acids and alkalis. This process is exclusive to John Thompson Beacon Windows Ltd., for Windows and allied products. The name Beaconplast is registered.

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MEMBER OF THE METAL WINDOW ASSOCIATES

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MS

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silicone masonry treatments DEFY DAMP

Masonry treatments based on DRI-SIL silicones penetrate into brick, mortar, stone and concrete resulting in a highly water-repellent impregnation. The treatments are easily applied, and are effective for many years—thus reducing maintenance costs.

DRI-SIL silicone masonry treatments

- Preserve buildings from the damaging effects of weathering.
- Keep buildings cleaner because water-borne dirt is less liable to penetrate into the surface pores.
- Prevent staining and streaking.
- Do not block the pores of building materials; thus do not inhibit "breathing."
- Improve the thermal insulation of buildings by preventing the absorption of moisture by the walls.

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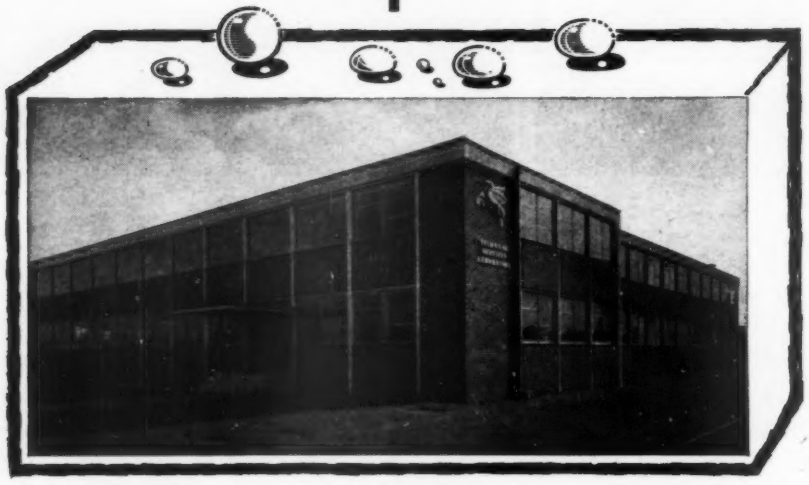

The external concrete frame of this imposing new Technical Service Laboratory for the Mobil Oil Company at Coryton (Architect S. Greenwood A.R.I.B.A.) is faced with precast concrete units treated with a water repellent based on DRI-SIL silicone. *Photo by courtesy of Mobil Oil Company Ltd.*

Proof of the effectiveness of these treatments is shown in this table		% Water absorption after 24 hours' immersion	
		Initial Test	*Retested after 3 years' natural weathering*
Sandstone	untreated	7·0	6·2
	DRI-SIL treated	0·1	0·2
Cement Block	untreated	6·0	5·9
	DRI-SIL treated	0·4	0·7
Common Brick	untreated	20·0	20·1
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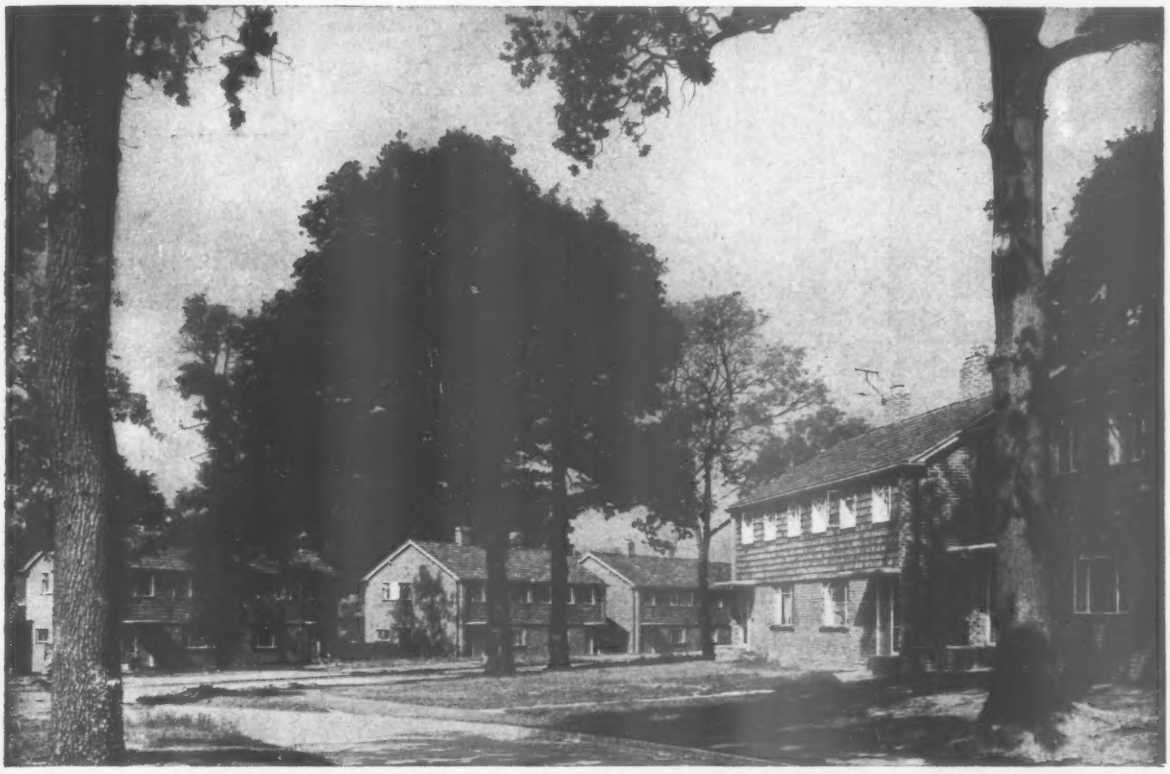

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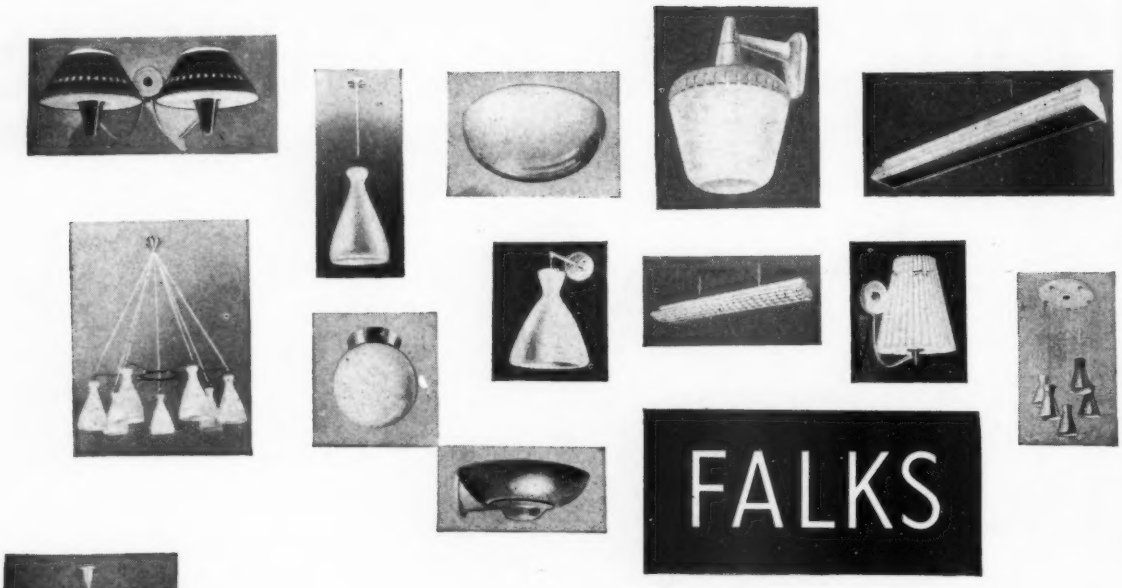

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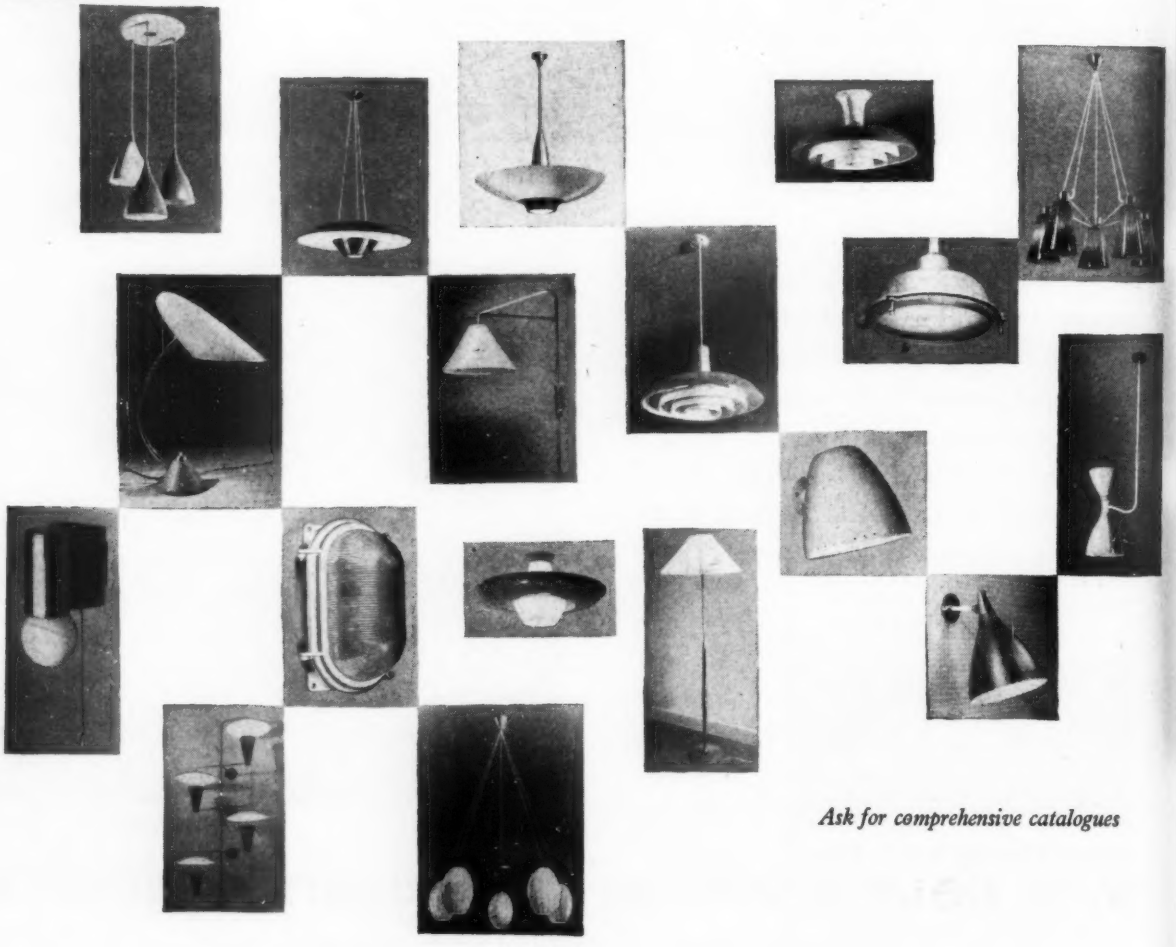

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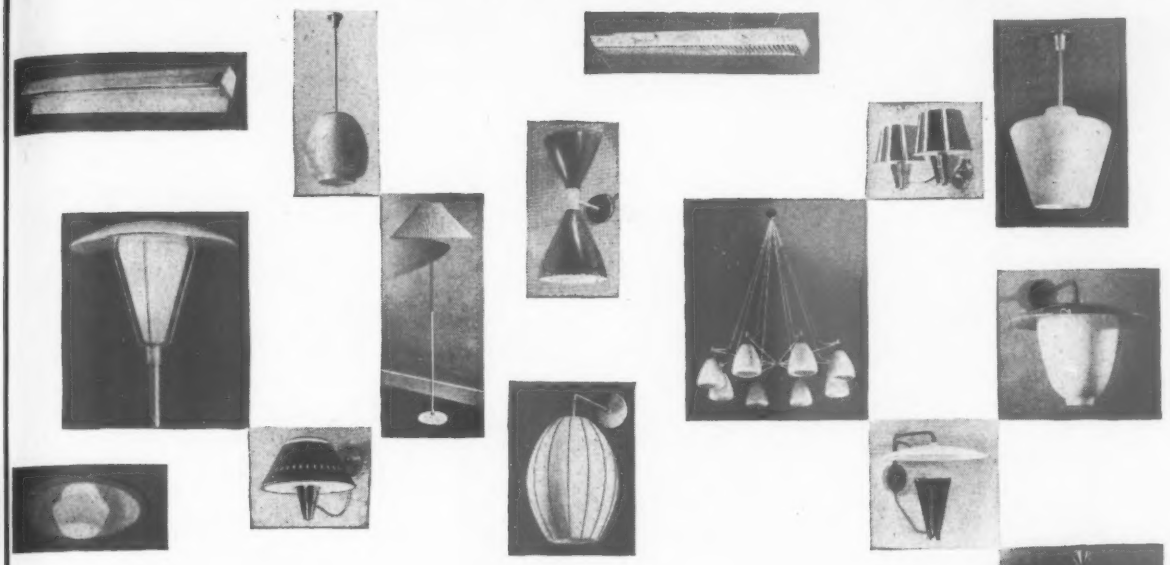

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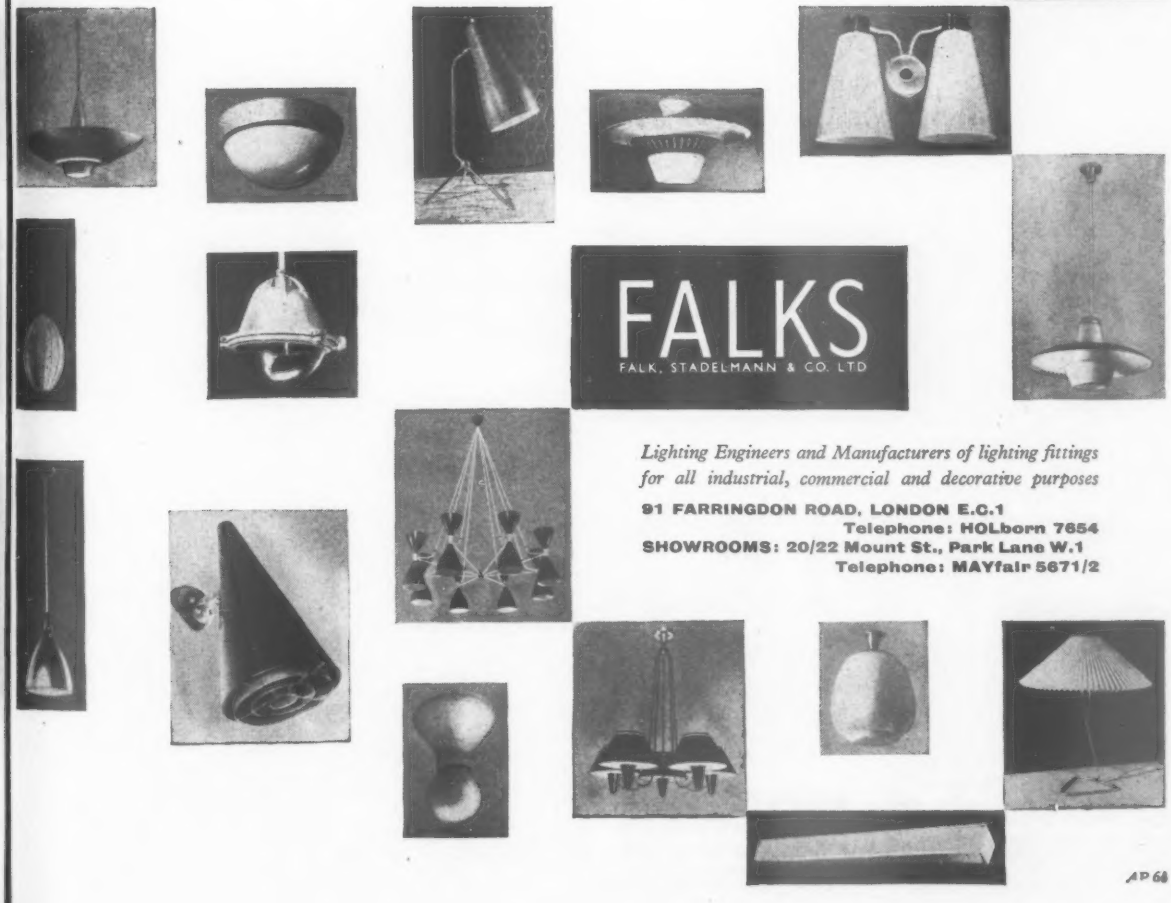

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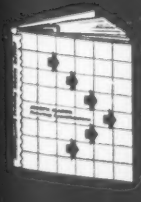

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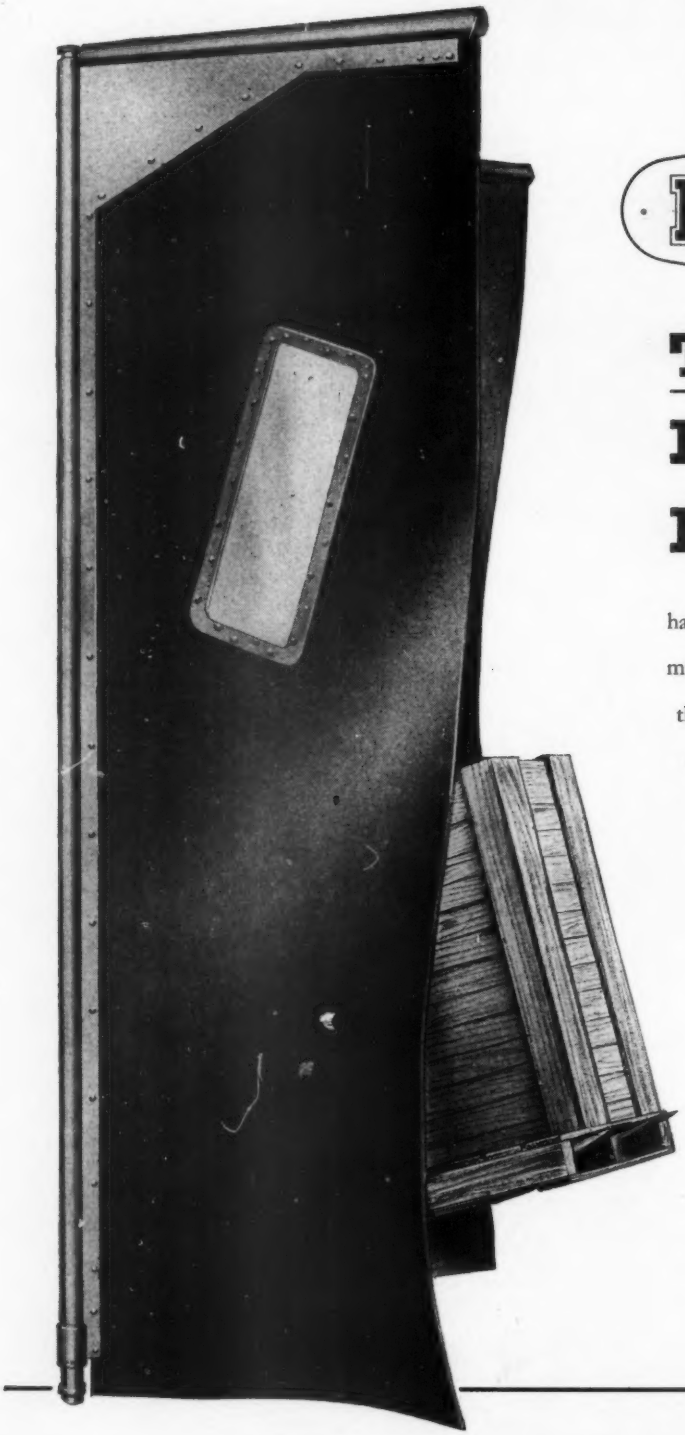

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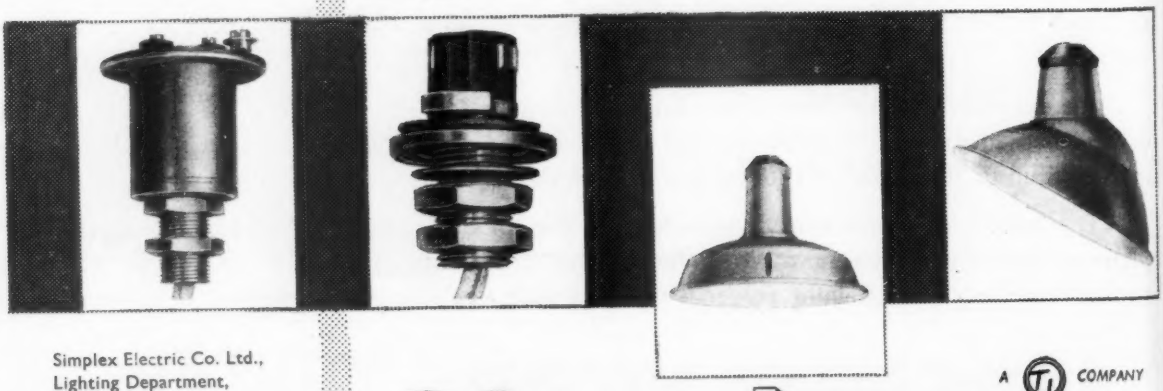

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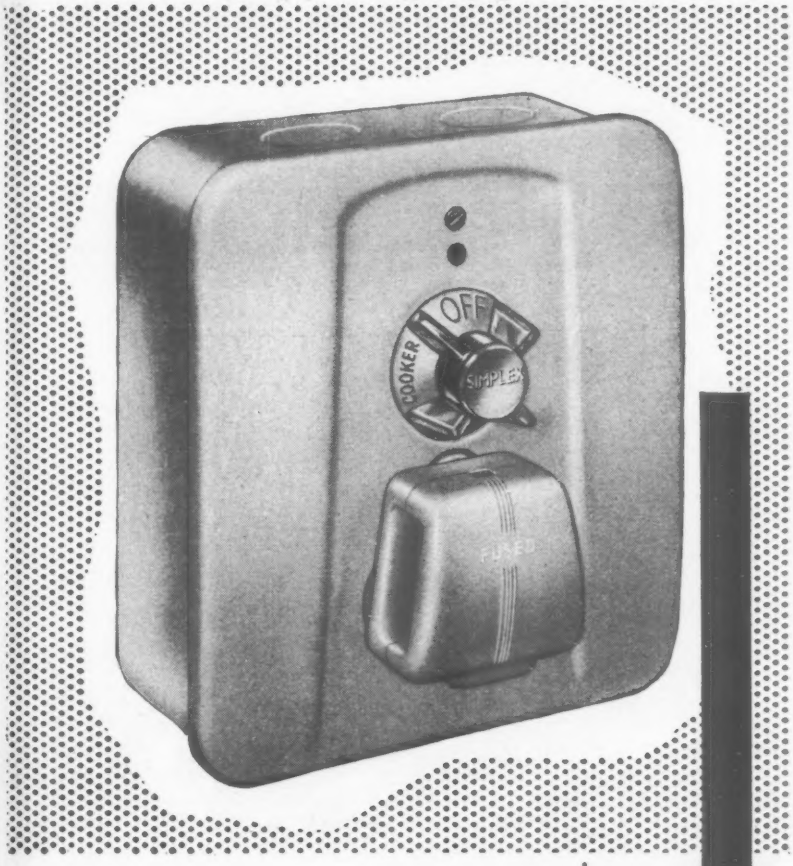

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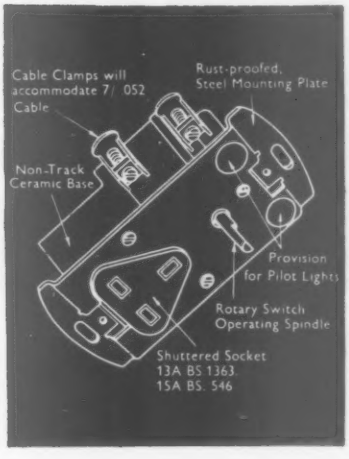

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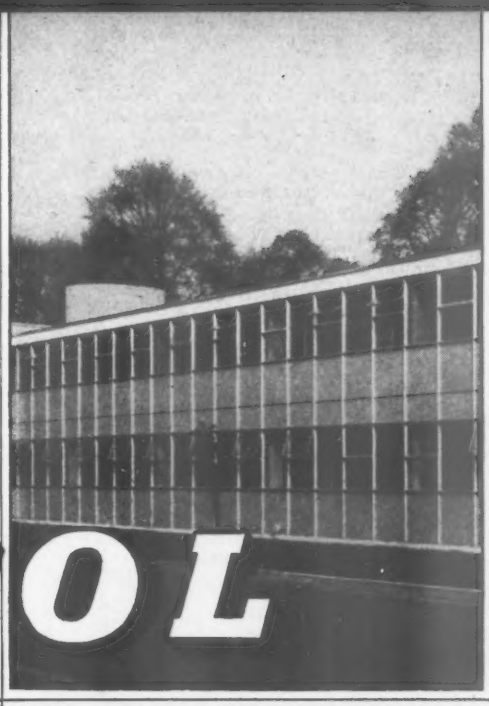

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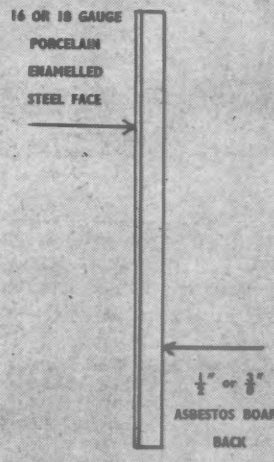

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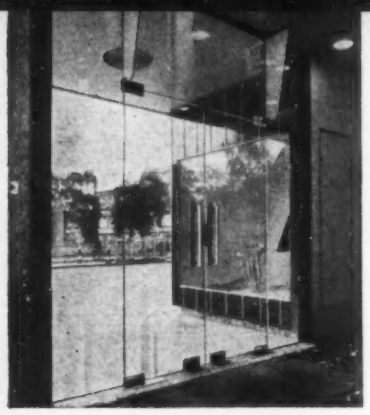

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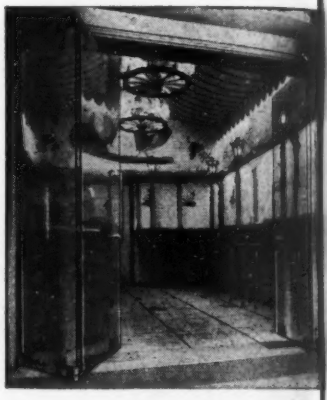
2 Office block entrance, Crosswall Street, London, E.C.3. Architects: Knapton & Deane, F.R.I.B.A., A.M.T.P.I. Shopfitters: F. Sage & Co. Ltd.

3 Office entrance for Lloyds Permanent Building Society, Manchester. Designed and installed by Garmack & Co. Ltd.



4 Shopfront at Weston-super-Mare. Architects: Fry, Paterson & Jones, F.R.I.B.A. Shopfitters: Parnall & Sons Ltd.

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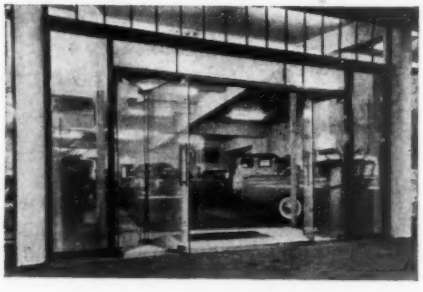

6 Motor-car showroom entrance for Harvey Hudson Ltd., South Woodford, E.18. Architect: V. Fletcher Russell, F.R.I.B.A. Shopfitters: Stewart Fraser Ltd.

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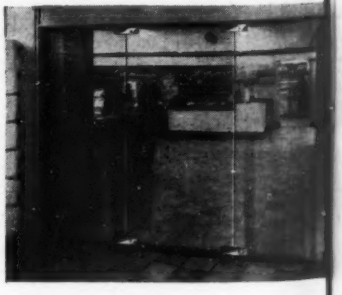

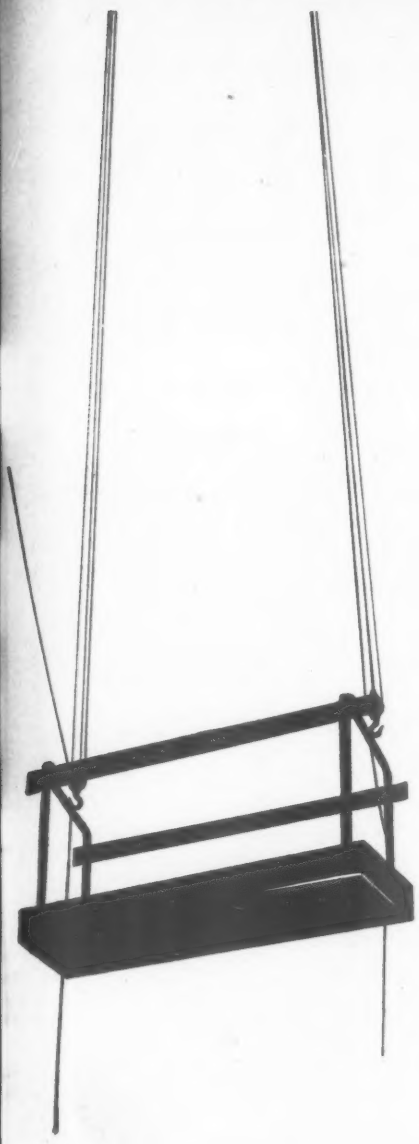

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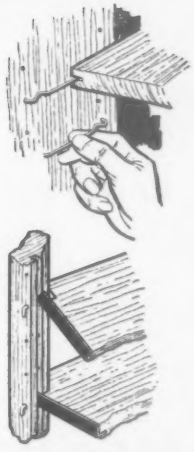

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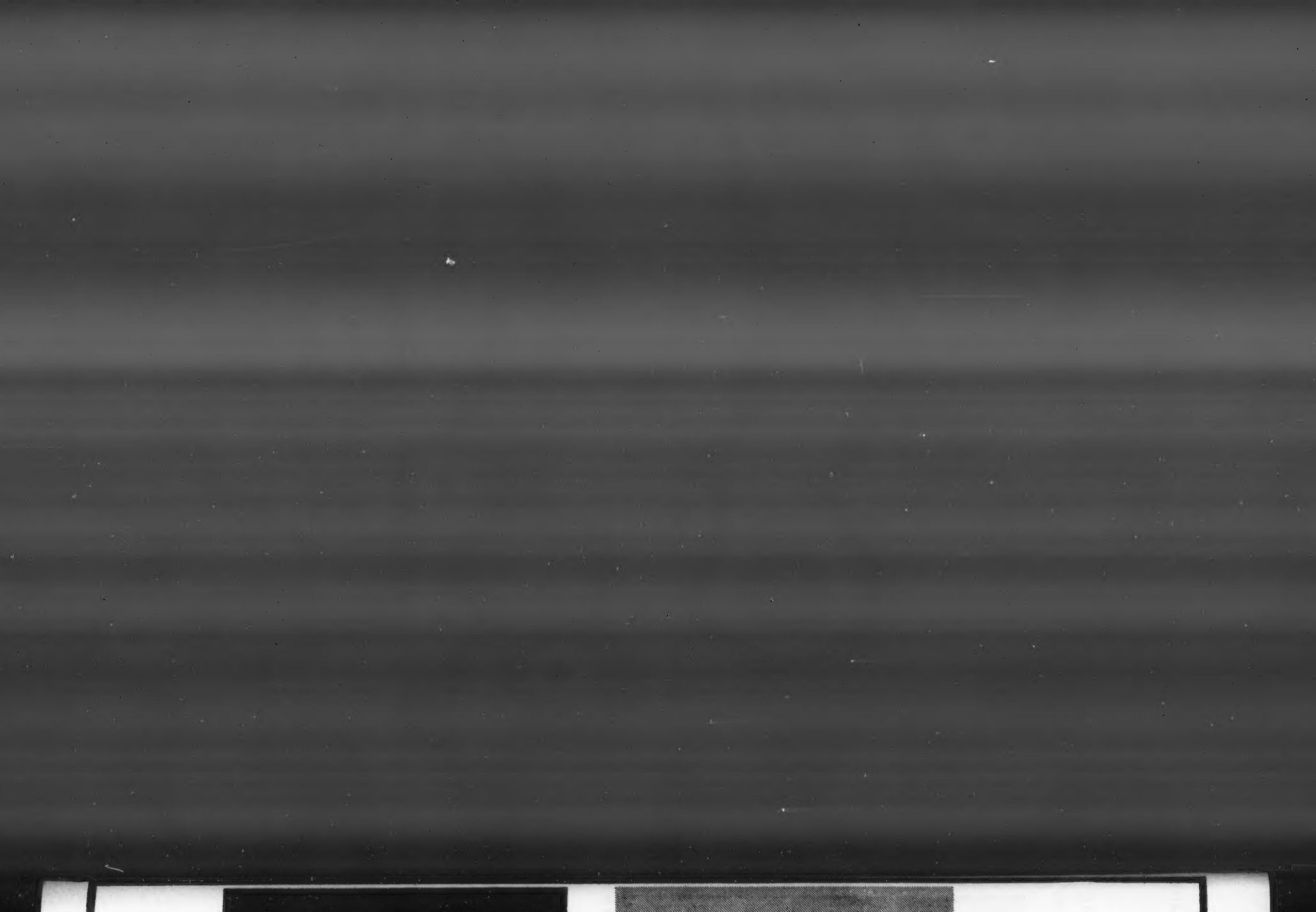

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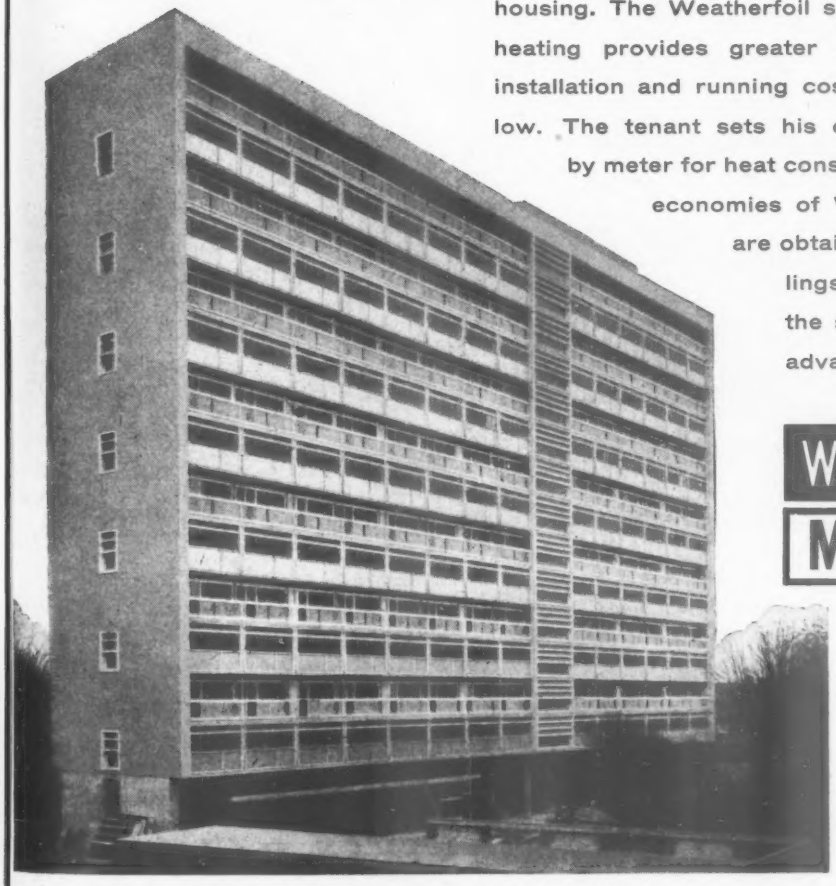

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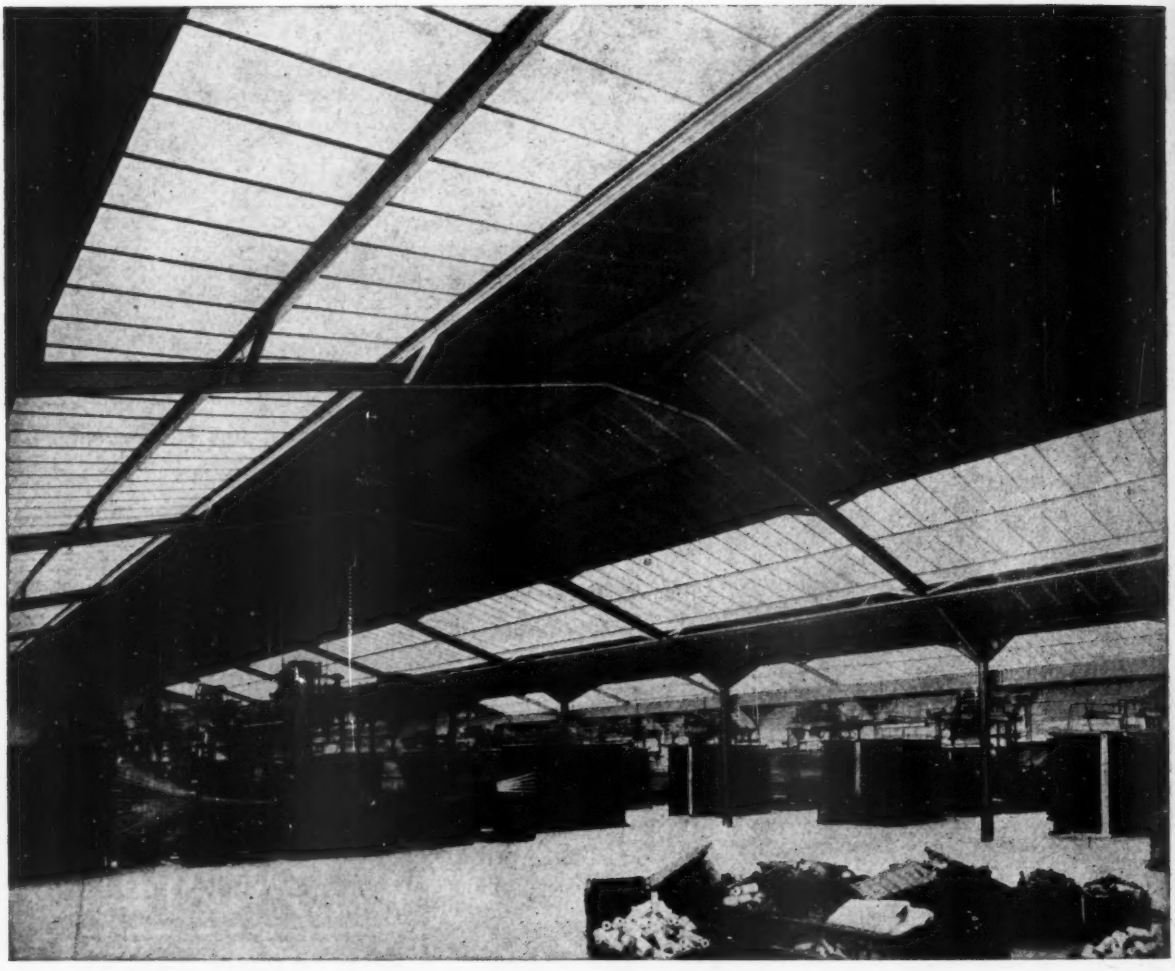

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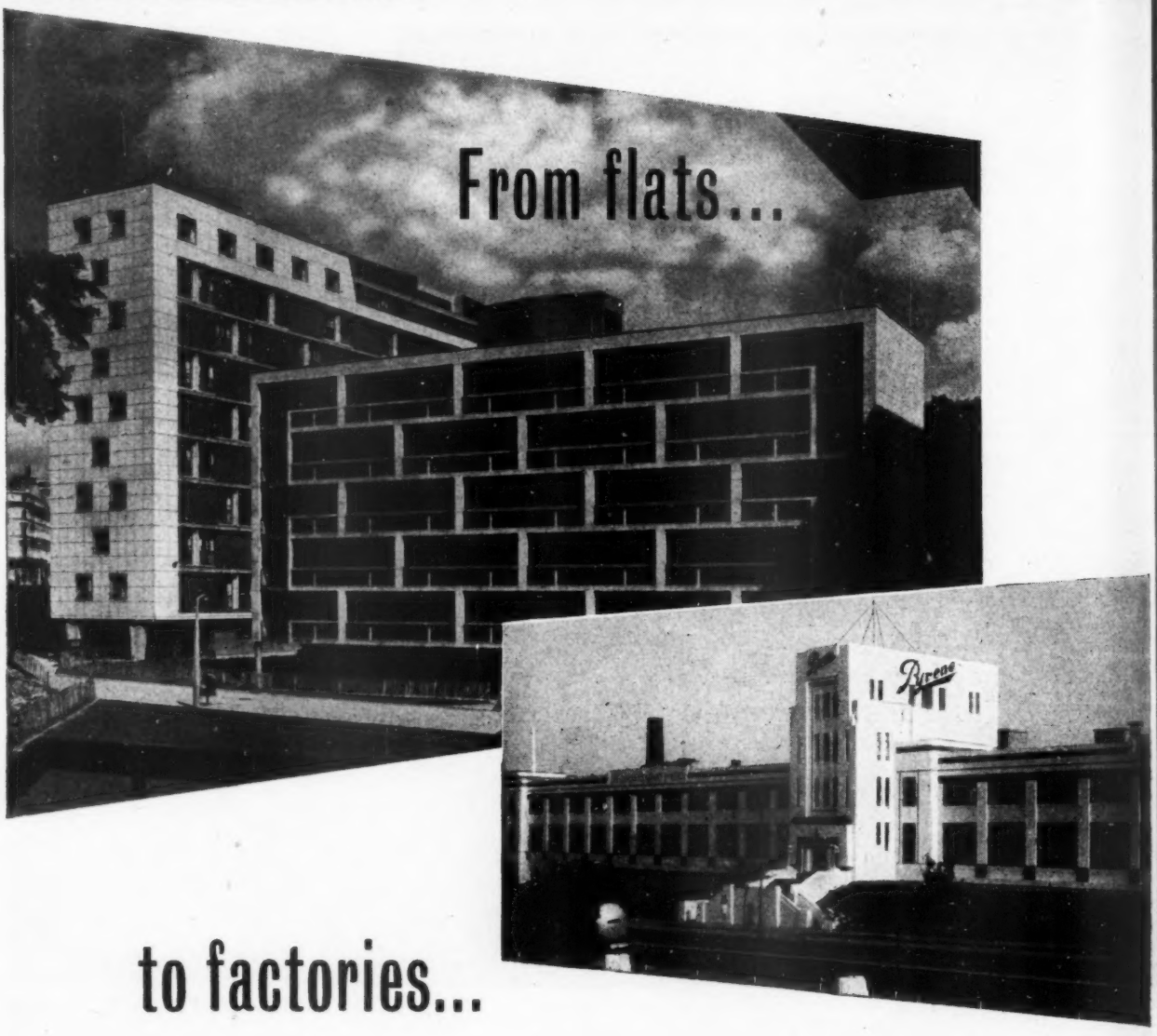

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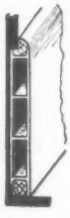

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TGA UD4

The Case for the Local Brick

IT HAS BEEN STATED that our island is built on coal. It may with greater truth be said to be built on clay or brick earth, for brickworks are far more evenly distributed geographically than are coal mines. Some of them follow the "coal measures" up and down the country, but many others are located either on the main clay beds which cross the country or on isolated pockets of clay or other materials which are highly suitable for brick making.

Apart from a few large producers, most of the works are small or medium-sized, and for centuries many of them have largely sustained building operations in their respective areas. They are a great convenience to the builder, enabling him to pick up small loads at any time and to arrange deliveries in accordance with site requirements.

The local brickworks is an asset to its locality. The bricks produced are of varied kinds, which both reflect and mould the character of the region's buildings. In normal times, the works provide steady and healthy employment, and contribute on a substantial scale to the local rates.

The spectacular rise in brick production, which enabled the country to carry out its vast building programme during the last decade, was only made possible by the ready co-operation of hundreds of these small and medium-sized producers. New brickworks were built, and the capacity of old works increased, both at the cost of considerable capital. The whole approach to post-war building development has been imaginative and energetic, and the smaller manufacturers of the country may rightly feel that they have played an important part in the development programme.

The present curtailment of building is producing serious repercussions on the smaller works. Large stocks of bricks are accumulating and if, as appears likely, the slackening in demand continues, its impact on the less well-endowed units of an industry geared to a high level of demand will be very serious indeed.

Competition for the reduced volume of business has become intense, and local manufacturers are vying with producers outside their area. It is widely asserted that competition is good for trade, but it is a question whether, in the ultimate interest of the building industry and the community, some preference should not be given to the local producer. A healthy industry contributing to local prosperity is only possible if regional demand is addressed to regional supply, and a healthy local brick industry is essential to the building industry.

Any large-scale closing of brickworks at the present time would not only seriously curtail future supplies; it might well place the building industry in a difficult position both as to supply and prices of bricks when the present building restrictions are removed.

(Reprinted from 'The Brick Bulletin')

THE FOUNDATION OF GOOD BUILDING — BRICK

Issued by The National Federation of Clay Industries, Drayton House, London, WC1

CAMBRIDGE CONFERENCE 1959

THE BRITISH ARCHITECTURAL STUDENTS' ASSOCIATION

invite you to participate in a week-end conference on

THE FUNCTION OF THE ARCHITECT IN SOCIETY

to be held at

Trinity College, Cambridge, on April 4th and 5th

Accommodation, including all meals, will cost 42/- for the week-end.
150 places have been booked for architects, clients and students.

PROGRAMME

Chairman: JEREMY MACKAY LEWIS, B. Arch., *President B.A.S.A.*

SATURDAY, 4th APRIL

12.30 p.m.	Lunch.
2.0	PERCY JOHNSON-MARSHALL, F.R.I.B.A., A.M.T.P.I., N.E. Group Planning Officer, L.C.C., opens Conference.
2.20	"STATE AS CLIENT," a paper presented by W. D. PILE, M.B.E., Architects and Building branch, Ministry of Education.
2.40	Professor ROBERT MATTHEW, C.B.E., M.A., F.R.I.B.A., replies.
3.0	Discussion.
4.0	Tea.
4.40	"INDUSTRY AS CLIENT," a paper presented by A. HUDSON DAVIES, O.B.E., M.A., Director of Pilkington Brothers, Managing Director of Fibreglass.
5.0	GRENFELL BAINES, F.R.I.B.A., A.M.T.P.I., replies.
5.20	Discussion.
6.0-8.0	DISCUSSION GROUPS (Bar Open).
8.0	Dinner.

SUNDAY, 5th APRIL

9.0 a.m.	B.A.S.A. meeting of delegates from 24 constituent bodies.
10.30	THE "DEVELOPER AS CLIENT" (speaker to be announced later).
10.50	ERIC LYONS, F.R.I.B.A., replies.
11.10	Discussion.
11.30	THE "ALL IN SERVICE" (speaker to be announced later).
11.50	Discussion.
1.0 p.m.	Lunch.
2.0	REPORTS FROM CHAIRMEN OF DISCUSSION GROUPS.
3.0	Professor SIR LESLIE MARTIN, M.A. (Cantab.), Ph.D., F.R.I.B.A., sums up the Conference giving an indication of the objectives to which architectural education should be orientated.
3 30	Tour of colleges in Cambridge (not obligatory!).
5.0	Tea.
5.30	Conference closes.

Tear out and return before March 23

CAMBRIDGE CONFERENCE 1959

The Permanent Secretary,
B.A.S.A., Building Centre,
Store Street, W.C.1.

I $\frac{\text{wish}}{\text{do not wish}}$ to book accommodation for this conference. I will be attending as a .....

(client, architect, student, quantity surveyor, engineer, builder, etc.).

From:

Name.....Address.....

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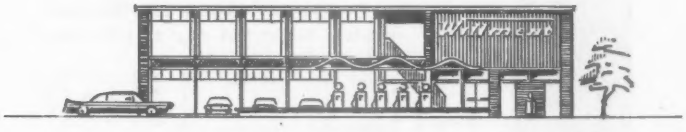
for architectural distinction ...



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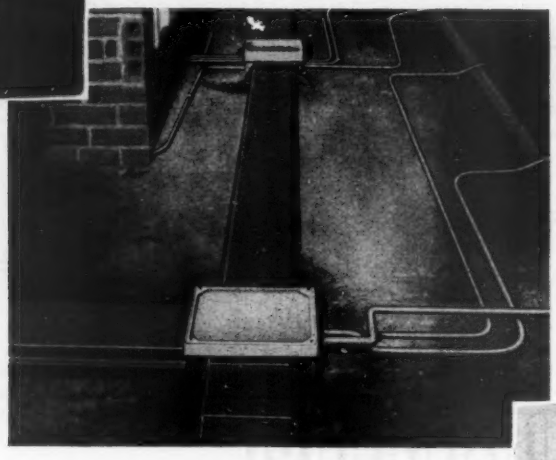

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Finish: Grey Enamel.

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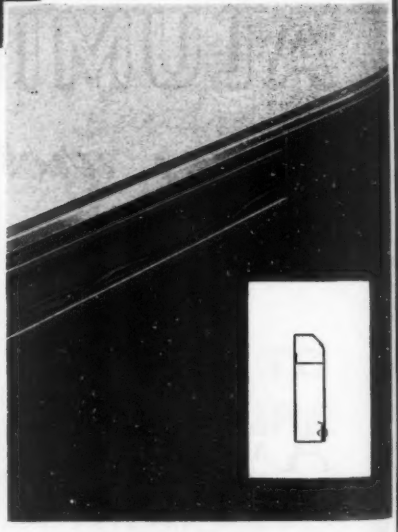

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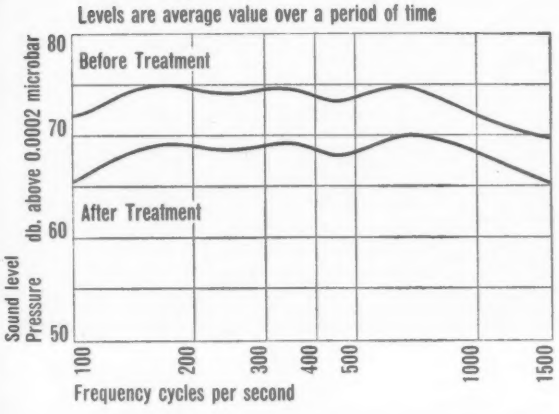
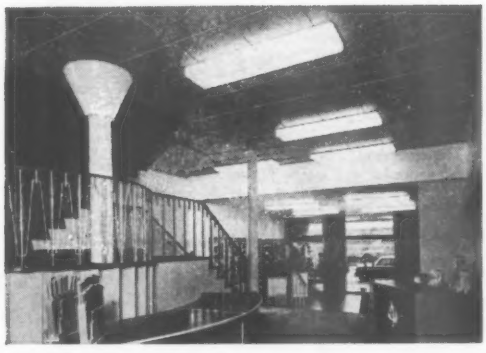


This graph shows the level of noise in a typical self-service store, selling mainly groceries, before and after treatment with Bowater T/A Panels. The situation was this: 10′ ceiling, 40′ x 20′ floor; rubber flooring on concrete, plaster ceiling with extensive fluorescent lighting, walls shelved to 6′; entrance and windows on 20′ side; four cash registers. Area treated: ceiling and 2′ drop on walls.



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AJ

The Architects' Journal

No 3342. Vol 129. March 19, 1959

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MORE THAN JUST ARCHITECTURE

LAY EYES ON CORB

In trying to write about Le Corbusier I feel for the gentleman I overheard at the BC on my way down from the exhibition. He called his lady over with enthusiastic beckonings and blurted out, " Look, darling! Something new in rafters here. Instead of wood, aluminium! " His smile of deep. trusting, lay appreciation as he scrutinized the ingenious novel rafters was affecting simply because they weren't rafters but patent glazing exhibits. My appraisal of Le Corbusier may be a bit like that, I'm afraid. I have never seen a Corbusier building. But the Corbusier exhibition unexpectedly moved me.

*

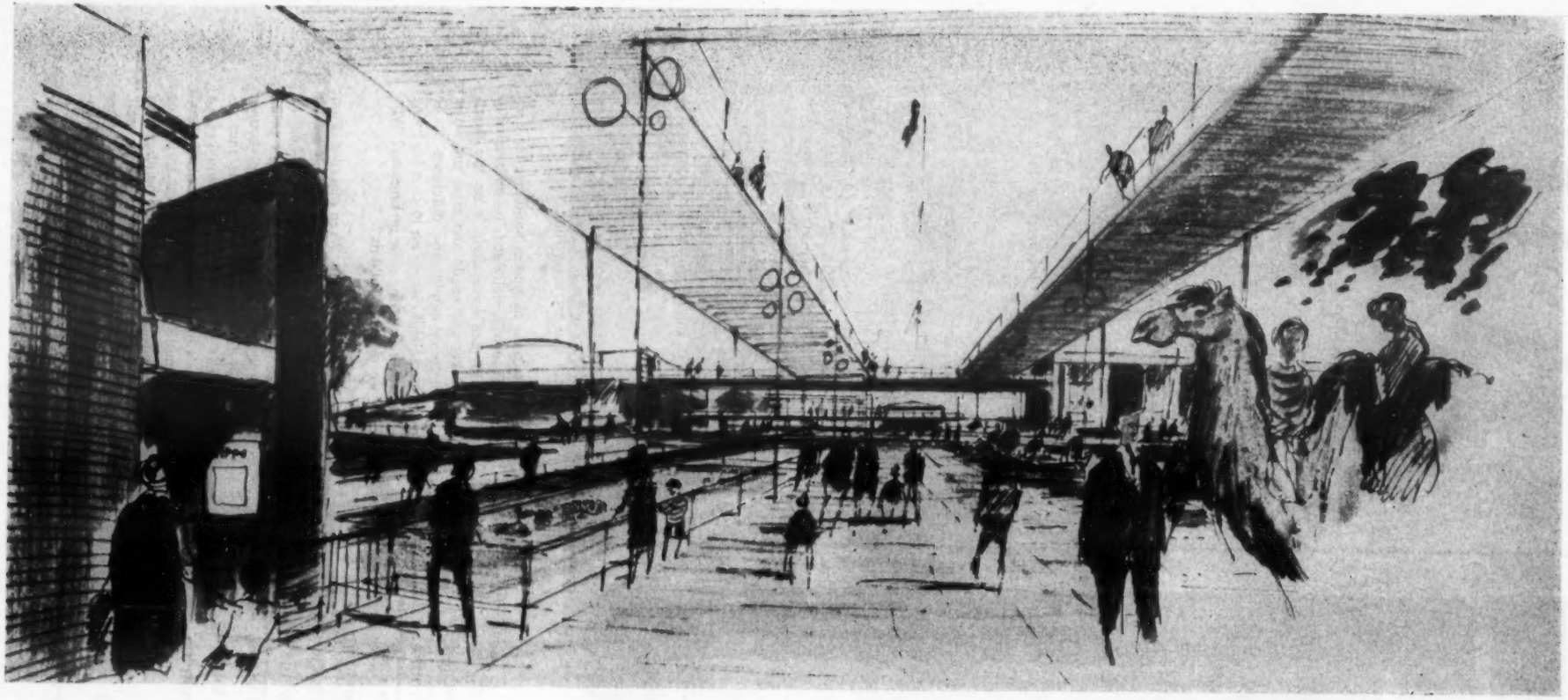
At first glance, especially having read that Ronchamp chapel is destined for collapse, I felt mystelf entangled on the fringes of a monumental gimmick, Wagnerish and offensive, the kind of eccentric, overblown thing that only the servants of megalomania would busy themselves with—a stereotyped lay reaction no doubt. Five minutes later Le Corbusier had me marvelling.

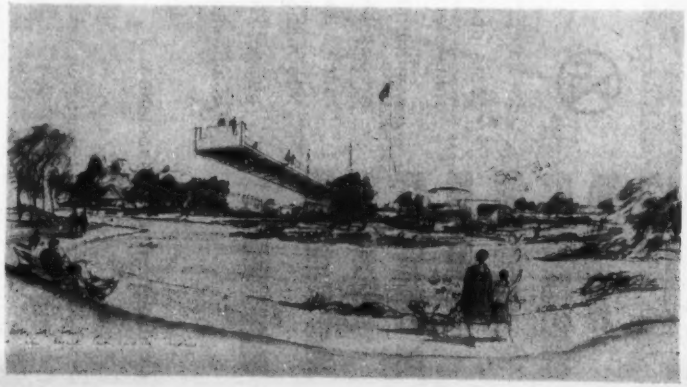
*

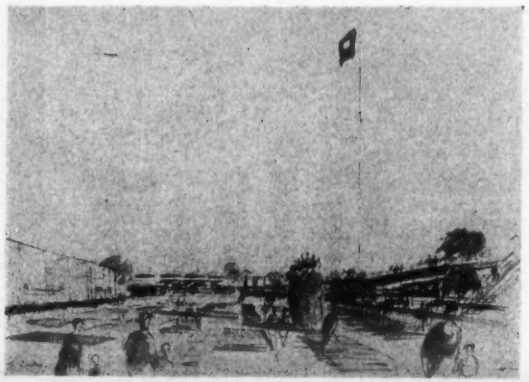
Why? Because he makes buildings. He does it the absorbed, delighted, uninhibited way all we laymen have done it on the beach with bucket and spade and sand and water and anything handy; the difference is he really cared and carried on to earn his living at it. What is wrong now in England? Why can't we make a building?

*

Wren made a building. Wren placed a drum on top of a box and a hat on top of the drum and if in 1959 his cold-hearted eclecticism seems detestable, with his prim, magisterial imposition of what he thought was good for people's minds, the fact remains that this building and many of Le Corbusier's make you want to look at them. It's as simple as that. You want to look at them not just because they are buildings but because they are something more as well. Whether or not some mysterious other dimension is fathomed up or some indefinable intimation reaches you or simplicity is its own opposite of complexity, or however







"Opening up" the Zoo

Plans for the rebuilding of the London Zoo were presented by Sir Hugh Casson and F. A. P. Stengelhofen, to the Zoological Society last week. Circulation is being improved by the construction of a raised walkway (see above) and the Zoo is to be " opened up " on the Regent's Park side (far left). The introduction of a vertical feature in the main concourse (left) will indicate the Zoo's location from the park. Although, in the sketch, this feature is in the form of a flag pole, Sir Hugh says that in actual fact it will take whatever form the architect chosen to design it produces. A further description is on page 437.

you try to put it, what counts is the experience itself. You are no longer the solitary wanderer. As sometimes with cloud formations, mountain ranges, constellations by night, you are in the presence of something and the eye is drawn. My own eye is seldom drawn by a new building in this country. It sees too often just another new building and it isn't interested enough.

*

In turning to the architect or student expositor nowadays the layman perhaps wrongly tends to feel a little daunted by an intellect driving ahead with its own terminological afforestation, and it is a relief to be able to approach the work of the father of modern architecture on open-minded equal terms instead of on tiptoe, and to discover that it really is after all the simple human thing that for donkey's years he has been making it. I'm not saying it's easy to be simple. At times the struggle for form must be nerve-racking but it is Le Corbusier's mastery of form that takes your breath away. He flings modern building materials around in new, ingenuous, charming and unforgettable ways and he changes your ideas.

*

Concrete, for instance. He brings out the concretiness of concrete as Elgar the violiniess of the violin. My concrete was a chilly, packaged, massive and altogether unsuitable material for small dwellings until I had seen the photographs of his concrete. Or churches. Ronchamp makes most English attempts to give contemporary meaning to a house of Christ seem ludicrous travesties and a certain famous project so much flamboyant mannerism which will date and shame us. Ronchamp could gain converts. Ronchamp won't date. Ronchamp is beautiful (much as I mistrust this facile, overloaded word) and so long as nobody is hurt what does it matter if it does collapse? If common humanity is its own opposite of sublime divinity, then Ronchamp as a gesture is enough.

*

It's not easy to be human, either, or for your work to remain human if you are ringed round by muttering guerrillas; a pack of wild dogs has run the lion to death before now. But if Le Corbusier came through why can't we in England, inheriting and exploiting his discoveries? Or isn't he quite through? The following sticker appeared at the exhibition:

"God is dead!" the Frenchman cries.
"Hell is beauty, truth is lies—
Woman is a soulless whore,
Man a purblind carnivore;
Therefore I have made these shapes
Fit to house a race of apes."
Gentle people, pause and pray
For the poor Corbusier.

League-of-Empire Loyalists talk like that. In trying to tilt in a smart way the poem unwittingly hits on the exact truth where the abstract, theological and anthropological words stand for our too, too solid preconceptions. The poet should accept that truth and be happier.

ROBIN MUDIE.

The Editors

AN AJ STUDENT SECTION

THERE was no national body representing the interests of students for many years until the British Architectural Students Association was formed recently. Architectural students are almost inevitably a transient body, deficient in funds, organization, and a means of mass communication. It is indicative of the resolution of the new student body, BASA, that they decided to have a sufficient membership subscription to enable them to employ a permanent secretary; thus ensuring a minimum degree of continuity of administration. This was a step the long-defunct Arch.S.A. never took. As regards communication, a forum for students' ideas, we hope ultimately they will be able to have their own student magazine, but in the meantime we are offering BASA a few pages of the JOURNAL each month—with the minimum editorial conditions on our part which we can devise. We believe that such a student section to the JOURNAL, in which they can freely state their views, will be of value to all our readers. BASA's first supplement appears this week on pages 451-460.

STRAIN ON THE MOE

This month the Ministry of Education has lost two very important members of its Architects and Building Branch: the Principal QS, James Nisbet, and the Principal Architect, Cleeve Barr. The former has joined Donald Gibson's staff at the War Office, and the latter has become Chief Architect at the Ministry of Housing and Local Government. These are two appointment which can be wholeheartedly welcomed. There is, however, another aspect to the matter.

The MOE has only a small staff, and this sudden loss of two such valuable members adds strength to the argument we have put forward recently that the MOE establishment should be increased so that it can serve as a training ground to enable architects to become acquainted with the fundamental principles of development work. "Development groups" are springing up as a species of panacea for all building ills. But, in fact, development work is a very precise and difficult business, needing great experience if worthwhile results are to be achieved. Some consolidation is needed at the present time, if progress is not to be checked.

ARCHITECTURAL SCRUM

Abner, my contemporary in the *Architect and Building News*, doesn't care for people like me " barracking at the referee " in architectural competitions. Referee? What can he mean? I always thought a referee was provided to avoid bloodshed in an audience made up of ardent partisans of one side or one man. An architectural competition is not a game. Its object, I believe, is to get the best possible building for a client. And if the client doesn't like the " referee's " decision, he doesn't have to accept the building.

*

What is the point of competition drawings being exhibited if we mustn't criticize them? There is not even any unwritten law of professional etiquette to prevent competitors from pointing out that a winning design cannot be built within the cost limit. If none of us criticized it would be easier for assessors, but bad for the competition system.

CORB BLIMEY!

Corb did not drop his prima donna act for Peter Newington and the BBC *Monitor* film cameras when they looked in on him for an interview the other week. The interview was screened on Sunday, together with a little background information about Corb's work, and it is clear that he wasn't in the mood for talking. He advanced towards a desk, faced us as if about to embark on a twenty-minute lecture, and merely explained that he was a visual man who worked with his eyes and hands, that his research was directed towards poetry, that people worked and lived where they should not, and that there should be a proper occupation of the land.

*

There was hardly enough here to make a teen-AAger swoon, and certainly not enough to get Corb's work over to the lay viewer. In every shot —mostly stills or models of Ronchamp, Chandigarh, etc.—there was a fascinating story to be told. But it wasn't told, and the best thing about this short film was the roof-top scene on the Marseilles block. It was delightful to see children using the roof playground—to actually view the machine lived on. But why didn't we see it lived *in*? Why not a few interviews with satisfied customers, with the help of interpreters? I have a feeling that although *Monitor* commits itself, in print, to being interested in architecture, someone is afraid of the subject. Yet how much more lively the average viewer would have found a really coherent description of Corb's theories than that dreary and ridiculously reverent film about the *Comédie Française*.

WHAT PRICE BIRMINGHAM!

If you saw the BBC/Civic Trust film about rehousing in Birmingham, you will be prepared for the shock if you come across *The New Birmingham*, sponsored jointly by Birmingham Corporation Public Works Committee and *The Birmingham Mail*. It contains photographs of Sir Herbert Manzoni (a member of the Civic Trust) and the author, Alderman Frank Price, the man who told television viewers that he hoped Birmingham would one day be the most beautiful city in Europe.

*

In this booklet he explains that hundreds of visitors from all over the world go to Birmingham to learn the " know how " of redevelopment, in which the city is " leading the country, if not the world." He describes the proposed treatment of Edgbaston in a way that will chill the hearts of those who know this pleasant suburb. And his captions to the city's buildings-to-be show a remarkable aptitude for architectural criticism, ranging from " the modern school of architecture " (for an undistinguished building) through " imposing " (the John Barker style) and "striking " (average city-of-London manner) to " modern architectural design " (MOW style). However, Mr. Price seems to have doubts. " Birmingham " he writes, " will attract people from the Midlands and the near-North. I am hoping that we shall be able to provide enough of the right type of entertainment to induce them to stay." I quite see what he means. Nothing short of " Naughty Nudes of 1979 " would persuade me to spend a night in such a mess of neo-Georgian and neo-contemporary buildings.

*

But maybe there is still hope. I am sending a copy of this booklet to the Civic Trust. I shall report what they have to say.

A PROPER CIRCUS

The LCC's sketch proposals for Piccadilly Circus (AJ October 16, 1958) were not sufficiently far-sighted in terms of traffic and pedestrian circulation and layout. But they proposed—on the north side of the Circus—a potentially pleasing—if squat—glass slab, with arcades at the base and limited pedestrian access to the east. The building now proposed by the commercial developers, City Centre Properties Ltd., is extremely disappointing. The height has been increased from 130 ft. to 172 ft., but the block still looks far too squat in proportion. The podium is shapeless and the low wing blocks look accidental. It was sensible to include space for advertisements and neon signs, though this could have been more imaginatively done. But the arrangement and proportion of the taller block is very poor and the silhouette graceless. The LCC, rather surprisingly, describe the building as a tower. How low can a tower get? The architects for this building, illustrated opposite, are that very well-known firm, Cotton, Ballard and Blow; consulting architects, Messrs. J. G. L. Poulson.

FILMING INDUSTRY

Architects and students are always criticizing trade films made by the building industry. But the RIBA films sub-committee, which is looking into the matter, pointed out last week that

these critics are only a small minority of the film's audience. At this meeting Francis Baden-Powell produced some startling statistics showing how much effort and money is wasted, and someone suggested that some kind of co-ordinating committee might be set up to guide sponsors in their choice and treatment of subjects. This would be useful, but the trouble is that when any organization gets its teeth into film-making everyone wants to get into the act. I'm told there are some hilarious compromises when the COI makes a film for export with the advice of several Government departments.

*

It would help, of course, if Shell had a go at a building film. After all, they have made an admirable picture about steel fabrication which mentions oil only once.

SQUARING THE TRIANGLE

Last week an AJ correspondent flayed new building in Oxford and Sir John Summerson's speech at the opening of the Undergraduates' Design Society's exhibition. ASTRAGAL, who scurried off to see the exhibition, found the bulk of the completed work as appalling as he expected, and was depressed by the poor designs of buildings still to be put up. One of the worst is shown here: a block of shops, flats and undergraduates' rooms in St. Clement's Street.

*

The tower and pinnacles of Magdalen College form a sublime entry to Oxford's High as you cross the River Cherwell. The bulky blocks which Magdalen propose to erect on the opposite bank of the river carry the principle of contrast too far. This clumsiness of design is astounding in a firm with the reputation of Booth, Ledeboer and Pinckheard. A building which might be quietly passed over in some dreary suburb becomes a tragedy in Oxford.

*

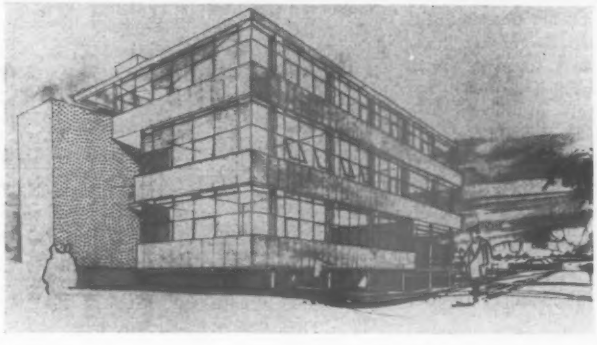
My other illustration, also from the exhibition, is of Basil Ward's Metallurgy Building (now under construction) which is the first part of the proposed development of the Keble triangle. The building of the taller engineering block alongside is due to start at the end of the year. I hope this won't prevent Ward's overall plan for the triangle from being reconsidered. It has never been a very satisfactory scheme, largely because of the shape of the site. Now that the university has stopped ruining the Parks, no-one would be anxious to encourage building there again. But in fact a sensibly-designed building bridging Parks Road could be more satisfactory than an over-packed triangle.

Above, Cotton, Ballard and Blow's very disappointing development for Piccadilly Circus.

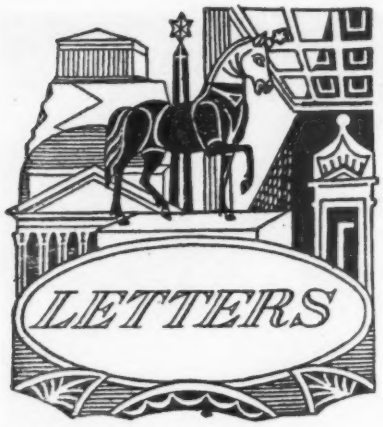
DIE HARDS

The letters published in the JOURNAL about the use of dead or retired architects' names in firms' titles have raised interests points. One of the best stated arguments against J. M. Richards's original article (February 12) was Graham Dawbarn's letter published two weeks ago. But his description of the difficulty of deciding who is responsible for a design emphasizes the need for greater clarity of thought on the subject. The subject is due to be discussed at the next meeting of the RIBA's Practice Committee. It will be interesting to hear their views.

ASTRAGAL



Above, development for Magdalen College, Oxford, by Booth, Ledeboer and Pinckheard. Left, Basil Ward's Metallurgy Building under construction on the Keble triangle, Oxford.



A. Douglas Jones, F.R.I.B.A.
David Benton, B.A., LL.B.
Registrar, ARCUK
Henry J. Mein, A.R.I.B.A.
Alison Imrie, *Press Assistant, Timber Development Association*

"Who Cares?"

SIR: Whatever your opinion of the Civic Trust film series *Who Cares?*, it was a pity that you found it necessary to man-handle it in the way you did.

These films were not made for the purpose of preaching to the converted, but for the benefit of the Tinkers, Tailors, Soldiers and Sailors of this world.

I am not versed in the techniques of entertainment, but we all know how extremely difficult it is to put over the sort of values that the Civic Trust, architects and other educated people are interested in. Whether the BBC Civic Trust film series succeeds or fails is only one side of the coin. The real point is that some people are trying, and I should have thought that this, in itself, made their efforts worthy of support.

In the light of the unencouraging attitude that the BBC and the Civic Trust have received from certain important sections of the architectural Press, one could only have sympathy for them if they decided not to try to put across their message (in which we all believe) through the outstandingly important medium of television. But I am sure that this was not your intention.

A. DOUGLAS JONES

Birmingham

The Editors reply: Nothing that has appeared in the AJ could be interpreted by the BBC or the Civic Trust as discouraging the use of television to enlighten the general public on architecture, town planning and civic decency. For attempting this the BBC and the Trust deserve to be congratulated. But the films are unlikely to make much impact on the public because they were not well conceived or well produced. The conclusion to be drawn by the BBC and the Civic Trust is, surely, to make a better job of it next time, and not to make the films' weaknesses a pretext for pulling out.

Professional Partnerships

SIR: ASTRAGAL'S comments, under the heading "Professional Misconduct" in your issue for March 12, on the recommendation of the Professional Purposes Committee to my Council in respect of entering into partnership with or into the employment of persons whose names have been removed from the Register under Section 7 of the 1931 Act, ignores the legal considerations which the Committee had to apply to the matter.

For my Council to have attempted to disturb the existing legal relationships of partnership and employment would not only have been improper (in the legal sense) but would also have encountered the very difficulties which decided the recent case of Hughes *v.* ARCUK against them. A reading of the judgments delivered in this case amply endorses the correctitude of my Council in excluding partnerships from the prohibition.

The comparison with solicitors is apt to be misleading: solicitors are officers of the High Court of Justice, and are subject to the dual discipline of the Master of the Rolls and the Law Society. Furthermore, the restrictions on the employment of solicitors who have been struck off the roll or suspended are expressly embodied in the Solicitors Act, 1957.

Finally, so that your readers may appreciate the situation in its proper perspective: since the coming into operation of the Architects (Registration) Act, 1931, 31 persons have been removed from the Register for conduct disgraceful to them in their capacities as architects.

DAVID BENTON
Registrar, ARCUK

London

ASTRAGAL replies: I am grateful to David Benton for drawing attention to the legal considerations affecting partnerships with architects who have been removed from the Register. But isn't it the business of ARCUK to try to get these legal difficulties removed, for Mr. Benton does not dispute my contention that a firm can allow one partner to flout the code of professional conduct with impunity?

Potty Details

SIR: Those one time useful working detail sheets have lately gone to pot.

From a practical point of view, the clerestory window (January 2), was pretty grim, but the door (January 26) is the absolute bottom. The glazed panel in the door can only be fixed or replaced by removing the style of the door, and the recessed plywood panel appears to be tacked on only. The basic construction is that of a ledged door, which in this part of the world at least, might possibly be considered appropriate for a pigsty or garden shed.

May I respectfully suggest that if you must pander to such epoch-making discoveries of elementary construction, at least the details published be reasonably practical.

HENRY J. MEIN

Nottingham

The Technical Editor replies: Though we appreciate our correspondent's interest, we do not agree with him on the main issue of whether the door was a good one or not. There is, after all, a tradition of ledged doors in church work and the added thickness makes up in strength for the lack of framing. Recessed glazing looks better than the more usual beading and it would surely be difficult to break ¼ in. plate glass 5 in. wide. But perhaps Mr. Mein intends to go up and try.

Timber Characteristics

SIR: We are most grateful to you for this opportunity of correcting some mis-information which was published in your issue of January 8 with the title "A Comparison Table for Commonly Used Hardwoods." The correct symbols which were published in your issue of January 22 succeeded only in making matters worse.

We have therefore prepared a new table, using the corrected symbols and applying them to the timbers listed in the original table, under the same classifications. The information contained in the new table is based upon our reasonably wide experience of these timbers.

In the original table the classifications "local availability" and "cheapness" were intended to refer only to Scotland. We have taken them to apply to the United Kingdom as a whole.

We feel sure that your readers would be very dissatisfied with the results obtained if they were to apply the "information" given in the original table. Therefore we sincerely hope that they will be guided by the new table in the selection and use of any of these hardwoods.

ALISON IMRIE
Press Assistant, TDA

London

characteristic required	african mahogany	afrormosia	agba	cedar borneo	idigbo	iroko	keruing	makore	meranti	oak european	obeche	sapele	teak
stability	○	○	○	◒	○	○	●	○	◒	◒	○	◒	○
natural durability	◒	○	○	◒	○	○	◒	○	◒	○	●	◒	○
hardness	◒	○	◒	◒	◒	○	○	○	◒	◒	●	◒	○
fineness of grain	◒	○	◒	●	◒	◒	●	○	●	●	◒	◒	◒
consistency of colour	○	◒	○	◒	○	◒	◒	◒	◒	○	○	◒	○
ease of working	○	◒	○	○	◒	◒	◒	●	○	◒	○	◒	○
absence of priming difficulties	○	○	◒	○	◒	◒	●	○	○	●	○	◒	●
local availability	○	◒	◒	○	◒	○	○	●	◒	○	○	○	○
cheapness	◒	◒	○	◒	◒	◒	○	○	◒	◒	○	◒	●

○ yes good ◒ maybe passable ● no bad

RIBA

Two "A" Levels in 1961

Architects have the lowest educational standard of any profession in the country, said Richard Sheppard, vice-president, at the RIBA's monthly Press conference. By introducing the requirement of two "A" level passes in GCE instead of merely five "O" levels the architectual schools will no longer get "the academic dregs of the secondary school system." Mr. Sheppard believed that this higher standard would reduce the entry from the present level of 900 to 1,000 students a year to about 500 a year, which would maintain the present size of the profession (20,000) until the year 2,000 otherwise the profession would have increased in size to 35,000 members. He hoped that the results of this policy would be that schools could revise their curriculum to start lectures at a higher level; that it might be possible to cut the training period from five to four years; and he believed that it would eventually lead to a reduction in the number of architectural schools. The Council Minute is as follows:

Acting on a recommendation made by the Conference on Architectural Education held in Oxford in April 1958, the Council of the RIBA have decided that, with effect from September 1, 1961, the minimum standard for the Probationership of the Royal Institute shall be the General Certificate of Education or the Scottish Leaving Certificate or the Scottish Universities Preliminary Examination Certificate in five subjects from the following list, including English (English Language) and Mathematics or a Science subject, at least two subjects being at "A" level (or in the case of Scotland on the Higher grade, or in the case of Commonwealth candidates the equivalent recognised by the Council of the RIBA): 1, Religious Knowledge. 2, English or English Language. 3, English or English Literature. 4, History. 5, English Economic History. 6, British Constitution. 7, Ancient History. 8, Economics. 9, Geography. 10, Welsh. 11, Latin. 12, Greek. 13, French. 14, German. 15, Italian. 16, Spanish. 17, Russian. 18, Polish. 19, Other Languages. 20, Mathematics. 21, Mathematics (double subjects, equivalent to two Advanced level subjects). 22, Applied Mathematics and Mechanics. 23, Physics. 24, Chemistry. 25, Botany. 26, Zoology. 27, Biology. 28, Geology. 29, Art. 30, Music. 31, Physics with Chemistry. 32, General Science. 33, Greek Literature in Translation. 34, General Paper. (The subjects to be accepted in the Scottish Leaving Certificate and Commonwealth examinations are under review by the Conference Committee).

Candidates who submit Botany, Zoology, Biology or Geology as their science subject must have passed Mathematics at Ordinary level. The above regulation does not affect the entrance requirements of any particular University Schools.

In drawing up the list of subjects the RIBA have borne in mind the fact that it is essential to keep the education of the potential architect as wide as possible and to avoid any specialized subjects among the minimum requirements, although practical studies in drawing and handicraft would be encouraged as additional subjects.

The Honorary Associateship

Sir Jacob Epstein has accepted the Council's nomination for election as an Honorary Associate.

RIBA Drawings Collection: Drawing by Canaletto

During the course of routine work on the Drawings Collection, a drawing has been discovered which has now been ascribed by experts to Canaletto. The drawing had been included in a gift of miscellaneous letters and sketches by Sir Robert and Sydney Smirke, presented to the Institute in 1938 by a granddaughter of the latter, Mrs. Dorothy Biggar. The Library Committee has recomended that the drawing should be retained by the Institute.

Mrs. Biggar has been told of the discovery and has replied expressing her pleasure and agreeing that the drawing should remain in the possession of the Royal Institute.

The Council approved the purchase of a framed portrait of Sir John Vanbrugh and one unframed of Inigo Jones, for addition to the RIBA collection of portraits.

RIBA—IDEAL HOME

Competition Winners

The RIBA and *Ideal Home* magazine have announced the names of the successful competitors in the small house competition, in which the assessors were Clifford Culpin, Eric Ambrose and Peter Dunham. The copyright of the prize-winning designs belongs to *Ideal Home;* consequently the designs will first be published in a book to be published by *Ideal Home* later in the year. One competitor received awards for three designs, two competitors each received awards for two designs, and the remainder received awards for one design. They are as follows:

3 Winning Designs:
David W. Oliver, Bath.

2 Winning Designs:
Michael Meacher, St Albans.
Ronald F. Smith, Walsall.

A. W. Cleeve Barr, the new Chief Architect, MOHLG.

1 Winning Design:
J. M. Austin-Smith, London (in association with Mrs. I. L. E. Austin-Smith, P. J. Lord, and W. H. G. Salmon).
G. Grenfell Baines, Preston (in association with T. Hargreaves, J. Wilkinson and J. K. Ingham).
Peter J. Bell, Wickham Bishops, Essex.
Frederick Barber, Dorking (in association with K. D. Bundy and B. Greenfield).
A. Francis Bennett, London (in association with R. N. Abadie).
Keith Bottomley, Keighley.
K. P. Campbell, Geneva.
Brian G. Cobb, Cambridge, Mass. USA.
Geoffrey A. Collens; London.
Alan R. Deaves, London.
James R. Findlay, Cardiff.
J. Desmond Heuval, Wokingham.
G. A. Marsh, Ham Common, Surrey.
J. Richard Nichol, Welwyn Garden City (in association with A. M. Edwards).
J. E. Parsons, London.
J. R. C. Rowell, Prestwick, in association with John Anderson).
Mervyn T. Seal, Shrewsbury.
Denis Sergeant, London.
A. W. Strutt, Bromley, Kent.
Stuart R. Sutcliffe, Three Bridges, Crawley.
H. P. Trenton, London.
James Watson, Eskbank, Middlothian.
K. G. West, Herne Bay.

MOHLG

Architect Appointed

A. W. Cleeve Barr, Principal Architect in the Ministry of Education, has been appointed Chief Architect in the Ministry of Housing and Local Government in succession to J. H. Forshaw. He will take up his duties in June.

Mr. Barr, who is 48, was Deputy Housing Architect to the LCC in charge of development work before his appointment to the

Ministry of Education, and earlier in his career had held other appointments with the LCC and with Hertfordshire County Council. He has also had experience in a private capacity. His book, *Public Authority Housing*, was published last year. He was one of the JOURNAL's guest Editors who launched the AJ's investigation into costs in 1955, and was one of the AJ's "Men of the Year" for 1958. He has been chairman of the RIBA Constitutional Committee since his election to Council last year.

Housing Standards to be Reviewed

At the suggestion of their Chairman, Henry Brooke, Minister of Housing and Local Government, the Central Housing Advisory Committee have appointed a Sub-Committee to review housing standards, with the following terms of reference:

"To consider the standards of design and equipment applicable to family dwellings and other forms of residential accommodation, whether provided by public authorities or by private enterprise, and to make recommendations."

The Sub-Committee will work under the Chairmanship of Sir Parker Morris, Chairman of the National Federation of Housing Societies and formerly Clerk of the Westminster City Council. The other members are:

Miss H. Alford (Chief Housing Officer, Royal Borough of Kensington).
Councillor Mrs. E. Denington (Vice-Chairman of the Housing Committee, LCC).
Alderman A. R. Nobes (Chairman of the Housing Committee, Gosport BC. Chairman of the God's Port Housing Society Limited).
Councillor Miss M. C. Reade (Chairman of Samford Rural District Council).
Viscount Ridley (Chairman of the North-Eastern Housing Association).
Professor A. B. Semple (Medical Officer of Health for Liverpool).
N. Wates (Chairman of Messrs. Wates Limited, Building and Public Works Contractors).
J. L. Womersley (City Architect, Sheffield).
Alderman H. Clowes* (Member of the Housing Committee, Stoke-on-Trent CB).
P. Chamberlin* (private architect).
G. L. A. Downing* (Engineer and Surveyor and Director of Housing Development, Hackney MBC).
Miss J. Ledeboer* (private architect).
Councillor Mrs. I. Powell* (Chairman of the Housing Committee, Tredegar UDC).
Mrs. M. Smith* (Community Association Officer, London Council of Social Service).
Councillor Mrs. A. R. Unmack* (Member of Housing Committee, Taunton BC).

Any person or organization wishing to give evidence should, in the first instance, write to the Secretary of the Sub-Committee, S. W. Gilbert, at the Ministry of Housing and Local Government, Whitehall, S.W.1.

*Co-opted members.

COMPETITIONS

Aluminium Lighting Columns

The Aluminium Development Association announces an open competition for the design of aluminium street lighting columns. The object of the competition is to encourage the evolution of good designs (taking especially into account æsthetic appearance, economy of construction, and the advantages of aluminium) and the eventual wider adoption of such lighting columns in Great Britain. Prizes offered for the design of a 25-ft. high column for Group A (trunk road lighting) or a 15-ft. high column for Group B (non-trunk road lighting) are: First, £250; second, £100; third, £50; student's prize, £75. The assessors, who will be assisted by a panel of technical advisers, are Lionel Brett (nominated by the RIBA), Professor Sir Alfred Pugsley and Sir Gordon Russell. Closing date is 12 noon, Wednesday, July 1, 1959. Entry forms, etc., from the Secretary, ADA, 33 Grosvenor Street, London, W.1.

Milngavie Town Hall

The Burgh of Milngavie, Dunbartonshire, announces a competition for a new Town Hall, with premiums of £600, £400 and £200. The assessor is William P. Jack. The last date for questions, April 30; last date for submitting designs, June 30, 1959. Conditions from the Town Clerk, 3 Buchanan Street, Milngavie (deposit £2 2s.).

HC

High Density Houses

Peter Chamberlin is one of the very few people who can be consistently sensible without being dull. It was perhaps the idea that housing is really rather fun that came across most strongly from his talk last Tuesday at the Housing Centre on "High Density Housing." It was certainly not a technocrat's talk, and anyone who went there expecting to get genned up on the latest type plans would have been sadly disappointed. His general approach was to analyze the qualities that could make life in a closely-packed urban environment enjoyable, and then to suggest how these qualities could be achieved in new developments.

People had fled to the suburbs, not because they disliked high density as such, but because of the negative qualities of the central areas as they knew them—noise, smoke, smell, dirt, dangerous traffic and a general restrictiveness as to the details of daily life: there was nowhere to potter around and "do it yourself," pets were often prohibited and so on. These negative qualities were not essential to high density living, it was our job as architects to get round them, and offer many "plus" qualities to set against them. A dazzling slide of a Van Gogh pavement café night scene—intensely evocative of the excitement of eating out together—suggested the sort of quality he had in mind.

One is quite used to seeing slides of market places, of arcades, of the Piazza San Marco and of the Albany coupled with pious remarks as to their urbanity. But in this instance no mere lip service was being paid to their inspiration. One turned, for example, from slides evoking the pedestrian paradise of Venice to Golden Lane where the service road is underground—"the cars like the sewers are out of sight." This is the sort of thing which it is easy to show on a student scheme but which, as we all well know, requires bull-dog determination to achieve in fact.

Two pleasant stories should be put on paper. A slide showed children playing enjoyably but dangerously on a Venice bridge. Mr. Chamberlin said that we were complacent about the greatest danger to children—moving traffic alongside pavements—but fussed ridiculously about minor dangers: Anyway, in his experience, it was usually the adults who got into trouble. At a primary school of theirs Chamberlin, Powell and Bon had carefully designed a pond to be foolproof for children—it would take positive malice to drown the smallest child. After one year no child had fallen in but an ex-headmistress, a policeman and a dog all had.

Mrs. Cohen—the City Corporation's Welfare Officer—after many kind words about Golden Lane said, in the discussion, that it had been found that even old people, as a rule, liked living well up in the tall block. One old lady had explained to her that "with these wonderful slow lifts one got to know people so much better."

Many of us—easily caught in the rut of professional tedium—could learn from Peter Chamberlin's approach. Definitely not pompous, he tackles his problems with a sense of un-hurried fun—quite different from flippancy. The approach to high density housing from the humanist angle of "how can we make city life as enjoyable as possible" ought not to be unusual—but it certainly is, and how.

D.Q.J.

NTBTE

The New President

Every year the National Federation elects a new president and every year he invites the technical press to hear his views and ask questions.

Last week T. V. Prosser (a director of William Thornton & Sons) told us that the industry was looking ten years ahead in its training policy, was particularly concerned to improve relations with the professions (for the further development of "pre-planning") and with the trade unions (for the "common recognition of production problems") and was unique among industries in having its own advisory service.

Then came the questions. Main themes were: research and the dissemination of information; Joint Consultative Committees; Direct Labour schemes and government "tap turning." The president rejected the suggestion—by the Select Committee on Estimates, as well as by questioners—that

the industry was not contributing enough to the cost of research. He pointed out that in the last year, the Federation had in fact increased its subscription to DSIR and that since one third of all building was for public clients, the benefit of research paid for by the government did go to the consumer. On the suggestion that the industry should set up its own research organization, he said that the enormous cost of such a project would inevitably be reflected in building prices—he would prefer that the industry continues its present collaboration with DSIR. He also rejected the idea that research conducted by the larger contracting firms was not more widely shared—eventually ideas invented by one firm were used by others.

The problem of how to improve the dissemination of information is apparently under consideration by the Federation, but Mr. Prosser admitted that this had not got to the point of actual proposals. The main problem, he said, was that of getting the smaller builder to read technical literature.

In answer to a question about the president's views on the industry's attitude to the all-in service, he replied, rather surprisingly, that so far as he knew, it was no more than in pre-war days.

More than one questioner asked why so little was heard from the Joint Consultative Committees. The answer appeared to be that for the most part local committees dealt with local problems—which therefore did not come to the Federation or the central committee; that the central committee had in fact produced what he considered a very good pamphlet—"Plan before you Build"—and were soon to do another one on Tendering procedure.

On Direct Labour schemes, the president thought that builders were not getting a fair deal. Such organizations were not truly competitive and had not the same incentive to improve efficiency as the private builder, and there had been cases of the Ministry accepting Direct Labour estimates without competition—about which the Federation had protested to the Minister.

To conclude the meeting, Mr. Prosser called for much longer programming by the government for building work. It should be at least ten years he said.

DIARY

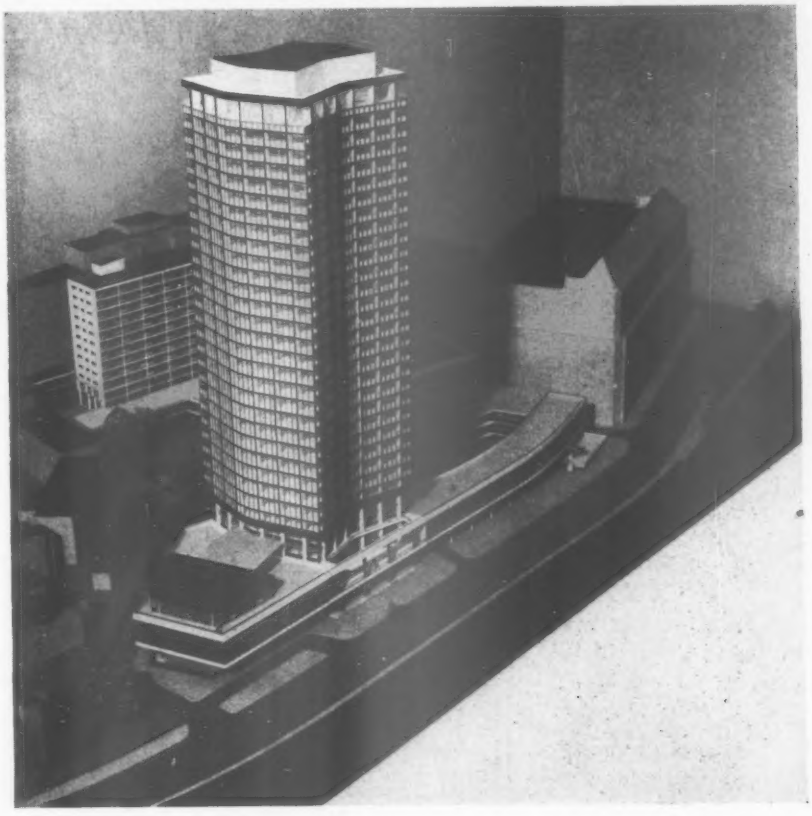
A.A. School, Department of Tropical Architecture. *Exhibition of Students' Work* 34, Bedford Square, W.C.1. 4.30 p.m.
MARCH 20

Some Thoughts on Recent Developments in Modern Civic Design. Talk by A. G. Sheppard-Fidler at the Midlands Branch of the Institute of Quantity Surveyors, Lecture Hall, Byng Kenrick Professional Bodies' Suite, College of Technology, Gosta Green, Birmingham. 7 p.m. MARCH 20

William Morris and the Anti-Scrape: the origin and development of the Society for the Protection of Ancient Buildings. At the Victoria and Albert Museum, South Kensington, S.W.7. 6.15 p.m. MARCH 25

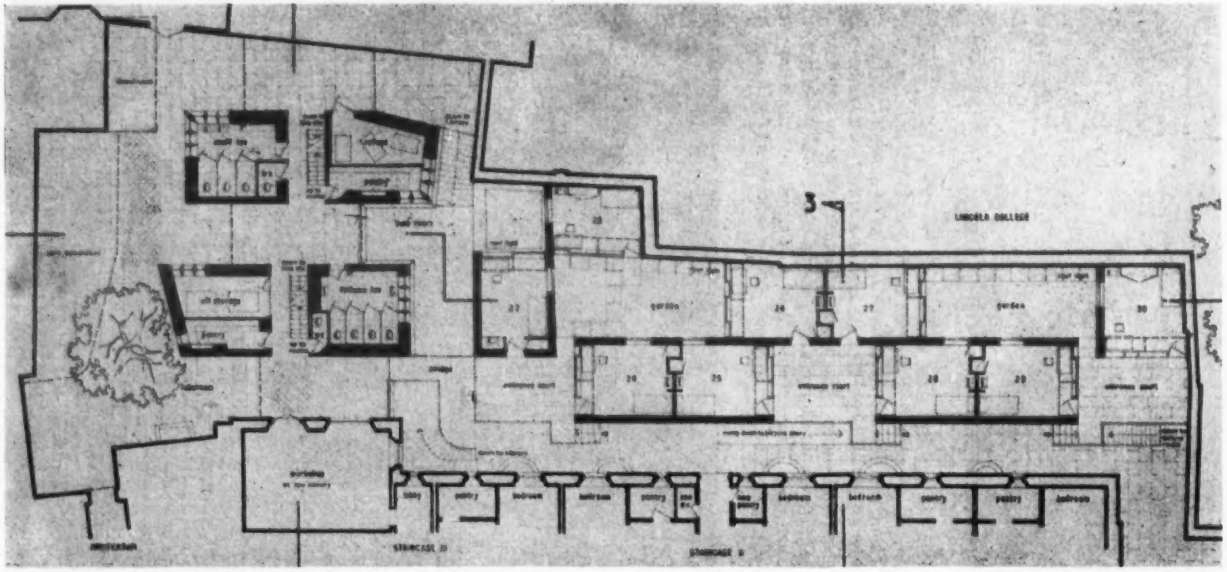
Exhibition of the Work of Arne Jacobsen. RIBA, 66, Portland Place, W.C.1. Weekdays 10 a.m. to 7 p.m. Saturdays 10 a.m. to 5 p.m. UNTIL MARCH 25

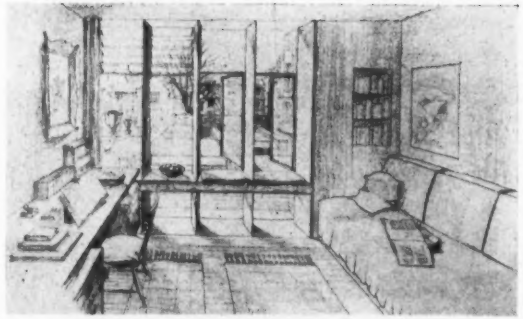
Ideal Home Exhibition. Olympia.
UNTIL MARCH 30

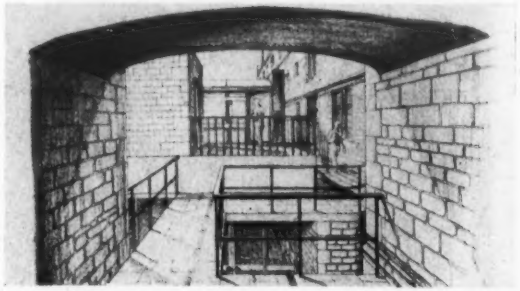


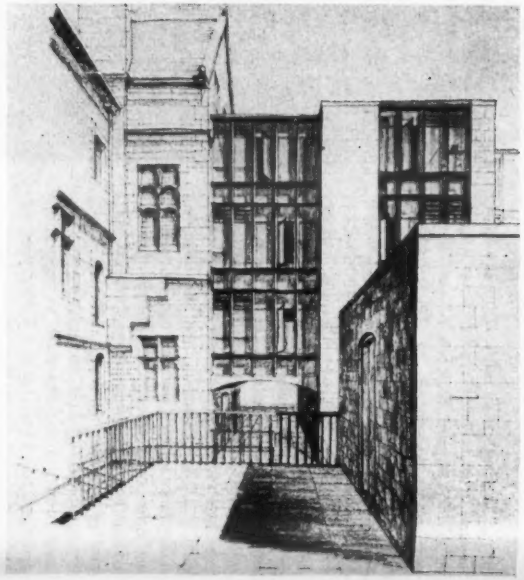
Detailed planning permission has been given by the LCC for this group of buildings which includes new head offices for Vickers. It is designed by Ronald Ward and Partners on a site at Millbank for the Legal and General Assurance Co. The 31-storey block, 372 ft. high, will be the highest office block in Europe, and the highest building in London. There is an 11-storey residential block, an 8-storey office block and parking for about 250 cars at ground and two upper levels. Structure is r.c. frame with a specially developed prefabricated curtain wall framed in stainless steel. The estimated cost is £5 million; consulting engineers, Travers Morgan and Partners; general contractors, John Mowlem and Co. Ltd.

EXHIBITION OF CURRENT ARCHITECTURE IN OXFORD

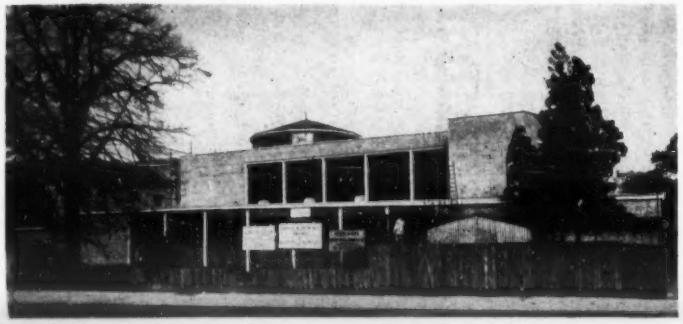


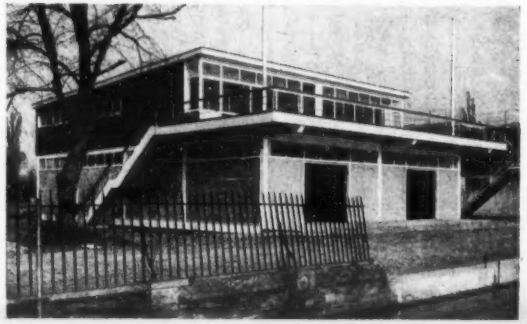




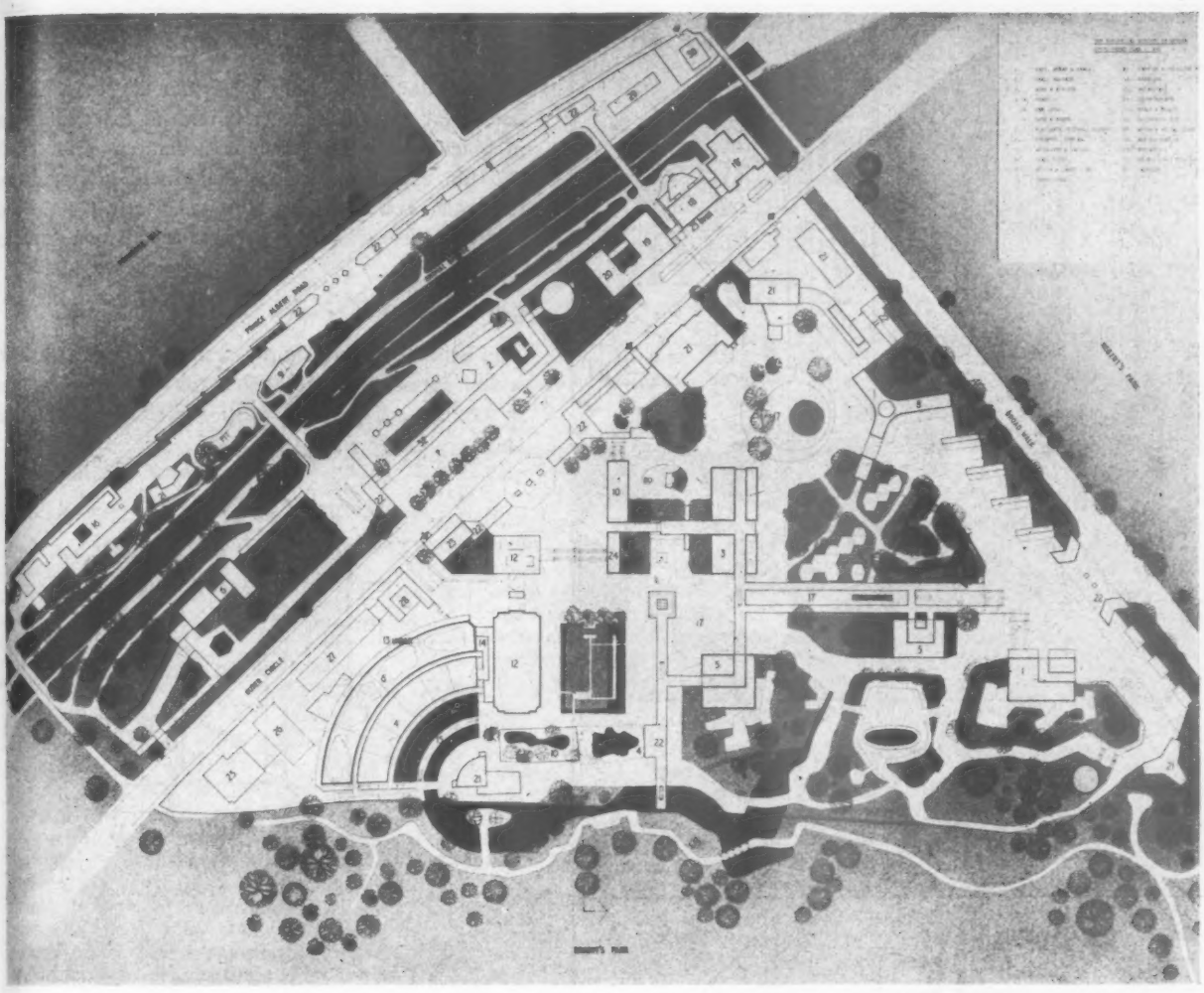


The most interesting of the designs hung by the Oxford Undergraduates Design Society in their exhibition at the Divinity School, Oxford, is this proposal by Powell and Moya for undergraduate's rooms for Brasenose College. On the left in the ground floor plan, above, is a five-storey block linking two existing buildings (see sketch, bottom right) beneath which is a passage leading to a group of single-storey rooms arranged around garden courts (centre, right). Above, right, is the interior of a room in the high block. The architects are amending the elevational treatment of this building. Also exhibited: below left, an unhappily composed dining hall for St. Anne's, Woodstock Road, by Gerald Banks and below right, an eminently neat boathouse for the New College, Balliol, Brasenose and Exeter by Bridgewater and Shepheard.





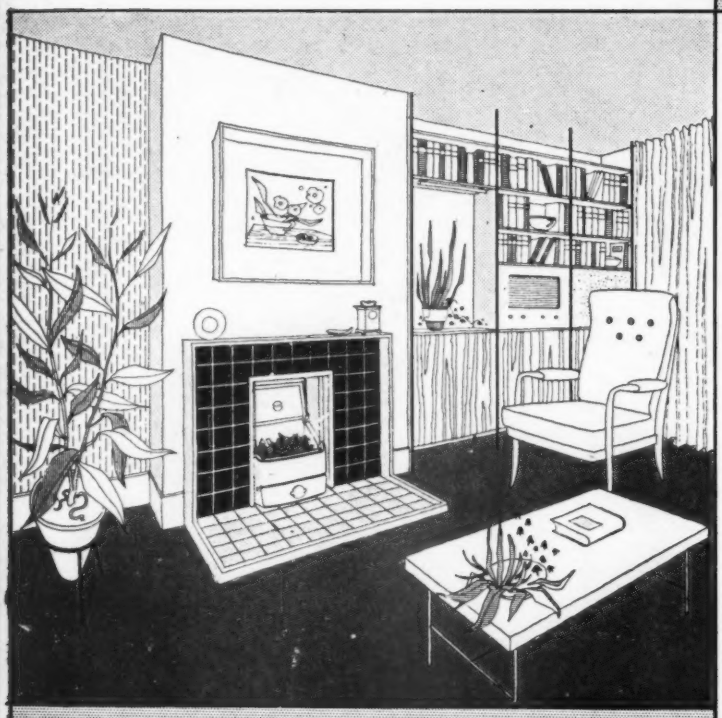
PROPOSALS FOR REBUILDING THE LONDON ZOO



KEY:

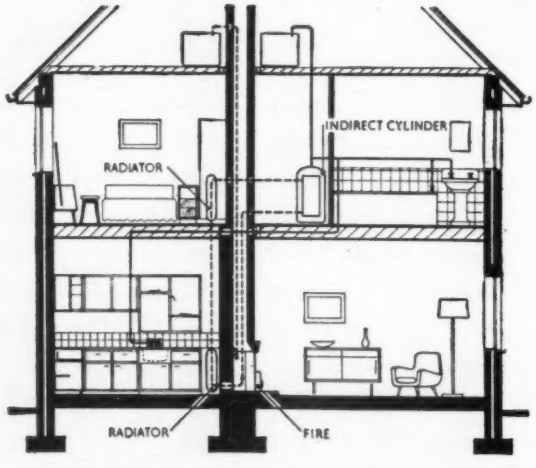
1. Cats, great and small
2. Small mammals
3. Apes and monkeys
4. (a) Bears (b) Sea lions (c) Dogs and foxes
5. Elephants, rhinos, hippos
6. Giraffes, zebras, sheep
7. Antelopes and cattle
8. Small birds
9. Medium and large birds
10. Water birds
11. Parrots and birds of prey
12. Reptiles
13. Aquarium
14. Invertebrates
15. Seals and whales
16. Children's zoo
17. Arena and animal rides
18. Administration
19. Education
20. Television and film unit
21. Catering
22. Lavatories
23. Staff housing
24. Zoo shop
25. Hospital
26. Works
27. Supplies
28. Garages
29. Gardeners
30. Social club
31. Staff car park
32. Spare

At some time in the next ten years certain architects are going to have the rare opportunity of designing Zoo buildings. It is not often that the problem arises of presenting an elephant to best advantage. Last week the plans for the rebuilding of the London Zoo, at a cost of between £2 and £3 million, were presented by the designers, Sir Hugh Casson and F. A. P. Stengelhofen. The objective of the design has been to open up the Zoo and to relieve congestion by the provision of elevated walkways. Whether this latter objective is desirable is debatable. Ideally a plan for a Zoo should provide as close a view of the animals as possible and except where the walkways actually enter the Elephant and Monkey houses they will tend to keep people away from them. It is difficult to conceive how to achieve good circulation at the same time as bringing people close to the animals. The two objectives seem incompatible and perhaps the walkways are the best compromise. Against this, it is undeniable that in hot and crowded conditions a claustrophobic feeling can be created at the Zoo and in this respect the idea of opening up the south side of the gardens to the Park is highly commendable. Sir Hugh Casson's exciting, if not exact, sketches are obviously intended to show the general loosening up of the layout, but it is difficult not to think that he has been a little carried away by his enthusiasm. The Zoo is, in actual fact, extremely small and whether the impression given by the sketches (on page 428) will ever be achieved is doubtful. It is intended to provide a vertical feature of some sort to indicate the position of the Zoo from across the park to weary, Mummy-when-are-we-going-to-get-there? children. The nature of this feature is not yet decided but the Zoological Society's secretary, Sir Solly Zuckerman, says that any scheme for an elaborate tower must take into consideration the fact that to avoid Entertainment Tax the Zoo must remain strictly educational. Perhaps this is also the reason why the Children's Zoo is tucked away in the western corner of the site.



The No. 3 BROOK Fire

Continuous-burning fire with unusually high-powered boiler: a lot of heat for a moderate cost



THE BROOK FIRE DOES THREE THINGS AT ONCE

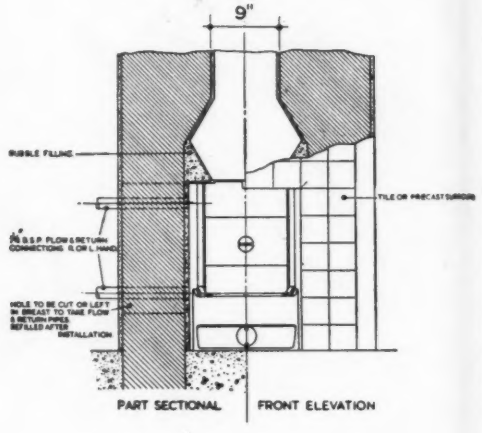
1. It's a cheerful open fire.
2. It supplies plenty of domestic hot water.
3. Provides background warmth by radiators, if required.

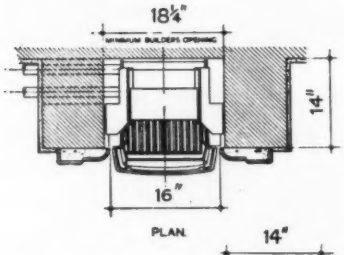
NOTES

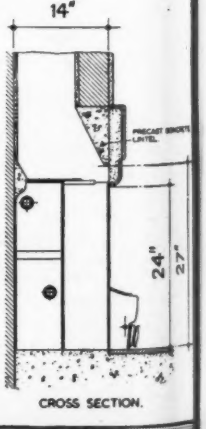
This continuous-burning fire is not expensive, and it does a lot of work for a minimum of fuel. The room in which it is installed can be as large as 1,500 cu. ft. and the back boiler is decidedly more powerful than the usual boiler of this type: it heats 40 sq. ft. of radiation surface and a towel rail. Installation costs are moderate.

GOOD LOOKS

The Brook is a very simply-designed fire which looks well in almost any setting. Note the attractive neat front in vitreous enamelled cast iron—which is easy to clean and very hard-wearing.







COLOURS

Cream Mottle, Mushroom or Black vitreous enamel, Alisheen Black, Bramble Bronze or Copper.

STRUCTURAL OPENING (Minimum Dimensions)

Width	18¼ ins.
Depth	13½ ins.

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28 Brook Street, London, W.1.

technical section

THE INDUSTRY

This week Brian Grant describes an electrical soil-warming system, an adjustable diffuser, a hot water heating system and an overhead garage door.

Electrical soil warming

The Merseyside and North Wales Electricity Board has been making a fair song and dance about the electrical turf warming system used by the Everton football club. Apart from allowing play when other grounds are unfit, it appears that the warmth allows the grass growth to be controlled. Heat is supplied through wires at 6-in. centres, buried 6 in. below ground level, the total connected load being 750 kW. taken at off peak periods. Thermostatic control provides heating when ground or air temperatures approach freezing. In view of the large area of turf the total load is not excessive, and architects may well have to consider systems of this kind if they are concerned with the planning of grassed sports arenas.

New adjustable air diffuser

The Neos adjustable diffuser consists of a series of spreader rings mounted in a register. Behind them is a series of parallel rings which slide endways to provide adjustment from closed to full open. The units fit flush, and are only 2 in. deep. Adjustment is by a coin operated screwdriver slot in the face, but there is also a locking screw which can be set to give balanced heat and ventilation in a plenum system. Throat diameter is 5 in. with a flange of 8 in. and a number of anodised colour finishes is available. (*Normanton Engineers Ltd., Redcross Works, Redcross St., Rochdale, Lancs.*)

Domestic hot water supplies

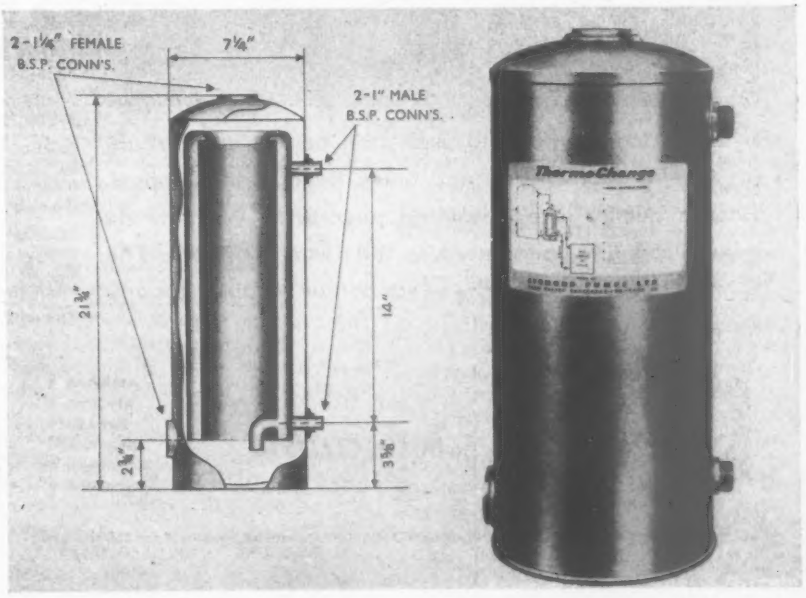
Sigmund Pumps, makers of accelerator pumps and mixing valves for small bore heating systems, point out that with most new hot water heating systems it is necessary to replace the usual direct cylinder with a calorifier, and that this almost always involves extensive pipe changes, an extra expansion tank, and often a new immersion heater, and that the cost of this subsidiary work can be quite considerable. They have, therefore, introduced the ThermoChange unit, which is a miniature copper cylinder (provisionally patented) needing only four pipe connections, two to the existing hot water supply cylinder and two to the flow and return pipes of the new boiler. Within the cylinder there is an annular heat exchanger element which has its own built-in feed and vent pipe with an expansion device which prevents the exchange of water between the primary and secondary circuits. The ThermoChange is a compact unit only 7½ in. diameter by 21½ in. high: it is meant to be fitted as close as possible to the existing cylinder. Price is £7 18s. 6d. (*Sigmund Pumps Ltd., Team Valley, Gateshead,* 11.)

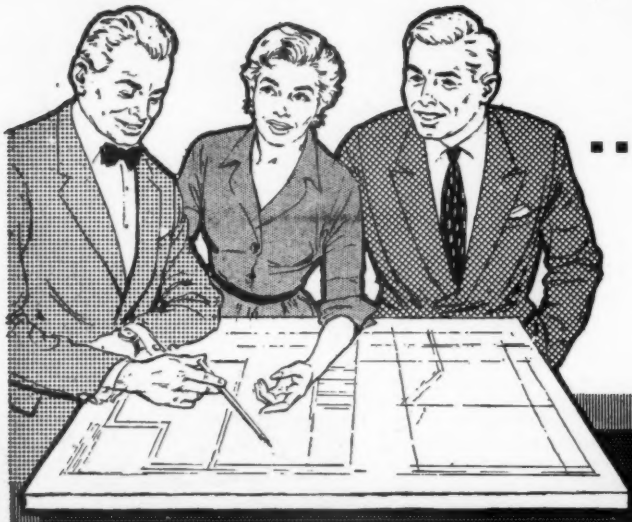
New garage door

The Portaldor overhead garage door costs only £23 complete in the 7 ft. × 6 ft. 6 in. size, and will fit any standard door frame without alteration, no reveals being required as it is fitted with draught sealing strips. It is counterbalanced by a single weight, which can be hung anywhere in the garage, and, being top hung, it does not encroach on floor or wall space. The door is made of galvanized steel, and is well braced and gusseted: larger sizes up to 18 ft. wide are produced. (*Portal Engineering Co. Ltd., Pool House, Bancroft Road, Reigate, Surrey.*)

The Portaldor garage door.

Details of the ThermoChange immersion heater.





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technical section

INFORMATION CENTRE

7.74 practice
PLASTIC SCALES

Architects', Engineers' and Surveyors' Scales. Part 2: Plastic Scales. BSS 1347: Part 2: 1959. 6s.

This standard allows for all tastes—for those who prefer the oval, who prefer the open divided, who curse the ½th scale that goes only up to 48 or 96 feet or who like one row of figures on the scale reading both ways to be "upside down." In fact, like most British Standards this one attempts to codify existing practice, except possibly for material. I remember years ago the despair at discovering that puzzling dimensional errors were due to a plastic scale which did not agree with any of the boxwood ones. This standard limits the co-efficient of thermal expansion to 0.00009 per degree C. within the range 0 to 60 degrees C. Part 1 of this standard deals with boxwood scales, but there seems to be no good reason why the two could not have been combined.

13.141 materials: timber
TIMBER DECAY

Decay of Timber and its Prevention. K. S. V. G. Cartwright and W. P. K. Findlay. HMSO. 27s. 6d.

This is the second edition of what is undoubtedly the most authoritative work on this subject in English. It is exceedingly scholarly (the busy man will be tempted to call it academic) and the practical advice contained in it tends to concern the importer and the stockist rather than the architect. Among the new material in this edition is a chapter on the prevention of disfiguring stains—a subject which (as the summary on the dust jacket points out) has become more important with the fashion for light coloured woodwork in natural finish. Characteristically, however, it tells how to identify a large number of stains and how some can be prevented; but not what to do when they occur. To sum up, this is an excellent book for the specialist, but the information it contains for the architect can be more easily got in humbler works.

13.142 materials: timber
WEATHERING OF TIMBER

Weathering of Clear Finishes on Various Timber Species. A. C. Oliver. TDA. 3s. 6d.

Reports of the results of seven months' exposure of five timber species treated with five different clear finishes. This was not a long enough period for an architect's purposes, but it was quite long enough for the finishes. Four out of the five (boiled linseed oil and three different varieties of alkyd resin) virtually perished and only one (phenolformaldehyde) was still in good order, though break down had already begun on all timber samples except cedar. The moral seems to be: don't spend money on clear finishes until the chemists can do better.

18.202 construction : theory
CONCRETE CONSTRUCTION

Joints and Cracks in Concrete. P. L. Critchell. (Contractors Record Ltd. London, 1958 40s.)

A practical guide to the use of joints in the building of concrete structures, of interest to architects and engineers.

The book provides a survey of methods of construction and jointing materials in all types of concrete structures both in building and civil engineering works.

The first two chapters deal with the general problems of concrete as a material, the reasons for the movements which occur and the order of size of cracks which might be expected. Chapters 3 and 4 deal with types of joints and joint spacings. The recommendations are of necessity in broad terms and readers may not agree with some of the figures. Also the ideal is quoted in specification terms, certain aspects of which cannot always be fulfilled in practice. Separate chapters are devoted to the various jointing materials, the joint filler, the joint sealer and the water bar. Each is considered in great detail. Chapters 8, 9 and 10 deal with the design of joints in every type of construction, water retaining structures, pavings, buildings, walls and roofs, bridges, masonry construction, prefabricated construction, and concrete pipes. Chapter 11 deals with the application of sealing compounds. The remaining chapters deal with defects, inspection maintenance and testing. Overseas conditions are reviewed separately, such additional problems as bacteria, insects, and corrosion being considered.

The book has 232 pages, 78 illustrations, a chapter index and a subject index. It is a valuable contribution to an aspect of concrete construction which has received too little attention in the past, an aspect which has led to the production of poor buildings and costly maintenance. While the content may not receive universal agreement it has provided a basis for further thought which will lead to a much better appreciation of the behaviour of concrete structure.

22.93 sound insulation and acoustics
FLOORS

Noise in Three Groups of Flats with different floor insulations. P. G. Gray, Ann Cartwright and P. H. Parkin. National Building Studies. Research Paper No. 27. HMSO. 4s.

This National Building Study describes a full scale experiment directed towards finding out what is an acceptable degree of sound insulation in local authority flats, and how the reactions of people living in the flats relate to the standard grades of insulation proposed by the BRS.

It must be stated at the outset that this is a very complex problem to handle for a number of reasons. Two of the major ones are that it is impossible to find large enough samples of residents for whom all living conditions *except* sound insulation are exactly comparable, and also that the sampled tenants may have widely different past experiences in the whole quality of their living conditions. On top of this there are complications brought about by variations in performance and planning of buildings even though they are basically similar. To quote the study "for practical purposes it appears that a fair summing up of the position would be that, with floors of an insulation equal to Group I floors (*i.e.*, proposed Grade I* overall insulation) the neighbours' noise is only as disturbing as several other things; with floors of an insulation equal to the Group II floors (*i.e.*, proposed Grade II overall insulation) the neighbours' noise is to many of the tenants the worst thing about living in the flats, but at least half the tenants are not seriously disturbed."

There was in addition a Group III sample of tenants living in flats with floor insulations worse than Grade II and this is what the Study has to say about these: "In the event it has become obvious that the Group III tenants cannot fairly be regarded as typical; they are still influenced by their previous, untypical (*sic*) environment. Further it is known that vigorous complaints are sometimes made when floors have an insulation the same as (or even slightly higher than) the Group III insulation; obviously the Group III tenants were nowhere near this stage of complaining."

This may seem to knock the props out from under the whole elaborate structure of sound insulation standards. Making allowances for all uncertainties, however, there seems to be a clear indication that floor insulation in flats, particularly impact insulation, is of major importance and that Grade I values should normally be attempted. Even then there will be a minority of tenants who will be seriously disturbed by noise. Secondly, it must be remembered that it is expensive to make any improvement, after construction, to sound insulation found to be too low. Whether we have in fact any right to prescribe what are the correct conditions for "typical" tenants or conversely whether "typical" tenants could become accustomed to conditions which are widely different from those they presently experience, are questions which it would take a bold man to answer. It cannot be denied that anyone attempting it should certainly first read this Building Study.

Finally the attention of architects working on flat design (whether local authority or not) must be drawn to the wealth of side issue information given in the Survey results. If for instance it is wanted to know whether rooms are a reasonable size, whether there are enough cupboards, or at what time the average housewife retires to bed, the answers of the tenants are given together with the plans of the flats to which they relate.

* For insulation values see BRS Digest No. 88.

ARCHITECTS:—
Dodge & Reid,
Chartered Architects,
72 High Street,
Brentford, Middx.

CONTRACTORS:—
Howard Farrow Ltd.,
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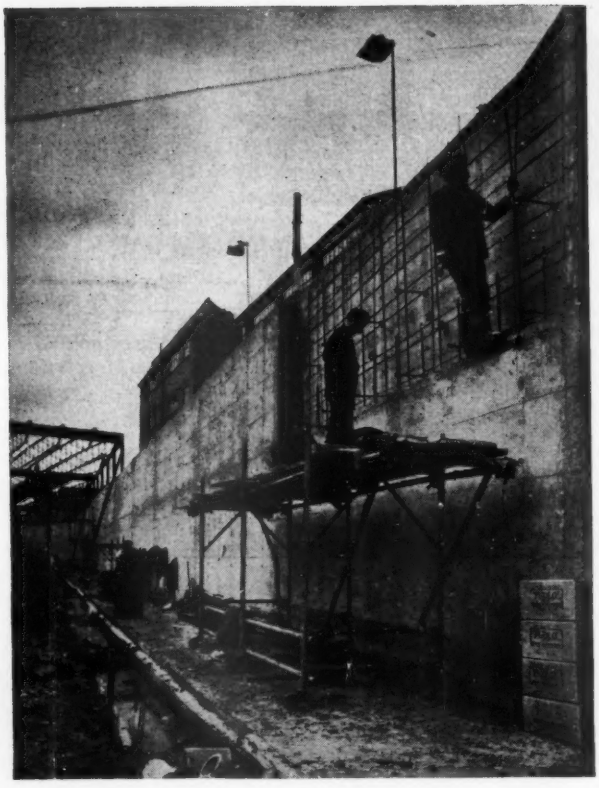
Russell Parade,
Golders Green Road,
London, N.W.11.



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technical section

24 LIGHTING

ascertaining the sky factor

Some time ago we received from Dr. John W. T. Walsh, O.B.E., M.A., D.S.C., an interesting article on one of our standard tools for working out daylight illumination, the Waldram Diagram. Considering that the article as it stood was too technical for our readers, we have, with Dr. Walsh's consent, asked our Specialist Editor for lighting to redraft it, relegating to an appendix the more indigestible parts. The article makes two proposals: the use of " droop lines " to find out the obstructing effect of buildings sited at an odd angle to the receiving window and the modification of the diagram to bring it into line with the Standard Overcast Sky of the International Commission on Illumination.

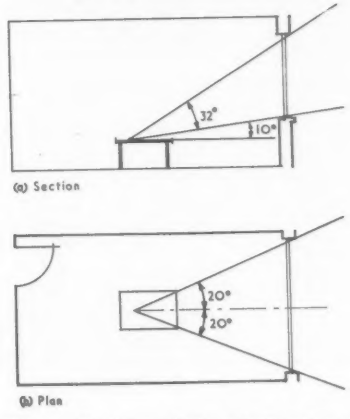


Fig. 1. Section and plan of office showing assembly of data for use with Waldram Diagram.

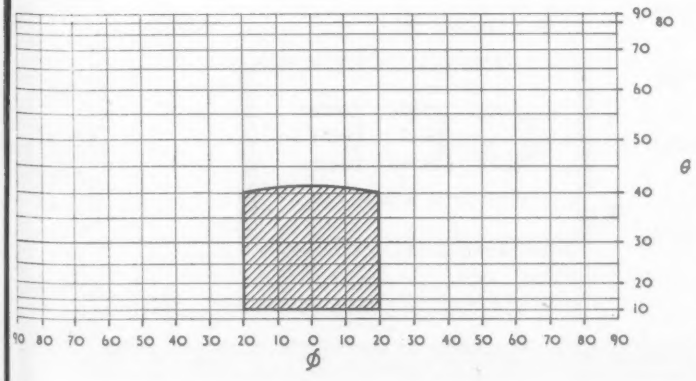


Fig. 2. Waldram diagram with window illustrated in Fig. 1 transcribed upon it.

The Waldram diagram, published in 1923 by P. J. and J. M. Waldram, was developed in this country for the rapid calculation of daylight levels in interiors. The method is graphical and is based upon the following assumptions:

(*a*) The sky, as a source of light in the form of a hemisphere, could be regarded as being uniformly bright.

(*b*) From this it would follow that, at any point in a room, the amount of light reaching it from the sky would depend upon the area of sky visible from that position.

(*c*) At the same time it was assumed that it was a horizontal surface which was being lit. The level of illumination would thus also depend upon the angle at which the light from the sky struck the surface. For a given area of sky, the higher its altitude, and therefore the steeper the angle at which the light struck the horizontal plane, the greater would be the level of illumination.

To find the Sky Factor, using these assumptions, would at first sight appear to be a problem of rather complex three-dimensional geometry. This the Waldram diagram cleverly avoids by graphical means. It is virtually a map of the sky. For convenience, half the hemisphere of sky is represented, with a grid of lines marked with horizontal and vertical angles from the point of reference at which the level of illumination is being examined. This grid is set out mathematically so that each grid square is proportional in size to the amount of light it can provide on the working plane. In order then, to find the Sky Factor at this point, the patch of visible sky is plotted on the diagram, its area is measured, and then expressed as a percentage of twice the area of the whole diagram (twice, since, as already said, it is normal for the diagram to represent half the hemisphere of sky). For instance, an office desk is lit by a single window. Angles to the jambs are measured on plan, and to the head and sill on section (Figure 1). These are then plotted on the diagram (Figure 2) and the area represented by the window measured. In this case the area of the window on the diagram is 4·3 sq. in.* and that of the diagram 50 sq. in. (so that the whole hemisphere of sky would be represented by 100 sq. in.). The Sky Factor at the reference point is therefore, $\frac{4{\cdot}3}{100}$, that is, 4·3 per cent.

One point which it is sometimes difficult for the uninitiated to understand is that horizontal boundaries to the patch of sky, such as the head of the window in Figure 2, appear on the diagram as curves. The reason for this is that the diagram is a cylindrical projection of the hemisphere of sky. The effect is similar to that produced by the old-fashioned rotating camera, traditionally used to take large group photographs of schools and so on, in which buildings in the background appear curved, bending away into the distance on either side. The same thing can also sometimes be noticed in wide-screen films.

* This is not so, as the diagram has been reduced by an irregular amount. Data for constructing a corrected Waldram diagram is shown at the end of this article.

technical section

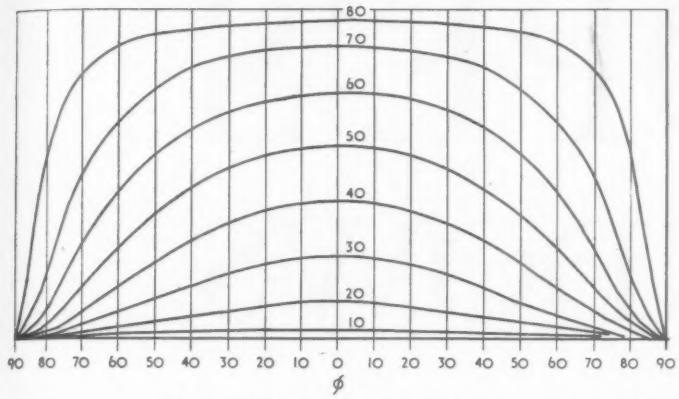


Fig. 3. " Droop lines " on application to the Waldram Diagram.

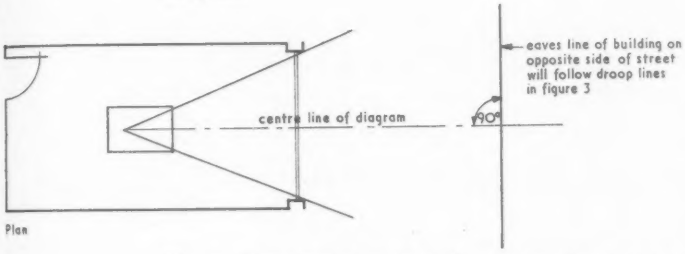


Fig. 4. Plan of window faced by an obstructing building which is parallel to it. " Centre line of Diagram " refers to the Waldram Diagram (Fig. 2).

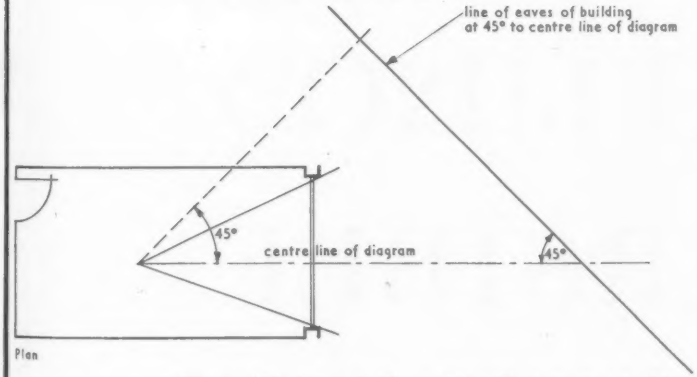


Fig. 5. Window as in Fig. 4, but with obstructing building at oblique angle.

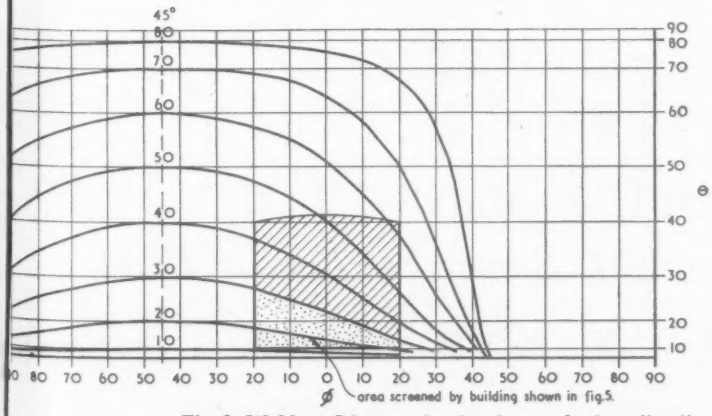


Fig. 6. Waldram Diagram showing the use of " droop lines " to evaluate effect of obstructing building shown in Fig. 5.

To avoid the necessity for plotting such horizontal lines as curves on the diagram every time they were needed, what are known as " Droop Lines " were subsequently published (Figure 3). These show the curves followed on the diagram by such horizontal features as a window head or sill, or perhaps the silhouette of a building on the opposite side of a street, provided that they are at right angles on plan to the direction given by the centre of the Waldram diagram (Figure 4). These droop lines have often been drawn on published versions of the Waldram diagram, so that they can be used for such a purpose.

Extension of use of " droop lines "

Dr. Walsh's first suggestion is that these droop lines can be used to plot on the diagram any horizontal feature, whether it is at right angles on plan to the direction given by the centre line of the diagram or not. This can be done relatively simply. If, for instance, the fascia of a flat-roofed building is at 45 deg. on plan to the direction given by the centre line of the diagram (Figure 5), then the droop lines should be overlaid (Figure 6) so that their peak, that is to say where they are horizontal, is on the 45 deg. line of the diagram. They will then give the curve taken up on the Waldram diagram by the fascia. Dr. Walsh points out that this flexible use of the droop lines seems hitherto to have escaped notice; it has certainly not previously been mentioned in any published description of the diagram. In practice it means that in order to be used in this way the droop lines should be drawn on tracing paper and overlaid on the diagram proper in the required position.

Adaptation of diagram to non-uniform sky

The other proposal of Dr. Walsh concerns the diagram itself and has been made necessary by the findings of later research. As mentioned at the beginning of this article, a fundamental assumption made in 1923 was that the sky was a uniformly bright source of light. For design purposes, you are, of course, catering for the situation when day light is relatively weak, but is still providing enough illumination to make recourse to artificial sources economically undesirable. This low level of day light occurs with the fully overcast sky, and P. J. and J. M. Waldram assumed that such a cloud formation would have a uniform brightness. Since 1923, however, surveys to measure the brightness of such skies have been made showing that, in fact, the brightness of overcast skies varies considerably, the zenith vertically overhead being about three times as bright as the horizon. Although there is naturally considerable variation, it was found that an average distribution of brightness could be represented satisfactorily by a mathematical formula. This formula has now been adopted by the Internationa! Commission on Illumination (known in lighting circles by its French initials of CIE rather than the English ones—for obvious reasons), and given the title of the CIE Standard Overcast Sky.

The use of this Standard Overcast Sky gives results

technical section

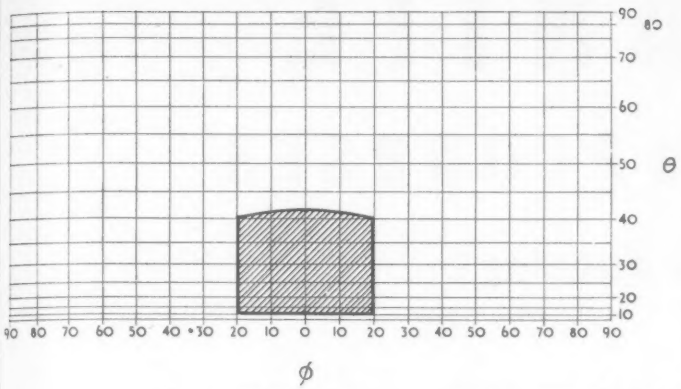


Fig. 7. Waldram Diagram adapted to CIE Sky with window illustrated in Fig. 1 transcribed upon it.

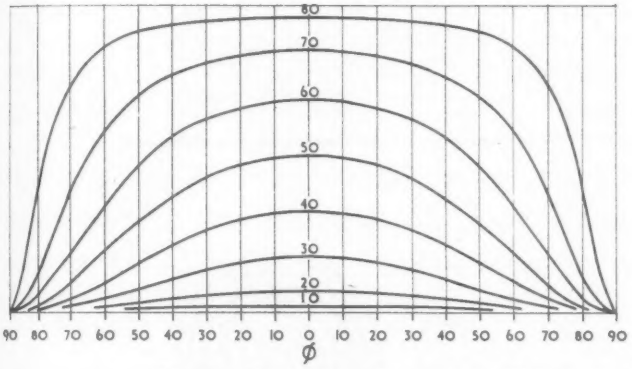


Fig. 8. Droop lines for corrected diagram as given in Fig. 7.

closer to the levels of illumination that you are likely to find in practice. It, therefore, becomes desirable to modify the original Waldram diagram to conform to it.* This is precisely what Dr. Walsh has done, and the result is shown in Figure 7. On this is plotted the same opening as on Figure 2; the measured area in this case representing a 3·5 per cent. Sky Factor, as against the 4·3 per cent. of the original diagram. This change is an indication of the difference between the two diagrams which are superficially very similar. It is particularly important to notice that it is usually those points which are furthest from windows which are the most critical. Such positions, with normal side windows, are lit by patches of sky near the horizon, and it is precisely in this part of the hemisphere that there is the greatest difference between the two diagrams; in Dr. Walsh's revised version the Sky Factor is between half and two-thirds that given by the original diagram.

Appendix

The following is a brief description of the mathematical basis for the original Waldram diagram, and for the modification made by Dr. Walsh.

The Waldram Diagram: The hemisphere of sky is divided by lines of latitude and longitude, just like those marked on a terrestial globe. The area of any small portion enclosed between adjacent lines of latitude and longitude is proportional to the difference of latitude, say $\Delta\theta$, and to the distance between two adjacent lines of longitude at that particular latitude. If the difference of longitude is $\Delta\phi$ and the latitude is θ, this latter distance is proportional to $\Delta\phi \times \cos\theta$ (see Figure 9). The area of the small patch of sky is, therefore, proportional to $\Delta\theta \,.\, \Delta\phi \cos\theta$, and so the illumination at the reference point P produced by this element is proportional to $\Delta\theta \,.\, \Delta\phi \cos\theta \sin\theta$, since the angle of incidence of the light is (90 deg. $- \theta$) (assuming a hemisphere of uniform brightness).

The Waldram diagram is a network of horizontal and vertical lines, marked respectively with angles of latitude (θ) and longitude (ϕ) and so spaced that any element of area $\Delta\theta \,.\, \Delta\phi$ on it is proportional to the expression above, *i.e.* to the illumination it can provide on a horizontal plane.

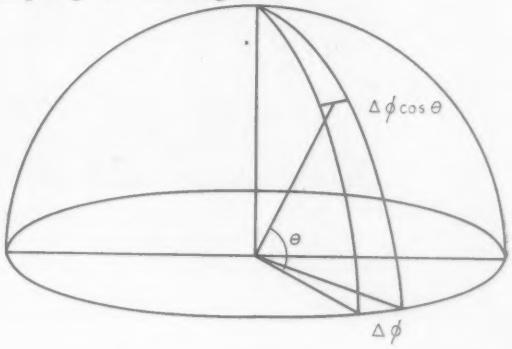
The scale of ϕ is an even one, but the interval between lines representing θ and $(\theta + d\theta)$ must be proportional to $d\theta \,.\, \sin\theta \cos\theta$. The vertical length corresponding to any angle θ is, therefore $\int_0^\theta \sin\theta \cos\theta \, d\theta$, that is $\frac{1}{2}\sin^2\theta$.

Dr. Walsh's Modified Diagram: The empirical formula adopted for the CIE Standard Overcast Sky is $\frac{1}{3}L\,(1 + 2\sin\theta)$ where L is the brightness at the zenith, and θ is the angle above the horizon. This formula can be inserted in the expression showing the illumination provided by a small element of sky, which now becomes proportional to $\Delta\theta \,.\, \Delta\phi \,.\, \cos\theta \sin\theta\,(1 + 2\sin\theta)$. The ordinate corresponding to any angle θ becomes on the modified diagram $\int_0^\theta (\sin\theta\cos\theta + 2\sin^2\theta\cos\theta)\, d\theta$, that is $\frac{1}{2}\sin^2\theta + \frac{2}{3}\sin^3\theta$.

For those who wish to construct this modified Waldram Diagram, the following are the heights of the ordinates at intervals of 5 deg., expressed as fractions of the height of the complete diagram.

Ordinate	Height	Ordinate	Height	Ordinate	Height
5°	0·004	35°	0·249	65°	0·777
10°	0·016	40°	0·329	70°	0·853
15°	0·039	45°	0·417	75°	0·915
20°	0·073	50°	0·509	80°	0·961
25°	0·120	55°	0·602	85°	0·990
30°	0·179	60°	0·692	90°	1·000

Fig. 9. Diagram of hemisphere of sky showing method of computing Waldram Diagram.



* Similar modifications were made to the "day light protractor method" in BRS Digest No. 80.

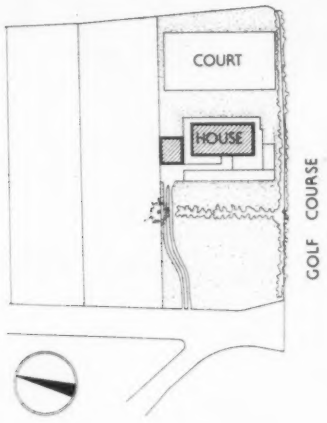
HOUSE

at CUILFAIL, LEWES, SUSSEX; designed by RUSSELL DIPLOCK ASSOCIATES
architect-in-charge DAMOND J. LOCK; consultants (structural) R. L. BOURQUOI and PARTNERS

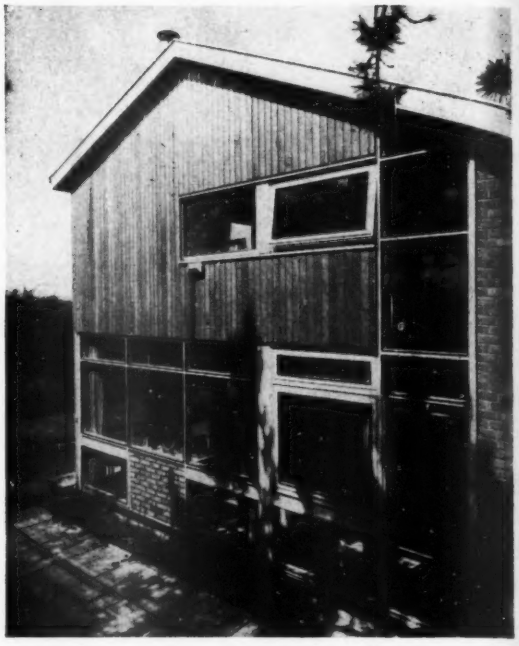
This house, built on a steeply sloping site with extensive views to the west, is an interesting example of "mixed construction." Light steel framing members have been introduced on the west and south sides in order to increase the ground floor window area.

View of the house from the future tennis court, looking westward.

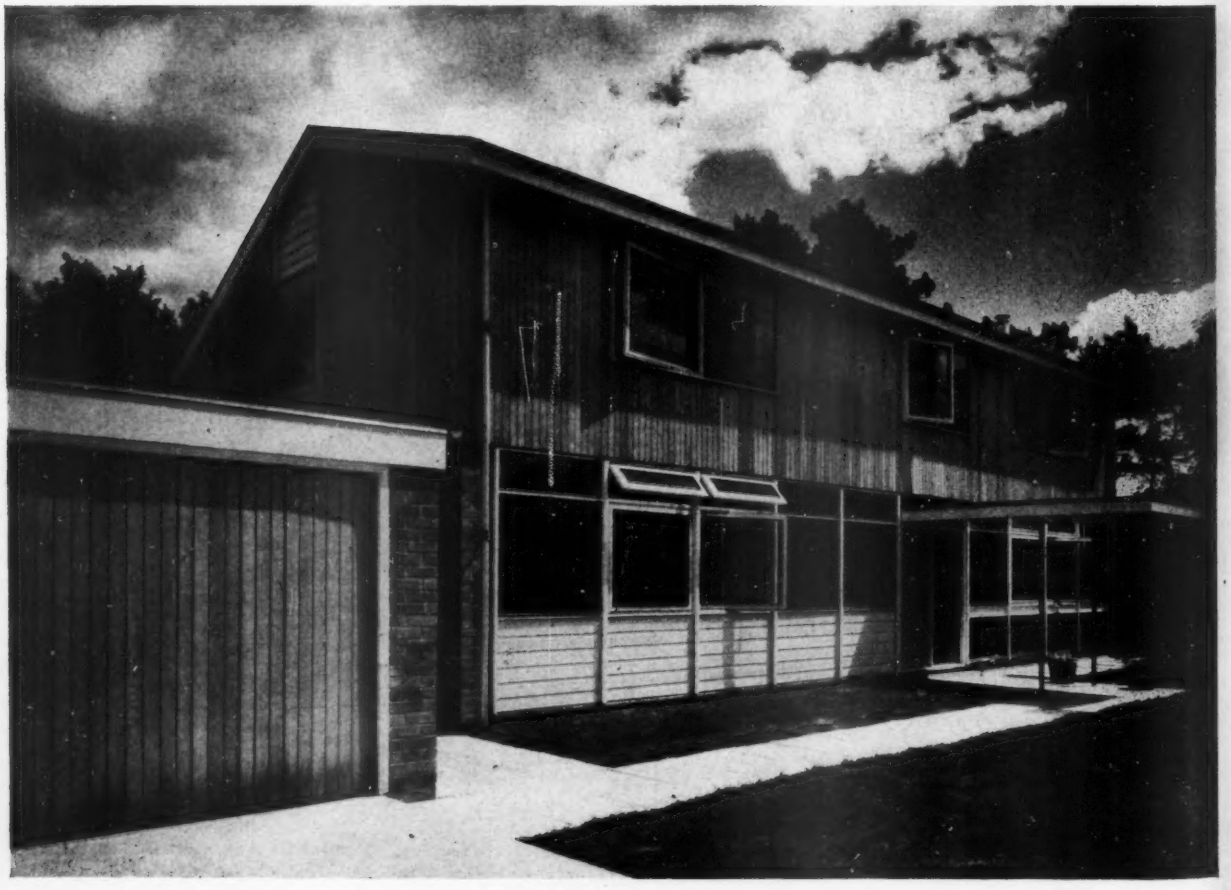
building illustrated

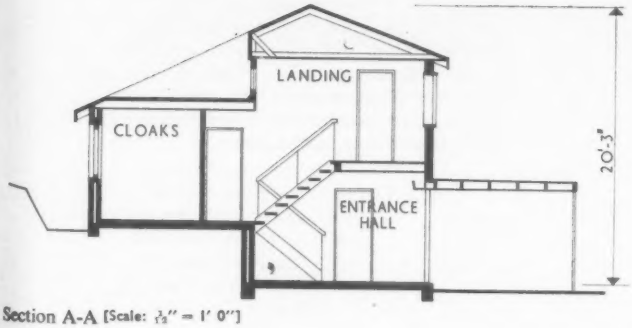


Site plan



The house has a "split-level" section; a mezzanine on the east side and two storeys on the west, to take advantage of the slope of the site. Below, the west side of the house. The site has been terraced here to provide a small area of level garden. The introduction of 3-in. × 3-in. steel tees within the timber mullions on the ground floor has allowed the whole of the west side and most of the south to be glazed. The panels below the ground floor windows are of white-painted shiplap boarding; the vertical boarding is western red cedar. Above, the south wall. The vertical glazing lights the double-storey-height study.



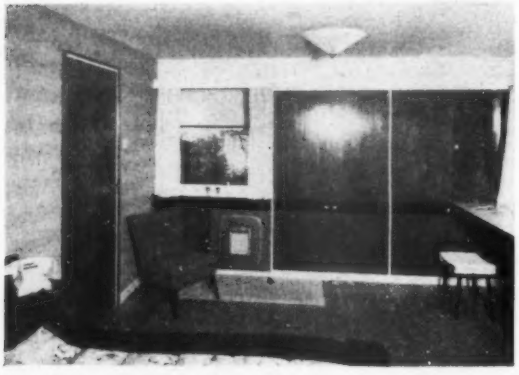


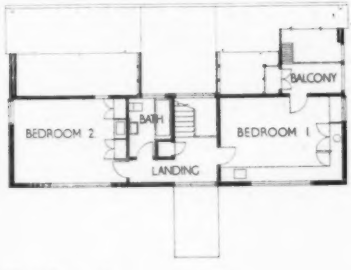
Section A-A [Scale: $\frac{1}{8}$" = 1' 0"]

Above, the south-west corner, with the garden pool in the foreground. The small panel of brickwork on the south end of the house is the back of the fireplace; both from inside and out this fireplace is the one inconsistency in an otherwise finely detailed glazed wall.

building illustrated

Above, a corner of the living room. Externally, materials are handled with strength to produce a distinctive character; internally, the character weakens to a conventional boxiness, due partly to the planning and partly to the use of painted plaster and wallpapers. Below, the main bedroom on the first floor. The doors are veneered in mahogany.





First floor plan

Ground floor plan [Scale: 1/16" = 1' 0"]

analysis

CLIENT'S REQUIREMENTS

A house in which as many of the rooms as possible are planned to take advantage of the superb views to the north, south and west. A double garage, tennis court site, pool and terrace.

SITE

The site is part of the old Cuilfail Estate which lies at the southern side of Lewes where the Downs rise very steeply. The site itself is about 150 ft. above West Malling Street, the nearest public highway, from which an alpine access road winds its tortuous route. This road has a load restriction of 3 tons which made things difficult for the contractor, *i.e.*, two journeys had always to be made, where normally one would suffice.

The site is in a very exposed position and is only covered by a thin layer of top soil varying between 6 in. and 2 ft. in depth, below which there is very hard chalk containing a lot of flint. This made excavation difficult, therefore expensive. This, coupled with the fact that the site has a 1 : 5 slope led to the adoption of the three plan levels.

PLANNING AIMS

The most frequently used living accommodation to be placed to the front of the house as far as possible, and the most economical use to be made of the 1:5 slope of the site.

SUMMARY

Ground floor area (including garage of 304 sq. ft.): 926 sq. ft.
Total floor area: 1,879 sq. ft.
Type of contract: RIBA without quantities.
Tender date: May 10, 1957.
Work began: June, 1957.
Work finished: February, 1958.
Tender price of foundations, superstructure, installations, finishes and external works: £6,611 8s. 0d.
Final contract price of foundations, superstructure, installations and finishes: £6,451 6s. 6d.
Final contract price of external works: £406 10s. 6d.
Total: £6,857 17s. 0d.

	cost per sq. ft. s	d
Preliminaries and insurances	1	10½
Contingencies (These figures were high because of access difficulties.)	1	0½
Work below ground floor level	5	10½

Partly reinforced 4-in. surface concrete on building paper direct onto solid chalk subsoil with partly reinforced concrete ground beams as foundations throughout on building paper on chalk.
The 11-in. filled cavity retaining wall has a vertical d.p.c. of ½-in. waterproofed render on 2 coats of bituminous paint. 2 coats of bituminous paint to all surface concrete with patent lead d.p.c.s. Mesh reinforcement in surface concrete below ground floor partition walls.

analysis

STRUCTURAL ELEMENTS

s d

Frame or load-bearing element 1 7

The front part of the house generally is light steel framed, to allow for maximum window openings where required. 3-in. × 3-in. steel tees vertically support 7-in. × 3-in. channel carrying first floor joists with tees acting as ties to restrain the lightweight roof against rising in the 90 to 100 m.p.h. gales that are experienced locally. The feet of the vertical tees are rag-bolted to ground beams and pockets grouted in. $\frac{3}{16}$-in. mild steel rod reinforcement links tees with each clinker block course joint at first floor level. Ties are similarly provided back into partitions at right angles to the face of the building.

External walls 7 $1\frac{1}{4}$

9-in. solid brickwork to garage. House, cavity walls: half brick sandfaced facings, 3-in. clinker block inner strip, $10\frac{1}{2}$ in. overall.
First floor, 4-in. clinker blocks, 1 layer building felt, battens, 1-in. t. and g. western red cedar externally.

Ratio: $\frac{\text{solid wall}}{\text{floor area}} = \frac{0{\cdot}67}{1}$

Windows 4 $4\frac{1}{4}$

Purpose-made rift sawn Columbian pine, painted, with hardwood glazing beads, yacht varnished.

Ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}38}{1}$

External doors

Garage doors: 8-leaf sliding doors and gear, ledged and braced, cedar faced.
1 half-glazed double door, painted.
1 fully glazed double door, painted.
1 hardwood veneered, flush, polished single door.

Ratio: $\frac{\text{doors}}{\text{floor area}} = \frac{0{\cdot}09}{1}$

Upper floors 1 $3\frac{1}{4}$

Span, 12 ft. 3 in. Timber first floor only with 7-in. × 2-in. joists at 16-in. centres. Area, 564 sq. ft.

Staircases 1 $7\frac{3}{4}$

2 staircases.
Width, 2 ft. 9 in. and 2 ft. 3 in.
Total rise, 8 ft. 9 in.
Both have open 3-in. polished mahogany treads with softwood strings painted in the case of the wider stair, with treads cantilevered direct from the wall in the narrower stair. Polished mahogany handrail to studio balcony and main stair, both with obscured glass infilling panels secured to $\frac{7}{8}$-in. mild steel balusters.

Roof construction 2 6

Type of roof	*Area of each type*
Pitched roof with trussed rafters at 4-ft. 6-in. centres	1,418 sq. ft.
Flat roof with 7-in. × 2-in. joists and bridging	134 sq. ft.
Garage roof, flat, 6-in. × 2-in. joists at 16-in. centres	342 sq. ft.

s d

Glazing 4 0

26-oz. clear sheet glass to garage.
Patent double glazed units to house windows.

Total of structural elements: 22s $11\frac{3}{4}$d

PARTITIONS AND FITTINGS

Internal partitions 2 0

406 sq. ft. of 3-in. clinker blocks.
990 sq. ft. of half brick.

Internal doors 10

1 fully glazed and painted single door, 12 flush mahogany veneered and polished. All 6 ft. 6 in. × 2 ft. 6 in.

Ironmongery $10\frac{3}{4}$

External doors, except main entrance door, which has purpose made letter plate and pull handle, fitted with mortice locks and anodised aluminium lever furniture.
Internal doors fitted with mortice latches, and cloaks and bathroom also have flush recessed anodised aluminium bolts.

Fittings 6 2

Built-in cupboards and drawers to four bedrooms.
$\frac{1}{4}$-in. plate mirrors to 3 bedrooms with wash basins recessed into plastic covered dressing tops.
Built-in kitchen fitments include double stainless steel bowl unit and full height cupboards.
Double-sided bookcase and gramophone cupboard unit with sliding glass doors between living room and study.
All cupboard doors are polished mahogany ply faced, all drawer fronts are $1\frac{1}{4}$-in. solid mahogany.
Softwood painted pelmets in 2 bedrooms and on landing.
Recessed brass curtain tracks to all other windows.
Stove lacquered circular copper flue at ground floor level and flue terminal above roof, also m.s. flue casing.
Purpose-made m.s. firebasket with copper trim to fireplace.

Total of partitions and fittings: 9s $10\frac{3}{4}$d

FINISHES

Floor finishes 2 5

Type of finish	*Area in sq. ft.*	*Price per sq. yd.*
Quarry tiles on screed.	58	36s 0d
1-in. nom. North Rhodesian mahogany wood block on screed.	220	62s 6d
Lino, 3·2 and 2mm. on screed (on wood in kitchen)	502	
3 in. × 1 in. deal t & g, secret nailed. on to joists	560	
Screed and fixing blocks to receive fitted carpet	233	

All screeds contain embedded electric heating cables.

analysis

	s	d
Wall finishes	2	10½
Render and set walls with anhydrous gypsum plaster, minimum $\frac{5}{16}$ in.		
Window wall of cloakroom and almost all bathroom, tiled with 6-in. × 6-in. × ¼-in. dark blue and white tiles.		
Fireplace faced with random coloured matt finish mosaic.		
Ceiling finishes	1	6½
¼-in. plasterboard with scrimmed joints and skim coat, minimum $\frac{5}{16}$ in. retarded hemi-hydrate gypsum plaster.		
Roof finishes	4	6½
Three layers of asbestos based green mineralized felt on 2-in. strawboard to house roof and boarding for garage roof.		
Eaves to flat roofs and bargeboards finished with 2-in. × 1-in. × ⅛-in. aluminium angles.		
Area, 1,552 sq. ft. for house; 342 sq. ft. for garage.		
Decorations	3	10
Two coats washable, oil bound water paint generally, for walls and ceilings, except one wall in study of fair-faced local stocks, and one wall papered at 35s a roll.		
Painting internally, prime, 1 undercoat, 1 top coat.		
Painting externally, prime 2 undercoats, 1 top coat.		
Total of finishes:	**15s**	**2½d**

SERVICES

	s	d
External plumbing	1	0
Cast aluminium rainwater goods, unpainted.		
Connection from mains to house kitchen and to one tap at rear of site and one in garage, all polythene tubing.		
Hot and cold water installation	3	5¼
Copper piping with compression fittings generally.		
One 80-gall. cold water storage tank with 50-gall. hot water cylinder. Hot water provided by a 2-kW thermostatically controlled immersion heater and one 6-kW thermostatically controlled immersion heater for use when extra heavy consumption is expected.		
Two electrically heated towel rails, one in bathroom, one in cloakroom.		
Sanitary fittings	1	0¾

Type of fitting	*No. of each type*
Low level syphonic w.c. suites	2
Bath, 6 ft. × 2 ft. 4 in.	1
Lavatory basins	4

Heating	4	0
Electric floor heating over whole of ground floor and mezzanine, except cloakroom, provided by electric cables embedded in screeds, using a patent system of withdrawable cables. Maximum surface temperature at floor level, 75 deg. F.		
Gas fire in first bedroom, built-in, purpose-made convectors on first floor landing and in 2nd bedroom.		
U of walls: cavity walls, 0·24. timber faced walls, 0·19. glazing, 0·52.		
U of roof (house only): 0·16.		

	s	d
Gas installation		3½
Three points, for gas cooker, gas poker in living room, and bedroom fire.		

Electrical installation

(Cost included under heating, above.)

Type of point	*No. of each type*
Ceiling lights	17
Ceiling lighting in garage, under canopies and fountain spotlight	4
Wall lighting points	9
Switched socket outlets, including fountain motor	21
Street lamp	1

Bells on front and back doors, giving different tones, and conduits for telephones and television.

Total of services: 9s 10d

Drainage	2	0½
Surface water to 2 soakaways.		
Foul water through 3 manholes to public sewer.		
External elements	4	4
Pool, garage-wash-down, paths, drive-in, steps, canopy.		

Total per sq. ft. of floor area:

£6,451 6s 6d (excluding external works) = 68 8

1,879 (floor area measured inside external walls)

COST COMMENTS

A house designed for a special client's requirements usually costs a little extra because it is a little different. This particular scheme used a form of light steel frame so as to provide a desired effect of continuous glazing on the ground floor and elsewhere, which cost approximately £150 more than traditional brickwork.

Moreover, the use of a steeply sloping site committed a fair proportion of the total cost to overcoming the difficulties involved in the foundations and in cutting and filling.

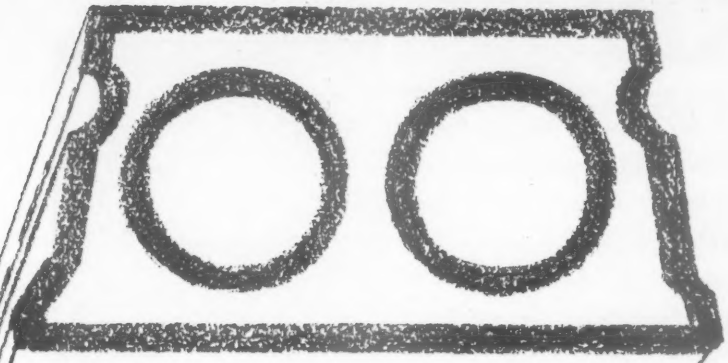
It is interesting to see that the roof covering cost nearly double the roof construction and that the double glazing was nearly as expensive as the window frames. The requirement of double glazing is linked with the heating installation selected. The U value for the roof is shown as 0·16 and as there is no mention of insulation apart from roof finishes, this appears rather low compared with efforts elsewhere to conserve heat.

Although wide use of electricity for hot water and heating generally is perhaps more economical in capital outlay, it may prove expensive in running costs in a private house, even when making use of off-peak period supplies. There is still insufficient information available for a true comparison of the costs of this heating to be made with other methods.

Decorations cost £360, and even making allowance for large areas of polished surfaces, this seems somewhat costly for a utility finish of distemper to the main surfaces, and a not abnormal amount of paint.

CONTRACTORS

General contractors: Lewes Building Works Ltd. *Sub-contractors—Plumbing, hot and cold water, heating and electrical services:* The Advanced Heating and Ventilating Co. Ltd. *Wood block flooring:* Acme Flooring Co. *Linoleum:* Fludes (Lewes) Ltd. *Mosaic facing to fireplace:* Dennis Williams Ltd. *Roofing:* James Chandler. *Plastering:* Unstead (Lewes).



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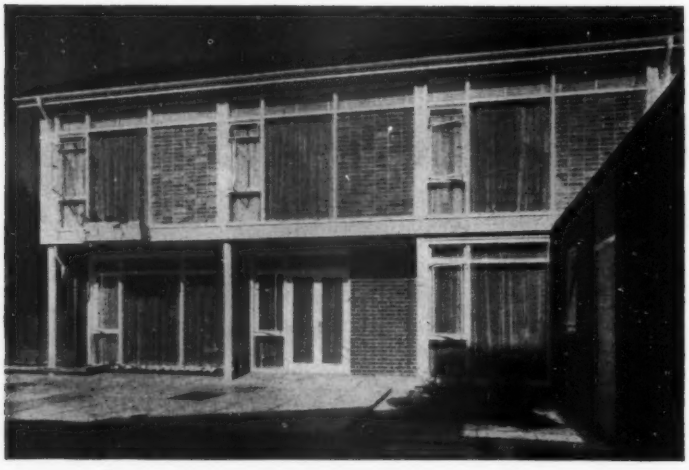
HOUSE IN SHELDON AVENUE, HIGHGATE

This house designed by Brian Peake for a widow and her daughter, was at first rejected by Hornsey Borough Council because the Planning Committee thought it "out of keeping." Permission was eventually given after the house had been re-sited (to the detriment of its aspect and prospect). The Church Commissioners, the freeholders, required a pitched roof and imposed certain requirements in the use of materials. The house is 2,000 sq. ft., has four bedrooms, two bathrooms and a study (bottom). The site is flat, with a 60-ft. road frontage running north-south. The plan adopted allows every



inhabited room to face south, overlooking the garden, by placing the main line of the house at right angles to the road, which is faced by a low north-south wing containing kitchen and garage (right in picture above). All large windows are double-glazed, and there is electric under-floor heating. The architect designed all the furnishings. Cost, including built-in furniture, about £12,000. General contractor, Holloway Bros.

AJ student section

On the following ten pages appears the first student section of the JOURNAL. It has been edited by the British Architectural Students' Association. These pages have been given to BASA to enable them to publish articles, designs and comment on any subject relevant to architectural students, and it has been agreed that the JOURNAL Editors will exercise their powers of censorship to the minimum. Inevitably we will not like what BASA wants to publish or agree with what they say. And if lank editorial hair goes white with shock, so, presumably, will the locks of some of our readers. Nevertheless, we will encourage BASA to pursue their policy, despite any ensuing pain, because we earnestly believe that students should take an active part in professional affairs and assist in forming architectural theory. This section is not, however, just for the benefit of students, though that would be a sufficient aim in itself. This section can be of value to all readers who are anxious to be aware of the ideas of the younger generation. It is an attempt to obtain some harmony throughout the profession in the development of architectural thought. We hope to publish a student section monthly, although it will not, unfortunately, always be so large.

STUDENT SECTION BASA

Ever since the time when mechanization first took the " culture " men by surprise they have been trying to cover it up tastefully, as if to reassure themselves that they still have the same job to do as before. At times the covering has been made to look curiously mechanical, but they have succeeded—they are still dominant. Architecture remains a quasi-artistic profession, and its constant preoccupation with status is indicative of a fundamental insecurity.

To students who will soon be joining this profession it is all very confusing. The big talk about art and technology somehow sounds hollow when the one is so often used to embellish the other. Even the Modern Movement, which began by repudiating all the outward decoration associated with architecture, seems to have dwindled into the decorative by its retention of absolute concepts belonging to outworn systems of thought. Its original validity as an approach to the creation of form seems to have gone.

What is coming in its place? In the past few years there have been various signs of a change both in the schools and outside. The " re-think " looks as if it may affect all departments of architecture—working method and organization are no less in question than basic theory or the problems of education. However, the practice of architecture has generally been frustrated by the incongruous mixture of restrictive legislation (with its good intentions), ruthless vested interest and an ubiquitous public indifference. It is perhaps significant that recently the important architectural movements in this country have been predominantly " school " movements. Such important works as have actually been built have lost much by remaining as isolated phenomena in the total environment, for positive town planning, which could relate them in time and space, seems to exist only as a theory. It does not appear in reality and so often the architect's work is not complemented, but only curtailed, by the planners, whose aim is to make the town beautiful as well as functional. It is a laudable aim but it may also be Quixotic.

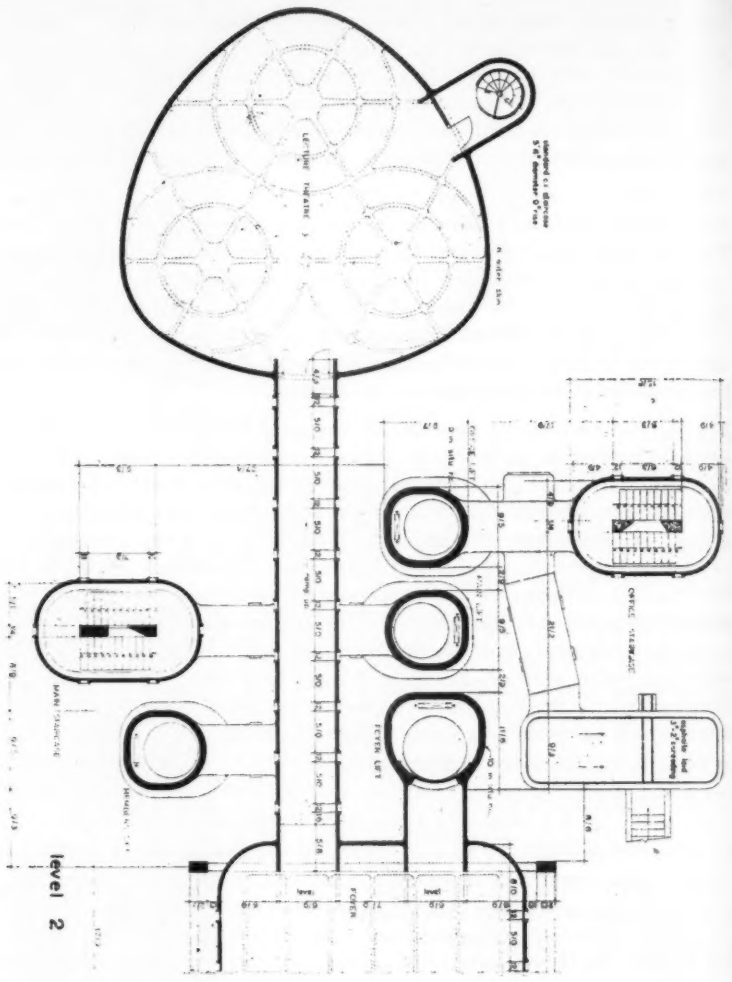
All these problems are so complex and important that they obviously require much sustained effort from everyone who is concerned with the man-made environment—whatever his position. However it is only natural that students should be chiefly preoccupied with education and in this respect the results of the RIBA's deliberations are eagerly anticipated. The Oxford conference committee will no doubt recommend great changes. Will it be allowed to go far enough, or will the profession be content with purely superficial and short term gains? Will the name of enlightenment be used once again to buttress up the status quo? Educational reform can only be really valuable if it is founded upon a thorough reconsideration of all those assumptions which form a basis for the practice of architecture.

The British Architectural Students Association was formed some months ago with a view to improving the educational and social position of architectural students. It was felt that the disparities which exist throughout the country could be counteracted to some extent if there existed a forum for the exchange of ideas. To do this the Architects' Journal kindly offered us a few pages each month in which to publish material dealing with students' attitudes and interests. In them will appear examples of student work, together with articles by non-students covering those aspects of architecture which seem in need of examination.

BASA represents 25 schools of architecture. Its next conference is to be in April and will consider "The function of the Architect in Society." Further details from Wynice R. Perrin, Permanent Secretary, BASA, The Building Centre, Store Street, W.C.1. **CONTRIBUTORS.** W. G. Howell, A.R.I.B.A., of Roehampton and Team X fame, is at present labouring under the burden of R.I.B.A. politics, part time teaching and private practice (Churchill College Competition). Wilfred Marden and John Outram began their architectural lives at the Regent Street Poly, where they hatched and edited the first three issues of Polygon. (The articles on technology and change and on Ronchamp were actually stolen from Polygon III.) They are currently to be seen in the fourth year at the A.A. Michael de Webb is in the fifth year at the Regent Street Polytechnic. **EDITORIAL.** George Kassaboff, final year at the A.A., with John Outram. Paul Power, Regent Street Poly, Ian McKechnie, Kingston Poly. Layout by Mike Helm, who worked in a similar capacity on Polygon, is at the Regent Street Poly. The editors would be pleased to consider student material for publication in this feature, letters are also welcome.

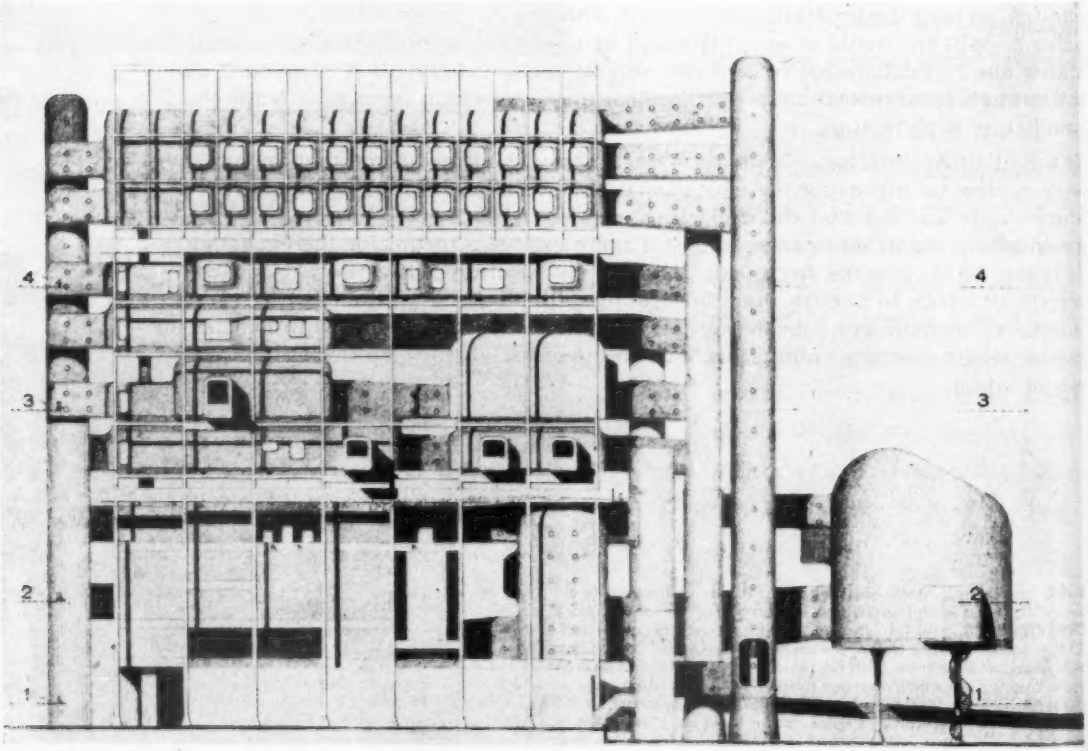
FURNITURE MANUFACTURERS ASSOCIATION SHOWROOMS HIGH WYCOMBE

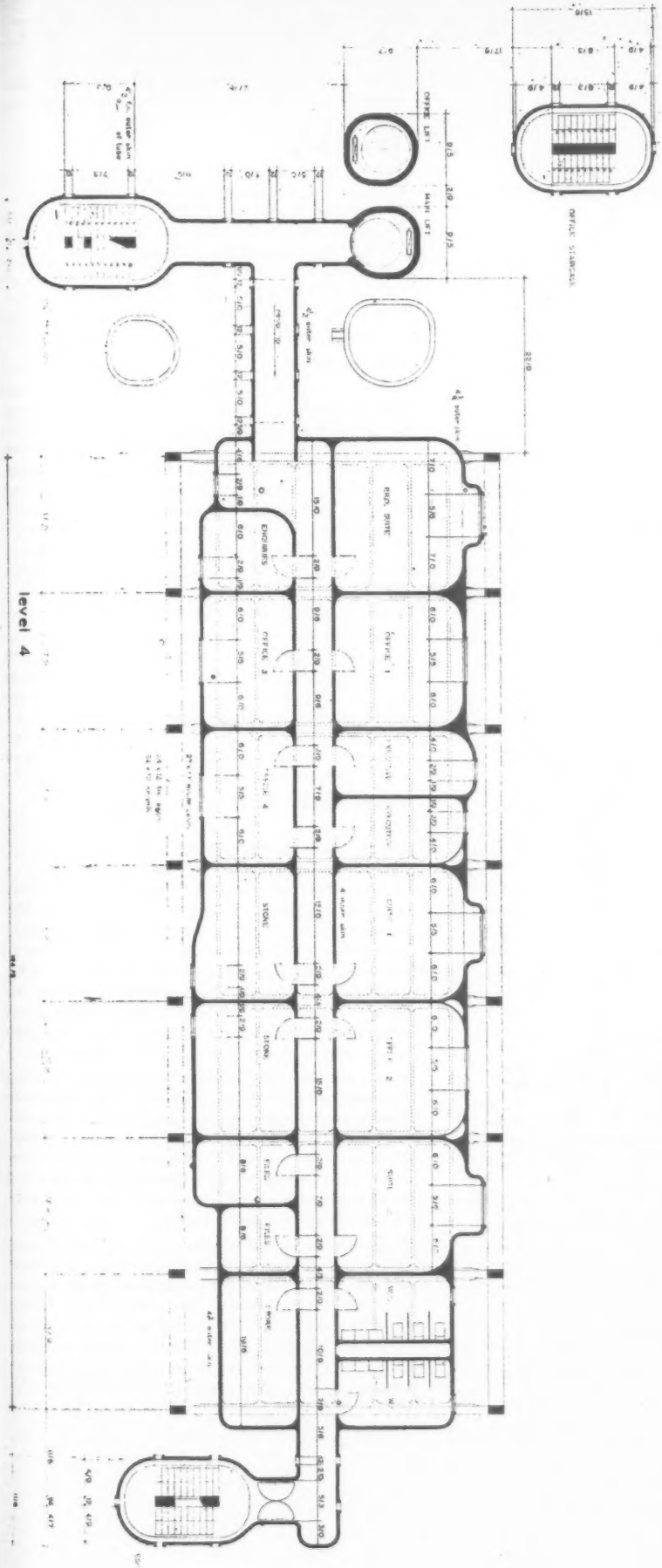
M. de Webb



Part plan at Level 2

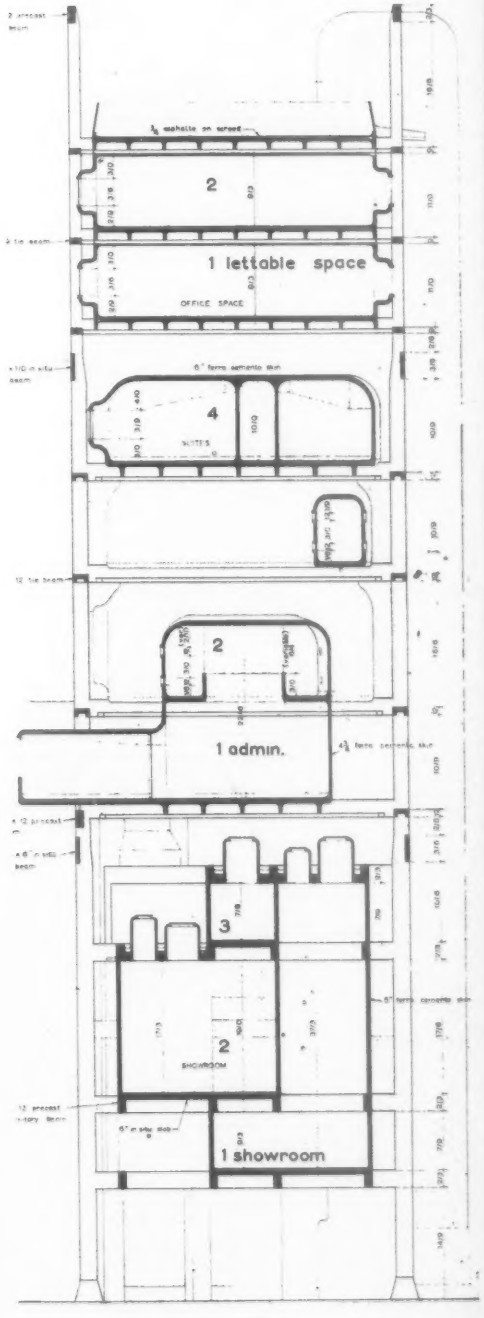
Main elevation

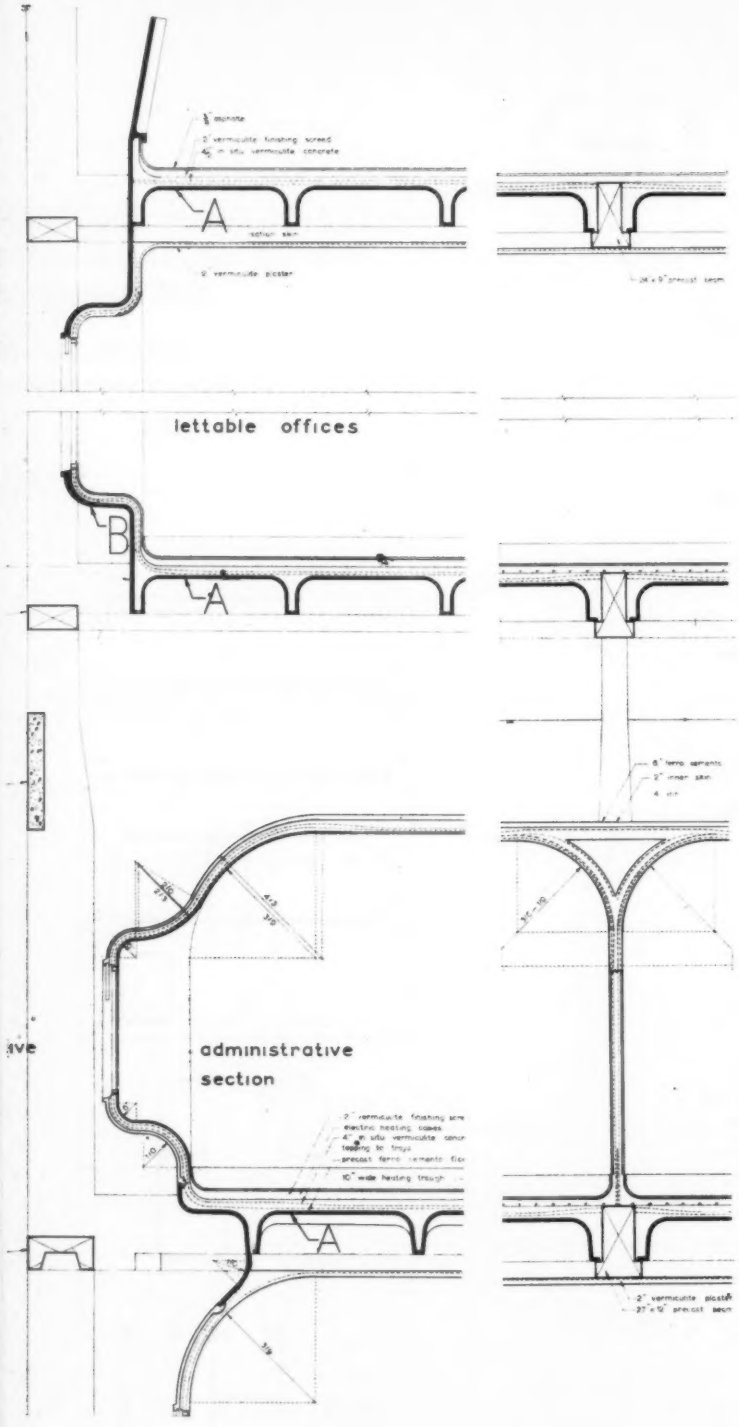




Plan at Level 4

Section through building





Short section

Long section

This building was designed as part of the fourth year work at the Regent Street Polytechnic. The programme was for a prestige building and consequently the designer was allowed considerable license.

Planning

The building can be divided into three parts: the block of main accommodation, the vertical circulation tubes, and the auditorium. On the lower floors of the main block are situated the club-rooms, showrooms and offices for the F.M.A. Above these are two floors of lettable offices. At either end are the clusters of vertical circulation. The auditorium is poised on the main axis above the entrance ramp.

Structure

Space enclosure is effected by means of pre-cast and in-situ Ferro-Cimento (a technique pioneered by Luigi Nervi, whereby various types of concrete are applied to layers of steel mesh). All the vertical parts of the fabric are of double skin construction. The outer, waterproof, membrane is 1½ inches thick and the inner one is 4 inches of heat insulating vermiculite concrete. On the roof sections the outer layer is thickened. The concrete is applied by trowel and spray-gun to the mesh of reinforcement.

Research into site management and erection showed that it would be most economical to use pre-cast Ferro-Cimento floor trays (A) and wall units (B) (see drawing). However, even with the rigidity that was gained by the use of curved forms, it was considered necessary to construct a supplementary frame. This frame, of pre-cast concrete, supports the floor trays at each level and facilitates easy erection.

Aesthetic and Execution

Mike de Webb, who would warn others of the formalistic trap that he fell into, has this to say about his building:—" At the sketch stage I adopted this form for the building before the exact technique by which it was to be made had been decided upon. Thus it was conceived primarily from an aesthetic point of view without any definite structural idea. In this lies the basic fault of the building and although the effect of taking the design through to the working drawing stage has altered its appearance almost beyond recognition it still retains much of the original " artiness."

When considering the economics of this building it should be remembered that with Ferro-Cimento a great saving is brought about by the lack of formwork (an item which accounts for up to 40 per cent. of the cost in orthodox concrete work). Furthermore such components as the metal window and door frames are easily screwed onto the mesh reinforcement before concreting.

However, this building has little chance of being realised, even if it could gain planning permission, for few builders would dare to stake their reputations on it. (Nervi is his own contractor). Nevertheless I am sure that such a building technique could be practical given some serious research. Nervi has shown us its potentialities in such buildings as the Gatti wool factory or the Turin Exhibition hall. It now remains for us to continue his work."

THE TECHNOLOGY OF CHANGE

John Outram & Wilfred Marden

Does technological development justify schemes such as the FMA headquarters (pages 452-454). We are unqualified to judge. We are faced on the one hand by successful examples of sprayed-on plastic and concrete, and on the other by a lack of information on the subject. We are forced therefore to invent our own theories.

The development of atomic physics has instigated the phenomenal growth of the chemicals industry until it affects life on every scale from that of the H-bomb downwards. These developments were possible only because man had analysed the fundamental properties of matter. He therefore was able to synthesise new forms of matter. He has organized new permutations of molecular structures—new forms of adhesion.

or glue.

Welding, aluminium glue, glass, timber, plastic glue.

Given good conditions almost all crystalline materials can be glued now.

The traditional glues have been remade with chemical additions—plasticised concrete, hard plasters, etc.

New glues appear with increasing frequency; Glamorock, Araldite, etc.

Plastics supersedes ceramic: Spectra-glaze

Mastics, Plastics } gradually simplify curtain wall sections until they will simply glue together elementary universal sections. Dimensional variation is incorporated by the adhesive. The new module is the molecule.

This growing glue technology is not revolutionary. It is directly related to the most primitive mud techniques. It is modular co-ordination that is revolutionary: implying totalitarian control of jointing and dimensional systems, with attendant organizational bureaucracy.

The function of building is to modify environment. The best way to achieve this is to construct a machine that pushes out flexible fields of force capable of the several functions of insulation, compartmentation, etc. This building is easily adaptable to any new function by a new configuration within the machine (use of autonomous feedback systems).

The environment would adapt in a manner more flexible than any living organism.

Glue technology approaches closer to this concept than any other contemporary system. With adequate glues and solvents one could perform surgical operations on the building (very crude compared to force-field metamorphosis), and adapt it to a new use, by thickening the structure or dissolving walls and floors.

This seems to be a physical constructional system capable of solving the aesthetic problems of change.

How will this new technology fit into the existing pattern of architecture?

Architecture has consisted of the organization of plastic entities. Its basis has been formal. The aesthetics of change demands that one abandons formalism as a source of unity as we understand it in architecture today. Perhaps this longing for rationalism of form can be supplied by topology and the ever widening fields of intuitive geometry. Or will the designer be able to rely on his own inherent sense of order? We agree that architecture must have some cohesion, it could come from the concept

the site-circulation flow diagram

the structure

the system of space structure

the lighting and colour?

These **DIAGRAMS** alone must have plastic value. They must become **IMAGES**, simple formulae conducive to multiple permutation.

It is the job of the Architect to grapple with the concept, to produce the diagram—the **IMAGE**. His function is to organize the forms generated into a cohesive whole, a plastic reality. He must be a thinker and a plastic artist. If the new technology is one of perfect metamorphosing of elements—a botch up and use again technology—our builder will lose his status. Can he re-organize himself mechanically to be of practical help? Can he become plastically minded enough to work sympathetically with the architect?

The building trades will take on a new importance, each being responsively creative within the original building concept.

What other factors are likely to predominate? Vested interests and prejudices could vitiate this theory completely. Could it only work on a totalitarian architectural basis? This would require rethinking in town planning, national byelaws, our present monetary system, private ownership, etc.

Can we transcend the present architectural doldrums, and feed back some vitality equal to the scientific progress of the fifties?

While now we see the " new spray-on technology " to be slightly unreal, we also realise that it forced students to consider the awful questions of form with no easy formulae to help them. If almost any shape was technically feasible then it was no longer possible to draw a square and call it architecture.

This has made us question our formal motives very deeply and the following article is some indication of our conclusions.

THE ARCHITECT AS A DESIGNER

John Outram

In most modern definitions an architect has two functions which nobody is able to express in one word. These are: "design," and "supervise" (the construction of buildings).

This seems to imply that design and supervision are related but not synonymous. An investigation of other industries will display similar situations. They have been "functionalised" into design, production, and sales; increasing their efficiency by specialization—an inescapable tendency.

We consider that the essential nature of the architect is related to his function as a designer. His bureaucratic duties are largely due to professionalism and the technological revolution.

The melancholy history of the designer is expressed with horrible clarity by the change in meaning of the old French word "dessiner" from "to plan" into its modern connotation "to draw." However in English "design" still has the following synonyms: contrive, plan, purpose, intend.

The architect is a contriver of buildings; he plans them, he considers their purpose, he asks himself what is the intention of this building; or what is my intention in planning this building?

The architect, as designer of buildings ("static" objects), faces unique problems which he tries to evade. They arise from the nature of the architect's functional methods.

FORMAL RELATIONSHIP TO SOCIETY

Those formed on functional relationships depend on:

1. The architect designs objects. These objects are physically realized by other people.

2. The nature of this object has to be communicated from creator to executor. This is only possible in terms of words, diagrams and other symbols of the "real" thing. This limits the quantity and nature of information that can be transmitted.

Values

3. A building is a social tool. It is not only constructed for a specific social function but it is also produced by society. Now the orders of a designer are given and received within the value-structure of his fabrication-group.

In building this fabrication group comprises clients, municipal planning committees, doctors, sociologists, work study experts, housewives, etc. This group is so large and so varied that its values are ultimately those common to the society as a whole. So the design decisions of the architect are inescapably based upon the common values of his society and not upon some personal concept of his own. (This is perhaps why new ideas in our time originate from the personal arts of writing and painting and why technologically complex art-media like films, TV, and building so often produce hashups of fourth-generation cliche.)

What then is the state of this society to which the building-designer finds himself so intimately attached?

SOCIAL FACTORS CONDITIONING DESIGNERS

(a) The rate of population-growth in England is decreasing. Construction for a population in a state of demographic equilibrium can be devoted to raising standards, whereas construction for a rapidly multiplying society (e.g. Victorian, 1850) is mainly a problem of new basic equipment—minimal shelter, etc. Our problem is one of renewal. We must change our hastily-erected Victorian shantytowns into something more considered and permanent which will involve minimum waste of energy in an ageing society

(b) The population is getting "middle-aged spread," i.e., whereas in 1891 the average age of the nation was less than 27 it had risen to over 35 by 1947. By 1995 extrapolated statistics predict that the over-65 age group will almost be larger than the under-14. This means that this ageing society will tend to become less flexible, less open to innovation, and less vigorous. In addition, owing to this increased longevity, people retire later, frustrating the young who accelerate the ageing process by emigrating.

For the designer the conclusions are clear. He is essentially an innovator. If there was no need to rethink the form-purpose equation, craftsmen could copy the traditional formulae and designers would not exist. He exists because the old formulae do not solve new functions, e.g. mechanical, social and economic. This is especially manifest in a transitional era like the present when the designer is primarily an inventor.

(c) The population is moving away from the old heavy industrial coalfields to new electrically-powered industries in the Midlands and Greater London (especially Middlesex).

This means that although the total population may be approaching stability there are still nodes of fast growth—due to migration. The entire home counties area is becoming urbanized. Over 50 per cent of the insured population increase from 1948-56 occurred in the Birmingham and Greater London conurbations. This indicates a pretty abject failure of decentralization (innocently sabotaged by the Board of Trade). There are therefore in these areas opportunities for the creation of basic new equipment—or towns—as well as renewal.

Political

The trend is conservationist: the Empire has disintegrated and England grows gradually more insignificant beside the power of Russia, America and Europe. The concern of most electors is to defend their standard of living against the claims of emergent Afro-Asian powers.

Paradoxically this common political conservationism helps the strongest forces behind planning. The English prefer country to town. The new urban-bourgeois industrialists of the free trade era (1846) ruined agriculture. Attempts to control, or plan, their laissez-faire activities implied the defence of the countryside against the growth of cities.

Thus planning—the function of the designer—has come to mean Rural Preservation (planners hate cities). It is easy to see that few British Town and Country planners will understand the nature of a 20th century technological environment.

The fundamental legalism to be considered is the 19th century bourgeois myth; the sanctity of private property. The government assures us that this is the basis for democracy (the slogan; a property-owning democracy). However, an inspection of cities, at least, shows that private ownership is the great obstacle which prevents their reorganization into objects to satisfy the needs and desires of people and is the source of

their present anti-human brutality, chaos and meaninglessness.

Economical

The economic context of design is that the art-designer, at least, has only been accepted as an economically valuable person on the terms of his extra-plus gimmicks in subliminal symbolism—how to boost sales with more sex.

Technological

The technological situation of the architect is that he is incompetent to design anything in a mechanized building industry. By "design," in this sense, we mean the organization of the shape of an object from first principles. He is incompetent because he neither understands first principles of machine production nor the elementary mathematical tools without which these principles are meaningless generalities.

What is the effect upon the architect of all these factors?

THE "CONDITIONED" DESIGNER

Professional architects seem to have been reduced to the position of bureaucrats: Art-Pundits with a technological puzzle. They do permutative exercises with mechanically viable objects. They then emerge with triumphant huzzas if a new surrealist configuration is achieved; if they can use an object designed for one purpose in an "other," "unexpected," exotic way.

Although random mutations are principally degenerate. These are seen as a poetic act—like finding railway trains in a cathedral (St. Pancras), and is called objets-trouves. Whereas perhaps the Scrapheap Aesthetic (Paolozzi style) is more indicative of its technological poverty and the plight of progressive architects who have to roam the junkyards of other technologies to use their most systematically primitive obsolescencies as decorative motifs.

The anti-progressive architects are even worse. They use all their power to arrest technological improvements.

With obscene perversion they choose the most obscure equipment (door furniture, lavatories, etc.)—simply because it is different! These irresponsible egotists sabotage any tendencies to serious production (standardization) by keeping hundreds of exotic lines going. How much longer do we have to submit to the Divine Right of Architects to leave the gratuitous manifestations of their Beautiful Personalities in little heaps of artistic defecation spotted all over the city. It is sheer professionalism and has no artistic value whatever: bohemian role—behaviour.

We can understand their predicament: If an architect isn't an art-man then what is he? a bureaucrat, and a pretty dim one at that. Eliminate him! Roll on the package deal! Panic!

No. No. Art is the trump card to play at moments like this—also mention Culture, God and Posterity—all parts of the 6 per cent old boy, wonderful service, have a drink.

The reaction against anonymous architecture was in many ways the reaction of a profession whose only reason for existence was to make buildings "personal." The client wishes to blazon his personal success to the world and the architect assists him for personal reasons of self-advertisement. Yet both these economically inevitable actions are detrimental in some ways to the community.

Perhaps the reader can now begin to understand and sympathize with the despair and agitation of students. We see the architect changing from initiator of form to midwife—a position becoming rapidly superfluous in an age of do-it-yourself deliveries. And yet we wish to become designers, i.e. creators. How is this possible?

THE CONTEXT FOR DESIGNERS

The nature of systems [from inorganic to organic.]

The relevant definitions here are that:

1. An inorganic system is characterized by the primary relationship of its most elemental units. Its shape or form is therefore directly determined by the nature of these elemental relationships, e.g. the molecular lattice of salt is the same shape as its resultant macrophysical crystal. An inorganic system is "reversible." The crystalline salt can be liquefied and recrystallized.

2. In an organic system, however, the parts do not entirely condition the whole. The system is characterized rather by a certain configuration within which microphysical events occur with relative freedom and in such numbers that their total macrophysical effect as an organism is only predictable in statistical probabilities, e.g. the number of atoms which constitute a long "organic" molecule is variable, as are the numbers of these molecules which constitute a man.

The form of an organism, then, is determined primarily by the hierarchic organization of the relationships between its constituent elements. In a man's life the actual atomic material is totally renewed several times. The organic process is irreversible. Change is a development dependent upon the history of the organism. To brutally oversimplify this, one could say that the principal difference between the two systems is the number of events that constitute the whole. The more events the more organismic the system—so that its form is due less to each individual event and more to the relationship between the statistical averages of these events. This must be qualified with regard to the organism's other essential quality—feedback, through this the extremes of the system are kept in constant tension by a mutual knowledge of their respective actions—a steady state of interactivity and polarized balance (decreasing entropy).

These concepts of organic and inorganic may help to eliminate certain confusions in the application of the words to building.

The Building as a System

A building seems to be very low in the "number of events" scale. It is easy to see that trends towards the construction of buildings from large-scale prefabricated elements is decreasing the number of "events" that constitute the whole. So we must conclude that a building has the characteristics of an inorganic system, chief of which is that the physical shape of the parts inexorably determines the shape of the whole.

The functional and spatial organization could dominate the form of a large building in brick (many events—organic), but is dominated by the increased scale and decreased number of events in a precast crane-erected structure (crystalline).

The City as a System

The case of a city is very different. A large city like London is constituted of millions of yearly incidents. It also "feeds back" through political and legal and commercial channels until it is possible to state that the "system" of London (transport, service, drainage, health organizations (legalisms)) is a more important formal determinant than the shape of its constituent elements —buildings.

The Physico-Functional Scale of these Systems

We are faced here with an immediate problem; the physical scale of these determining systems.

The average of the sum of the ratios between the volume, mass, velocity acceleration and manoeuvrability (turning circle) of a man and a car results in a relationship of 1 : 50. This is an indication of the scalar relationship required when thinking of designing their physical environment. There is a limit to the scale at which plastic decisions are visually appreciated. Corb puts this at 50 metres (for the Modulor).

Car-scale and the scale of these other city determinants (railways, rivers, etc.) would appear to be meta-visual. That is, nobody would design a motorways plan according to visual concepts of form, but according to technical and intellectual, concepts. But how does the primarily visual (i.e. tactile, colour "atmosphere") designer fit into this?

A Solution

Many of these questions are answered by a very simple solution.

The city-centre must be raised and inverted. The only thing left to occupy the whole ground is

transport, with its heavy weight, high speeds, huge curves, noise, smell and " superhuman " scale. Above, in the quiet and light, the streets have turned inside out to enclose man in glass volumes, in air-conditioned arcades. Man only sees the inside of the structure or looks through its skin over parks and the huge scale of transportation.

Inside the centre construction is freed from weathering. Shops are craft-made, synthetic fashion-changeable; junctions are pure, colours are clear, materials are unlimited. The climate is equable, the walls are only screens, providing visual and aural division. The city centre is one big exhibition-designer dream. This is where the visual designer can work: with experimental, impermanent, structures. This is the changing environment quickly responding to human needs and desires.

In this way the problem of the two city-scales (50 : 1) is solved.

The outside and underside of the city with their big, machine-erected scale, are only seen from afar in a speeding automobile. Inside, protected, in light clothing, man walks around in a man-made, human-scale environment: a social animal at last. The technology for this city exists. It is being applied in Toronto and Lapland, for instance.

Realisation

How can we evolve towards this image? Our city organizations are man-horse-scale. The new mechanized scale is in fact a new evolutionary state and requires some basic changes, e.g. street-raising.

The nature of evolution is essentially spasmodic. An organism in evolution is in an unbalanced state and either achieves some sudden new chromosomatic* configuration or rapidly degenerates. The change is sudden and is not analogous to growth.

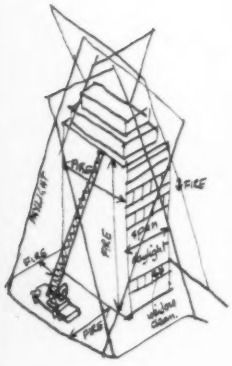
Thus the change to the new city system is not to be seen as a gradual growth out of the old system because the old system does not contain the determinants of the new. The change must be a sudden evolution to a new system.

The pavements are either at 0 feet or at 25, no intermediary stage is possible. (" Pavements are being worn higher this year.") While the evolution is occurring the city-organism will be unstable and could rapidly degenerate into chaos (political). It must therefore occur swiftly and definitely. (This perhaps clarifies students' confusion of growth with change and the resultant design apathy in the face of an unforeseeable future. The future anyway is only probable and cannot be deterministically defined.)

The scale of operation implies that the basic structure of the new city will not be designed according to visual or sensational, but according to intellectual, criteria.

The scale implies technological determinants of overwhelming power—serial production, enormous scale, transportation patterns, statistical relationships. Architects with their misunderstanding of technics and primarily visual minds must not be expected to be able to design in this way.

Yet there is a need to design these forces so that they work efficiently for human needs.



THE NEW DESIGNERS

Most technologists are not competent to plan on this scale. Their training is strangely formalistic in that they examine highly simplified and abstracted characteristics of an object, without considering the significance of its content, e.g. the meaning of a building in its social context as a symbol.

Thus technologists as presently defined cannot be expected to design this basic shell except on the scale of styling the components (industrial design). The total configuration will have to be considered by a new type of mind who understands that the built-structure of society is an expression of its ideology; who understands the relationship between a particular value-system or style of thinking and a particular built form and spatial-system. This type of mind is not really new. It is just that it may seem a new idea to some architects.

As students we can discuss certain socio-plastic relationships. A principal one seems to originate from the rejection of an atomistic-deterministic philosophy in favour of a concept of reality of the interconnective " Gestalt " type. This leads to a feeling that society is somehow a " total " thing rather than just a collection of individuals. The phenomena of mass society serve to reinforce this feeling.

It is expressed in a tendency to design " comprehensive buildings "—to unite the whole built structure into one contiguous mass of interconnected volumes. This is almost expected to simulate the organism and flow, pulsate and metamorphose under the fluctuating forces of an ad-maddened mass-telly society jiving wildly under its polychromatic plastic city-skin. If we can momentarily disregard the aesthetic implication of this image and consider its principle we find apparently serious functional drawbacks. There are two tendencies at work here:

(i) the tendency towards specialization of processes in a developing society. This leads to a lowering in the capacity for change in the structures built for these processes;

(ii) the accelerating need for change in a technologically transitional society.

A system's capacity to change is a function of its organizational primitivity. As systems develop they gradually lose their original adaptability and increased specialization tends to rigidify them. So that the system operating at maximum specialization cannot absorb even a slight disturbance in its configuration and consequently breaks up (e.g. the decay of society into heterogeneity when everyone is " different," no standards prevail, and the social matrix disintegrates).

It is therefore clear that the drive towards a multi-purpose building will result in structures of the utmost primitivity. This is both functionally and symbolically intolerable as all buildings would be reduced to their one common factor, walls and a roof, and would all look the same.

The agents of change within the programme have therefore to be defined very carefully and resisted rather than welcomed (as an escape from the architect's responsibilities as designer).

If the rate of change of various processes is determined an interesting result appears which bears out our earlier intuitions of the continuously changing " total " building: only those processes which do change rapidly should be housed in a " total " primitive, undifferentiated, contiguous structure, so that they may regroup freely without major structural alterations. The more stable processes should be extracted and housed within specialized structures. This implies that when the process does change the building may have to be demolished as its specialization has reduced its change-potential. Thus the more stable, specialized processes should be housed in discontiguous structures to facilitate independent demolition.

For example: offices, shops, warehousing might come under the first category and spiral ramp garages under the second. The problem of contiguity and discontiguity are related to those of size. What size to design a building or even a town? Anything works—but most of it is meaningless. Why is a block of flats that high, that long, that shape?

*Chromosomes: heredity conditioning units in genes.

The determinants are usually empirical legalisms—fire escape, light angles, etc., and they are totally meaningless to the public. This is why suburbia is in fact so intellectually satisfying. It is a perfect built expression of a social structure—the family. The two-storey house, bedrooms upstairs, pointed roof-shelter, one front door, one sitting room, picture window, one garden (naturalistic fallacy), one dog (the herd), transportation—the car, communication—the aerial, the letterbox, power—the electric wires, even the drains—FAI and manhole, the children's play machinery, everything is clear. Why do we want to hide it all up in chaste grey packaging that turns housing into a nightmare of social irrationality? Is there any social group larger than the family? The tendency is towards the disintegration of the blood family. If this continues and people still have to live densely, i.e. vertically, how do we give the structure its essential social meaning? Is there any social validity in a domestic structure larger than the family house? Do 50 families become a larger unity, or 80, 100—no! Then the " apartment block " is invalid. What is the next largest social group? Is it the street? Or is there nothing until we reach the neighbourhood? If not, then the housing must be a physically contiguous mass of neighbourhood size—a plastic unity corresponding to a social unit.

We may have to invent systems of community living (cf. Israel) if our huge housing projects are to have any socio-plastic validity. If this is not done architects will be condemned to the continuing nightmare of unity by aesthetic gimmick, e.g. Roehampton. Neo Ruskinian pragmatists like William Whyte, who justly condemns high-rise mass housing as Beaux Arts formalism but seems to evade the problems of their social context; personal economic competition and social fragmentation—the architect perhaps had no other means to unification.

However, in the context of England, the solution probably will not be Kibbutzim but the entire suburbanization of the island. The logical corollary to this rather desirable and highly advanced civilization must be the creation of relatively dense centres: compact city-complexes of sufficient population pressure to distil those rare intellectual essences without which a civilization flounders into sterility. The essential need is for multi-sensual face-to-face communication, unencumbered by the limitations of mass media technology.

These two extremes of diffusion and compaction are only possible if linked by a fabulously efficient transport and communications system. Sufficient density is only possible by increased mechanization of the centre, with travelators, escalators, etc.

This mechanization of the centre implies a high degree of technological sophistication and again a scale of operation which is meta-visual and therefore conceptually organized.

But what are these conceptual systems of organization?

Well—this is a very big question and really our central problem. We can only hope to suggest a few ways of considering the problem under the following headings:

1. Symbolic.
2. Functional.
3. Locational.

1. The built-structure that is actually a symbol of its processive determinants seems to be the highest form of meaning, e.g. Amiens, the Pazzi Chapel—possibly the Unite and Lucio Costa's Brasilia.

2. This is achieved when the conceptual diagram of the building's functions (volumetric, planar, structural, human-processive, machine functional, etc.) are realized with sufficient physical clarity. However, functional clarity is possible only when the functions are clearly defined, as in the stable-specialized structures.

But in the changeable undifferentiated mass of primitive cellularization needed for, say, efficient office accommodation, one has to resort to:

3: Locational Ploys. This is the lowest category of meaning. It is in fact essentially meaningless and is simply random-associative, that is, a mass-housing complex may be differentiated by " the block next to the cinema," or " the one nearest the railway." No functional relationship exists. It is merely a way of locating buildings which is more " humane " than only numbering them or naming them after Empire functionaries.

An example of this technique is the Urbanization d'Anvers O.C. '29-'34, p. 157, where each row of mass-produced housing is differentiated by locating at its mouth a building whose functional relationship is really to the main city auto-route, and so to the housing as a whole, rather than to the row it particularises.

It is a definition of the more probable events in the environment in terms of the less probable. This again implies large-scale control in order that the less probable events may be efficiently employed—topographic variations, old buildings, etc.

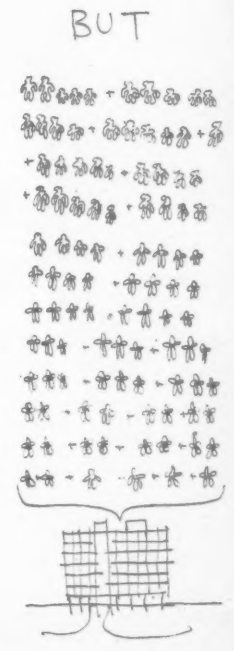
In this sense the old buildings have a function with respect to the new simply by being there as reference points and can be preserved on these grounds alone, even if no other function can be found for them.

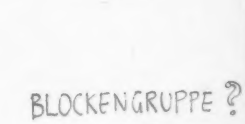
It is desperately important to think of new housing and mass-produced city building in this ideologic, socio-plastic, diagrammatic way.

The mass of building is anonymous. Its " natural " form in our society is irrational—determined by antique legalisms. Huge buildings sprawl on old streets. The technologists have taken the lead. But by definition they are aimless.

We dislike the idea of summing up this article in a few crisp phrases. The intention was rather to write out the problem in the hope that a consideration from many angles would prove more valuable than an eliminative over-systemization. The contradictions are inevitable and are seen as sources for dialectic development rather than for mutual " cancellation,"

However, in case the complexity of exposition has blunted the impact of our arguments, we end by stressing those aspects which we feel are most difficult to accept: the implied scale of renewal and its necessary suddenness—which makes the post-war reconstruction of our cities, especially central London, appear completely futile.





The above article explored the way in which our environment might develop. It provided for a balance between the anonymous and the individual; the mechanistic and the human. However, the forms and techniques used in Modern Movement architecture all seem to point towards the mechanistic. This is disconcerting, for without an architecture, which provides for the individual situation, and which is also technologically viable, we can have no vision other than the organization man's dream of a push button bureaucracy completely encased in curtain walling: In the following article W. G. Howell suggests that with Ronchamp, Le Corbusier has shown a way out of this dilemma.

INTENTION AND POETRY

W. G. Howell

If we decide that Ronchamp is a symbol of the future architecture, it must be because we see in it significant pointers out of the present situation in technology, the plastic arts, architectural philosophy, etc.

Now technologically, Ronchamp is mediaeval—except for the roof. It was tatted together from the remains of the old church and any old bits and pieces—all lost under a frozen blanket of thrown-on goo. But here we should look at intention rather than execution, if we are to seek our pointer. And the Oeuvres Complets makes the intention clear. A framework made of industrially produced sections (tubes, angles, rods, what-you-will) site sawn, assembled, welded, clipped together scaffold-fashion to build up highly complex flowing forms. The whole to be sprayed inside and out with product X, the magic, everlasting, all-covering plastic skin, webbing over the framework lampshade-wise: liberation from the tyranny of the post and lintol, the prefabricated panel, the repeat formwork, the rolled-out sheet: liberation from the tyranny of the right angle, using, and not rejecting, the possibilities opened up by technological advances.

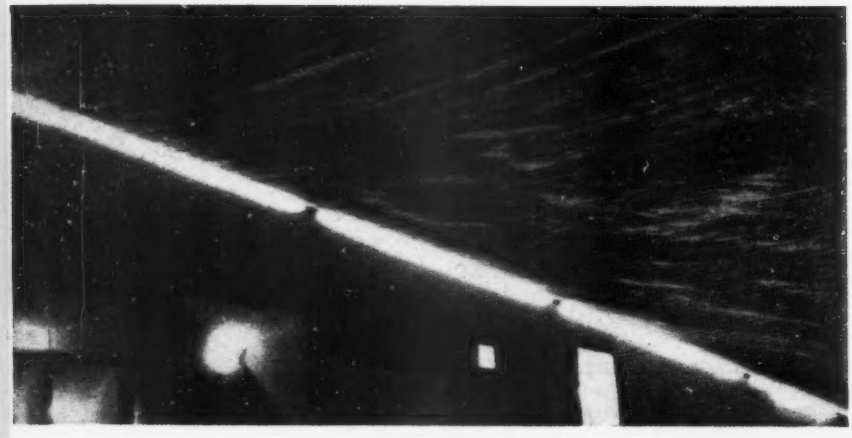
How does the built reality relate to this vision? Only as a mock up—a suggestion, or reminder of an idea, the architectural form without the technological substance. Why the original intention was diverted we don't know. Expense, lack of available techniques in France, impossible to say. Product X exists, but we can only afford to use it for mothballing steam-age warships for future use as atom-test targets. On the plastic level, a return to space enclosed by bent and doubly bent planes, moulded to move the spirit (even my pagan one).

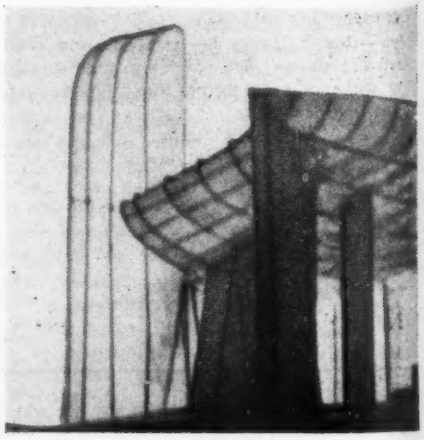
On the poetic level, Ronchamp reminds us of the role of gesture in architecture; here is no praying box with detached soul-elevator (modern Swiss-style) but a gesture to heaven for all to see (miles away even, rightly for a pilgrimage place). Also here is no Gothic nave tricked out in modern cliches, no old hat with new feather, but a basic space rethink.

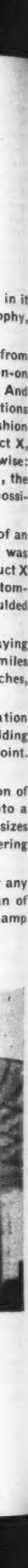
Ronchamps is also a reminder that architecture is light—that manipulated light is the communication channel by means of which the architect speaks to us. The daylight is manipulated into the building past reflecting surfaces, through cracks, holes, even glare is used as a positive factor at one point. The light is modulated and graded—no crude curtain wall cut-off with its even, prosy flatness.

If Ronchamps did not invent the random window it at any rate canonised it, and the fenestration of the chapel stands as a signpost towards plastic system capable of organizing random facts into a coherent environment. (This is seen elsewhere in Corb's work. For instance various family sizes organized into a coherent block of flats in the Strasbourg competition and offices of widely differing volumes organized into a single building in the Chandigarh secretariat.)

Finally Ronchamp is a reminder that rationalism is not enough, and that the range of choice at any point in the design means that the architect only deludes himself if he pretends that events can of themselves determine the form. Poetry is selection and the architect is a kind of poet. Ronchamp reminds us of this truth. Let us hope that it is a symbol of the future architecture.







working detail

ENTRANCE DOORS: CINEMA IN LONDON, W.1

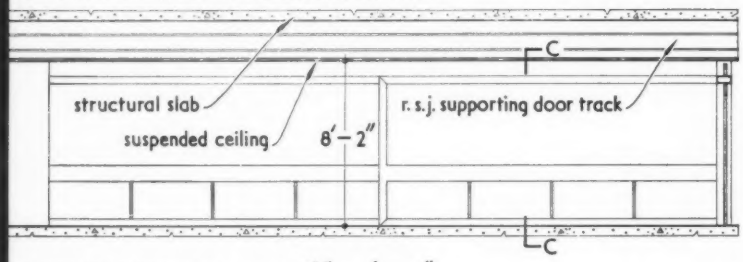
Sir John Burnet, Tait and Partners, architects

The framing of these magnificent sliding doors is built up from a pressed steel core, made out with sections of hardwood and clad with stainless steel. Both the beads and the pelmet boards which conceal the overhead gear are likewise of hardwood clad with stainless steel. The doors slide back into a void and when fully open leave an unobstructed opening (unobstructed, that is, except for the freestanding column) of over 33 feet.

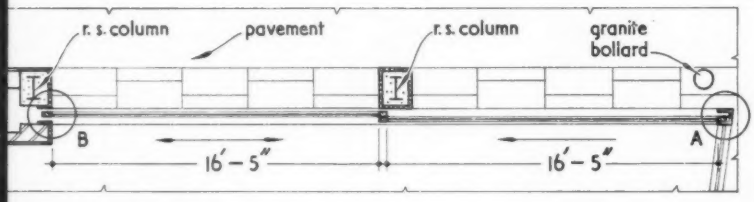
working detail

ENTRANCE DOORS: CINEMA IN LONDON, W.1

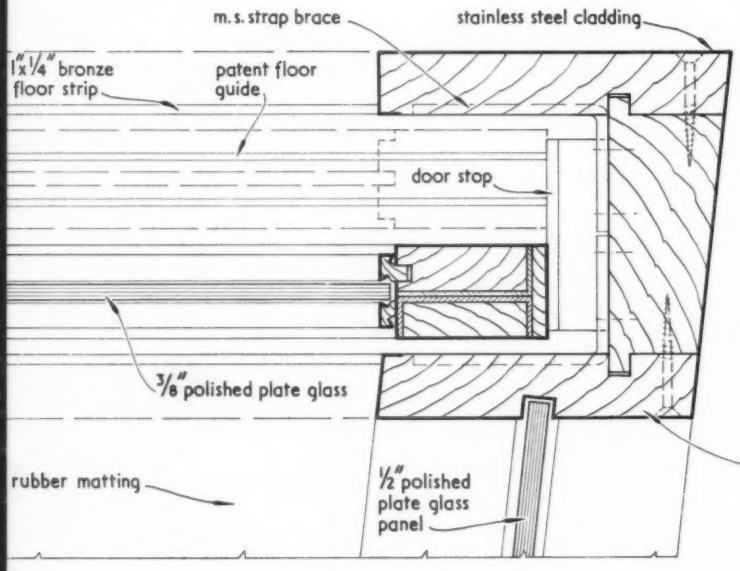
Sir John Burnet, Tait and Partners, architects



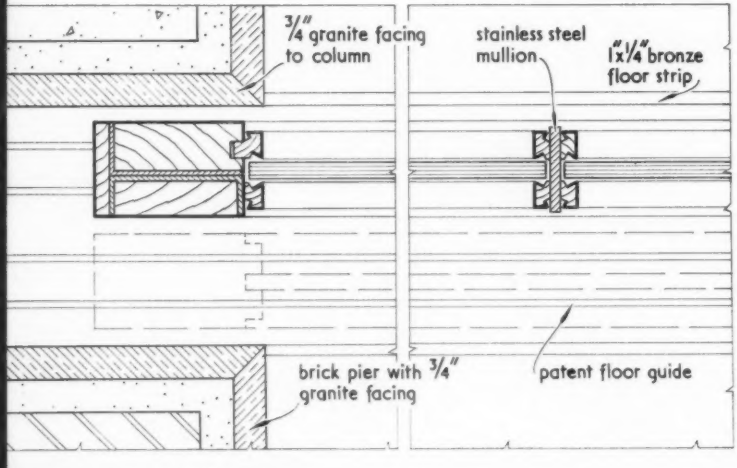
INTERNAL ELEVATION. scale 1/8" = 1'– 0"



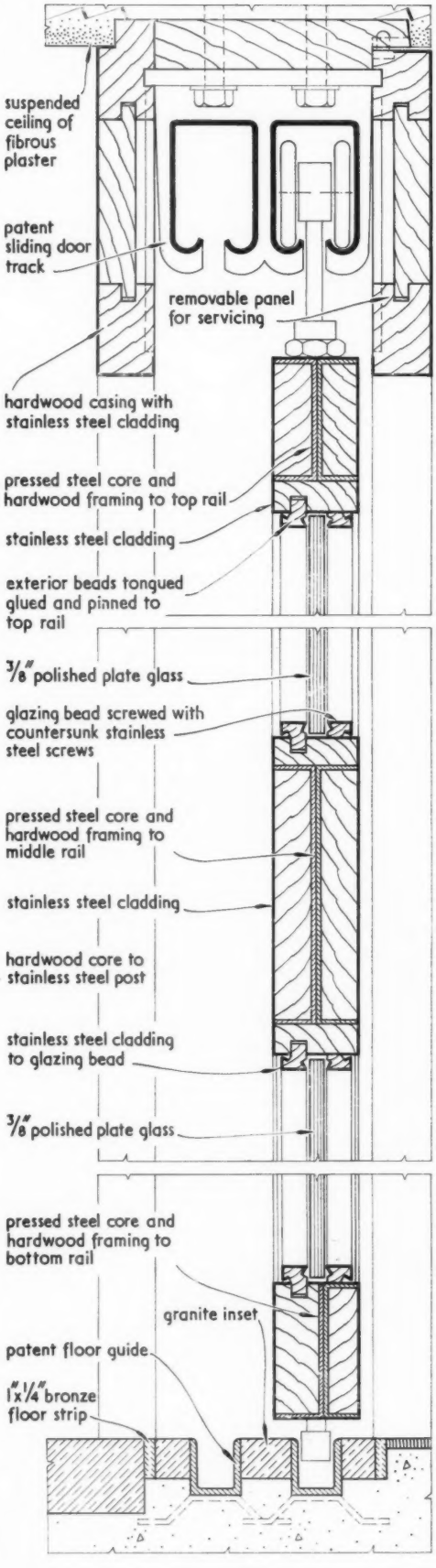
PLAN. scale 1/8" = 1'– 0"



PLAN AT A. scale 1/4 full size



PLAN AT B. scale 1/4 full size



SECTION C–C. scale 1/4 full size

working detail

FOUNTAIN: HOUSE IN SOLIHULL

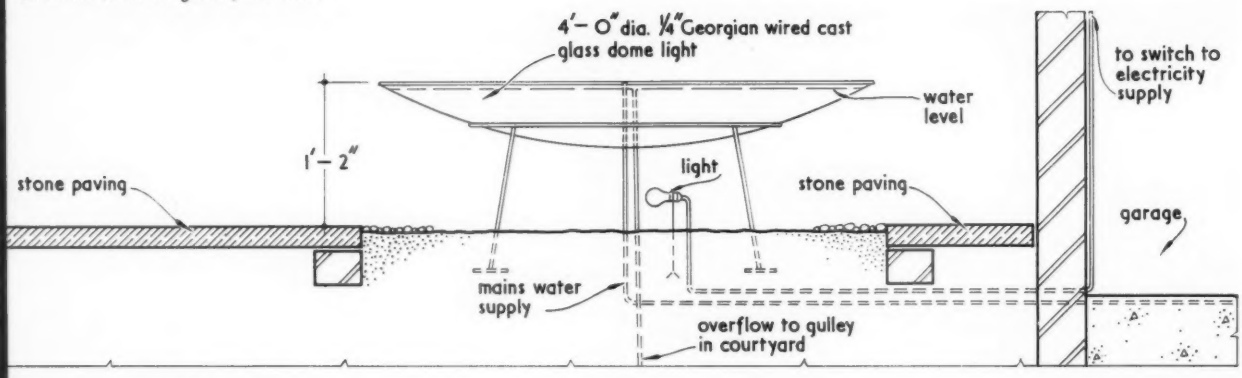
Graham Winteringham, architect

This fountain, in the best English tradition of improvisation, uses such products as a dome light, plastic draught excluder, ½ in. diameter glass tubing and plastic hosepipe to produce a sophisticated effect cheaply.

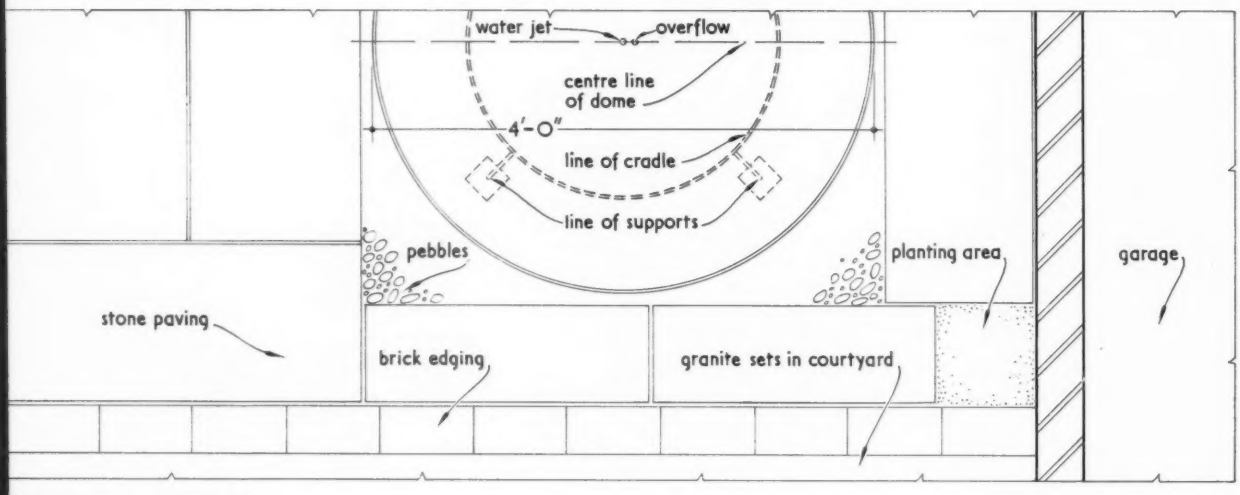
working detail

FOUNTAIN: HOUSE IN SOLIHULL

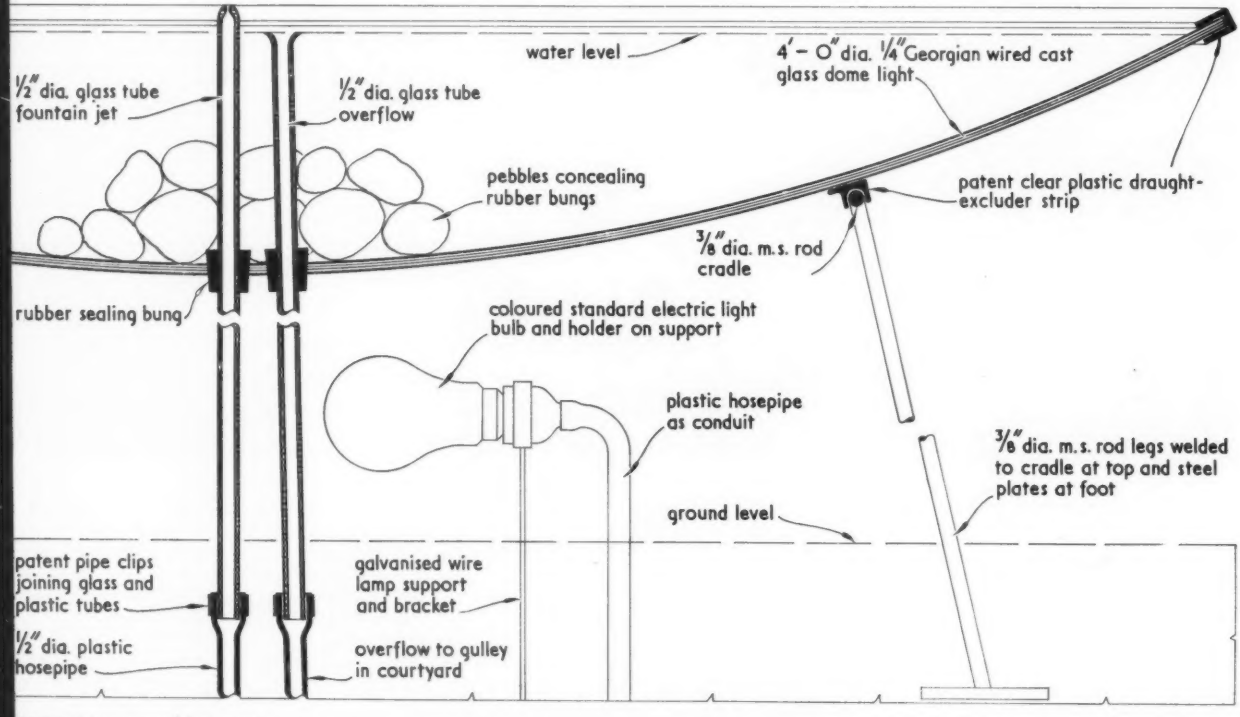
Graham Winteringham, architect



ELEVATION. scale ¾" = 1'-0"



PLAN. scale ¾" = 1'-0"



SECTION. scale ¼ full size

DESIGN IN TIMBER

INTERIOR FINISHING

Conversion of office space for the Timber Trade Federation of the U.K., portraying the decorative effects that can be obtained with different woods.

ARCHITECT: E. Levin ASSOCIATE ARCHITECT: A. Green

FINISHES:

FLOOR: Bubinga parquet on plywood underlay.

WALLS: Interlocking vertical battens of lacewood and veneered blockboard panelling of plane tree burr applied to sand-filled plywood partitions.

CEILING: Birch veneered lighting troughs and floodlit plaster ceiling.

Above all....

CLASSIC CUSHIONTONE*

A new design concept in the Cushiontone range of acoustic ceilings

Armstrong Classic Cushiontone is an entirely new design concept in low cost, wood-fibre acoustic ceilings. This exclusive Classic design of hundreds of tiny perforations scattered in lace-like fashion across the surface, produces an attractive, free flowing effect in an installed ceiling. Classic Cushiontone offers all the economies of wood-fibre plus the simple beauty of contemporary design.

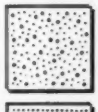
Without doubt Classic Cushiontone is the brightest new star in the Cushiontone range. These tiles are available with tongued and grooved edge detail, in standard 12″ × 12″ size.

Cushiontone tiles are manufactured from tough pine fibres and have a washable two coat, white painted finish which is easily maintained and ensures a high light reflection of over 75%. They can be stuck, stapled or mechanically suspended.

Straight Row and Random Cushiontone is available in 12″ × 12″ and 24″ × 24″ sizes and in ½″ and ¾″ thicknesses. Textured Cushiontone in 12″ × 12″ × ⅝″ only.

Armstrong Textured Cushiontone is a fissured surface which makes an attractive variation from the established designs of perforations or slots. Sizes 12″ × 12″ × ⅝″ Tongued and Grooved.

Armstrong Full Random perforated Cushiontone gives a pleasing free appearance eliminating eye strain. Sizes 12″ × 12″ and 24″ × 24″, ½″ and ¾″ thicknesses.



Armstrong Straight Row Cushiontone. Sizes 12″ × 12″ and 24″ × 24″, ½″ and ¾″ thicknesses.

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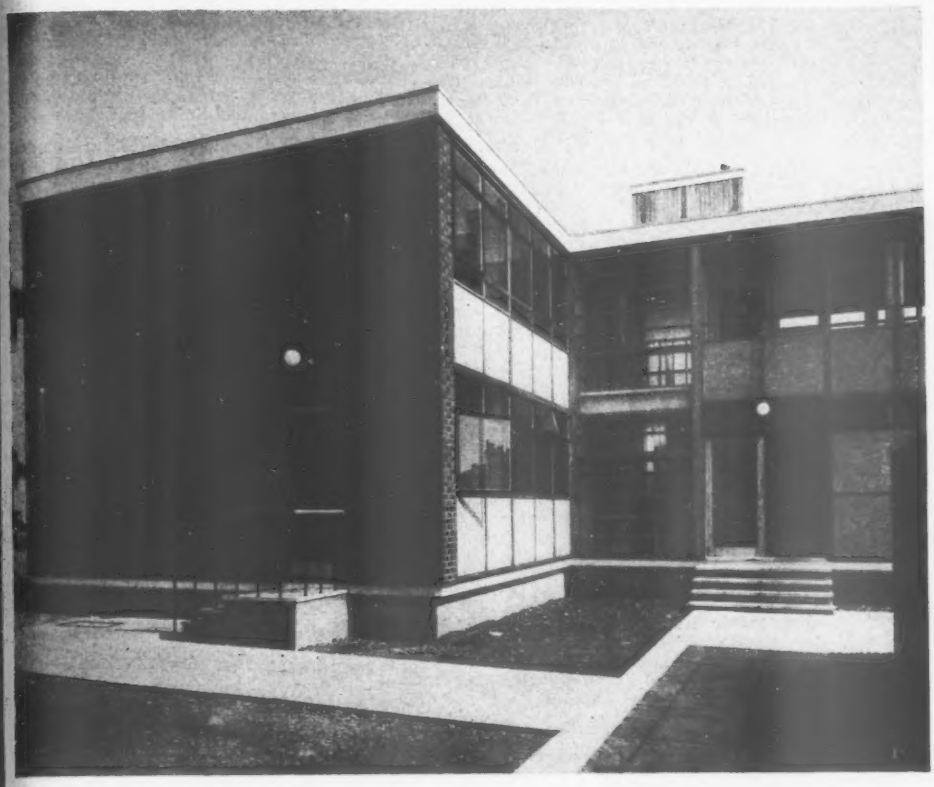
OF

OFFICES FOR BRITISH RAILWAYS AT YARMOUTH



New goods offices have recently been completed at Yarmouth Vauxhall station, designed by H. H. Powell, regional architect for British Railways, Eastern Region, under the general direction of A. K. Terris, chief civil engineer (assistant-in-charge, A. S. Hamilton). Because the building stands beside the river Bure it has been constructed on piled foundations, and the ground floor raised above flood level. Floors are of flat slab construction supported on reinforced concrete columns, and external cladding is of heather brown brickwork and purpose-made curtain walling. General contractors, J. Young and Sons.

Announcements

PROFESSIONAL

W. Wylton Todd F.R.I.B.A., has now moved to 5, Prince of Wales Terrace, South Kensington, W.8 (telephone Western 9342).

Denis Clarke Hall, F.R.I.B.A., A.A.Dip., has taken H. S. Scorer, A.R.I.B.A., A.A. (hons) Dip., into partnership at 6, Masons Yard, Duke Street, St. James's, S.W.1.

Morris de Metz, F.R.I.B.A., will in future, carry on his practice from 29, Gloucester Place, Portman Square, W.1 (telephone Hunter 1051/3).

Peter Jay & Partners Ltd., electrical consultants have now moved to 16, Gloucester Place, W.1 (telephone Welbeck 7251).

C. E. Eglinton, L.R.I.B.A., has now moved from Bexley to 23, Railway Street, Chatham, Kent (telephone Chatham 43203/4).

TRADE

E. J. Vidler, Director and General Manager of W. T. Henley's Telegraph Works Co. Ltd. has been elected Chairman of the Cable Makers Association.

H. G. Stage and F. Tompkins have been appointed Directors of Nu-Swift Ltd.

H. Newsum Sons & Co. Ltd. of Lincoln have appointed Robert Rae Rhind as Sales Manager for the Company.

F. L. Lambert has been appointed Assistant Civil Engineer of British Railways (London Midland Region).

T. & W. Farmiloe Ltd., have appointed G. Caffrey as Chief Chemist *vice* J. J. Froggatt who is now in charge of the company's Technical Sales Development.

R. W. Reed, Area Sales Manager of UAM in Birmingham, is to retire on May 30, his successor will be H. J. Blower, who will take over on May 4. G. R. Tree is appointed as Sales Manager, Government Departments, in succession to Mr. Blower from March 16. Mr. Tree's former territory is now subdivided. R. L. Chevis will cover Huntingdonshire, Cambridgeshire, West Suffolk, and the Isle of Ely, and M. R. Thomas will cover Norfolk and East Suffolk.

Concrete Ltd. announce that the Bison Works at Lichfield and Hounslow have been formed into separate companies. The name of the former is Concrete (Midlands) Limited, and the latter, Concrete (Southern) Limited.

The British Aluminium Co. Ltd. have made the following staff changes at their Rolling Mills. J. A. Richmond has been appointed Deputy Manager at Falkirk with effect from July 1. He has been nominated to succeed Mr. Field as Manager at Falkirk when the latter retires next year. T. D. Rees has been appointed Deputy Manager at Latchford with effect from May 1. F. C. Foskett is Chief Production Superintendent at Milton. N. MacDonald is Deputy Chief Production Superintendent at Milton, and D. Lowe is Superintendent of the Experimental Department at Milton.

E. C. Wingrove has joined Denton Edwards Paints Ltd. as Company Secretary.

The Public Relations function within the De La Rue Group of companies has been decentralized, and as a result J. D. Rice has been appointed Public Relations Officer to Thomas Potterton Limited.

Bailey & Hookham are moving to new offices at 179/181, Vauxhall Bridge Road, S.W.1. The telephone numbers will remain as before: Tate Gallery 8843 and Victoria 5705.

Midland Silicones Ltd. have appointed C. B. Evans to the Board of the Company.

During this month the Council of Industrial Design are showing a complete Tibor Budget Range collection plus new Deep Textures in 1959 Autumn colours in the form of a novel display. Some of the fabrics will also be on show during March at the Cotton Board Design Centre, York Street, Manchester.

Mancuna Engineering Limited, of Denton, Manchester, have appointed R. A. Le Page as Managing Director.

Thos. Parsons & Sons Ltd. are moving their Head Office to Church Road, Mitcham, Surrey.

Specifile Ltd. announces that John Brunton, A.R.I.B.A., Dip.Arch., a partner of the company's consulting architects, Brunton, Baden Hellard & Boobyer, has taken over the direction of the Design Department for the time being, and Maurice Frankling, formerly Design Director, has retired from the Board and has left the Company.

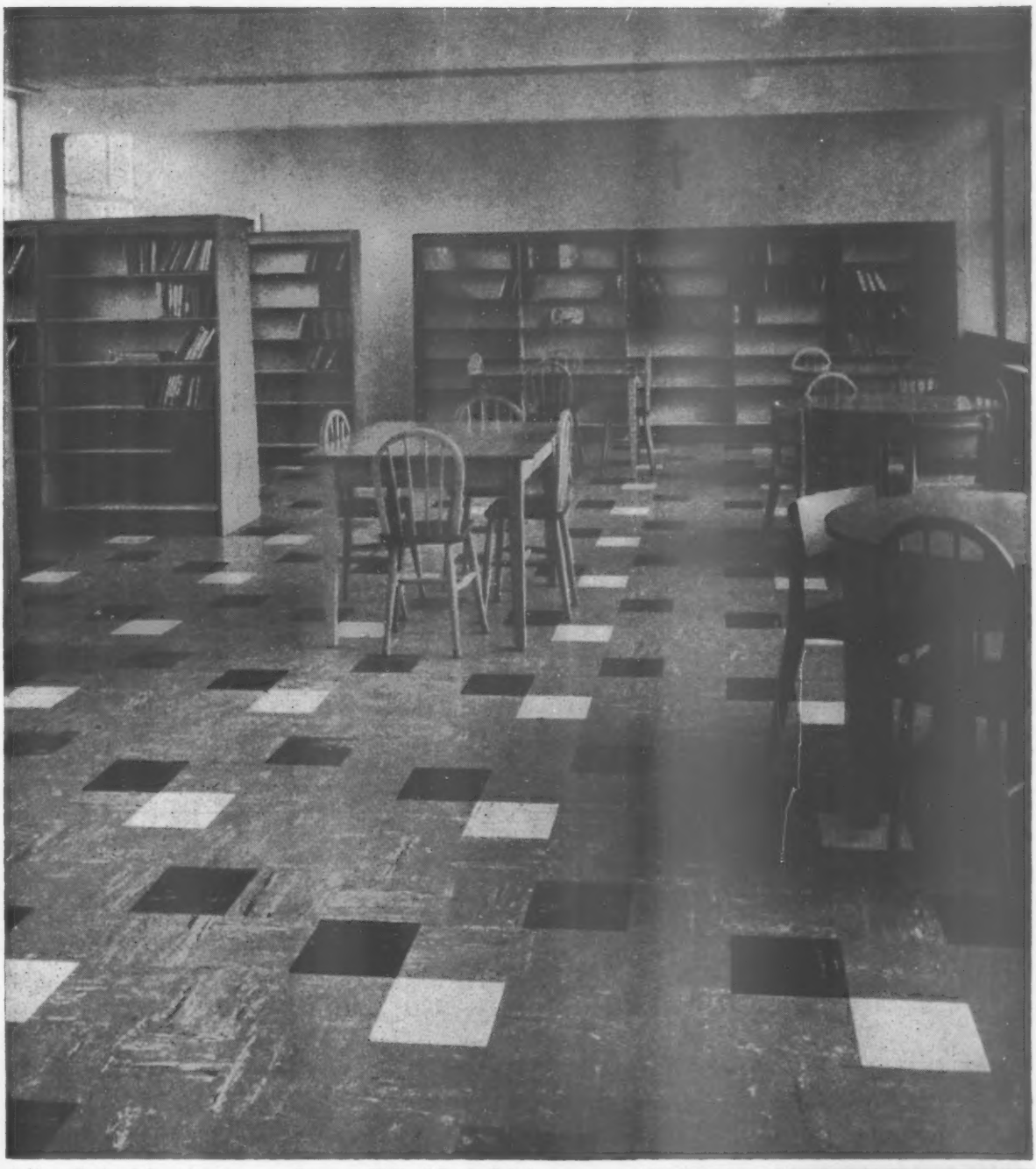
David F. Pilkington has been appointed a director of Pilkington Brothers Limited, of St. Helens, Lancashire.

Stanley Hearder, who is retiring at the end of this month from the post of Director of the NFBTE., will be joining, early in April, the board of Walter Llewellyn & Sons Ltd.

Obituary

H. E. Rowdon, Director and General Manager of Cuprinol Ltd. died on March 1 after a very brief illness.

The Directors of Samuel Elliott & Sons (Reading) Ltd. announce the death of A. L. Elliott, Chairman and Managing Director of the Company.



Architects: Harrison & Cox, F./A.R.I.B.A. *Contractors:* Hinkins & Frewin, Oxford

Over 1,330 sq. yds. of Marley floor tiles

were used throughout the new

Blessed Edmund Campion School at Iffley, Oxford

MARLEY

SEVENOAKS · KENT · SEVENOAKS 55255 · LONDON SHOWROOMS: 251 TOTTENHAM COURT ROAD · W.1

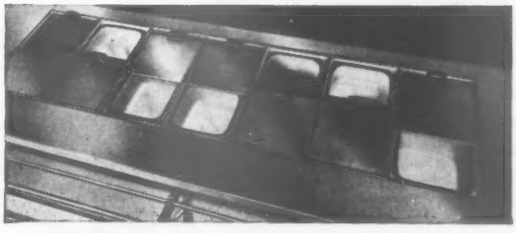
This continuous run of hot- and cold-cupboards, complete with cash section and tea and coffee set, forms the counter of the staff canteen installed at the Bank of London & South America. The colours and appearance have been specially planned by Falkirk's designers to blend with the overall decor.

Falcon food service equipment in stainless steel

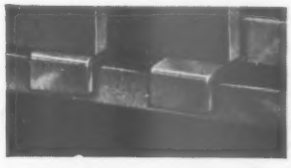
Falkirk provide everything for serving food in bulk, including hot- and cold-cupboards, countering, belt conveyors and set-up tables, sinks, cabinets, bins, pot-racks, and tabling.

The equipment can be supplied to any size or specification, to suit all kinds of catering establishment, large and small.

It will resist the roughest treatment, and conforms to the highest standards of hygiene. Heating, where applicable, can be by steam, gas, or electricity.



Hot-cupboards can be supplied with bains-marie, shown here with flush sliding covers to provide extra plating space. Frames are interchangeable, to take rectangular, square, or round containers.



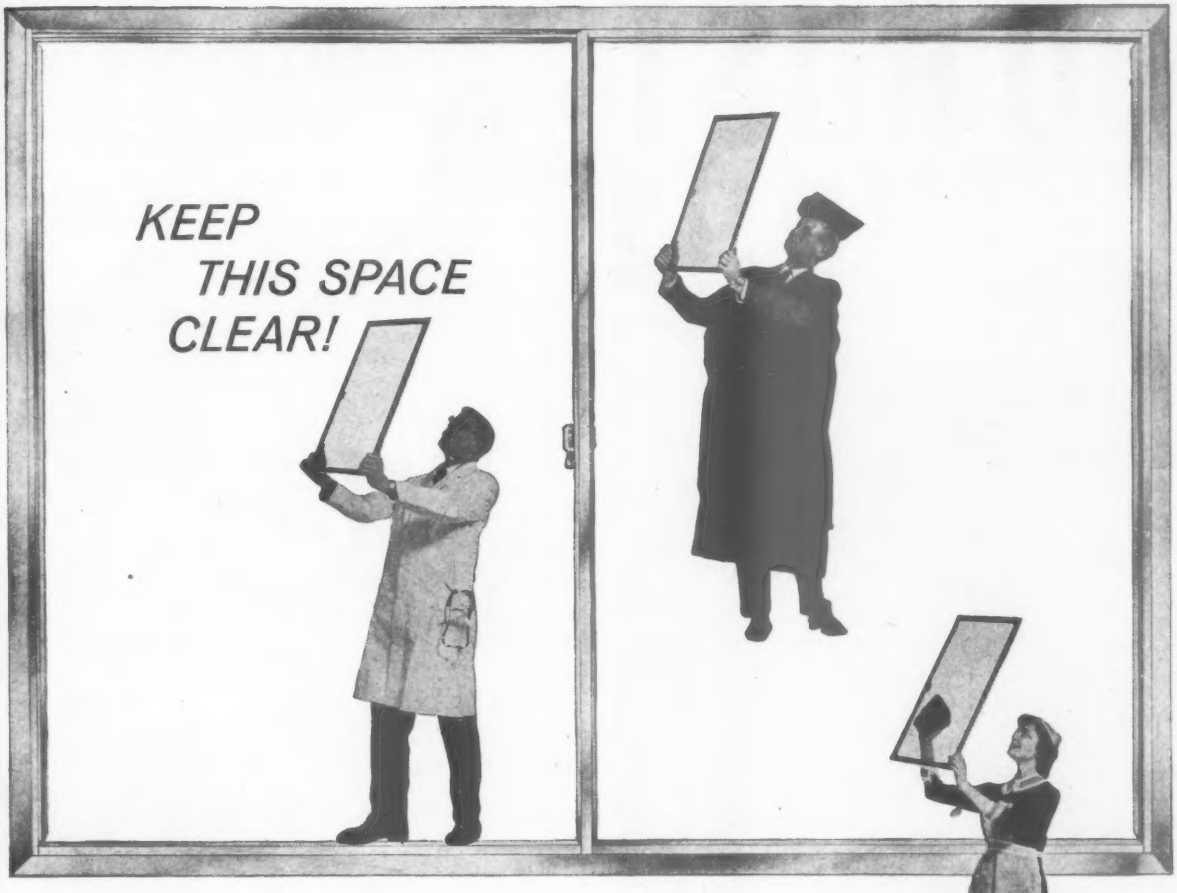
Features such as this self-cleaning door-slide ensure the utmost cleanliness with Falcon equipment.

Falcon food service equipment is made by

THE FALKIRK IRON CO. LTD

18 DERING STREET, HANOVER SQUARE, LONDON, W.1. TELEPHONE: GROSVENOR 8941/9

PROPRIETORS: ALLIED IRONFOUNDERS LTD.



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Schools, Offices, Flats, Hospitals need windows providing the greatest field of vision, maximum light area. Templewood Hawksley Permatite Windows give more light for living. Sashes are easily removed for cleaning, do not project and there are no hinged casements to block balcony space or hinder passers-by. Aluminium alloy frames will not warp or rust. The sashes move silently on zinc runners between stainless steel guides and are weathertight under all conditions. Templewood Hawksley Permatite Windows are based on proven U.S. designs adapted for use in the United Kingdom.

HORIZONTAL SLIDING WINDOWS
FROM 3' x 3' TO 4' x 6'
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SUPPLIED TO SITE FULLY GLAZED

For full details and for particulars of purpose-made Curtain Walling in light alloy or stainless steel, write to:
TEMPLEWOOD HAWKSLEY LTD., BUILDING DIVISION, 2 BUCKINGHAM AVENUE, SLOUGH BUCKS

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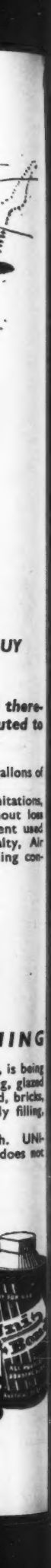

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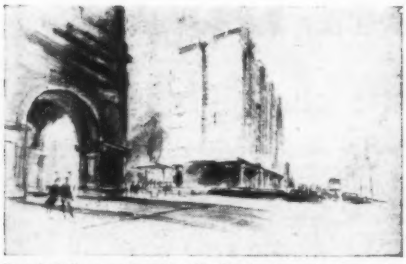
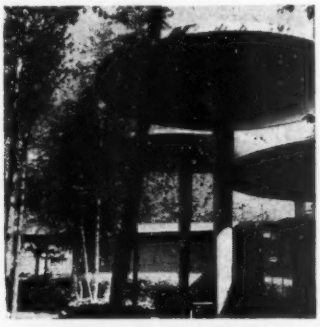
MARCH



Royal College re-housed : Sir Hugh Casson's impression of the view along Kensington Gore, past the Albert Hall, to the proposed new building for the Royal College of Art Architect: H. T. Cadbury Brown.

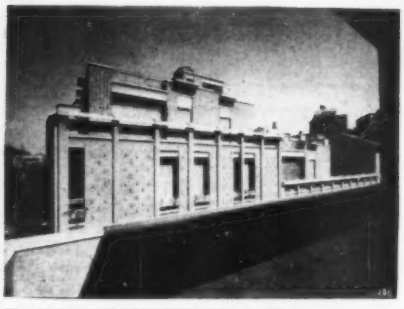
High Knightsbridge: a night view of the Bowater House office block by Guy Morgan and Partners, another stage in the transformation of the London scene.

Swiss Mushrooms: entrance canopy to the Tiefenbrunnen bathing beach by Josef Schütz, an example of indivisible landscaping/architecture from Ian Nairn's article on recent work in Switzerland.



APRIL

Neoliberty: a recent house in Milan by Figini and Pollini, discussed in Reyner Banham's article on the 1910 Revival in Italy, and the current retreat from Modern Architecture there.



Without proscenium: the stage and amphitheatre of the Festival Theatre, Stratford, Ontario, designed by Rounthwaite and Fairfield, from Richard Leacroft's article on the open stage.

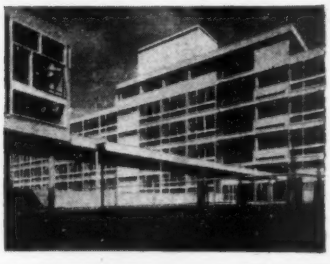
Eastbourne Terrace: right, one of the tall blocks from Cecil Elsom's street-long redevelopment scheme on bombed sites at the side of Paddington station.

MAY

New Galleries: a room in the Louisiana museum of modern art (Architects: Bo and Wohlert) outside Copenhagen, from a survey of recent trends in art gallery design in this issue.

Comprehensive School: Garrett Green School, one of a contrasting pair of new comprehensive schools in the 2,000 pupil class, designed by the Schools Division of the L.C.C. Architect's Department.

Plymouth Centre : Stage One of the new Civic centre for Plymouth (Architects: Jellicoe and Partners)—a multi stage development whose townscape possibilities are explored in an article by Kenneth Browne.



CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, 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," at the address given above.

AIR-MAIL SERVICE available on request:
In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. for four weeks (1s. 3d. for each additional week) and prepayment should be sent by subscribers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

Public and Official Announcements

30s. per inch; each additional line, 2s. 6d.

LONDON COUNTY COUNCIL ARCHITECT'S DEPARTMENT

Vacancies for PLANNING ASSISTANTS. Duties include investigation of development proposals, surveys, report writing, preparation of data for Public Inquiries. Starting salaries up to £860 according to experience and qualifications. Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council (Ref. AR/EK/11/59), County Hall, S.E.1. (186.) 2917

ARCHITECTURAL ASSISTANTS Required by MINISTRY OF WORKS

For employment in London and Provinces on design and detailing work on construction and maintenance of all types of public buildings.

Salary range £550 (age 21) to £870 p.a. London (slightly less elsewhere).

Five-day week. 3½ weeks annual leave initially. Starting pay according to age, qualifications and experience. Good prospects of promotion with salaries of £1,015 p.a. and above.

Opportunities for permanent posts leading to pensions (non contributory).

Interviews at Regional Offices where possible. Applicants should be of Intermediate R.I.B.A. standard. State age, training and experience to Chief Architect, Ministry of Works, Room 435, Abell House, John Islip Street, S.W.1. 2444

DEPARTMENT OF ARCHITECTURE SURVEYING AND BUILDING

The School of Architecture offers a five-year full-time course leading to the Final Examination of the Royal Institute of British Architects. Students successfully completing the first three years of the course obtain exemption from the Intermediate examination of the aforementioned Institute.

The portfolio of work completed during the final two years of the course is accepted by the Royal Institute of British Architects in lieu of the Testimonies of Study.

The College has established a list of approved students' lodgings in the County Borough of Southend-on-Sea. The arrangements for the placing of students in these lodgings are made by the Welfare Officer Supervisor of Student Lodgings.

Further details and forms of application for admission to the five-year full-time course may be obtained from J. M. Scott, B.Arch., F.R.I.B.A., Head of Department of Architecture, Surveying and Building, Municipal College, Victoria Circus, Southend-on-Sea.

D. B. BARTLETT, M.A.,
Chief Education Officer.

4th February, 1959. 3190

DENBIGHSHIRE COUNTY COUNCIL COUNTY PLANNING DEPARTMENT

Applications are invited from suitably qualified persons for the appointment of DRAUGHTSMAN, A.P.T. Grade I (£575—£725), to the Headquarters Staff of the County Planning Department at Ruthin.

Application forms and further particulars can be obtained from me. Completed applications, giving the names of two referees, must be returned not later than 1st April, 1959.

W. E. BUFTON,
Clerk of the County Council.

County Offices,
Ruthin,
Denbighshire. 3438

COUNTY BOROUGH OF EAST HAM BOROUGH ENGINEER'S DEPARTMENT

Applications are invited for the following temporary appointments:—

SENIOR ASSISTANT ARCHITECTS, Grade IV (£1,025—£1,175).

ARCHITECTURAL ASSISTANT, Grade II (£725—£845).

London weighting is paid in addition, and salaries in excess of the minima may be paid according to qualifications and experience. The appointments are for work on a new Technical College and are expected to be for a period of not less than three years.

Further details and application forms, returnable by 3rd April, 1959, from the Town Clerk, Town Hall, East Ham, E.6. 3434

THURROCK U.D.C. (Engineer and Surveyor's Department) requires ARCHITECTURAL ASSISTANT I/II under Architect to the Council. Salary—A.P.T. I/II, *i.e.*, £575—£845 p.a. Good architectural experience necessary. Applicants must be capable of preparing working drawings in all categories and should have passed the Intermediate Examination of the R.I.B.A. The Council have interesting projects in hand, including an Indoor Swimming Bath. Appointment pensionable. Applications, stating age, qualifications, and experience, and quoting three referees, to Clerk of the Council, Council Offices, Grays, Essex, by 24th March, 1959. Canvassing disqualifies. Relationship with Members or Senior Officers of the Council must be disclosed. 3427

BUCKS COUNTY COUNCIL

Applications are invited for the appointment of an ASSISTANT ARCHITECT in the County Architect's Department on the Architects' Special Scale, £750 × £40 (7)—£1,030 p.a.

The appointment is superannuable and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms provided, must be returned by the 31st March, 1959.

F. B. POOLEY,
County Architect.

County Offices,
Aylesbury. 3428

COUNTY BOROUGH OF WALLASEY APPOINTMENT OF TOWN PLANNING ASSISTANT

Applications invited from persons with suitable experience for the above appointment in the Borough Surveyor's Department at a salary in accordance with the Special Grade, £750 × £40—£1,030 per annum. Housing accommodation. Application forms, which must be returned by Monday, 20th April, 1959, may be obtained from the Borough Engineer and Surveyor, Town Hall, Wallasey.

A. G. HARRISON,
Town Clerk.
3425

COUNTY BOROUGH OF WALLASEY APPOINTMENTS OF ARCHITECTURAL ASSISTANTS

Applications from Architects who are Fellows or Associates of the R.I.B.A. are invited for the following positions in the Borough Architect's Department:—

(*a*) SENIOR ARCHITECTURAL ASSISTANTS (Permanent Establishment), Grade A.P.T. IV, £1,025—£1,175.

(*b*) TEMPORARY ARCHITECTURAL ASSISTANTS within salary range £1,300—£1,500, according to experience and qualifications.

The temporary Assistants are required for specified works and the duration of appointments will be for a minimum period of two years.

Forms of Application obtainable from the Borough Architect, Town Hall, Wallasey, to whom they should be returned by 21st March, 1959.

Favourable consideration will be given by the Council to the provision of housing accommodation in connection with appointments (*a*).

A. G. HARRISON,
Town Clerk.
3424

CITY OF BIRMINGHAM PUBLIC WORKS DEPARTMENT

Applications are invited for the post of CHIEF ASSISTANT, Redevelopment Section.

Candidates must be Corporate Members of the Town Planning Institute and a second appropriate qualification would be an advantage. They should preferably have experience in comprehensive development.

Salary Grade—A.P.T. V (£1,175—£1,325 per annum).

The post is permanent, superannuable and subject to a medical examination.

Applications, stating qualifications, age and experience, and naming two referees, should reach the undersigned by the 3rd April, 1959.

Canvassing disqualifies.

HERBERT J. MANZONI,
City Engineer and Surveyor.

Civic Centre,
Birmingham, 1. 3420

CORNWALL COUNTY COUNCIL APPOINTMENT OF ASSISTANT PLANNING OFFICER (ARCHITECT)

Applications are invited for the above-mentioned appointment in the Headquarters Office of the County Planning Department at Truro at a commencing salary within the Special Grade (£750—£1,030). Candidates must be Associates of the Royal Institute of British Architects and preference will be given to those who are also Associate Members of the Town Planning Institute. Full details of the appointment can be obtained from the County Planning Officer.

The customary service conditions of the Local Government Service will apply and the successful candidate will be required to provide a car for official travelling for which the appropriate mileage allowance will be paid.

Applications together with the names and addresses of three referees should be addressed to the County Planning Officer, County Hall, Truro, and received not later than 2nd April 1959.

E. T. VERGER,
Clerk of the County Council.
3448

PADDINGTON BOROUGH COUNCIL Require BUILDING SURVEYING ASSISTANT (APT I—£605 to £755 per annum).

Candidates should have practical knowledge of building construction, experience in surveying and levelling, the repair, adaptation and conversion of civic and residential properties, and be capable of preparing plans, specifications and estimates of costs in respect of these works and their supervision. Candidates preferred will be advanced stage of preparation for R.I.C.S. Intermediate or equivalent examination. Written applications stating age, qualifications, experience and names and addresses of three referees should reach the undersigned (quoting A.402) by 1st April, 1959.

W. H. BENTLEY,
Town Clerk.

Town Hall,
Paddington Green, W.2. 3472

BOROUGH OF RAWTENSTALL APPOINTMENT OF JUNIOR ARCHITECTURAL ASSISTANT

Applications are invited for the above Appointment at a salary within Grade A.P.T. I (£575 to £725 per annum). Applicants should have completed professional training.

The appointment is subject to the Local Government Superannuation Acts 1937-1953, the passing of a medical examination and to termination by one month's notice on either side.

Applications stating age, experience, etc., together with the names and addresses of two persons to whom reference can be made should be delivered to the undersigned not later than Saturday the 4th April, 1959.

(Signed) E. GRAHAM THOMAS,
Town Clerk.

Town Hall,
Rawtenstall,
Rossendale, Lancs. 3468

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the following appointments:—

(*a*) ASSISTANT ARCHITECTS. Salary scale £730/£1,055 per annum. Commencing salary dependent upon relevant practical experience, but the additional increments granted will not be more than the number of years by which the officer's age exceeds 23.

Applicants must be Associate Members of the R.I.B.A.

(*b*) ARCHITECTURAL ASSISTANTS. Salary scale £545/£765 per annum.

Applicants must have passed the Intermediate Examination of the R.I.B.A. and have had a sound architectural training and some experience in a practising architect's office is essential.

The above appointments offer excellent opportunities to Architects to design and construct a wide range of Hospital Buildings, including Nurses' Homes, Houses, Flats, Kitchens, Laundries and Boiler Houses. The Service is an expanding one and many new Hospital Projects are to be built in the immediate future.

Applications, giving age, experience and the names of two referees, to the Secretary, Park Parade, Harrogate, by not later than 31st March, 1959. 3477

BUCKINGHAMSHIRE EDUCATION COMMITTEE HIGH WYCOMBE COLLEGE OF FURTHER EDUCATION

(Principal: W. J. Davies, J.P., B.Sc.)

Applications are invited for the following post, the appointment to date from 1st September, 1959:

ART DEPARTMENT.

Grade "B" Assistant (man) to teach drawing subjects to Intermediate and N.D.D. level. A knowledge of Display Typography or Photography, in addition to experience in a Commercial Studio, an advantage. Candidates should hold one of the following qualifications: A.R.C.A., A.T.D. or equivalent.

Salary will be in accordance with the Burnham Report, i.e., £650 × £25 to £1,025 per annum plus additions for qualifications and training with increments on the scale for previous teaching and industrial experience where appropriate.

The 5% Special Addition to Salary (1959) will also apply.

Forms of application may be obtained from the Principal at Queen Alexandra Road, High Wycombe, to whom completed forms should be returned within 14 days of the date of the appearance of this advertisement. 3475

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for posts of ASSISTANT ARCHITECTS — Superannuable and National Health Service conditions. Applicants must be A.R.I.B.A. or equivalent and will either assist senior architects on larger proposals or be responsible themselves for smaller projects. They should be capable of preparing sketch plans, working drawings and specifications. The work covers the whole range of General and Specialised Hospitals and Mental establishments and experience of hospital work will be an advantage though not essential. The salary is within the range £750—£1,105 per annum.

More detailed information can be obtained from the Regional Architect, but applications stating age, qualifications and experience with names of two referees should be made to the Secretary, 40 Eastbourne Terrace, W.2, not later than 4th April. 3482

NIGERIAN COLLEGE OF ARTS, SCIENCE AND TECHNOLOGY

(*Principal*: C. A. HART, C.M.G., T.D., D.SC., PH.D., M.I.C.E., M.I.MECH.E., F.R.I.C.S., A.M.I.STRUCT.E.)

DEPARTMENT OF ARCHITECTURE

Applications are invited for posts of (1) HEAD OF DEPARTMENT, (2) SENIOR LECTURER, (3) LECTURER.

Course leads to Intermediate R.I.B.A. examination and thereafter to College Diploma at Final R.I.B.A. standard. It is hoped Finals Course will shortly be approved by R.I.B.A. and students enabled to take Final R.I.B.A. examination in the College.

Contract Salary Scale:

Head of Department Grades B and A—£2,448—£2,664, and £2,664—£2,880 p.a. Senior Lecturer Grade I—£2,160—£2,376 p.a. Grade II, £1,368—£1,728 p.a. Lecturer—£1,020—£1,668 p.a., all plus gratuity at £37 10s. for each completed three months' residential service. Salaries of Head of Department and Senior Lecturer Grade I are consolidated but those of Senior Lecturer Grade II and Lecturer attract inducement addition of £270—£300 p.a. for overseas appointees. Entry point according to qualifications and experience.

Pensionable terms may be arranged or College would take over and maintain employers' contributions to former F.S.S.U. policies.

Partly furnished quarters at one-twelfth basic salary rental. Tours 10—18 months but leave normally taken in long vacation. Free 1st class passages. Children's U.K. maintenance grant up to £150 p.a. and passages assistance.

Applications (six copies), giving age, qualifications, experience and names of three referees, should be sent to The Council for Overseas Colleges, 12, Lincoln's Inn Fields, London, W.C.2, by 3rd April, 1959. 3414

BOROUGH OF HENDON
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
SENIOR ASSISTANT ARCHITECT—GRADE A.P.T. V

Applications are invited for the above appointment in the Borough Engineer and Surveyor's Department at a commencing salary, according to experience, within the Grade A.P.T. V (£1,175 to £1,325), plus London weighting.

Applicants must be Associate Members of the Royal Institute of British Architects.

The post is pensionable, subject to National Scheme and medical examination. The Council will consider the provision of housing accommodation in circumstances approved by them.

Applications, with full details, together with names and addresses of two referees, must reach the Borough Engineer and Surveyor by Monday, 6th April, 1959. Canvassing will disqualify.

R. H. WILLIAMS,
Town Clerk.

Town Hall,
Hendon, N.W.4. 3412

COUNTY COUNCIL OF ESSEX
COUNTY LAND AGENT AND VALUER'S DEPARTMENT
(AMENDED ADVERTISEMENT)

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT on the established staff. Salary in accordance with A.P.T. I (£575—£725 per annum).

Candidates should be capable draughtsmen and have been trained in an appropriate professional office. The successful candidate will assist in the work of the building section of the Department. The work comprises the erection of new houses and farmbuildings and improvements to existing properties.

Application forms from the County Land Agent and Valuer, 69, Duke Street, Chelmsford, to whom they should be returned not later than 31st March, 1959.

Canvassing disqualifies. 3409

COUNTY BOROUGH OF CARLISLE

Applications are invited for the appointment of ASSISTANT ARCHITECT in the City Surveyor's Department at a salary in accordance with the Special Scale, £750—£1,030.

Starting salary according to qualifications and experience. Applicants should be A.R.I.B.A. and will be engaged in the first instance on work included in the Authority's Educational Building Programme.

The office is sectionalised, the architectural work being under the immediate control of the Deputy City Architect.

Forms of application from City Surveyor, 18, Fisher Street, Carlisle, returnable to him not later than 25th March, 1959.

H. D. A. ROBERTSON,
Town Clerk.
3410

CITY OF CAMBRIDGE
ASSISTANT ARCHITECT
(Special Grade £750—£1,030)

Applications are invited for this superannuated post in the Architects' Section of the City Surveyor's Department.

Applicants must have passed Parts I and II of R.I.B.A. Final or Special Final Examination or equivalent and entry point on the Grade will depend on experience which should be at least five years.

Application forms from the City Surveyor, The Guildhall, Cambridge, returnable by 10th April, 1959. The Council may consider the provision of housing accommodation.

ALAN H. I. SWIFT,
Town Clerk.

The Guildhall,
Cambridge. 3483

EAST SUFFOLK COUNTY COUNCIL
ASSISTANT ARCHITECTS
A.P.T. GRADE IV: £1,025 × £50—£1,175

Applications are invited from qualified Architects who have good general experience in design and construction, and are capable of taking charge of large projects with the minimum of supervision.

The starting salary in each case will be fixed according to qualifications and experience, and removal expenses will be paid in approved cases. The appointments are subject to the provisions of the Superannuation Acts and selected candidates will be required to pass a medical examination.

The posts offer interesting and responsible work in connection with the Council's extensive programme of school and other building.

Applications, stating age, qualifications, experience and present employment, together with copies of two recent testimonials, must be delivered to the County Architect, Mr. E. J. Symcox, F.R.I.B.A., County Hall, Ipswich, by the 31st March, 1959. 3411

BRITISH RAILWAYS—EASTERN REGION

ASSISTANT ARCHITECTS with real ability in contemporary design required for office of Architect, British Railways, Eastern Region, King's Cross Station. Applicants should be able to play a responsible part in the design, administration and site supervision of buildings which are varied and interesting in character. Starting salary—POST (1) £943, or POST (2) £833, depending on qualifications and experience. Five-day week and concessionary rail travel; permanency with membership of superannuation scheme to suitable applicant after probationary period. Apply in writing, stating post applied for and giving particulars of age, experience and any qualifications possessed, to Chief Civil Engineer, British Railways, Eastern Region, King's Cross Station, London, N.1. 3451

BUCKINGHAMSHIRE EDUCATION COMMITTEE
HIGH WYCOMBE COLLEGE OF FURTHER EDUCATION
(Principal: W. J. Davies, J.P., B.Sc.)

Applications are invited for the following post, the appointment to date from 1st September, 1959:

BUILDING DEPARTMENT.

Assistant Grade "B" to teach C. & G. Carpentry and Joinery classes to Final level and Building Construction and quantities to H.N.C. (Building) Courses. Candidates should have the C. & G. Final Certificate in Carpentry and Joinery, the H.N.C. in Building and/or L.I.O.B.

Salary will be in accordance with the Burnham Report, i.e. £650 × £25 to £1,025 per annum plus additions for qualifications and training with increments on the scale for previous teaching and industrial experience where appropriate.

The 5% Special Addition to Salary (1959) will also apply.

Forms of application may be obtained from the Principal at Queen Alexandra Road, High Wycombe, to whom completed forms should be returned within 14 days of the date of the appearance of this advertisement. 3475

NATIONAL COAL BOARD—EAST MIDLANDS DIVISION
ARCHITECTURAL ASSISTANT

Applications are invited for the above post in the Divisional Architect's Department, 69 Lower Parliament Street, Nottingham.

The appointment will be made in the scale of £715 × £25 — £850 (exceptionally £1,000) *or* £595 × £25 — £710, according to qualifications and experience. For the higher scale, Intermediate R.I.B.A. with three years' subsequent practical experience will normally be expected. The post is superannuable.

The architectural work of the department covers the design of colliery surface buildings of all types, including workshops, stores, power plants, offices, pithead baths, canteens medical centres, and recreation buildings.

Applications giving age and full details of education, qualifications and present appointment and salary to Divisional Chief Staff Officer, N.C.B., East Midlands Division, Sherwood Lodge, Arnold, Nottingham. Please quote S.V. 969/R. 3478

GOVERNMENT OF BRITISH GUIANA
ARCHITECT, PUBLIC WORKS DEPARTMENT

To prepare designs for buildings and other Government projects of a general architectural and planning nature.

Contract appointment. Salary range £1,100—£1,400 p.a. Gratuity of 22½ per cent. salary.

Free passages. Five days leave for each completed month of resident service.

Candidates must be A.R.I.B.A. Write Director of Recruitment, Colonial Office, London, S.W.1, giving age, qualifications and experience, quoting BCD 112/30/09. 3416

NORTH RIDING EDUCATION COMMITTEE.

ASSISTANT ARCHITECT required in Education Architect's Department. Grade A.P.T.II and Special. Salary £725 to £1,030. A.R.I.B.A. required. Previous experience may be taken into account in fixing commencing salary and experience with Local Authority not essential. Car, travelling and subsistence allowances. Local Government Superannuation Act. Canvassing disqualifies. Closing date for completed applications 11th April, 1959. Application form and further particulars from F. BARRACLOUGH, County Hall, Northallerton. 3440

COUNTY BOROUGH OF WEST HAM
BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT

Applications invited for following established posts:—

(*a*) DEPUTY GROUP ARCHITECT—Applicants must be A.R.I.B.A.

(*b*) ASSISTANT PLANNING OFFICER—Applicants must be A.M.T.P.I. or equivalent.

Salaries in accordance with Special Grade, £750 × £40 — £1,030 and London Allowance.

(*c*) ARCHITECTURAL ASSISTANTS—Applicants must be Inter. R.I.B.A. Standard.

Salary A.P.T. Grade 1 £575 × £30 — £725 and London Allowance.

(Commencing point in Grade for all above appointments according to experience and qualifications.)

Application forms and details from Borough Architect and Planning Officer, 70, West Ham Lane, Stratford, E.15, returnable by 2nd April, 1959. 3445

CITY OF OXFORD

Applications are invited for the appointment of TECHNICAL ASSISTANT (LANDSCAPE) at a salary dependent on qualifications and experience, within the Special Grade (£750—£1,030). Housing accommodation will be available for the successful applicant if married. Candidates should have passed the qualifying Examination of the Institute of Landscape Architects or hold an equivalent qualification and have good experience in the preparation of plans for the layout and development of parks, playing field and gardens.

Application forms may be obtained from the City Engineer, Town Hall, Oxford, to whom they should be returned not later than 14 days from the date of publication of this advertisement.

HARRY PLOWMAN,
Town Clerk.

Town Hall,
Oxford. 3447

EASTERN ELECTRICITY BOARD
CHILTERNS SUB-AREA
SENIOR DRAUGHTSMAN—SUB-AREA HEADQUARTERS

Candidates should have had a good technical training and preferably experience in an Architect's Office. They should be capable of preparing detailed drawings and specifications of building and civil engineering work, including substations, service centres, workshops and offices.

The successful candidate will be required to supervise staff engaged on the preparation of drawings, be capable of the design of simple reinforced concrete structures and be able to carry out site surveys.

Salary: N.J.B. Schedule D, Grade 5 (£790—£890).

Apply by letter, by 27th March, 1959, to the Manager, Chilterns Sub-Area, Eastern Electricity Board, Prebend Street, Bedford. 3479

GOVERNMENT OF WINDWARD ISLANDS
EXECUTIVE ARCHITECT

To design public buildings and supervise building works; to collaborate in building research and experiments; and advise on all housing and planning development.

Contract appointment. Salary £1,560 p.a. Gratuity of 12½ per cent. of salary.

Free passages. Generous home leave. Quarters at low rent.

Candidates, aged 25-45, must be A.R.I.B.A.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD.112/39/01. 3415

COUNTY BOROUGH OF BOOTLE
BOROUGH SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of One ARCHITECTURAL ASSISTANT on Grade APT III, £845 to £1,025 per annum.

Preference will be given to those having experience in the design and planning of houses.

Application forms, obtainable from the Borough Surveyor, Town Hall, Bootle 20, Lancs., are returnable by Friday, 10th April, 1959.

BY ORDER,
HAROLD PARTINGTON,
Town Clerk.
3441

COUNTY BOROUGH OF READING
READING TECHNICAL COLLEGE

Applications are invited for the following full-time teaching posts from September next:

Department of Building.

GRADE II ASSISTANT qualified to teach Building Construction and other subjects in O.N.D. and H.N.C. courses. Salary (basic) £650 × £25—£1,025, plus 5 per cent. with additions for qualifications, etc.

Application forms (returnable by April 3rd) and further particulars (state post) obtainable from the Principal, Reading Technical College, King's Road, Reading. 3418

NORTHUMBERLAND COUNTY PLANNING DEPARTMENT

ASSISTANT ARCHITECT required in the Design Section on Special Scale (£750—£1,030). Salary according to qualifications and experience. Application Forms from County Planning Officer, County Hall, Newcastle upon Tyne, 1, to be submitted by 31st March, 1959. 3444

CITY OF NORWICH
CITY ARCHITECT'S DEPARTMENT

ASSISTANT ARCHITECT required on permanent staff, salary within Special Grade (£750 × £40 to £1,030).

Application forms obtainable from the City Architect, City Hall, Norwich, must be returned by 5 p.m., March 31st. 3474

COUNTY BOROUGH OF BOOTLE
BOROUGH SURVEYOR'S DEPARTMENT
Applications are invited for the appointment of Three ARCHITECTURAL ASSISTANTS on Grade APT IV, £1,025 to £1,175 per annum.
Preference will be given to those having experience in the design and planning of Schools.
Application forms, obtainable from the Borough Surveyor, Town Hall, Bootle 20, Lancs., are returnable by Friday, 10th April, 1959.
BY ORDER,
HAROLD PARTINGTON,
Town Clerk.
3442

ADMINISTRATIVE COUNTY OF LEICESTER
ASSISTANT ARCHITECTS £750—£1,030 according to experience. Candidates must have passed parts I and II of the R.I.B.A. Examination, have had office experience and be capable of taking charge of small contracts. Lodging allowance and removal expenses may be paid to a married man. Apply on forms obtainable from County Architect, 123 London Road, Leicester.
3446

BEDFORDSHIRE COUNTY COUNCIL invite applications from QUALIFIED ARCHITECTS for posts in County Architect's Dept. which has a programme of varied and interesting jobs, including Colleges, Civic buildings and new buildings for the various County services. Salary £750—£1,030. Application forms from County Architect, Shire Hall, Bedford, to be returned by 4th April.
3481

COUNTY BOROUGH OF SOUTHPORT
Applications are invited for the appointment of an ASSISTANT ARCHITECT (Special Grade £750—£1,030 per annum) in the Borough Architect and Town Planning Officer's Department.
Applicants must have passed the Final Examination of the R.I.B.A.
Application forms may be obtained from the Borough Architect and Town Planning Officer, 99/105, Lord Street. Closing date for the receipt of applications is Saturday, 11th April, 1959.
R. EDGAR PERRINS,
Town Clerk.
3453

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
Vacancies for ARCHITECTURAL ASSISTANTS starting salary up to £860. Full and interesting programme of houses, flats, schools and general buildings.
Application form and particulars from The Architect to the Council, County Hall, S.E.1, quoting AR/EK/14/59 (256).
3040

BUILDING SURVEYORS
Vacancies in Building Regulation Division and District Surveyors' Service for work in connection with applications under London Building Acts, and Byelaws. District Surveyors' offices are located in Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress. Up to £860 with starting rates according to qualifications and experience. Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council, L.C.C. (AR/EK/28/59), County Hall, S.E.1. (541.)
3436

Tenders Invited

6 lines or under, 15s.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

STEPNEY M.B.C.
SIDNEY STREET HOUSING SCHEME
Block 5 — 7 storeys (38 dwellings)
Block 6 — 5 storeys (14 dwellings)
Block 12 — 3 storeys (10 dwellings)
Tenders are invited for—
(*a*) Heating, hot water, cold water, and sanitary plumbing installation; the heating and hot water to Block 5 to be an extension of the system in an adjacent block; other blocks to have individual self-contained systems.
(*b*) Electrical installation.
(*c*) Two passenger lifts in Block 5 only.
(*d*) Lightning conductor installation in Block 5 only.
Forms of tender, with conditions, etc., obtainable from Messrs. Sydney Clough, Son & Partners, 39 Devonshire Street, W.1, on payment of deposit of £2 2s. 0d. for each set of tenders, cheque to be made payable to Stepney Borough Council.
Closing date for tenders—noon, Monday, 13th April, 1959.
WILFRED REEVE,
Town Clerk.
3459

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

ARCHITECT'S ASSISTANT required for the London Office of a firm of Architects with interests throughout the country. Must be of Intermediate R.I.B.A. or R.I.C.S. standard. Superannuation scheme. Apply to: Cotton, Ballard & Blow, 5, Baker Street, London, W.1. WELbeck 3364.
2818

ASSISTANT ARCHITECTS for Co-operative Wholesale Society Ltd., Architect's Department, Cardiff. Salary scale £600—£870 p.a.
Applications are invited to fill positions at the Cardiff Branch Office. Salary according to age, qualifications and experience. The posts are superannuable, subject to medical examination. Five-day week in operation.
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