# ARCHITECT THE JOURNA



standard

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every issue does not necessarily contain all these contents, but they are the regular features which continually recur

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No. 34511 [Vol. 133

THE ARCHITECTURAL 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. Telephone: Whitehall 0611

Price Is. od.

Registered as a Newspaper.

WDC

ZDA

★A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their addresses 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, W.1. Museum 3473 I of Arb Institute of Arbitrators. Hastings House, 10, Norfolk Street, W.C.2.

Temple Bar 4071 Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197
Institute of Quantity Surveyors. 98, Gloucester Place, W.1. Welbeck 1859
Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851 IOB IQS IR Institute of Registered Architects. 68, Gloucester Place, W.1.

Hunter 1945
Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.

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London Master Builders' Association. 47, Bedford Square, W.C.1.

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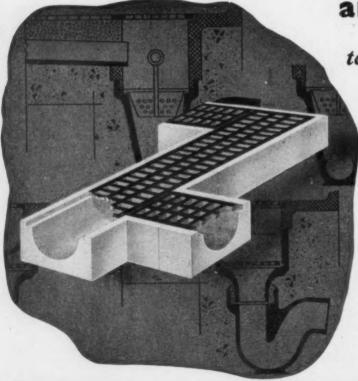
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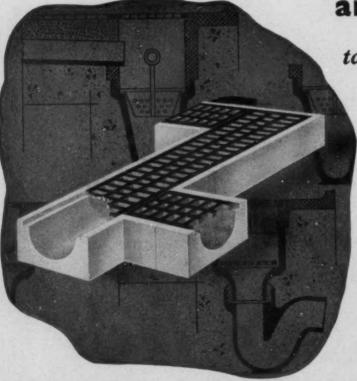
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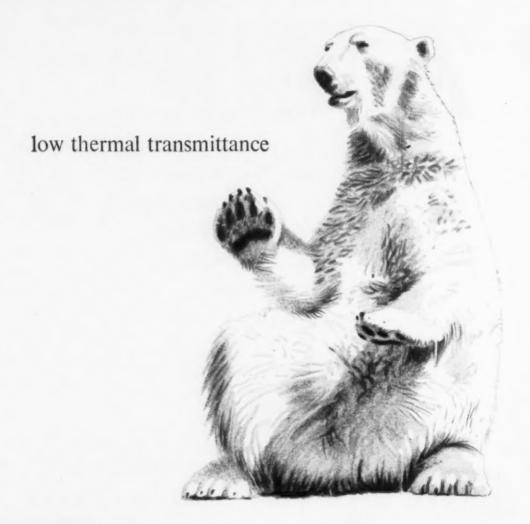


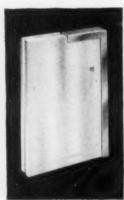
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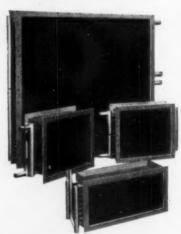
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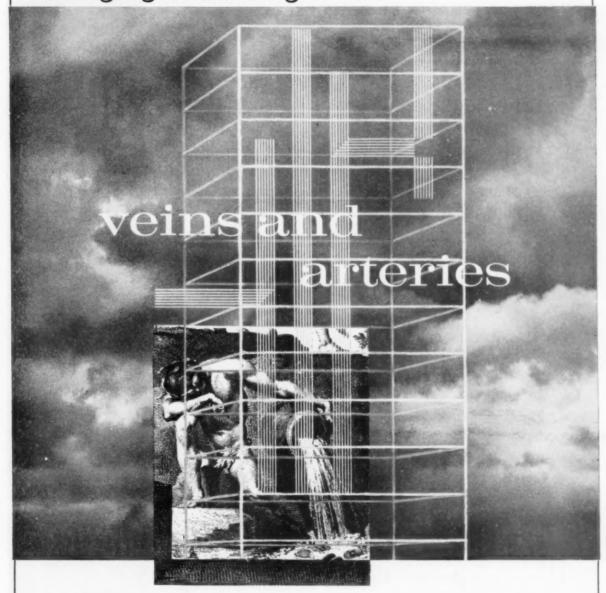




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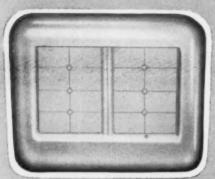
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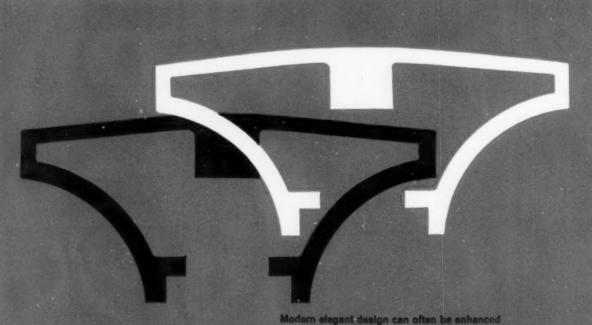
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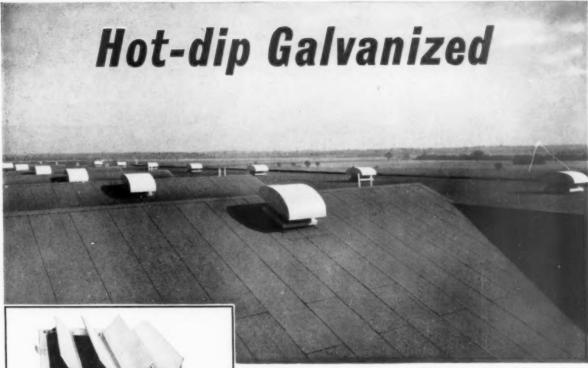
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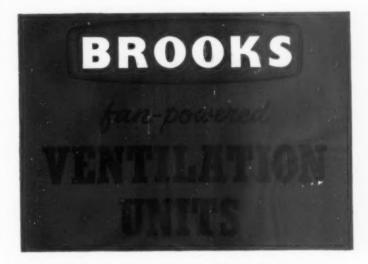


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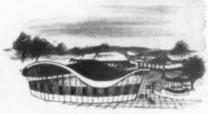
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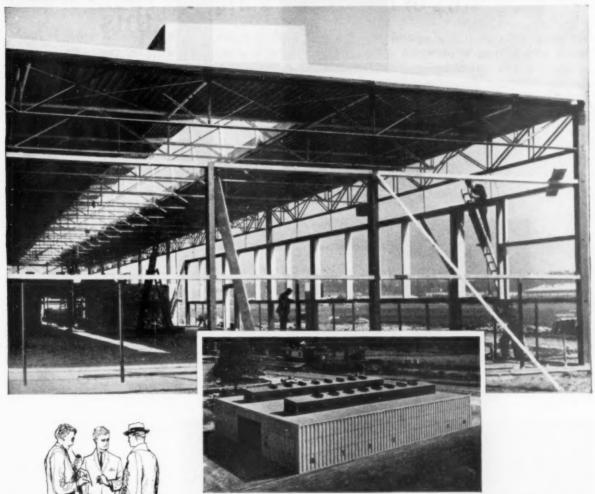
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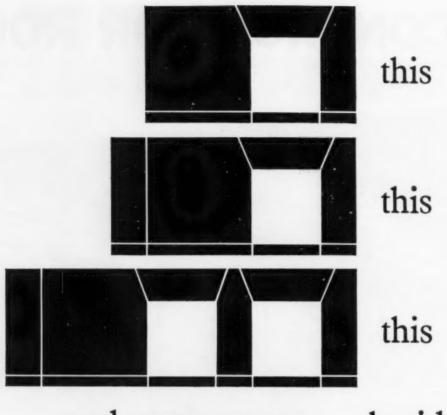


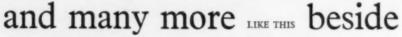
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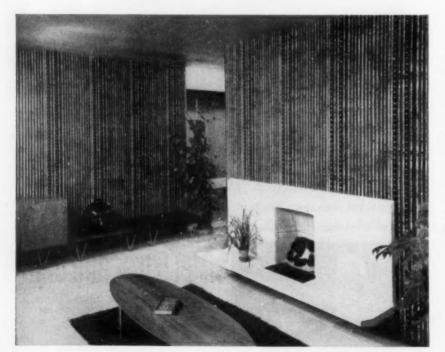
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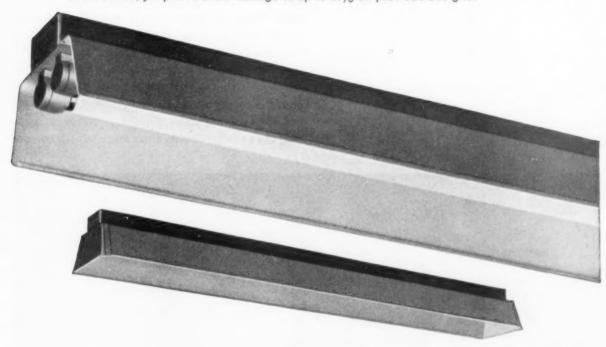
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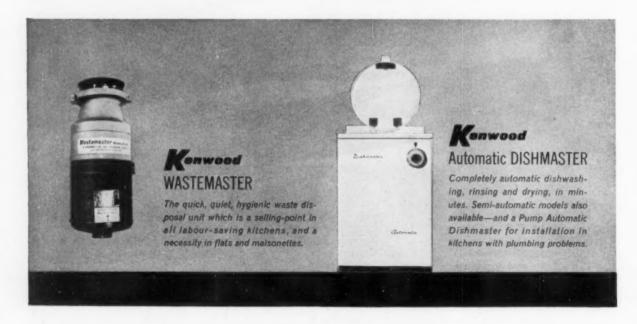
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Make Kenwood appliances part of your kitchen plans—and every woman will persuade her husband to buy! For Kenwood gives you the most advanced labour-saving function and design.

A Kenwood Wastemaster is the quickest, most efficient and hygienic way to dispose of kitchen garbage. Fitting under the sink, in place of the normal U-pipe, it grinds up and flushes away all refuse, from tea-leaves to chop bones.

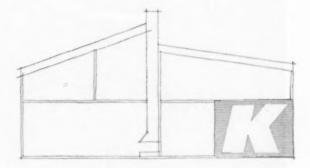
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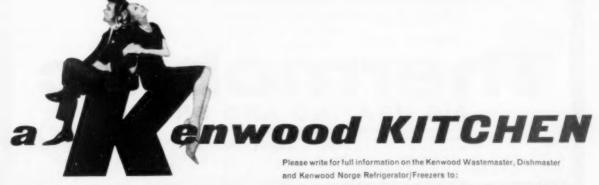
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The magnificent Kenwood Norge Refrigerator/Freezers almost make kitchen larders obsolete! Each is a complete food storage unit...with separate deep-freezer cabinet as big as many ordinary refrigerators, and a larder-sized main refrigerator compartment, which is entirely self-defrosting. These handsome two-in-one models meet the growing demand for real home deep-freezing and larger capacity refrigerators in a single, compact unit.







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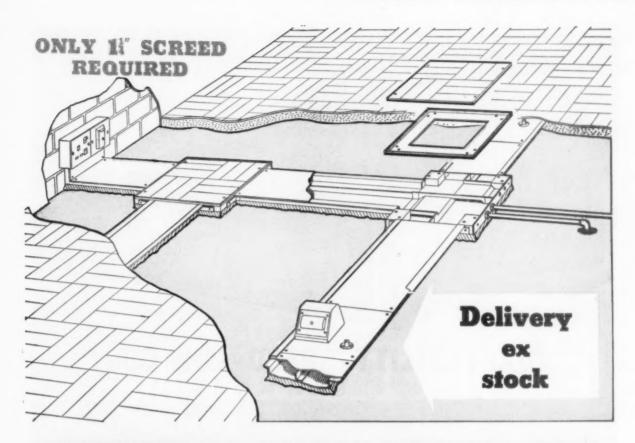
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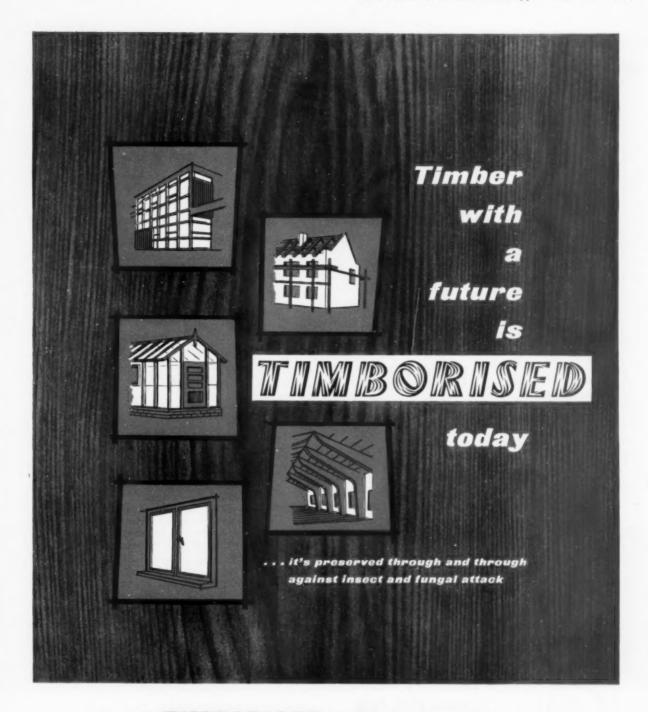
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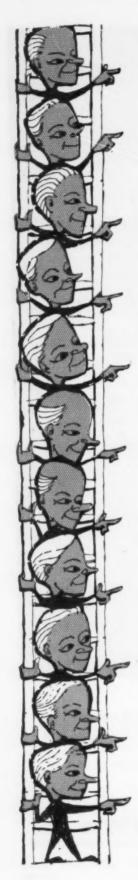


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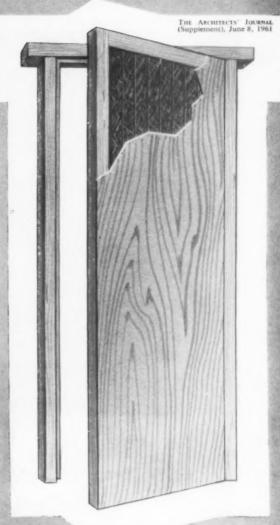
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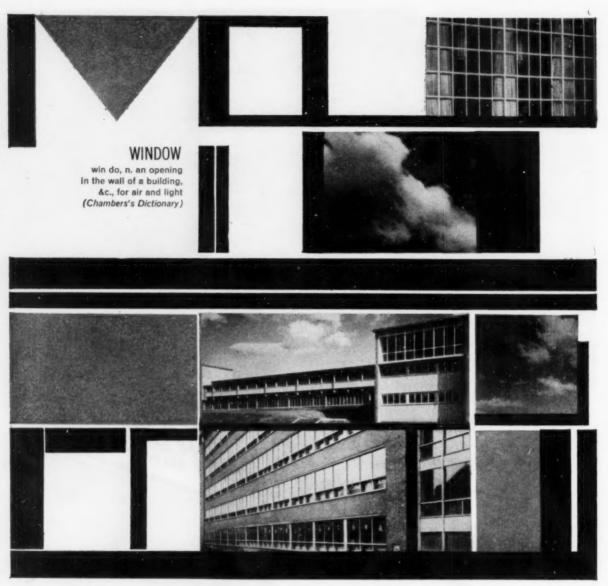
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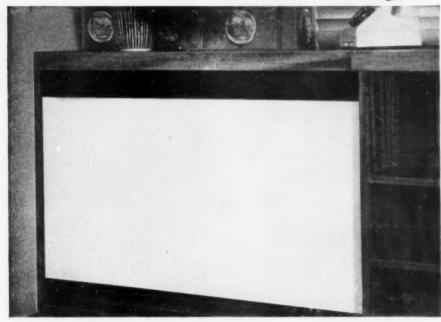


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AP 212

# RADIATOR FASCIA PANELLING IN





LOCATION: Modern Office Block, Holborn

ARCHITECTS: Drew & Salisbury

**PROBLEM:** To replace, by some practicable, solid material, all-over metal grille fascias which were restricting heat output from radiators. The required material had to ensure maximum heating efficiency, while remaining inert, and be easily and economically decorated.

WHY WEYROC WAS THE ANSWER: In choosing Weyroc for the job, the Architect was influenced by its stable characteristics which make it resistant to heat without shrinking, twisting or warping. Moreover, the quality of the Weyroc surface allowed for simple working and finishing (in this instance, with paint). Trade price of Weyroc (\frac{3}{4}" nominal) is 1/6d. per sq. ft.—subject to the usual standard discounts.

8' x 4' boards of Weyroc were cut to required panel size and hinged to allow access to radiator.

Convection efficiency was achieved by leaving air intake and outlet spaces at bottom and top, and by fitting a curved cove behind the radiator.

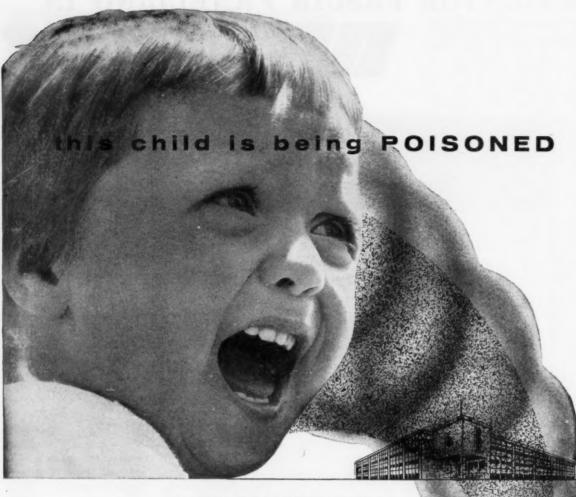
#### NOTE FROM THE MANUFACTURERS OF WEYROC

Fascia Panelling is only one of many applications of this constructional 'sheet' material. Weyroc is also being used with great success for partitions, roof-cladding, built-in fitments, bath panels, doors, shelving, etc. We shall be glad to supply Architects with a detailed Weyroc specification sheet and board sample, on request to: Dept. A.J.19



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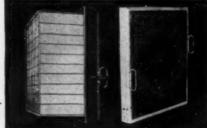


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The illustration shows a standard panel filter and on H.P. After Filterfull details in Barbour Index File 28.







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Size: 5 ft. from front to rear. 6 ft. 5 ins. high including 6° ground clearance. Centres 2 ft. 6 ins. to 3 ft. in half inch stages.

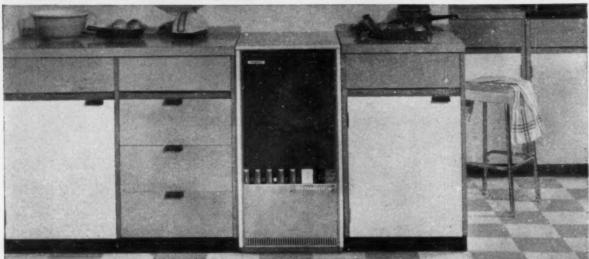
Fittings: Standard 3° loose pin hinges. Barrel bolt or indicator bolt. Secret fixing cleats. Pedestal.

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When heat is needed the Redfyre Centramatic 35 lights itself electrically and reaches full operating efficiency almost at once. No pilot flame or low-pressure 'idling' to dribble away the fuel wastefully.

#### Perfect for the kitchenette

The Redfyre Centramatic 35 has dimensions to fit the smallest kitchen. The attractive enamelled casing is in white or cream; the bottom front panel is anodised aluminium; and for the easily interchangeable top front panel there is a choice of: Atlantic Grey, Nursery Blue, Eau-de-Nil, Flame Red, Cream, White, Buttercup, and Lilac. And because the 35 is totally enclosed, permanently installed, and fed with oil from outside the house, it is of course always safe,

#### **Automatic combustion**

The Redfyre Centramatic 35 does not rely on a good constant chimney draught to provide air for correct combustion. The fan on the unit does this and a 5" diameter chimney flue (top or back outlet) with some updraught is all that is needed.

#### **Brief specification**

Output — 35,000 B.Th.U's/hr. continuous rating (water transfer). Overall size — 36" high x 18" wide x 21" deep. Steel boiler with 1¼" B.S.P. tappings.

#### Retail price of the Redfyre CENTRAMATIC 35 is £89

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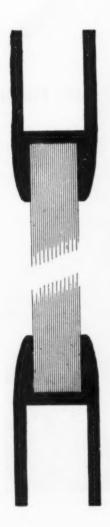
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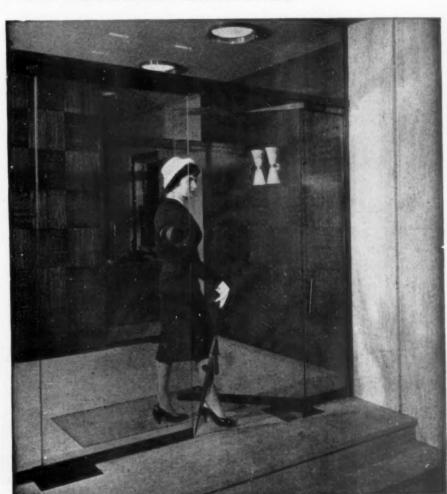
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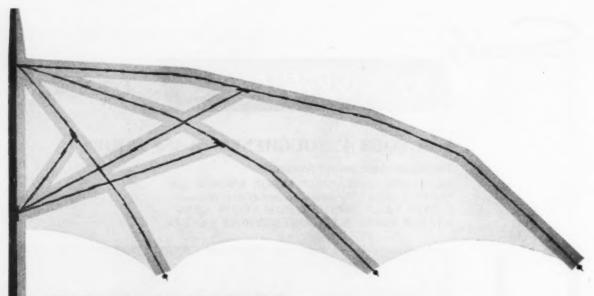
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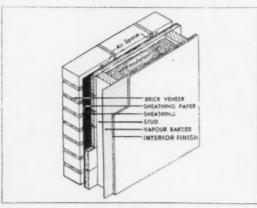


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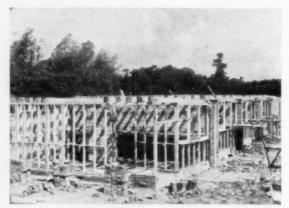
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A construction detail



A typical timber frame construction



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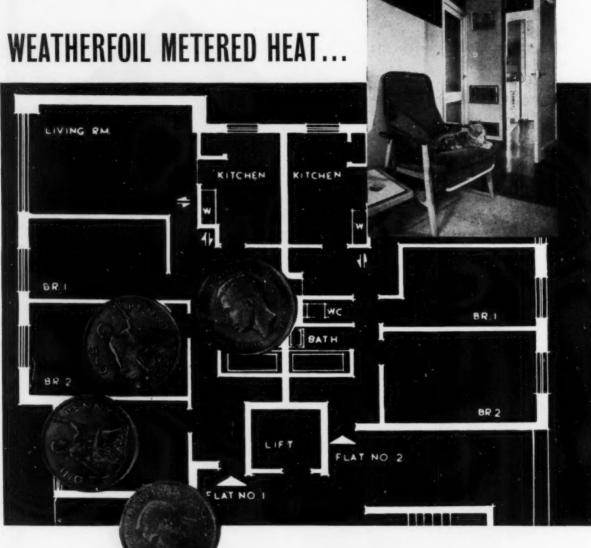
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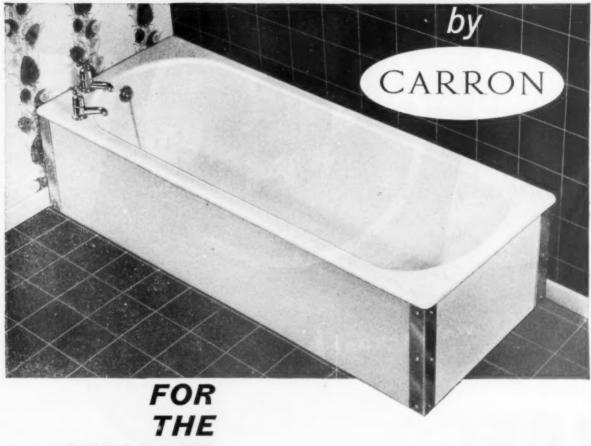
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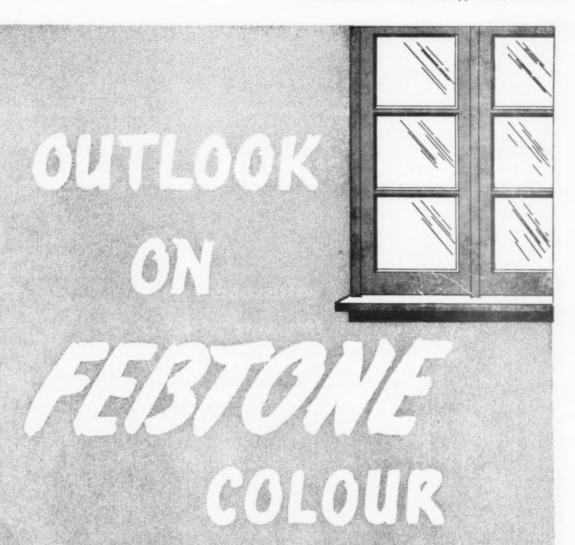
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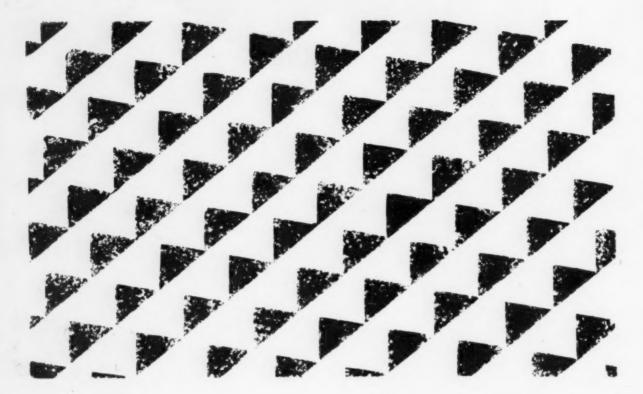
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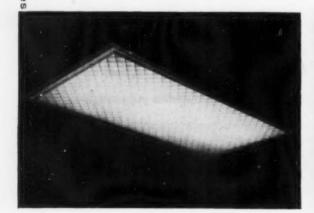
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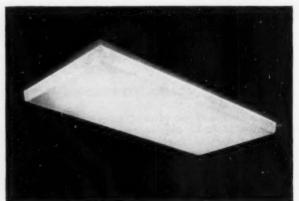


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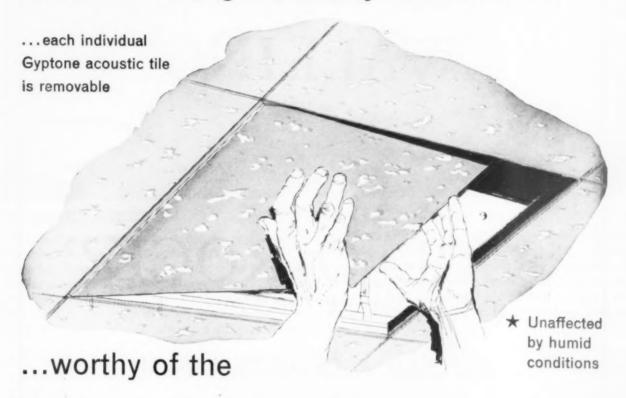




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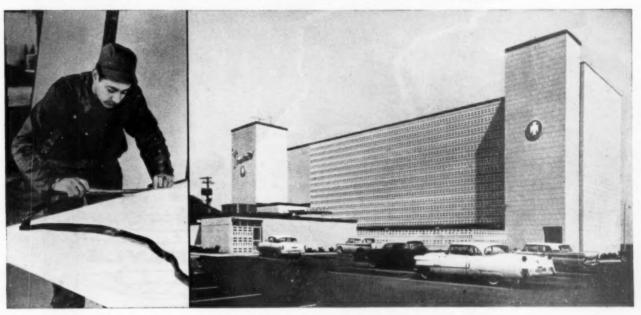
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Architects' Journal 6/61

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# Available to match loads up to 100 tons

Carlyle Open and Semi Hermetic Type reciprocating compressors with built-in capacity control are designed for speeds up to 1750 r.p.m. with belt or direct drive and for use with R.12, R.500, R.22 and R.717.

These eight features assure top efficiency:

### 1. AUTOMATIC UNLOADING STARTING

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### 2. AUTOMATIC CAPACITY CONTROL

saves power and water by stepping down compressor capacity as low as 25% of full load in direct response to suction pressure changes. Can also be operated by pneumatic or electrical control systems.

### 3. POSITIVE PRESSURE LUBRICATION

uses an oversized, manually reversible pump to assure proper oiling of bearings and wear surfaces plus oil circulation in shaft seal chamber. Special design features minimize oil in refrigerant lines.

### 4. LIGHTWEIGHT CRANKCASE

is integrally cast with cylinder block to save bulk. Gas passages are generous resulting in very low pressure losses, while over-all crankcase design is simple to facilitate inspection and service operations.

### 5. GAS COOLED CYLINDERS

are strategically arranged in the suction manifold for maximum life.

As gas flows through the compressor, it circulates about cylinder sleeves

and keeps them cool. Effectual design cuts pressure drop to minimum.

### 6. CARLYLE'S VAPOUR CUSHIONED VALVES

cut valve noise in half by eliminating an opening "click".

Opening valves back into recessed guides, compressing gas behind them.

In the guides, gas cushions valves, keeps them from striking metal.

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of the pressure type with throw-away cartridge protects vital parts against dirt and sludge. A suction line strainer gives further protection, and built-in magnetic plug arrests any metallic particles which appear.

### 8. REPLACEABLE MOVING PARTS

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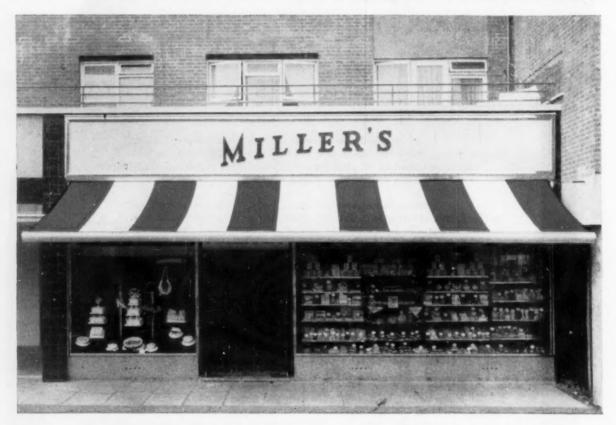


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The "Page-Electric" is a precision made blind combining long life with constant rigidity and space saving. It has the smallest blind box available for powered blinds. Time-wasting work on the part of the staff is eliminated. Operation is by push button alone or combined with photo-electric cell unit, thus giving automatic operation over week-ends and early closing days.

With attractive blind cloths and continuous lengths up to 200', the "Page-Electric" is the finest compliment you can pay to a first-class shopfront.

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P.13.

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At the new Linoleum Centre in Little Britain E.C.1, you will find ideas for the use of Linoleum, recommended methods of installation, general information about the service and maintenance of linoleum. The

Centre has been opened in co-operation with the leading manufacturers of subfloorings and all materials used in conjunction with Linoleum. The information is presented visually through photographs, models and displays but technically



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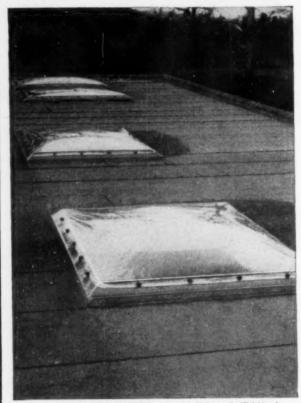
Dundee House. 39/44, Little Britain, London, E.C.1. Tel: MONarch 0477

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Some of the 94" × 70" Mark II Coxdomes installed over the Weighing-in Room at Lingfield Racecourse, Surrey, for the Racecourse Betting Control Board. Main Contractors, Messrs. Hoad and Taylor Ltd.

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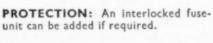
**SWITCH:** The latest Reyrolle **H** design rated at 60 amperes 550 volts and capable of making and breaking current-surges of up to 360 amperes at 0-3 P.F.



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Yes, but functional. Typical G.B-Kalee mastery!

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Shown here, the installation kit (optional extra) for wall mounting. Kit includes a shell with neat grille, into which the conditioner is placed. Enhances exterior appearance, makes installation and servicing easier.

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THE FRIGIDAIRE ROOM AIR CONDITIONER ideal for offices, conference rooms, lecture theatres, hospitals, hotels, wherever people congregate.

# News from Hull

# Terminal Building at Shannon Free Airport

### 'STANDARD' KINGSTON WASH BASINS SPECIFIED

Architect: Leo M. Carroll, B.Arch., M.R.I.A.I., A.R.I.B.A. Chief Airports Architect

For thousands of visitors their first glimpse of Ireland is Shannon Free Airport. To make this first impression a pleasant and memorable one, the Eire Government have gone to a great deal of trouble. In the elegant new Terminal Building, everything possible has been done for the passengers' comfort—all the accessories of the building are in keeping with the overall luxurious, yet practical, design.

In the washrooms, for instance, 'Standard' Kingston wash basins, manufactured in vitreous china, have been installed. The wash basins are on concealed wall brackets, and fitted with combination mixer fittings which ensure a flow of water at any desired temperature. 'Standard' Kingston water closets—also in vitreous china, and complementary in design to the wash basins—have been used. These are of the double trap siphonic type with the bowl and cistern close coupled. Both the wash basins and the water closets are in the forefront of

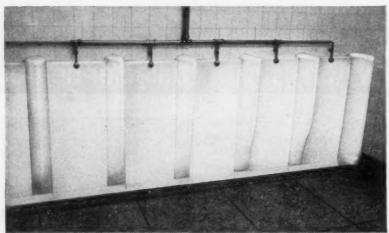


sanitary ware design—both are most pleasing in line and appearance and include important technical advantages. 'Standard' Vitural slab urinals, made of vitreous china, have also been installed (see illustration).

AND AT THE GRESHAM HOTEL, DUBLIN

For many of the passengers, their next stop will be at Dublin's famous Gresham

Hotel. Here again, 'Standard' sanitary ware has been widely used. In the modern bathrooms, complete with telephones and mosaic floors, coloured Neo-Classic baths with showers have been installed. These are beautifully moulded in one piece, and coated with high quality porcelain enamel. Kingston wash basins, on chrome legs, and the Sanway closet bowl, both in matching colours complete the sanitary ware in these bathrooms.



Important technical advance in slab urinals

Illustrated is the 'Standard' slab urinal installed at Shannon Free Airport. The Vitural is the first full length slab urinal to be made of vitreous china. Now, as a result, the old problem of absorption in urinals has been eliminated.

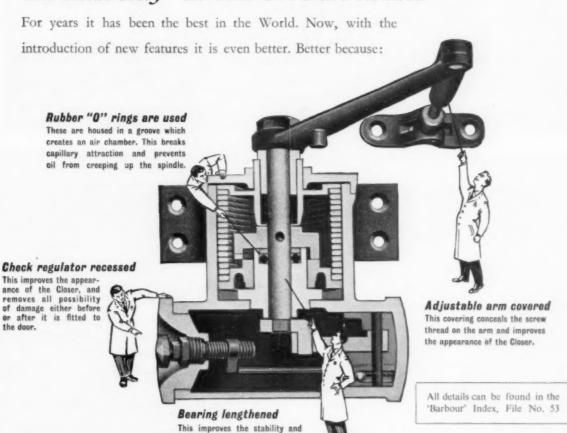
The Vitural does not harbour smells, and normal cleaning alone will get rid of this unpleasant aspect of public lavatories.



The Sanway is yet another product in 'Standard' vitreous china, famed for its hygienic qualities and durability. The architects who supervised the installation of these new bathrooms are Downes and Meehan of Dublin.

# Improved BRITON' Door Closer MK III

The Inside Story The "Briton" Door Closer is well known.

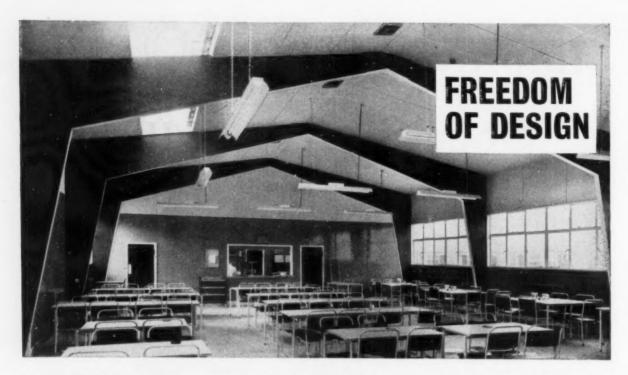


BRITON9

The prevention of draughts and banging doors is in your hands. Specify "Briton" and you eliminate both. It fits right and left hand doors without alteration, and the spring can be regulated to six different strengths by finger tip control. Doors are closed both smoothly and silently. When a "Briton" Door Closer is fitted it can be relied on. It is guaranteed for ten years!

WILLIAM NEWMAN & SONS LTD. HOSPITAL STREET BIRMINGHAM 19

alignment of the spindle, and provides a seating for a new method of oil sealing.



### CANADIAN FIR PLYWOOD STRUCTURAL COMPONENTS



Fir plywood portal frames built by Rainham Timber Engineering Co. Ltd.

Many designers to-day are taking advantage of the versatile structural properties of waterproof glued Canadian Fir Plywood. Its standardised manufacture, in addition to its superior strength-to-weight ratio, makes it adaptable for quick, economical construction of prefabricated box beams, stressed-skin panels, folded plates, barrel vaults and other engineered components.

### QUICK CONSTRUCTION CUTS COSTS

Freedom of design, plus great economy made possible by the material's light weight and ease of handling shows why more architects, engineers, and builders are specifying Canadian Douglas Fir Plywood.

# Design data is available for engineers and architects

Complete technical information concerning design fundamentals and recommended working stresses for all grades and thicknesses may be obtained free from the Plywood Manufacturers Association of British Columbia.

CANADIAN DOUGLAS FIR PLYWOOD

Fir Plywood edge-marked

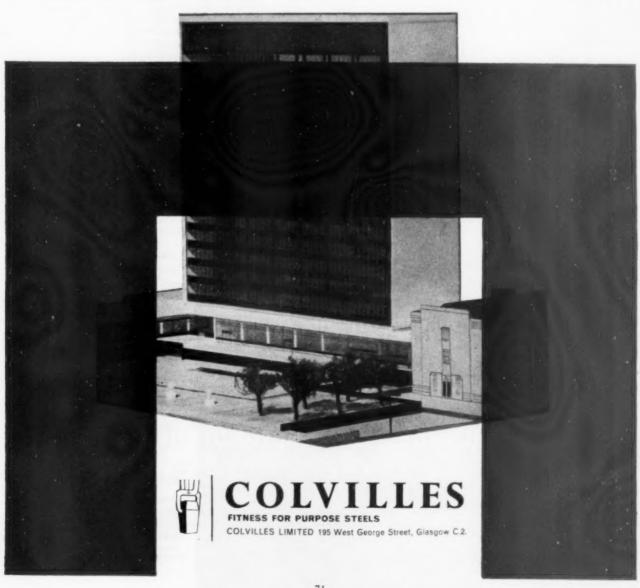
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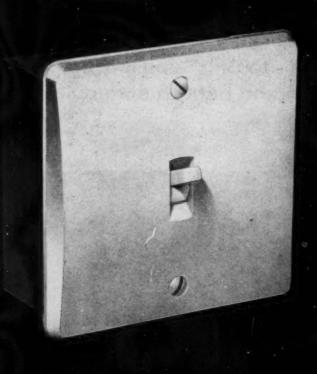
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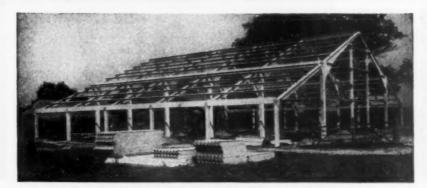
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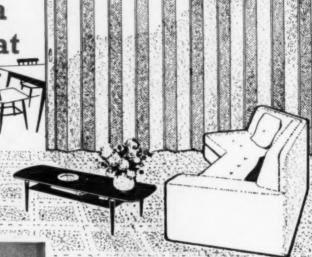
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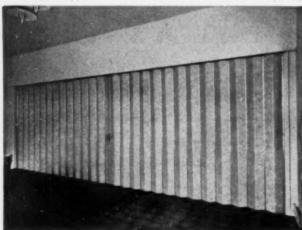
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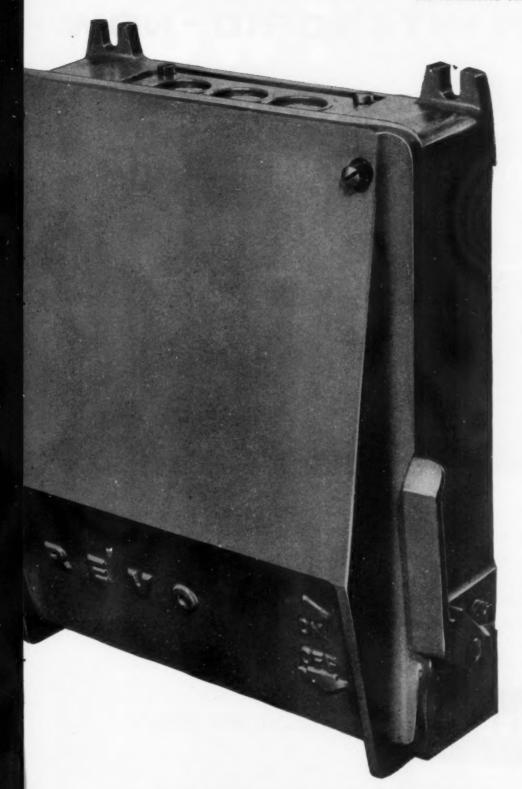
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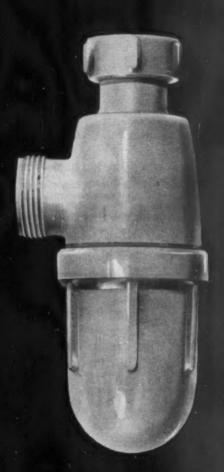
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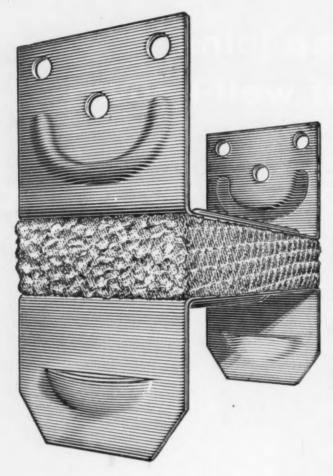
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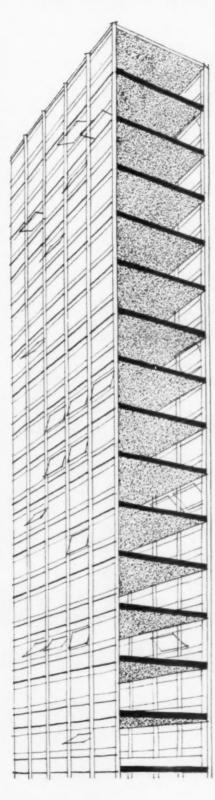
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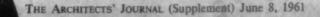


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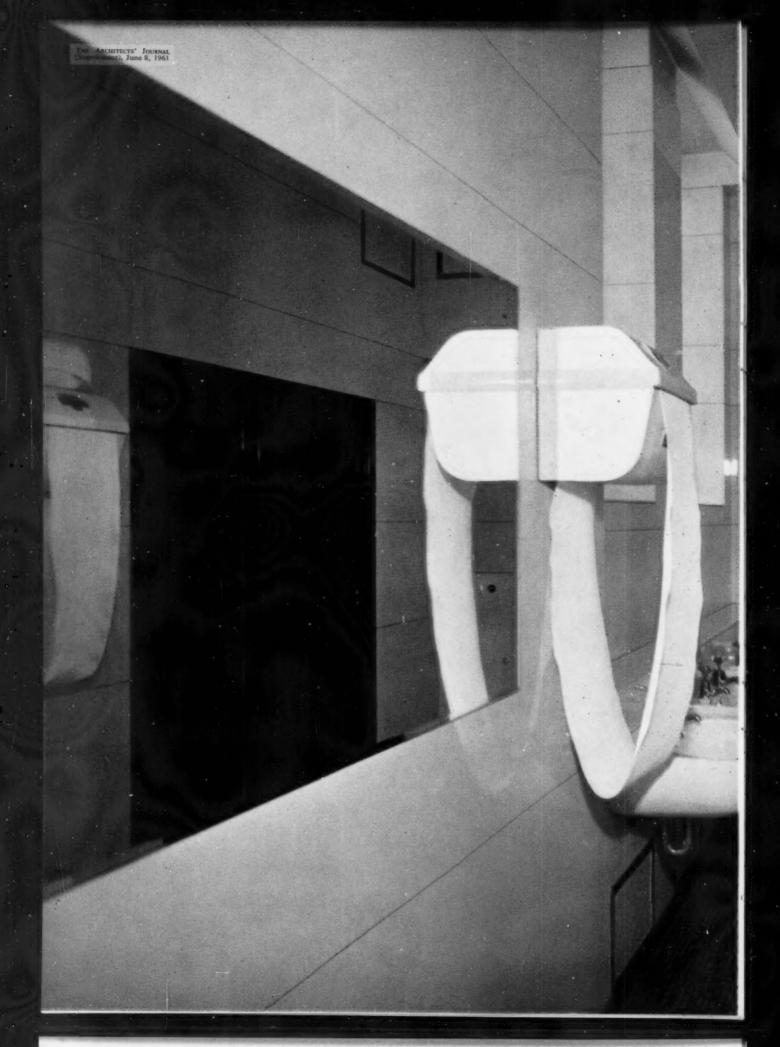


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THE ARCHITECTS' JOURNAL (Supplement), June 8, 1961

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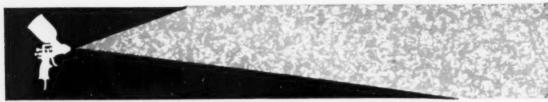
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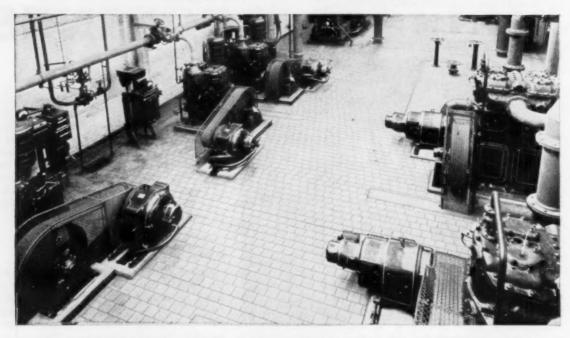
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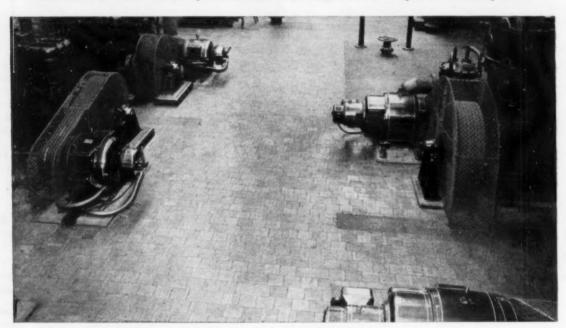
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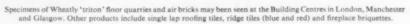
#### This photograph was taken 12 years ago



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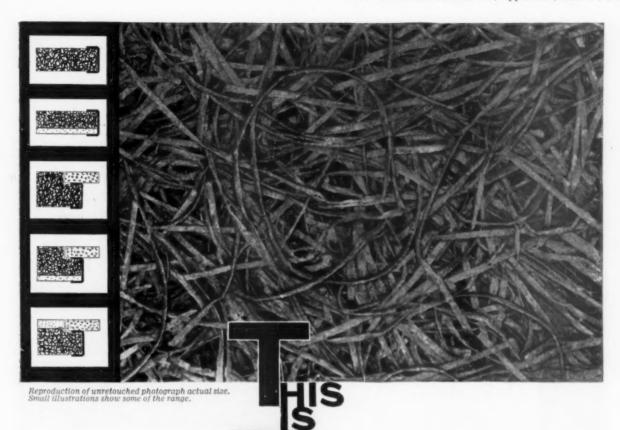


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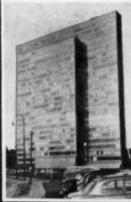
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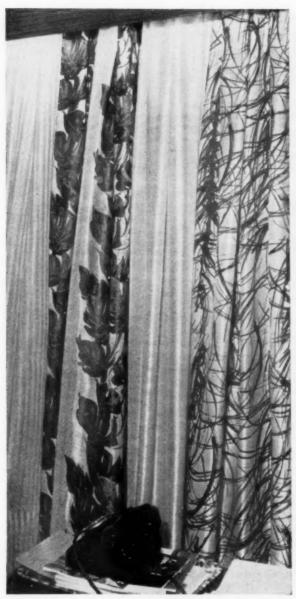
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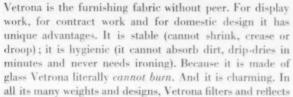


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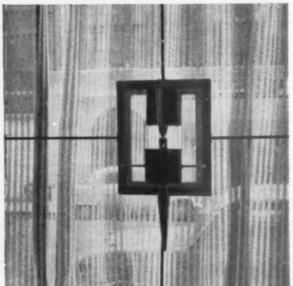


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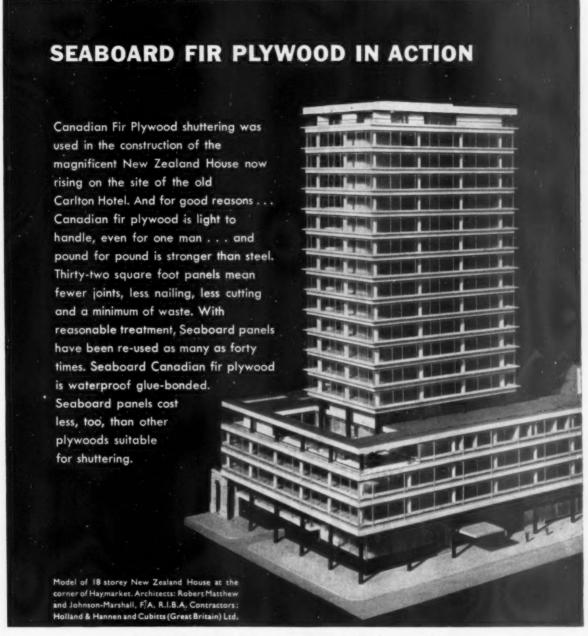
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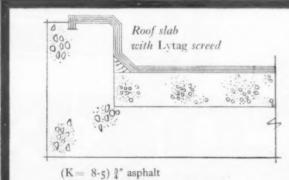
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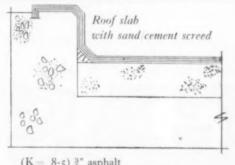


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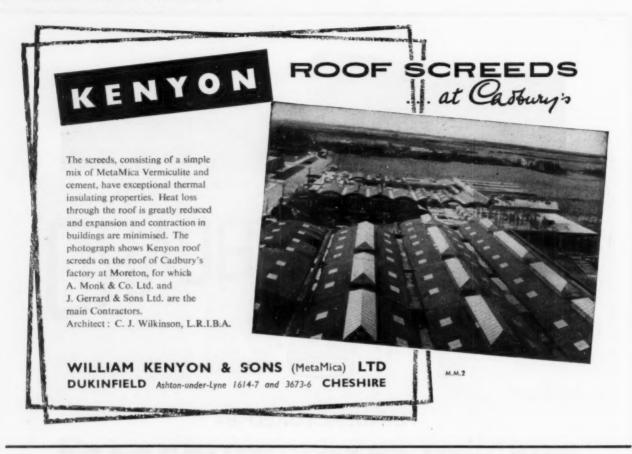
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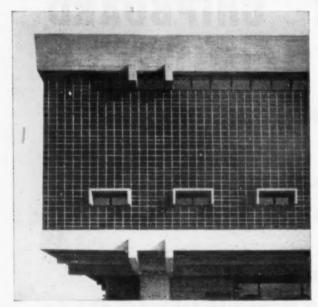
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### New Japanese Architecture

by Udo Kultermann

The Architectural Press 9-13 Queen Anne's Gate, London, S.W.1. Western opinion has an ideal image of modern Japanese architecture: spare, elegant, informal. While the work of Junzo Sakakura seemed to support this, there is an increasing awareness that in Kenzo Tange Japan possesses an architect who probably ranks with the world's top ten, but practises an entirely different kind of architecture.

Dr Kultermann's book shows how different the work of Tange and other leading Japanese architects has turned out to be. It is not afraid of mass, thickness and solidity; not afraid of bold plastic and sculptural forms; not afraid to mate the most advanced technology with the most hallowed traditional usages.

All these qualities are brought out in dramatic photographs, backed by analytical texts and biographics of leading architects. Since some of these men were born within a few years of Mendelsohn and Le Corbusier, the modern architecture of Japan rests on a tradition almost as old as that of the West. As a result, Japan's new architecture has nothing unpractised or unconvincing about it, but is already so secure in its aims that the Japanese themselves speak of it not as a foreign importation, but simply as the re-awakening of Japanese architecture.

Size  $11\frac{1}{4} \times 8\frac{3}{4}$  ins. 212 pages. 180 half-tone illustrations. 63s. net. Postage 2s.

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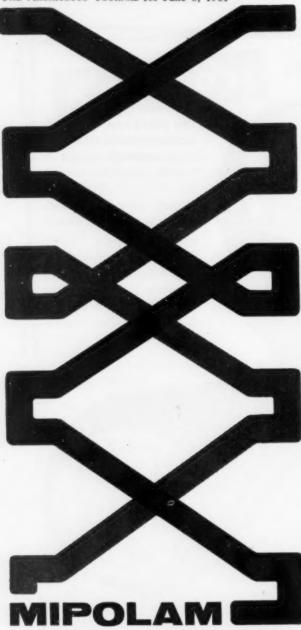
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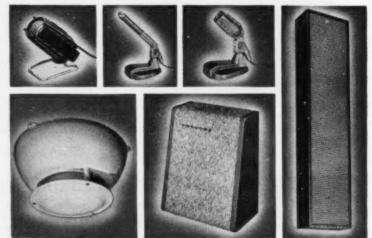
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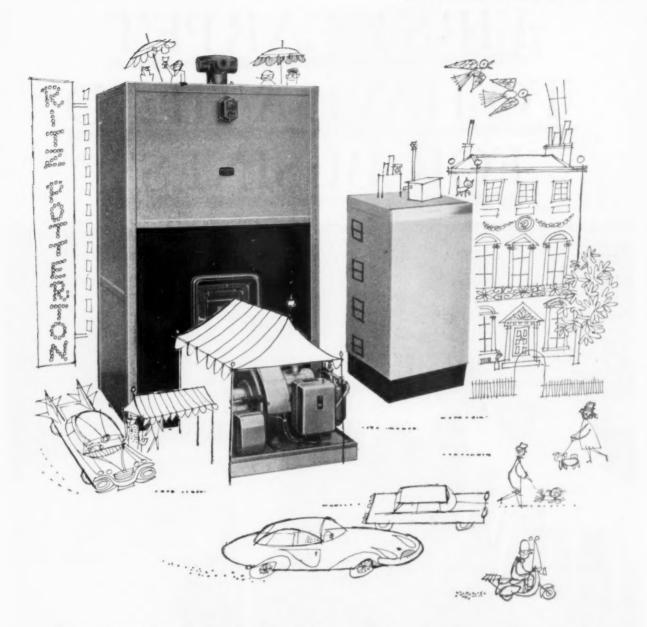
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Architects: A. E. Stone, Toms & Partners.

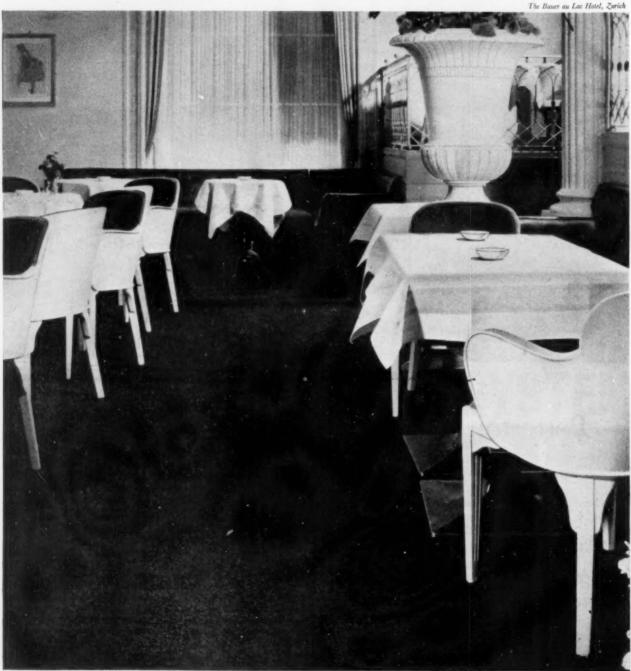
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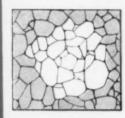
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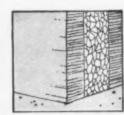
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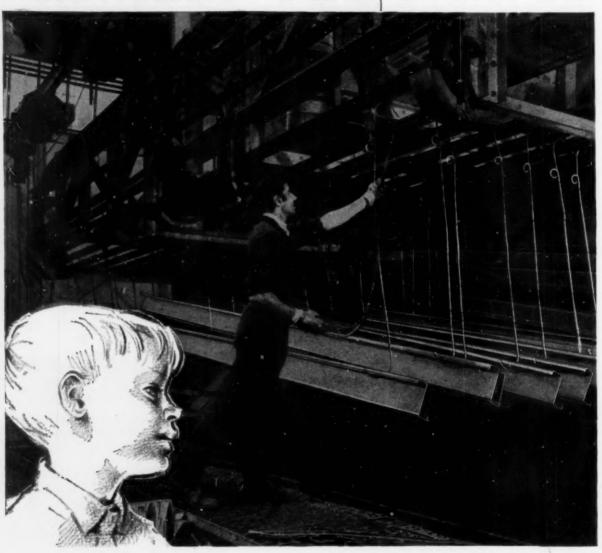
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#### The Architects' Journal

No. 3451. Vol. 133. June 8, 1961

9-13 Queen Anne's Gate, London, S.W.1. Whitehall 0611

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#### NOT QUITE ARCHITECTURE

#### Promising Five-Year-Old

To be statistically precise, Not Quite Architecture is five years and one month old, though connoisseurs of what has been described as "The Times Third Leader of Architecture," will probably wish to exclude the first four or five NQA's on the ground that they were only sports reports, and begin the real life of this column with a piece characteristically entitled Other Voices. Other Romes by Reyner Banham (who else?).

In those early days, NQA was something of a benefit performance for Banham and Robin Mudie, who filled many a columninch with highly technical cricket-reporting, and it was not until the second half of 1956 that the column began to find its characteristic stance—travelogues, topical events such as exhibitions and films, think-pieces and thoughtful obituaries (before the end of that year NQA had the melancholy task of expressing the profession's feelings at the passing of Joseph Emberton and Michael Ventris).

Already, by Christmas 1956, the mysterious pseudonyms had begun to appear: Aelius. reporting on the West Indies, was the first. Later, there were Justinian, and Aydon and Sparafucile, and unlikely characters like Waldo Camini, and are any of us sure that Edwin Dreadnought is a real person? Looking back, one also sees that certain sectional interests have had heavy representation: Boats and sailing, including instructions for building a 14-foot dinghy, and quite a lot of the early history of the Canberra; cars. of course, including an apologia pro Rolls-Rovce sua by no less a person than Wayland (Reluctant Peer) Young; Australia, too even before John Carter became our man in Wagga-Wagga (or somewhere) regular reports appeared over such names as Boyd and Shenston-Williams; and the ladies, God bless etc.

NQA takes modest pride in the outlet it has

# Slow Moving Particles?

Work will probably start later this year on Oxford's new Physics and Nuclear Physics Laboratories. This is the design by Ove Arup & Partners as seen from the south (see also page 837). It is depressing that only a small part of the scheme can go ahead now; the whole layout is expected to

take 10 years. In view of the rapid advances in this subject, can such a long-term project be realistic? Readers may remember the scheme for this site prepared by Ramsey, Murray, White and Ward and published in the AJ for 11.7.57.

provided for the pent-up angst and seething resentments of architecture's submerged tenth, particularly those who have actually married architects. This column has been frequently graced by the name of Sheila Lynd, usually on gardening (another favoured subject, we find in retrospect) or on consumer interests; the much-travelled Margaret Gill has given the English language a number of feminine twists; Moira Mathieson aired the domestic graces of cakemaking and French magazines (but the cryptic initials MM stood for someone quite different who has since retired into the fastnesses of Portland Place); then there was Elisabeth Beazley on Bricks; but most memorably there were those murmurs of mutiny from the distaff side. Ann Bone. Valerie Tomkins on the injustice of being a woman in the man's world of architecture, and Margaret Lawson on the suspenseful perils of site visiting when in a condition almost too delicate to be mentioned in the AJ's pure pages. All these, we know, stirred deep chords, but was anybody listening up there where MM has gone?

Sometimes this column wonders if anybody is listening at all, ever; wonders, in the words of Alan Plater (our man in allied-society-land) whether anybody cares who's who or what goes on. When Reyner Banham thrashed the profession at large for not having noticed the beginning of the space age, three (count them, as he would say, three) voices were raised in vague support, and the BASA supplement answered back with customary rudeness.

Nevertheless, this column will press on with its policy of speaking out of turn and raising matters so marginal to architecture that only the human race is interested. In the twilight zone beyond the codes of professional practice and the expanding syllabi of the schools, beyond the package deals and the schemes for two-tier professions as elaborately drawn up before the event as were the advertising schedules for commercial telly, beyond all that is the jungle, the chaos, the pullulating slum of real life. Out there prowl the mythical beasts and monsters; such as clients and voters and office cleaners who have to carry their bicycles up and down three flights of steps, six days a week, because you forgot that bicycles-even locked bicycles-get stolen if left in front of buildings.

It's fascinating out there, and this column believes that you ought to know how fascinating it is. Not only in the far-away places with strange-sounding names like Brasilia, but in the much nearer places with names like Hull, and Sharston; Maidstone, Henley in Arden and the Empire Pool, Wembley; in the bowling alleys and men'swear boutiques and TV studios and recordshops that make Britain proud to be known as the Fifty-First State of the USA; at the Chelsea Flower Show and the Royal Academy, and all those other places where the British take champagne and pastesandwiches to the strains of a Guard's band playing selections from The Gondoliers or Dancing Years. . . .

#### The Editors

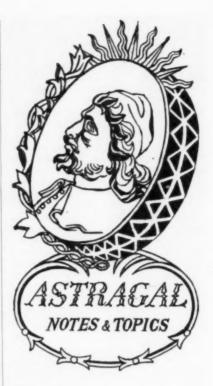
#### COST CONTROL FOR HOSPITALS

THE Ministry of Health Building Note No. 2, the "Cost of Hospital Buildings," has been published. It sets out a method of calculating the cost of new hospital projects before they are submitted to the Ministry for approval, and includes specimen analyses, examples of cost limits and finally cost recommendations for the seven hospital departments which have been the subject of previously published Notes; and more are to follow.

The publication of this note has been awaited with some anxiety. Though we may feel that anything is better than the *ad hoc* haggling which goes on at present over nearly every major scheme, there are strong reasons to believe that the figures on which these costs are based are insufficient and that a form of costing which does not take running costs into account is unsuitable for hospitals.

Clearly, the Ministry must keep costs under control since it is going to spend a great deal of our money every year on capital hospital schemes. But it is not easy to relate the cost of a project to its excellence as a functional plan. Further, at the present time not enough is known about hospital requirements to enable anything but the most routine functional standard to be stated with certainty. If the cost ceilings are set to permit only minimum quality plans, no scheme with above-minimum standards would ever be submitted since Regional Hospital Boards will be unwilling to allow time for endless negotiations before schemes are approved. If the recommendations are too high, wasteful proposals would be difficult to eliminate. The solution proposed must therefore be designed to set cost ceilings which are high enough to make a satisfactory functional plan possible and to permit a little manoeuvring, low enough to check maniac spending, but with provision for special needs where these are arguable. This would clearly entail considerable study of both function and cost, and very close calculation. The recommendations have in fact been arrived at by carrying out a study of hospital departments "built in recent years and of others not yet completed . . . Adjustments were made to allow for changes in practice since the scheme being studied was designed and for any deficiency in the accommodation provided"; and so by a process of averaging, rationalising and extrapolating, ceiling costs for schemes to be planned in the next few years have been derived from schemes which are out of date and schemes which have not been built. All observed figures have, in fact, been adjusted by an undisclosed amount and the validity of this adjustment cannot be gauged because no details of the plans are given. It is difficult to believe that the method adopted is very scientific and it clearly cannot have the sharp accuracy of the costing methods described in The Architects' Journal in recent years. It bears all the signs of a panic attempt to devise a system,

any system, which will enable control to be maintained before a rapidly expanding situation gets out of hand. The recommended cost for acute wards, £53,000 for the first 30 beds, and £1,300 for each additional bed, would enable the Musgrave Park ward block (completed in 1958) to be built with a little margin even today. But Musgrave Park was very cheap indeed; as the Ministry know, it was too cheap as regards both finish and space provision. One new hospital now under construction, the ward plan of which is based on Musgrave Park, would probably go under the ceiling; and another now out to tender, the plan of which has been blessed by being shown diagrammatically in the Note on ward planning, would need a savage pruning of amenity. None of these plans includes mechanical ventilation of single-bed wards which is now being shown to be desirable as part of the fight against cross-infection, or automatic supply systems as described by Gordon Freisen in his Yerbury Foundation paper at the R.I.B.A. last week, or patients' toilet accommodation attached to each bed compartment, which is so valuable if real flexibility in bed allocation is to be achieved. Kitchens are to be costed at £22,500 for the first 300 meals plus £29 for every additional meal. What sort of meal? What sort of distribution system? Short-stay psychiatric units are priced by the bed, not a very real criterion in a specialty where provision for day-patients and in-patients is becoming more and more difficult to separate. The criticism of the Note is not primarily that the cost ceilings recommended are too restrictive (in one case indeed they are guaranteed to waste money) but that tney are arbitrary. The control method suggested could conceivably be designed accurately and applied sensibly in a situation where the costs of simpler buildings for well-defined functions are to be compared, and where, as in the schools programme, development of building types had taken place before the cost control system was finalised. But where development, not only of the functions of the building but of planning methods to meet the functions, are taking place so rapidly and where only a handful of widely differing prototype buildings exist, the cost control method proposed is clumsy and inaccurate. Our only hope is that the present proposals are interim, intended to raise the level of cost consciousness of hospital planners, and that they are to be applied with proper regard to the still-evolving functional requirements of hospitals. In the meantime as research continues, better definitions of units for costing purposes should be determined which are based on carefully studied standards of hospital design and are designed to enable the cost of a building to be weighed against its quality. Even so, careful consideration must be given to the extent to which capital control is important when the running costs of hospitals equal capital cost in about four years. If higher capital costs can be shown to contribute to reduction in staff (and salaries amount to more than half of the running costs) the whole exercise of cost control may have to be based on something more subtle than the size of the building.



SPEC. ON THE HORIZON

The LCC, who have been finding it difficult to sell the idea of a hotel downstream from Waterloo Bridge (facing Somerset House), have now advertised the 31-acre site for development of a 1,000 bedroom hotel "associated with an entertainment centre, a convention centre, shops, residential and other approved use, but not office development." They want applicants " to give the name of the developer and his architect and to indicate with simple diagrammatic plans their general intentions." A high building, they add (good news to greedy developers) " might relate well in massing to the rest of the South Bank."

I hope the LCC's stage management of this scheme will be tougher than it was in the Leslie Martin Shell era. We don't want the South Bank to be further damaged by private enterprise.

FIRST GET YOUR MORTGAGE

All idealistic architects-and that, of course, means all architects-will have been touched by the letter (AJ, May 25) from David Hyde Harrison asking for the RIBA and the ABS to form their own building society to lend money for architects' designs when mortgages cannot be obtained elsewhere. This seems a logical, sensible progressive

step, which-like the idea of the RIBA running a pension scheme for architects -will never get anywhere. For newcomers to the whole business-and the stupid conservatism of building societies has been repeatedly commented on in this column and elsewhere-ASTRAGAL passes on the sound advice that has just arrived on his desk from mortgage-broker Frederick Clifford. "Do not look for the house first, but look for a mortgage." For most of your clients-look how you may-this will mean a traditional villa in a standard plot.

#### ALL RIGHT JACK?

Elsewhere the Editors are publishing a statement from the RIBA asking members to vote in the Council election. The figures show clearly the shortsightedness and selfishness of all-toohuman architects: they vote only when in trouble. It is interesting to note that even for the RIBA's office survey, private architects were only half as efficient as local authority architects in replying: a pretty clear indication of the indifference of principals in private practice to the future well being of their assistant architects and the profession at large.

#### PEDESTRIAN VIEWS

It is quite true, as Derek Childs said not so long ago at the Housing Centre. that public opinion is far ahead of official opinion when it comes to replanning towns and cities so that pedestrians and motor traffic are separated. Wherever you go today you find enterprising laymen on amenity societies-encouraged or led by architects-trying to battle against the through-traffic that brings fumes, noise and accidents to the places where they live. The other day I found the astonished shoppers of Lowestoft, in Suffolk, being questioned by a young team of would-be town preservers on their views about shutting out traffic. And when I moved on to Norwich I discovered that the Norwich Society (" Object: to work for a fairer city") had prepared its own plan for getting traffic round the city-a plan produced as a reply to the official view that the finer buildings in Norwich are a nuisance, because they make it difficult to plan a route slashing across the whole place.

#### UNRELIABLE ARCHITECTS

The current Ideal Home publishes a

number of readers' complaints about the irresponsible way their architects have overspent on the available budget. Eric Ambrose, the magazine's Consultant Architect, stoutly defends the architect's position, especially where the budget is too small to attract keen tenders; but Malcolm MacEwen, the RIBA's Chief Information Officer, makes the following unequivocal pronouncement:-

"An architect who is given a firm cost limit by his client, and produces designs which cannot possibly be built within that limit, or nearly so, would not appear to be entitled to recover his fees. . . . Not all architects are reliable, any more than all doctors or lawyers are reliable, and it is no part of the RIBA's business to defend the incompetent architect."

This frank admission will bring far more credit to the profession than excusing the inexcusable. All the same, how can the public tell the sheep from the goats? And what about the fully competent architect who is beaten by a violent and unforeseeable upswing in market prices?

The RIBA should set up a tribunal for investigating clients' complaints. After MacEwen's statement it seems highly desirable for safeguarding the wrongfully maligned architect; and where the grievance is legitimate it is only fair to warn the public of the offender's shortcomings. What is the possibility of an RIBA group indemnity insurance from which clients could be compensated where genuine and unavoidable errors had caused hardship?

It should be remembered that the RIBA can afford to be specially careful in its choice of members. Unlike ARCUK, RIBA is not depriving a man of his professional livelihood if it throws him out because he is casual, if not, legally speaking, negligent, with clients.

#### POLY-TECHNIQUE

George Mitchell and Antony Holloway are natural, goon-type comedians as well as original artists, and their combined effort at the AA last week was less of a lecture than a turn. Both artists are employed by the LCC as consultants on the "enrichment" of buildings under construction, and the work they have done so far-to a briefing that insists they shall spend no more money than would go on the building materials they replace-is



This remarkable building, with its Doric column in the entrance porch and a few other incompatibilia, is part of a Newcastle professor's plan for a local city of education consisting of pyramid-shaped buildings which can be extended upwards. Professor Martin-Moran-a director of the Institute of Modern Languages Translation Bureauthinks his centre will be not only cheap but also the most advanced in the world. The architect's name has been rightly suppressed.

quite remarkable. At the AA meeting each demonstrated the technique he Antony Holloway specialises in. drilled patterns in a slab of polystyrene foam covering his black suit ("for visiting architects") with a fine snow. And he showed slides of the next stage in this unusual art process, when the cut slab is put behind concrete shuttering and subsequently scraped off, leaving a rich pattern. (Even richer if broken tiles or coloured cement have been inserted in the cut-out slabs.) George Mitchell did a bit of spontaneous art work by routing out a pattern in cement render and filling it with coloured polyester resin. He, too, showed some impressive slides, including remarkable effects obtained by setting wooden mouldings from derelict houses into polyester resin.

Although the artists do their work independently (both for the LCC and in private practice) neither works alone. Apart from the co-operation they get from building operatives-sometimes official, but occasionally so voluntarily enthusiastic that unions are upset about men putting in overtime on jobs they shouldn't be doing-they employ "poorly-paid" assistants. They do this knowing that before long their helpers will be moving off to work for local authorities who are anxious to copy the experiment. And fortunately they look upon this as an extension of their campaign to give visual richness to buildings throughout the country without using expensive materials—and without making it seem that the art work has been put on to the architecture as an afterthought.

I hope somebody—perhaps the ICA?
—will arrange a tour of this LCC art.
I hope, too, that private architects will realise its value—while understanding that although the artists' materials need cost no more than a couple of coats of paint, the artists themselves have to earn a living and like—as they point out politely—to be paid a fee.

#### CONGRESS BUILDING UP

A few days ago the RIBA had a mild foretaste of the multilingual invasion during the IUA Congress next month, when the volunteer translators met to have their duties explained to them. Gontran Goulden, in one of his characteristic pep-talks, told them all about IUA history, that the Congress enrolment now stood at 1,430 (including about 800 British), that a total of 1,800 to 2,000 was confidently expected by the opening, that the Duke of Edinburgh would visit the working parties on July 6, and that the temporary buildings were running about a week behind schedule. This would mean that they would be finished on the last day of the Congress, but he was quite sure that there were too many reputations at stake for this in fact to happen.

#### THROWING UP AND OVER

Decaying and unwanted, Rushbrook Hall is burnt to the ground, while more fortunate Hatfield House re-echoes to the tramp of tourists' feet. But there is one Tudor institution which it seems the Englishman will never relinquishthe Tudor garage. In a catalogue of prefab garages is the invitation, "If Tudor please state preferred colour of roofing felt." And a new leaflet announcing the newest and lightest thing in up-and-over garage doors, made of glass fibre reinforced plastics and said to be quiet, light, paintless, rotproof, stable and strong. Why add to these admirable qualities the appearance of a pair of Tudor oak baronial hall entrance doors, panelled, with a design of arrowhead hinges and nailheads?

**ASTRAGAL** 

#### **LETTERS**

H. J. Coates, F.R.I.B.A.
Honorary Public Relations Officer, Herts. Chapter

Richard Matthews

D. Rigby Childs, A.R.I.B.A.

L. A. Roche, A.R.I.B.A.

Elizabeth Johnson

#### Tale With a Moral

SIR: The account of the Digswell Church project in your issue of May 11 is described as a tale with a moral—the moral being that local architects should be more alert to rebuilding and demolition plans in their own neighbourhood. Few of us would quarrel with this precept: the difficulty is that when such matters reach the local press or other sources of local knowledge it is usually too late to take effective action.

The Hertfordshire Chapter of Architects became aware of the Digswell project only after planning approval had been obtained, but it felt strongly enough about it to write to the Minister suggesting reconsideration. The reply however was to the effect that consent to the proposal had been properly given.

There is in Hertfordshire an Architects' Advisory Panel, formed by a rota of practising members of the Chapter, who give up time regularly and voluntarily for the purpose of advising the Planning Authority on architectural matters. The Panel, however, can only see a limited proportion of the very large number of applications passing through the planning office and it cannot, of course, select the schemes about which it will be consulted. Probably because it had already been vetted by the Planning Office of Welwyn Garden City Development Corporation, the Digswell project did not come before the Panel. If it had done so, there is little doubt that a revision of the architect's brief would have been recommended.

The Hertfordshire Chapter does carry out a scrutiny of the local press and it has not been inactive in a number of local issues—sometimes even at the risk of discomfiture to its own members; but in this kind of activity failure is apt to be more frequent than success, simply because the project has passed the stage when intervention could be effective before we hear about it.

H. J. COATES

Herts. Chapter

#### Advertising Techniques

SIR: I wish that Robin Mudie (in Not Quite Architecture) had asked Him for his attitude towards advertising in the technical Press—for it is evident that there is a difference between advertising consumer goods to the lay public and technical products to a specialist group, in this case, architects.

I don't intend to become involved in a discussion about advertising design in general, and I'm not particularly interested in the

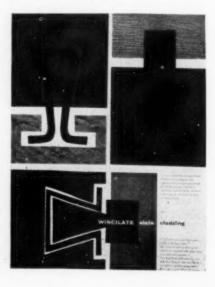
problems of the designer which Him talked about, but the standard of Press advertisements in these pages calls for some comment.

Him referred to a synthesis of the personalities of the designer, client and product, but one had to assume that he was talking at an ideal level of first-class designers. I can't help feeling that at the more modest level of technical Press advertising carried out by non-virtuoso designers, more anonymity and less personality would be an improvement. Witness the admirable Information Sheets in the JOURNAL. These, admittedly, have a slightly different function, but the restrained presentation can teach us all a Jesson.

I suggest that all we should require from a well-designed Press advertisement, in this context, is that it should arrest the attention, with a minimum of written matter, in such



Whole-page advertisements in red and black: above, for British Plaster Board (Manufacturing) Ltd., produced by Allardyce Palmer Ltd.; below, for the Bow Slate & Enamel Co. by Dewar Mills Associates. These advertisements are referred to in Mr. Matthews's letter above



a way that the form is based on, or at least related directly to, the product which is being advertised.

A Press advertisement does not have to include a full description of the product, it only has to excite interest. And I would rather that it were presented without an attempt at humour, for in technical advertising this results invariably in a heavyhanded facetiousness.

It is in fact difficult to pick out many products which are presented in a way which reflects the quality of the product itself, but I enclose two examples taken from the AJ which I think do fulfil this requirement. They attract the potential consumer by exploiting aspects of the product itself and stimulate him to find out more.

This is all we should expect, and if we get this we are fortunate. We can leave the discussion of advertising design tactics to the practitioners of that gentle art.

RICHARD MATTHEWS

Charlotte Street W I

#### Shoppers' Mile

SIR: In your notice on the Oxford Street scheme it is mentioned that it was not clear whether the estimated cost of about £12 million included the considerable cost of interior transformation of the shops. It may help your readers to know that our estimate of £12 million did not include this work. It is almost impossible to estimate the cost of internal transformation unless individual cases were to be taken. Our general conclusion was that the carrying out of a scheme of the nature of High Oxford Street should lead to an increase in the value of the adjoining property; and whatever the cost of the interior transformation might be, such cost would be covered by the rise in property value. Incidentally the details of the estimate for £12 million were given in an appendix to my original paper.

D. RIGBY CHILDS

London, W.1

#### Ulster Architectural Group

SIR: While some members and employees of this firm are also members of the Ulster Architectural Group we wish to make it clear that the latter organisation is completely independent of this, and all other, professional firms. It is a spare-time, non-profit-making body - high-principled and enthusiastic.

As a firm we give what support we can to the Group as we share their ideals and enthusiasm. Our support for the URB Campaign Week, in common with several other firms, took the form of free drawing office facilities and materials for extensive nighttime working. For this reason, we forgive Mr. Nairn for thinking that the group is based on Munce & Kennedy. However, in fairness to the majority of Group members who do not belong to this firm and in order to preserve the Group's independence and freedom of action, we must stress that the URB "base" was purely tactical and in no way affected the Group's programme or policy.

Belfast

#### Another Square Doomed?

SIR: I am anxious to draw your attention to action I and others living in this area feel to be outrageous.

The LCC propose to build a new comprehensive school in Pimlico on a site which is bounded by St. George's Square, Chichester Street, Claverton Street and Lupus Street.

St. George's Square is the final square of the string which starts with Belgrave Square and sweeps down to the river through Eccleston, Warwick and St. George's Squares, and is one of the last remaining squares by the river.

The use of that part of the site fronting on to the square in the manner proposed by the LCC will destroy the unity of St. George's Square.

The houses are Victorian and said to be Cubitt built. They are gracious houses and pleasant to live in.

We feel that these houses could easily be saved if the school site was restricted so as to leave the houses fronting on the square. This would reduce the area of the site by less than 1/7th.

This matter is becoming urgent because a public enquiry opened on May 31.

ELIZABETH JOHNSON

London, S.W.1



The site of a proposed LCC school in Pimlico, from Claverton Street to St. George's Square. Elizabeth Johnson (see above) wishes to preserve the hatched area

#### NEWS

#### YERBURY LECTURE

#### Friesen on "Automation and Architecture"

"You name it, we got it . . ." said Gordon Friesen in his Yerbury lecture at the RIBA on June 1. This Canadian organisation fan, head of the major U.S. hospital consulting outfit (30 hospitals coast to coast), gave a paper entitled "Automation and Architecture." The title seemed pitched high for what was in fact a discourse on a particular (and very good) technique of hospital design. The method is built around the replacement of human labour by machinery. Most of the effort towards automation occurs in supply and servicing areas, and the opportunities for savings are impressive.

"Forty per cent of the capital cost represents the operating costs for one year," "Seventy cents in every dollar of the operating costs goes on payroll." "Fifty per cent of nurses' time is spent in collecting supplies."

Particular systems described and shown on slides were: Central dispatch system for a 24-hour supply service. The "trayveytor" system for serving 225 bedside meals in one half hour. The use of dismountable carts with interchangeable superstructure on a standard chassis. The use of pneumatic tube systems for quite bulky items.

Friesen is a man with a message and threw himself bodily into the successive rôles of nurse, orderly, laundry worker, cook and administrator-a captivating performance although, perhaps significantly, we didn't get an impersonation of a patient!

John Weeks proposed the vote of thanks and commented on the previously shown two-bed rooms which he said were "evil no matter what." Sir Ewart Smith, seconding, emphasised the need for co-ordinating skills in the pre-planning stage. Chairman Tatton Brown closed the proceedings spot

At the end we were left with two uncomfortable thoughts: One was that the sociological implications of automation had not really been sufficiently dealt with-should we now begin to teach people how to use these highly complex and difficult buildings? Second, one wonders, in a week when hospital architects are breathing heavily after the publication of Hospital Building Note No. 2, what value cost targets have when they are (a) unrelated to design in use and the economics of operation, and (b) likely to prevent any moves towards experimentation of the kind described by Friesen.

#### BATH

#### American Museum in Britain

The American Museum in Britain will open on July 1 at Claverton Manor, near Bath, to show a chronological sequence of American interiors and decorative art from the seventeenth to the mid-nineteenth centuries. Eventually, it is hoped to extend the sequence via Stanford White to Mies and Frank Lloyd Wright.

This may seem too recondite a subject: most Englishmen I suspect regard American furnishings as provincial copies of Georgian pieces, quaintly refracted from the pattern books. In fact, the early Americans no more accepted our artistic dictation than they did our political and religious dictation. Everything was either thought out afresh or adapted to the wildly different conditions of the New World, and after the Revolution an infusion of French ideas made what the Americans call their Federal style into one of the high water marks of Neo-Classic art anywhere. It is always large scale, always urbane, but never frigidly correct or mech-

The grand iron stone of circa 1800 in the entrance hall sets this mood straightaway, and the process can be watched in every room in the house. In the Deming Parlour of 1788 from Colchester, Connecticut, the fireplace wall has panelling and pilasters which could indeed have come from an English house, but the other corners have thumping giant pilasters which tell you, metaphorically, just what you can do with your tea. Almost all of the smaller objects have a very rare combination of common sense and elegance—the late eighteenth-century pewter from New York, the wooden fittings in the Massachusetts tavern in the basement (fitted with a tiny bar counter surmounted by a forest of tall spikes, either to keep the customers out or the bartender in). The roomful of Shaker furniture could, of course, easily belong to the Bauhaus, and the textiles, beautifully displayed in one of the bow-fronted corner rooms of the house, make the term folk-art seem absurd, even though they were mostly woven and appliquéd by matrons in sewing parties: great bold patterns and colours utterly removed from Art-and-Craftiness. Where has it all gone, today-was it one more casualty of the Civil War?

The museum's director is Ian McCallum, and those who studied the AR layout in the years when he was executive editor will know that this is a guarantee that the arrangement of rooms will be elegant, subtle and exciting. The best so far is the New Orleans bedroom, a powerful claustrophobic space in the centre of the house dominated by an enormous canopied bed with a presence which is all but supernatural. It is a bizarre twist to come on Faulkner in the middle of a Somerset landscape.

The Somerset landscape, in fact, takes your breath away. Claverton Manor is a Wyattville house, soberly Grecian, on a belvedere site high up above the Bristol Avon. The green valley rolls away north and south and makes the viewer think more of Tuscany than of Trowbridge, which is in fact what is just beyond the horizon. Altogether—site, contents and arrangement—it makes a place which is much more than just another collection of objects: this, in the most unexpected and sophisticated way, is still somebody's house, personal and cared-for.

-

## The Organisation of Space in Housing Neighbourhoods

This year's Symposium, held at the RIBA on the 16th May, left the feeling that one day was quite insufficient time to deal with the subject adequately.

The first paper, by Richard Arioli, the landscape architect in charge of parks and open spaces in Basle, dealt with the need and types of provision for play near dwellings. It traced the present need for safe play areas for various age groups of children back to the intrusion of the motor vehicle into the traditional places of play in road and alleyway.

Mr. Arioli's discussion of the concept of play as a cultural function outside the process of immediate satisfaction of necessities and ambitions was matched in its clarity by an attractive group of slides illustrating the various types of play areas provided in Basle for small housing groups, larger parks and supervised playgrounds, and while much of the equipment and planning of the playgrounds was familiar, the light touch apparent in many of them in providing a casual, almost incidental, simple play sculpture or small sand pit must surely be an object lesson in the way to achieve maximum results with minimum expense.

The discussion which followed Mr. Arioli's paper dealt with the light housing roads serving small groups of houses, and it was a pity that no contribution was made here by an engineer on the way to achieve simple vehicle ways for smaller groups of buildings without all the usual heavyweight paraphernalia of kerbs, gutters, gullies and so on which tend to swamp many of our housing schemes.

One of Mr. Arioli's slides showed a reclaimed cemetery which had been landscaped and was now used as a playground and it was fascinating to see how the once grave groups of trees had been transformed into an imaginative and sympathetic playground for children. Mr. Arioli's paper was read for him but he commented on his slides in English himself and his necessarily limited answers to questions were full of wit and common sense.

David Randall and Laurie Fricker dealt in a rather summary way in the second paper with the results of a survey carried out by them of the use being made of private and public open spaces in a New Town: Mr. Randall gave an amusing discourse on the types of private gardeners he had observed. during which he revealed that an average of 13 per cent of the area of all gardens was not cultivated at all. From this it appeared that what we needed were smaller gardens: lack of privacy was much criticised and we came somewhat inevitably to the patio house which is now so popularly presented as the solution to most of our problems, whether at Harlow or elsewhere.

This was a rather unsatisfactory paper because it could have given a lot of valuable information, but was rather sketchy. Nevertheless there was some interesting discussion during which one speaker from the floor

was moved to observe that while the fronts were all right the back gardens were absolute hell. This immediately raised the whole question of the concept of "front" and "back" and one could feel the air charged with incipient cold, hard committee comments about washing, dustbins, and mangles. Fortunately Bodfan Gruffydd saved the day by saying that he was convinced that "we all have a right to go to hell in our own way" and with that rather gloomy prospect in view, there was a break for lunch.

Afterwards, however, any idea of a prolonged stay in Limbo was rapidly removed and the whole thing woke up with a lively exposition by Paul Ritter of the traffic segregation and Radburn planning theories that will be familiar to AJ readers from his recent series, and at last it appeared that the idea of the Symposium began to come to life: here, after all, was one valid way to organise space, walks for pedestrians, primary schools approached by footpath, play spaces related to small groups of dwellings, an idea, in fact, that could avoid the palliative measures complained of at the last Symposium and promised a concept of space and organisation related to present needs.

It was unfortunate that a rather exotic argument on the virtues of introducing sheep or goats into the open spaces related to housing to provide an element of natural interest tended to obscure one of the key points made in the whole Symposium, the idea that a fully segregated scheme could provide the basis of landscaping proposals which had full physical as well as visual continuity from the private garden right through the local footpath and play areas to larger open spaces, parks, the town centre, playing fields, and the landscaping of vehicle ways right from the private garage through various grades of roads to the motorway.

The final talk was by Peter Daniel, who, after a brief discussion of the factors which tended to inhibit new ideas in organising housing neighbourhoods, and some illustrations of a housing area which appeared to have been affected by all of them, showed a set of slides of the housing designed in collaboration with Victor Pasmore at Peterlee.

It seems rather a pity that the subject matter of each contribution was not related to a clear design for the Symposium itself; the scope implicit in the title left the impression that there was much more to be said about what the Landscape Architect could contribute as an equal partner in any group engaged on the design of our urban environment and this contribution tended to be overshadowed by the broad planning decisions that must be taken with regard to the overall design, before landscape work can be considered.

#### GLASS

### Pilkington Research Laboratory

Messrs. Pilkington Bros., Ltd., have recently opened a new £2,000,000 glass research

centre at Lathom, near Ormskirk, Lancashire, and can now claim to have the largest research unit of any kind in Britain and the largest glass research centre in the world. It makes even the Corning Glass Centre look small.

It has been designed by Courtauld's Technical Services, Ltd., and thus stands as an interesting example of a large industrial client calling upon the skills of the all-in service of another industrial colossus. Architecturally and administratively, therefore, the result invites comparison with the more traditional method of commissioning work. Administratively at least, the client is in no doubt that the service rendered was efficient, highly skilled, and there was the satisfaction of the final cost being within the estimated cost plan.

Architecturally the result is patchy. There are four clearly defined units, one Small, one Medium, and one Large-scale Experimental Research Laboratory block and a refectory and auditorium block. The four-storey Small Scale Research block is the most satisfying architecturally. Its precast concrete frame is nicely proportioned and sits well at the climax of the site. It is attached continuously along its rear to the Medium Scale Laboratory, however, and this juxtaposition is not satisfactory.

The most puzzling unit is the refectory block. Its principal feature is a huge 65 ft. × 30 ft. plate glass window, built in sections without supports, its 7 tons being entirely suspended from the roof. This tour de force seems to have exhausted the designers because the adjoining refectory wing is a very dull block, poorly related to the shop window and to the beautifully detailed auditorium which can clearly be seen through the glass. The entrance link and the auditorium unit is very satisfying—particularly inside, where the ample spatial flow gives the required opulence for such a prestige building.

All in all, this is a very satisfactory experiment: that the architects have made a positive contribution to the team is shown in the multi-storey block where, left entirely to himself, the client has chosen the most tasteless laboratory and library equipment.

N. KEITH SCOTT

#### PENAL INSTITUTIONS

#### Design of German Youth Prisons

The antiquated and overcrowded condition of youth prisons in Germany, combined with increasing juvenile delinquency, has made the building of new youth institutions urgently necessary.

To ensure that new prisons are built according to modern methods of treatment a conference on design, to which architects, directors of youth prisons, and ministry officials were invited, was held recently at Münster University by "The German Society for Juvenile Court Affairs" and "The Institute of Procedure and Criminal Methods of the University of Münster." Observers from Sweden, Holland, and Britain were also present.

The Conference endorsed the use of the "Pavilion System" in which boys live in small self-contained groups. An overall prison size of 200 boys was thought desirable, but 300 to 350 more probable because of staffing problems and cost restrictions. Each group would contain 25 boys in mainly maximum security buildings, but about 10 per cent of the accommodation should be minimum security.

The division of Germany into 11 administrative regions created the problem of providing several different types of institution e.g., remand centres and psychiatric institutions, within a region which may not have a sufficiently large criminal population to justify separate specialist institutions. They must therefore either be attached to normal youth prisons, or a number of regions should be allowed to share these facilities.

The Architect to the North Rhine region announced a competition for the design of a new prison for 350 boys (including a covered swimming pool) at an estimated cost of 10 million DM. (Could our Prison Commissioners be persuaded to do likewise?)

The purpose of the conference was to stimulate new ideas on prison design by discussing the problems of each region and by studying treatment methods and current prison architecture in other countries. It will be instructive to see how far these new ideas are given material expression in view of the many intractable problems and conflicting opinions still, apparently, to be resolved.

Two of the German representatives will be visiting London next July to attend the International Study Group on the Design of Penal and Correctional Institutions, when these and other prison design problems will be discussed by delegates from at least 12 European countries and the USA.

LESLIE FAIRWEATHER

#### AA

#### New Council Elected

The result of the ballot for the election of the officers and council of the Architectural Association for the session June 1, 1961, to May 31, 1962, is as follows:

President. J. M. Austin-Smith, F.R.I.B.A.,

Vice-Presidents: Anthony Cox, F.R.I.B.A., A.A. DIPL. (HONS.). Gabriel Epstein, A.R.I.B.A., A.A. DIPL. (HONS.).

Hon. Secretary: Leo De Syllas, F.R.I.B.A., A.A. DIPL. (HONS.).

Hon. Treasurer: John Lacey, A.M.T.P.I., F.R.I.B.A., A.A. DIPL.

Hon. Editor: Leonard Manasseh, A.R.I.B.A., A.A. DIPL. (HONS.).

Hon. Librarian: Peter Newnham, M.C., A.R.J.B.A., A.A. DIPL. (HONS.).

Past President: Edward Playne, F.R.I.B.A., A.A.DIPL.

Ordinary Members of Council:

F. R. Baden-Powell, M.A. (CANTAB), A.R.I.B.A.,
A.A.DIPL. John D. Broadbent, A.R.I.B.A.,
A.A.DIPL. (HONS.). Dargan Bullivant, A.R.I.B.A.,
A.A.DIPL.(HONS.), DIP.ENG.(HONS), A.I.L.A.
James Cubitt, B.A.(OXON), F.R.I.B.A.,

A.A.DIPL. (HONS.). Ernő Goldfinger, D.P.L.G., L.R.I.B.A. Peter Moro, F.S.I.A., F.R.I.B.A. Hugh C. Morris, A.R.I.B.A., A.A.DIPL. (HONS.). Frank Newby, B.A. (CANTAB), M.I.STRUCT.E., M.CONS.E. Geoffrey Powell, A.R.I.B.A., A.A.DIPL. Michael Powell, B.A. (CANTAB), A.R.I.B.A., A.A. DIPL.

#### RIBA COUNCIL ELECTIONS

#### Have You Voted Yet?

The following statement has been issued by Malcolm MacEwen, the RIBA's chief information officer:

Members are reminded that the voting papers for the election of the Council for the session 1961-2 must be returned by June 20.

Last year only 3,916 Members voted out of a possible 15,562, or ONE Member in every FOUR, a smaller proportion than in any post-war year. The number of votes received by successful candidates ranged from 1,539 to 1,142, representing less than one-tenth of the electorate.

In previous years, the average proportion voting has been about 33 per cent, or one member in three. In 1952, a peak of 40 per cent voted. This was a year when the profession was in the doldrums, with many architects unemployed. Today there is full employment—but there are many other equally vital problems which will face the next session's Council. It is therefore very much in a Member's own interest to take his share of responsibility for choosing the Members who will represent him on the Council.

A post-election analysis of envelopes in which voting papers were returned in 1960 showed that Fellows had the best voting record—37 per cent of Fellows voted, compared with 25 per cent of Associates and 15 per cent of Licentiates. Proportionately fewer Members in Scotland and Wales voted than did Members in England. A very rough analysis by age showed that Associates between 45 and 65 had a better voting record than those under 45. Apart from this broad trend, lack of interest in voting appeared to be spread fairly uniformly over all age groups.

#### DIARY

Architects' Christian Union. Reception at 66, Portland Place, speaker, C. Oliver Styles, buffet, 6.30.

JUNE 15

The Importance of Good Design. The Rt. Hon. Henry Brooke, Minister of Housing and Local Government at the Council for Visual Education, Annual Meeting at the Royal Society of Arts, John Adam Street, Adelphi, W.C.2, at 3 p.m.

JUNE 9

The Development of Bracknell New Town. Address by H. Charlesworth, Engineer and Surveyor, Easthampstead RDC, at Summer Meeting of the Institution of Public Health Engineers, Caxton Hall, at 6 p.m.

JUNE 9

# The Third Car . . .

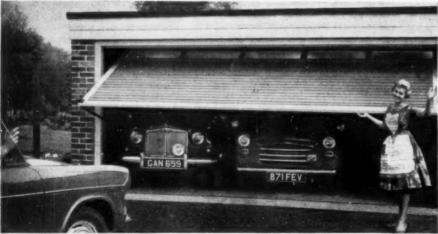
Many homes today, new and old, want garage room for three motor cars. His—Hers—Guest. Doorways should permit cars to enter and stand abreast. Swinging doors want a centre post, take up yard space, slam about in the wind. Ideal doors either slide out of the way down side walls or up overhead, permit unobstructed openings.



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House at Conways Bridge, Henley-on-Thames

When side walls are spare use "Tangent Senior" round the corner doors which are made in sections. The outside ones under each curve swing as service doors. If no spare walls fit an overhead door.



House at Fryerning, Essex

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QUIET

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#### FURNITURE

#### Competition Winners

The talent that does exist among young English furniture designers was revealed when prototypes of seven chairs, a convertible sofa and a chaise-longue were awarded prizes and diplomas by Aeropreen Ltd. at High Wycombe, on May 30.

The company announced a competition for the design of upholstered furniture last year. Entry was restricted to designers and students of design under 35. Ninety-eight drawings were received. From these, nine were selected by the assessors (including Ernest Race and Sir Gordon Russell) as outstanding. One chair was already in existence, having been made by its designer. The other eight were made up by cooperative furniture manufacturers. Finally, the three best were selected and their designers awarded a total of £500 in prizes.

The first-prize-winning design was a steel-frame chair with elastic rubber springing and plastic foam cushions. It was superlatively comfortable. One maker dismissed it as "not furniture but engineering," and said no manufacturer has the tools to make it. The designer is W. F. Plunkett of Kingston-upon-Thames School of Art.

Second prize went to Dorothy and Paul Goble for a chair with laminated wood frame, elastic rubber springing and plastic foam cushions. Because of their common eccentric shape the cushions are interchangeable. The chair, which may be combined to make a settee, was said by Ernest Race to be well suited to machine production. It was very comfortable. Mr. Goble

lectures at the Central School of Arts and Crafts where both he and his wife were trained.

The third prize was awarded to a *chaise-longue* with strip aluminium legs, moulded plastic frame and plastic foam cushion. Lying down on it was not permitted so there was uncertainty whether the legs were meant to be springy or not. The designer was G. B. Callister, also from the Central School.

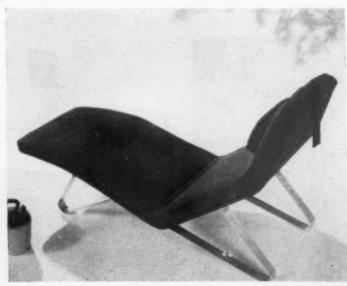
Several of the other designs were original and some have been bespoken by makers. The barriers to be overcome before they The first-prize-winning design in the Aeropreen Competition: a metal-frame "knock down" easy chair with loose cushions. Prototype designed and made by William F. Plunkett, second year student at the Kingston-upon-Thames School of Art

Awarded the third prize: fully upholstered chaise-longue with aluminium underframe and main frame of preformed polystyrene, designed by Geoffrey B. Callister, a fourth year student at the LCC Central School of Arts and Crafts. The prototype was made by the Stag Cabinet Co.



Awarded the second prize: a unit chair on wooden frame with interchangeable seat and back cushions. Designed by Paul Goble and Dorothy Goble, the prototype was made by the Stag Cabinet Co. Ltd., of Nottingham



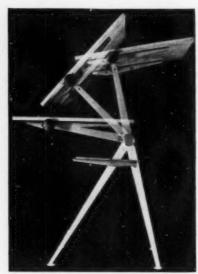








find their way into houses were indicated by a shopowner. He said: "My customers would ask for a settee to match if I showed them one of these chairs and they'd want it covered in flowered cretonne."

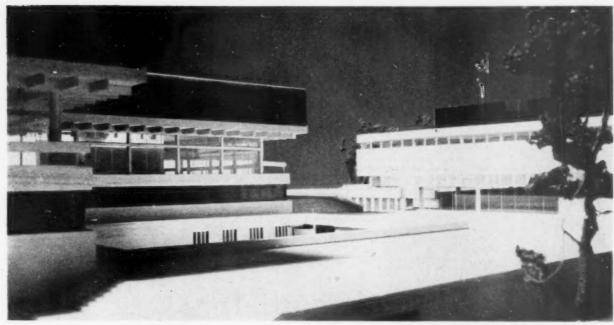


Top left, part of the Holzapfel range of interrelated desks, tables and storage units finished in afrormosia. Centre left, the Ahrend steel chair with plastic seat and back designed by Friso Kramer and Van Rietveld. Price £7 1s. 8d. Above, an Ahrend drafting table with Imperial board. Price £16 8s. Below left, a new bedroom range of Stag furniture, designed by John and Sylvia Reid. Finished in afrormosia and Honduras mahogany, with interior veneer in sapele. The group costs £50

#### New Ranges

In new showrooms at 39, Dover Street designed by Elizabeth Henderson two new ranges of furniture are now on view. One of these ranges, called Ahrend, imported from Holland, has been designed by Friso Kramer and Van Rietveld based on a "U" section in pressed metal. The range includes office and drawing-office furniture as well as tables and chairs. The other, imported from Germany, is designed by Professor Herbert Hirche, Under the name Holzapfel it consists of, in fact, three interrelated ranges of desks, tables and storage units which can be used together but are within different price brackets. It has a remarkable attention to minor matters of detail which seems to be beyond the capabilities of so many British manufacturers. Formation furniture, the range designed by Yorke, Rosenberg and Mardall which won the 1959 TDA competition is also exhibited. The idea of the showroom is not only to present separately this limited range of welldesigned furniture but also to carry sufficient stocks to ensure rapid delivery.

New bedroom furniture simple enough for wide contract use, has been brought out by The Stag Cabinet Co. It is designed by John and Sylvia Reid and called Duet. There are three types of wardrobe, three different chests of drawers, two dressing tables, and various accessories.



Looking north-east across the internal court

#### Oxford's New Physics Laboratories

The architecture of Oxford University's proposed physics laboratories is designed to mingle scientists from departments of research that tend too often to remain isolated. Both men and science should benefit. This aim was expressed by Philip Dowson of Ove Arup and Partners when a model and plans of the laboratories were revealed at Oxford last week.

Work will begin this year if Congregation of the University agrees both to the site on Keble Road and to accepting a £750,000 grant from the DSIR. Asked if this sanction was reasonably certain the Vice-Chancellor said: "Yes, although, of course, Congregation is a thoroughly unreasonable body."

The layout of the buildings was governed by several factors: first, the shape of the site. It is the base of a triangle resting on Keble Road. Maximum use of the view eastwards across the parks was thought desirable provided it did not involve a

structure likely to overawe Butterfield's Keble chapel.

The brief called for 100,000 sq. ft. of floor space for the following plant: a nuclear accelerator requiring shielding against both high voltage and radiation; nuclear physics laboratories and offices; a flat for the professor of physics; a lecture hall for 800: teaching rooms for theoretical physics; machinery shops; and parking for 160 cars and 500 bicycles. The architects were also faced with the problem of designing the buildings to be constructed in four phases. The solution is a variety of handsome modern shapes influenced by the Oxford quadrangle tradition and called by the architects a "science precinct."

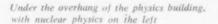
Its most important building is the 75-ft. generator tower standing above a 20-ft. basement. This houses the vertical and horizontal elements of the nuclear accelerator and involves considerable five-foot-thick

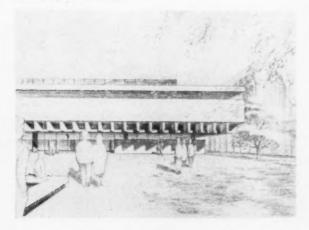
concrete shielding. A travelling crane is built into the top of the tower to service the heavy machinery. The accelerator will be built at Harwell and the architects particularly praised the brief they had received from the nuclear engineers there.

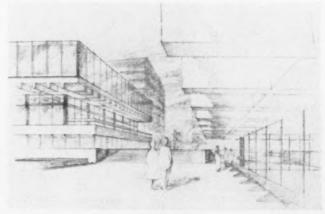
A raised platform will cover much of the rest of the site concealing both parked cars and the riff-raff of machinery connected with a complicated electrical plant. It will also cover stores and workshops not needing daylight and a one-way road providing access for both cars and delivery trucks.

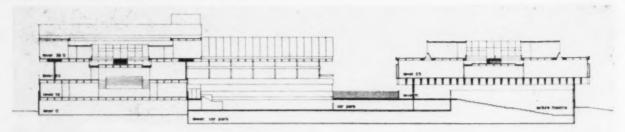
Under this platform the layout will be left as open as structurally possible to permit changes of use. Above it the plan will be more formal. The laboratories themselves are arranged around three quadrangles, two of which form a figure eight by the accelerator while the third, with the lecture hall underneath, is isolated. All have large windows and cross ventilation. Mr. Dowson

Looking towards the physics building with Keble chapel on the right









Section through the scheme, with nuclear physics on the left and physics on the right, and (below) plan of the scheme for the whole of the Keble triangle with the complete ten-year development indicated. Only the generator and the labs, immediately to the right will be built in the first phase. The rest of that quadrangle would complete stage two. Stage three is the quadrangle, below left, and stage four the physics building, right

key Nuclear Physics Building (left) Laboratory 2 Students' Workshop Electrostatic Generator Lab. Office 6 Professors' Living Room 6 Meeting Room 1 Professors' Secretary

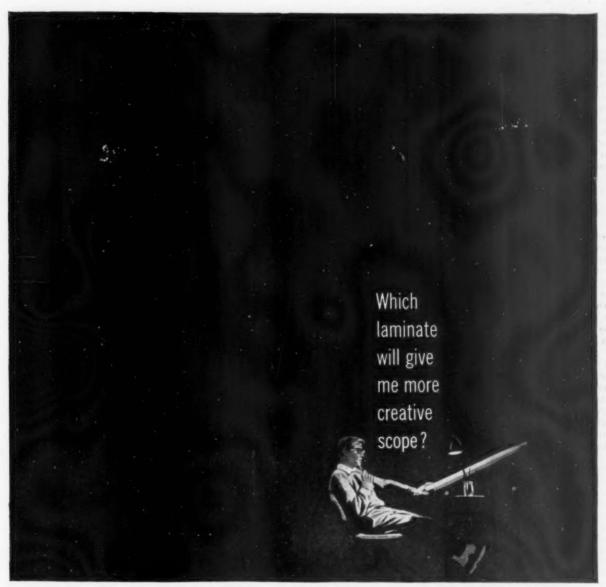
said this should banish the "rabbit hutch" atmosphere resented by scientists. Offices will be on the inside of the quadrangles and have lower roof levels.

Free circulation by students and staff will be possible in and around the quadrangles. This will encourage social mingling under the sun in the classic Oxford manner. For rainy weather there are sheltered paths under the cantilevered upper floors.

All structure is reinforced concrete designed

to a five-foot module with the exception of the tower and basement. Floors are 2½-in. thick and are supported by a coffered grid housing lighting and acoustical shielding. The thin floor will ease the provision of services to equipment subsequently installed. Exterior walling will also be concrete but with rough-tooled Portland Capstone aggre-

Looking up at the weird black patterns on the façade of Old Bodley, Mr. Dowson said the physics buildings had been designed for "organised staining." Only phase one, the accelerator tower and one range of laboratories, is to be built now. Your correspondent asked why the project was expected to take ten years. A hush fell across the panelled room in Hawksmoor's burly Clarendon Building. Dons looked mortified. A word was mouthed-MONEY.



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#### COMPETITION

#### Roxburgh County Offices

As announced earlier,\* the first premium of 500 quineas in the competition for Roxburgh County Offices was awarded to Peter Womersley. The second premium of 300 guineas was awarded to Alexander D. Bell, and the third of 200 guineas to Geoffrey Copcutt. The competition was limited to architects living and working in Scotland and 22 entries were submitted. Details of the winner's scheme are presented below together with extracts from his report and that of the assessor, W. H. Kininmonth, R.S.A., F.R.L.B.A., F.R.L.A.S.

The present offices of the County Council at Newton St. Boswells are housed in a number of buildings on the site and the object of the competition was to bring them together under one roof, so to speak. Most of the buildings at present on the site will be demolished, some immediately before the new county offices are constructed and some immediately afterwards. It is intended to retain three of the existing buildings, one (in the south-west corner) for sale to the Edinburgh and East of Scotland College of Agriculture as offices, one (immediately to the east of this) also for sale as office accommodation or else for conversion to housing, and one (west boundary) as office accommodation for the staffs of the Roxburgh and Selkirk Valuation Joint Committee and the Tweed River Purification Board.

The target cost for the new county offices was £225,000 with a maximum variation of 10 per cent (i.e. allowing a maximum of £247,000). The assessor pointed out that the winner had allowed for "leoch" stone external cladding, an item which put the total cost of his scheme up to £237,757. If a different stone or a precast concrete cladding were to be used a saving in the region of £28,000 could be made. It was considered by the assessor that the substitution of either of these alternatives would not adversely affect the scheme. The estimated costs of the remaining premiated designs were well within the target figure.

#### The Assessor's Report

The following are extracts from the assessor's report:

"In making my assessment I gave particular consideration to the following aspects of the various schemes:

(a) The layout of new buildings in relation to entrances, vehicular circulation, car parking and garden space.

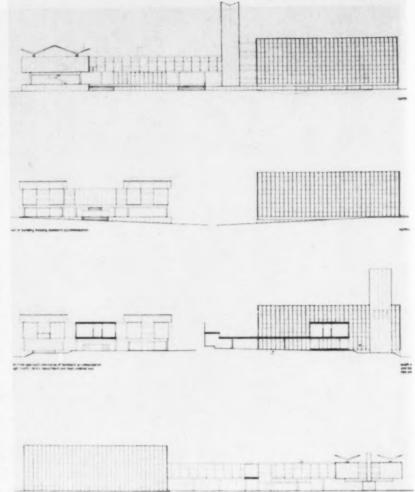
(b) Aspect and prospect in relation to daylighting, sunlight and noise.

(c) The relationship between the buildings to be retained and the proposed new build-

(d) Circulation within the buildings.

(e) The functional relationship between the Council suite and the administration offices, the interrelationship between departments, the convenient planning of departments and the location, proportion and size of rooms. (f) Cost in relation to value for money.

(g) The solutions in relation to the condi-



Sections and elevations of the winning design

tions including answers to competitors' questions.

(h) Architectural expression. Here I looked for something more than a conveniently planned office block. The new building should group with the old and should have a good appearance from all angles. The council chamber suite should be clearly expressed and the buildings as a whole should have authority and conviction. They should not only be, but should appear to be, an important centre of local government administration.

(i) Lastly I looked for quality, the least tangible but one of the most important attributes in all distinguished design.

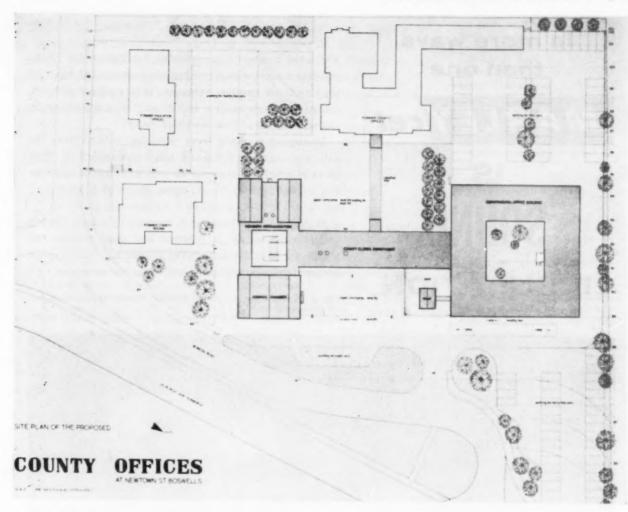
The assessor comments as follows on the winner's design:

" Although it is one of the schemes which will be built in two operations the winning design can be achieved without practical difficulties and at little inconvenience to the administration.

The author however should consider himself fortunate that a realistic rather than a purely legalistic attitude has been taken to his

proposed use of "leoch" stone cladding and before proceeding further with his specification and drawings he would be well advised to undertake a comprehensive and careful cost analysis. He should also give serious consideration to the possibility of resiting the printing department and should pay further attention to the shape and fenestration of several important rooms which face into the courtyard.

These criticisms apart, however, I was greatly impressed by this scheme. The layout of approaches, courtyards, gardens and car parks is good and a harmonious relationship has been achieved between old and new buildings. There is no confusion of entrances and circulation as between councillors, officials and the public and, with the exceptions already mentioned, departments are logically disposed and rooms are well planned and arranged. In particular I liked the arrangement and architectural expression of the council suite and its relationship to the town clerk's department and other offices. The grouping and massing of the design components are nicely balanced and although in



Site layout of the winning design

general I am not a devotee, the tower, which is obviously valued by the architect, provides a successful vertical accent and foil to an otherwise horizontal composition.

I liked the open approaches, the classical sense of order and balance and the play of form and light which, together with a direct and simple plan and an imaginative structural approach, have produced a most successful design."

#### The Winner's Report

The following are extracts from the winner's report:

"In view of the random scattering and diversified appearance of the existing buildings on the county site, this design for the new county offices attempts to impose its own character by forming a screen across the site which, from the main approach, will largely obscure the existing buildings which are to remain. This screen has, however, as its central line, the axis of the old county offices, which would, in the new scheme, form the western closing side of a new paved square between the other new building units. The central unit of the screen—the new county clerk's department—is

raised one floor off the ground on columns to permit easy access to the old county offices, and to form a main covered concourse connecting all entrances to the new buildings.

"The ground falls five feet within the width of the new building group, and advantage has been taken of this to raise the buildings on a podium, level with the slope at the rear, but in general, five feet above the ground on the eastern approach. This podium serves as a platform tying the building group together, and to the ground. and would, it is hoped, give the new county buildings an appropriate air of quiet dignity, whilst at the same time lifting them clear above the level of any car parking in the foreground, and above the main London-Edinburgh railway line opposite. The podium below the departmental office building houses, too, the printing department, which is partially built into the slope, and slightly sunk, so that its loading bay is at ground level, and its floor three feet below.

"Upon this podium, or base unit, are four clearly differentiated but linked buildings, all of them relatively low, to match the scale of the existing offices and of Newton St. Boswells itself. These buildings are all designed upon a 3 ft, 4 in, grid and, again, upon an axis, this time parallel with the old county offices, the main line of the axis being occupied by the central unit of the screen already mentioned, the new county clerk's department. The two ends of the axis are occupied by buildings of equal width, and similar plan form—a block enclosing a square courtyard—but the department office building is square, large, restrained, and fully glazed, whilst the other, in contrast, is rectangular, small, complicated in profile and stone-faced.

"On another minor parallel axis-that of the council chamber balcony and the centre line of the eastern side of the department office building-lies the fourth unit, a stonefaced tower, which houses the strong-rooms, wireless room and water tanks. This would form the pivot point of the whole group. and is intended to act as its 'label' or signpost, in the same way as the steeple of a church. It might be provided with a clock. could be floodlit, or be used to floodlight other parts of the building, notably the council chamber balcony opposite. It rises out of a small reflecting pool, or moat, and is connected by bridges to the main office building."

#### In more ways than one

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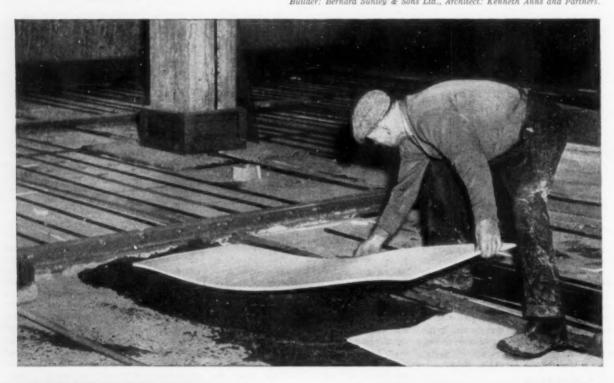
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SCENE: An architect's office. Architect, sitting at desk reading pale green paperbacked book, the new Public Health Bill (House of Lords, published by HMSO, 4s.), central building regulations Section. A knock on the door and a Private Enterprise Client is ushered in. After an exchange of greetings and settling into chairs, P.E.C. opens conversation.

#### FORBIDDEN FRUIT

#### A £,50,000,000 Conversation Piece: by W. E. Edleston

P.E.C. You know those interesting buildings that the Ministries of Education and Housing are having constructed up and down the country, like the Stavely Road Secondary School, Quinton School, Mayfield School and those multi-storey maisonettes at Bristol and that hostel built for the Atomic Energy Authority at Thurso? Built with a considerable amount of timber framing or panel construction, aren't they?

ARCH. That's right.

P.E.C. Oh! Of course you know them. I hear that you've just been commissioned by the Blankshire County to do one on that site next to mine just up the road so you ought to know all about it.

Well, I'm thinking of getting on with that club, offices and maisonette development on my site and I'd like you to design it in the same type of timber construction—speed you know—dry construction—site assembly saving on labour and that sort of thing. With building industry wages going up and two hours coming off the working week in October you've got to think of these things, my boy.

Because the Government's always hammering the point about increased productivity—clipping construction time seems to be a step in the right direction. Timber ought to be the answer in this particular case—two-and three-storey development, open site and so on.

ARCH. I am very sorry, but I can't do that. You see that method of construction is forbidden to you for more than single-storey work.

P.E.C. What do you mean! Forbidden to me?

ARCH. Well, you see those buildings you have mentioned don't comply with

the local building bye-laws. They don't have to. They are designed and constructed for the Ministries and Public Authorities who are a law unto themselves on such matters. If I am commissioned to do a building for them, then I can use those methods of construction, but, when you commission me, I am not permitted to do so, even though the sites are next door to each other.

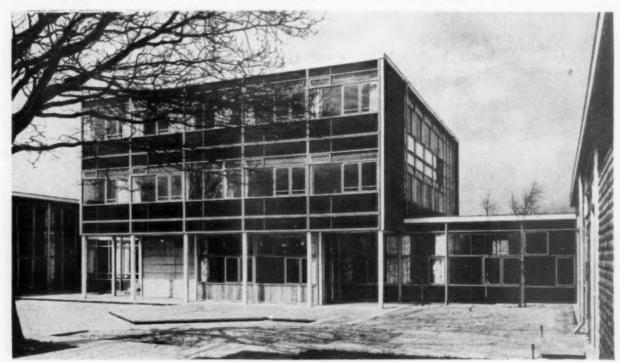
**P.E.C.** But that's ridiculous! Aren't they safe or something?

ARCH. Oh yes—They're safe enough and very well designed too. Indeed it's a mercy that they are exempt from building bye-laws because, if they had not been, there could never have been the research and development that has taken place. Certain County and City Architects have done a fine job of work in this direction during the last decade. The tragedy is that, as things stand at present, the fruits of their enterprise are forbidden to private organisations such as yours.

The other week a deputy County Architect was speaking at the RIBA and urging that industrial organisations should themselves assist in this research into construction methods. An excellent idea don't you think?

A fine idea indeed. But what's the use of industrial organisations doing any research at all if they are not allowed to deviate from the local building bye-laws, even to the extent of constructing an experimental section of a building for test purposes?

The Tuxford secondary school, designed by the Notts County Architect's Department in the internationally famous CLASP system of construction a system which W, E. Edleston points out in the accompanying article could not be used under local building bye-laws





The Mayfield comprehensive school, Putney, by Powell and Moya, which, the author claims, contravenes local bye-laws

ARCH. That is perfectly true at present. The only way one could do so is to design something and put it up to a Ministry or County Authority and, if it was good, they might adopt it. Nowadays, as a result of their own successful work they are much more willing to try new ideas. But, even if they did adopt a new development you would not be allowed to use it yourself on your own building

projects, unless it complied with the local building bye-laws.

that for the building owners or industry, unless one happens to be a manufacturer of construction systems, and even then the market is limited to the authorities, so that restricts volume and prevents the full development of cost savings.

But, returning to my particular

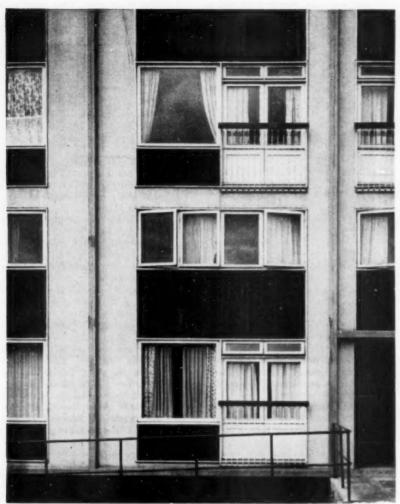
scheme is there no way round the difficulty?

ARCH. I'm afraid not. If it was in the LCC area you might have a chance, for they have a power of waiver and indeed have already used the timber construction methods you have in mind. But in this case you are in a local authority area and they have no power of waiver, and there's the rub. You see—the existing building

A timber-built hostel at Thurso, designed by R. A. Brocklesby for the Atomic Energy Authority







Multi-storey timber-faced maisonettes at Bristol, by the City Architect, Nelson Meredith, another type of design which is banned to private enterprise

bye-laws are framed under the Public Health Act. 1936, and this, unfortunately does not contain any relaxation and appeal procedure.

It is true that under Section 63 of that Act, the local authority can, if it thinks fit, apply to the Minister of Housing and Local Government to relax a specific building bye-law. If they will not make such an application then you, as a private individual or organisation, have no redress, however sound your case might be. There is no appeal. You do not even have the right to ask the local authority to make such an

The other day the Parliamentary Secretary of the Minister of Housing wrote to an MP contending that Section 63 is frequently used to grant waivers. Unfortunately this is quite incorrect. To test the point only a few weeks back I submitted three separate applications to two different borough engineers for specific projects. The request was to use exactly the same method of construction already used for buildings by the county architect in the same area.

P.E.C. That's interesting. What happened?

ARCH. Oh-the inevitable of course. A refusal in each case. What is so frustrating is that there is no means of appeal whatsoever. Furthermore for those particular buildings the client is going to have to pay 15 per cent more and wait 12 months longer than he need do. Maddening isn't it?

Mind you, in most instances it is not the borough engineer's fault. He may be sympathetic to the idea, particularly if the county authority has already used that particular construction method, but there is very little he can do about it.

Indeed the borough engineer is placed in an invidious position under Section 63 of the present Act. Before he can submit an application to the Minister he must talk to one of his Council's Committees. Usually the Highways.

The members of the Committee are worthy citizens but non-technical and thus see no reason why their bye-laws should be waived for an individual-an understandable but negative attitude of "why can't he comply with our bye-laws like the rest of 'em.'

The unfortunate Borough Engineer cannot very well press the point for any particular applicant. In any case there is no incentive for him to do so for there is no right of appeal. Until there is, then I can use timber construction for the Minister and the County but not for

P.E.C. That doesn't seem to be very equitable to me.

ARCH. No it doesn't, but that's the position at the moment.

Well what about using the CLASP system? That's light steel framing and designed for a Consortium of Local Authorities Special Projects so surely that ought to be good enough to pass the building byelaws?

ARCH. Sorry that won't work either. You see they use timber framing for the infill panels and that is not permissible for you. Under the building bye-laws the external walls of your building have to be constructed of incombustible materials, but theirs are exempt from such a requirement and so they can use timber.

Damn it all, this is ludicrous! Can't something be done about it?

ARCH. Oh yes! Its quite easy really. All the Minister of Housing and Local Government has to do is to promulgate a simple amendment to Section 63 of the Public Health Act. 1936, granting the public the right to apply to a local authority to relax a building bye-law and, if they refuse to do so, then the public has the right of appeal to the Minister. He already has the powers to make such an amendment.

Of course, what really worries him, or rather his officials, is that. because there are so many anachronisms in the local building bye-laws he fears he will be flooded out with appeals. This could be true of course unless he took another simple action at the same time.

That is to simultaneously delegate powers to the local authorities to grant waivers to the building byelaws for methods of construction which have already been used by his own department, or that of the Minister of Education, or by their authorities. agents the county Q.E.D .- easy isn't it?

It is indeed, but it sounds much too simple and uncomplicated for it to be adopted by the Government unless someone pushes that amorphous body into doing something about it.

ARCH. That's perfectly true, but it's a bit unkind to imply that nothing is being done. The body is actually on the move, albeit somewhat sluggishly and about a quarter of a century behind other countries, but nevertheless it's on the move at last.

P.E.C. Glad to hear it. What's happening?

ARCH. Well—as you probably know, there are over a thousand local authorities in England and Wales and each is empowered to produce and operate its own building bye-laws. Clearly, to avoid multiplicity of this nature it would be much easier to have a national code with one set of central building regulations as exists in some other countries.

Canada, for example, came to this conclusion in 1935 and by the end of 1941 had produced a national code. Now, 25 years later we, in this country, have come to the same conclusion and the Minister of Housing and Local Government is about to pilot a Bill through Parliament which when passed into an Act will be cited as the "Public Health Act 1961."

That's what I was reading when you came in.

The main change in this Act will be the replacement, by centrally made regulations, of the building bye-laws at present made by borough and urban and rural district councils.

In addition, and most important of all, there will be a proper relaxation and appeal procedure, Clauses 6, 7 and 8 on pages 4, 5 and 6 of this document give the details. I'll get you a copy from the Stationery Office if you wish to have one.

The effect of this would be that if the local authority refused you permission to use a particular method of construction you would have the right of appeal to the Minister.

In the case in point the latter could hardly refuse to allow you to use the same methods of construction that he or his colleague the Minister of Education had already sanctioned for use by county authorities.

P.E.C. Ah! That sounds splendid. When do we start?

ARCH. We don't—that's the snag. If you read the Bill it opens visions of Utopia, with a new national code of building regulations, based we hope, on performance standards, and means of waiver and appeal but these visions are rudely shattered at the end, by Clause 85, where one learns that even though the Act itself may come into force in 1961, the provisions relating to building regulations will not come into force until some date in the future.

P.E.C. When is that likely to be?

ARCH. Goodness only knows. It took Canada nearly seven years to get a national code. In the case of Scotland they got around to starting legislation at the beginning of 1959 and, with luck, they hope to have a set of regulations operating by 1963. That's five years. With the best will in the world the Minister is unlikely to be able to promulgate anything under that time. That means about 1967 or 1968 at the earliest.

That is, of course, provided he does the job properly and produces a completely new set of building regulations, based largely on performance standards and not just a re-hash of the existing model building bye-laws which are completely rigid in approach and are a positive deterrent to any research.

P.E.C. Do you mean to tell me that I will have to wait until 1968 before I, as private enterprise, will be permitted to construct a building similar to those county ones. I mentioned earlier?

ARCH. Thats right. Unless of course the Minister does one of three things:—

(a) Amends his Bill at the Committee stage to incorporate the relaxation and appeal procedure now—which he can do;

or (b) amends Section 63 of the existing 1936 Act to provide an appeal procedure—which he can do; or (c) gets his new central building regulations promulgated before 1968—which he can't do.

He certainly could do (a) if he really wanted to do so though (b) would be the simplest because he is, in fact, retaining the existing building bye-laws, and Section 63, during the interim period whilst at the same time keeping power to vary or revoke them.

With the best will in the world he cannot physically do (c) in less than five years.

.E.C. Yes—I see that. Really something ought to be done about it now, not in five or seven years' time. You know there is an economic angle here.

That type of smaller development that I want to do must be representative of a large volume of building work annually throughout the country. If this was only £70 million a year—and that's a conservative figure—a 15 per cent saving would be £10 million a year or £50 million over five years.

In addition there would be the saving in construction time, releasing scarce labour more quickly and bringing projects into a revenue producing stage earlier.

I think I'll write to my MP about it. Dash it all the Government can't preach to everyone the necessity of increasing productivity by every possible means and, at the same time, refuse to adopt a means of achieving this object.

It might do some good, you know. After all the Government is nearly over the hump now and running downhill to the next election1963 is my guess. They might take some notice, especially as a constructive move of the type you suggest could be a feather in their cap instead of a hole for the rain of criticism to leak in.

ARCH. Yes, that's right—it's worth a try anyway. It's a matter of such importance to you and organisations like yours that the more people who press the point the better chance there will be of getting something done.

Architects, of course, are vitally concerned in this and I have already been working on the same tack myself and getting colleagues to do likewise in time for the Committee stage of the Bill, which should be reached in June.

This matter of a relaxation and appeal procedure is, of course, only one facet of the problem of building regulations. When the new Act is through there will still be the tremendous task of framing the new ones to be done.

In essence my proposal is for some constructive action which will make the operation of the existing building bye-laws more flexible during the years before the new regulations can be introduced.

Such action would also be of great assistance in the framing of those new regulations because the very nature of the relaxation applications during the interim period would be a good guide to the requirements for performance standards.

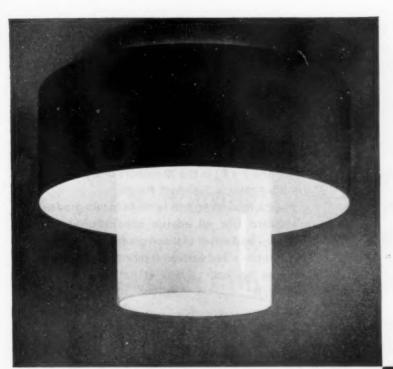
**P.E.C.** That's getting a bit too technical for me but I would be interested to hear what progress is made.

Now I must be off. We didn't get very far in discussing my scheme did we? Except I did learn what I can't have built and the Minister can. Forbidden fruit indeed. I'll 'phone you next week and fix another meeting. Good-bye for now.

The foregoing imaginary conversation is based on fact and actual correspondence and has been compiled to illustrate an aspect of the new Public Health Bill which seems to have escaped the attention its importance warrants.

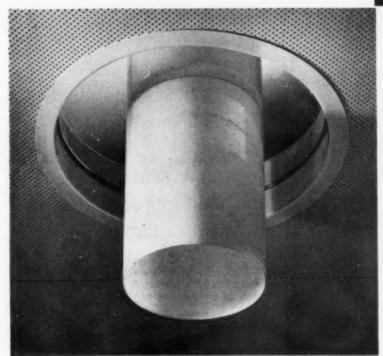
Regarding the suggested amendment to the Bill, so far, the Government reactions have been the customary tactics on such matters. The "it can't be done" line without slamming the door. The PPS, Sir Keith Joseph, has a reputation for progressiveness-an attitude of mind which says "there is a difficulty how can it be overcome" as against an "it can't be done" approach. It is to be hoped that his Parliamentary duties are not such a burden as to dull his wonted keenness to see progress made and that he will take the point during the Committee stage of the Bill. If he does not progress, in some fields of private enterprise building will have to stagnate for another five years or more, involving unnecessary cost in the

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# Rehousing Preston



The architects, James Stirling and James Gowan, briefly describe here the origins of a scheme at Preston, Lancashire, now nearing occupation, where they have attempted to achieve an environment which has the virtues of the older housing that it replaces. We leave readers to judge whether this shows the way forward in low-cost housing.

This is part of Preston Borough Council's slum clearance and redevelopment programme in the central area of the town and comprises 62 working class homes, 24 flats (4 storey), 15 maisonettes and 15 flats (3 storey), 2 houses and 6 flats for old people (2 storey). The council prepared a layout plan for the area, specified the type and number of dwellings, and invited competitive tenders.

It is now quite common practice for local authorities to make price competitions of their rehousing programmes, and because an "all-in service" is required, only the big companies with a " packaged " deal are capable of undertaking the work.

This system cuts out the intermediate stage of an architect preparing a scheme, probably shortens the length of precontract negotiations and may yield a lower price, by repeating type designs and eliminating private consultants. It does not necessarily achieve a better, or even an appropriate scheme as a result. John Turner & Sons, a Lancashire firm of contractors, wished to explore this field and formed a group of specialists, structural engineer, quantity surveyor, and architects, Lyons, Israel & Ellis. They, in turn, asked us to take responsibility for the low buildings while they concentrated on the tower blocks at the north end of the site. A second contractor, Pius A. Baines, worked mainly with us on the building of the low development. This was an opportunity which both firms of architects saw as a way of reintroducing the private architect into a field of building where he is in danger of becoming obsolete.

The architect, working in this arrangement, is in a more vulnerable position than usual. The contractor is in charge, and he deals directly with the client on all matters, finance, revised instructions and so on. On the credit side, the architect is working with the builder, and the benefit of his local experience is built into the job.

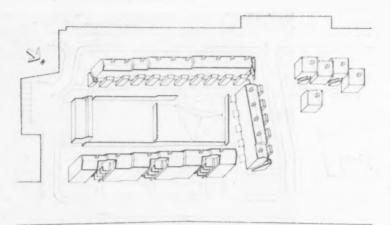
In this instance, the local authority awarded the contract not only on the low price but also on the improved rearrangement of their initial layout. The character of a society is formed to a very great extent by the buildings it inhabits, and we have tried here to maintain the vital spirit ("Saturday Night and Sunday Morning") of the alley, yard, and street houses that the new development is replacing, and from which its occupiers have recently moved. Recently it has been noted (" Britain Revisited," T. Harrison, Mass-observation) that the most remarkable aspect of worktown over the last two decades is its great unchange, particularly in the habits and character of its peopledespite greater affluence.

The 19th-century industrial town is justly condemned as being inadequate in health standards. Nevertheless, there exists a neighbourliness and a communal vitality which are quite absent in the standard solution—the suburban dilution of the garden city (an anachronism, evoking a villa system of living inappropriate to an industrial mass community). This, coupled with the " contemporary " style, has evolved as the national image of nearly all our housing, from village to metropolis.

Whilst incorporating the essential improvements in space, light and convenience we hope to perpetuate a familiar and vital environment.

The monuments of worktown are the cotton mills, and it was from these we acquired the idiom of functional brick detailing; bull-nosed sills, splayed setbacks, and brick-on-edge copings. By using the local red Accrington engineering brick we have tried to reiterate the thin, brittle surface quality of the outsides of the mills.

#### construction study



#### Site plan

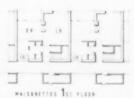
The buildings are grouped around a communal central space in which are located a walled play area, garages, and a grassed pyramid, formed with surplus soil and rubbish. On the north and west boundaries are 3-storey terraces which have a single bedroom flat at ground level, entered through a service yard. Above this is a two-storey two-bedroom house entered directly from an open walk-way. Outside the front door of each dwelling is an outhouse for coal, dustbins, bicycles, etc.

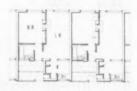
On the east boundary is a fourstorey block of two-bedroom flats, which steps with the slope of the site, so that the staircase has front doors on each quarter landing.

Across the road on the north boundary, are sited a group of two-storey houses and flats mainly for old people. The flats have external open staircases.

The separate articulation of blocks is too emphatic; it was however a condition of the Borough Council's initial site layout.



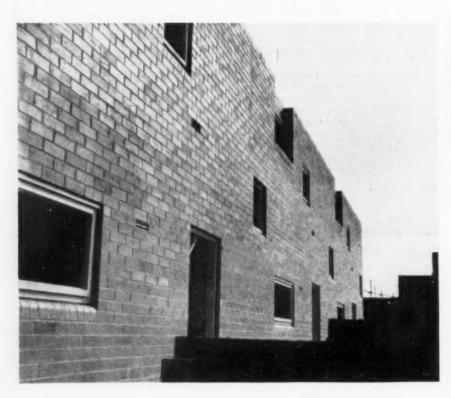




FLATS GROUND FLOOR

#### Three-storey terraces

The floors span between the structural party walls; they are intermediately supported by a structural chimney stack which carries a reinforced concrete beam over the openings. The first floor is of precast concrete planks, second floor and roof are timber joists, though in the latter the joists are supported by the partition wall between bedrooms.



The brick is a red Accrington, with slightly recessed joints, giving the surface of the wall a hard reflective quality. Windows are nearly flush with the outside, except those at the top, which have timber fascias and are recessed back to the inside wall.





All rooms on the non-access side are habitable (living, dining, bedroom) which is the main reason for the large amount of glazing.



The timber balcony and gallery fronts were fabricated in the joinery shop and fixed to brickwork by galvanised angles which allow good tolerance. A similar front is used for balconies, galleries and service yard screens.

Entrance to the dwellings are either direct from the walk-way, or at ground level through a service yard. All the windows on this elevation are to nonhabitable rooms (bathroom, w.c., kitchen, etc.). At ground level the kitchen of a flat is under the outhouse which at the upper level is opposite the front door of a terrace house.



Detail of pram and bicycle ramp to access walk-way.



Brick-on-edge detailing to the walls of staircases.

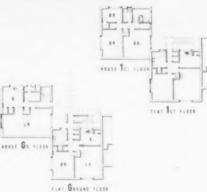


#### construction study





The roofs of the outhouse are drained through an outlet which is a glazed stoneware block-trap, its normal use is for sewer drainage.



#### Two-storey dwellings

From the mid-point of the external walls, two reinforced concrete beams span onto the structural chimney stack. Precast concrete planks are laid in these half bays at first floor level (wood joists in the houses). The roof is of timber; hip joists span from the external corners to the chimney stack, and carry the roof joists, boarding and edge gutters.

All windows are softwood painted; they are positioned nearly flush with the outside wall. Copings are brick-on-edge, and the marking courses are in blue engineering brick.

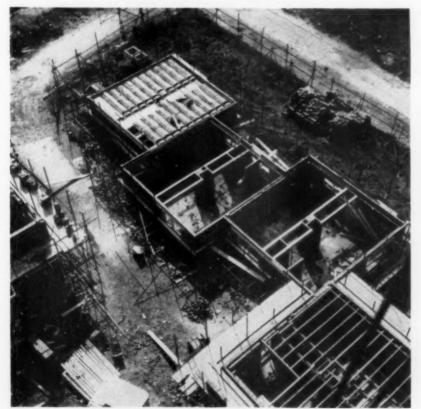






Window sills are standard splayed bricks.

The outside staircase is to an upper flat; entrance to the flat below is through the supporting wall of this staircase, which also accommodates a store. On the right is a two-storey house.



Lintels over windows are precast reinforced concrete with all the edges chamfered; this gives better protection during transit and site handling.



View showing the structural chimney stack supporting reinforced concrete beams, onto which the floors span.

#### construction study



#### Four-storey block

The 11-in. cavity external walls and the 9-in. spine wall are structural. An 11-in. wall of engineering bricks can support 4 storeys without an increase in thickness at the base. Precast concrete planks span between the parallel walls at each floor level and the roof is of timber joists. The staircase and the drying balcony are in 9-in. brick with in situ concrete floors.

The vertical windows have inwardopening doors which form balconies to living rooms. The small windows are to kitchen and bathrooms. The roof-line of the brick-on-edge coping tilts down at intervals as the floor levels of the flats change with the slope of the site.



Bull-nosed brick-on-edge window sills.



Detail of living room window and balcony doors. The cantilevered area of brickwork is supported on a reinforced concrete boot lintel which is faced with brick slip tiles.





This week Brian Grant describes a gas-fired boiler, an internal telephone, plastic rainwater goods and a ventilated rooflight.

#### Gas-fired Boiler

The Perkins Paramount gas-fired boiler is now made in three sizes with outputs of 50, 75 and 100,000 B.Th.U's per hour and is intended for domestic hot water and central heating installations. Casing is white stove enamelled sheet steel with stainless fittings and this case can be quickly removed for access to the interior and fittings, which include a small bore circulator, temperature gauge and clock for time control. Prices of the various sizes are £99, £116 and £133. or, with thermostat only, £54, £71 and £88. Messrs. Perkins, as most readers will know, are also makers of oil-fired boilers. (Perkins Boilers Ltd., Mansfield Road, Derby.)

#### Internal Telephones

The illustration centre right shows the D.J.P. push button internal telephone. which costs £10 per instrument and allows all round calls between up to six points. Ten-core cable is used costing 2s. a foot. Single button instruments allowing calls to be made only to a central point cost £7. Installation is comparatively simple, but the makers will carry it out if required. They also give a three-year guarantee for free maintenance. (D.J.P. Telephones Ltd., 156, Camden High Street, London, N.W.1.)



Perkins gas-fired boiler



D.J.P. internal telephone



Maxadome ventilator

#### Rainwater Goods in Plastics

Redland Tiles, Yorkshire Imperial and Muntz & Barwell have just announced the Rymway p.v.c. rainwater system, which includes a full range of gutter and downpipe fittings which are easy to fix and which should need no maintenance. The sizes being made at the moment are 4-in, half round guttering with 21-in, downpipe, though it is possible that other sizes will follow later on. The supporting brackets and the various fittings are ready lined with jointing strip, the gutter being sprung into position under lugs on the fittings, compressing the jointing strip to make a watertight joint and at the same time allowing for thermal movements along the whole length of the run. The gutters and downpipes are made in 12-ft. lengths, the standard colour being a lightish grey. Painting to any colour is possible, but since the chief advantage of using plastics is that there should be no maintenance there would seem to be little point in doing so, as the colour is quite pleasant, Swan necks with offsets from 3 to 18 in. are standardised, but other sizes are easily made with standard bends and the necessary length of pipe, as the material is very easily cut with a hacksaw. Supporting brackets are aluminium die castings, and should be fixed with the aluminium screws supplied. Prices are about the same as for cast iron. (Yorkshire Imperial Metals Ltd., P.O. Box 166 Leeds, Redland Tiles Ltd., Castle Gate, Reigate, Surrey, and Muntz & Barwell Ltd., Alexandra Works, West Bromwich, Staffs.)

#### Roof Ventilation

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4.90 planning: urban and rural

#### PARKING

Car Parking Standards. Published by Berkshire County Council, Shire Hall, Reading. The rising spiral of local authority parking standards has reached a plateau with the publication of Berkshire's new development control regulations.

This county with a car ownership level nearly twice the national average has good reason to introduce to the prospective developer, standards which include one car space per dwelling plus provision for visitor parking, a car/area ratio of 1:2 for retail outlets and one space to every 500 square feet of larger offices. Their own example in providing over 300 parking spaces for 130,000 square feet for office space currently the subject of competition is an indication that they mean business, for their site in the County Borough of Reading could attract a lower standard.

An examination of the regulations for the 13 building types defined suggests that behind the criticism of Hospital Board and Ministry of Education parking provision and the commondable realism in, for example, demanding up to 75 per cent of the site area of multi-storey wholesale premises, the dangers of deterring the developer have been reconciled with the duty to stem the disintegration of urban communities.

In accepting that standards of this kind are unlikely to remain valid, the County Council emphasises that their application is only one factor in a transportation plan which includes the provision of free offstreet public parking facilities.

Other local authorities who similarly seek to get the long-term parker off the streets should likewise accept that they are not thereby relieved of the necessity to formulate a comprehensive policy based on the full economic costs of a vehicular system.

(47)k4

16.132 materials: miscellaneous THATCHING

The Thatchers' Craft. Published by the Rural Industries Bureau. Price 42s.

This book must surely be considered a definitive work on this subject. It describes in full detail, with excellent photographs, the techniques of long straw, combed wheat reed, Norfolk reed and marsh reed thatching; and gives added data on fire protection, costing (this is more for the thatcher than for the architect) and on the roof structure suitable beneath thatch. Architects will be interested to note (if they did not know it already) the modern practice of using marsh reed grown in areas other than Norfolk in place of long straw (which has been increasingly hard to get since the coming of the combine harvester). The R.I.B. estimate the age of thatch at 50-60 years for Norfolk reed. 25-40 years for combed wheat reed and 10-20 years for long straw. An authoritative and illuminating office reference

(42)

19 235 construction: details LININGS

Dry-Lined Interiors to Dwellings. Building Research Station Digest. (Second Series) No. 9. H.M.S.O. 1961. 3d.

The BRS Exhibition Stand in the 1959 Building Exhibition put forward the advantages of dry-lined interior finishes. This Digest gives a general résumé of the use of plasterboard or similar sheet materials for linings. The publication covers methods of fixing and draws attention to methods of coping with damp walls. It discusses methods of jointing relative to conventional effects and decorating, problems arising from fixing wall fittings, and ways of concealing services.

The publication recommends a building sequence from after the shell is complete to decoration, and discusses methods of obtaining productivity of labour using drylinings. A formidable list of further advantages gained by the technique includes factors of controlling dampness, increasing insulation, reducing shrinkage cracking, eliminating wet processes at a late stage of the building sequence, accommodating services without chasing, and speeding up the final decoration process.

However, the main point established concerns the approach to the use of the drylining technique. Satisfactory use depends upon design, planning and workmanship. The technique should be used throughout and not mixed with traditional plastering. Cutting boards should be avoided, a factor that affects both the overall design of walls and the detailing of openings. In fact, the publication draws attention to the wider aspects of using modern industrialised building materials in conjunction with and in place of traditional methods.

(20) 691-88

19.236 construction: details

#### TIMBER CONNECTORS

Connectors for Timber, British Standard 1579:1960. Published by the British Standards Institution. Price 6s.

This British Standard was first published in 1940, revised in 1953 and it is again revised under the authority of the Timber Industry Standards Committee to take account of the types and sizes of connectors now generally available in this country. The principal changes in the specification are the reinstatement of malleable cast iron shear plate connectors, the elimination of corrugated tooth ring connectors, and a modification in the shape of teeth in the round toothed-plate connectors. The publication covers the dimensions and materials for split-ring, shear-plate, and both square and round tooth-plate connectors. It does not cover the strength properties of joints but refers to British Standard C.P. 112 for this information.

> (38) £96-121

19.237 construction: details

#### RAINWATER GOODS

Wrought Copper and Wrought Zinc Rainwater Goods, British Standard 1431:1960. Published by the British Standards Institution. Price 6s.

This British Standard was prepared to coordinate the general features of rainwater goods made from wrought copper and wrought zinc to bring it in line with B.S. 2997: "Aluminium rainwater goods." It covers materials, workmanship, design, construction, dimensions and tolerances of rainwater goods comprising rectangular. O.G. and half round eaves gutters, rectangular and circular rainwater pipes and fittings in copper and zinc. It also recommends methods of fixing and jointing pending the preparation of a Code of Practice.

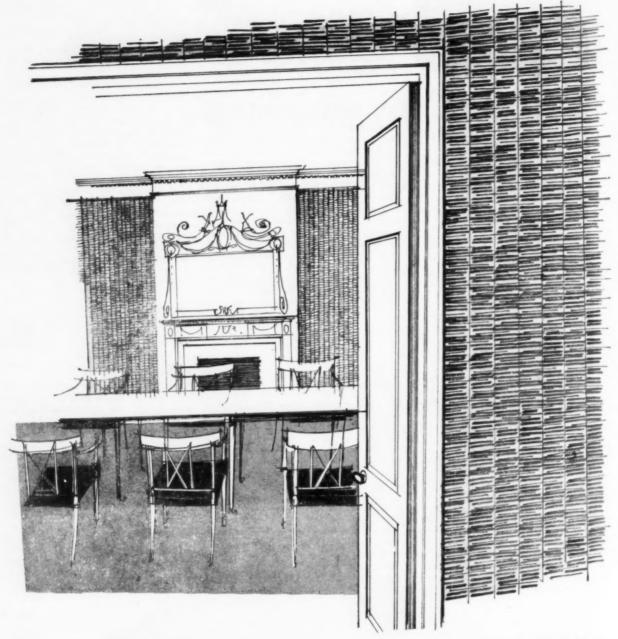
(98)

22.101 sound insulation and acoustics

NOISE IN THE HOME

Building Research Station Digest No. 7 (second series) H.M.S.O. 1961. 3d.

This comprises a useful summary of the many sources of noise in homes and gives guidance to architects on a number of points of planning and detailing. The sections in-clude bathroom and W.C. plumbing noise, water hammer, central heating systems, domestic power appliances as well as structural noises such as squeaking of floors, door slamming and rain noise on metal roofs. It is to be regretted that more detailed information could not be given on the various kinds of oil-burning central heating boilers which are now becoming so popular and about which a crop of noise complaints is arising.



Drawing by Nigel Walters



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#### 10 DESIGN: BUILDING TYPES

## space and water heating in local authority flats, 2

Having considered in last week's issue the standards provided by different heating systems P. T. Loader and Elizabeth A. Milroy turn to the questions of the degree of satisfaction which they provided, capital costs and fuel consumption; and summarise their conclusions. Their report which presents the findings of a recent survey carried out by BRS is published by permission of the Director of Building Research.

#### Satisfaction with living room heating

Tenants were asked whether they were satisfied with the heating of the living room, and the percentages giving favourable replies are shown in Table 7.

Examination of the percentages satisfied on the various estates shows that the general level of satisfaction is high and is not directly related to the temperatures maintained. The highest level of satisfaction with living room heating was recorded on the estates with tenant-controlled electric floor warming. This may appear surprising in view of the low temperatures recorded, but some form of supplementary radiant heating was used by the majority of tenants with floor warming, and this would increase temperatures in the occupied part of the room. On two of the estates studied, electric radiant fires were provided, and on the other two estates, most tenants had supplied their own. This widespread use confirms the need for some additional means of heating which can be used to top up when required.

Satisfaction with floor warming under landlord control presents a different picture, only 56 per cent of those interviewed being satisfied. Complaints resulted from the fact that heating was switched off completely for five months a year, and when it was available, was restricted to off-peak hours. As already discussed, a further cause of dissatisfaction was the fixed charge made for the floor warming irrespective of the amount

of electricity consumed in individual flats; in spite of this only 25 per cent of those interviewed relied entirely on the floor warming, the remainder using supplementary heating appliances of their own.

Satisfaction with living room heating was also high on the estates with individual solid fuel appliances with back boilers. Openable stoves were found to give satisfactory service although they were sometimes criticised on grounds of appearance. Satisfaction with heating in the living room on the estate with open fires and a central hot water supply was considerably lower. This may have been due to the shape of the rooms which were long and narrow.

Satisfaction with both gas and electric fires as means of heating the living room was somewhat lower than with floor warming and individual solid fuel appliances. This is not unexpected in view of the low temperatures recorded, although equivalent temperatures in the occupied part of the room would be expected to exceed those recorded on the thermographs. On the estate with electric fires, convector heaters were also provided, and their use increased satisfaction with living room heating. On the estate with gas fires, only 38 per cent of those interviewed relied solely on the gas fire; 26 per cent supplemented the gas fire with appliances of their own, and the remainder did not use the gas fire at all, complaining that it was too expensive to run. It is of interest that the temperature rise in living rooms appeared to vary consistently with expenditure with both gas and electric fires.

On the centrally-heated estates, 73 per cent of those interviewed were satisfied with the heating of the living room. Certain criticisms were offered which are likely to be common to all systems under landlord control. The chief complaint was that many tenants thought that the heating should be available for a period longer than that from the beginning of October to the end of April. Adverse comments were also voiced when the hours of availability of the heating were restricted. Such criticisms may have arisen partly from the inconvenience caused, but perhaps the main factor was that the householder, having paid the fixed charge for his heating, found that he could avail himself of this heating only when the authority thought it proper. This often resulted in pressure from occupants for improved service; this was particularly the case on one of the estates where the heating system was intended to provide background heating only, but tenants did not appear fully to understand that they were expected to use supplementary heating. Conversely, on another of the estates studied, many tenants complained that the heating was excessive and that they were unable to turn it off.

#### Satisfaction with heating of other rooms

It has already been shown that, after the living room, there was a considerable demand for heating in kitchens and in bedrooms, but that halls and bathrooms were regarded as relatively unimportant. Means of heating the hall were, in fact, provided on several of the estates studied, but absence of such heating does not appear to have provoked strong objections. This suggests that heating in the hall is not as critical as in certain other rooms, although the spread of heat from the hall to unheated rooms in the dwelling may have certain advantages. Although bathrooms were specified by few tenants as rooms in which heating was wanted, unheated bathrooms led to many complaints. It is of interest to note that the level of satisfaction with internal bathrooms with no means of heating was considerably higher than with conventional unheated bathrooms.

Provision for heating kitchens was made on three of the estates studied, but no means of heating as such was installed on the other estates. In three of these, however, there was a subsidiary heat source, such as a hot-water tank or a short length of hot pipe, which was commented on by tenants as providing incidental warmth. The percentages satisfied with the provision for kitchen heating vary as follows:

satisfied Radiator or floor warming .. 80 per cent Hot-water tank or short length of hot pipe .. .. 84 per cent .. 75 per cent No heat source provided ... Bedrooms were specified as a choice of room to be heated by a large number of those interviewed. Heating of the second bedroom is regarded as almost as important as heating the main bedroom because this room is often used for children. Although such a high proportion expressed a desire for some form of heating in bedrooms, it must be pointed out that 20 per cent said that they preferred bedrooms with no heating other than an electric power point. Heating was provided in bedrooms on five of the estates studied, by radiator or hot pipe, by electric

fire, or by a short length of circulating hot pipe

leading from the back boiler to the hot water tank; no heating in bedrooms was provided on the other nine estates.

The following table summarises the tenants' satisfaction with the various means of heating bedrooms:

	S	atisfied
Radiator or hot pipe	. 87	per cent
Short length of hot pipe and pane	el	
fire	. 89	per cent
Short length of hot pipe alone .	. 80	per cent
Panel fire alone	. 59	per cent
No heat source provided	. 61	per cent
The high levels of satisfaction v		
recorded in bedrooms and kitche		
amount of background heating s		
provision, although not necessarily		-
peratures as high as those with cer	ntral h	leating, will
he highly accentable		

#### CAPITAL COSTS AND FUEL CONSUMPTIONS PER DWELLING

In the preceding section the tenants' reactions to the various heating and hot-water systems have been analysed mainly in respect of the standard of the service provided and the financial expenditure incurred. These factors are obviously interrelated and their separate contributions to the degree of tenant satisfaction are not readily deducible. The present section attempts to explain, by means of an analysis of capital costs and fuel consumptions, some of the technical factors which ultimately constitute the total costs so that the relationship between the service provided and the expenditure incurred may be more clearly seen.

#### Capital Costs

Although capital costs for particular systems will vary to some extent at different times in different parts of the country, it is useful when first considering the choice of heating system, to have available some broad cost data, and a study was undertaken to provide such information. There is, of course, a very wide range of possible combinations of space and water heating methods, and it was not practicable to cover all these. It appeared, however, that so far as space heating was concerned the most common provision was heating in the living room and in one other room such as the kitchen, main bedroom or the hall, and it was decided to concentrate on this arrangement. It will, however, be possible to modify the figures

Analysis of Satisfaction-percentages satisfied with living room heating

Central heating	Open fire (back boiler)	Openable stove (back boiler)	Open fire (central hot water)	Floor warming (tenant control)	Floor warming (landlord control)	Gas	Electric fires
Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
	89	89	65	92	56	64	78

given if heating of a rather different standard is being considered, for instance, if the space heating is to be extended to three rooms or possibly restricted to the living room.

The estimates for the provision of space and water heating in the standard flat by open fires and openable stoves, off-peak electric floor warming with radiant fire for topping-up, the gas and electric fires, and the cost analysis of some 20 projects with central heating are given in Table 8, together with estimates of the maintenance and replacement costs. The cost of the individual solid fuel systems includes the provision of a flue and fuel store, an inset back boiler fire or free-standing stove, each with hearth and surrounds, a 10 sq. ft, radiator in the hall and a 3 kW. immersion heater; the costs are respectively £161 and £184. The estimate for floor warming covers an installation of respectively 2.7 kW. and 0.8 kW. in the living room and hall floors, a fixed 2 kW. radiant fire for the living room and a 3 kW. immersion heater; the costs are respectively £105 and £136 for embedded and withdrawable floor cables. For the gas fire system, the estimate includes a 16,000 Btu/h radiant fire with a pre-cast individual flue in the living room, a 6,000 Btu/h flueless convector in the hall and a standard gas multipoint water heater; the cost is £132. The standard electrical system consists of a fixed 2 kW, radiant fire in the living room, portable convector for the hall and a gas storage water heater at a total cost of £91. In each case the cost of all incidental builders', electricians' and plumbers' work has been included, with the exception of the cost of the plumbing runs for hot water delivery.

The estimation of the cost of providing a central heating and hot water installation could not be adequately covered on the basis of a single design as specified for the other systems. Whilst the provision of central heating to two rooms is fairly common in local authority flats the method of distribution between the boiler house and the flats can vary greatly. The number of blocks in the estate and the location of the boiler house, which may be independently sited or incorporated in a block, contribute to a wide variation in the builders' costs for ductwork, etc. An estimated average cost was, however, derived from an analysis of some 20 projects, ranging from multi-block schemes with about 1,000 flats to single block schemes with 50 flats, and incorporating a wide variety of boiler house design and equipment. The average figure for space heating and water heating by individual calorifier was £260, including £75 for builders' work such as the construction of the boiler house and flue, the external duct-work and making good inside the flats. The overall cost per dwelling ranged from £180 to £320 for the different estates. This arose partly from differences in the standard of service provided (the ratings ranged from 20,000 to 35,000 Btu/h per dwelling) but also from differences in design aspects. There was for instance a large spread in the cost per dwelling for the boilerhouse, which was clearly related to its size and location. There were also considerable variations in the costs arising from ground ducts. A point of particular

interest was that although it is often assumed that the capital cost per dwelling is reduced as the size of the estate increases, this was not supported by the data collected. In fact, it appeared that with the development of automatic boilers requiring less manual attention, there may be cases where the overall cost on an estate can be reduced by having local boilerhouses and avoiding the need for ducted mains which can be costly. It was estimated that a space heating and hot water system rated at 20,000 Btu/h per flat could be provided in a single 11-storey block of 60 flats with a ground floor boilerhouse and flue abutting the block for about £200 per flat.

Information on maintenance and replacement costs is rather limited. Faber and Kell give some guidance for central heating systems, and some data on individual appliances have been obtained in an earlier survey of local authority housing made by the Building Research Station. For several items, however, only rough estimates could be made; in particular for systems which have only recently been developed, such as electric floor warming, there was uncertainty on the life to be expected. Fortunately, in relation to the overall annual cost of the systems, the annual charge for replacement is generally small, and relatively large changes in the expected life of a particular item will have no great effect on the total cost. The method used in preparing the figures was to estimate the cost and the useful life of each item involved and hence to calculate the equivalent annual cost. For example, if an item must be replaced every 10 years at a cost of, say, £100, the figure which is required is the annual sum which, invested at 5 per cent, will amount to £100 in 10 years. The figure is £7, that is, 7 per cent of the cost of a single replacement. For items replaced every seven years, the corresponding annual cost is 12 per cent of the cost of each replacement, for 15 years 4 per cent, for 20 years 3 per cent, and for 30 or 40 years about 1 per cent. The replacement intervals adopted for the calculations were as follows:

Pipes and radiators	60	years
Oil burner nozzles	7	
Boiler house equipment	20	**
Grate, cistern, immersion heater	10	**
Domestic boiler and tank	20	
Copper cylinder	30	
Ball valve	15	-
Floor cables (a) break repair	20	17
(b) renewal	30	
Electric radiant fire	15	91
Gas fire and convector	20	
Gas multipoint heater		

The equivalent annual cost of the capital outlay is seen in Table 8 to range from about £13 for central heating to £4 11s. for electric fires, a ratio of about 3:1. When maintenance and replacements costs are included, however, the total annual costs are respectively about £17 10s, and £8 8s., the ratio being now reduced to about 2:1, largely because of the proportionately lower replacement costs with central heating.

Table 8
Estimates of Equivalent Annual Costs per Dwelling for Installation, Maintenance and Replacement

System			Equivalent annual cost		Estimated annual cost			Estimated total annual		
System	cost		annual cost		Maintenance Replacement					
· Space heating	Water heating	£	£	8.	£	s.	£	S.	£	S.
Central	Bulk calorifier Individual calorifier	250 260	12 13	10	2 2	4 4	2 2	8	17	12
Openable stove	Back boiler and immersion heater	184	9	4	0	5	2	5	11	14
Open fire	Back boiler and immersion heater	161	8	1	0	5	2	0	10	6
Off-peak electric floor warming and radiant fi	e Off-peak electric storage heater	105	5	5	-	-	2	18	8	3
Gas fire radiant convective	Gas multi-point heater	132	6	12	1	5	2	12	10	9
Electric radiant and convector fires	Gas storage heater	91	4	11	1	5	2	12	8	8

In comparison with the individual solid fuel system, the central heating annual cost is about £6 greater, that for the gas system a few shillings less and for the two electric systems some £3 less.

#### **Fuel Consumptions**

Fuel consumption is of obvious importance to the tenant whose satisfaction is found to have been greatly influenced by the expenditure incurred; it is also of very great importance to the national economy. This section presents some data on annual fuel consumptions and attempts to explain the differences in terms of the technical factors involved.

Table 9 gives annual fuel consumptions, based on data obtained from a variety of sources, and shows a wide variation, from about 1,300 therms for central heating and bulk supply of hot water to about 300 therms for tenant-controlled off-peak electric floor warming and storage heaters, in the totals of all fuels used. This is partly due to the considerable differences in the temperature levels maintained, which, in Table 6, are seen to vary, for a winter outside average temperature of 43·5°F., from about 60°F, with central heating to 57°F, with electric fires, giving a range of about 2:1 in the temperature increments when

allowance is made for the calculated gains of about 2°F. from sunshine and occupancy. Detailed comparisons would, however, require consideration of the space heating systems themselves and of the contributions to space heating of the thermal inputs for water heating, cooking, etc. The National Building Study gives such an analysis for a sample of eight estates, from amongst those on which Table 9 is based, which were tested in greater detail.

From this detailed study it was found that during a typical winter week the dwellings served by central heating were using almost four times as many therms as those with electric floor warming. It was shown that this difference could be largely explained in terms of the sizes of the flats, the temperatures maintained, the amounts of hot water used (which varied from 450 gallons per week with bulk supply to 150 gallons per week with electric storage heaters) and the likely space heating efficiencies of the various appliances with appropriate allowances, based on other studies, for ventilation heat loss and miscellaneous gains

The annual fuel consumptions for these eight estates showed a wider range than found in the typical winter week, the thermal consumption with central heating

Table 9
Annual fuel consumptions per dwelling

System		Solid fuel		Gas	Electricity		Oil	
Space heating	Water heating	Sond raei		1,748	Electricity		Oil	
		Tons	Therms	Therms	kWh	Therms	Gallons	Therm
Central	Bulk calorifier Individual calorifier	4·6 4·2	1,200 1,100	61	910	31	1	I
Openable stove (burning coke)	Back boiler and immersion heater	1-5	410	92	2,230	76	6	10
Open fire (burning coke)	Back boiler and immersion heater	1-6	430	106	2,260	77	16	27
Off-peak electric floor warming and radiant fire tenant control landlord control	Off-peak electric storage heater Electric storage heater	=		52	8,060 11,100	275 379	10 25	17 42
Gas fire radiant convective	Gas multi-point heater			229	1,790	61	48	82
Electric radiant and convector fires	Gas storage heater			187	2,370	81	26	44

being about six times that with electric floor warming. This increase in the ratio could arise because of the different demands made on the systems in particular at the ends of the heating season. There is some experimental evidence to suggest that space heating is required when the average weekly outside temperature falls below a value in the neighbourhood of 60°F., and the annual consumption with any system might, therefore, be represented as a constant weekly consumption for water heating, cooking and incidentals together with a weekly consumption for space heating which varies in proportion to the weekly degree days with respect to 60°F. This hypothesis was used to predict the annual consumptions for the different estates from the data for the winter week. In relation to the recorded consumptions, the predicted values were from 10 to 25 per cent low for the central-heated estates supplying hot water, approximately correct for the individual solid fuel estates and the central-heated estates with separate hot water supply, about 10 per cent high for the gas fire estate and 20 per cent high for the floor warming estates.

Although it is not possible to distinguish fully the effects of system operation and of local climate, it appears that these annual consumptions with central heating and hot water supply were increased appreciably by the adoption of a longer heating season than that adopted by the tenants with other systems, particularly floor warming. It was, in fact, reported that reduced space heating was provided practically throughout the year on one central-heated estate. possibly because of the need to supply constant hot water, but the low summer quarter consumptions on the floor warming estates, which were situated in the same locality, suggests that in these the heating was used only occasionally in summer.

It appears, therefore, that the range of the annual consumptions with the different systems as given in Table 9 can be largely explained in terms of the efficiency of the appliances and the standard of the service provided, but that some allowance must be made for the different heating seasons adopted by choice or perhaps imposed by limitations in the control of the equipment.

#### SUMMARY AND CONCLUSIONS

In the following paragraphs the results of the complete study are summarised; the various systems are here dealt with in the order adopted in the preceding sections and no order of merit is implied.

Central heating and hot water systems appear to provide a reasonably high level of tenant satisfaction. Temperatures are generally high, and hot water always sufficient. A total expenditure of about £50 per annum, which includes payment to the landlord for the central heating service, appears satisfactory in relation to the value of the service given. The expenditure is, however, some £10 to £15 greater than with some other systems, and is regarded as high by those in the lower income groups. Inability to economise by turning off the radiators is a cause of criticism, and the payment of a fixed charge all the year round produces a demand for heating at times when the tenants might otherwise be prepared to do without. Hours of heating, controlled from the boiler house, were found in practice to be extremely varied and to affect the economic operation of the systems. A study of design criteria suggests that a high standard of heating is planned, but the measured temperatures indicate that this is often exceeded throughout the dwelling, and to the greatest extent in nominally unheated rooms. Annual fuel consumptions amount to about 1,300 therms, which appears high in relation to those for other solid fuel systems having similar appliance efficiencies. The higher figure is, however, accounted for partly by the high standard of the space heating and hot water service provided and partly by the longer heating season generally adopted with these systems. Capital, maintenance and replacement costs at about £17 per annum are only some £6 per annum more than for the individual solid fuel system, and this disparity might be reduced if the

systems were designed to give similar standards of

The generally high level of satisfaction with individual solid fuel appliances indicates the continued popularity of this form of heating. There appears to be general satisfaction with the warmth of the living room, which is considered by most tenants to be the most important room to heat, whatever system is employed, and the lower temperatures elsewhere in the dwelling give relatively slight dissatisfaction. The supply of hot water from a back boiler is much appreciated, and is regarded as being "something for nothing," but there is a requirement for supplementary means of water heating for summer use. For an average expenditure of less than £40 per annum, these systems show the highest percentage of favourable replies to the question of good value for money. Average fuel consumptions are about 600 therms per annum, and capital, maintenance and replacement costs amount to £10 10s. per annum for open fires and £11 10s, for openable stoves; where stoves are installed, this cost might be reduced by the use of branched flues.

Satisfaction with electric floor warming is also reasonably high on most estates, although it appears to be higher when the tenant has control-within the limitations of off-peak periods-than when heating is supplied by the landlord at a fixed charge. On all the estates with this form of heating, there was evidence of a "settling down" period, during which tenants had to learn to use new and unfamiliar equipment in the most economical way; the importance of instruction during this period must be stressed. Satisfaction with room heating is high in spite of the moderate air temperatures recorded; this is probably due to the dispersed radiant effect of the floors, the low vertical temperature gradients, and the absence of

draughts, all of which are characteristic of this system, and to the widespread use of supplementary appliances for topping up. Hot water was provided by electric storage heaters; some of these were run on normal and some on off-peak electrical supply, but the high satisfaction with the service does not appear to be affected by the basis of charging or by the hours of availability of the supply. Where control of the system is in the hands of the tenant, the fuel consumptions and expenditures were low at 295 therms and £40 per annum and the system was thought to give good value. On the landlord-controlled estate, however, the consumptions and expenditures were considerably higher at 470 therms and £55, with the result that the degree of satisfaction with value for money was the lowest of all the estates studied. As discussed earlier, this was partly due to faulty design. The capital, maintenance and replacement costs were about £8 per annum for an embedded system and £9 10s. for a withdrawable system; this is some £2 per annum less than the comparable costs

The individual gas and electric fire schemes show a lower level of general satisfaction. Hot water supply by gas multipoint or gas storage heater is criticised on grounds of expense and slowness of heating. Room temperatures are low, although the radiant effect of the fires would result in a warmer zone in the occupied part of the living room; warmth in rooms not directly heated is thought to be inadequate. Expenditures of around £40 per annum are not considered to give particularly good value for the money spent. Fuel consumptions average about 370 therms per annum for gas fires and 310 therms for electric fires; these relatively low consumptions, and the pattern of temperatures recorded, suggest that the heating is used only for short periods, and that economy is effected by the acceptance of lower temperatures at the expense of satisfaction. Capital, maintenance and replacement costs of the two systems average about £10 10s. per annum for the gas installation and £8 10s. for the electric installation.

In deciding what heating system to install in new blocks of flats, the local authority will be concerned to provide a satisfactory service at a reasonable running cost, for a moderate capital outlay. These studies have shown that individual gas and electric fires provide a significantly lower degree of tenant satisfaction which may offset the advantages of their low capital cost, but that central heating, electric floor warming and individual solid fuel appliances with back boilers can provide a satisfactory service to the tenant at a moderate capital cost. The studies suggest that, for these systems, there are certain points which should be borne in mind, and certain improvements which might be made. For instance, with individual solid fuel appliances incorporating back boilers, the provision of an immersion heater for summer use will increase satisfaction; with floor warming, the provision of a radiant fire will indicate to tenants that they may need to top up the heat from the floor. With central heating, attention should be given to improved siting of the equipment in the flats, and to improved control

at the boiler house; a better distribution of heat within the rooms would lead to a more comfortable environment and to a lessening of discoloration over radiators. Perhaps the most important development, however, would be the introduction of systems of metering, so that tenants could be charged for what they used; this should result in a system more widely acceptable to tenants in all income groups.

With any system there may be tenants who will not use enough heating in their dwellings to prevent harmful condensation or even undue chilling of neighbours' flats. It may therefore be an advantage for some background heating outside the tenants' control to be provided. The metering of central heating, as suggested above, need not necessarily preclude this. With individual solid fuel appliances, some measure of background heating will be given by the flues which provide storage of heat. The control of electric floor warming can be arranged to ensure that tenants use at least a minimum amount of heat.

The expenditures given in this paper for the different systems were those for the particular estates studied. but local variations in the price of fuels would, of course, affect running costs in different districts. For example, the consumptions for tenant-controlled floor warming would cost £39 10s, at current prices in the London area and £33 10s, in the Midlands; for openable stoves, the comparable costs in the two areas would be £46 and £40. It is possible to calculate the running costs at various prices from the consumptions quoted (Table 9), but it should be remembered that the prices charged for particular fuels would be likely to affect the amounts used. If the price of the main fuel in another area were lower, the fuel consumptions would tend to be higher and satisfaction greater. Conversely, if fuels were more expensive, consumptions would probably be reduced to some extent, with a corresponding decrease in satisfaction.

Since these studies were carried out, some existing systems have been further developed and new ones have been introduced. In the case of electric floor warming under landlord control, thermo-time regulators which vary the heat input according to the outside temperature have been introduced. This should overcome some of the difficulties that arose from the use of room thermostats on the estate studied. The gas industry has introduced the selective warm air system, but this has unfortunately not been in use for long enough to allow studies to be made. The aim of both the gas and electric systems is to make the most efficient use of expensive fuels. A metered form of central heating by warm air is already in use, but other methods of metering have so far tended to be

One final point which has to be considered is that tenants may demand a higher general level of heating standards in the future. These studies have shown how much appreciated was the provision of even a small amount of background heating in rooms other than the living room. Any increase in the standard of heating required would, of course, favour systems using solid fuel or oil with their lower inherent cost of heat.

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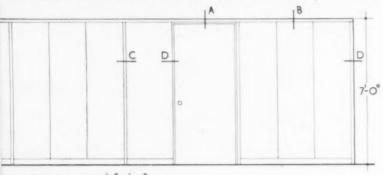
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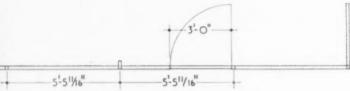
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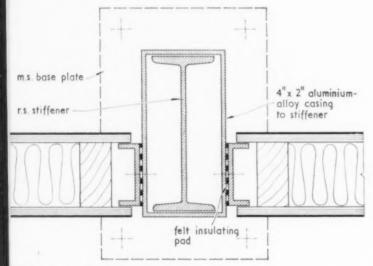
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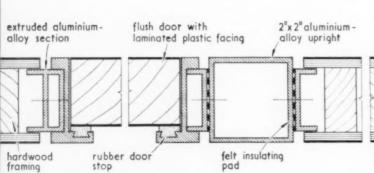
ELEVATION. scale 1/4 = 1-0"



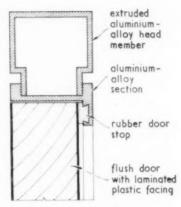
PLAN . scale 1/4" 1 0"



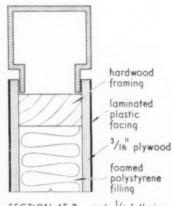
PLAN AT C. scale 1/4 full size



PLAN AT D-D. scale 1/4 full size

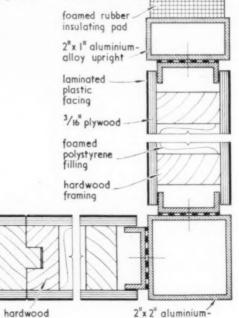


SECTION AT A. scale 1/4 full size



SECTION AT B. scale 1/4 full size

1/2" plaster



alloy upright

FURNITURE AND FITTINGS: 111

working detail

BIN STORAGE UNITS: SCHOOL IN CHESHUNT, HERTS.

G. C. Fardell, Architect to the Hertfordshire County Council

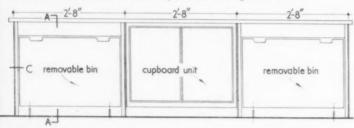


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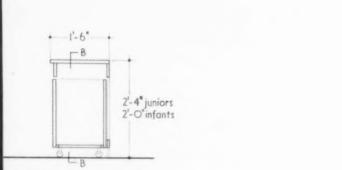
#### working detail

BIN STORAGE UNITS: SCHOOL IN CHESHUNT, HERTS.

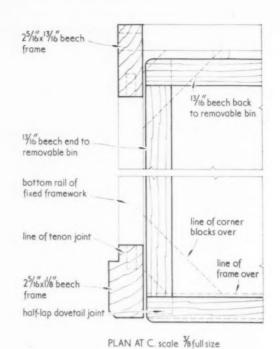
G. C. Fardell, Architect to the Hertfordshire County Council



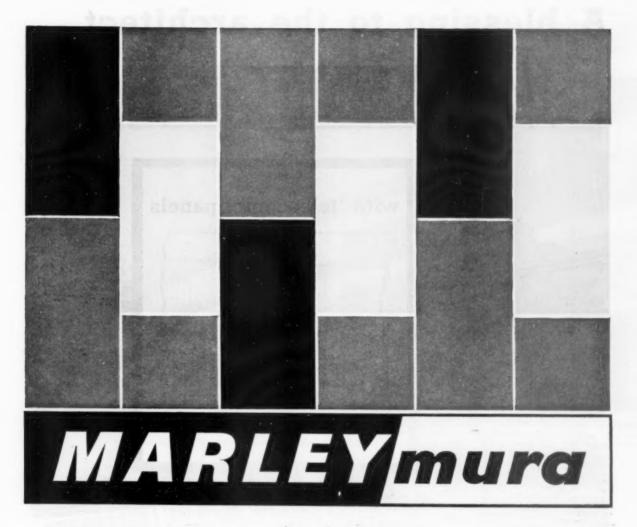
ELEVATION. scale 1/2"=1-0"



SECTION, scale 1/2"=1'-0"



iroko top to fixed portion iroko top 13/16 2x2m.s.angle 13/16 beech bracket corner side rail block corner line of tenon block joint 13/16 beech front 13/16 beech back 13/16 beech side 13/16 beech front to bin to bin to bin beech rail and rubber buffer line of back rail 9 m m. plywood 3/4x1/2" batten 9 m m. plywood base 13/16 beech base to bin side rail line of tenon joint patent rubbertyred metal castors



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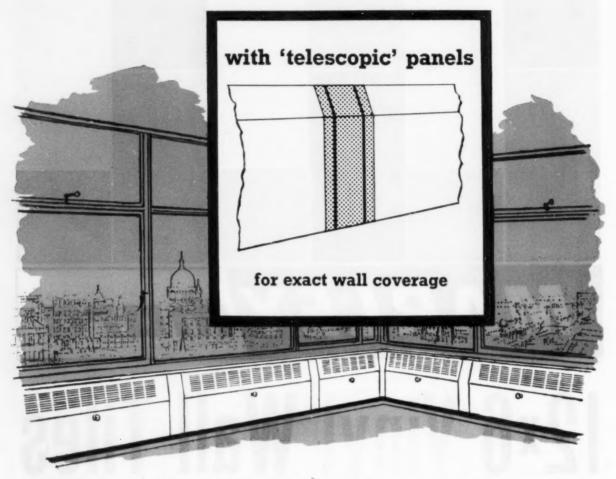
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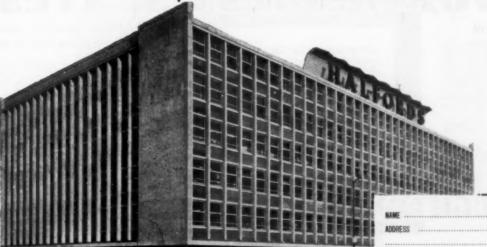


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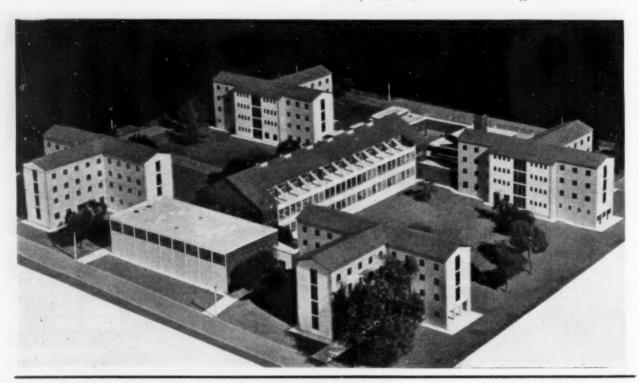


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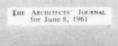
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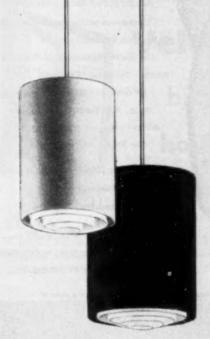
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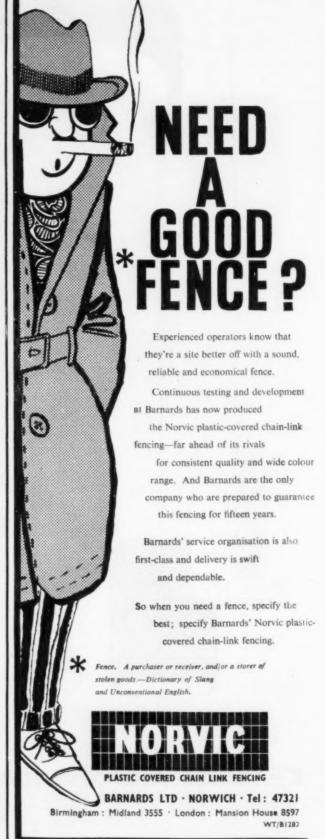
(Architect: Sir Basil Spence, R.A.)

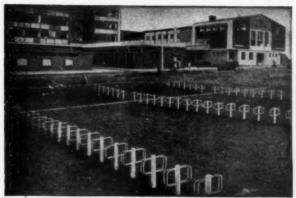
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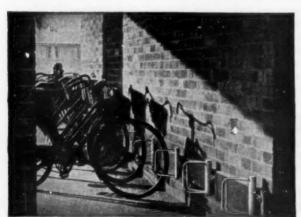


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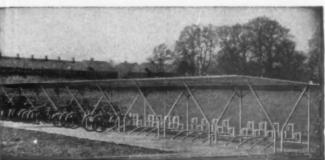
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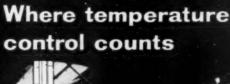
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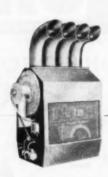
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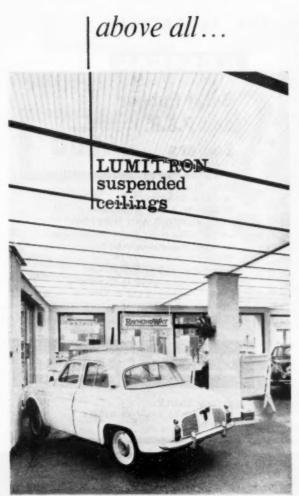
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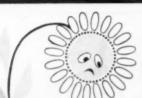
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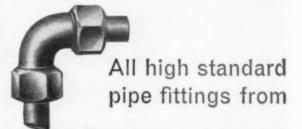
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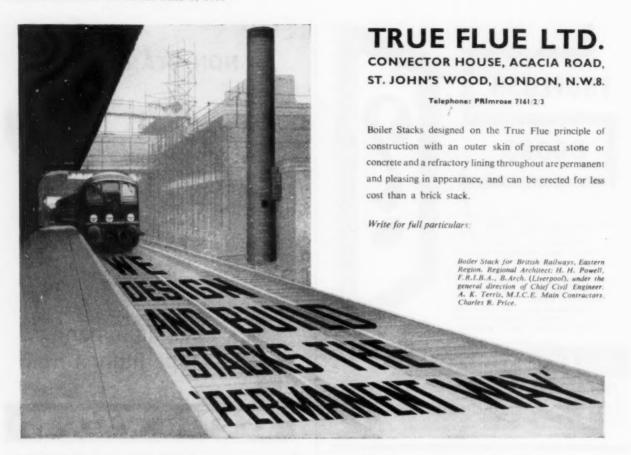








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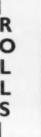
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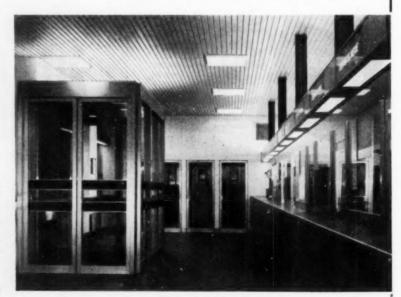
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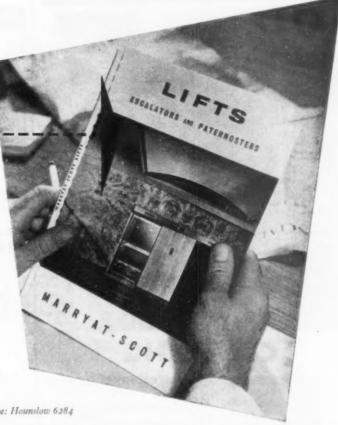
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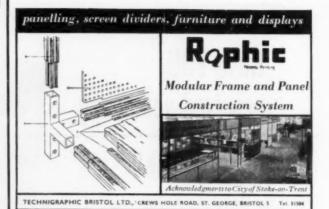
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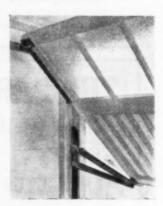


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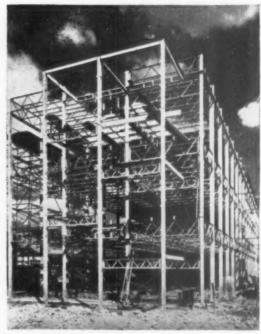
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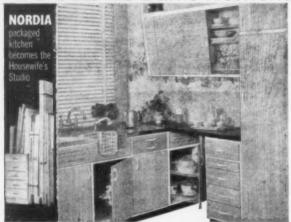
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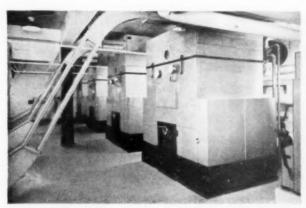
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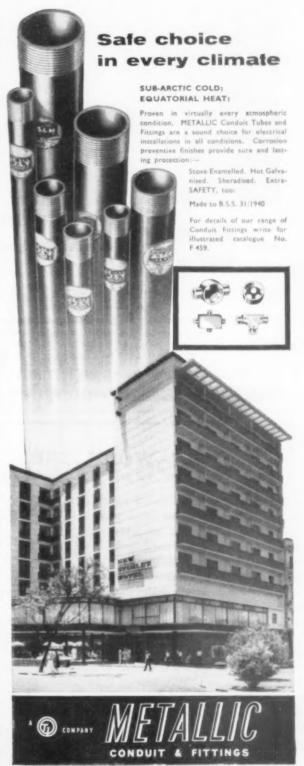
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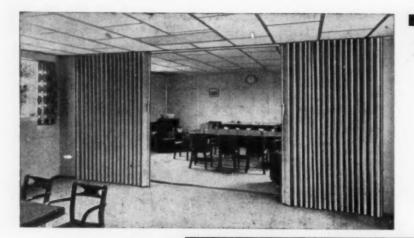
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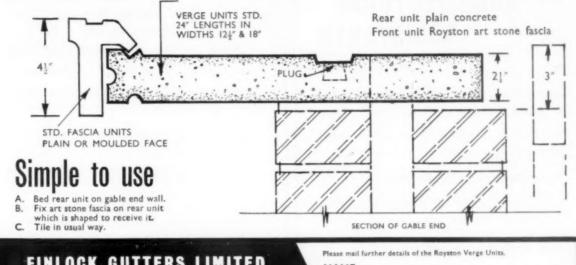


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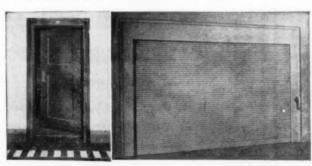
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## SENIOR ARCHITECTS ARCHITECTS ARCHITECTURAL ASSISTANTS

We have vacancies in the Architects' Department in LONDON & EPSOM for qualified men and those who have passed the Intermediate R. I. B. A. Examination.

These are permanent positions: Luncheon vouchers, five day week, pension scheme.

Please write fully in confidence to the

Personnel Manager, W. S. Atkins & Partners, 158, Victoria Street, London, S.W.1

### ARCHITECTURAL STAFF

SENIOR & INTERMEDIATE ASSISTANTS & DRAUGHTSMEN

required by

F. W. Woolworth & Co Ltd

Five day week. Pension scheme. Dining facilities. Modern office building. Good salaries according to experience and qualifications. Apply giving details of salary required, age and experience to:—

District Architect, F. W. Woolworth & Co Ltd, 1264 London Road, Norbury, S.W.16

#### LAING

### ARCHITECTURAL STAFF

SYDNEY GREENWOOD, A.R.I.B.A Chief Architect.

#### JOHN LAING AND SON LIMITED

requires

Assistant Architects and Architectural Assistants for a recently established Regional Office in Manchester.

This office will be responsible for all types of Architectural projects undertaken by the Department.

Assistant Architects should preferably be qualified with 2/3 years' experience in schools, Industrial or Commercial Projects.

Architectural Assistants should be of Intermediate standard with 2/3 years' experience in an Architect's office.

There are excellent prospects within an expanding Organisation, including a Pension Scheme and other progressive benefits.

Applications, giving brief details, to Group Personnel Manager (MRO. 19), John Laing and Son Ltd., London, N.W.7.

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In this age of specialisation it is no longer possible to be the "complete man" but it is possible to belong to the complete firm. We think we are such a firm, comprising as we do Architects, Civil & Structural Engineers, Quantity Surveyors, Electrical Engineers and Heating & Ventilating Engineers. With this combination we are able to undertake all aspects of design for projects of any size or description in any location especially in the Industrial field.

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Due to continued expansion we require a senior assistant in our Architectural Dept. The successful applicant will be of at least Intermediate standard and will work closely with the Architectural Designer on a wide variety of projects including new factory and office buildings, alterations and shopfitting. Company's Superannuation Scheme in operation. Modern house available to rent if required. This is an outstanding opportunity for a keen ambitious man to make a career with a progressive Public Company-Written applications, in confidence, giving full details of age and experience to:

Mr. E. Starkey, Relay Exchanges Limited, Relay House, Percy Street, Swindon, Wilts.

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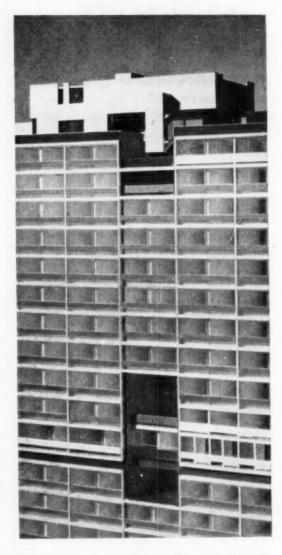
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Post Office Court, 10 Lombard Street, E.C.3



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Adaptations, modernisation, rehabilitation, improvements.

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■ Unique opportunity to produce buildings for the public service with the highest possible standards of design. ■ Wide range of buildings enables individuals to be used according to their special abilities. ■ Contact with the latest developments and techniques through central materials and development section. ■ Promotion strictly on merit.

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grades. Permanency after probationary

service. 
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Starting salaries for Architects up to £1,500 according to quality and experience.

Whatever changes may result from the Royal Commission Report the enormous programme of work will have to be done and service now with the L.C.C. provides the best training ground for opportunities in the future.

And there is room for a few part-time architects.

Application forms and further particulars from Hubert Bennett, F.R.I.B.A., Architect to the London County Council, County Hall, S.E.1, quoting reference EK/1488/6.

### **CLASSIFIED ADVERTISEMENTS**

Advertisements should be addressed to the Adver-tisement Manager, "The Architects' Journal, 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post Fri-day morning for inclusion in the following day 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

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 airmail on Wednesday of each week (one day prior
to A.J. publication date). The cost of this special
service to Overseas subscribers will be fis. for
four weeks (1s. 3d, for each additional week) and
prepayment should be sent by subscribers wishing
is take advantage of this service. The charge we
are making represents only the actual cost of the
postage involved.

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Public and Official Appointments
36s. per inch, each additional line 3s.

CITY AND COUNTY OF NEWCASTLE UPON
TYNE
CITY ARCHITECT'S DEPARTMENT
A unique opportunity exists in this office for
competent Architects to take part in one of the
most ambitious programmes of varied building
works in the country, and vacancies in the
establishment occur for ARCHITECTS who will
be considered on their ability in design, experience, and architectural outlook, in the following
grades:

establishment occur for ARCHITECTS who will be considered on their ability in design, experience, and architectural outlook, in the following grades:—

J.N.C. "C": £1,560—£1,825 per annum.

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A.P.T. IV: £1,140—£1,510 per annum.

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A.P.T. III: £950—£1,140 per annum.

A.P.T. III: £950

normal housing development of a stimulating character.

The department is also engaged on the New Town Hall, where an exceptional opportunity is presented for working on a building of some £4 million in value, and being executed in materials of the highest quality.

Architects wishing to take part in one of Britain's most stimulating programmes should apply immediately for further details and forms of application to George Kenyon, A.B.I.B.A., A.M.T.P.I., City Architect, IS, Cloth Market, Newcastle upon Tyne, 1, indicating the grade for which they wish to apply.

Town Hall.

Town Hall, Newcastle upon Tyne, 1 30th February, 1961. 20th February. 1961. TC66084
ADMINISTRATIVE COUNTY OF LEICESTER
(a) PRINCIPAL ASSISTANT ARCHITECT,
21.410-21.565.
(b) CHIEF ASSISTANT ARCHITECTS, 21.31021.410-21.566.
(c) SENIOR ASSISTANT ARCHITECTS, 21.140201.1308

(e) SENIOR ASSISTANT ARCHITECTS, £1,140— £1,319.

(d) ARCHITECTURAL ASSISTANT, £315—£1,140 (according to qualifications). Candidates for (a) must be members of the B.I.B.A. have had sound experience and be capable of acting as Group Leaders on an extensive programme of education buildings. Candidates for (b) must be members of the R.I.B.A. have had considerable office experience and be capable of taking charge of contracts from inception to combletion. For (c), should be members of the R.I.B.A. have had office experience and be capable of taking charge of small contract from the properties of the R.I.B.A. have had office experience and be capable of taking charge of small contract from the R.I.B.A. have had office experience and properties of the R.I.B.A. and be capable of taking charge of small contract qualifications of the R.I.B.A. and the capable of executing working drawings. Lodging allowance and removal expenses may be paid to a married which the capable of the R.I.B.A. and the capable of the R.I.B.A. and the capable of the capable of the R.I.B.A. and the capable of th

BOROUGH OF CHELSEA
BUILDING SURVEYOR, A.P.T. III-IV
£950 to £1,510 plus £45 p.a. London weighting.
Applications are invited for the above appointment in the Borough Engineer and Surveyor's
Department. Applicants must have A.R.I.C.S.
(Building) or any other appropriate qualifications, and have had good general experience. Council operates five-day week. Forms of application from Borough Engineer and Surveyor. Town Hall,
King's Road, S.W.3, to be returned not later than 23rd June.

87812

AYCLIFFE DEVELOPMENT CORPORATION

AYCLIFFE DEVELOPMENT CORPORATION
(New Town of Newton Aycliffs)
ASSISTANT ARCHITECTS
AND
ARCHITECTURAL ASSISTANTS
Applications are invited for the above appointments at salaries within the range of Grades A.P.T. IV and VI of the Whitley Council for New Towns Staff salary scales, i.e. £1,140—£1,655 p.a. The commencing salary and grade will be fixed according to the qualifications and experience of the successful applicants.
The principal work for the successful applicants will be in connection with the development of the Town Centre of the new town.
Appointments subject to N.J.C. Conditions, superannuation, medical examination and to one month's notice, in writing, on either side.
Housing accommodation available, if required.
Applications, stating age, qualifications and experience, together with the names of two referees, to be sent to the undersigned.
A. V. WILLIAMS,
General Manager.

Churchill House, Newton Aycliffe, Nr. Darlington

Newton Aycliffe.
Nr. Darlington.

BOROUGH OF ENFIELD
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
(Population 110,000—Area 12,400 acres)
Applications are invited for the following established postlons within the Grades shown:—
(a) ASSISTANT
ARCHITECT—A.P.T. IV
(£1,40—£1,310)
(b) ARCHITECTURAL ASSISTANTS—A.P.T. III (£960—£1,140).
The commencing salary will be fixed at a point within the scale commensurate with qualifications and experience.
The appropriate London Weighting allowance will be paid in addition to the above salaries. Candidates for post (a) must be Associates of the Royal Institute of British Architects; for post (b) applicants must have a sound knowledge of all aspects of the building trade and be able to carry out inspections, prepare reports, specifications and estimates for works in connection with repair and maintenance of Schools, and should possess the Higher National Certificate in building.

possess the Higher National Ceremeater.

The Council are prepared to consider the provision of housing accommodation if required, or 100 per cent. advances to successful applicants for house purchase within the Borough.

Pive-day week.

Details of appointments and application forms obtainable from Mr. H. D. Peake. M.Sc. (Eng.).

Borough Engineer & Surveyor, 7, Little Park Gardens, Enfield, Middx.

CYRIL F. C. R. PLATTEN,

Town Clerk.

Civic Centre, Enfield, 16.5.61.

BOROUGH OF ENFIELD
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
(Population 110,000 — Area 12,400 acres)
Applications are invited for the following established positions within the Grades shown:—
(a) CHIEF PLANNING ASSISTANT—A.P.T.
IV (21,140—21,310).
(b) SENIOR PLANNING ASSISTANT—A.P.T.
III (£950—21,140).
(c) PLANNING ASSISTANT—A.P.T. I (£645—2815).
The commencing salary will be fixed at a

(c) PLANNING ASSISTANT—A.P.T. I (£645—£315).

The commencing salary will be fixed at a point within the scale commensurate with qualifications and experience.

The appropriate London Weighting allowance will be paid in addition to the above salaries.

Applicants for post (a) must have passed the Final Examination of the Town Planning Institute and membership of another related professional body will be considered an advantage.

Applicants for post (b) should have passed the Intermediate Examination of the Town Planning Institute.

The Council are prepared to consider the provision of housing accommodation if required, or 100 per cent. advances to successful applicants for house purchase within the Borough.

Five-day week.

Details of appointments and application forms obtainable from Mr. H. D. Peake, M. Sc. (Eng.). Rorough Engineer & Surveyor, 7. Little Park Gardens, Enfield, Middx.

CYRIL E. C. R. PLATTEN.

Civic Centre.

Civic Centre. Enfield.

16.5.61. EDINBURGH CORPORATION
DEPARTMENT OF THE CITY ARCHITECT
ASSISTANT ARCHITECTS qualified by
examination, Salary-Professional Assistants
Scale, £850-£1,320 per annum, with placing

Scale, £850-£1,320 per annum, with placing according to experience.

ARCHITECTURAL ASSISTANTS, unqualified, with some experience. Salary Scale-Exceutive Division Grades I.IV. £640-£925, with placing for suitable applicants.

Applications, giving age, full details of qualifications and experience and the names of two referees as to character, to the City Architect. City Chambers, Edinburgh, I. as soon as possible, marked "Staff—Confidential."

7910

BOROUGH OF TAUNTON ARCHITECT'S DEPARTMENT Applications are invited for the following oppointments in the Borough Architect's Depart-

appointments in the Borough Architect's Department.

ASSISTANT ARCHITECTS, Grade A.P.T. III/IV (£960—£1,140—£1,310 p.a.).

The Council have an interesting programme of estate development and redevelopment schemes including fatted accommodation, groups of shops, old persons accommodation, market offices and other ancitiary buildings.

The posts are superannuable, subject to medical examination and to National Conditions of Service. Salary placing according to qualifications and experience. Applications stating age, present position and salary, qualifications, experience and names of two referees to be sent to C. Bacon, F.R.I.B.A., Borough Architect, Flook House, Station Road, Taunton, within 14 days of the appearance of this advertisement.

Housing accommodation will be made available to suitable applicants if required.

K.A. HORNE,

Town Clerk.

87810

CORPORATION OF LONDON
CITY PLANNING OFFICE
TWO PLANNING ASSISTANTS in the following salary ranges: (a) £1,195-£1,489; (b) £1,055£1,510 are required.
The City Planning Office has interesting Planning projects on hand and others in active preparation, e.g. large scale development is now proceeding in Barbican commercial zone where separated pedestrian walkways are planned for a large area.

a large area.

The vacancies exist in the Civic Design Section for qualified Architectural or Planning Assistants to join small group working on the present important phase of rebuilding in the City. Opportunities for advancement should occur from time to time.

Local Act Superannuation.

Apply to the City Planning Officer, Guildhall, E.C.2.

TC7719

BOROUGH OF KETTERING
WEEKLEY GLEBE PLAYING FIELD
SPORTS PAVILION & REFRESHMENT
ROOMS
Fixed Price Tenders are invited for the erection
and completion in permanent materials of the
above Sports Pavilion, which contains the following accommodation:
5 Double Changing Rooms
1 Officials' Changing Room
Showers

5 Double Changing Room
1 Officials Changing Room
Showers
Washroom & Toilet
Refreshment Room
Stores & Boiler House, making a total ef
4,200 feet super.
Forms of Tender and Bills of Quantities may
be obtained from and plans inspected at the
Office of the Borough Engineer & Surveyor,
3, Gold Street, Kettering.
A deposit of two guineas is required which
will be refunded upon receipt of a bona fide
tender and the return of all documents.
Tenders, enclosed in a plain sealed envelope
endorsed 'Sports Pavilion, Weekley Glebe,' are
to be returned to the undersigned not later than
12 noon, Monday, 19th June, 1961.
The Corporation do not bind themselves to
accept the lowest or any tender.

D, DUNSFORD PRICE,
Town Clerk.

Town Clerk's Office, Huxlog Place, KETTERING, Northants, 18th May, 1961.

COUNTY BOROUGH OF BOURNEMOUTH BOROUGH ARCHITECT'S DEPARTMENT Applications are invited for the appointment

Applications are invited for the appointment of a SENIOR ASSISTANT ARCHITECTS (Two). Salary Grade A.P.T. IV. 2.1.40—2.1.310 p.a. (b) ARCHITECTURAL. ASSISTANTS (Four). Salary Grade A.P.T. II. £815—2960 p.a. The successful candidates will be appointed at not less than present salary if within the incremental scale and reasonable removal expenses will be paid. For Post (a) all applicants must be fully qualified (by examination) members of the R.I.B.A., and for Post (b) must have passed the Intermediate Examination R.I.B.A. Applications from candidates over 45 years of age will be considered. Application Forms and further particulars from Borough Architect. Town Hall, Bournemouth. Completed applications to reach the undersigned by 10 a.m., 14th June, 1961.

A. LINDSAY CLEGG.

BOROLGH OF BRENTFORD & CHISWICK APPOINTMENT OF ARCHITECTURAL ASSISTANT
Applications are invited for the above appointment at a salary in accordance with Grade A.F.T. II. £855 to £1.000, including London Weighting Allowance, commencing salary dependent upon experience. The post offers excelent opportunities for gaining architectural training and practical experience. Application forms, returnable within two weeks after this advertisement appears, may be obtained from Borough Engineer and Surveyor.

W. F. J. CHURCH.
Town Clerk.

BOROUGH OF HESTON AND ISLEWORTH
Applications are invited for the undercentioned appointments in the Borough Engineer
and Surveyor's Department:—
2) SENIOR PLANNING ASSISTANT.
Salary in accordance with A.P.T. Grades
II-III (£815—£1,140 per annum plus London
"weighting").

"weighting").

(b) PLANNING ASSISTANT
Salary in accordance with A.P.T. Grades I-II
(£645-£960 per annum plus London "weight-

(£645-£956) per annum plus London weighting ").

Applicants should have passed the Intermediate examination of the Town Planning Institute or other equivalent and have had experience in a town planning department of a local authority. Commencing salary to be in accordance with qualifications and experience.

The Council is unable to assist the successful candidates with housing accommodation.

Applications are to be submitted by Monday, 19th June, 1961, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88 Lampton Road, Hounslow.

D. MATHIESON.

Town Clerk.

Town Hall, Hounslow, Middx

Hounslow, Middx. 7845

LONDON ELECTRICITY BOARD
ASSISTANT BUILDING SUPERINTENDENT.
NORTH WESTERN AREA
Applications are invited for the above position
in the Building Section, Construction Branch,
of the Chief Engineer's Department at Chelsea.
The successful applicant will be required to
assist the Building Superintendent in controlling
building and maintenance work. He will also
be required to take charge of building work
carried out by direct labour and to supervise
contracts executed by contractors.
Candidates should have had a good general
experience within the building industry and be
able to assist in preparing estimates, schedules
of quantities, and the ordering of materials.
They should be acquainted with building specifications and be able to work from architectural
drawings, and also have a knowledge of building
bye-laws and various Acts of Parliament for the
building industry.
The post is graded under Schedule "B" of
the National Joint Board Agreement as Grade 3,
Class BX, and the commencing salary will be
in the range of £1,155 to £1,460 per annum,
inclusive of London Allowance.
Application form obtainable from the Personnel
Officer, 46, New Broad Street, London, E.C.2,
to be returned completed within fourteen days
of the publication date of this notice. Please
quote ref. PER/V/3277/A.
7884

BOROUGH OF CROSBY
CAPITAL WORKS PROGRAMME
PRINCIPAL ARCHITECTURAL ASSISTANT
Applications are invited for the above appointment at a salary in accordance with A.P.T. IV
of the Conditions of Service (£1,140 per annum
rising to £1,310 per annum) and commencing at a
point commensurate with experience.
Applicants must have passed the Final examination of the R.I.B.A. or hold an equivalent qualification and must have had considerable experience in the design of large capital works including multi-storey flats.
It is the Council's policy to assist in the provision of housing accommodation upon satisfactory proof of need.
Applications on forms obtainable from the
Borough Engineer and Surveyor at the address
below must be received not later than 21st June,
1561.

(bl. Canvassing will disqualify, HAROLD O. ROBERTS, Town Clerk.

Town Hall,
Waterloo,
Liverpool 22.
24th May, 1961. 57834

GLOUCESTERSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
Applications are invited for the following
appointments:

(4) ASSISTANT ARCHITECT - ' C A R E E R
(2),310 p.a.) progressing to A.P.T. IV (£1,140—
£1,340 p.a.) subject to satisfactory report on
reaching appropriate incremental point in
Grade. Applicants must be Registered
Architects and Associate Members of the
R.I.B.A.

Grade. Applicants must be research architects and Associate Members of the R.I.B.A.

(b) AR CHITECTURA L. ASSISTANTS—
"QUALIFYING CLASS."
Vacancies exist in the following Grades:—
A.P.T. II, Salary £855—£815 p.a.
A.P.T. III, Salary £856—£1140 p.a.
A.P.T. III, Salary £866—£1140 p.a.
A.P.T. IV, Salary £106—£11310 p.a.
A.P.T. IV, Salary £106—£1140 p.a.
A.P.T. IV, Salary £1060—£1140 p.a.
A.P.T. IV,

CWMBRAN NEW TOWN
MONMOUTHSHIRE
Applications are invited from suitably qualified
RCHITECTS who wish to take part in an
nteresting and varied programme of work inluding all types of residential development. Town
entre development and Neighbourhood Shopping

entres.

(a) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. V, £1,310-£1,480. Candidates must be Associates of the R.I.B.A. with suitable office experience.

Associates of the R.I.B.A. with suitable office experience.

(b) ARCHITECTURAL ASSISTANTS, Grade A.P.T. 111/IV. £960—£1,310. Candidates should have passed the Intermediate Examination of the R.I.B.A. and have had some office experience, particularly in the preparation of working drawings.

The posts are superannuable and Conditions of Service are similar to those in Local Government. Housing accommodation is available to rent or purchase if required.

Applications stating age, experience, details of present and former employment (together with applicable salaries) and the names and addresses of two referees must reach the undersigned by first post on Monday, 26th June, 1961.

Cwmbran Development Corporation, Victoria Street, Cwmbran, S7765

LIVERPOOL REGIONAL HOSPITAL BOARD

LIVERPOOL REGIONAL HOSPITAL BOARD

require
ARCHITECTS
SENIOR ASSISTANT ARCHITECTS £1,300—1,600
ASSISTANT ARCHITECTS £000—1,310
ARCHITECTURAL ASSISTANTS £625—900
ARCHITECTURAL DRAUGHTSMEN £476—685

ARCHITECTURAL DRAUGHTSMEN £475—685
and
SURVEYORS
ASSISTANT BUILDING SURVEYORS £905—1.316
In the Department of the Regional Architect,
T. Noel Mitchell, R.Arch., F.R.I.B.A. Luteresting
new building is projected including new Hospitals
and the complete replanning of a large number
of older Hospitals covering a wide variety of
building type of the second second second second and property of the second second

55, Castle Street, Liverpool, 2

# **Architects Assistants**

dealing with design problems on a variety of new developments have been specifying facing materials without being aware of the wide scope of the excellent new materials available.

THE OPPORTUNITY to be fully acquainted with the latest developments in aluminium and plastic cladding to buildings which have already been adopted by many well known Architects for important schemes should be taken by addressing your enquiry for information on STENMAR FACINGS via the Enquiry Service of this publication

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MARSLAND & COMPANY LTD. Stenmar Works, Conington Road, Lewisham, S.E.13.

Telephone: LEE Green 7924.

Edited by D. A. C. A. Boyne and Lance Wright A.R.I.B.A.

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Size 12×83 ins. 160 pages. 148 half-tone and line illustrations. 25s. net. postage 1s. 9d.

The Architectural Press 9-13 Queen Anne's Gate, London, S.W.1



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CAST IRON

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LIVERPOOL REGIONAL HOSPITAL BOARD ASSISTANT REGIONAL ARCHITECT

ASSISTANT REGIONAL ARCHITECT
Salary £1,825 × £75 (2) × £100 (2)—£2,175.
In the Department of the Regional Architect
T. Noel Mitchell, B.Arch. (Liverpool), F.B.I.B.A.
Graduate of a recognised School of Architecture
preferred. High status in design essential. The
Department has Principal Assistants—each responsible for a section of work which includes
major projects—these being assisted by a number
of Semor and Assistant Architects.

The post is superannuable; car mileage and subsistence allowances payable. The Department is
in pleasant modern offices in a central position
in the city.

Applications to reach me by 16th June, 1961,
stating age, education, qualifications, present
salary, experience, present and previous posts and
names and addresses of three referees (two technical).

VINCENT COLLINGE.

Castle Street,
 Liverpool, 2.

Secretary to the Board.

Liverpool, 2.

RT768

HEMEL HEMPSTEAD BOROUGH COUNCIL.

SENIOR ARCHITECTURAL ASSISTANT

A.P.T. GRADES III.IV (2960—21.310 p.a.)

Applications are invited for the appointment of a Senior Architectural Assistant in the Architectural Section of the Borough Engineer's Department. Candidates possessing the Final of the Royal Institute of British Architects or similar qualification will be paid within A.P.T. IV.

The appointment will afford experience on houses, flats, shops, community centres, a sports pavilion, a covered swimming pool and various other works.

Housing accommodation will be available.

The appointment will be subject to the Local Government Superannuation Acts, to the National Conditions of Service from time to time in force, and to the passing of a medical examination and will be terminable by one month's notice in writing on either side.

Applications, stating age, education, qualifications and experience, together with the names of two referees, should be sent to A. H. Turner, A.M.I.C.E., Borough Engineer, High Street, Hennel Hempstead, Herts, not later than Wednesday, the 14th June, 1961.

Canvassing will disqualify, and applicants must state whether to their knowledge they are related to any member or senior officer of the Council.

C. W. G. T. KIRK. Town Clerk.

Town Hall, Hemel Hempstead, Herts, 25th May, 1961.

Hemel Hempstead, Herts.

25th May. 1961.

CITY OF HEREFORD
APPOINTMENT OF CITY ARCHITECT
Applications are invited for the appointment of City Architect at a salary commencing at El.560 per annum and rising by four annual increments of £75 to a maximum of £1,860 per annum. The Conditions of Service contained in the Memorandum and Recommendations of the Joint Negotiating Committee for Chief Officers of Local Authorities will apply to the appointment. A lump sum car allowance will be paid and temporary housing accommodation will be made available, if required. The appointment is determinable by either party on giving three months notice in writing.

Candidates must be members of the Royal Institute of British Architects.

Particulars of the appointment and forms of application may be obtained from the undersigned to whom applications must be delivered not later than 26th June, 1961.

J. A. WESTON, Town Clerk.

Town Hall, Herefor

HAMPSTEAD BOROUGH COUNCIL

HAMPSTEAD BOROUGH COUNCIL
ARCHITECTURAL ASSISTANTS required in
the Housing Architect's Department for new
development including multi-storey blocks of
flats, Salary will start at a point within A.P.T.
Grades I-IV (£645—£1,310 per annum plus London
weighting) according to qualifications and experience. Local Authority experience not essential. Group system of working. Advances for
house purchase up to 100 per cent. of valuation
will be considered in suitable cases. Applications
with names of two referees to Town Clerk, Town
Hall, Haverstock Hill, N.W.3.

CHURCH COMMISSIONERS S7870

Hall. Haverstock Hill. N.W.3.

CHURCH COMMISSIONERS

Applications are invited for the following appointments, based in London:—

(a) ASSISTANT ARCHITECTS.

Candidates must be fully qualified members of the R.I.B.A.
Commencing salary during 12 months' probation to be £1,450 per annum followed, if satisfactory, by appointment on an established pensionable basis on a scale of £1,516—£2,015 subject to medical examination. These posts cover advisory duties on the planning of Churches and Parsonages and executive duties in the erection and maintenance of Bishops' houses, including the maintenance of historic palaces, castles and listed buildings.

(b) ARCHITECTERAL ASSISTANTS for drawing office duties in connection with domestic buildings. Candidates for this post should have passed the Intermediate R.I.B.A. Examination. Salary according to experience within the scale of £930—£1,265.

Apply in writing to the Establishment Officer. Church Commissioners, 1. Millbank, Westminster. S.W.1, not later than 19th June, 1961.

WHISTON RURAL DISTRICT COUNCIL

WHISTON RURAL DISTRICT COUNCIL Applications are invited for the following position in the Office of the ENGINEER and SURVEYOR.—
CHIEF ASSISTANT ARCHITECT, A.P.T. IV (£1,140-£1,510 p.a.).
Applicants should be A.R.I.B.A. and have had experience in Local Authority housing design and maintenance and other public building works.

Haveing accommodation available if required.

orks. Housing accommodation available if required. Fixed sum car allowance of £108 p.a.

Fixed sum car allowance of £108 p.a.

The Council operate a five-day week.
Applications, stating age, qualifications, training and experience, present appointment and salary, with the names of two referees, to the undersigned by 22nd June, 1961.

J. R. HENLEY,
Clerk of the Council.

Council Offices, Delph Lane, Whiston, Prescot, Lancs

BOROUGH OF HORNSEY
APPOINTMENT OF ARCHITECTURAL
ASSISTANT
GRADE A.P.T. II/III
Applications are invited for the above appointment in the Architects' Section of the Borough Engineer and Surveyor's Department. Salary according to qualifications and experience within Grades A.P.T. II/III (£815 to £1,140, plus London weighting).

Grades A.P.T. II/III (£815 to £1,140, plus London weighting).

Details and application form from the Borough Engineer and Surveyor, Town Hall, The Broad-way, Crouch End, London, N.8.

Application forms to be returned by Monday, £7881

EASTERN ELECTRICITY BOARD
AREA HEADQUARTERS
TWO ASSISTANT ARCHITECTS
Applications are invited for the appointment
two Assistant Architects in the Architect's
ection at Area Headquarters, Wherstead,
sswich.

Section at Area Headquarters, Wherstead, Ipswich.

The work is principally concerned with the design and construction of showrooms and

The work is principally concerned with design and construction of showrooms and offices.

The salary for each of these posts will be that of a Fourth Assistant Engineer within the range 1935—12,45 in accordance with the N.J.B. Agreement, Schedule B. Class BX, Grade 10.

Apply by letter, stating age, education, qualifications and experience to the Chief Engineer, Eastern Electricity Board. P.O. Box 40, Wherstead, Ipswich, by 22nd June, 1961. 7882

HUYTON-WITH-ROBY URBAN DISTRICT
COUNCIL
(Population—65,000)
Applications are invited from Associate members of the Royal Institute of British Architects for the bosition of CHIEF ASSISTANT ARCHITECT, Grade A.P.T. V. £1.310 to £1.430, commencing salary within the grade according to experience.

accommodation will be provided if

Housing accommodation will be provided if necessary.

Applications, stating age, present position, salary and date of appointment, details of experience and previous appointments with dates, together with names and addresses of two referees, to reach R. T. Chappelle, A.R.I.B.A., Architect and Housing Director, "Grasscroft." Archay Road, Huyton, by Monday, 26th June, 1961.

rchway bosses.

61.
Canvassing disqualifies.
Canvassing disqualifies.

Clerk of the Council.

Council Offices. Derby Road, Huyton.

Huyton.

ARCHITECTURAL ASSISTANTS of Intermediate R.I.B.A. standard required by Ministry of Works in London for the design of interesting and varied types of buildings in all parts of the world.

Salary range from £658 (at age 21) to £1.048. Starting pay according to age and experience. Five-day week; 3½ weeks' leave annually. Good prospects of promotion and permanency with non-contributory pension scheme. Apoly, giving details of age, training and experience, to:—E. Bedford, Egg., C.P., O.A. R.I.B.A. Chief Architect. Ministry of Works (AJ), Abell House, Room 427, John Islip Street, London, S.W.I. Interviews will be held at the above address.

CITY OF LEEDS

APPOINTMENT OF DEPUTY CITY

ARCHITECT

Applications are invited from members of the Royal Institute of British Architects for the appointment of Deputy City Architect at a commencing salary of £2.405 per annum rising by increments of £100 to £2.705. A casual user motor car allowance is also payable. Assistance will be given in providing housing accommodation if required. The appointment is superannuable; medical examination.

Application forms to be obtained from the undersigned are to be returned not later than Friday. 25rd June, 1961.

Canvassing disqualifies.

J. R. SHERIDAN-SHEDDEN.

Priestley House, Quarry Hill, Leeds, 9.

CANNOCK URBAN DISTRICT COUNCIL
(Population 43,000)
ARCHITECT'S DEPARTMENT
Applications are invited for the following posts in the Office of the Council's Architect (Mr. H. Wilcox, A.R., I.B.A.).
(a) CHIEF ASSISTANT ARCHITECT (A.P.T. V. E. 1,310-21,480 p.a.).

(a.F.I.)
(b) SENIOR ASSISTANT ARCHITECT (A.F.T. IV. £1,140-£1,151 p.a.),
(c) ARCHITECTURAL ASSISTANT (A.F.T. II. £815-£950 p.a. or A.F.T. III. £960-£1,140

(c) ABC-HITE-TURAL ASSISTANT (A.F. I. 1. 2815-1596) p.a. or A.P.T. III., 2960-£1,140 D.a.).

This developing district is not adversely affected by the proposals of the Local Government Commission and is situated 15 miles north of Birmingham and 9 miles from Wolverhampton. It includes a portion of Cannock Chase which is part of a designated area of Outstanding Natural Beauty, containing good facilities for varying sports, and outdoor recreation, and is within reasonably easy reach of Dovedale, the Manifold Valley and other lovely areas in the County. Cannock has a new Grammar School and other good educational facilities.

The successful applicants will be guagaged on major schemes including a Central Bus Station, Pablic Baths, New Council Offices, Branch Library, Community Centres, Underground Conveniences and Town Centre Re-development in addition to a continuous housing programme. Housing accommodation available to successful married applicants and assistance will be given towards removal expenses. Car allowance will be paid on "Casual user" basis.

Further particulars may be obtained from the undersigned to whom applications must be submitted by 19th June, 1961.

H. C. ALLEN,

The Green,

Council House, The Green, Cannock, Staffs

COUNTY BOROUGH OF SOUTHAMPTON Applications are invited for the following

Applications are invited for the following appointment:

ASSISTANT ARCHITECT, Grade A.P.T. V

(£1,310,£1,420), for duties in connection with an extensive and varied programme of housing development including multi-storey flats, Applicants must hold the qualification A.R.I.B.A. with wide experience in the design and administration of major building works.

The appointment is subject to N.J.C. conditions of service.

Housing accommodation available in approved cases and approved removal expenses reimbursable up to a maximum of £50.

Apply on application forms obtainable from the Borough Engineer and Surveyor, Civic Centre, Southampton, returnable by Monday, 26th June, 1961.

Contre. Southampton. returnable by Monday. 26th June. 1961.

NORTH EAST METROPOLITAN REGIONAL HOSPITAL BOARD

40, EASTBOURN TERRAC. W.2

W. G. PLANT, DILARCH (L'POOL), P.R.LE.A., REGIONAL ARCHITECT.

Terrace, London, W.2, within 14 days.

BOROUGH OF CASTLEFORD
APPOINTMENT OF ARCHITECTURAL
ASSISTANT

Audications are invited for this appointment in the Borough Architect's Department. Salary—Grade A.P.T. II (2815—2850). Applicants should have bassed the Intermediate Examination of the R.I.B.A. or its equivalent at one of the recognised Schools of Architecture.

N.J.C. Service conditions; superannuable—successful applicant will be required to pass satisfactorily a medical examination; terminable on one month's notice on either side; housing accommodation if required for successful married applicant.

Applications, on forms obtainable from me, to be returned not later than 9 a.m. on the 24th June, 1961.

Canvassing disqualifies.

ERNEST HUTCHINSON.

Town Clerk.

### ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL

requires a

### LEADING ARCHITECTURAL **ASSISTANT**

The Establishments Scientific Research programme has led to the construction of several special purpose buildings of unusual design and construction.

Minor works and adaptations, often of a complex and novel nature, are carried out and the person appointed will be required to liaise with Scientific and Engineering staff regarding the work required and to prepare the necessary surveys, sketch schemes and working drawings.

SALARY: £1,065-£1,245 p.a.

Applicants should be of Inter. R.I.B.A. standard and have had several years relevant experience.

Please send POSTCARD for details to the Personnel Manager (1968/119) U.K.A.E.A., A.E.R.E., Harwell, Didcot, Berkshire.

# **ARCHITECTS**

### IND COOPE LIMITED. **National Brewers**

offers to young, enthusiastic, qualified Architects, who are, or who can become, designers of high calibre, opportunities within an expanding Group handling a wide variety of development projects. Successful Architects will commence under the direction of the Group Architect. Current salary range £1,150-£1,500 per annum.

The Company operates an excellent Pension Scheme with substantial widows' benefits on death, before or after retirement, available immediately on joining.

For married Architects the Company offers temporary housing accommodation at Burton-on-Trent for up to two years; an allowance will be paid towards cost of removal.

Applicants must have a clean driving licence and be willing to fly (usually in the Company's own aircraft). Brief personal details, please, and full details of professional qualifications to be addressed to:-

> Group Architect, Ind Coope Limited. Burton-on-Trent, Staffs.

### Cornwall County Council

County Planning Department

### ASSISTANT PLANNING OFFICER (ARCHITECT)

Applications are invited from Associate Members of the R.I.B.A. (with preference to Chartered Town Planners) for this post which covers a variety of work including schemes of urban renewal, housing layouts, and problems associated with the preservation of the character of Cornish towns and fishing villages.

No application forms are being issued but further details can be obtained from the County Planning Officer.

The customary Conditions of Service will apply and car allowance will be paid. A fiveday week is in operation.

Applications, with names of three referees, should be sent to H. W. J. Heck, PP.T.P.I., County Hall, Truro, not later than 22nd June,

> E. T. VERGER Clerk of the County Council

SENIOR

LAND

SURVEYOR

A rapidly expanding Company of developers require the services experienced Land Surveyor and Plato act as Chief Assistant to the nical Director. Ability to proimaginative sketch layouts an negotiate with local authoritie essential. The successful applicant be expected to undertake survey if called on to do so, and to carradministrative duties usually ciated with such a position.

Salary by negotiation but not less £1,000 per annum, Company carvided. Pension scheme in opera Write giving full particulars to:

The Technical Director, (Engineering & Surveying), Federated House, 69 East Street, Epsom, Surrey. A rapidly expanding Company of estate developers require the services of an experienced Land Surveyor and Planner to act as Chief Assistant to the Tech-Ability to produce imaginative sketch layouts and to negotiate with local authorities is essential. The successful applicant will be expected to undertake survey work if called on to do so, and to carry out administrative duties usually asso-

Salary by negotiation but not less than £1,000 per annum, Company car provided. Pension scheme in operation.

ISLE OF ELY COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
Applications are invited for the post of
HEATING ENGINEER.
Salary will be within Grade A.P.T. V (£1,510—
£1,480) with essential user car allowance.
Applicants must be A.M.I.H.V.E.
The post will be subject to N.J.C. Conditions
and the passing of a medical examination.
Application forms and further particulars may
be obtained from the County Architect, County
Hall, March, to whom they must be returned by
not later than Monday, 26th June, 1961.

R. F. G. THURLOW.
Clerk of the County Council.
S7944

CITY OF NEW SARUM
ARCHITECTURAL ASSISTANT
Applications are invited for the appointment
the established staff of the City Engineer of

Applications are tailed in the City Engineer of an in the established staff of the City Engineer of an in the city and in the

GEO. RICHARDSON
Town Clerk.

COUNTY BOROUGH OF EASTBOURNE
Salary Grade A.P.T. IV (£1,140/£1,319 p.a.)
Applications are invited for the above appointfications and experience.
Housing accommodation will be provided, if
required, accommodation will be provided, if
required,
B. WILLIAMS, B.Sc., A.M.I.C.E.,
B. WILLIAMS, B.S., A.M.I.C.E.

G. A. BLAKELEY Town Clerk.

Town Hall,
Walthamstow, E.17.

26th May, 1961.

DENRIGHSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments in the above Department:

(a) TWO ARCHITECTURAL ASSISTANTS—A.P.T. Grade HIJIV (Salary £960-£1,510 per annum).

(b) TWO ARCHITECTURAL ASSISTANTS—A.P.T. Grade H.III. (Salary £815-£1,140 per annum).

QUANTITY SURVEYING ASSISTANT-A.P.T. Grade II/III (Salary £815-£1,140 pc

A.P.T. Grade II/III (Salary £815-£1140 per annum).

(d) For staff in the County Architects Dept. Wrexham.

(e) ONE ARCHITECTURAL ASSISTANT—A.P.T. Grade I/II (Salary £645-£960 per annum). Contribution made towards removal expenses of successful applicants and consideration given to the payment of subsistence allowances to married officers.

Application forms and further particulars obtainable from me. Completed forms to be returned by 24th June, 1961.

We have the control of the completed forms to be returned by 24th June, 1961.

Clerk of the County Council.

County Offices,

Ruthin. 7940

CITY OF LEICESTER EDUCATION

LEICESTER COLLEGE OF ART

Principal: E. E. PULLE, A.R.C.A. F.R.S.A.

Annications are invited for the post of
LECTURER in the School of Building Applicants should be Charfered Surveyors in either the
Quantity Surveying or Building sections.

Salary Burnham Technical Scale—Cl.370 to
El.550 p.a.

Further narticulars and application forms may
be obtained from the Registrar at the College.

7934

BOROUGH OF HARROW opplications are invited for the following ap-numents in the Borough Engineer's Depart-Application

pent:
PLANNING ASSISTANTS. A.P.T. Grade III
2815 to 1960 per annum plus London "Weightug"). The commencing salary will be in accordnce with qualifications and experience.
A contribution towards removal expenses will be ing "). T

considered. The appointments are subject to the Local Government Superannuation Acts; and to the National Joint Council's Scheme of Conditions of

Forms of application may be obtained from me and must be returned, not later than Friday, 30th June, 1961.

DAVID PRITCHARD, Town Clerk.

Town Clerk's Office, Harrow Weald Lodge, Harrow, Middx.

Harrow, Middx.

COUNTY BOROUGH OF BURNLEY
Applications are invited for the appointment of
ASSISTANT ARCHITECT in the Borough
Engineer & Surveyor's Department at a salary
in accordance with A.P.T. Grade III/IV (2960—
£1,310 per annum), commencing salary to be
fixed in accordance with qualification and experience.

nixed in accommodation will be care.

Five-day week. Housing accommodation will be provided if required.

Form of application etc. may be obtained from the Borough Engineer, 22/24, Nicholas Street. Burnley, to whom applications must be returned not later than Friday, 23rd June, 1961.

C. V. THORNLEY.

Town Clerk.

CITY AND COUNTY OF NEWCASTLE UPON TYNE

CITY PLANNING DEPARTMENT

In November last year a new City Planning Department was created with a skeleton staff. The posts to complete the full establishment have now been authorised. This new department offers opportunities to Town Planners who wish to make a contribution to modern planning and redevelonment. A complete review of all aspects of the City Plan is being undertaken and large-scale edvelonment schemes are now being worked out. The department is organised under the City Planning Officer into five divisions. Planning Policy, Redevelopment, Development Control. Traffic, Administration.

Applications are invited from suitably qualified candidates for the following posts:—

(1) CENTRAL AREA OFFICER: Grade B (21,400-41,670 per annum). Directly responsible design of multi-level precinets. Architectural qualification essential.

(2) LANDSCAPE ARCHITECT: Grade B (21,40-41,670 per annum). Preferably with ALLA.

(3) ASSISTANT LANDSCAPE ARCHITECT:

(2) LANDSCAPE ARCHITECT:
(£1,410-£1,670 per annum). Preferably with
A.I.L.A.
(3) ASSISTANT LANDSCAPE ARCHITECT:
A.P.T. III/IV (£960-£1,310 per annum).
(4) ASSISTANT DEVELOPMENT CONTROL
OFFICER: Grade B (£1,410-£1,670 per annum).
Directly responsible to Development Control
Officer. An architectural qualification would be
an additional advantage as the duties will include many aspects of civic design and improvement.

\*\*OFFICER-DEVELOP\*\*MEGRICHMENT OFFICER-DEVELOP\*\*MEGRICHMENT OFFICER-

an additional advantage as the duties will include many aspects of civic design and improvement.

(5) ENFORCEMENT OFFICER—DEVELOPMENT CONTROL: A.P.T. III/IV (1960-e1.310 per annum). Knowledge and experience is required of the relevant statutes, regulations and procedures applicable to Development Control and Enforcement in a large Urban Planning Authority.

(6) ASSISTANT PLANNING OFFICERS. A.P.T. II/IV (2960-e1.310 per annum). Vacancies in all divisions.

(7) PLANNING ASSISTANTS: A.P.T. I (6645-6815 per annum). Opportunities for training and experience in all divisions.

(8) MODEL MAKER: Misc. Grade V (6685-6760 per annum). Preferably with experience in constructing architectural or town planning models and familiar with modern model making techniques.

The appointments are subject to the National Scheme of Conditions of Service, the Local ingray of a medical examination.

Applications stating are qualifications, experience, present and past appointments and salaries, Medical Examination.

Applications stating are qualifications, experience, present and past appointments and salaries, Mr. Wilfred Burns, City Planning Officer, 2, St. Nicholas Buildings, Newcastle upon Tyne, 1, by Wednesday, 21st June, 1961.

Town Hall, Newcastle upon Tyne.

Town Hall, Newcastle upon Tyne, 1st June, 1961.

Newcastle upon Tyne.

1st June, 1961.

ARCHITECTURAL DRAUGHTSMAN required by British Road Services Ltd. to work from Manchester in department administering operational premises throughout the North Western counties including maintenance, improvements and atterations, and new works.

Applicants should have thorough knowledge of building construction, industrial huilding surveys, and be canable of preparing site plans and alinch scale drawings.

The salary range is £795—£950 per annum.

Applications should be addressed to—Divisional staff Officer. British Road Services Limited, North Western Division 47, Corporation Street, Manchester 4, and should state age, qualifications and experience, and give names of two referees.

EASTERN ELECTRICITY
FENS SUB-AREA
Architectural Draughtsman—sub-Area
A vacancy exists for an ARCHITECTURAL
DRAUGHTSMAN in the Fens Sub-Area Drawing
Office at Milton Hall, Cambridge.
Applicants should have undergone a thorough
training, preferably in an Architect's Office, and
have reached the inter R.I.B.A. standard. An
opportunity to continue with studies by way of
part-time release would be given in suitable cases.
Salary: N.J.B. Class K. Grade 15 (2765—2870).
Applications in writing with details of age and
experience should be sent to the Manager. Fens
sub-Area, Eastern Electricity Board. Milton Hall,
Milton, Cambridge. by 23rd June, 1961.
7943

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ARCHITECTURAL ASSISTANT'S
(within the salary range £645—£960 according to
experience and ability)
Applications are invited from Architectural
Assistants for appointments to the permanent
staff of the County Architect's Department, which
is engaged on a large and varied programme of
major projects.
Applicants should have attained at least
Intermediate R.I.B.A. standard and, within this
stage of qualification, have a reasonably varied
experience.
Application forms and details of appointment
obtainable from the County Architect, P.O. Box
25. County Hall, Prestou, should be returned by
23rd June, 1961.
STEVENAGE DEVELOPMENT CORPORATION
Applications are invited for appointment as
ASSISTANT ARCHITECT in the Chief Architect's Department on New Towns' Salary Grade
A.P.T. IVV (£1140/£1,460)—starting salary
according to qualifications and experience and
the names of two referees, should be sent to
the Chief Administrative Officer, Daneshill
House, Danestrete, Steveninge, Herts., not later
than Wednesday, 28th June, 1961.
POPINTMENT OF ARCHITECT COUNCIL
APPOINTMENT OF ARCHITECTING
Applications are invited for the above appointment at a salary in accordance with Grade IV
and V of the A.P.T. Division of the Scales of
Salaries of the National Joint Council commenting at £1.140 per annum and rising by
annual increments t

A. E. F. WALKER. Clerk of the Council.

Council House,
Burton Road,
Carlton,
Nr. Nottingham.

Nr. Nottingham.

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

A.P.T. IV (£1.40-£1.310) and A.P.T. V (£1.310-£1.480). (Starting salary according to experience).

Applications are invited from qualified Architects of initiative, keen on design and modern constructural methods, to work on a large and varied programme.

If appointed, applicants will be able to claim a disturbance allowance un to a maximum of £125, a facility offered by the Council Council to cover the expenses of removal and other associated costs.

Application forms and details of appointment obtainable from the County Architect, P.O. Box 25, County Hall, Preston, returnable by the 23rd June, 1961.

LANCASHIRE COUNTY COUNCIL

LANCASHIRE COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT
SENIOR ASSISTANT ARCHITECTS

ENIOR ASSISTANT ARCHITECTS

Applications are invited from experienced Architects for posts on the permanent staff. The County Council has a large and extremely varied building programme, and posts will be filled by men of initiative, imagination and a flair for sensitive design.

Applicants are expected to be Registered Architects, as well as Associates of the Royal Institute of British Architects and, if appointed, will be able to claim a disturbance allowance up to a maximum of £125, a facility offered by the County Council to cover the expenses of removal and other associated costs.

Application forms and conditions of appointment are obtainable from the County Architect, P.O. Box 26, County Hall, Preston, returnable by the 23rd June, 1961.

his most important book since Towards a New Architectur

# Corbusies

The record of a life's work—architecture, painting and sculpture—written, illustrated, and designed, by the world's most eminent and controversial architect. 84s.

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1.

COUNTY BOROUGH OF SUNDERLAND BOROUGH ARCHITECT'S DEPARTMENT Applications are invited for the following Applications Applications are invited for the ermanent posts:—
(a) ARCHITECT-IN-CHARGE—J.N.C.

(d) ARCHITECT-IN-CHARGE-J.N.C. SCALE
"A" (maximum £1,565 per annum).
(b) SENIOR ARCHITECTURAL ASSISTANTS-GRADE A.P.T. 1/II (£645-£960)

TANTS-GRADE A.P.T. 1/II (£645-£960 per annum).

(c) LANDSCAPE ARCHITECT-GRADE A.P.T. IV/V (£1,140-£1,460 per annum).

Applicants for (a) must be Associate Members of the Royal Institute of British Architects and have had considerable design and administrative experience on either housing, education or other types of large public building work; for (b) must have passed the Intermediate Examination of the Royal Institute of British Architects; and for (c) must be a suitably qualified Landscape Architect, Commencing salaries according to experience and qualifications. Appointees removal expenses and lodging allowance payable and a generous Corporation mortgage advance obtainable for house purchase.

Application forms, together with further details, obtainable from Borough Architect, Grange House, Stockton Road, Sunderland, and returnable to me not later than 23rd June, 1961. Canvassing will disqualify.

G. S. McINTIRE,

Town Clerk.

ROBERT GORDON'S TECHNICAL COLLEGE
ABERDEEN
SCOTT SUTHERLAND SCHOOL OF
ARCHITECTURE
Head: E. F. DAVIES, BARCE. (LVPL.), F.R.I.S.A.,
P.R.I.S.Applications are invited for the following

Applications are invited for the following appointments:—

(a) LECTURER AND STUDIO INSTRUCTOR (Grade I) in Constructional Subjects. Salary: £1,025 p.a. × £50-£1,575 p.a. + special responsibility payment of £75 p.a. (b) LECTURER AND STUDIO INSTRUCTOR (Grade II) in Architectural Design and Constructional Subjects. Salary: £800 p.a. × £40-£1,260 p.a. × £4

A. C. WEST, Director, 7857

May, 1961.

COUNTY COUNCIL OF NORTHUMBERLAND COUNTY ARCHITECTS DEPARTMENT Applications are invited for the undermentioned posts of ASSISTANT ARCHITECTS on the permanent staff of this Department:—
Applicants who have passed (a) the R.I.B.A. Final or (b) the Intermediate Examination are required in connection with the County Council's Building Programme. The programme, which is of considerable size and importance, provides work of a varied and interesting nature in various parts of the County of Northumberland and gives scope in the field of modern design and building construction.

Salary on A.P.T. Scales according to qualifications and experience, with the prospect of promotion within the Department.

The appointments will be subject to the provisions of the Local Government Superannuation Acts and successful candidates will be required to pass a medical examination.
Application forms which can be obtained from the undersigned should be submitted not later than fourteen days from the date of this advertisement.

C. C. BROWN,

C. C. BROWN, County Architect.

30/32 Great North Road,
Nowcastle upon Type, 2.

OUANTITY SURVEYORS—OVERSEAS
AIR MINISTRY require chartered Quantity
Surveyors for service initially in overseas areas
on tours of 2 or 3 years' duration according to
location.
Basic salary according to age and experience

on tours of 2 or 3 years' duration according to location.

Basic salary according to age and experience ranging from 2961 at 25 to 61.298 at 34 or over to £1,470 (max.). An increase of £75 p.a. (within max. of scale) after 2 years' satisfactory service subject to corporate membership of R.I.C.S. being held. In addition Tax Free foreign service allowance varying according to location, marital status etc., e.g. total emoluments at Cyprus vary at age 25 from £1.286-£1.736 (single man) and £1.646-£2.361 for married man.

Kit allowances and free pasage for self, and family when accommodation arranged. Free medical and education arrangements. Five-day week, paid annual leave initially four weeks and two days.

Completion of tour to be followed by duties in U.K. with opportunities for further tours overseas. Appointments are non-pensionable but there are good promotion and pension prospects. Application forms and full particulars from Ministry of Labour, Technical and Scientific Register (K). 26. King Street, London, S.W.1. 7914

THE UNIVERSITY OF SHEFFIELD
Applications are invited for a post of TECHNICAL ASSISTANT on the staff of the Planning Office which offers opportunity for interesting work on the New Building Programme. Applicants should have had some drawing office experience and a background of building subjects. Initial salary dependent on ability and experience within the range 2600—2675. Apply, not later than Saturday, 17th June, 1961, giving details of age, present and previous appointments, experience and the names and addresses of two referees, to the Bursar, the University, Western Bank, Sheffield, 10.

HOSPITAL ARCHITECTS
Experienced HOSPITAL ARCHITECTS are required for a Hospital Design Team at Chessington, Surrey. Some work may be on overseas projects.
Qualifications: Registered architect with hospital experience

Qualifications: Registered architect with hospital experience.

Salary: £1,506 (or more) to £2,010.

Conditions include sick pay, five-day week, five weeks leave plus public holidays. Opportunities for pensionable appointment and promotion to higher grades. Selection by interview, for which certain expenses are paid.

A vacancy also exists for an ASSLSTANT or qualified TRAINEE ARCHITECT interested in hospital work. Salary starts according to age, and rises to £1,480, annual leave of over four weeks; other conditions as above.

Apply to: D.D.G.W., War Office, Chessington, Surrey.

ARCHITECT
PUBLIC WORKS DEPARTMENT
GOVERNMENT OF SARAWAK
Duties: To assist in the preparation of plans
and specifications for housing and public buildings of all types and in the supervision of
construction when required.
Qualifications: Candidates (aged 28-50) must be
A.R.I.B.A. with at least three years' post
qualification experience.
Qualification experience.
The experience of three years alary in scale £1,386£2,324 with 12½ per cent. grafatity. Free passages.
Outht allowance. Rented accommodation. Child
and education allowances. Write to Director of
Recruitment. Colonial Office. London. S.W.I.
quoting BCD 112/24/027/E2, and giving full
names, age, qualifications and experience. 7917
BOROUGH OF FINCHLEY
TEMPORARY ARCHITECTURAL ASSISTANT
Salary within Grades III/IV (£960-£1,310) for
a qualified Architect. London weighting additional.
Candidates must have had at least five years'

tional.

Candidates must have had at least five years' practical office experience.

The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply and medical examination required.

Applications, stating age and full particulars of qualifications and experience, with the names of two referees, to the Borough Housing Officer, The Avenue, Finchley, N.5, by first post on 21st June, 1961.

R. M. FRANKLIN. Town Clerk.

Municipal Offices, N.3.

BOROUGH OF WIDNES

ARCHITECT'S DEPARTMENT

Applications, quoting two referees, are invited for the following posts and should be addressed to Borough Architect, Brendan House, Widnes Closing date 4th July, 1961.

(a) SENIOR ARCHITECT, Grade A.P.T. V (£1,310-£1,480 p.a.).

(b) ASSISTANT ARCHITECTS (2), Grade A.P.T. IV (£1,140-£1,310 p.a.).

(c) QUANTITY SURVEYING ASSISTANT, Grade A.P.T. IV (£1,140-£1,310 p.a.).

(d) JUNIOR ASSISTANT, General Division (£220-£630 p.a.).

Candidates for (a) and (b) must be registered architects and preferably Associate Members of the R.I.B.A. with suitable experience. (c) must have passed the Intermediate Examination of the R.I.B.A. with suitable experience. (c) must have passed the Intermediate Examination of the R.I.C.S. or the Final Examination of the R.Q.S. (d) should be not less than 16 years of age and have a General Certificate of Education in five subjects including English (English language) and a Mathematics or a Science subject, at least two subjects being at "A" level. Housing accommodation to rent or lodging allowance in lien for married applicants for posts (d) and (b), Removal expenses in full. Fiveday week. Superamuation scheme; medical examination.

FRANK HOWARTH.

May. 1961.

METROPOLITAN BOROUGH OF CAMBERWELL
Vacancies for Architects in the Borough Architect's Department within a salary range of £855 and £1,525 (Grades A.P.T. II to V of the National Scales) Grade and commencing salary according to qualifications and experience. The work of the department includes design and construction of public buildings, housing estates, including multi-storey construction. Application form from Town Clerk, Town Hall, S.E.5.
TC7928

NORTH RIDING COUNTY COUNCIL Opportunities for applicants of initiative and drive, and who appreciate a five-day week in good working conditions, for dealing with a varied programme of work for all Committees of the

Position within the salary ranges shown below will be given according to ability and qualifica-

(a) ASSISTANT ARCHITECTS. Grade A.P.T.
IV.V. £1,140—£1,480. Must have passed the
Final Examination of the R.I.B.A.
(b) ARCHITECTURAL ASSISTANTS. Grade
A.P.T. III. £960—£1,140. Must have passed
Part I of the Final Examination of the
R.I.B.A.

Part I of the Final Examination of the R.I.B.A.

(c) ARCHITECTURAL ASSISTANTS. Grade A.P.T. II. £315—£960. Must have passed Intermediate Examination of the R.I.B.A. (d) ASSISTANT ARCHITECTS. Salary according to age, ability and qualifications.

Appointments during Vacations.

Consideration will be given to students who wish to come for a period during the long Summer Vacation, or would wish to come during the vacation time over the period of their training at a full-time School of Architecture.

Application forms may be obtained from the County Architect, R. Allport Williams, M.B.E., B.Arch., F.R.I.B.A., County Hall, Northallerton. Completed forms should be returned to the Clerk of the County Council, County Hall, Northallerton, by the 24th June. 1961.

CITY OF LIVERPOOL.

of the County Council, County Half, Northallerton, by the 24th June. 1961.

CITY OF LIVERPOOL ARCHITECTURAL AND HOUSING DEPARTMENT
Applications are invited for the following appointments—salary in each case £1,860-£2,345 per annum, in accordance with Scale E/F.

(a) PRINCIPAL ARCHITECT (EDUCATION) to take charge of the section concerned with the City's Education Building Programme which includes Technical Colleges, Training Colleges, as well as Primary. Secondary and Special Schools.

(b) PRINCIPAL ARCHITECT (GENERAL) to take charge of the section dealing with the architectural works of all Committees of the Corporation. except the Housing and Education Committees, involving a great variety of civic and public buildings. Applicants must be Fellows or Associates of the Royal Institute of British Architects.

The appointments are superannuable and subject to Standing Orders of the City Council. Canvassing disqualifies.

Applicants should state which appointment they wish to apply for. Application forms from the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2, should be returned to him by 26th June, 1961.

THOMAS ALKER. Town Clerk

(J.6849.)

CITY OF SHEFFIELD
CITY ENGINEER AND SURVEYOR'S
DEPARTMENT
AREA PLANNING OFFICER, GRADE R
Applications are invited from suitably qualified
persons for the above appointment on the staff
of the City Engineer and Surveyor and Town
Planning Officer (Mr. C. R. Warman, B.Sc.,
M.I.C.E., M.I.Mun.E., M.T.P.I.).
The post is established in Grade B (£1,480—
£1,670 p.a.).
Candidates should have a Town Planning
qualification and an architectural or other suitable additional qualification would be an advantage.

able additional qualification would be an advantage.

The commencing salary will be in accordance with experience and qualifications.

Consideration will be given if required to assistance with housing accommodation and removal expenses in suitable cases.

Superannuable post, N.J.C. Conditions of Service, Medical Examination.

Applications, stating age, education and training, qualifications, experience, present and past appointments (with dates and salaries), and quoting the names of two referees, should be submitted to the undersigned by the 22nd June next.

JOHN HEYS.

JOHN HEYS, Town Clerk.

Town Hall, Sheffield, 1.

CITY OF OXFORD
CITY ARCHITECT AND PLANNING OFFICER
(SECOND ADVERTISEMENT)
Applications invited for this appointment.
Salary within scale £2,695—£3,070 a year. Car
allowance.
Further particulars and application forms (to
be returned by June 29th, 1961) can be obtained
from me.

HARRY PLOWMAN. Town Clerk.

S7995

CAERNARVONSHIRE COUNTY COUNCIL, Applications are invited for the following

ppointments: -ASSISTANT ARCHITECT, A.P.T. V-£1,510f

£1,480.
ASSISTANT ARCHITECTS, A.P.T. IV-£9601
£1,310.
Further particulars and application forms from clerk of the County Council, County Offices, Agengaron.

# Casturys

### Cadbury Brothers Ltd. Require

### ARCHITECTURAL ASSISTANTS

of Final or Intermediate R.I.B.A. standard for work on a varied and interesting programme. Experience in industrial and commercial building design desirable, but not essential. Five-day week, attractive working conditions and amenities. Provision of housing accommodation will be considered for suitable applicants. Salary according to qualifications and experience, holiday arrangements honoured.

Applications stating age, qualifications and salary required should be addressed to:

Chief Architect, Cadbury Brothers Ltd., Bournville, Birmingham

# COSTAIN

### Responsible posts for ARCHITECTS

The Architects Department of Richard Costain (Construction) Ltd. has developed a highly effective system of group working, and there are two vacancies for young architects to take up responsible posts as second in charge of groups. We are looking particularly for men who show potential for rapid promotion to group leader level

A wide variety of commercial and industrial contracts is undertaken and the architect acts as an important member of the management team controlling them.

Applications are invited from men who are qualified or near qualifying and have had at least two years practical office experience. Starting salaries in the range £1,100 - £1,300 will be offered. Evening or weekend interviews can be arranged if desired. Please write or phone (WATerloo 4977) to

PERSONNEL MANAGER RICHARD COSTAIN LTD

# APPOINTMENT OF ARCHITECTS

### LEEDS REGIONAL HOSPITAL BOARD

(Regional Architect-P. B. Nash, A.R.I.B.A.)

In order to deal with a large capital programme spread over the next 20 years the Regional Architect's Department has been expanded to carry out a proportion of this work. The work offers scope to architects with initiative and particularly those with an appreciation of contemporary architecture. The work to be carried out includes complete new hospitals as well as many associated buildings of wide variety.

Applications are invited for the under-mentioned appointments:

(a) Senior Assistant Architects — Salary — £1,300 × 60(5)

Candidates must possess the ability to handle contracts valued at £100,000 or more and experience of contemporary design is essential.

(b) Assistant Architects — Salary — £905  $\times$  35(1)  $\times$  45(6)  $\times$  50(2) — £1,310.

Candidates for the above appointments must be registered architects and associate members of the R.I.B.A.

(Qualified architects awaiting registration may be appointed as Architectural Assistant at a salary of £865 per annum.)

(c) Architectural Assistants — Salary — £625 × 30(8) × 35(1) — £900

Candidates must have passed the Intermediate Examination of the R.I.B.A.

Applications stating age, qualifications, previous experience and the names of two referees to the

Secretary, Park Parade, Harrogate

by 23rd June, 1961.



### MOBIL OIL COMPANY LIMITED

invite applications for post of

# Division Architect

in their Sheffield Office

Applicants must be A.R.I.B.A. capable of administrating staff and have experience in handling Contracts through all stages of development. They must hold a current driving licence. Full employment benefits and superannuation.

Write giving full details of experience, age and salary required to

The Employment Department, MOBIL OIL COMPANY LIMITED Caxton House, London, S.W.1. WORCESTERSHIRE COUNTY COUNCIL ARCHITECTURAL ASSISTANT required, Grade A.P.T. II (£815—£960), in the Section concerned with major school projects. The County Council owns some housing accommodation for which a successful candidate may apply.

Application forms and further particulars can be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than 22nd June, 1961. (N.143.) 87874

Architectural Appointments Vacant per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

RYAN & NORMAN WESTWOOD require
ASSISTANT ARCHITECTS and DESIGNERS. Salaries up to £1.200. Apply to £1.800. Kreet. S.W.I. Trafalgar 1106.

CHARLES PIKE & PARTNERS REQUIRE
SENI-)R ASSISTANT FOR INDUSTRIAL
PROJECT. PUBLISHERS WAREHOUSE AND
OFFICES. WRITE TO 14. LINCOLN'S INN
FIELDS. W.C.2. GIVING DETAILS OF EXPERIENCE OR PHONE HOL 3532 FOR
APPOINTMENT.
OTHE ASSISTANTS ALSO REQUIRED FOR
VARIED EDUCATIONAL PROJECTS. COLLEGES—HOSTELS—SCHOOLS, ETC. S7937

BOOTH, LEDEBOER AND PINCKHEARD
require ASSISTANTS in the salary range
2780—£1,250. Apply 17-20, Mason's Yard, Duke
Street, St. Jamee's, S.W.I. Tel.: TRAfalgar
1006.

2850-21,600 ARCHITECTURAL ASSISTANTS required. Long term prospects. Non-contributory pension and life assurance schemes. Five-day week. Telephone or write: Ronald Ward & Partners, 29, Chesham Place, Belgrave Square, S.W.1. Belgravia 3361.

S.W.I. Belgravia 3361. TC6106

ENIOR ASSISTANTS required. Please apply to F. G. Frizzell, A.R.I.B.A., 80, Portland Place, W.I. LANgham 1732. TC4945

A RCHITECTURAL ASSISTANTS of all grades of the property o

Scheme. Accommodation. Apply with full details to:
Ruddle & Wilkinson, F/L/A.R.I.B.A.,
Long Causeway Chambers,
Peterborough.

EDWARD D. MILLS & PARTNERS require additional qualified STAFF for a variety of new work including housing, schools, industrial and churches. Enthusiasm and initiative important. Five-day week. Write giving full details to 9/11, Richmond Buildings, Dean Street, London, W.1.

GEORGE, TREW & DUNN.

Interesting projects include new hospitals, liversity buildings and multi-storey flats.

Qualified ARCHITECTS are invited to apply to b. Eastbourne Terrace, W.2. Tel. PAD 6611. TC6403

ARCHITEC
TANTS with imagination and designing ability
required to assist with large and important new
developments in the
the control London Area.
Telephone or write: Trehearne & Norman,
Preston & Partners, 53, Kingsway, W.C.2.
HOLborn 4071.

Preston & Partners, 53, Kingsway, W.C.2. HOLborn 4071.

INTERMEDIATE to Final ASSISTANTS required immediately, Salary according to ability and experience. Theo. H. Birks. 38, Portland Flace, London, W.L. LAN. 7236. TC9739

A RCHITECTURAL ASSISTANTS of all Agrades, particularly Intermediate standard, required on varied and interesting projects. High salaries will be paid in accordance with skill or experience of applicant. Lewis Solomon, Kaye & Partners. City 3811. TC5970

PLAYNE & LACEY require experienced and enthusiastic SENIOR ARCHITECTURAL ASSISTANT for work on University project. Salary range £1,200 to £1,500, Write 19, Queen Anne's Gate, Westminster, S.W.I, or ring WHI 2525 for interview.

RYAN & NORMAN WESTWOOD & PARTNERS require ASSISTANT ARCHITECTS. Salaries up to £1,200. Apply to 21, Suffolk Street, S.W.1. TRAfalgar 1106.

ENIOR ASSISTANTS required for work on large Hospital programme, excellent opportunities for the right men, salary £1,000-£1,400. Luncheon Vouchers and five-day week. Write giving full particulars to W H. Watkins, Gray and Partners, 57, Catherine Place, S.W.1. TC5633

A RCHITECTURAL ASSISTANTS required in busy Bloomsbury office with varied practice. Good salary and prospects for suitable applicants. Five-day week. Write giving particulars of age, qualifications, experience, etc., to Box 918, c/o 7, Coptic Street, W.C.I. TC5641

A BCHITECTS' ASSISTANTS required, both Intermediate R.I.B.A. and Finals standard, with experience in this country. Good salary offered Bernard Gold & Partners, 4/6, Savile Bow, W.1. Regent 7551.

PLAYNE & LACEY require experienced and enthusiastic ARCHITECTURAL ASSISTANTS. Salary range £900-£1,650. Write 19, Queen Anne's Gate, Westminster, S.W.1. or ring WHI 2552 for interview. TC6260

PPORTUNITY for Intermediate on newly-qualified ASSISTANT with initiative and all-round ability, to join youthful expanding practice in Croydon. Apply to Donaid Rowswell & Partners, 11/11a, George Street, Croydon, or telephone CROydon 4080. TC5723

A BCHITECTURAL ASSISTANT required for

Partners, II/IIa, George Street, Croyuon, or temphone CROydon 4080.

A RCHITECTURAL ASSISTANT required for North Devon Office. Box TC6673.

SENIOR AND JUNIOR ASSISTANTS. Only those who prefer a small office and an interesting variety of work on both old and new buildings should apply to: L. H. Bond & R. W. Read, 44, Castlegate, Grantham. TC6404.

C H. ELSOM & PARTNERS require two C SENIOR ARCHITECTS with good technical experience and design ability for large scale projects. Pension scheme and luncheon vouchers. 10, Lower Grosvenor Place, S.W.1. VICLOTIS 4304.

LEICESTER. SENIOR ARCHITECTS AND ASSISTANTS required for general practice. Appropriate salary paid. Apply by telephone or in writing for an interview to Herbert. Som & Sawday, 18, Friar Lane, Leicester. Tel. 56476.

Sawday, 18, Friar Lane, Leicester. Tel. 56476.
TC5307

LIE MAYORCAS requires ARCHITECTURAL
ASSISTANTS with a minimum of three
years' office experience in this country. Write,
giving brief particulars of architectural education and experience, and salary required, to:
13, David Mews, Baker Street, W.1. TC7014

IMMEDIATE VACANCIES in leading Bristol
office for all grades of ARCHITECTS and
ARCHITECTURAL ASSISTANTS. Modern
approach to design essential and considerable
freedom of expression allowed. Top salaries paid
according to ability and experience. Outstandingly
good working conditions; five-day week; annual
bonus; contributory pension scheme available;
existing holiday commitments honoured. Apply
giving particulars of age and experience to W. H.
Watkins, Gray and Partners. 8 Colston Avenue,
Bristol. Telephone Bristol 292333, reverse charge
calls accepted.

SCHERRER AND HICKS

SCHERRER AND HICKS SCHERKER AND HAVES
require Assistants in
LONDON AND MANCHESTER
All grades.
Interesting and varied work.
19 Cavendish Square, W.I. Museum 1195.
S7682

A RCHITECTS in private practice in the Home Counties will pay £1,000 to £1,500 per annum to competent ARCHITECTURAL ASSISTANTS. Will also pay up to £1,000 per annum for competent JUNIOR ARCHITECTURAL ASSISTANTS. Varied and interesting work in hand. Write stating age, experience and salary required to Box \$7694.

£1.000 PLUS.

With . non-con superannuation; canteen for . two Intermediate/Final Assistants in . expanding department of West End contractors on . . Schools and other interesting projects Write . . in confidence to Box S7704.

Write . . . in confidence to Box S7704.

21.000 /22,000 p.a. will be paid to experienced competent ARCHITECTS by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box TC9360.

SIR BASIL SPENCE, R.A., require qualified and experienced ARCHITECTS to fill positions of responsibility on a major building programme. Write to 1, Fitzroy Square, W.I., stating experience and salary required. TC9824

SENIOR ASSISTANTS required immediately.

Salary by arrangement. Theo. H. Birks, 38, Portland Place, London, W.I., LAN, 7235, TC1486

(TOTCH AND PARTNERS, Architects, have a vacancies for ARCHITECTURAL ASSISTANTS with a few weers' office experience. Fiveday week; a good salary, with luncheon vouchers. Aproly in writing to 8. City Road, London, E.C.1, stating age, experience, qualifications, if any, and salary required.

REYNOLDS & SCOTT have vacancies for SENIOR AND JUNIOR ASSISTANT ARCHITECTS in their Manchester Office. Full programme of School and Church Contracts. Applicants. not necessarily qualified, should write giving full details, salary required, to 9, Albert Square, Manchester, 2. Telephone DEAnsgate 6558.

CO-PARTNERSHIP offered to young qualified and desire to get on. Busy north east practice with a wide variety of work including Urban Planning in addition to architecture. No capital necessary but opportunities may arise later for full partnership. Box TO7541.

TWO JUNIOR ARCHITECTURAL ASSISTANTS required. Salaries from £750—£1,000 per annum in accordance with experience. Apply Box TC6718.

BRIGHTON & HOVE: Senior and Intermediate standard ASSISTANTS required for work along South Coast. Salaries up to £1,200 per annum. Five-day week. Three weeks annual holiday. Superannuation and Free Life Insurance. H. Hubbard Ford & Associates, 67, Church Road, Hove, 3, Sussex. 87247

ANCHESTER & LODGE urgently require ABCHITECTURAL ASSISTANTS of all grades. Work includes hospitals, laboratories, universities, offices, housing, etc. Write full particulars or ring for interview: 10, Woburn Square, W.C.L. MUS 0845-6-7.

YORKE, ROSENBERG AND MARDALL have starting salary according to qualifications and experience, in the range £950-£1,200. Ring AMBassador 4521 for appointment.

AMBassador 4521 for appointment.

A FEW vacancies still left for experienced and confident ARCHITECTS to fill positions of responsibility in a growing and varied practice with industrial and commercial work throughout the southern half of the country. Applicants must have initiative as well as architectural ability to carry through contracts up to £100,000, working directly with Principals but with minimum supervision. Apply in writing to Thomas Mitchell & Partners, 20 Bedford Square, London, W.C.1.

SIR JOHN BURNET, TAIT & PARTNERS have vacancies for ARCHITECTURAL ASSISTANTS of all grades. Salaries from £1,000 per annum upwards. Non-contributory pension, life assurance, medical schemes and luncheon vouchers, five day week, generous holidays. Apply 10, Bedford Square, London, W.C.1.

ENIOR and JUNIOR ASSISTANTS urgently required for busy City Office. Excellent modern facilities and long term engagements and bonds of the control of the co

SLOUGH ESTATES LTD require an ARCHITECTURAL ASSISTANT with at least five years' experience, chiefly for industrial work. Five-day week, good working conditions, luncheon vouchers, pension scheme, etc. Please apply, stating age, experience and salary, to The Chief Architect, Slough Estates Ltd., Bedford Avenue, Trading Estate, Slough, Bucks. TC7509 ARCHITECTURAL ASSISTANTS required immediately for interesting work in private practice situated 12 miles south of Birmingham. Five-day week and luncheon voucher scheme in operation. Apply Hasker & Hall, Longdon House, High Street, Knowle, Solihull, Warwickshire. Telephone Knowle 5502. TC7539

G. PORRI & PARTNERS need Intermined a variety of interesting projects. Write to 13, Gt. James Street, Bedford Row, W.C. Tel.: HOL 8558.

HOL 8588. S7535

EXPERIENCED ARCHITECTURAL ASSIS.

TANTS REQUIRED, SUPERANNUATION
FIVE-DAY WEEK. SALARY FROM 6900
ACCORDING TO EXPERIENCE. COTTON,
BALLARD & BLOW, 5, BAKER STREET,
LONDON, W.1. TELEPHONE WELBECK 3364.

CENERAL ASSISTANTS required. Good opportunity in expanding office. Intermediate and final standard. Interesting variety of work. Staff Pension scheme. Evening interviews if required. Write or 'phone: George E. Clay & Partners, 198, Parrock Street, Gravesend, Kent. Gravesend 1401/2.

SENIOR ASSISTANT ARCHITECT required in private practice South East Coast town. Must be experienced with ability to handle contracts from sketch plan to completion. Work consists of industrial flats, schools, shops, etc. Starting salary £1,200 or according to ability. Housing accommodation available. Apply in own handwriting. Box TC7452.

handwriting. Box TU7492.

A RCHITECTS' ASSISTANTS required, Final and Intermediate standard, to work on large and interesting projects. Salary 2850 to 21,000. Applicants must be good draughtsmen, with sound knowledge of detailing, Please write giving full particulars of experience, age, etc., to: F. W. Beech & E. Curnow Cooke, P./L.R.I.B.A., 15, Dix's Field, Exeter. TC3945

CHALLEN AND FLOYD require an ASSIS-TANT of Intermediate to Final standard with a minimum of five years' experience. Work will be interesting, varied and responsible. Salary according to age and experience. Luncheon vouchers provided. Apply to 7, Cromwell Road, London, S.W.7. KENsington 8334/8549. TC6491

London, S.W.7. KENsington 8334/8049. 1C0491

A BCHITECTURAL ASSISTANTS REQUIRED.
Recently qualified, Intermediate or equivalent standard, Excellent salaries offered, Pension and Life Assurance Schemes in operation. Fiveday week, Please write, giving full particulars of experience, to Johns, Slater & Haward, P/A.R.I.B.A., 32, Foundation Street, Ipswich, S7779

A RCHITECTURAL ASSISTANT at Intermediate standard required for West End Branch of Provincial Architects. Interesting and varied work, Five-day week, Luncheon Vouchers. Write full particulars of age, experience and salary required to Box TC6926.

UALIFIED ARCHITECTURAL ASSISTANT required immediately in Home Counties office. Considerable scope for work on industrial, commercial and housing schemes. Five-day week. Write full particulars of age, experience and salary required to Box TC6926.

A RCHITECTURAL ASSISTANT required.

Write Ital parassassing required to Box TC6926.

A RCHITECTURAL ASSISTANT required.

R.I.B.A. Intermediate standard, with some office experience. Varied and interesting work. Five-day week. L.V. Good salary for keen and competent person. William Crabtree, F.R.I.B.A., Bobert Adam Street, W.1 (WELbeck 9909), S. Bobert Adam Street, W.1 (WELbeck 1990).

ENIOB ARCHITECTURAL ASSISTANTS.
Large Office has a limited number of vacancies for Senior Architectural Assistants, salary range 2900-61,500, to undertake work of a varied and interesting character.

Reply with particulars of experience to Box TC6875.

ROBERT MATTHEW & JOHNSONMARSHALL have vacancies in their London office for ARCHITECTS at all levels of
experience for a variety of interesting jobs.
Apply to Robert Matthew & Johnson-Marshall,
24, Park Square East. N.W.1. TC6547

24, Park Square East. N.W.I.

TOS547

STOP THAT COMMUTING! TO QUALIFIED
ASSISTANTS IN WEST SUSSEX WE
OFFER WORK ON A WIDE VARIETY OF
WEST AFRICAN PROJECTS, PROSPECTS OF
SERVICE ABROAD, AND UP TO £1.000 PER
ANNUM APPLY IN WRITING TO TECNIC,
ARCHITECTS AND TOWN PLANNERS, 38
BUDLEY ROAD, BOGNOR REGIS.

7441

M ESSES. GOTCH & PARTNERS, Architectar require ASSISTANTS with some years' experience. Salary up to £1,500 a year, plus Luncheon Vouchers. Five-day week. Reply in writing to 8. City Road, stating age, experience and qualifications.

and qualifications.

[HANA.—Applications are invited from quali
[M fied ARCHITECTS to work in our Accra

Office. The work is varied, interesting and

expanding and the following vacancies require

to be filled:—

1. SEVIOR ARCHITECT, to be responsible for

the architectural work of the office under the

administrative management of a Senior Resident

Engineer, Proposed tour up to three years with

annual home leave. Salary (according to age

and experience) £2,250—£2,500 with rent-free

housing and car provided.

2. ASSISTANT ARCHITECT, to act under the

Resident Engineer as Site Architect for the new

buildings at Accra Airport. Two-year tour with

annual home leave. Salary £2,000—£2,250 with

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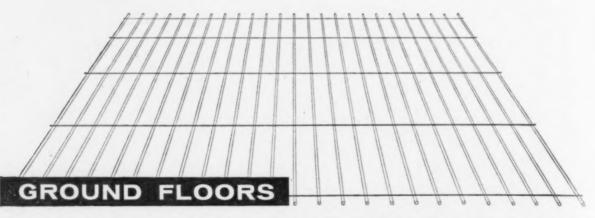


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