

THE ARCHITECTS' JOURNAL



standard contents

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

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No. 3406]

[Vol. 132

THE ARCHITECTURAL PRESS

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

ILA	Institute of Landscape Architects. 1, Park Crescent, Portland Place, W.1. Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1. Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W.1. Welbeck 9966
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee). Fire Research Station, Boreham Wood, Herts. Elstree 1341/1797
LDA	Lead Development Association. 18, Adam Street, W.C.2. Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Hyde Park 7070
MOH	Ministry of Health. 23, Savile Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James's Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2. Gerrard 6933
MOT	Ministry of Transport, Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 14, Howick Place, Victoria Street, S.W.1. Victoria 1600 & 6477
NAS	National Association of Shopfitters. 2, Caxton Street, S.W.1. Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619
NCBMP	National Council of Building Material Producers. 10, Storey's Gate, S.W.1. Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4459
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whitehall 1631
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1. Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9245
RFAC	Royal Fine Arts Commission. 5, Old Palace Yard, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1. Sloane 5134
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, E.C.3. Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1. Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1. Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen. 55, Great Ormond Street, W.C.1. Holborn 2646
SPAB	Society for the Protection of Ancient Buildings. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006
TCPA	Town and Country Planning Association. 21, College Hill, E.C.4. City 4771
TDA	Timber Development Association. 18, Ashley Place, S.W.1. Victoria 8815
TPI	Town Planning Institute. 75, Cannon Street, E.C.4. City 5040
TTF	Timber Trades Federation. 6, Carlton House Terrace, S.W.1. Whitehall 4341
WDC	War Damage Commission. 34, Berkeley Square, W.1. Grosvenor 6636
ZDA	Zinc Development Association.

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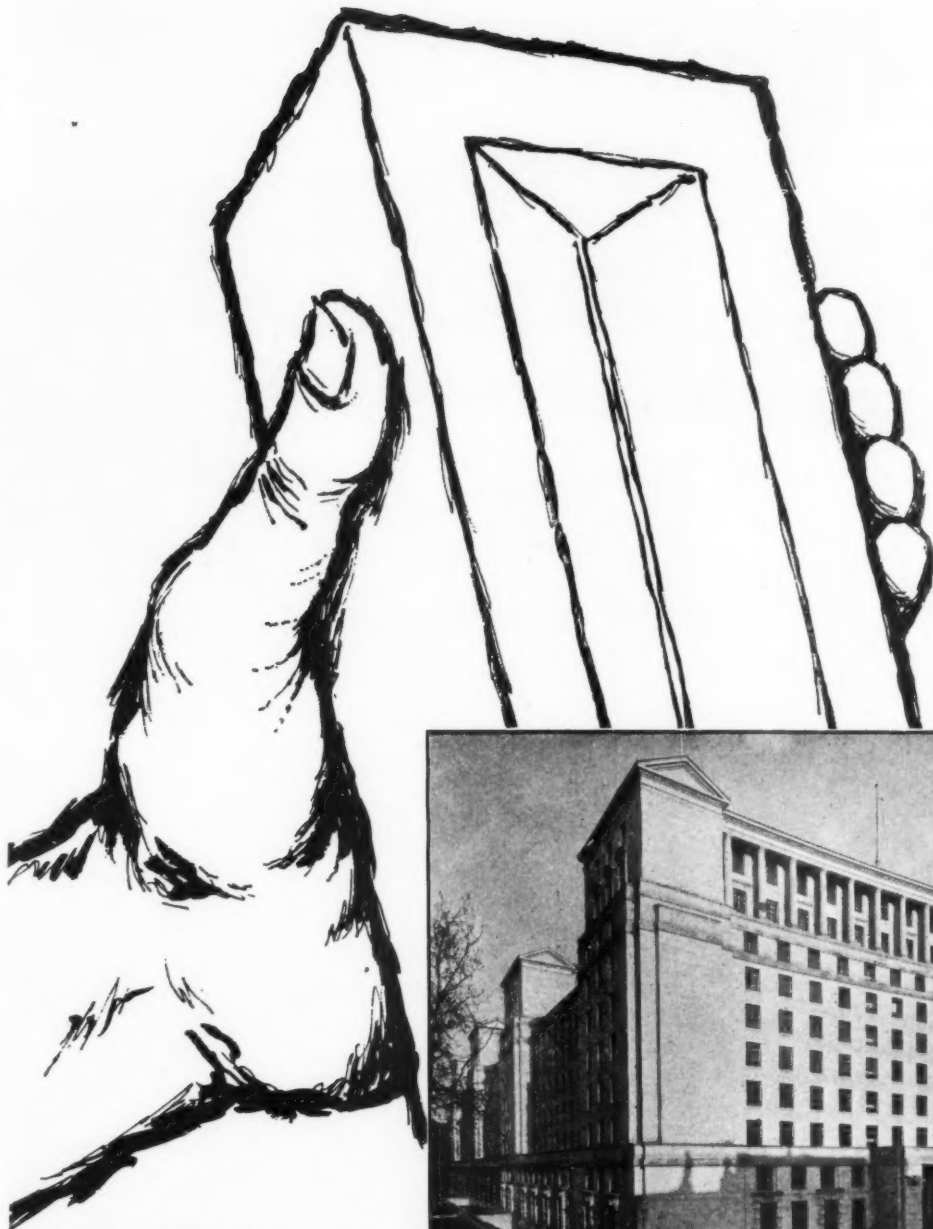
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Contractors: Gilbert-Ash Ltd.

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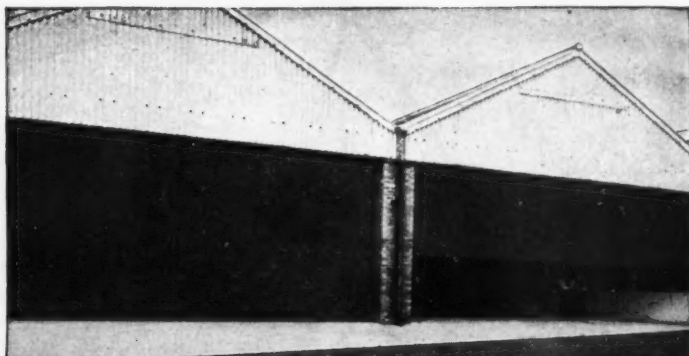
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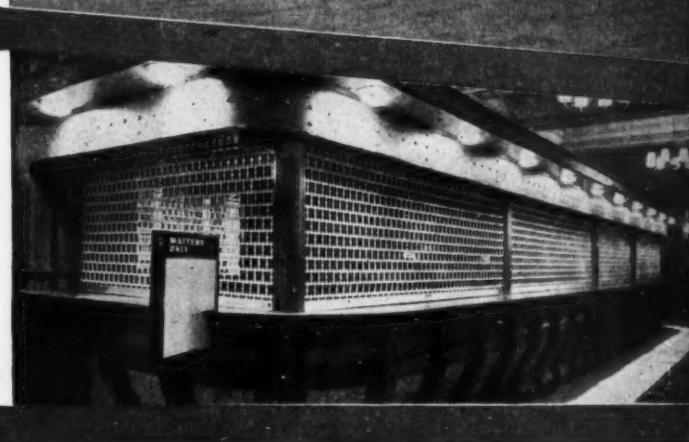
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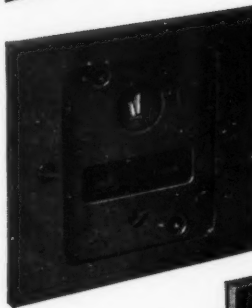
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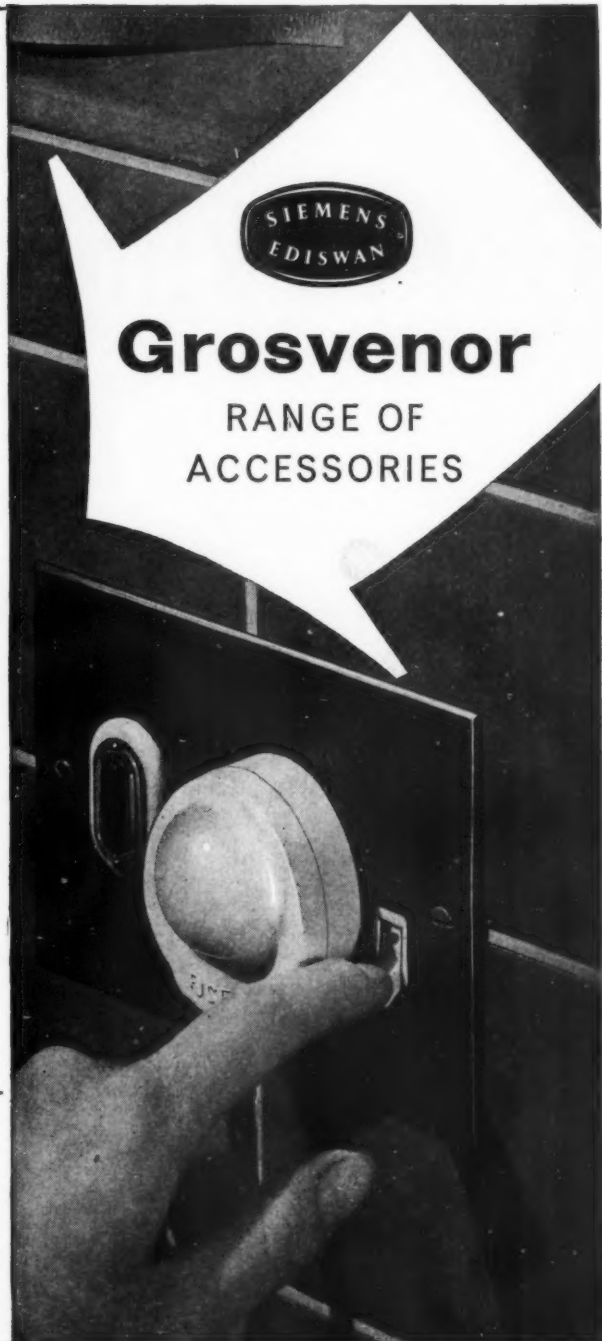
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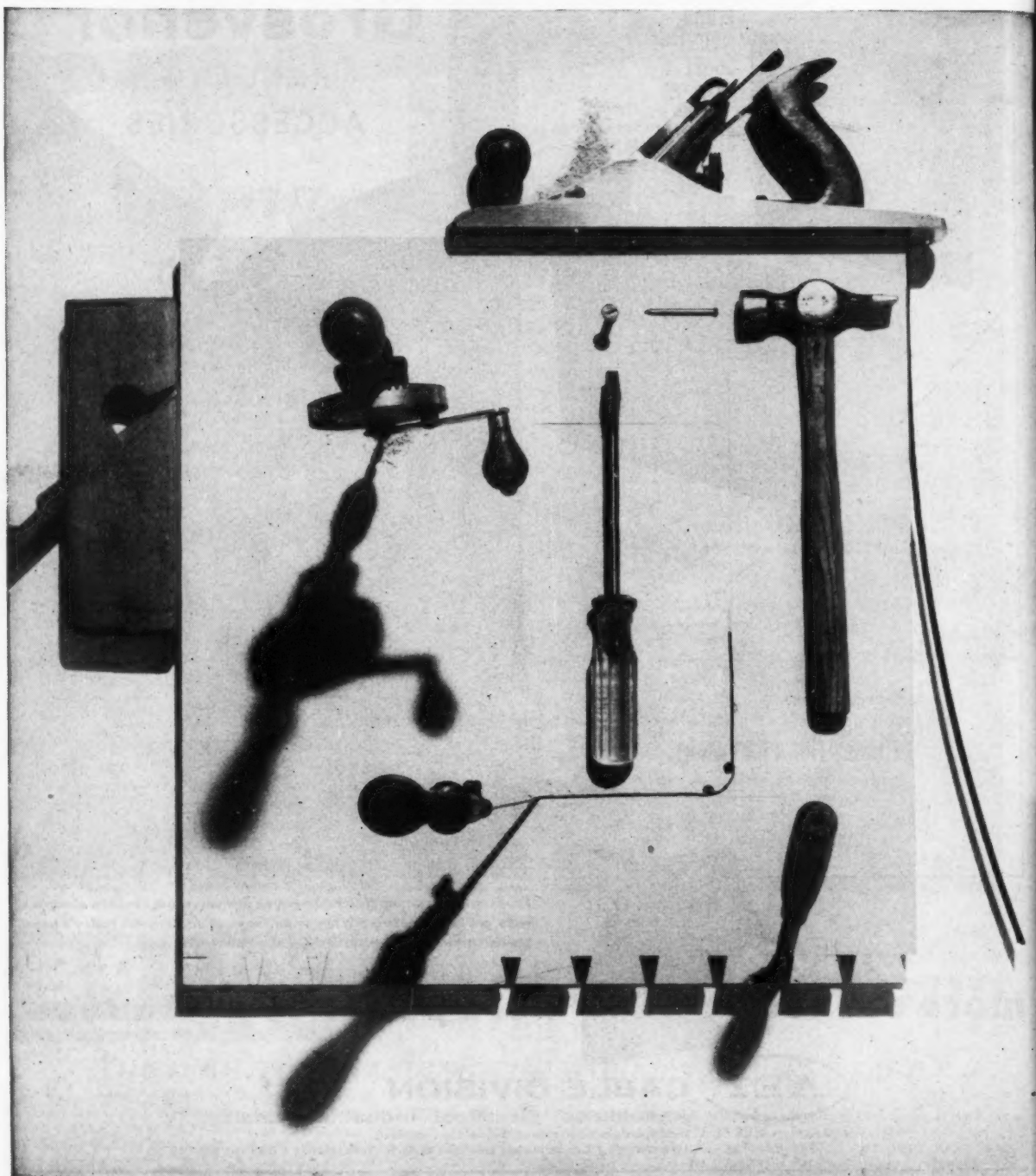
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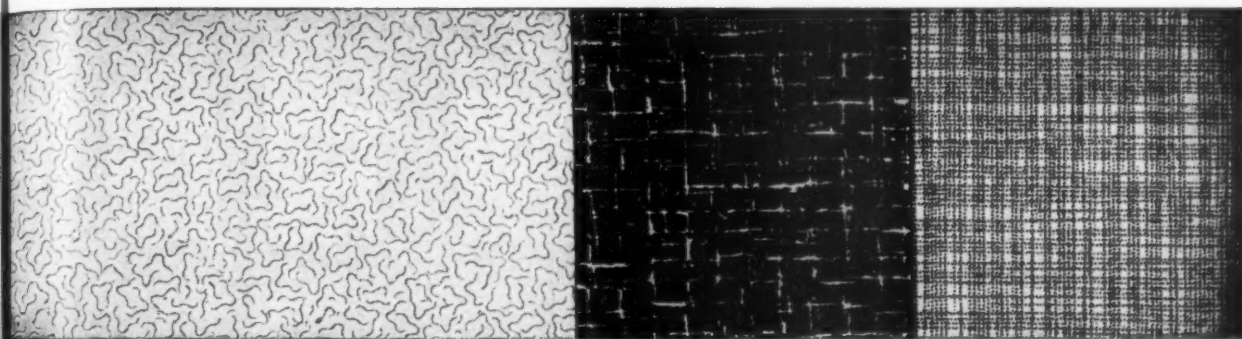
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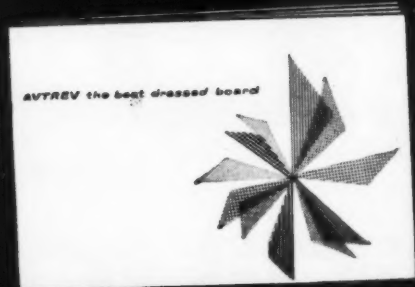
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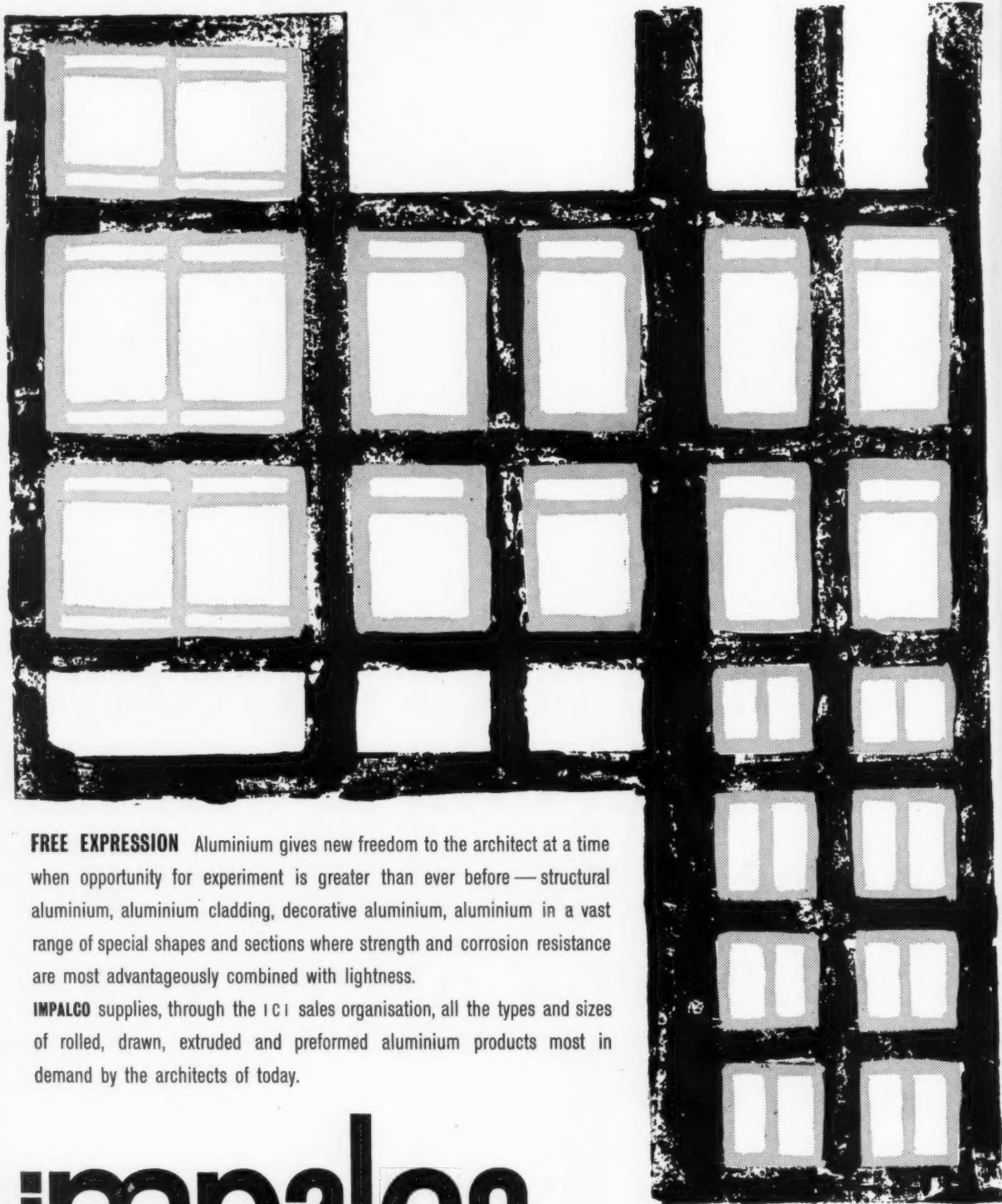
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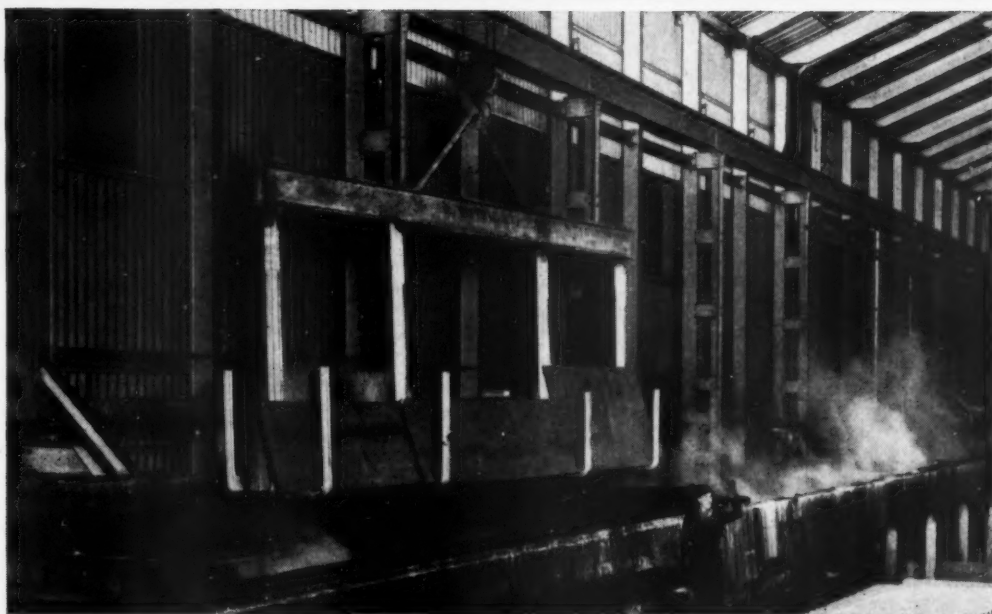
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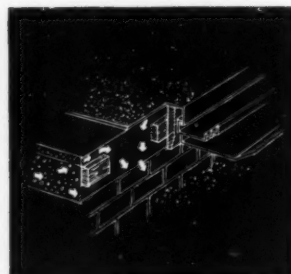
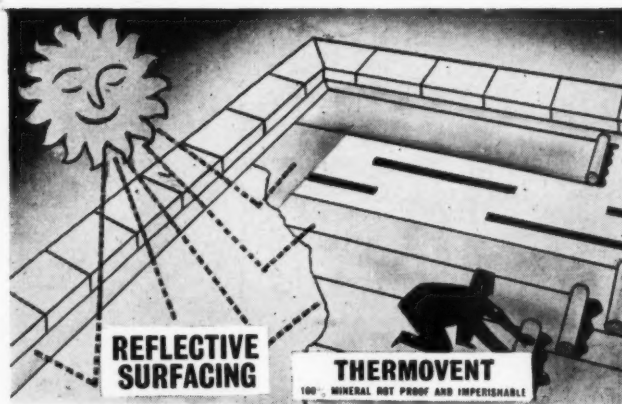
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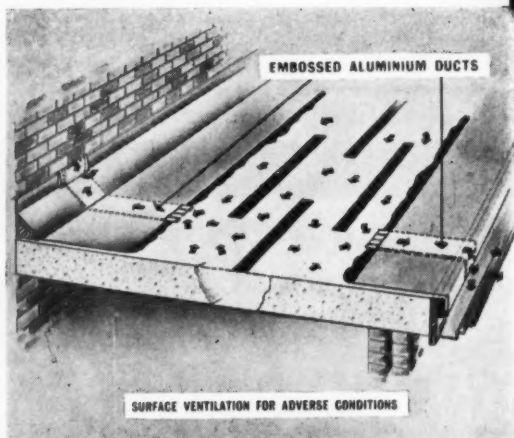
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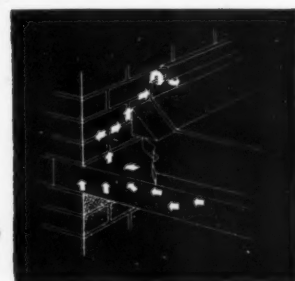
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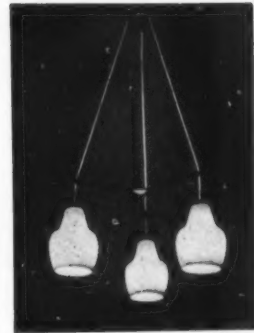
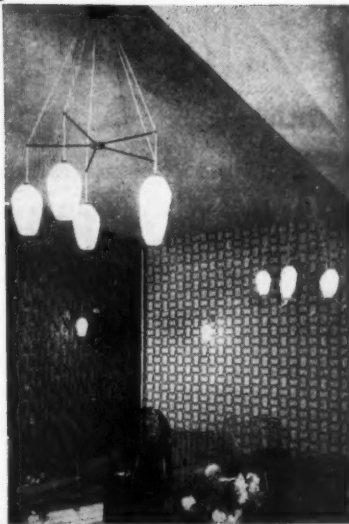
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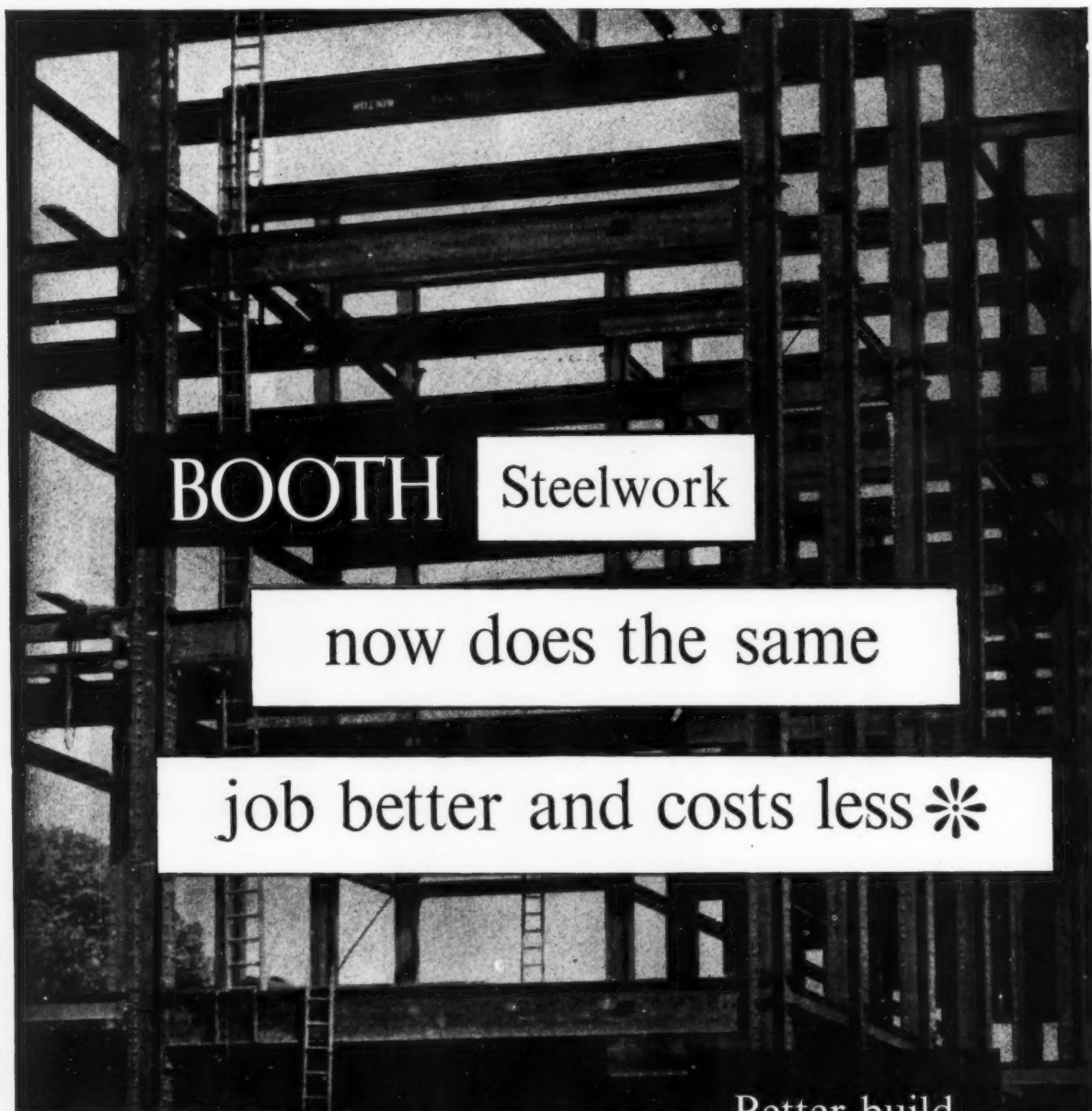
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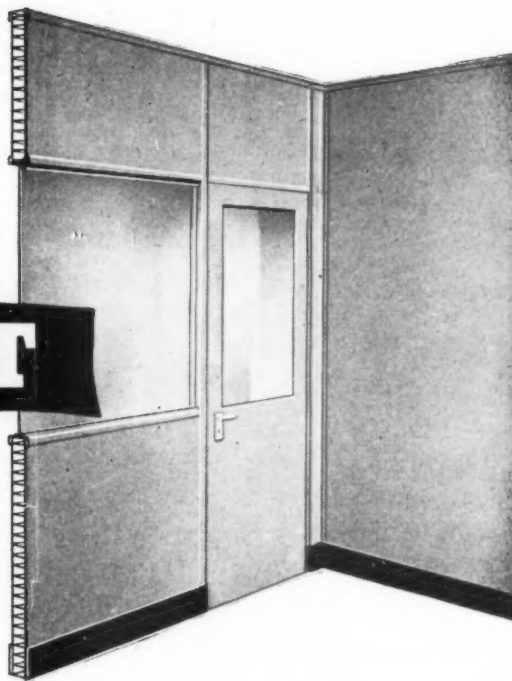


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CRAWLEY NEW TOWN. Architect: H. S. Howgrave-Graham, A.R.I.B.A., A.M.T.F.I.,
Chief Architect to The Crawley Development Corporation.



100,204, 100,205, 100,206 - COO,
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The final neighbourhood unit
Gossops Green—where wide use has been made of Williams & Williams projected windows—is the .9th and last of the neighbourhood units. It is nearly finished and is already partly occupied.



Curtain Walling on the Post Office Williams & Williams curtain walling with yellow in-fill panels give a light, bright look to the new Post Office, situated just outside the Town Centre.



The Williams & Williams phone boxes. The famous phone boxes in the Town Centre were specially made by Williams & Williams to the design agreed between the architects and the G.P.O.



A new way with dustbins Standard equipment throughout Crawley are these dustbin units. The louvred steel front opens on to a steel box which has a hinged lid and contains the dustbin. Rubbish is disposed of from inside the kitchen and collected from outside the house. Specially designed and made for the Crawley Development Corporation by Williams & Williams.

CRAWLEY NEW TOWN contains an established Town Centre, a flourishing Industrial Area, 9 neighbouring units, 53,000 prosperous inhabitants and well over 100,000 Williams & Williams windows. Steel windows and curtain walling on the Post Office, purpose made steel windows in the Town Centre and steel windows to B.S.S. made to a special size to meet the architects' requirements for the houses.

The birth of the Z range The 2' module standard window was developed for the architects of the new towns. These Williams & Williams Z range windows at Northgate went up in 1950—they were among the first in the country.

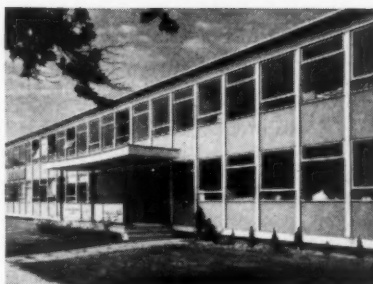


Tailor made standards Crawley New Town also saw the development of the now established 'CO' standard window—specially made to an intermediate height of 3' 6". These particular ones



at Southgate were specially made by Williams & Williams for Crawley Development Corporation.

Standard factories too To bring in the small manufacturer—and so balance the economy of the area—small factories like this one were built to a standard design. Here Williams & Williams purpose made steel windows and Aluminex Patent Glazing have been used for the sidewalls and Williams & Williams roof lights supply daylight overhead.

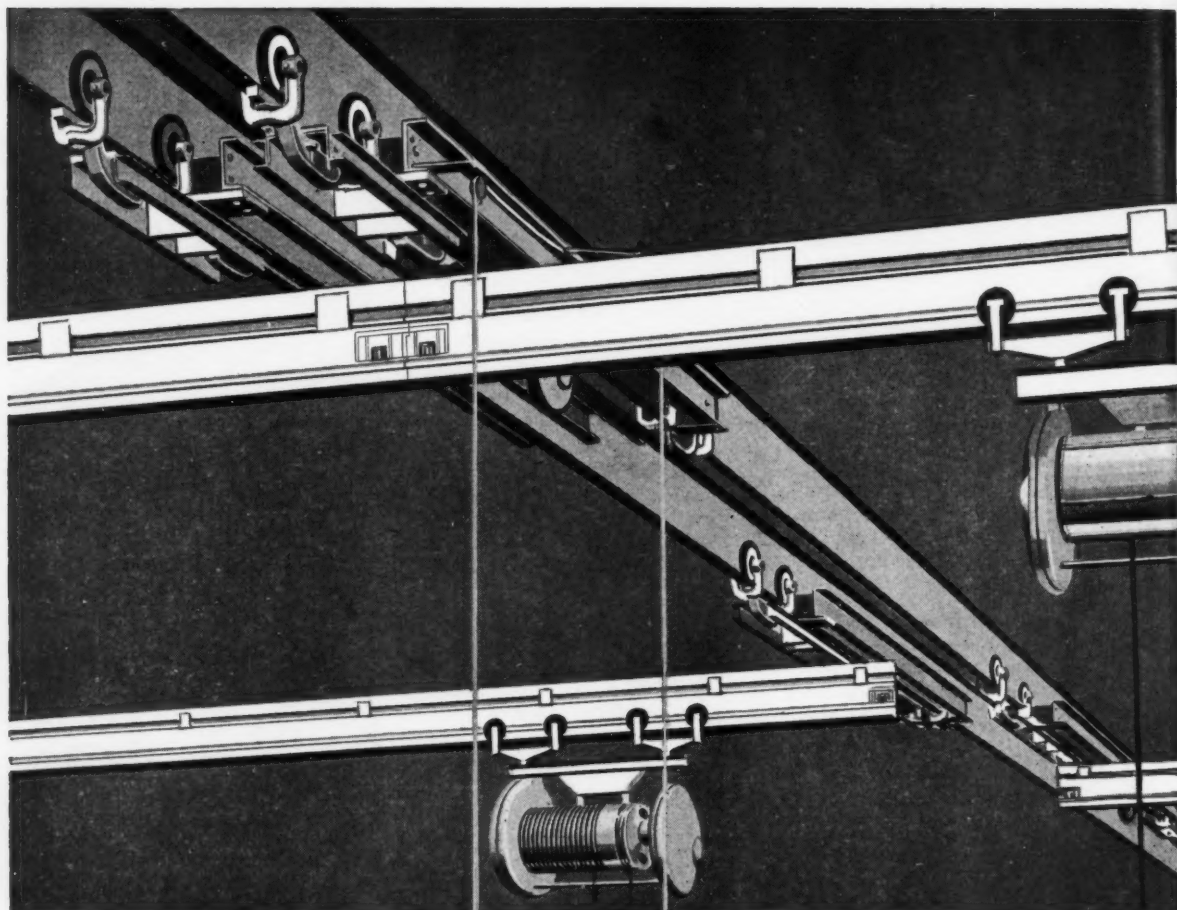


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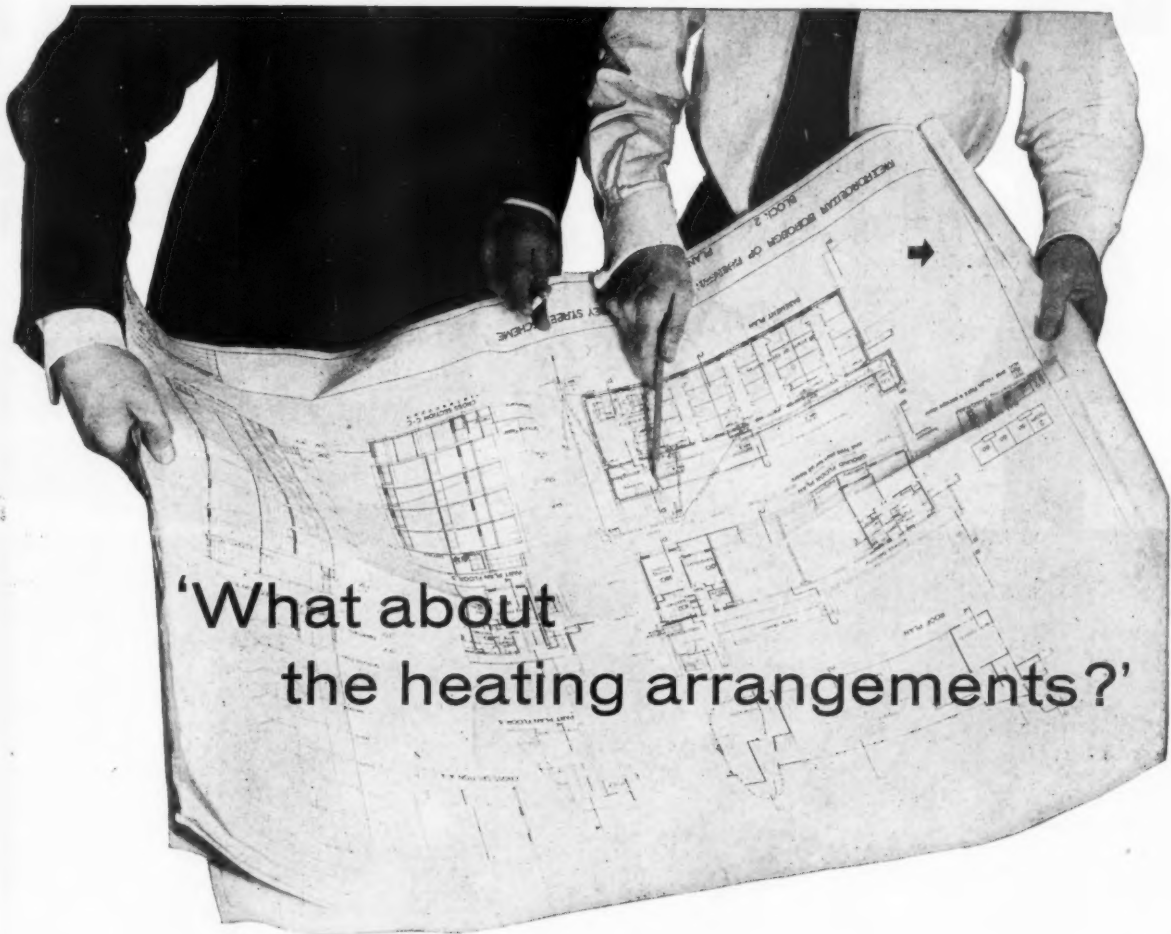
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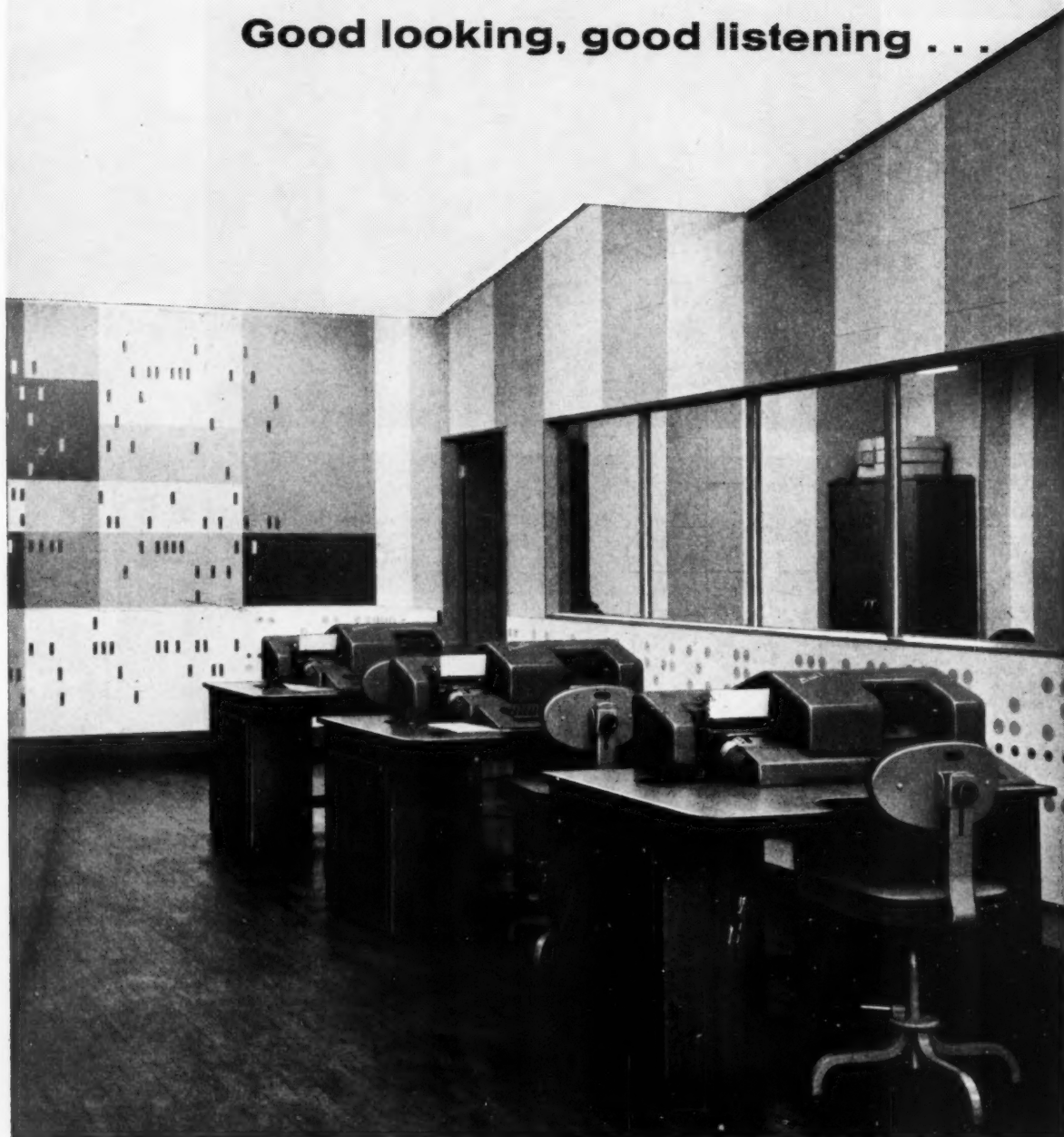
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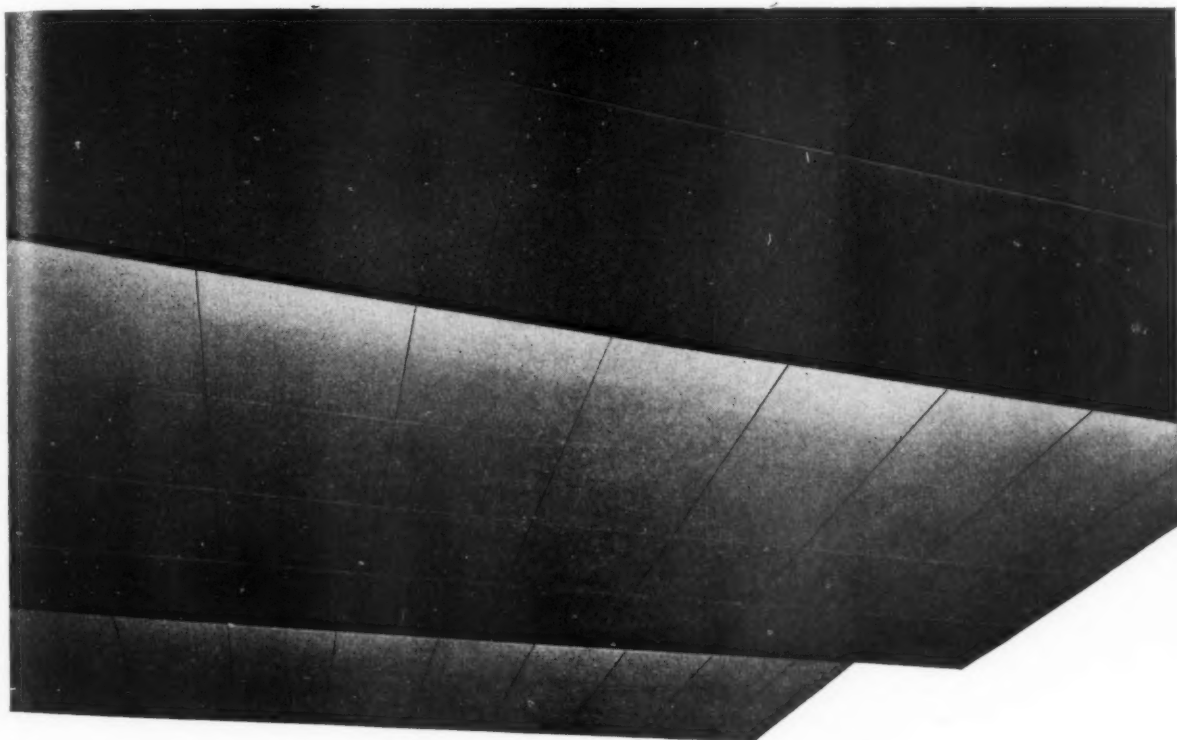
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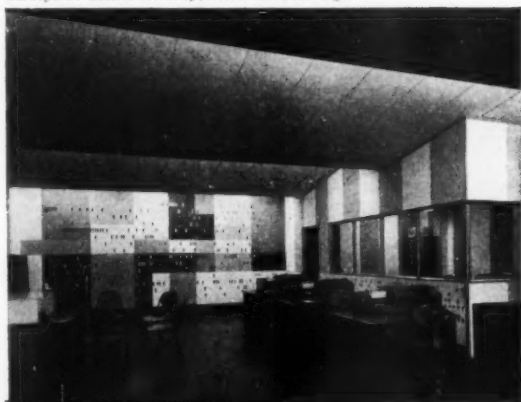
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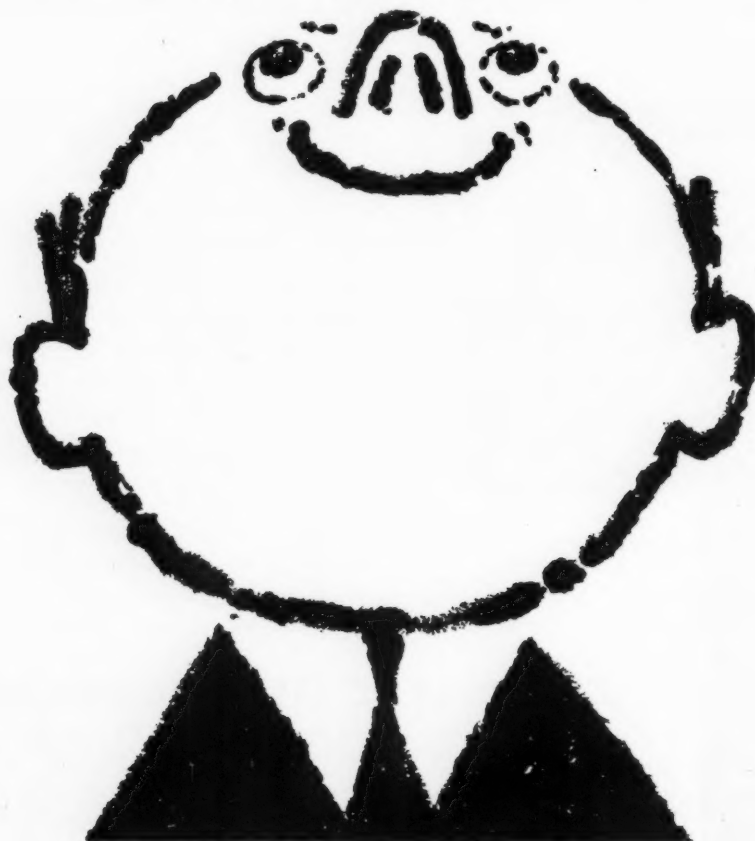
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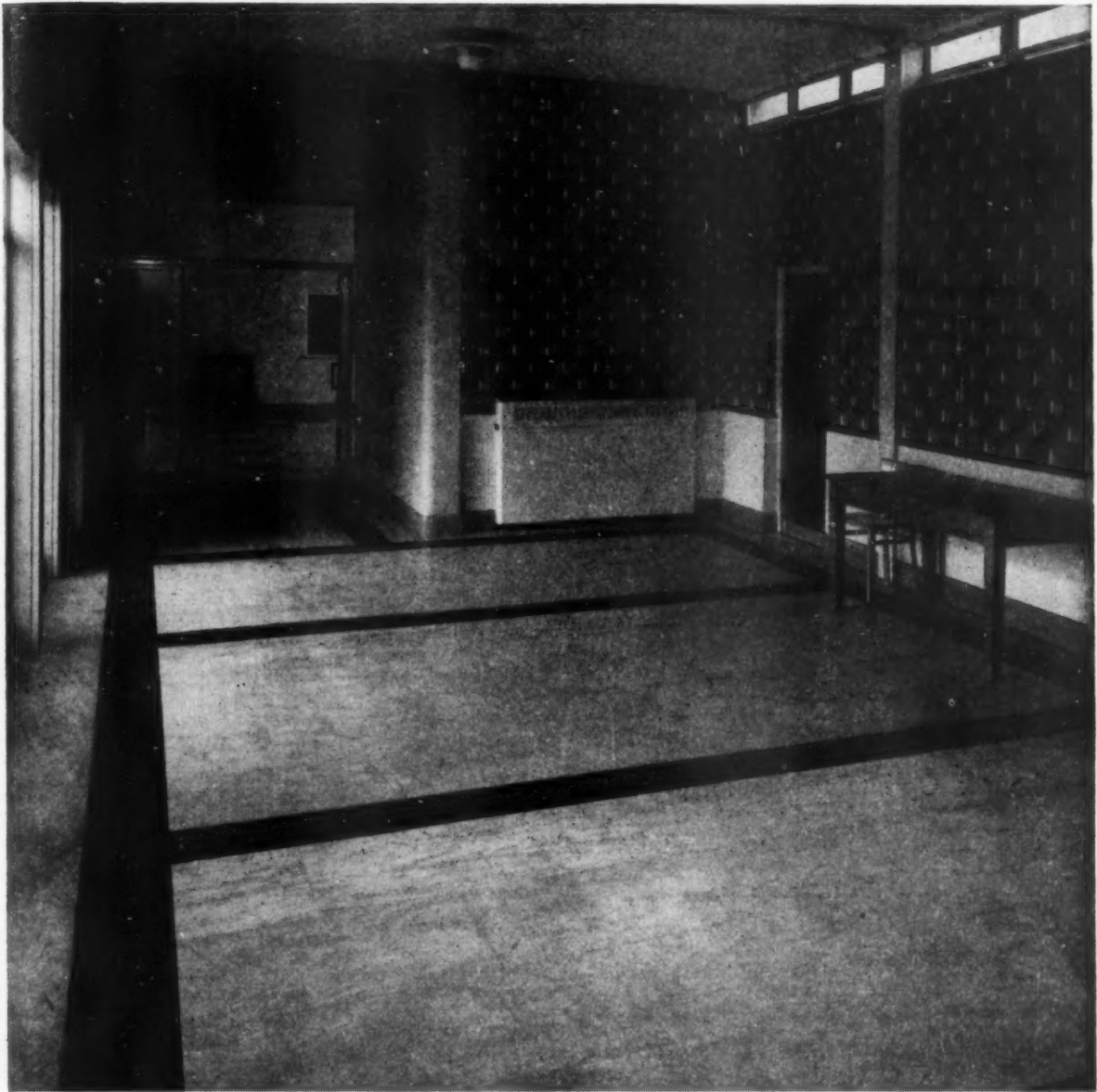
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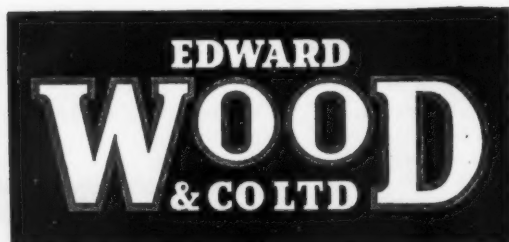
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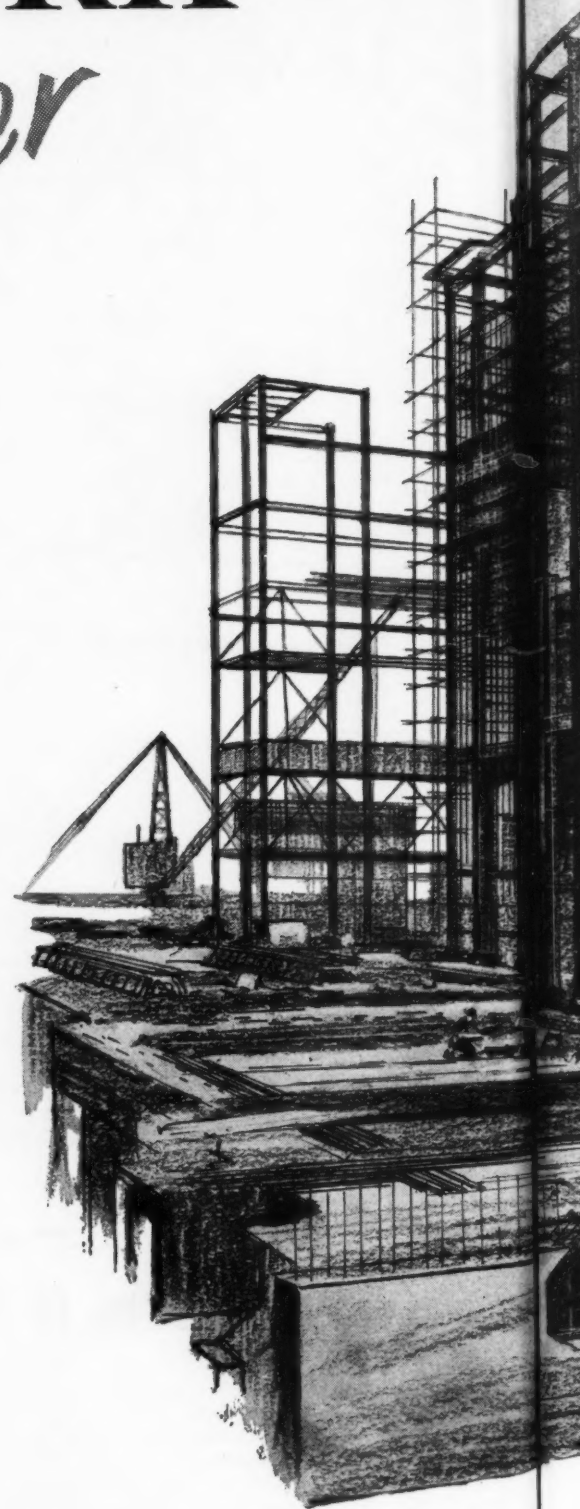
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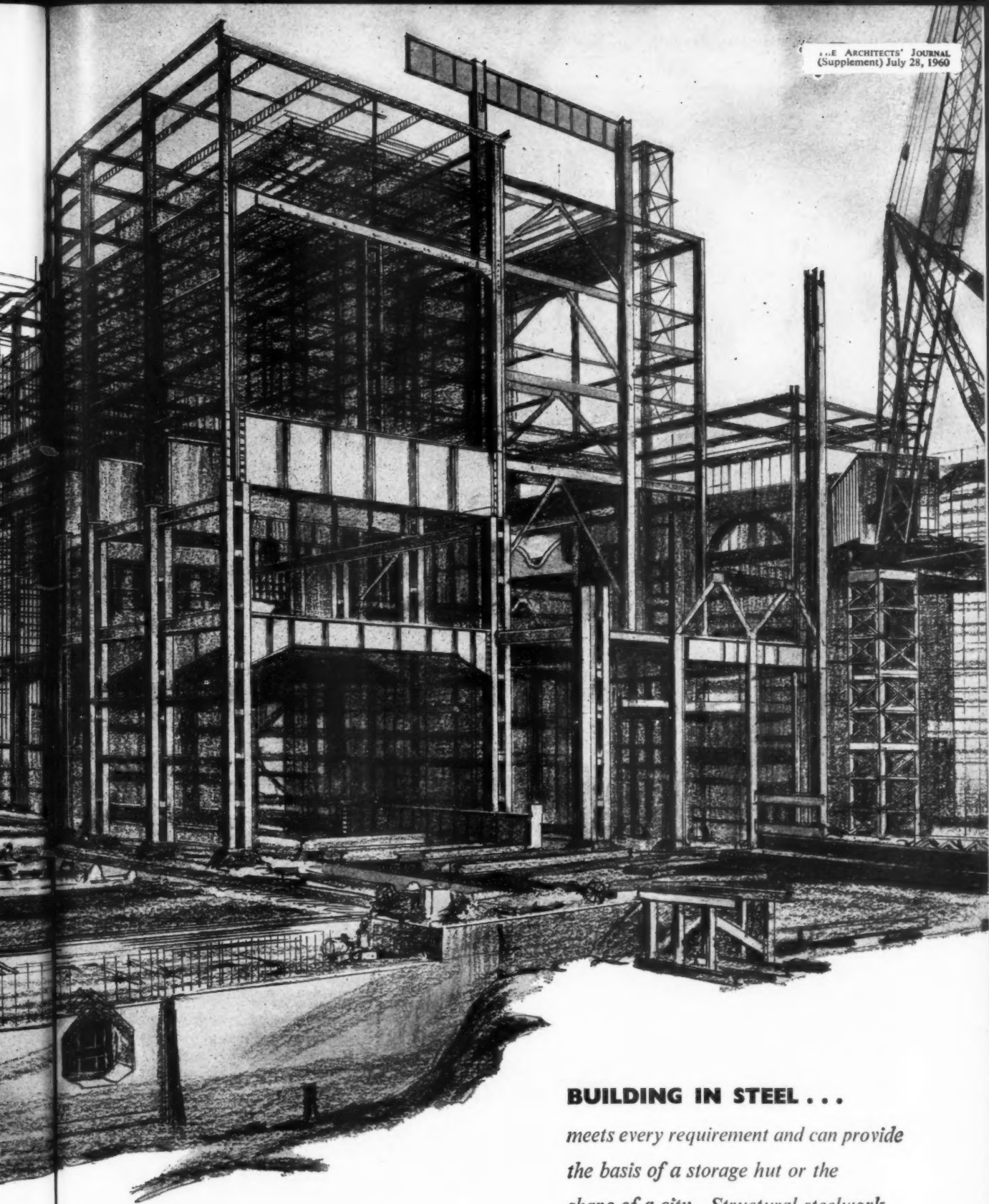


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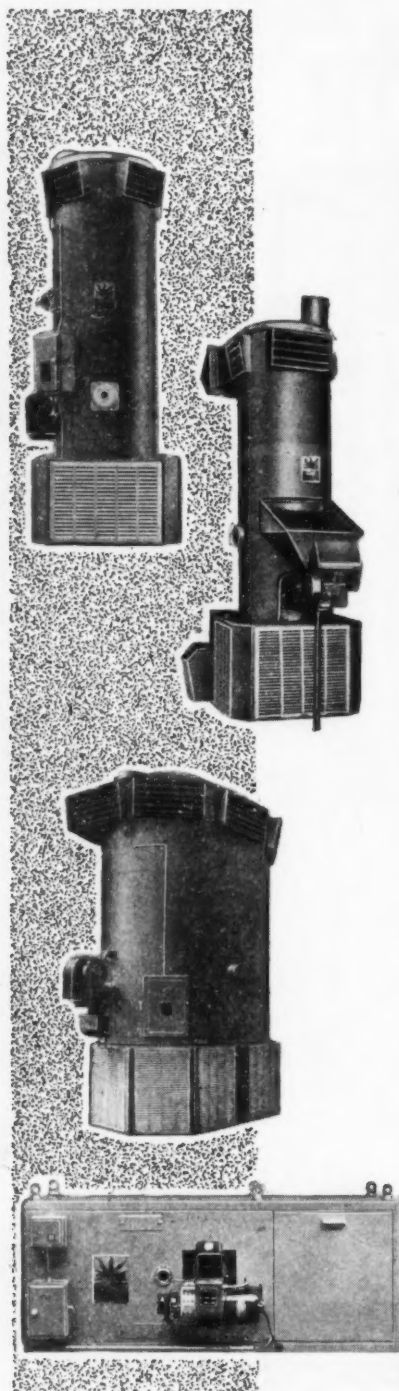
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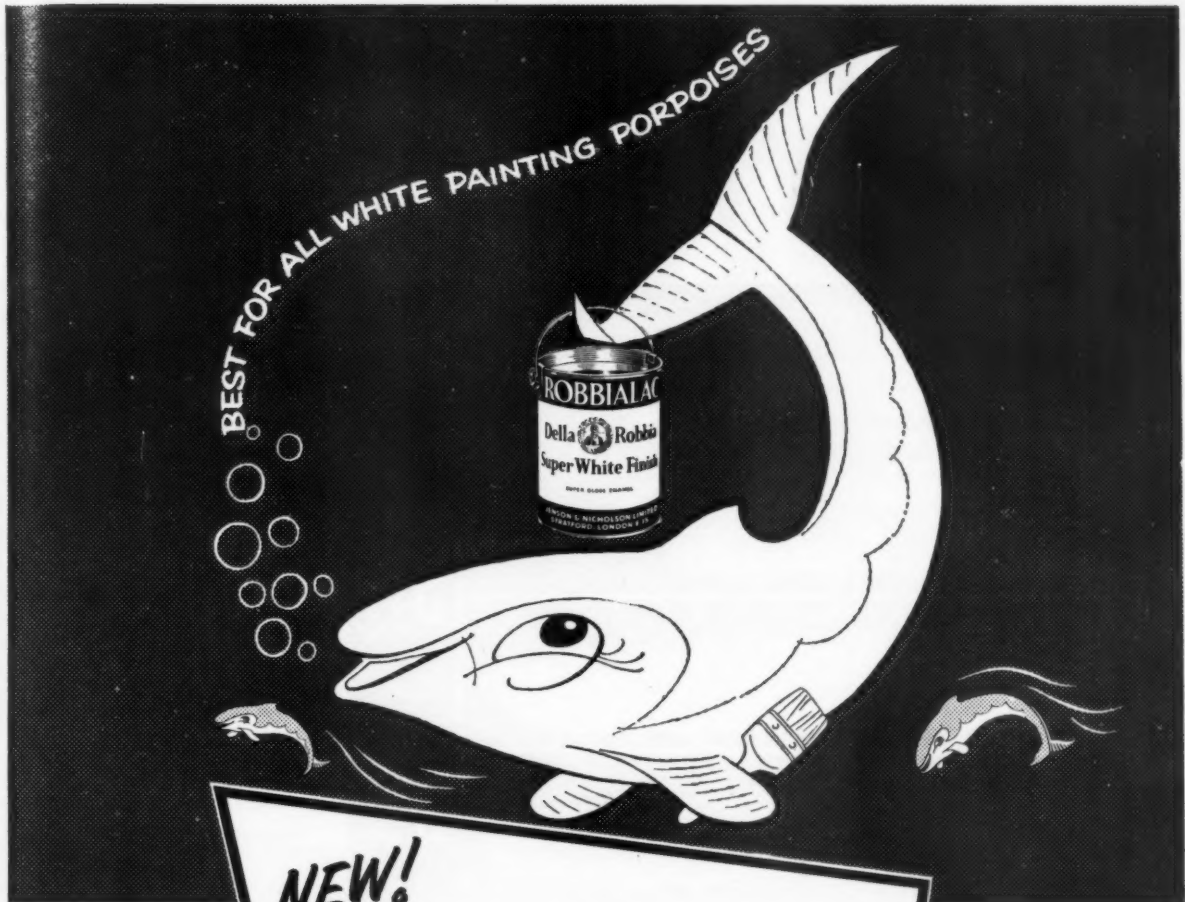
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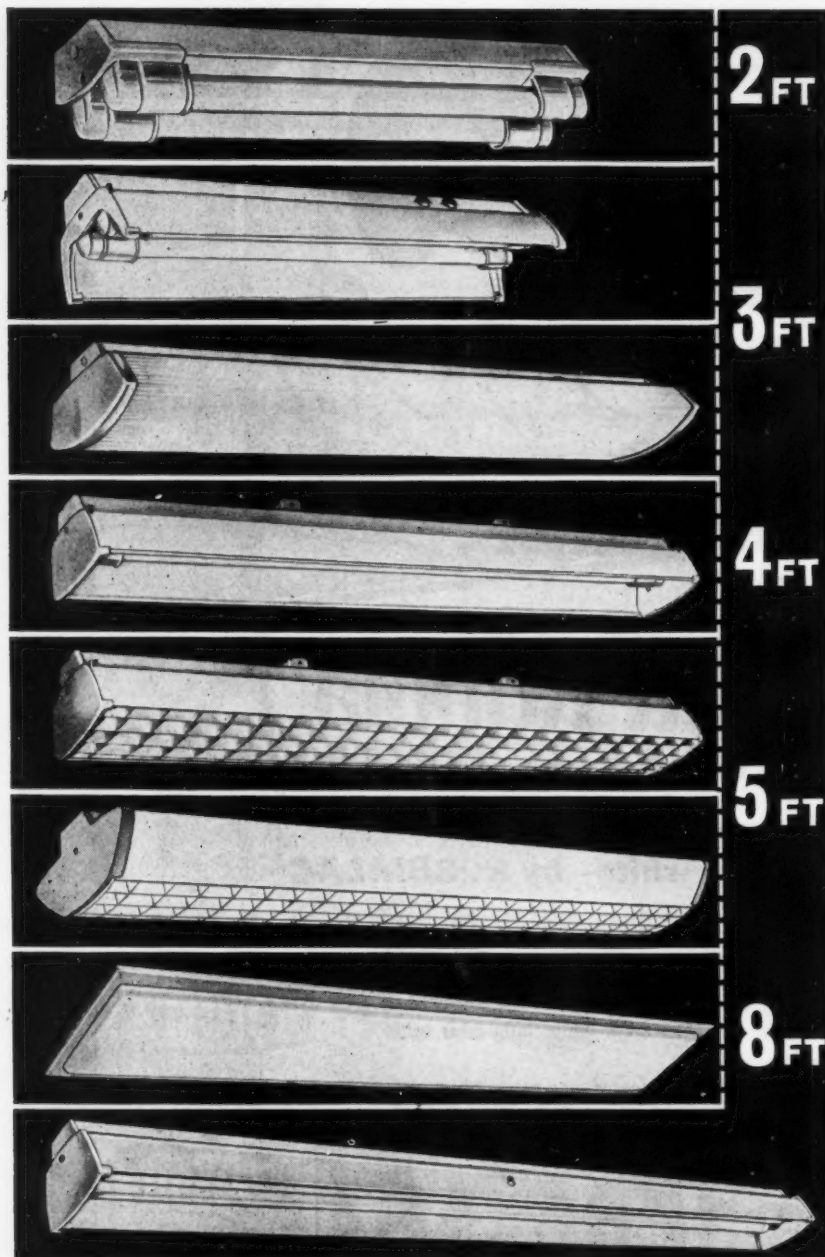
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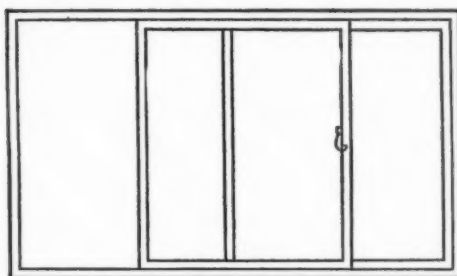
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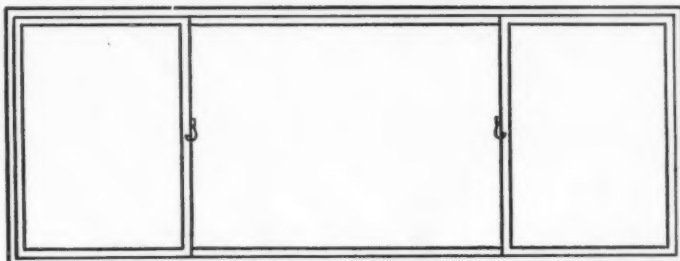
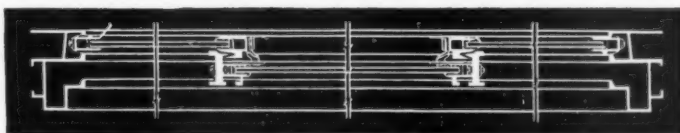
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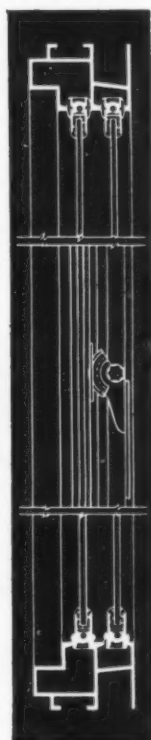
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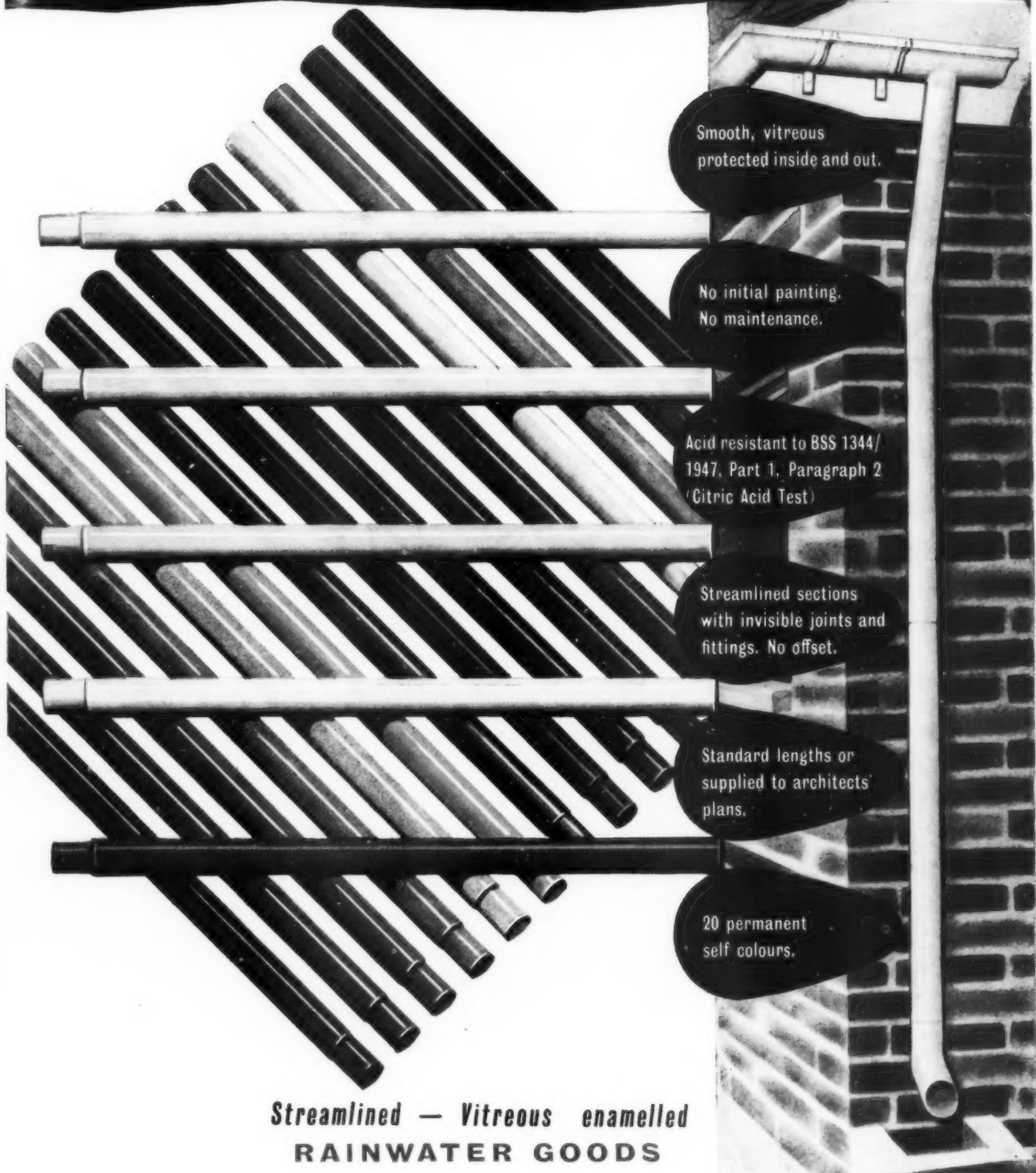
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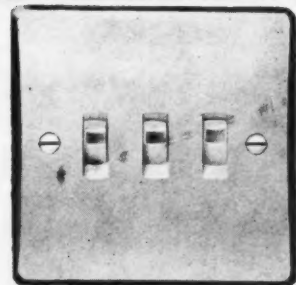
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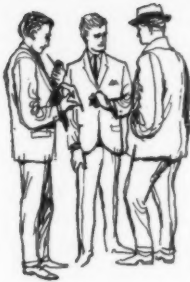


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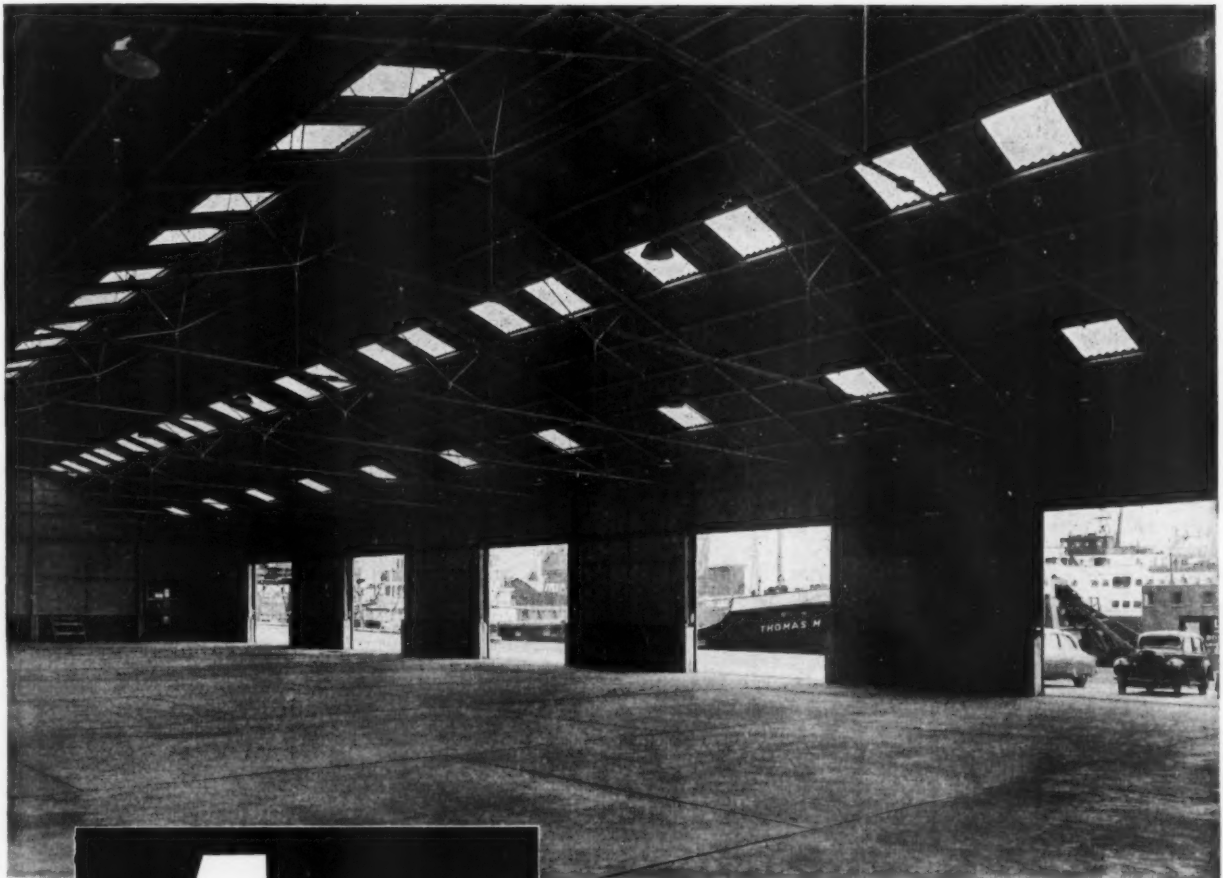
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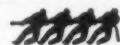
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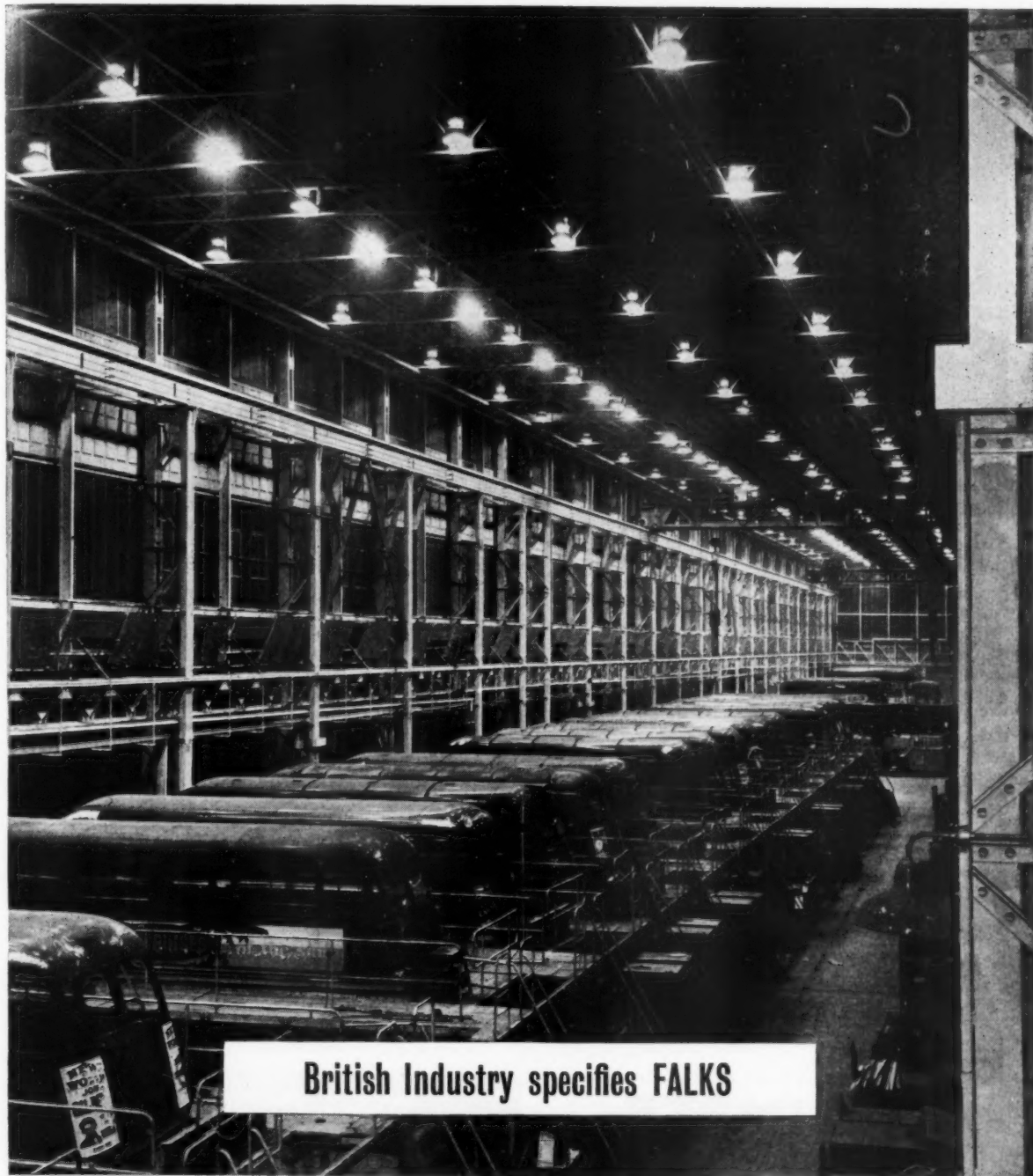
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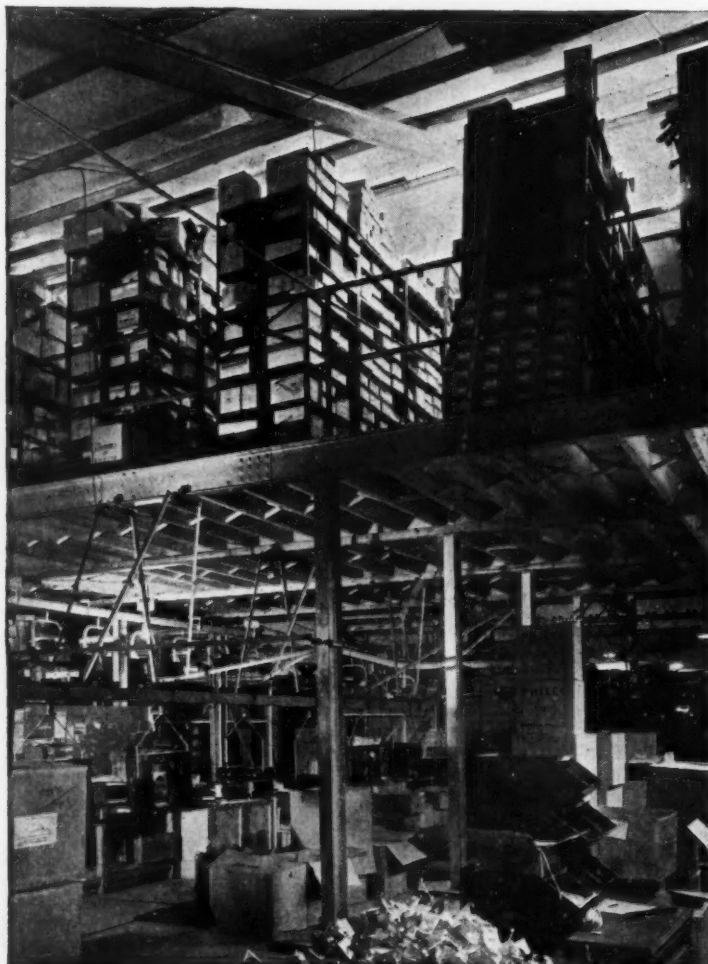
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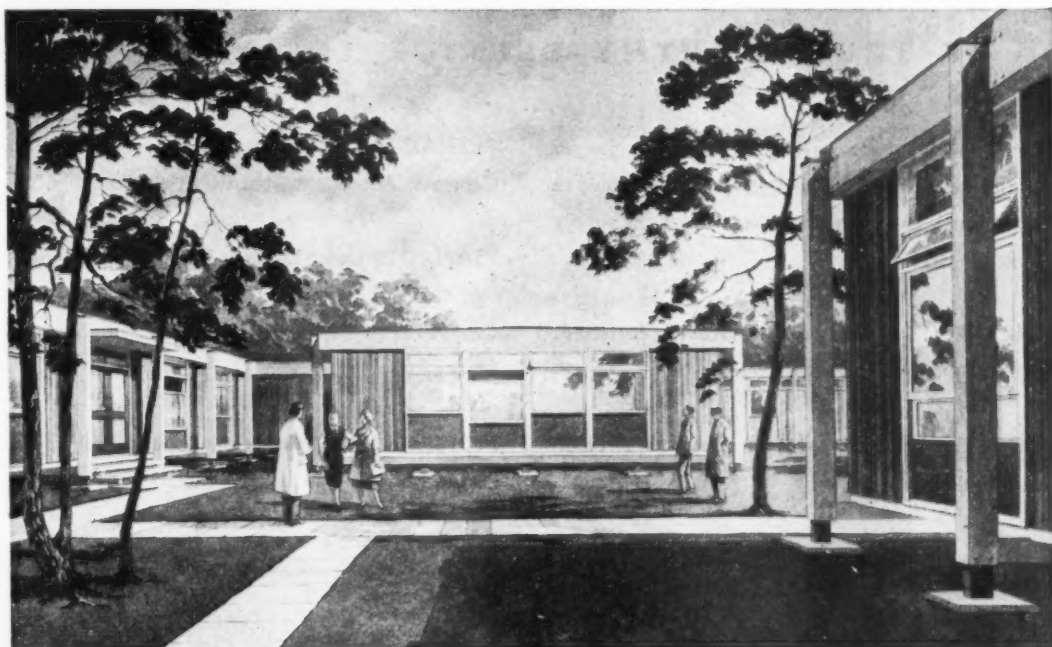
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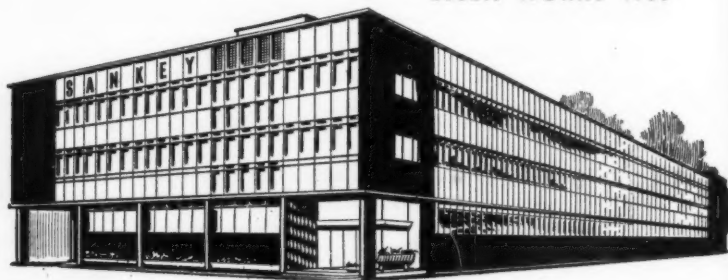
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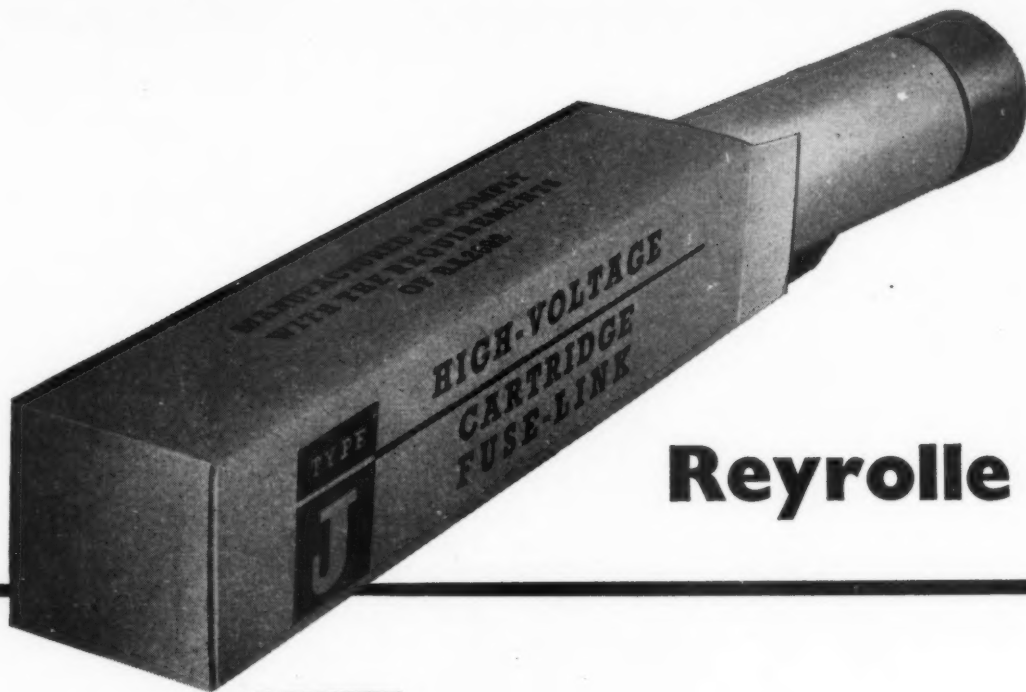
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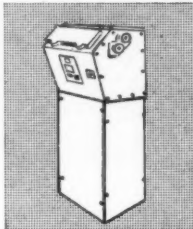


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RATING		BREAKING-CAPACITY	A.S.T.A. CERTIFICATE NO:
CURRENT(amps)	VOLTAGE (kV)		
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60	6.6/11	250 mVA at 6.6 kV	3976
60	6.6/11	150 mVA at 6.6 kV	3977
60	3.3	75 mVA at 3.3 kV	4013
100	3.3	75 mVA at 3.3 kV	4061

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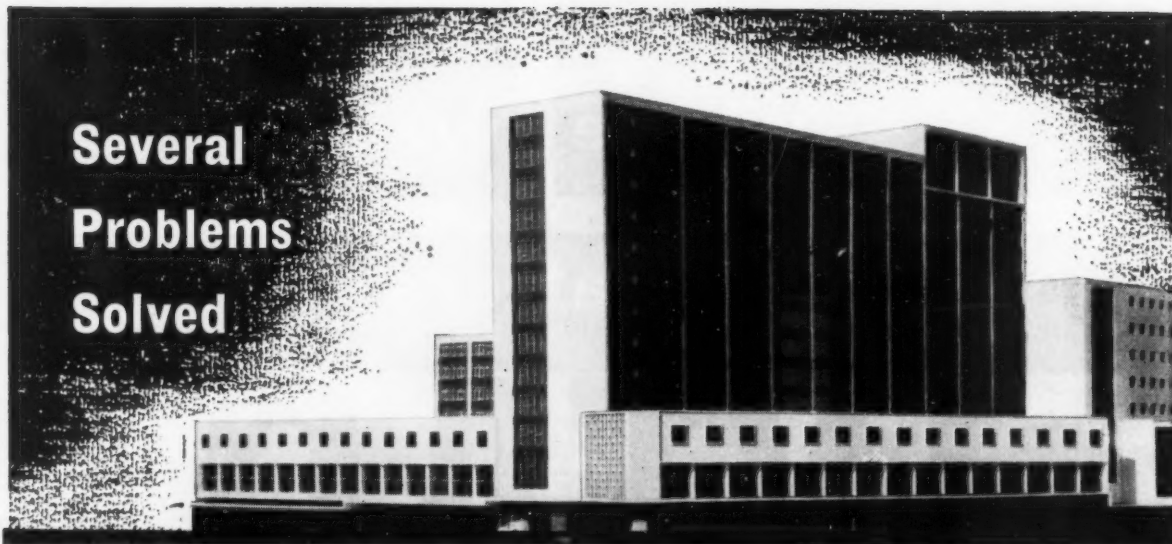
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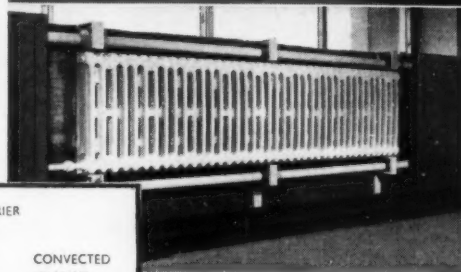
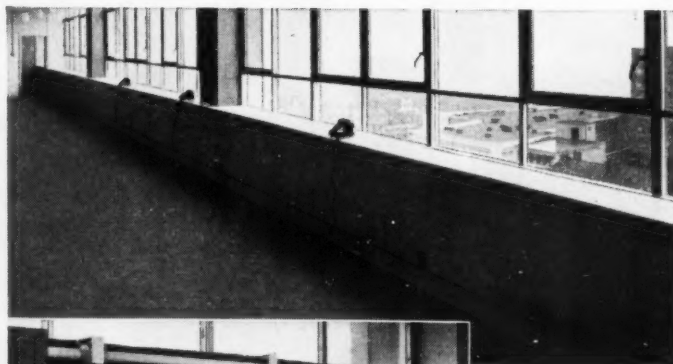
in Birmingham's Biggest Building

*The Big Top, New Street, Birmingham.
Architects: Messrs. Cotton, Ballard & Blow.
Heating Engineers: Couzens & Akers Ltd.*

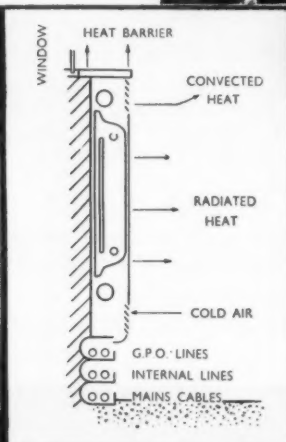
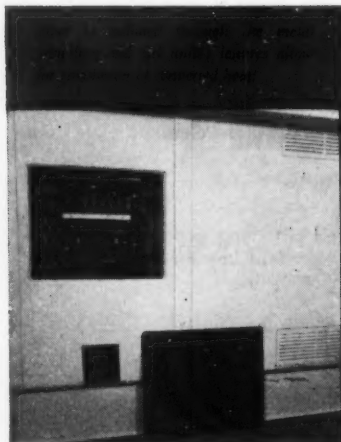
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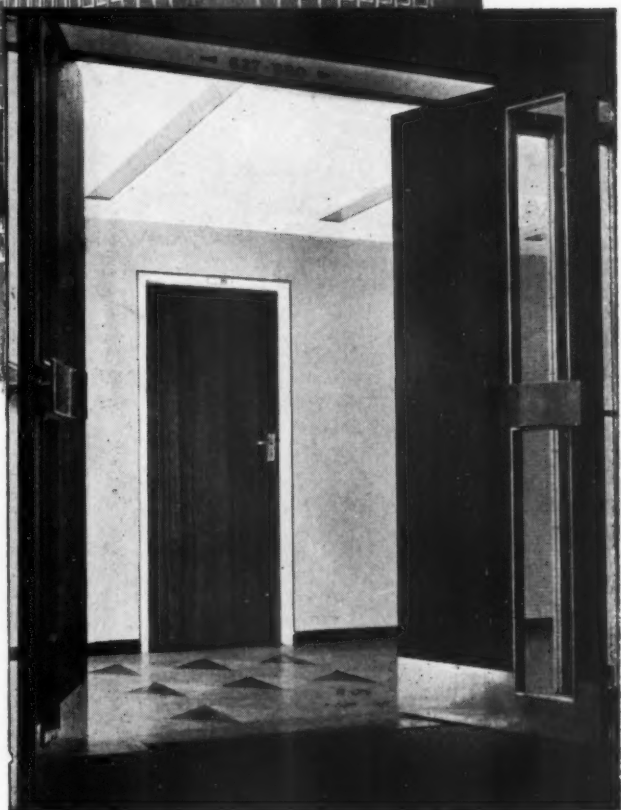
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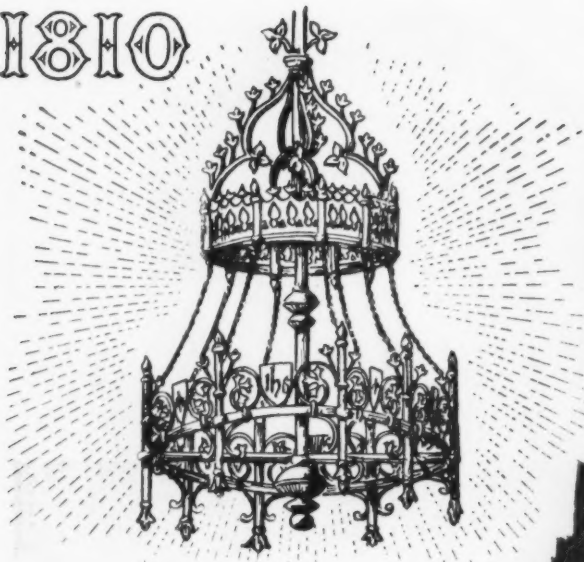
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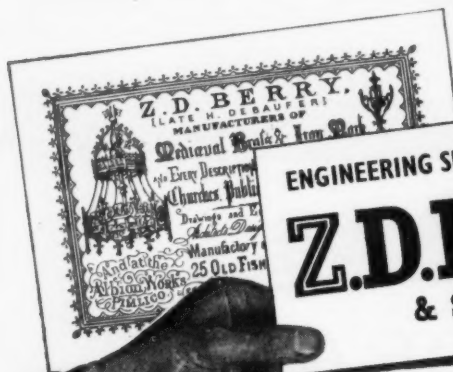
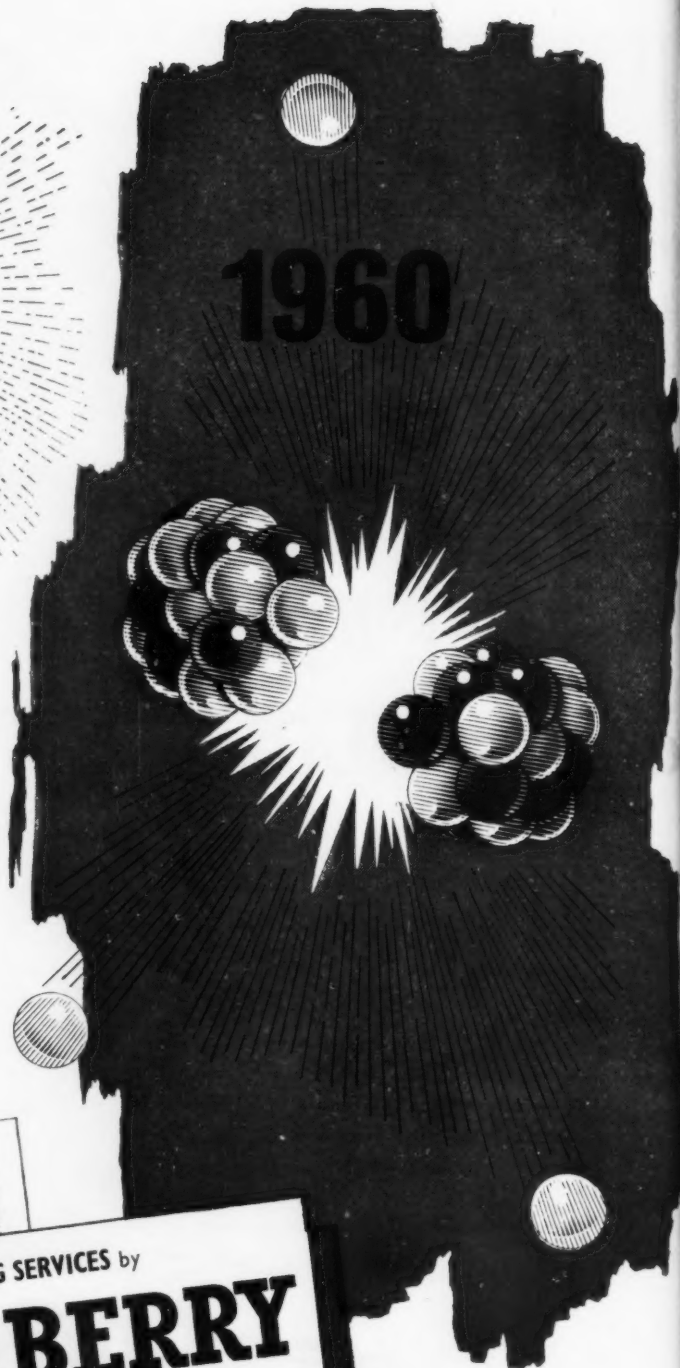
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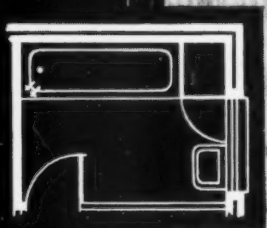
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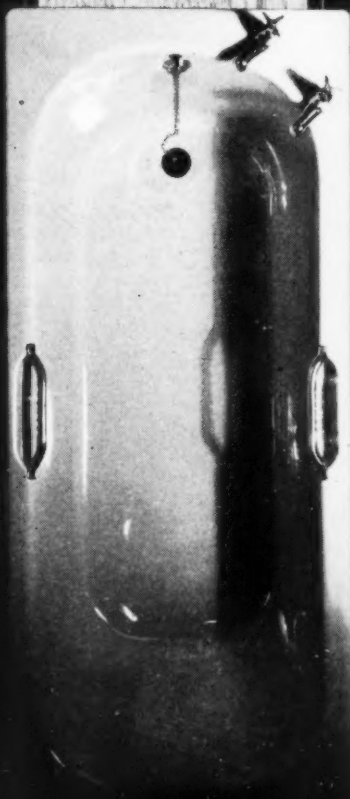
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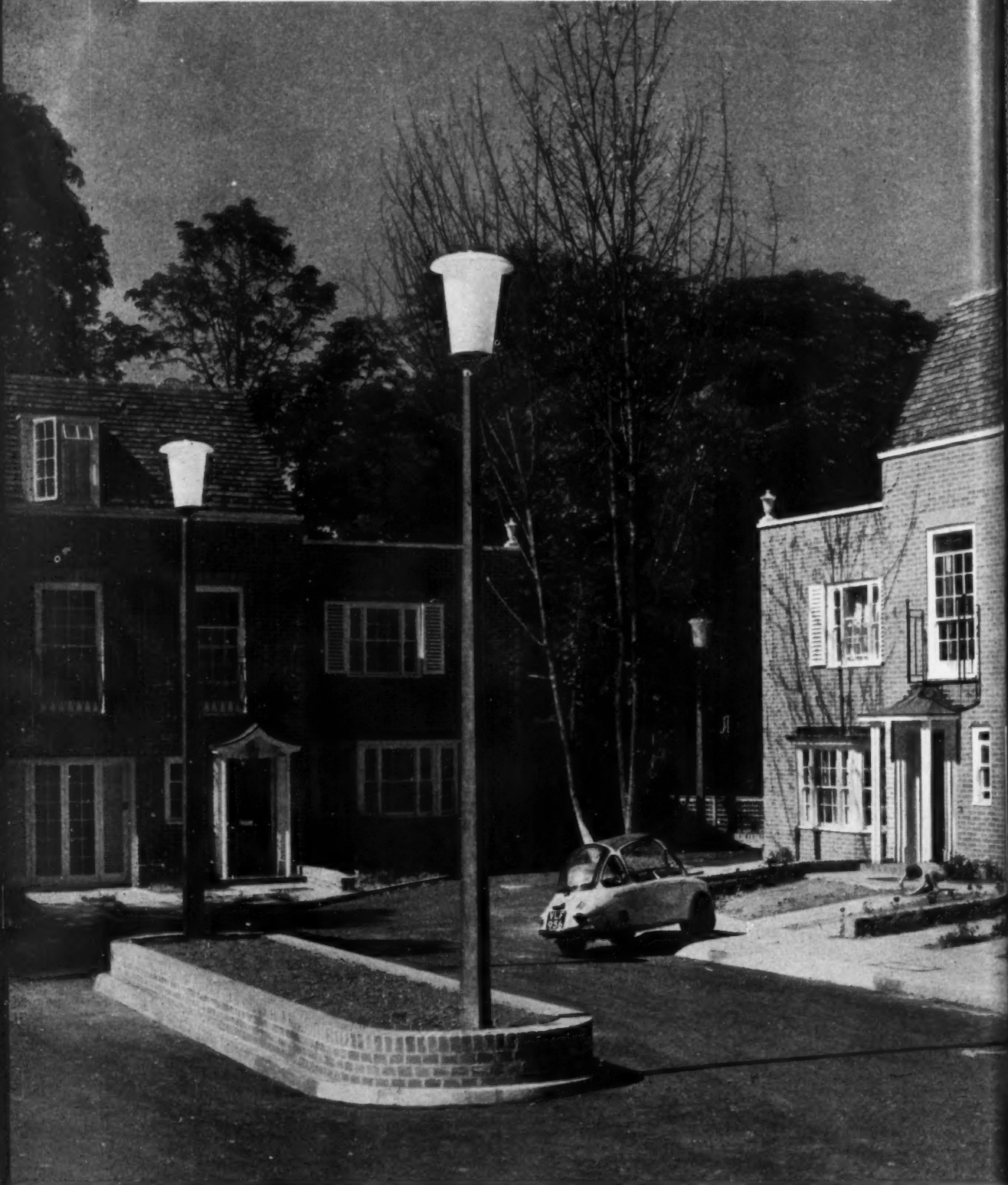


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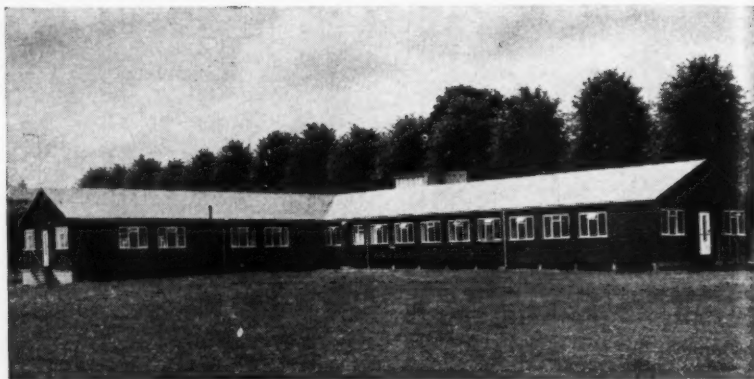
Hospitals

Offices

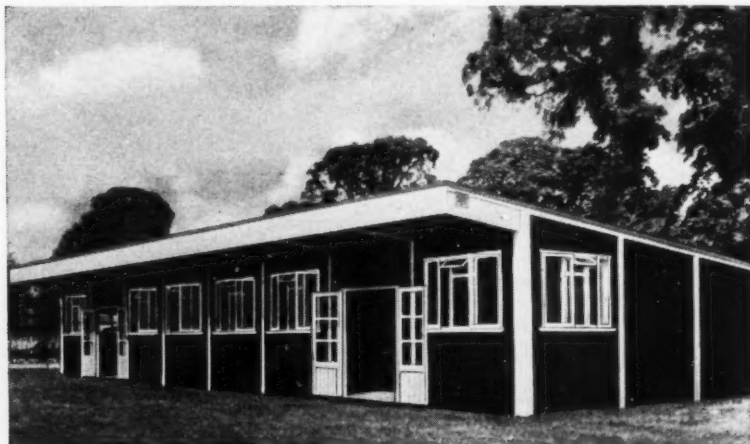
Canteens

Showrooms

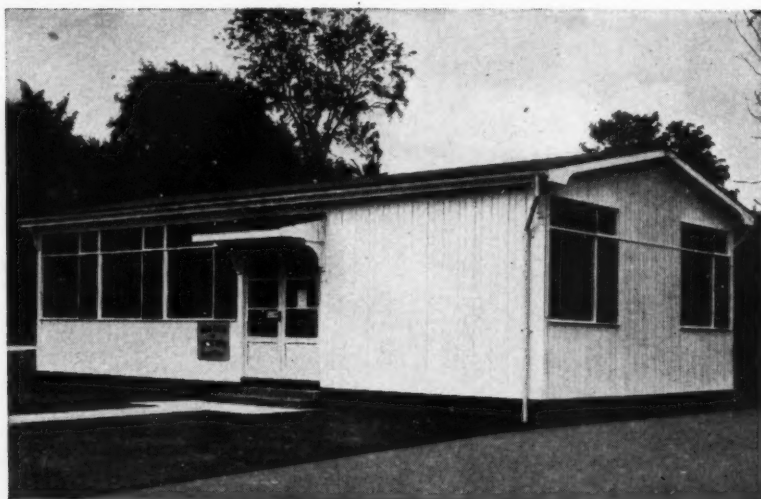
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OAKWOOD HOSPITAL, MAIDSTONE, KENT Bungalow Ward & Occupational Therapy Dept.
Photograph by courtesy of The Regional Architect, S.E. Metropolitan Regional Hospital Board.



MEMBERS' PAVILION, GOODWOOD MOTOR RACING TRACK, 25ft. x 11ft. 6in. plus 5ft. canopy.
Photograph by courtesy of Empire (Catering) Co. Ltd., 46-48, James St., London, W.1.



SALES PAVILION, WORTH ESTATE, THREE BRIDGES, SUSSEX
Photograph by courtesy of Cooper Estates Ltd.

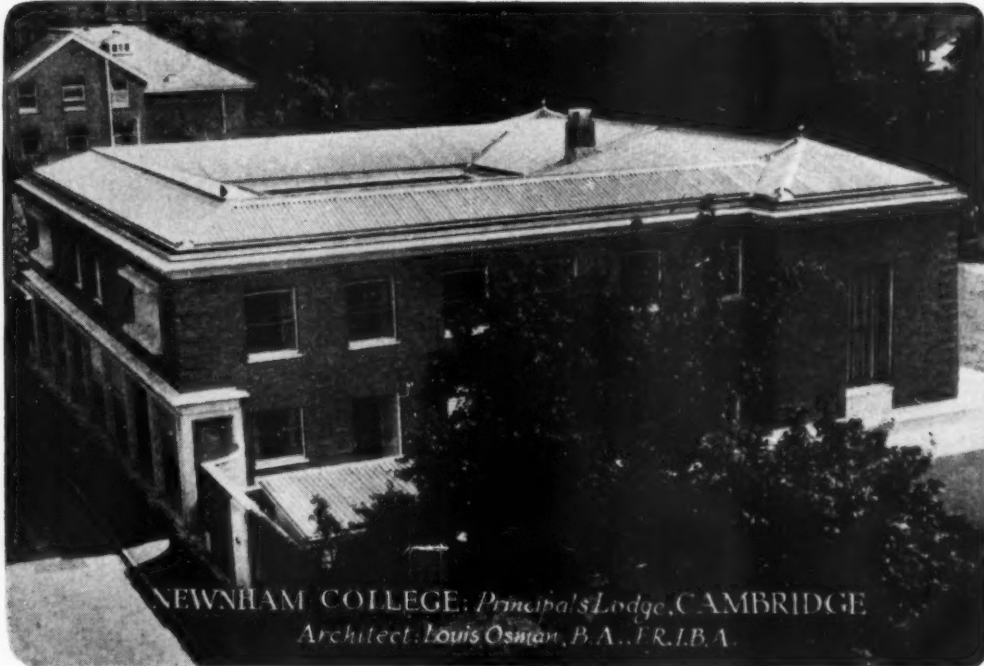
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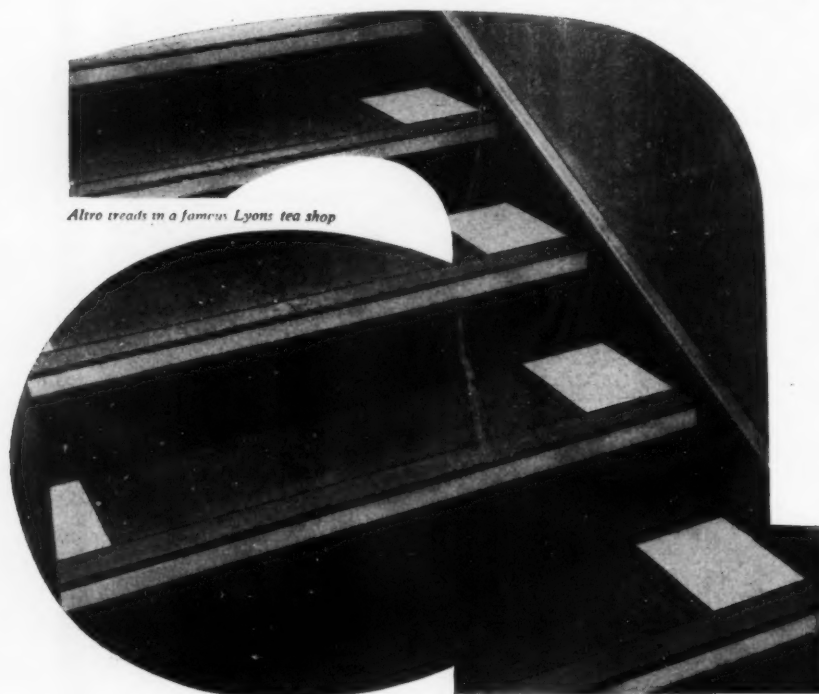
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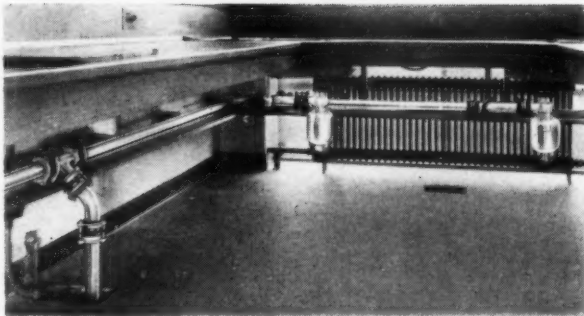
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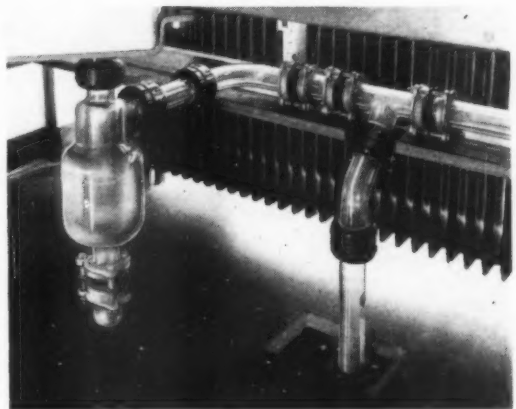
Initial cost compares favourably with other materials and together with their corrosion-resistant properties and resultant long-life, Q.V.F. Glass Sink Traps and Waste Lines are sound economy.

There is a detailed description of the system in our Brochure "GLASS SINK TRAPS & WASTE LINES"—post free on application.



Glass Sink Traps and Waste Lines below laboratory bench, before addition of underbench units.
(Photo. by courtesy of Nottingham Technical College).

Sink Trap fitting below laboratory bench).
(Photo. by courtesy of Nottingham Technical College).



Q.V.F.

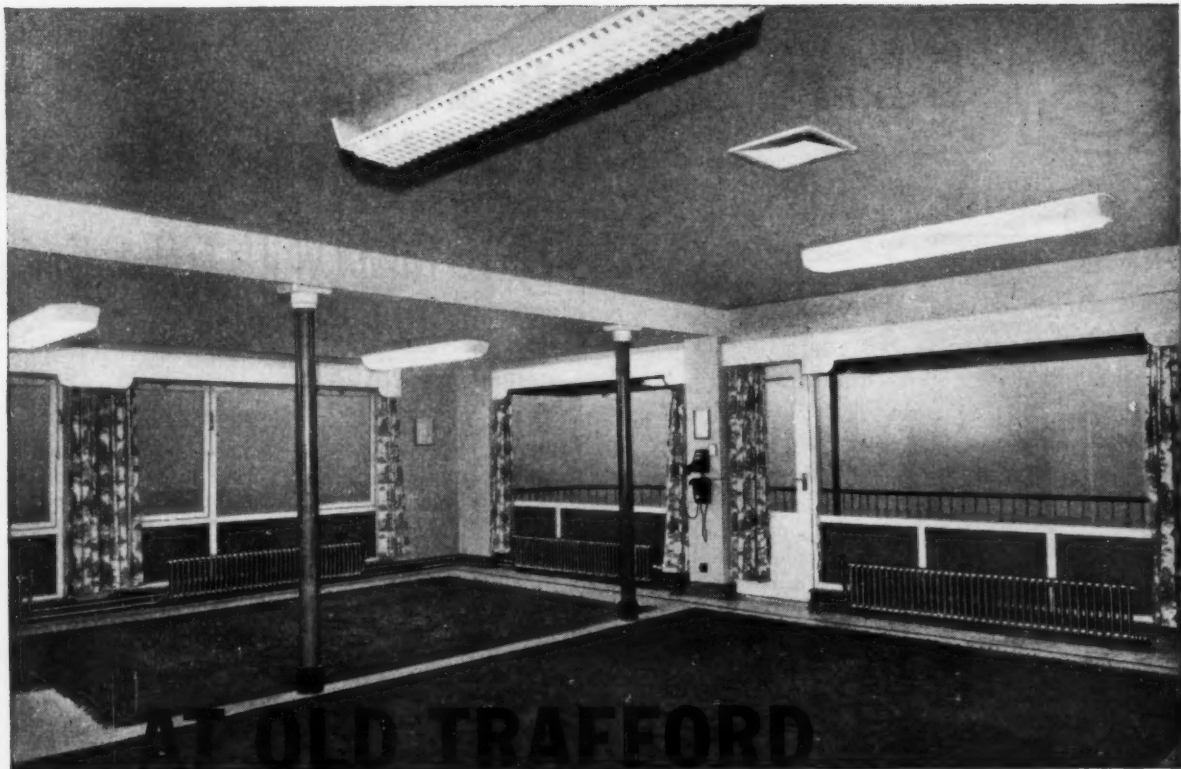
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Old Trafford, the Manchester headquarters of the Lancashire County Cricket Club, is one of the most famous cricket grounds in the world. Almost every touring team that visits England plays one Test here.

The Club's premises now have a new heating system—by Crane, of course. One No. 37L Whitehall Sectional Boiler, oil burning, has been installed; and throughout the Pavilion building 46-5½" wide Crane Hospital Pattern Radiators provide the friendly warmth that this form of heating can give. Crane radiators were chosen for their good appearance; because they are smooth castings with adequate space between sections for easy cleaning; because they are made of cast iron for long life; and, most important of all, because they do such a lot for the comfort of the Club members! Shown above is the newly decorated Committee Members' Dining Room.

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Maximum resistance to corrosion

Resistant to acid fumes

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High tensile strength

Stable in concrete

Excellent adherence to concrete

Does not draw verdigris

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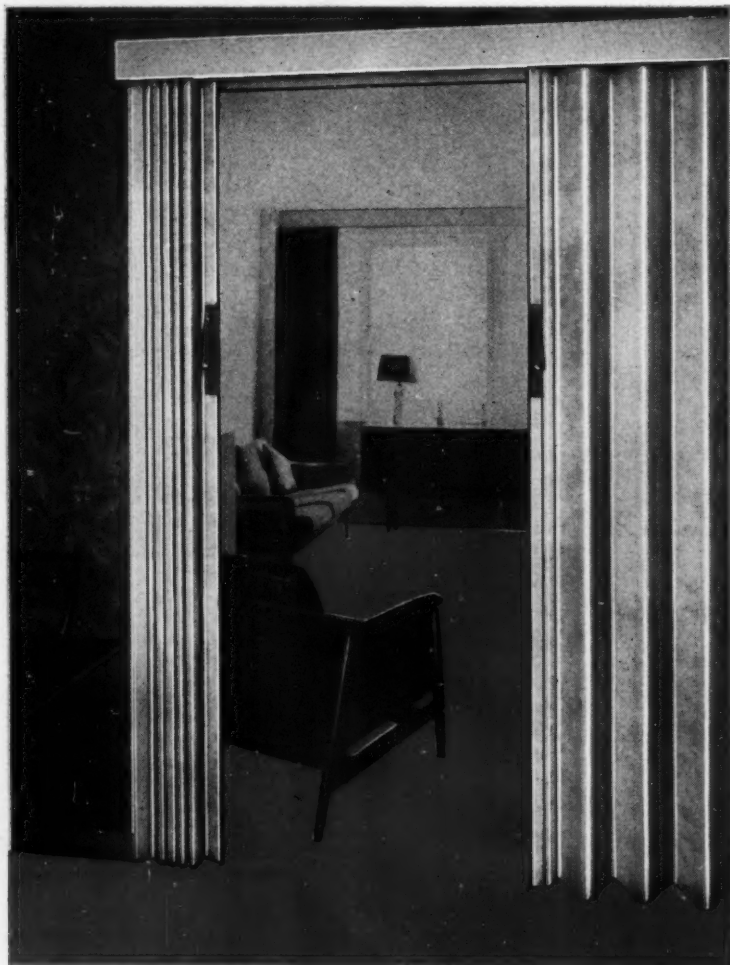
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The Architects' Journal

No. 3406. Vol. 132. July 28, 1960

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NOT QUITE ARCHITECTURE

STRAIGHT up without Mood music

The Comet goes straight up.

Other jets are still in the propeller age, they have to run for it. But the Comet stands at the end of the runway and the noise comes on: at some stage it suddenly feels as if some irresistible force is *pulling* it along; and up. The 707 runs and, like every plane since the Gloster Gladiator, with wings visibly flexing heaves itself up (and down) on the air currents to the accompaniment of the Oh's of about 130 homing Americans.

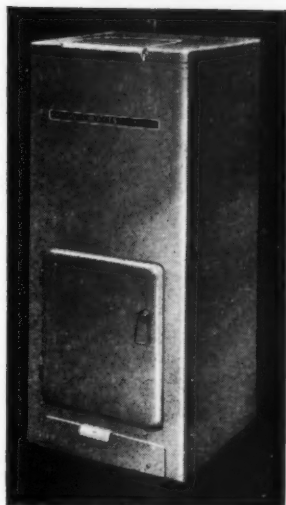
But the Comet is always late.

We don't know it here. But everywhere else everyone knows. (Or maybe they are only surprised WE are late—for truthfully other lines are too—*produces pocket flag*.) People are sorry, and say the Comet has a jinx on it. And what a pity because we were far and away the first and all. Late! Nonsense. (*Waves pocket flag*.)

But our Comet was held up an hour in Teheran and longer in Cairo. And in Delhi it was simply late coming. (*Pockets flag quietly*.)

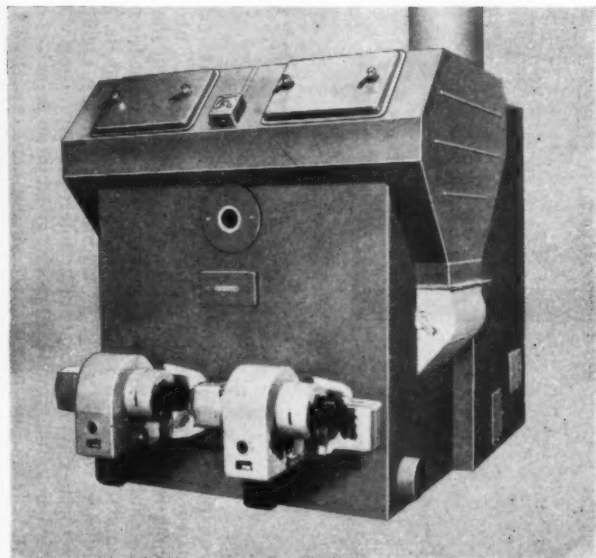
The 707 take-off is "you and Heinz together"—or audience participation. You sit three abreast either side of an aisle that goes out of sight—I mean it, out the front windows, as they leave the cockpit doors open during take-off; in fact, if you had a pair of Zeiss binoculars, or Japanese equivalent, you could read the dials. 707 décor is visually like "Clean Week" in Zurich. (You didn't know they needed one did you?) It is white and pale blue, and clean lined (like the Duke's Prestcold). The accessories box (air and what not) is a copy of a Braun box. The seats have flat tops and are rectangular so you can see the clean lines. But you get hit on the head by people lunging about.

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See us on stand 30 at the Home Heating and Winter Comfort Exhibition, New Horticultural Hall, Westminster, London, S.W.1, 19th-25th August.



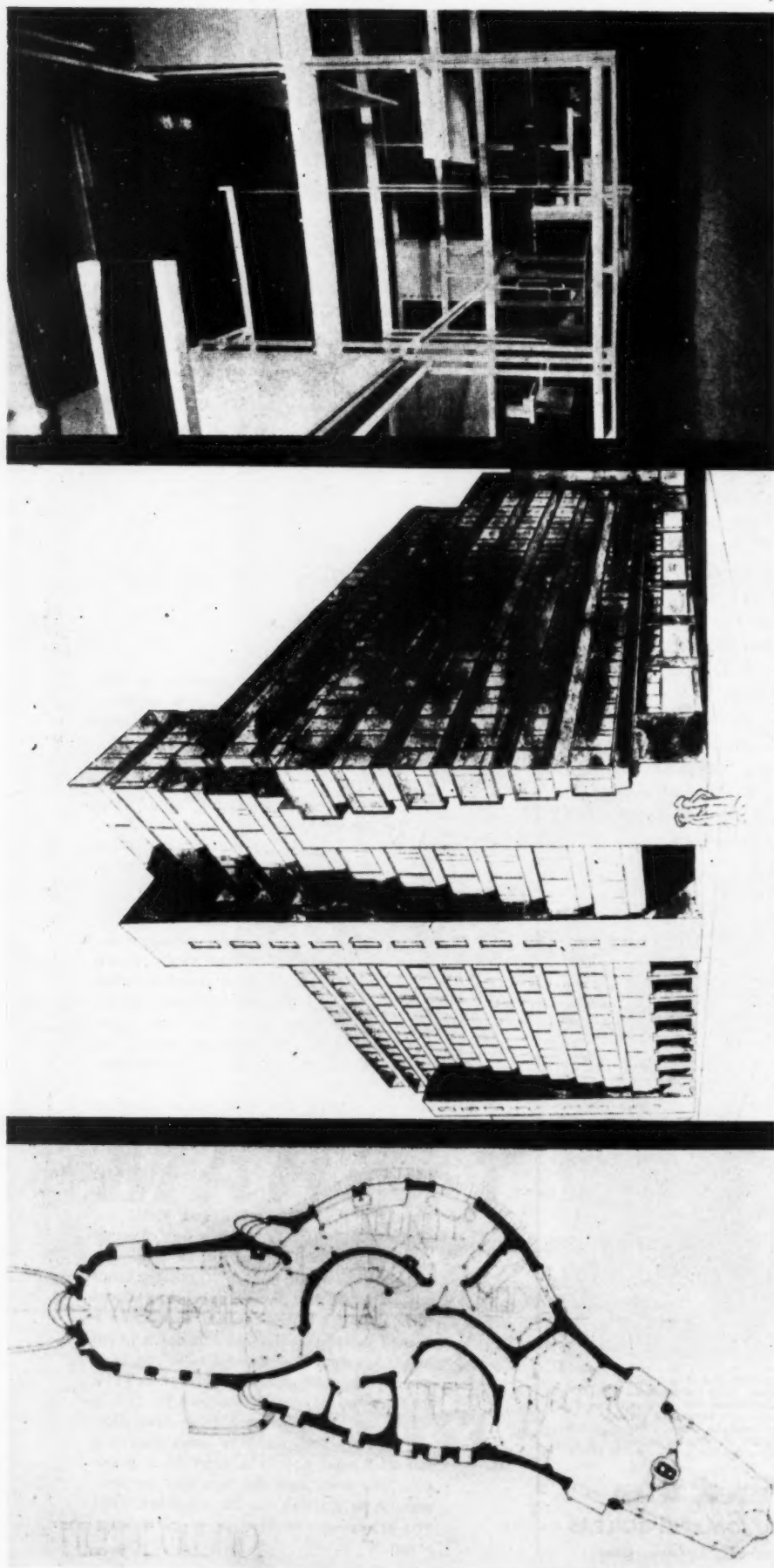
Capacities range from 45,000 to 1,000,000 B.Th.U. per hour. Solid fuel models are all automatically hopper fed by gravity and designed to burn anthracite grains and on larger models, coke. Hand models are capable of using oil or solid fuel without loss of efficiency.



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First Fumblings for a Machine Aesthetic

One of the basic failures of the modern movement in architecture that has developed during this century is that it was, and often still is, practised as a "style" and not as a logical method of designing based on scientific study, the investigation of the client's needs, an understanding of building techniques and an awareness of "value for money." Rightly, the modern movement became a vigorously fought crusade, but its weapons and defences were, and still are, woefully weak. As a result, even today, architects are still looking back, as in Victorian days, for forms of architectural expression which will provide a design discipline when no functional lead can be given through lack of essential knowledge. The theories and ideas of the pioneers are set out most expertly by Reyner

Banham in his book *Theory and Design in the First Machine Age* (published by the Architectural Press, 45s.), which is reviewed on page 141 of this issue by Walter Segal, an architect who was growing up on the Continent when the international style was being created. The illustrations above are from Banham's book and show design conceptions to which architects have constantly returned, and indeed explore further even to this day. Left, a project for a villa in 1920 by the Amsterdam architects Eibink and Snellebrand. Centre, a Sant'Elia-inspired office block design (1923) by Mart Stam. Right, design by Elementarist Frederick Kiesler in the Austrian Pavilion (Paris Exhibition, 1925), called *Cité dans l'Espace*.

The Comet is definitely claustrophobic. The interior is a lining job like Brit Railways or a contemporary ship. Clever—but very ex-Bauhaus weaves of cloth and eau de nil have the same effect on me as all pale tobacco or cream and green or all sick coloured ply. The seats are cleverly shaped so you see through awful cracks: no holding hands between seats. And then the tables keep popping out so that if you bend down the clumsy foreign oaf in front is bound to press back and your table bursts out and hits you on the head.

*

Someone asked them if this was not a design fault. They said it could be, and if it was it would be ironed out in later Comets . . . Mark 20 B. no doubt.

*

If there is room it is luxury to lie down across three seats. By Comet Mark 4 you would have thought the makers would have thought of this possibility. But on three seats, although the arms fold up complete with the control for angling the back (which must be a clever detail), you get two supports coming diagonally half-way into the seat depth. And even padding with those silly little pillows leaves me with severe compression in the kidneys.

*

I did not have a chance to try 707 night life, but I am sure they have ironed out the supports, even if one may get anxiety-ridden about ketchup on the feet from one of the hep chicks serving a late night snack.

*

One last nag: why did BOAC have to pick National Labour Resettlement Bureau turquoise?—of all the saris in India they must be the worst colour. The fan they give you is typical; spoilt by our over-doing-it. Turquoise, which is rich by any standards, is overlaid with bad art pictograms, and that silly bird.

*

One stands at airports on boys-outings spotting tails; KLM, Pan-Am, Hunting, Clan, and then one quails at our tails. Hardly an unmasked clean line anywhere, either in the vehicles or the structures that go with them. We are overdressed.

*

We could do with a few designers, but as there is generally a world shortage, we will have to grow our own. But some things we seem incapable of. I am sad we cannot have right now Indians to give us hot drinkable tea in chip-free clean cups and glasses, Swiss to clean the place, Japs to show us how to keep it that way.

As a race we seem to have forgotten more than we knew.

MARGARET GILL

The Editors

THE WRONG HOSPITAL

ADVOCATES and practitioners of modern, functional architecture must expect strong criticism when new designs of important buildings do not achieve the performance standards which the reports of research bodies advocate. The winning design in the recent Cardiff Hospital competition is a case in point.

There is a natural tendency after every architectural competition for the unsuccessful entrants, and others, to criticise the winning design and to find fault with the competition conditions and the assessors' report. Before publishing the criticism of the Cardiff hospital printed on page 133, we considered very carefully the comments made by our independent specialist contributor on hospital design and sought an independent opinion. The views of both coincided and the strength of their criticism convinced us of the necessity of publishing an article roundly condemning the winning design, the product of a faulty set of conditions, and of showing how much more successful other entries were.

It is often considered unsporting and merely trouble-making to challenge the assessors' decision. We do believe that an assessor's decision should only be criticised under exceptional circumstances. And, indeed, in recent years only the unfortunate result of the competition for Ipswich town centre has been severely criticised by us. The quality of the assessors of the Cardiff hospital competition was a further factor which made us reluctant to comment. Sir Percy Thomas, a Past-President of the RIBA, is a stalwart and respected member of the profession. F. R. S. Yorke and J. H. Forshaw are two of the pioneers of modern architecture in this country to whom all architects and the AJ owe a considerable debt. But, reluctantly, we must maintain that both in the conditions they made and in their judging the assessors have made a very great mistake.

The issue is not one of style and appearance, on which tastes may well differ, but of performance and function. We maintain that Wales has been given a teaching hospital design which is grossly inadequate by modern standards, for the reasons given in detail elsewhere in this issue. Not only that, but there are other entries in the competition which approach much more closely to the standards desired.

If this design is going to be executed, not only will the Welsh be given a second-rate hospital, and not only will a great deal of money be wasted, but precious experience needed at the start of this country's first major hospital rebuilding programme will be lost. This hospital is a mistake which must not be built.



NERVI RETURNS

Professor Nervi went to Edinburgh recently to receive an honorary LL.D. from Edinburgh University and the job of designing the University's future buildings for its playing fields. The professor was three days in Edinburgh, being entertained by the University and the Cement and Concrete Association, spending several hours in the Department of Architecture answering questions from staff and students and opening an exhibition of his work.

He is quoted as saying that if he taught architectural students (he only gives two lectures a week to final year students in Rome at present) throughout their course he would emphasise principles of structure and rough calculations only, integrating them with a study of history as a development of structural form rather than of detail. Questioned by a member of the School of Architecture about the difficulty of integrating services into structural design the Professor replied that so far from being a handicap the services often gave an added stimulus to creative thought. It amazes ASTRAGAL that so few architects and consultants can visualise the services as an enrichment to a design. Nervi's first buildings in Great Britain will arouse great interest and ASTRAGAL hopes the services will be complex so that the master can give a lesson to us barbarians.

THE OLD OLD STORY

Children are still being overcome by heat by working in large-windowed classrooms facing south and having no blinds, and MPs (and others) are still complaining that schools are ugly boxes. Sir Frank Markham, MP for Buckingham, lectured the House of Commons on this subject for a precious 20 minutes after midnight recently, and it is time these boring subjects were dropped.

Markham blamed the MOE's bulletins for the faults. His solution to glare was to suggest windows facing north. He is mistaken: the fault lies with architects and school committees. It is unbelievable how this stupidity continues.

ONLY TORIES AND 4 PER CENT. GO BACK

Why is the Government so reluctant to continue the New Town programme? So far Henry Brooke has been non-committal on the subject, using phrases like: "the Government doesn't rule out the possibility of new towns." Presumably it dislikes the expense, the limitation of profits to only the builders, and not to speculators, and the use of compulsory purchase orders. Sir Thomas Bennett, the recent chairman of Crawley, spoke up strongly for CPOs (at a recent businessmen's lunch at the Savoy) as being the only fair method of acquiring sites, and he pointed out that 45,000 people had been moved to Crawley at a cost of about £1,100 a head, not a large sum, remembering the happiness created.

Despite the criticisms of intellectuals and others (some of it justified) new towns are a success—only 3 or 4 per cent. of the population have left them, a remarkably low rate of failure.

ANOTHER BAD EGG

A correspondent in Bristol sends the facts about the illustration opposite: a fourteenth-century tower at Bishops-worth, Bristol. Once part of a castle, in recent years it had been used as a henroost and was in danger of being demolished until local people objected and Clough Williams-Ellis threatened to cart it off to Wales. However, as it was surrounded by a council estate with a 20,000 population it was allowed to stand and a new church and mission

hall and vicarage—the latter being the building in the foreground—were built alongside.

With what delight most architects would greet the opportunity of relating such old and new buildings into an interesting composition amongst a sea of housing. The photograph only shows the still neglected tower dwarfed by the crudely detailed vicarage; it fails to show that *all* the buildings in the group are badly related in plan, and in style (or rather, in mannerisms). This is not the work of some struggling jobbing builder, but unfortunately, that of a highly respected local architect.

NO SMOKING

Those few survivors from the smoky past whose houses are not yet exclusively heated by oil, electricity, or gas, will be relieved to hear that the Minister of Housing has sent a circular to local authorities in smoke-control areas, to say that people who have no gas starter for their solid fuel fires may light them with paper and sticks.

This circular made ASTRAGAL feel that his street is little better than a gipsy encampment, so gaily does the smoke roll up the chimneys every cold morning.

One notes with surprise that the Minister did not include in his circular any instructions on WHICH newspaper is best for burning in a smoke-control area: perhaps he ignored the investigation on pot boiling in this month's *Which* because the *Daily Worker* came top of the list—and the *Financial Times* right at the bottom; it "gave off very dense smoke."

ROCKING MILAN

ASTRAGAL'S Man in Milan reports: "English-type weather — overcast, drizzling and cold—to greet Sir David Eccles, who caused some confusion by getting out of the wrong end of his aeroplane on arrival here. However, the object of his visit was to open the Notts rock-and-roll school at the Triennale, which was ready and waiting for him. It was gleaming with new paint and fresh polish, the only thing in the show that was really on time—which gave great point to the title of the

Brockhouse film, *On Schedule*, which is being shown as a supporting feature. School looks good, Minister looked handsome, has made some grandiloquent speeches patting Britain on the back—English colony in Milan loving every minute of it. Italians too."

NOT FOR THE SMALL-MINDED

Our more serious readers will doubtless turn next to the Building Illustrated feature at the end of this issue and pore intently over Basil Spence's Physics building for Liverpool University.

*

It is outstanding among new university buildings—at Liverpool or anywhere else in this country, but that isn't why I am bringing it up here. I find it worth mentioning that this is one of the too rare cases in which a leading architect has freely accepted quite frank criticisms of his building, without asking for them to be expunged or softened.

*

Everyone agrees, of course, that criticism is the breath of life to all forms of creative activity, but not nearly so many have the confidence to face it when it comes in their direction. It takes a measure of greatness to accept greatness.

*

Incidentally, ASTRAGAL learns that next week's building illustrated is also subjected to some quite astringent criticisms and again congratulates the architects concerned—Gillespie, Kidd and Coia, Glasgow's most imaginative architectural firm. Since cost analysis has become a fairly well accepted practice the Editors have tried to select buildings for illustration in this series which are outstanding for other qualities besides costs available for publication, and in appraising them have taken the view that no building is above, though many are beneath, criticism.

MORE DEVELOPMENT GROUPS

Oliver Cox, who for several years was in charge of the development group of the LCC's Housing Division, and for the last twelve months has been the architect in charge of the work on the LCC's proposed new town of Hook, has now moved to the Ministry of



New Vicarage and old tower at Bishopsworth, near Bristol. See "Another bad egg."

Housing and Local Government. Cleeve Barr, the live-wire chief architect at the Ministry, has been forming a new development group, and Oliver Cox has been appointed to take charge: As a Directing Grade architect he will earn £3,000 a year, which is high by architectural standards, but low when one considers the responsibility involved.

A NEW MINISTRY

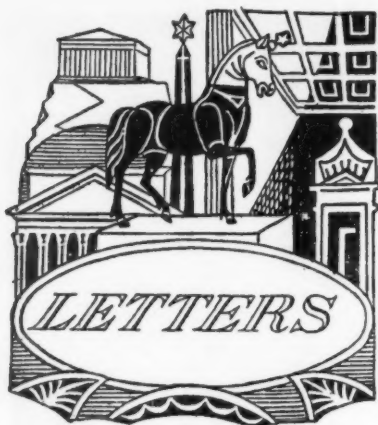
As we go to Press, ASTRAGAL learns that the RIBA has followed up its useful Manchester Conference with a statement of its views on urban renewal. It calls for leadership and drive (what a hope!) from the Government and proposes: a Minister of Planning and for the co-ordination of development, to integrate planning (from the MOHLG), distribution of industry (from BOT) and the integration of traffic planning with national and regional planning.

It further calls for a committee to study the future pattern of towns, bearing in mind: motor traffic; the financial and procedural problems of comprehensive redevelopment; the co-ordination of present methods of allocating finance for roads, slum clearance, open space and so forth, and the future demand for building land. Finally, the RIBA statement demands an urban renewal research and experimental unit be established to serve the committee mentioned above, and in particular to study traffic generation, shopping trends, parking, plot ratios, daylight standards and the introduction of housing into central areas and light industry and commerce into housing areas.

*

And that is more inspired commonsense than is normally read in a week by . . .

ASTRAGAL.



Frederick Hill, F.R.I.B.A.

*F. H. Amphlett Micklewright,
F.R.Hist.S.*

J. A. Dorin, A.R.I.B.A.

Barrie Dewhurst, A.R.I.B.A.

Five Architects

Standard Sizes

SIR: I recently had occasion to have to obtain revised quotations for a bath which is to be fitted in a recess between a linen cupboard and plumbing duct. I chose a number of alternative baths from two very prominent manufacturers' catalogues and telephoned a builders' merchant to ring back later in the day with the prices so that we could pick the lowest.

The drawings were in the process of alteration to accommodate this and other fittings and the whole thing had to be left in abeyance for half a day pending the merchant's telephone call because not one of the baths conformed to the usual accepted standard of 6 ft. or 5 ft. 6 in. long. The variations were anything from $\frac{1}{2}$ in. to 4 in. or 5 in.

I cannot understand why, in these days of standardisation, the manufacturers who short-sightedly live within their factory walls, produce wildly non-standard sizes which cause such frustrating hold-ups. Surely it ought to be possible to select a standard overall size in three lengths at, say 5 ft., 5 ft. 6 in. and 6 ft. by 2 ft. 6 in. in width. Within that "envelope" there is ample scope for individual design on the part of the maker. We, as architects, would then be able to fit these unalterable pieces of equipment into our schemes in advance without the dislocation which occurs when actual quotations are obtained. Don't tell me that manufacturers of fittings for the building industry are intelligent and business-like people, and that architects are responsible for all the delays and frustra-

tion which beset building work—this sort of thing makes me despair of any improvement.

FREDERICK HILL

Birmingham

Green Belt in Surrey

SIR: May I make a reference to the recent news commented on in the ARCHITECTS' JOURNAL for June 10 concerning Surrey's plan to include its remaining undeveloped areas within its "green belt"? If it should succeed in so doing, it would provide a blessing socially to large numbers in greater London who find life tolerable because they can make occasional visits to the as yet unspoiled countryside near at hand. But it would also lead to a rebound in the areas adjoining the "green belt" country whereby those prevented from developing onwards into the belt itself would demand compensation in terms of a raising of population densities on the urban perimeter. To some extent, a policy of this kind would seem to be inevitable. It is possible, for example, that the present maximum density of 50 persons to the acre which pertains in Croydon would have to be raised as the price of Surrey's enlarged "green belt." At the same time, there are urban areas on the edge of the "green belt" but not of it where densities are still low, where many natural features have survived, and where amenities are still at a reasonably high level. A good example is the Upper Norwood district of Croydon which is not "green belt" but which retains many rural and natural features with an average density of 20 persons to the acre. Similar examples can be quoted around greater London and around most urban conurbations. I wish to make a plea that "green belt" legislation should take notice of these areas and should seek to prevent them from being forced to undergo any undesirable rise in population density or change in character. In practice, this would mean that fingers of "semi-green belt" would penetrate into the urban area which the "green belt" proper surrounds. The result would be a gain from the point of view of the amenities of town planning and an extension of the very aims which called "green belt" legislation into being. Without suggesting that his idea of using the belts as sites for inebriates' homes should be put into practice I would like to suggest that, in the detail to which I have referred, we might do worse than to look back over some of the valuable suggestions made by Sir Ebenezer Howard many years ago.

F. H. AMPHLETT MICKLEWRIGHT.

London.

Not Quite Dignified

SIR: Your editorials and leaders, apart from some of the advertisements you accept, are in my view characterised by a degree of levity inconsistent with the dignity of a learned profession. When this profession is daily being assailed by the "Package deal"

specialists and the commercial and building firms, who no longer require the services of the private architect, I consider it high time you acquired a sense of responsibility to the dignity of a dying profession.

Such headings as "Put your daughter, on the stage instead"; "Reg Butler and Les Girls" are more appropriate to my son's Prep School reading than that of a Journal of a learned profession. Your column's would be better utilised in indicating to the misguided entrants to the profession the ways and means of establishing their own construction and development companies (with "design facilities" thrown in by their paid tame designers) than by your present policy.

The developers and financiers have taken us over. Let's face the fact and get on the band wagon before we become their staff hacks.

J. A. DORIN

Stoke-on-Trent

More Mislaid Drawings

SIR: I was interested to read in your correspondence columns of June 30, that the drawings submitted by Messrs. Maguire, Matthews, and Whiteley in the Ipswich Civic Centre competition have been mislaid by the County Borough of Ipswich; precisely the same thing has happened to the set of drawings which I submitted in the same competition.

It would be interesting to know the total number of entries which suffered this fate.

BARRIE DEWHURST

Rome

Too little, too late

SIR: We are surprised at the tone of your issue of July 21, 1960, which attacks the Architects Branch of the Ministry of Health in an "impossible situation." Surely the fact of the Course itself indicates initiative and enthusiasm by the Ministry team.

Is it necessary to reiterate that the object of any work of this kind is to help architects to help themselves?

P. C.

H. G.

R. M.

I. B.

V. L.

London.

The Editors reply: The main burden of our complaint is with the failure of the Ministry of Health to do the necessary fundamental research in order to find out the medical (and thence the building needs) of the Health Service. The Health Service was started in 1948. We do not think that the holding of a Course for architects in 1960 can serve to cover up this gross omission. We have been careful to clear from blame those architects in the Ministry who have joined recently and who are evidently not responsible for the situation into which they have so gallantly walked. It is primarily *their* enthusiasm, we suspect, which gave rise to the Course in question.

NEWS

OFFICIAL ARCHITECTS

£2,000 plus for Principals?

The second AGM of the Association of Official Architects was held on Saturday, July 23, at the RIBA. The report from the General Council to the meeting showed a fair amount of progress, except in connection with salary negotiations. The chairman, Thurston M. Williams (LCC) explained that the grading sub-committee of the NJC had not come into being because of strong representation from and on behalf of, the Deputy Town Clerks Society for a seat on the committee. Apparently some Deputy Town Clerks are not eligible for membership of the Local Government Legal Society and do not wish to be represented by NALGO, which would be the case otherwise. The new award to hospital board architects has received a great deal of attention, and the chairman said that this was the opening of the door so far as official architects' salaries were concerned. He said that not only was architecture the lowest paid profession, but that local government architects were now the lowest paid of that profession; that due to staff shortages, local authorities would shortly face a crisis in their building programmes unless they reconsidered the position of their architects, who, he stressed, *are* architects whether employed on hospital or any other type of work—facts which NALGO also does not appear to appreciate. AOA's job, he said, was to put the means of maintaining programmes before local authorities, and therefore the Association was proposing separate negotiations for professions and a salary scale of main grade rising to £1,750 per annum and principal grades, excluding chief officers and their deputies, of £1,950-£2,250 per annum and £2,250-£2,500 per annum. These would be discussed with the other four professional associations, and, if the grading sub-committee comes into being in the near future, will be put before it. If not, AOA will seek a meeting with the secretary of the staff side of the NJC in order to place these proposals before him.

HOUSING CENTRE

Annual Conference 1960

This year's Conference fell into two distinctly different and somewhat contradictory parts: housing standards and management, and regional planning. While the speakers dealing with standards talked of an affluent society with two living rooms, TV sets and one car per family, the papers on regional planning dwelt on the vast discrepancies between the "fortunate" south with an expanding economy and full employment and the "unfortunate" north with a receding economy and underemployment and even unemployment.

Sir Keith Joseph, Parliamentary Secretary, Ministry of Housing and Local Government, spoke in the opening session of the growing demand for more and better housing. There were 80,000 new households every year; prosperity, the rising standards of living and the rising age of the population resulted in needs for many more separate households. Sir Keith was less specific when it came to the question where all these new homes should be built but he was clearly in favour of expanded towns rather than new ones (apart from those already built). He did not think we should make it too easy for development to move out of our towns and he hoped that private enterprise would turn its attention to the development of the twilight areas at comparatively high densities; he thought that the smaller households may prefer to live in or near the centres, close to work and entertainment. Sir Keith came out strongly in favour of experiment and good design and urged local authorities and private developers to commission architects.

Mr. L. E. Waddilove, Executive Officer, Joseph Rowntree Memorial Trust, surveyed a wide field in his paper "Housing Standards—Minimum, Recommended, Future," and amongst other matters talked about what he described as "emotional standards"—"the way families feel about their homes and neighbourhood"—which he said were sometimes as important as the quality or quantity of accommodation. With regard to space standards, he thought the United Kingdom had a higher standard than most other countries but the area of the house which is effectively used has probably been amongst the lowest. He advocated greater flexibility of space, better heating provisions, better insulation of roofs, walls and floors, and double glazing of at least the large living room window.

Mr. Waddilove's main contribution, however, was his plea for Housing Co-operatives—the "Third arm" in housing (the municipal tenant and the owner/occupier being the other two). After citing continental examples he referred to the SPAN system where a registered Friendly Society of house owners in a single estate take joint responsibilities for a variety of communal matters. He thought Housing Co-operatives had many advantages such as the retention of the element of personal saving coupled with joint responsibility by the community for matters of common interest, repair liabilities were spread, it made possible mortgage loans on terms appropriate to a continuing body and it restored the informed client in the planning process. (One could add yet another advantage: if some of the housing responsibilities were taken over by Co-operatives, local authorities could save large sums of capital investment which could be used for the acquisition of urban land for comprehensive redevelopment.) But, Mr. Waddilove concluded, we would have to pass new legislation and reconsider our subsidy system to take real advantage of this "third arm" in housing.

Mrs. Evelyn Denington, LCC, drew on her

wide experience of council housing and new town development to discuss human aspects of the design and the planning of estates. She thought we were not sufficiently forward looking in our housing standards. She wanted to see two living rooms—or at least one large one which could be partitioned off (to allow simultaneous TV watching and studying, for instance), a well-equipped kitchen with refrigerator, washing machine, spin drier, washing-up machines and an electric mixer. With regard to layouts, she would like to see the segregation of traffic from pedestrians in form of a modified Radburn system and the provision of at least 100 per cent car parking space. Garden work should be completed before tenants move in. She thought that these high standards are even more important in the case of flats than houses because of the greater restrictiveness of flat life. Mrs. Denington concluded with a plea for more consumer research—the LCC employed one full-time sociologist for that purpose—and a pooling of such information.

Thomas North, Borough Architect and Planning Officer, West Ham, then discussed the technical side of "Standards for New Development." He reviewed the development in housing construction in the post-war years which, he said, showed the immense improvement in housing layout and design leading to the mixed form of development. This progress shows an increasing awareness to the changed way of life of the families for whom the accommodation was being provided.

With regard to town planning, Mr. North looked forward to an increased emphasis on the redevelopment within towns rather than building on agricultural land and the revitalising of the old cores of our towns, multi-purpose zoning and segregation of traffic on the lines of Barbican; he also thought that higher priority should be given to the provision of public parks and open spaces in our towns.

In a thoughtful paper, J. B. Cullingworth, Lecturer in Social Administration, University of Manchester, made a new assessment of the importance of industrial location in relation to migration, and he wondered whether the findings of the Barlow Commission were still valid. While post-war planning policy was supposed to be based on this report, he showed that the policies of the various Ministries concerned have in fact often worked in opposite directions. He thought that a policy of "taking work to the workers" was not always a good one. Not only may it conflict with the policy of restraining urban growth; it may also amount to little more than a blood transfusion. "In a rapidly changing economy more emphasis might usefully be placed on taking workers to their work." "The problem facing the north is essentially a 19th century legacy. The social cost of the industrial revolution requires repayment now. With a rising standard of living more and more families can be expected to refuse to tolerate inferior conditions and will join the drift to the south, creating ever-increasing problems both in the areas which they leave and those to which they move."

This is a matter not merely of slum clearance but wholesale redevelopment which must take place in a framework of national and regional planning."

Mr. F. I. McCulloch, Assistant County Planning Officer, Lancashire, developed this theme in greater detail by classifying and analysing the various regions into the "fortunate" areas of the south and the "unfortunate" areas of the north. "No one regrets," he said, "the happier fortunes of the south but some would argue that the time is opportune to correct the economic and social defects responsible for the less happy lot of the Unfortunate Regions, and a greater concentration of effort upon their economic strengthening is highly desirable. The development of the Unfortunate Regions should be undertaken as a conscious act of national policy."

To sum up, the main points emerging from this year's Housing Centre's Conference were the need for continuing rising housing standards, the need for more consumer research, and for the exploration of the possibilities of Housing Co-operatives. On the planning side, pleas were made for urban renewal on a national scale and the reversal or at least slowing down of the drift south in favour of a strengthening of the economy and the raising of living standards in the north.

W. G. B.

MOH

Annual Report

It is the admirable practice of the many-sided Ministry of Housing and Local Government to include in its annual report a special review, ranging beyond the year's events, of one particular aspect of its work. 1959 was the year in which the Ministry's technical planning staff brought to light the true extent of the London metropolitan region and the explosive effect upon it of nuclear fission in the composite household. One had hoped, in the Ministry's latest report (Cmd 1027, H.M.S.O., 10s. 6d.), to see these researches fully explained and set in their departmental context, with some discussion of their tremendous impact on the whole basis of the Abercrombie Plan, on the green-belt concept, and above all on the scale and form of land allocations for development beyond the green belt. From a department whose ambit covers everything from district audits to the control of radioactive wastes (but not the planning of highways or of industrial location) this was, perhaps, too much to expect; it is nevertheless a little surprising to find no mention whatever of these researches and their implications. Perhaps the order of sectional precedence is fixed in advance by the inexorable revolutions of a rota, as for P.Q.s and Birthday Honours. At all events, this year it is the turn of the Alkali Inspectorate to be singled out. The hopes of architects may be raised again as they read in the report's introduction a promise of special reviews of two aspects of planning, one being the progress of rebuilding in blitzed areas, which was last reviewed in 1955. They will

find that it occupies all of 2½ pages, and tells them nothing about the scale of London office development outside the City.

The other "special review" is a summary of Mr. Philip Allen's paper to a recent T.C.P.A. conference on planning applications and appeals. From this it would seem that the Ministry may have reconsidered its assumption that a rise of 12 per cent. in the number of appeals, during a period when the number of applications rose by 13 per cent., is necessarily a cause for concern, or even for a change of policy, rather than for an increase in staff. It also appears that the percentage of appeals allowed last year declined slightly to 30.6, that the Minister continued to reject his inspector's recommendation in 5 per cent. of the cases decided, and that the number of appeals relating to housing estates was nearly doubled (to 1,000).

"Appeals concerned with design excite a good deal of interest," the report observes, "although they form only a small proportion of the total." Two "typical cases" follow. In one the Minister rejected the appeal of a developer who thought the stone-and-slate village of Swithland, in a Leicestershire area of outstanding landscape value, "needed brightening up" with straw-coloured bricks and purple tiles. In the other he allowed the building of a flat-roofed house of "modern" design, with silver-grey horizontal timber cladding on the upper floor, which the local authority thought would be out of keeping with the neighbouring pitched-roof houses of purple-brown brick and dark brown tiles, in a village of "no special architectural character" near Ipswich.

Twenty of the 54 quinquennial reviews of development plans due in by the end of the year had in fact been submitted: thirteen of the original development plans had still to be approved. Hemel Hempstead joined Harlow in overtaking its accumulated general revenue deficit. In all, seven new towns had current surpluses totalling £318,913, and five had current deficits totalling £90,125. Apparently this is a good reason for doubling the population a new town was planned to hold, but not for starting any additional ones. In Peterlee, it is noted, the corporation has "departed in some respects from conventional housing layouts and introduced new types of house designs." The amount of office space under construction in the new towns more than doubled during the year, and their social life is "more vigorous and flourishing than in most established towns of comparable size."

Notable among decisions on applications referred to the Minister was his rejection of Huddersfield's effort to scrap the proposed cultural centre, move the civic centre to its site, and hand over the civic centre site to commerce—perhaps the shabbiest example yet of county-borough counting-house planning. Welcome, too, is the evidence given that the Minister is prepared on occasion to revoke a local authority's unwarranted planning consents, to let it revoke its own mistaken approvals, and to save old buildings of architectural importance for

which the local authority has refused to make preservation orders.

Two statements of policy slip through. One assures us that the public has little means of knowing the extent to which projects for industrial development in national parks are stopped or abandoned, or discarded at the outset, as incompatible with the purposes of the National Parks Act, but fails to assure us that anything will be done to make good this inexcusable shortcoming in public relations. (Grants paid under the National Parks Act reached the princely sum of £6,529 during the year. The still incomplete Pennine Way escapes mention.) The other concerns high buildings, and is worth quoting *in extenso*:

"It is the Minister's policy that each proposal for a high building should be considered on its own merits, including not only the design proposed for the building itself but the characteristics of the area in which it stands, including any other high buildings which exist or have been approved near by; and that the standards applied to buildings in general shall apply to high buildings in the same way. Thus the same car parking and daylighting tests are applied and the plot-ratio (that is the ratio of the aggregate floor area to the net site area) is to be the same as in lower buildings. In other words, the bulk of a high building will be distributed differently but will not be greater than that of a differently shaped building constructed for the same purpose in the same place."

Familiar housing trends continued. The tender price for the average three-bedroom council house rose by £26 to £1,514, while its floor area shrank another six square feet to 897, and it represented a smaller proportion of the council building effort—41 per cent. The proportion of one-bedroom dwellings completed by local authorities went up again to a level variously given as 22 per cent. and "just under one-fifth." There was a noticeable improvement in the internal planning, design and equipment of such dwellings, the report declares; but "standards are still rather uneven and a great deal has still to be learned about the best ways to provide for old people." The proportion of all dwellings built in the form of flats went up by one-eighth, and the proportion in blocks of 10 storeys or more by nearly 30 per cent.—at the expense of four- to nine-storey blocks.

Some 60,000 unfit houses were closed or demolished during the year. This is described as "another long step forward." The number of smoke-control orders confirmed was 134, covering 102,000 premises—a fraction of one per cent. This is described as "good progress."

In sections of the Ministry of less immediate concern to planners and architects, 1959 was evidently quite a busy year. And how much, after all, does the public really care about the concerns of planners and architects? Let them learn from this report a lesson in humility: Jurgen is of no importance.

D. S.

CARDIFF COMPETITION

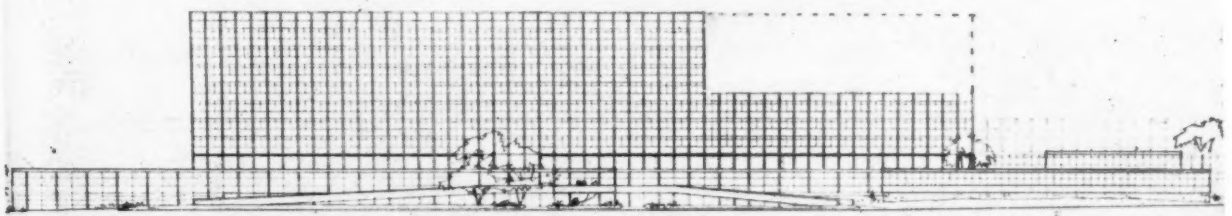
A STUDY OF THE ENTRIES

Is the winning design in the recent Cardiff Hospital Competition the best solution among those submitted? We believe not. We believe that not only has justice not been done but also—as is apparent from the sparseness of the Assessors' report—that it has manifestly not been seen to be done. A brief and apprehensive appraisal of the results of this competition appeared in the AJ of June 2. Since then so much interest and concern have been shown that the Ministry of Health staged an exhibition of all the entries in London. We are now offering a fuller appraisal of the competition, illustrating the faults of the winning design and some of the virtues of the better but unsuccessful schemes, notably No. 12 by D. Acton Stow and No. 15 by H. P. Scher in association with P. D. Cowan.

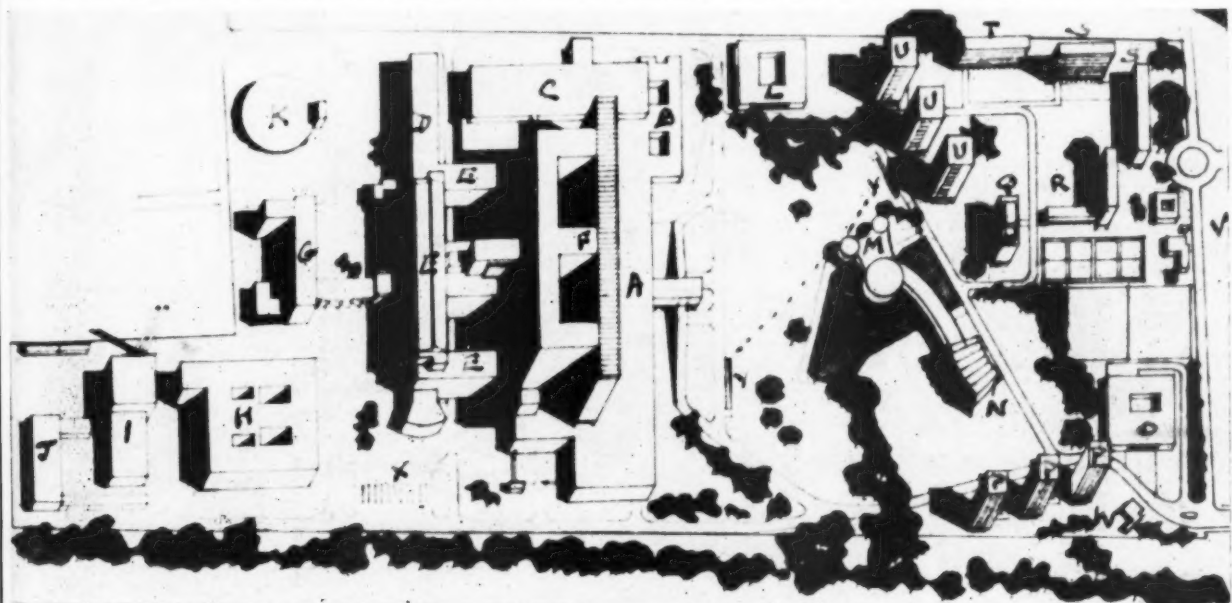
The results of the competition for the Medical Teaching Centre at Cardiff are lamentable. The most important (judged on terms of cost) competition since the war: the largest hospital centre to be designed as one entity, and the first of an increasing hospital-building programme, which in turn is the first major hospital programme of this century—these facts make the results all the more regrettable.

Our National Health Service is the envy of the world, our

medical teaching is second to none, and although the amount of hospital building in this country is small, we have built up an accumulation of planning data (in particular that provided by the Nuffield Provincial Hospitals Trust) which is referred to in places as far apart as Russia and America. There was, therefore, considerable interest, both here and abroad, in the winning design, which in the event was medically an antique and architecturally a disaster.



The first prize design (S. W. Milburn & Partners in association with M. Harding and J. Surtees) was exhibited complete with the eventual extension, the section enclosed by dotted line. As first built the elevation would appear as shown above.



A, Outpatients. B, Paediatric department. C, Maternity department. D, Administration. E, Special departments and Academic accommodation. F, Ward units. G, Resident medical officers. H, Dental hospital. I, Boiler house and laundry. J, Engineers' department. K, Helicopter landing and car park underneath. L, Nurses' training school. M, Nurses and domestic staff dining. N, Recreational hall. O, Students' union. P, Students' hostel. Q, Senior nursing staff. R, Domestic staff. S, Night nurses. T, Sisters and staff nurses. U, Student nurses. V, House governor's and engineer's houses. W, Lodge. X, Bus station. Y, Subway service to staff kitchen.

CARDIFF (continued)**Faults of the winning design**

The winning scheme, by S. W. Milburn & Partners in association with M. Harding and J. Surtees, is a building of great bulk, institutional in appearance, which no amount of architectural gimmickry can disguise. The design is the antithesis of all one expects in scale and character and completely ignores the therapeutic value the building should have. Highly concentrated, it has none of the virtues of concentration, its lifts being dispersed and thus inflexible regarding load: there is no nodal point for vertical supply services.

There appears to be no advantage in siting the building so as to leave part of the site clear, if this involves the congestion that is apparent. There is no cohesive service zone and no separate supplies entrance. Parking space is not related to the entrances and seems inadequate for the over 500 cars that can be expected. The boiler house is so sited that the prevailing wind will blow the smoke from it straight at the ward block.

The essential integration with the medical school is achieved in the oddest fashion and involves eight-storey light-wells; consequently some wards are badly lit and have a poor outlook as the *Lancet* has commented. It is doubtful whether light-wells would be valid on a small urban site, much less on one of 53 acres.

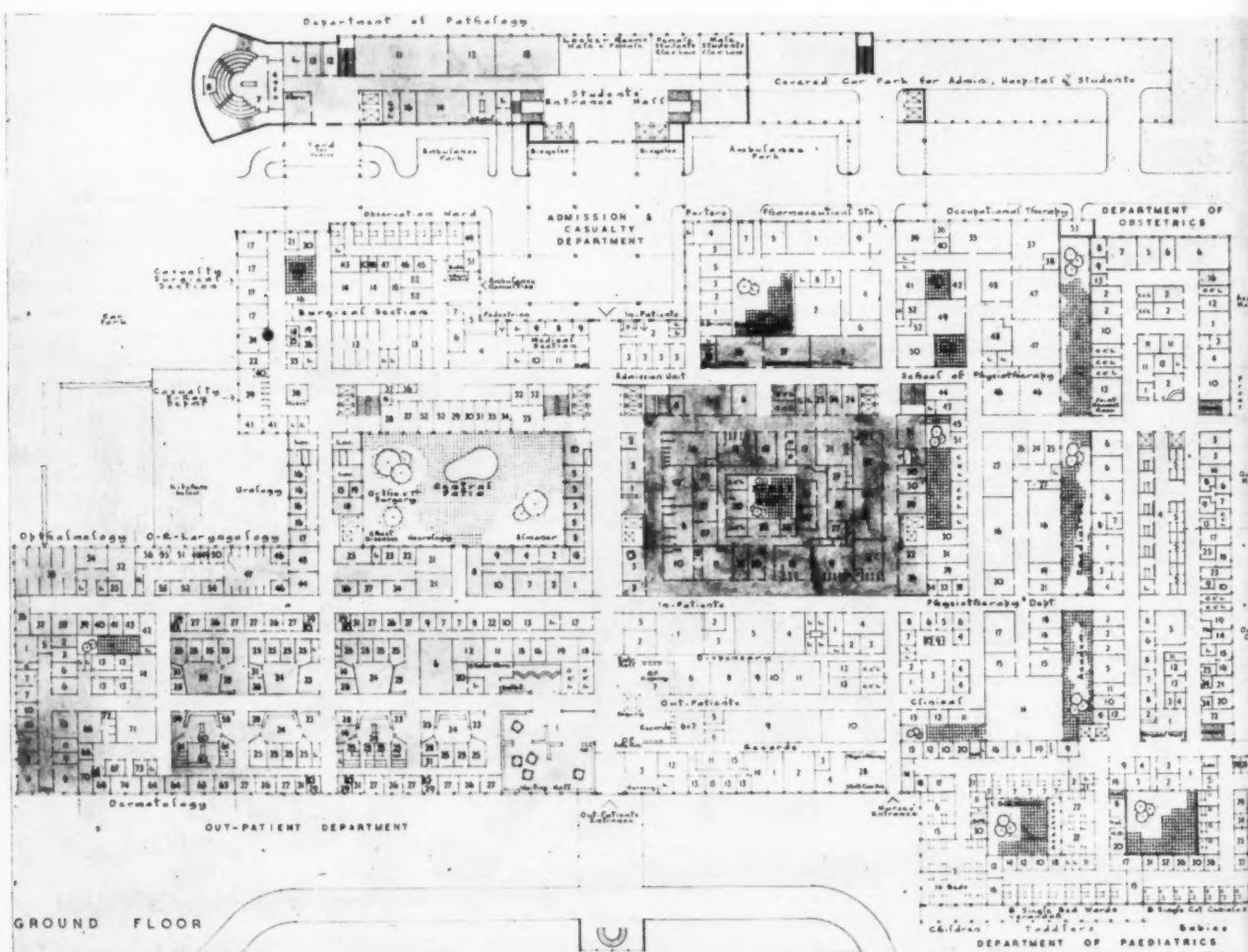
A point to note is that, although the conditions call for a 650-bed hospital with provision for expansion to 800 beds,

the winner's elevational drawings show an 800-bed hospital in the first instance. If the future wards were removed, the form of the principal elevation would be entirely different (see illustration on page 133).

The building fails in its proposals of expansion. Departments such as X-ray are rigidly bound up internally, and expansion of the outpatients' department would be difficult. Proposals for the expansion of wards are completely unworkable, involving as they do building construction above wards already in use. What a prospect in terms of noise and dirt when the extension is made.

The ward plan is not in line with current thought on nursing care, cross infection and early ambulation. For example, the sluice room is farthest from the beds most needing its services (the single beds for the patients most seriously ill), and is not related to the treatment suite, so causing extra walking for nurses. Infected material must therefore be brought into the ward suite for disposal, thus increasing the chance of cross-infection. Lavatories are concentrated in blocks, instead of being closely related to the bed areas or day spaces so as to be easily used by patients trying to get back on their feet. The single and, by definition, quiet rooms are in the noisiest part of the unit; and while these can be supervised from the nurses' station, the remaining beds cannot.

And on a question of detail, it is difficult to have confidence in any scheme that proposes a *wood block floor* which cannot be sluiced clean, for part of the operating theatre suite. A final criticism: the winner's report is so sparse that the scheme cannot be properly judged.



Winning scheme ground floor plan.

How did this failure in design come about? Possibly the fault lies mainly in the conditions, which are said to have taken *nine* years to produce. Perhaps this inordinate length of time is responsible for the restrictive and contradictory programme. Every suction point and gas point in the building is mentioned, whereas competitors needed little more in their brief than the departmental areas and an outline of the rooms required. Indeed, there seems to be no reason why this competition should not have been in two stages. Reducing the amount of stultifying work required of the competitors might have produced better schemes.

One of the fundamental points of the scheme was the dual approach to the site: entrances were available at opposite ends. No guidance was given to competitors as to which should be the main one; or which would be more convenient for patients (with regard to bus routes and so on) and which would be better for supplies. As the winning schemes include an entrance facing each way and one compromise, it appears that the Assessors remained undecided to the end.

Current ideas on ward-planning favour reducing the number of beds in a ward to a maximum of six. This allows greater flexibility in placing types of patient and types of illness; up to six makes a more successful social group. The patient's welfare is considered as important as ease of nursing. Bearing all this in mind, the requirement of two 10-bed wards to each unit is difficult to under-

stand. The placing of patients' locker rooms conflicts with the needs of early ambulation, for which the lockers should be adjacent to the beds. Certainly the day space provided (which implies that the medical section of the Assessing Panel *intend* to encourage early ambulation) will be insufficient to cope either with the number of patients or with their conflicting interests: quiet, TV, and so on.

Nevertheless, in spite of all these obstacles, some competitors have designed schemes which would not only produce workable hospitals but also, equally important, architecture.

In a problem as complex as this it is difficult to summarise the cardinal design points. Broadly, they are as follows, but not necessarily in order of importance:

Concentration or dispersal of scheme, and the resultant ward plan. (The latter is possibly the key to the whole problem.)

Scale.

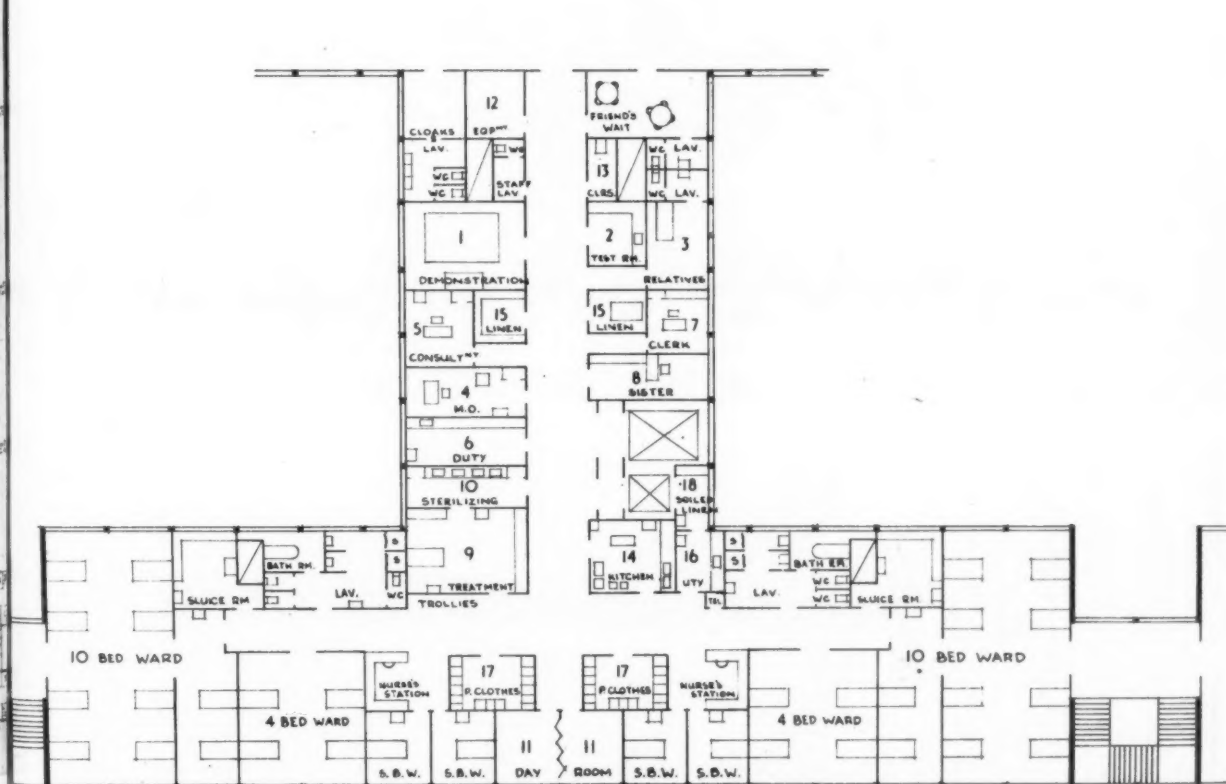
Siting and circulation.

Integration of medical schools and clinical departments.

Provision for expansion and alteration.

Either a concentrated or a dispersed solution is valid, if competitors accept the implications of each.

A concentrated scheme accepts the principle of mechanisation and direct servicing by lifts, pneumatic dispatch systems, central vacuum cleaning and the like. Disadvantages are the difficulties of scale, necessity of top-lighting and a tendency to lack of openness. The most highly concentrated scheme submitted, No. 15 (by H. P. Scher in association with P. D. Cowan), has fully exploited the possibilities of mechanical servicing, and because of the choice of ward plan, artificial ventilation is implicit.



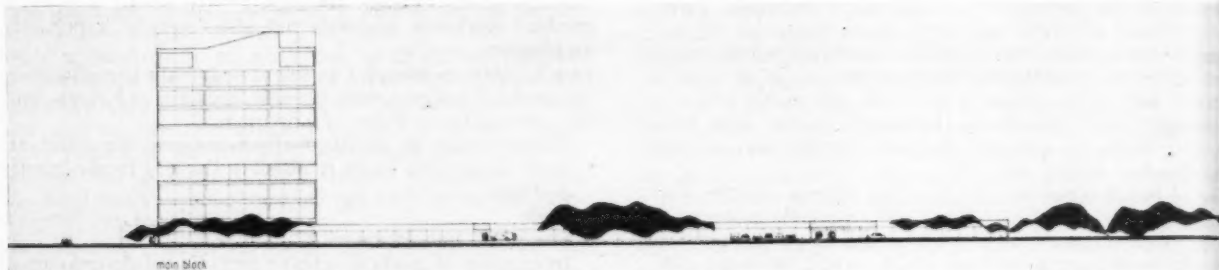
Winning scheme ward plan.

CARDIFF (continued)

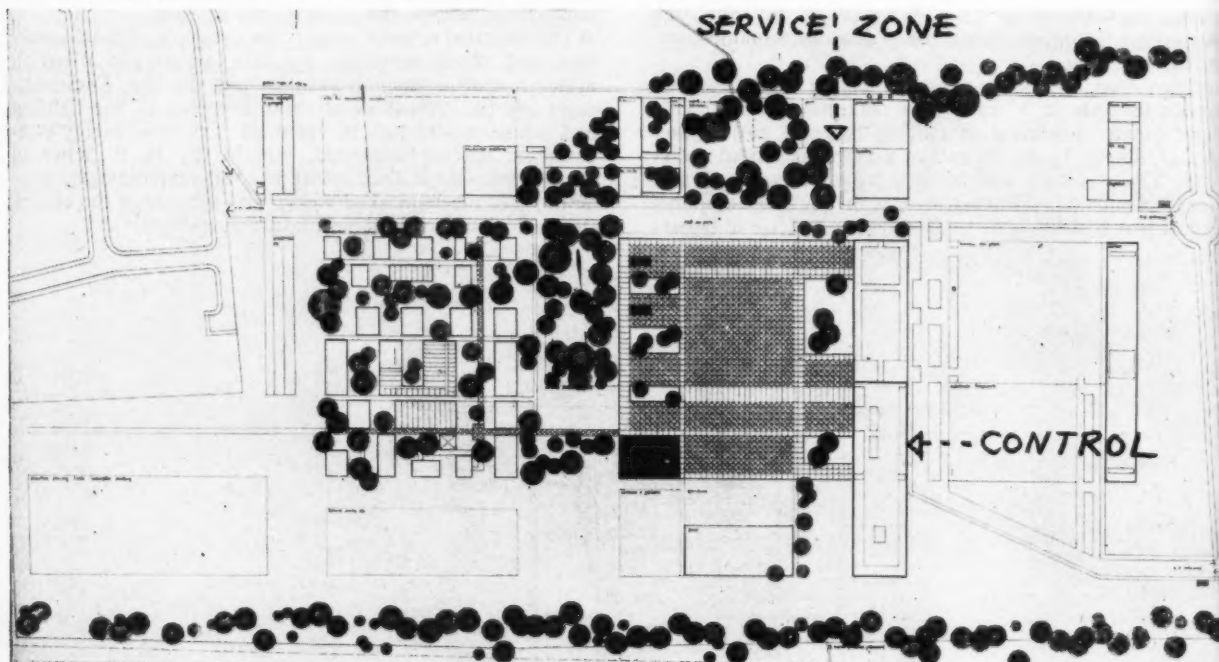
The dispersed scheme has advantages in presenting visually acceptable organised spaces of good scale, while keeping heights of buildings down: the patient or visitor can often more easily orientate himself in a horizontal than in a vertical building. Many schemes used a single-storey building as an entrance to the hospital: this helps to present a reassuring character of building to an apprehensive patient. The very size of Cardiff hospital, 650 beds, makes a dispersed scheme difficult: few competitors attempted one, fewer still succeeded. No. 12 (by D. Acton Stow) not only went a long way towards providing the

solution, but also produced one of the two best schemes submitted by separating the entrance square from the ward precinct. This arrangement has the advantage of quiet, the busy part of the hospital being apart.

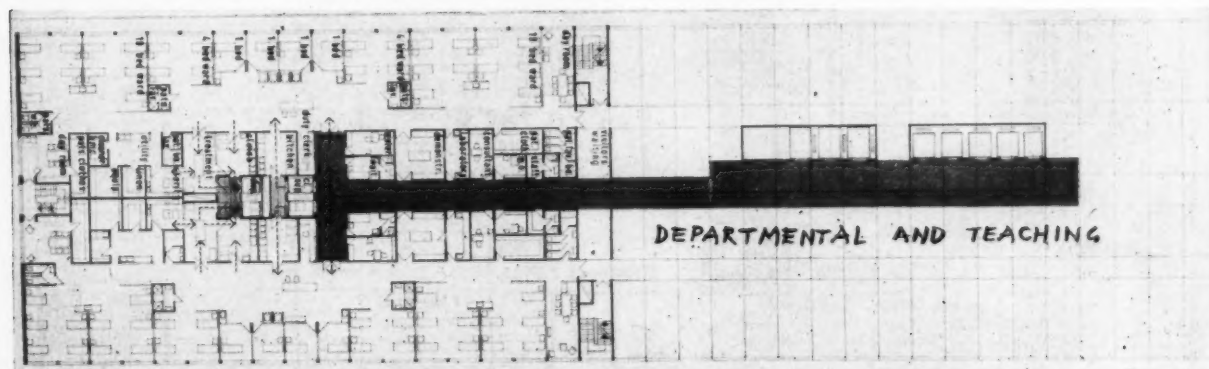
The ward plan is probably the key to the whole scheme, in that the planning here represents the whole hospital in miniature. Competitors failing to appreciate the functioning of the ward were generally unable to produce an orderly hospital. Ease of access to w.c.s, particularly in regard to early ambulation, seems obvious, yet too many schemes showed lavatories crowded together, badly planned and too far from the beds.



Scheme 15 (H. P. Scher, in association with P. D. Cowan): north elevation.



Site plan of scheme 15: a concentrated but extremely simple design consisting of two formal elements—a clear-cut multi-storey block containing wards and teaching departments above the single-storey top-lit outpatients/diagnostic departments (cross-hatched portion of plan). Accepting mechanisation throughout, this is one of the best schemes.



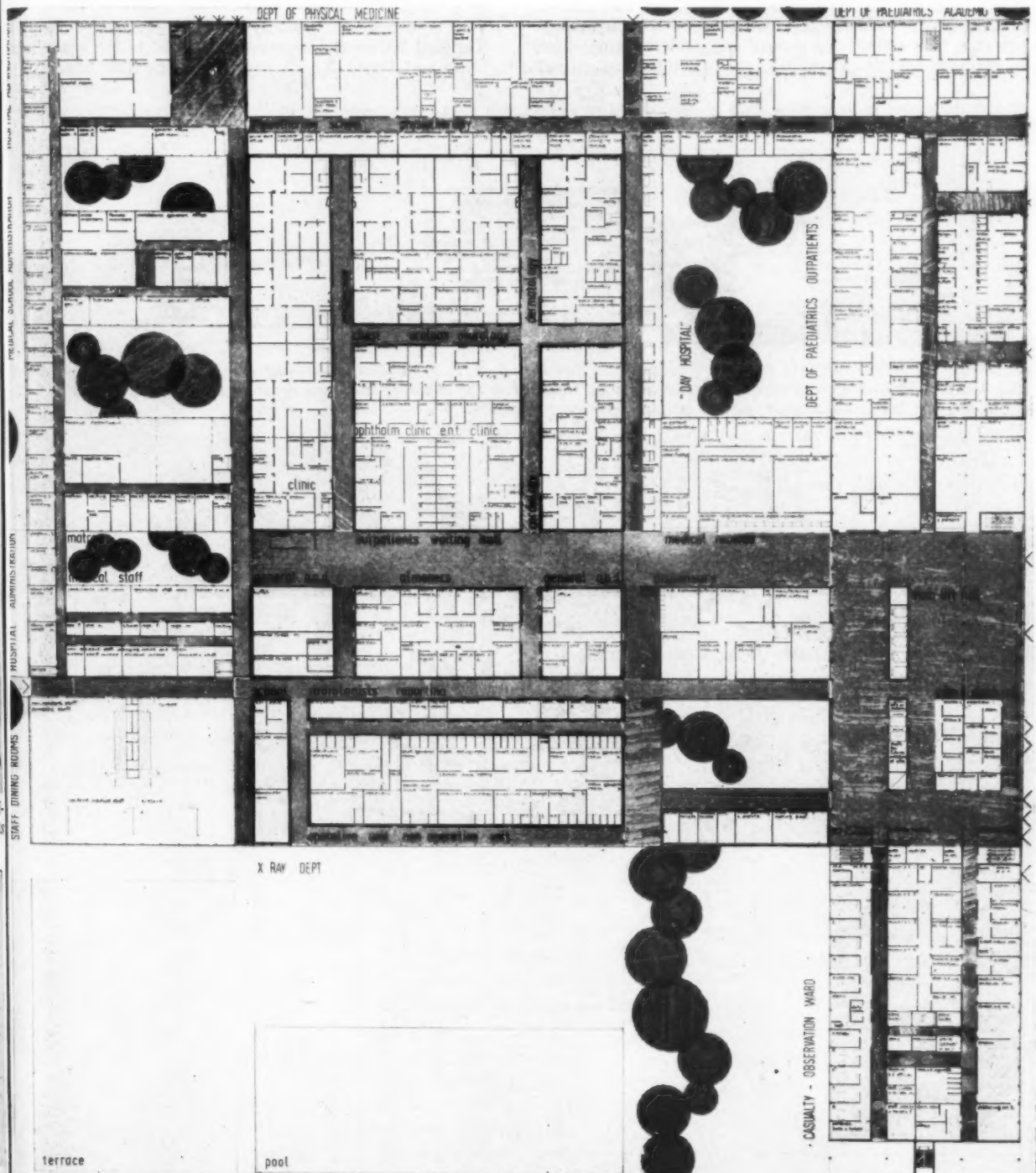
Scheme 15: ward plan, the most advanced submitted.

It was laid down that wards were to be duplex (for both men and women). In many schemes the patients could be nursed only with embarrassment, while the choice by some competitors of end-entry wards, in order to serve two wards per lift, produced not only problems in nursing two sexes, but also considerable bulk in the design. Possibly the only original ward plan to solve most of the problems was No. 15, the highly concentrated scheme already referred to. By combining two wards in one block the greatest use is made of reduced circulation and lift services; at the same time flexibility is achieved in allocation of beds in the future. Combining as it does good integration with medical teaching, this plan offers a very nearly excellent solution.

Good points from other entries

Some competitors failed to realise the socio-aesthetic importance of scale and character in a building of this type. One design appreciating this point is No. 35 (by John Musgrove, Newton Watson, J. S. Bonnington, G. P. W. Taylor and Koang-Min Tseng)—see illustration of elevational treatment at top of page 138.

As we have mentioned, siting was difficult because of the dual approach; the north-west entrance to the site serving the valleys and the south-east corner, Cardiff itself. Competitors generally decided to give equal precedence to the



Scheme 15: ground floor plan. Circulation is simple and direct.

CARDIFF (continued)

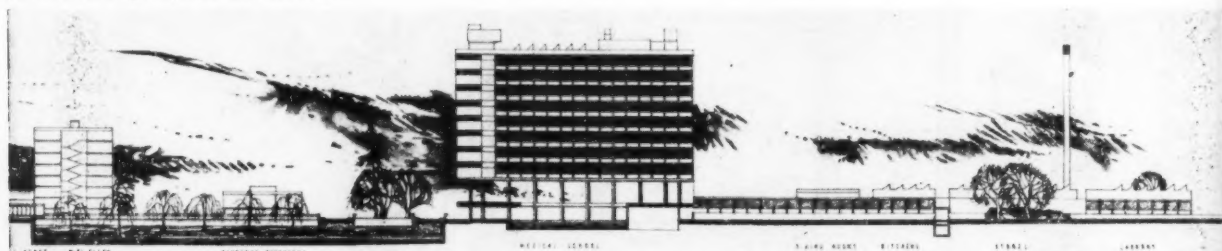
approaches; but many, while using both, provided very tortuous ties between them. Very diverse were the solutions to the entrances to the building. They were required to be separate, but many schemes had them far apart and not related (see J. K. Johnston's remark in AJ, July 7, on page 12, that a manned entrance can cost £2,500 per annum to maintain 24 hours a day). As patients often do not know whether they are casualties or outpatients, entrances to the building should be both visually assessable and obvious. Contours might well be used to indicate a common entrance point or to segregate classes of traffic. This idea is fully exploited in the dispersed scheme, No. 12. In this scheme casualties enter via a ramped road to below the outpatients' entrance, thus simplifying control and avoiding congestion. In planning complex circulation many competitors missed

the obvious consideration that positioning of departments is related to the traffic load between them: for example, two outpatients visit the X-ray department to every one inpatient.

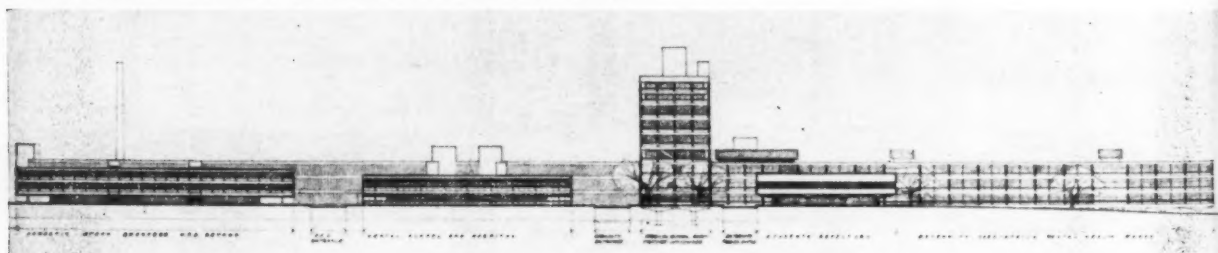
Few schemes appreciated the volume of supply traffic, both to and within the hospital. Provision of a service zone was of prime importance, the separate circulation keeping noise, smell and smoke away from the clinical departments. This point has been excellently dealt with in scheme No. 12.

Many schemes went a long way towards integrating the teaching with the clinical departments, though in most cases they were tacked on to form a T. While functioning reasonably well, this arrangement produces a building of great apparent size, because of the length of the wings. Two schemes offer totally different solutions. No. 20 (Grenfell Baines & Hargreaves in collaboration with Brian Cobb and David Rock), a scheme consisting basically of

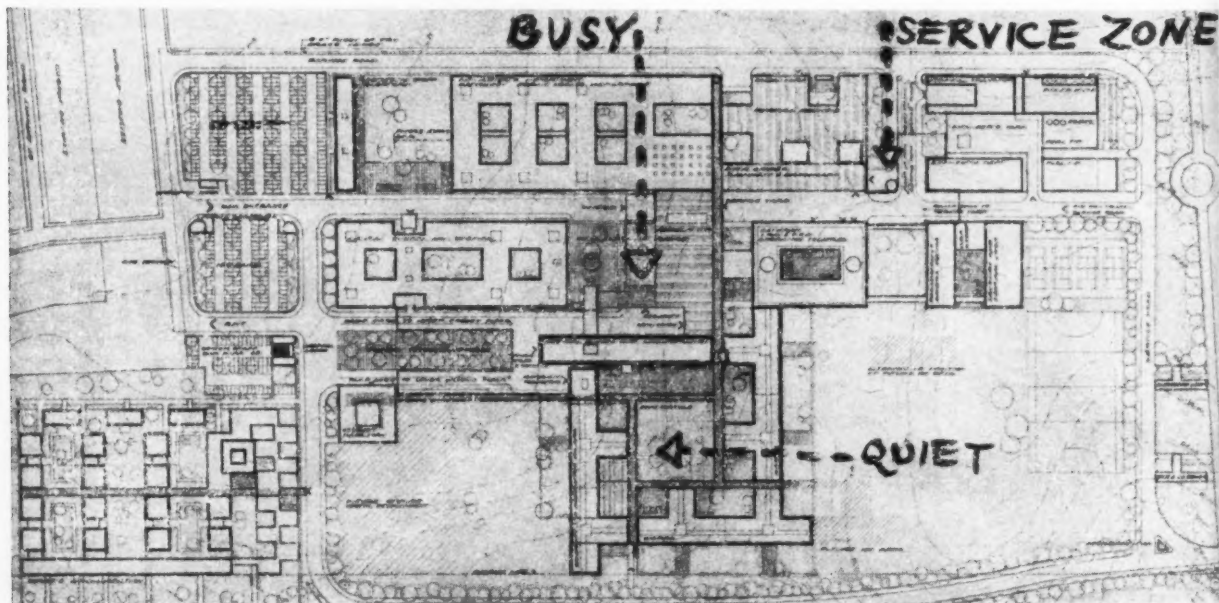
Right: the lower ground floor plan of scheme 12 (by D. Acton Stow): an extremely interesting dispersed scheme taking full advantage of the site levels.



Scheme 35 (by John Musgrove, Newton Watson, J. S. Bonnington, G. P. W. Taylor and Koang-Min Tseng), a dispersed scheme with three- and four-storey wards. Circulation is extended, but the building has considerable architectural character, the right scale and the necessary sympathetic environment for a hospital.



Scheme 12: elevation, probably the most competent submitted.



Scheme 12: site plan.

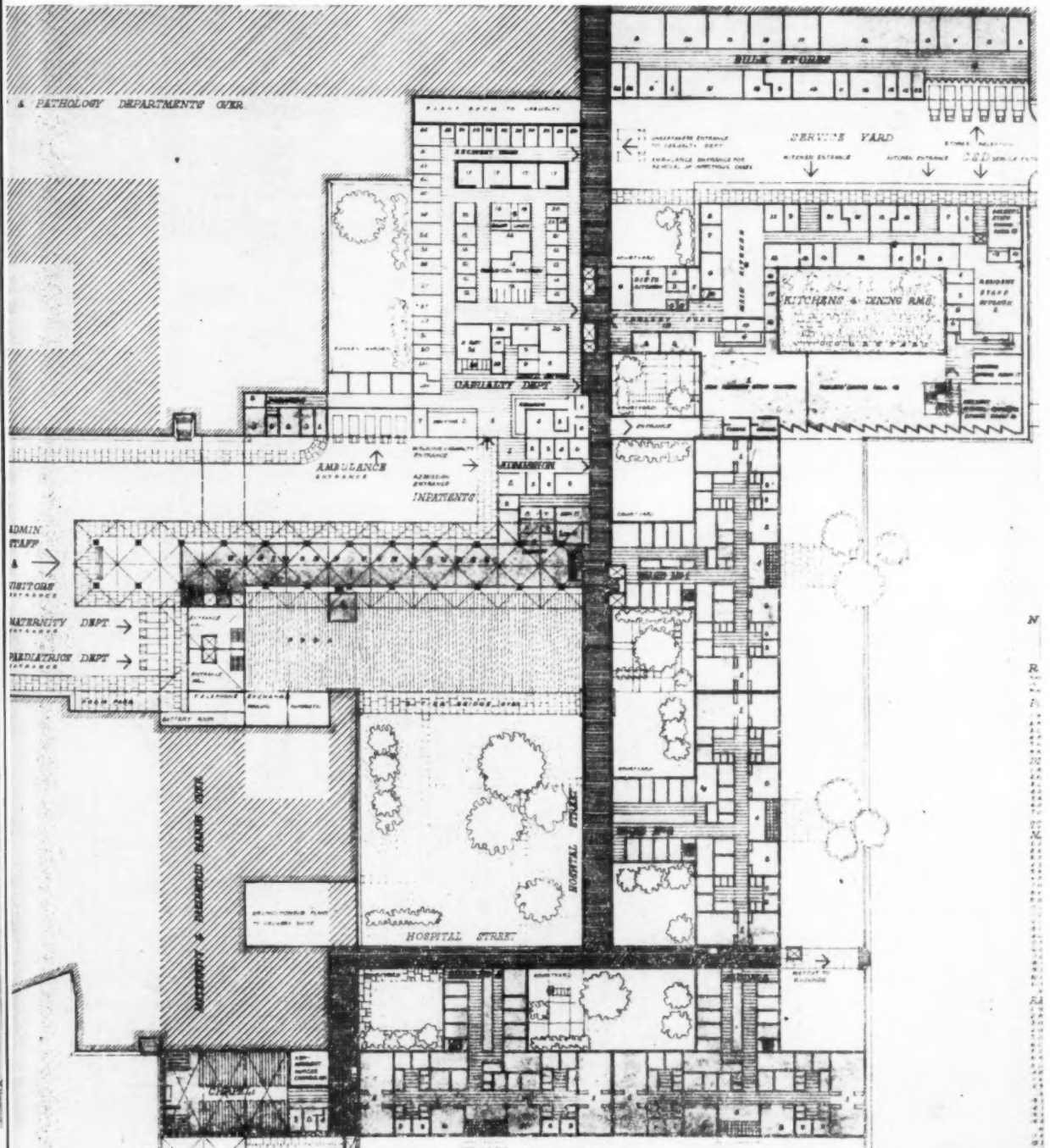
"two matchboxes on a layer cake," integrates the teaching department planwise at first-floor level and out of public circulation: No. 15 stacks the teaching accommodation alongside the wards in a thick rectangular block, which is visually acceptable, not having the apparent bulk of some other schemes.

The required expansion by 150 beds was dealt with in various ways. Few competitors took the simple solution of a separate block loosely linked with the therapeutic/diagnostic departments. Far too many schemes restricted future development to a rigid plan form long before the requirements of the extension could be known. Any extension involving construction above wards already built is totally unacceptable. Departments reasonably certain to be expanded—i.e., outpatients, X-ray and physiotherapy—are in many schemes placed in restricted positions. It is essen-

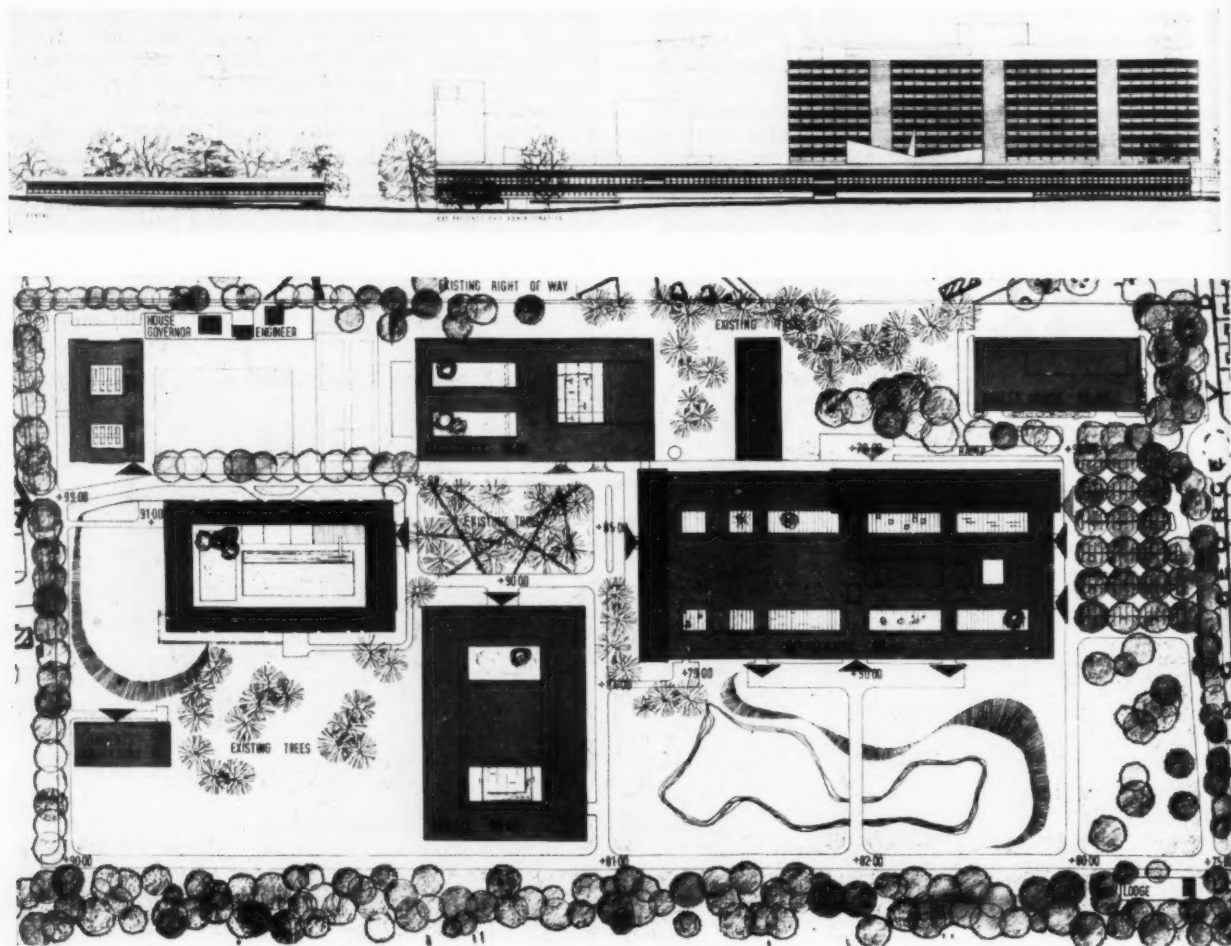
tial that expansion of a department should not change its basic relationship to the other departments. One scheme which made a virtue of the "tailor-made" requirements and yet is quite capable of being extended is No. 6 (by Geoffrey Spyer), with the corridors of the outpatients' department carried through to the external walls, giving light and easy roads for expansion.

Following all this, the results seem all the more incomprehensible. The competition should have produced forward-looking schemes: awareness of current medical planning problems and anticipation of the problems of the future. Schemes of this nature have in fact been produced: some in part, some *in toto*, make a contribution to hospital design. The winning scheme makes none.

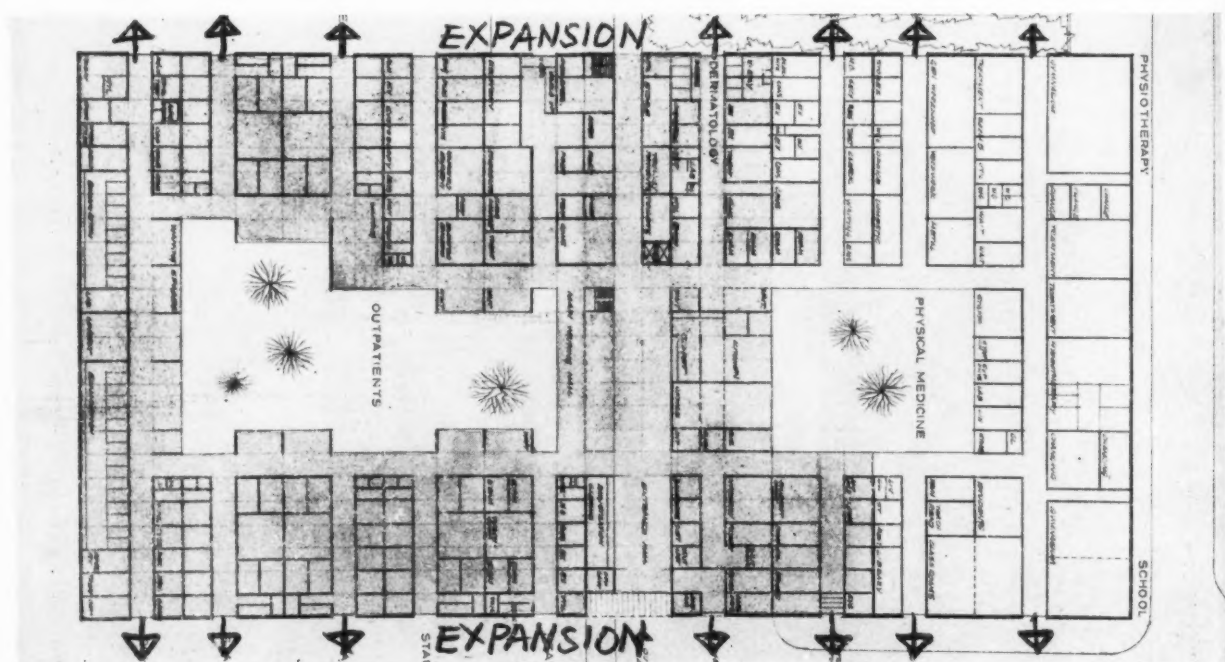
There can be no other conclusion but that the competition was wrongly conceived, badly briefed and weakly assessed.



CARDIFF (concluded)



Site plan of scheme 20 (by Grenfell Baines & Hargreaves in collaboration with Brian Cobb and David Rock): extremely good in its simplicity, but the elevational treatment (top) is rather severe.



Scheme 6 (by Geoffrey Spyer): outpatients' department.

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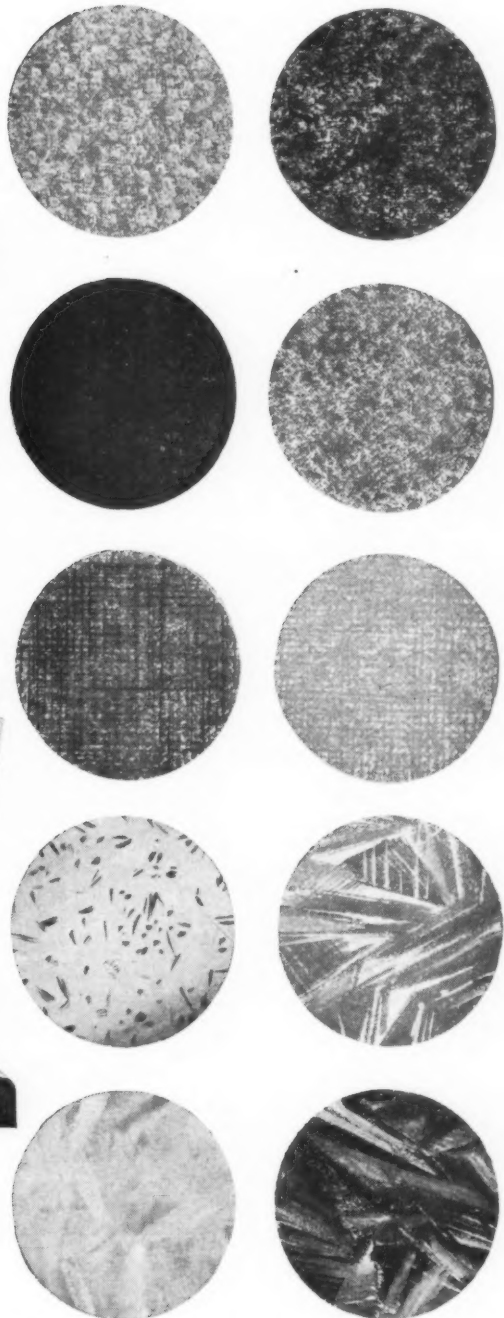
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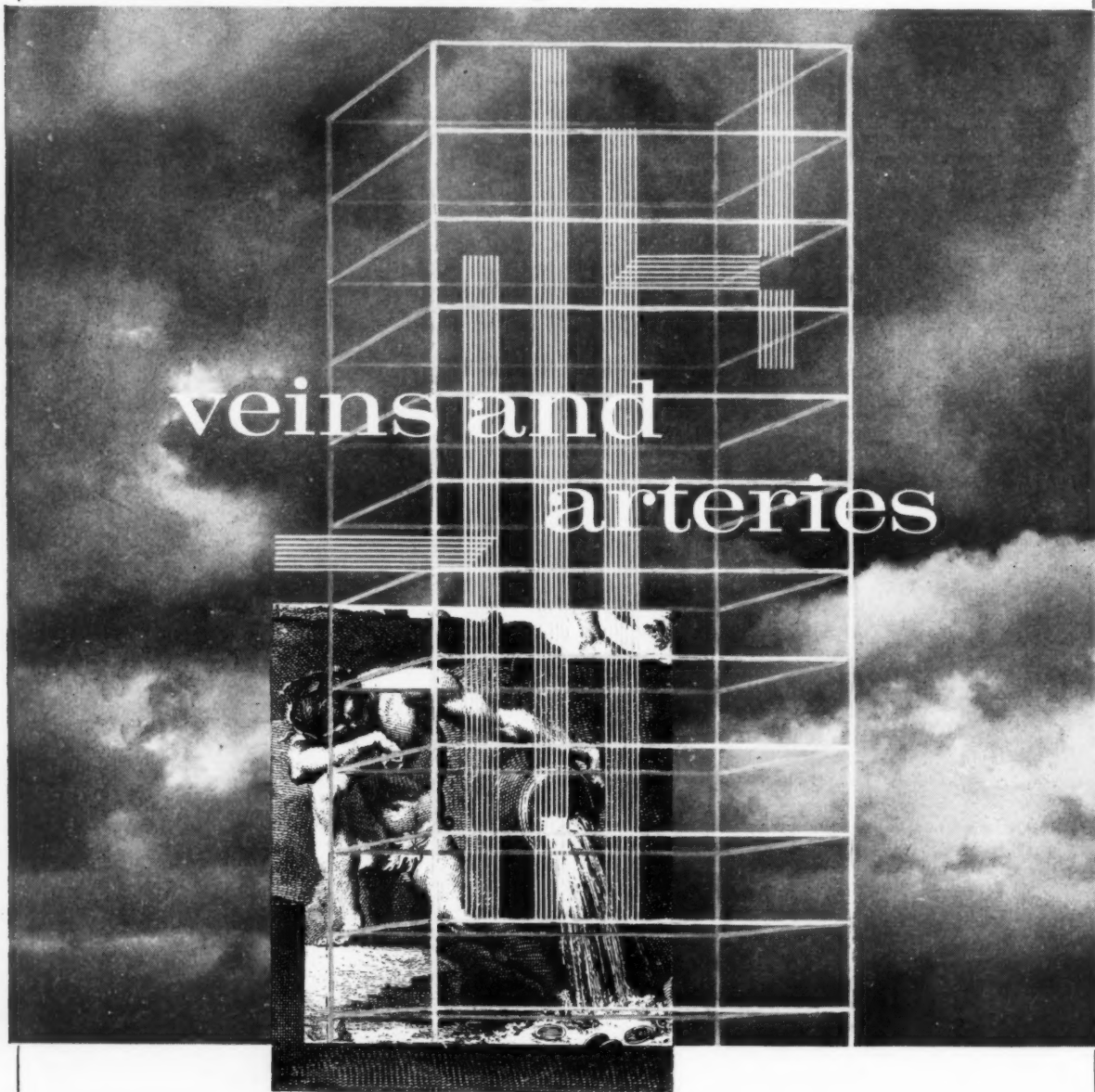
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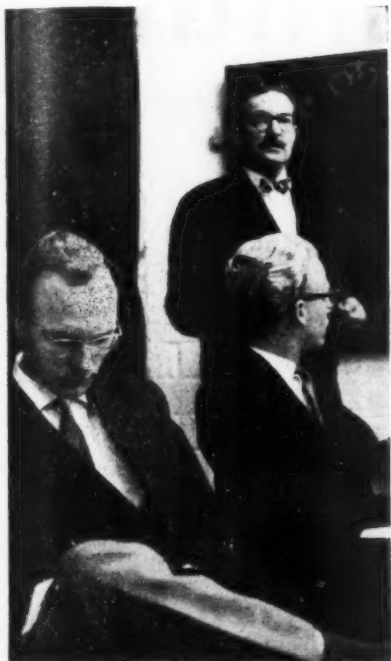
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BANHAM'S BOOK



Dr. Banham lecturing at Ulm.

Theory and Design in the First Machine Age. Reynier Banham. (Architectural Press, 45s. net.)

I read Dr. Banham's book with more than considerable interest. He has brought his undoubted talent for collecting and presenting thought to the maze of theories which eventually culminated in the basic concept of the New Architecture.

With fascination and some nostalgia I saw this world of my childhood and adolescence re-created by the patient labours of an Englishman remote from it in time, space, thought and feeling and followed his often very skilful deduction and argument.

To present such an explosive period, so communicative and yet so inarticulate, to the British reader is no mean achievement by any standard and I wonder how the author succeeded in warding off befuddlement and confusion: the occupational dangers of his chosen study.

Dr. Banham has used courageously and with obvious zest the author's privilege of arranging his facts in accordance with the values, measures and weights he established and the book is very well documented in its literary contents. Many sources are given in their own diction; and I think the difficulty of rendering such a large number of quotations has been well managed in the main. In such a context quotations en masse are, indeed, useful to further understanding of a world of thought sometimes brilliant both in perception and outlook, sometimes ranging from the almost illiterate to the abstruse.

The illustrations are just adequate; the number of plans shown is frugal and it is the plans of the period that speak.

It was perhaps appropriate to begin with Guadet and Choisy if only for a better understanding of Garnier, Perret and the curious conflicts in Le Corbusier; but Holland, Italy and Central Europe are not neglected either. Muthesius' importance is well appreciated, strangers, though for different reasons, like Henri van de Velde and Adolf Loos carefully assessed, Berlage given his due. Otto Wagner and Strnad are overlooked and so is, in spite of Sanatorium Purkersdorf (1910), Josef Hoffmann whose later work did not fulfil earlier promises.

A re-appraisal of Marinetti was overdue and I do not grudge Antonio Sant'Elia the generous space which he has been given. With competence Dr. Banham checks backward and forward and often very convincingly; when, for instance, he finds a relationship between Mart Stam's exceptional office block for Königsberg and Sant'Elia's receding façades; or when he compares Mendelsohn's glass-caged staircases with the earlier glass cages of Gropius' exhibition buildings which latter he relates in turn and not unreasonably to a Wright building in Mason City. He traces influences and anticipations, he spots analogies and simultaneities; and he roams in this forest of heady and confusing ideas with surprising dexterity. There is to name a few the review de Stijl and its editor Theo van Doesburg, a strange man who made his wife perform jazz music to prove that jazz was better than Bach; there is the Wendingen period so northern and so woolly; and there is rational and fanatical Rotterdam. But I was sorry not to have seen mention of the work of Bijvoet and Duiker; was this, perhaps, because they did not produce theories? For the British reader nurtured on France, Italy, Holland and Central Europe there is a glimpse, too, of the Russian contingent though I missed Tatlin and Selinski's writings; and there are no Czechs, again, perhaps, because they did not contribute much to theory and because theirs is such a terrible language to master. Not that these omissions are more than occasional and it is gratifying to note the author's corrections of attributed authorship. Thus Mart Stam emerges as the virtual author of the van Nelle buildings from the relatively unimportant circumstance that he was, at the time, working for C. L. van der Vlugt the architect to whom this work is normally ascribed.

In looking back on all this one fact stands out: the astonishing force of penetration of the so-called International Style and its rise to power in the mid 1920s after such a short struggle for supremacy. It came with such buildings as the houses in Garches and Poissy, the terraces in Hoek van Holland, the van Nelle factory, the Bauhaus and a little later others such as Aalto's Turun Sanomat in Turku and Mart Stam's Old People's Home in Frankfurt; and with Weissenhof, Pessac, Haselhorst, Kiefohoek and Neubühl.

Mendelsohn left his Einstein tower; the Luckharts and others took leave from expressionism and Finsterlin; from Futurism,

Expressionism Wendingen Transcendentalism, from Werkburg sobriety, from Constructivism and Machine Romanticism, from northern classicism like Gunnar Asplund they came and built internationally and a book could appear called the "Victory of the New Architecture."

The buildings were white (or polychrome), the plans new and revealing, the detailing optimistic and sparse and they appeared everywhere from Finland to Japan. This period of crystallisation of architectural thought so powerful and so short-lived Dr. Banham reconstructs very well and fairly; and he knows, I think, it is gone, dead as the traditions and factions it overcame.

Can one describe the impact of these first few buildings? I think not; and the present-day British reader surrounded by products of versatile chameleonism may find it difficult to imagine the world-compelling force of such a small number of buildings.

A short-lived victory it was indeed, and nowhere did the International Style fail more drastically than in Russia to our whispered mortification; there its technological shortcomings became painfully evident. The Centrosoyuz and other buildings did not win and Kaganovitch invited architects to copy Tsarist buildings which were dry and warm. "If we do not like the classical columns we can take them away later," he said. And the columns stayed and the Academy came back.

Not that Dr. Banham has any illusions on the score of inadequate performance; his study is presented with continuous glimpses of the technological background. He has no illusions either as regards the mainly flirtatious attitude of the architects of his "First Machine Age" to the technological advances of their time and he is certainly not in doubt as to the future.

Then the building industry was, among industries, a backward child; today it is an adolescent with a growing appetite for technological progress. And I think the author is right in concluding that the architect—technologically a notoriously primitive creature—may find it hard to keep pace. On that note he ends and his time was well chosen.

Today with the International Style dead there is rumbling among its ruins, there is searching among its antecedents. One by one these are taken up and endowed with artificial life; the ghosts of those who once surrendered to the International Style are resuscitated for short periods of excitement and in ever-shortening cycles. This is the end of a period: from culmination and failure back to the dawn of confused beginnings.

Turning the pages of Dr. Banham's excellent book, remembering those whom I knew and reading again what they wrote, enthusiastically, critically or disarmingly naive, I think of the place-to-come of the architect. And I conclude firmly that he must be a person with an aptitude for mathematics and an instinct for building apart from all the rest and that he must go into the growing industry and widen its horizons or else creep into the artist's garret.

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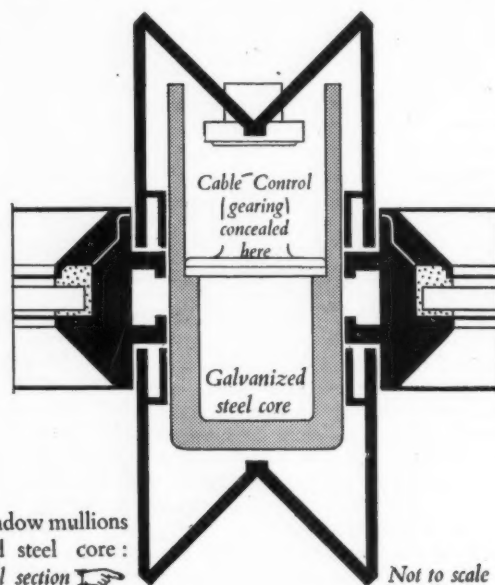



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7 PRACTICE

check lists : building survey

We continue our quest for check lists by publishing this week a check list for a building survey, submitted by a reader, A. E. Knight, A.R.I.B.A., in response to our appeal in the AJ April 14 issue. Mr. Knight receives ten guineas for submitting, in the opinion of the Editors, a list which best improves on the one previously published.

When the Editors appealed to readers for check lists for building surveys they were holding to the belief that somewhere, someone would have compiled a check list to end all check lists. That this was an unduly optimistic belief has been proven by the submissions. It is no reflection on the winner of our award and the many other readers who submitted lists to observe that nobody's list is infallible. Several of the lists were fairly comprehensive, but in every case, including the award winner's, there was usually an item or two missing which appeared on the next or the preceding list. Notwithstanding the excellence of Mr. Knight's list (published on page

143), which well deserved the award, we feel that the maximum usefulness will derive only from a list which is made up of the sum total of several including Mr. Knight's and the original AJ list. Readers therefore are invited to submit further items (to reach the Editors by the first post on August 19) for consideration. Each item included in the new list will earn one guinea for the author who first submitted it. The lists already submitted for the current award will automatically be considered for the new list.

Of the many lists submitted for this award several consisted simply of items which their authors intended should be added to or omitted from the list published on April 14. Readers who did this seem to have misunderstood our request which was for a complete list virtually to replace ours. We feel that a check list to be used on a survey must reflect the actual approach taken by the architect in carrying out the survey. It is for this reason that on our list an attempt was made to group items which would, or should be examined together. For example, under the heading "Building" we have grouped *roof construction, roof space access, flashings, eaves, pipes through roof, chimney stacks, roof lights and gutters* because it is when you are up on the roof that you will most likely wish to examine and record each of



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technical section

This is a Reader's check list for a building survey. Neither this nor the AJ list published on April 14 is final. A final version will be published later



these items. It is for just this approach that Mr. Knight's list so deserves the award. Grouped under 20 basic headings, it indicates a methodical, thorough approach which should inspire a similar attitude of thoroughness in the person who, using the list, actually tackles the survey. Some items may seem a little too obvious. The Editors had doubts about "travelling arrangements, timetables, reduced fares, meals and accommodation" (see "Preliminary"). Would not the assistant likely to forget these essentials possibly get the wrong train anyway? Maybe he just ought not to be sent on a survey. Nonetheless the other items under "Preliminary," namely "check accuracy and amplitude of survey equipment" is indisputably important. How often has one arrived at a remote site only to discover that the measuring tape is back at the office.

Another feature of the list published this week is the reference to legislation and legal requirements. This was inadequately dealt with in the AJ list and several readers produced important items which should be checked such as "rights of light," "boundary ownership," "protected building or ancient monument," and "tree preservation order." The important point to note is that, generally these items are not checked *on the site*, but nevertheless are part and parcel of the survey. The published list groups these under the broad headings "General Legal" and "Building Work Legal." An item which constantly recurred was "copy of local byelaws." Whilst most local authorities in this country apply the Model Byelaws the addition of local regulations is sufficiently common practice to warrant obtaining a copy of the byelaws should the survey be in a district unfamiliar to the architect. This could avoid difficulties arising from a failure to take account of local regulations should subsequent additions or alterations to the surveyed building be contemplated.

Mr. Knight's list draws attention to the general character, condition and usage of adjoining properties. Other readers also suggested this in terms of the architectural character of the district, predominant materials of construction and local supply of materials. Again this takes the survey a step further to the point where building is planned but, just the same, these items are legitimate notes for a report, and certainly have relevance to any valuation assessment or future prospects in that area where residential buildings are concerned.

Some of the lists submitted reflected not only the thoroughness, but also the ingenuity of their authors, determined, no doubt, to arrive on the site fully equipped for any contingency. One reader, see Figs. 1 and 2, has designed for himself a piece of equipment which almost qualifies as an AJ Working Detail.

A Reader's check list for a Building Survey

1. Preliminary

Check accuracy and amplitude of survey equipment
Travelling arrangements, timetables, reduced fares, meals and accommodation

2. General legal

Property: Leasehold, freehold, if ground rent, tithes or restrictive covenants as to usage, tenure or sale
Names and addresses of Solicitors/Agents
Rateable Values
Rights of Way

3. Building work legal

Town Planning: requirements, restrictions and intentions
Building Surveyor: Copy of local bye laws
Copy of ordnance block plan
Submission requirements and forms
Record plans for foundations, etc.
Building lines or restrictions
Possible road charges
Restrictions under Clean Air Act
Smallholdings Act, etc.

4. Local enquiries and observations

Present or future existence of undesirable features in proximity of site *e.g.*: sewage works, tanneries, aerodromes, dairies, railway sidings
Rivers, ponds, etc., liable to overflow or flooding on or near site
Age of property
Adequacy of local facilities *e.g.*: transport, schools, shops

5. Underground hazards

Mineral workings
Railway or tube tunnels
Springs
Level of water table
Ground movement or erosion

6. Adjoining properties

General character, condition and usage
Rights of air and light
Conflicting interests
Subsidence widence

7. Actual site

Orientation
Local climatic or other hazards, *e.g.*: sea air, smoke, fumes
Trees, rock outcrops, gardens, ponds, fruit trees
Soil, sub-soil, trial holes
Fences, gates, railways, boundary and retaining walls, ownership, condition
Paths, roads, pavings
Levels and sections reduced to ordnance datum by relation to Bench Mark



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technical section

8. Drainage

Surface water. Record plan, levels, disposal means
 Sewage. Record plan, levels, disposal means
 If combined system or otherwise
 Manholes, gullies, vent pipes, fresh air inlets, interceptors, grease traps, pumps
 Test pipes and manholes by water test
 Future drainage schemes by local authorities, possible future connections and charges

9. Buildings and all outbuildings

Plans, elevations and sections showing constructional details, floor levels

Roof

Covering, pitch, construction, timbers and steelwork, condition and adequacy
 Roof lights, vents, tanks
 Rainwater disposal, pipes, rain water heads, etc.

Roof access

Chimneys and flues on and in roof, condition, smoke evidence, fire hazard within roof

Walls and all partitions

Construction

D.P.C.'s, horizontal and vertical

Air bricks

Finishes and condition internal and external *e.g.*: pointing or rendering

Ceilings, cornices, lay lights

Floors

Construction

Raise boards to inspect and measure (sleeper walls, D.P.C., surface concrete and air vents)

Foundations

Stairs, cupboards, fixtures

Room schedules of finishes including ceiling, walls and sill heights, windows, floors, decorations and ironmongery, fireplaces, existing light and gas points
 Condition of external painting, gutters, pipes, flashings

10. Water supply

Stopcocks and main supply

Drain cocks

Piping system and insulation

Cisterns, size, supports, insulation, access

All sanitary fittings and services, including taps, traps, puff pipes, wastes

Adequacy and type of supply, pressure, hardness, need for analysis *e.g.*: well water, lead pipes carrying soft water. Wells, springs, underground or underfloor storage tanks, pumps or rams

11. Hot water

System

Piping

Cylinder

Tank

Safety valve, thermometer, thermostat

Efficiency test or report

Running costs

Fuel

12. Heating

System

Fuel and storage

Fittings

Pipes

Flues

Safety valve

Altitude gauges, fusible links, controls automatic

Efficiency test and report

Running costs

13. Electricity supply

Overhead or underground

Plot poles, wires or cables on survey

Meters and main switchgear, phasing, voltage, amperage, a.c. or d.c.

Wiring external and internal

System, conduits and earthing

Distribution boards

Light points and amperage

Special fittings, fans, cooker panels, low voltage transformers, bell system

Test and report by local supply company with advice on size and adequacy of main cable for future loading

14. Gas

Main size, depth and position

Meters, adequacy for future requirements

Points and fittings, flue, hoods, etc.

Test by local company if necessary

15. Other services

Phone, overhead wires, plot poles on survey

Lightning precautions and conductors

Special services: steam compressed air, standby electricity engines or batteries, public address systems, lifts (hydraulic, electric or hand)

16. Structural Defects

Dry rot and causes

Damp patches and causes

Recent or necessary repairs

Settlement cracks or mis-shapen openings, skirting or window gaps

Bulges in walls, walls out of plumb, sagging roofs, floors, deflection on beams, lintels, cracks at beam bearings

Posts: evidence of rodents, woodworm, beetle (death watch, lyctus, etc.), insects

17. Specialist fittings

Altars, vestment presses, tabernacles

Engine pits, beds, ducts

Fire equipment, sprinklers, foam hydrants, etc.

18. Insurance

Adequate insurance on existing buildings

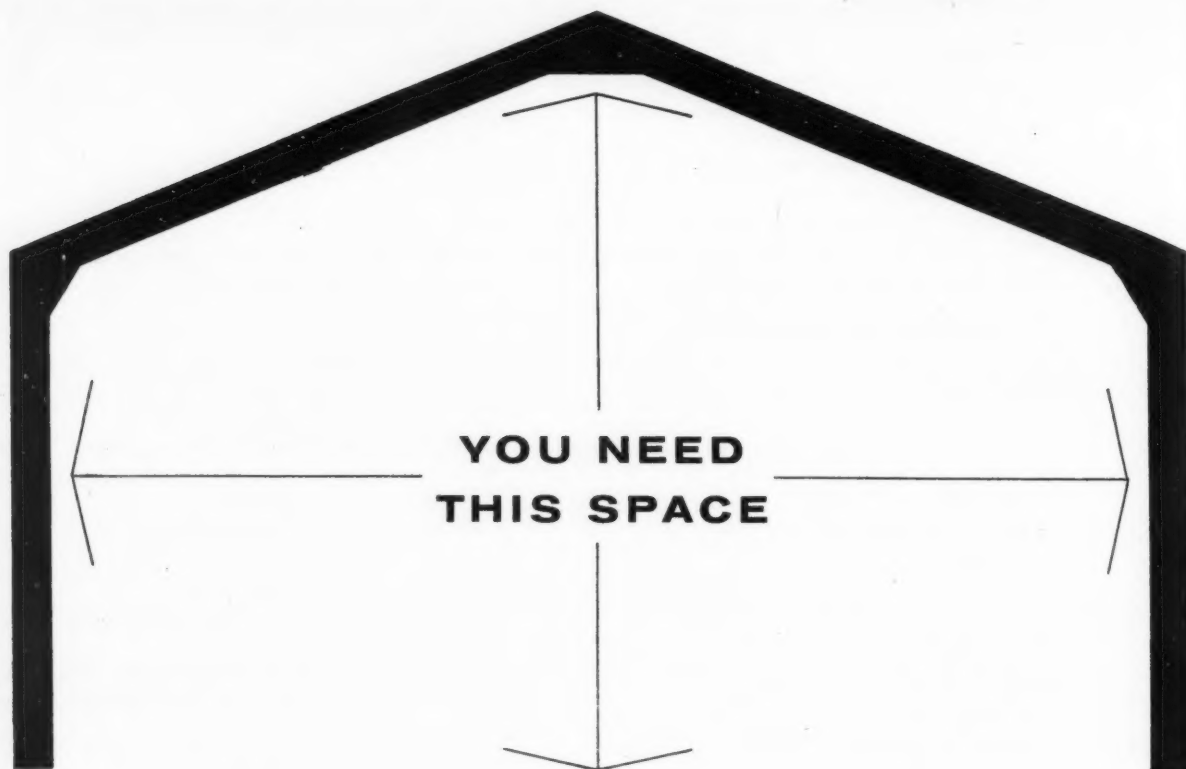
Name of company

19. General

Names of reliable local builders

Bricks, stone or special material locally available

Refuse disposal system

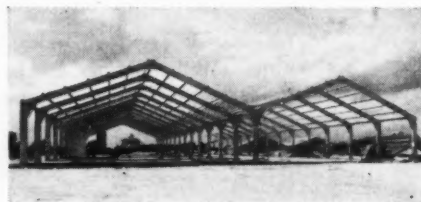


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technical section

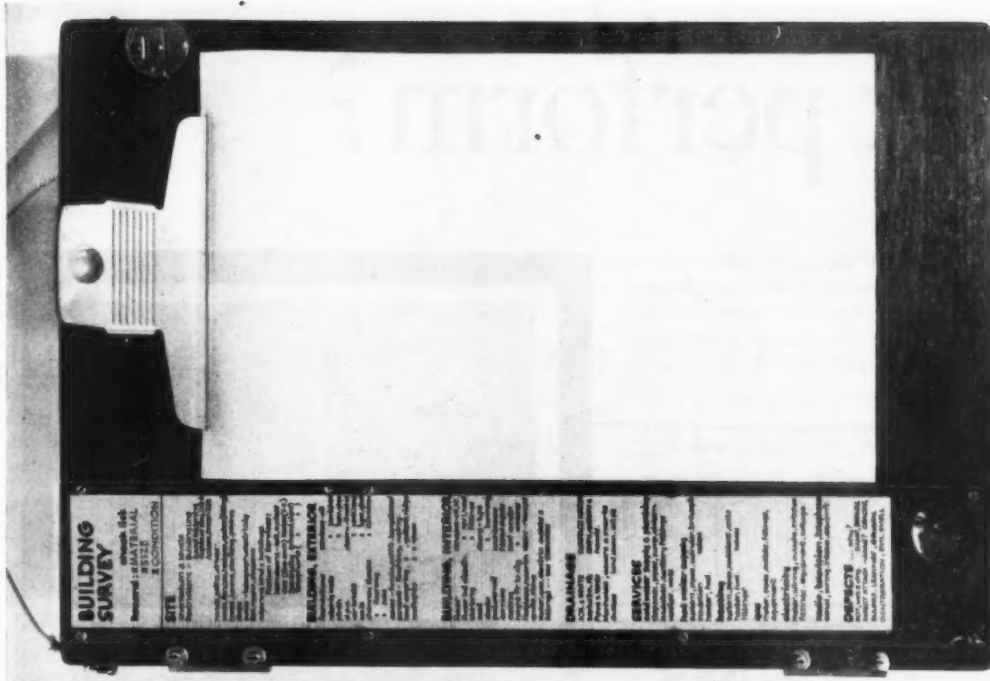


Fig. 2. The lid closed, providing a board for the survey paper. The lid also has a pencil sharpener screwed to it, a copy of Mr. Haynes's own check list and a hole cut in it for reading the compass.

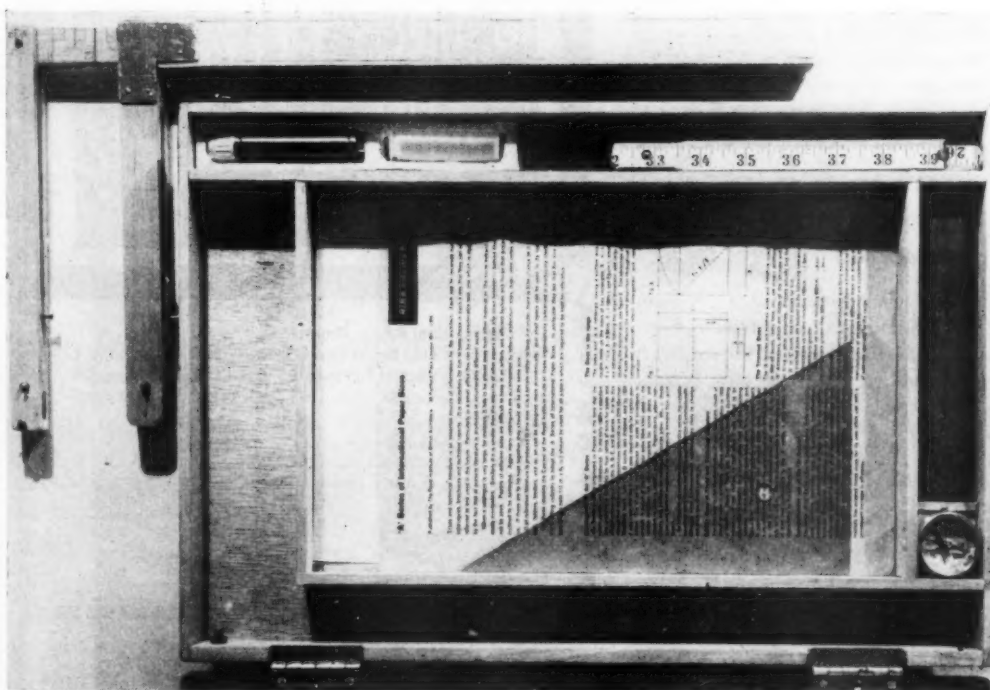
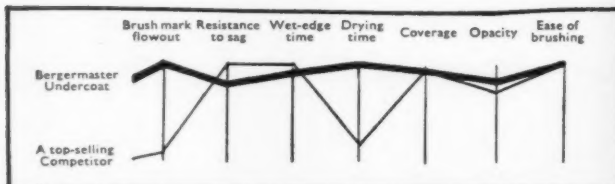


Fig. 1. Survey board designed and used by Robert I. E. Haynes, A.R.I.B.A. The board is constructed in the form of a shallow box which contains notepad, scale, compass, folding rule, pencils, an expanded polystyrene cradle for holding a torch and a phial of powder that turns drain water bright green and a device for measuring the diameters of pipes and the thickness of walls and partitions up to 24 in., "regardless of the projection of architraves, frames, sills, etc."

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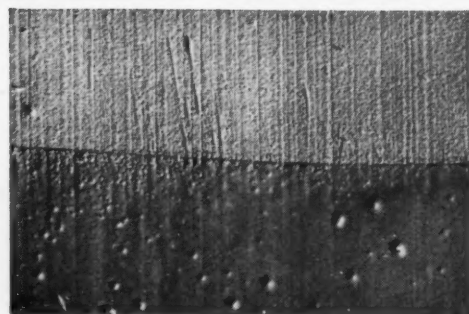
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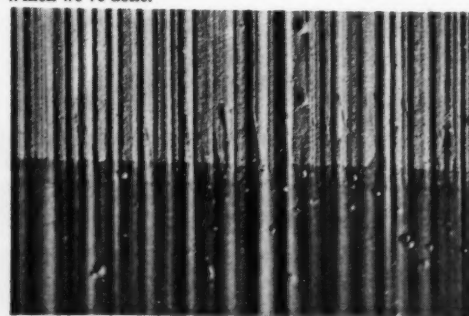
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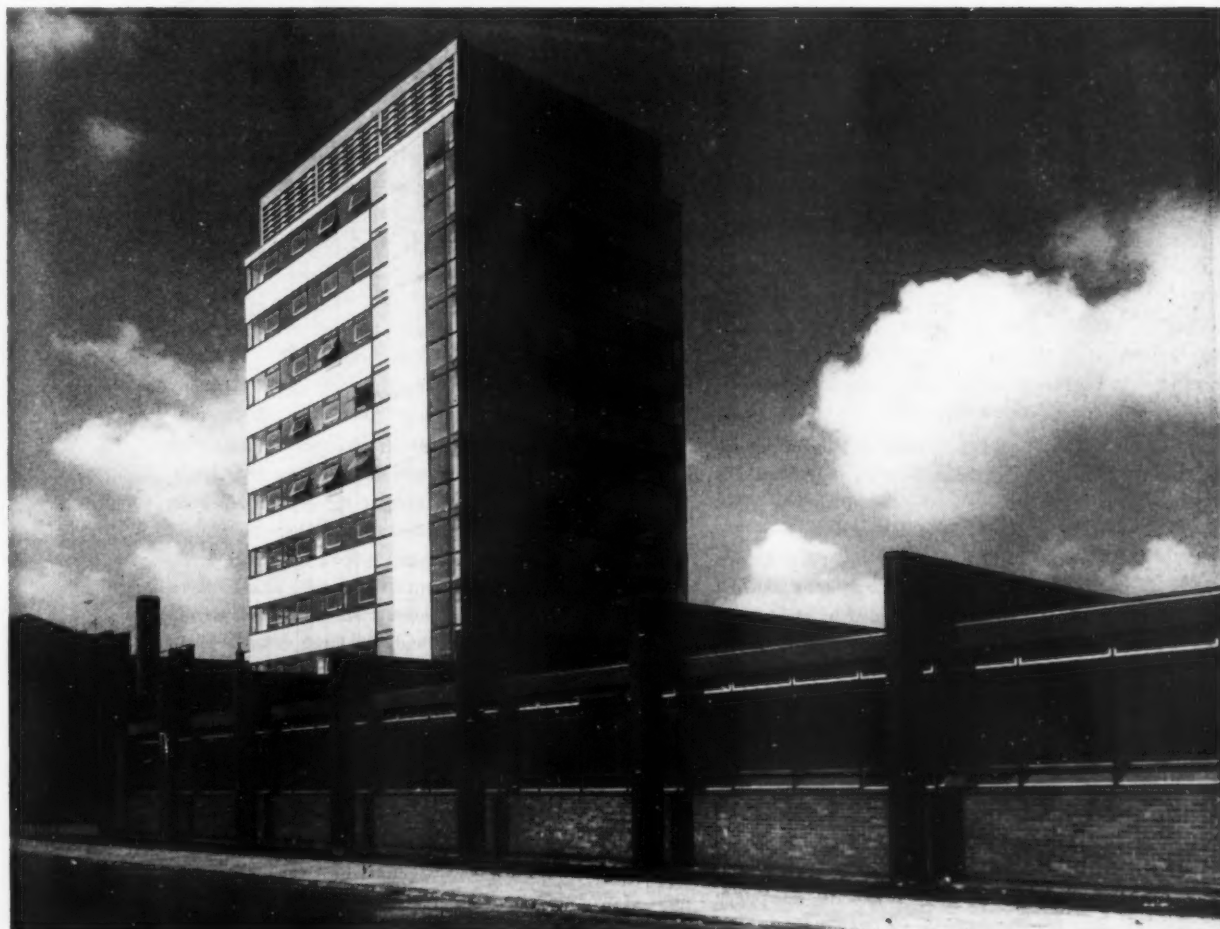
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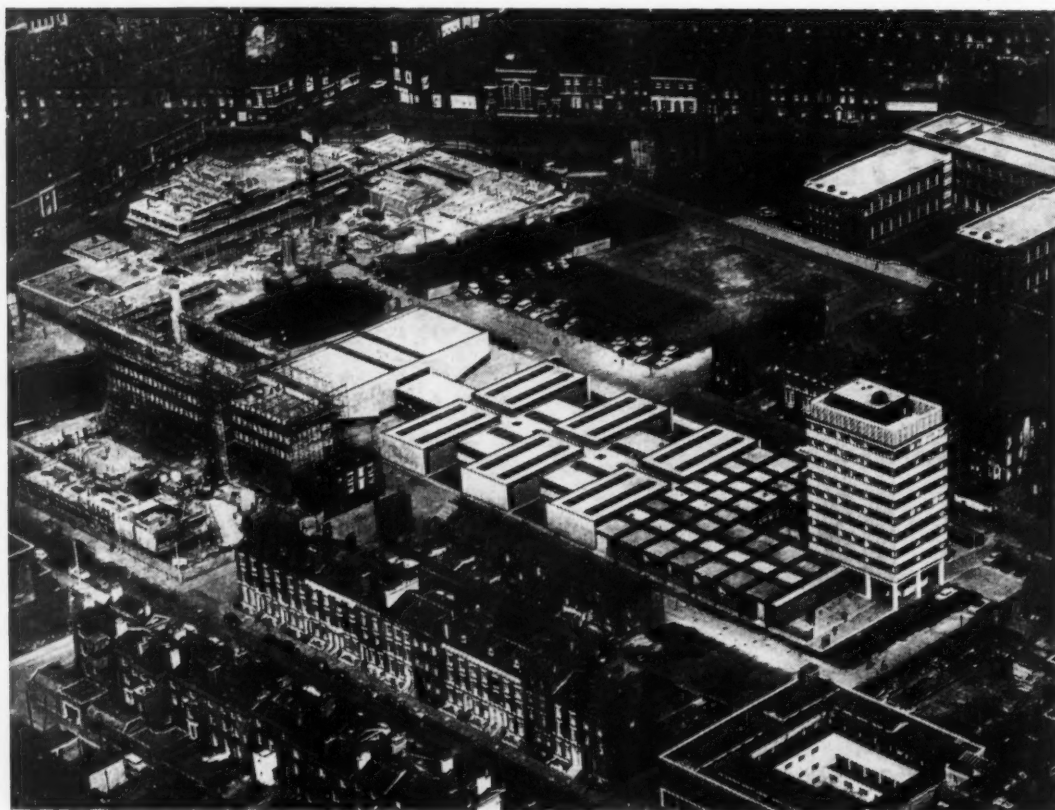
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Liverpool's new physics building is among the first important university extension schemes to be completed in Britain, and it is all the more satisfactory that the building does credit to the University, and marks a clear break with the rather deplorable building record our universities have built up over past years.

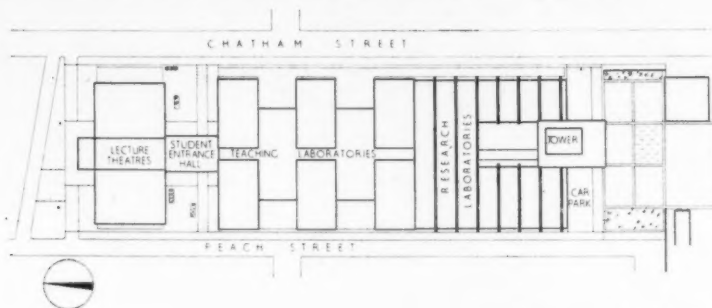
The tower block from the north-west, with the research laboratories in the foreground.



building illustrated



The site from the south, an area of condemned slums and derelict property to depress the most imaginative.



Site plan [Scale: 1 in. = 160 ft]

Liverpool University intends to increase its student population from 3,650 to 5,000 by the mid-1960s, and its building programme has begun with new science buildings of which this is one of the first, and the most distinguished.

The site lies between the Architecture and Civic Design schools to the south and the main Administration and Arts building to the north. It is still surrounded by condemned slum property, its northern boundary is a filthy railway cutting and the site itself is plagued with a deep bed of pre-glacial peat, which made the building of any high structure expensive.

The limitation was responsible for the decision to keep most of the buildings to one-storey height and build high (to 121 ft.) in a restricted tower block only. Only the tower block is piled and the remainder of the buildings are on normal concrete foundations, though the exceptionally bad ground conditions meant deeper bases to some stanchions than had originally been anticipated.

Sketch schemes were designed on three storeys and then on two storeys in an attempt to avoid piling, but single-storey construction was the limit of the ground's bearing capacity, and a cost comparison showed that the present scheme was the cheapest solution, despite the tower block, though it would have been interesting to be able to see a comparative analysis of the three. One could then try to balance the difference in cost with the inconvenience which is undoubtedly caused by having tower accommodation, and judge whether the chosen solution was worth while.

The result is four buildings strung out in a line on the rather narrow site, each of which has been treated as a separate entity, the tower block, smooth, sophisticated, with its frame recessed within a thin curtain wall; then the research laboratories with a roof suspended from bold, exposed reinforced concrete frames and a totally different scale of fenestration, followed by the teaching laboratories, with massive brick load-bearing walls faced externally with

marble and spanned internally with light steel trusses, and finally the lecture theatre block which, though faced again with marble, uses a hidden reinforced-concrete frame and prestressed concrete wall panels.

Similarly with the interior design, there is a wide variation from the careful timber modelling in the lecture theatre, reminiscent of Scandinavia, through some rather square-cut but clean softwood detailing in the laboratories, to the poise of the tower block, whose entrance hall reminds one of buildings seen south of the Alps. Each is exhilarating and well done in its own way, but they are rather strange bedfellows when seen cheek by jowl.

The three lecture theatres cantilever dramatically outward from a central core which balances two smaller halls, containing 100 seats and 80 seats, against the large, 300-seat auditorium, while store rooms, preparatory rooms, cloakrooms and boiler rooms (the last now used also for storage since a large heating plant for the whole University precinct has been decided upon) make up the basement. The rake of the seating determines the underside of the cantilever, as can be seen (p. 150) from the ramps to the entrance link between this building and the teaching laboratories. Thus the form of this block is very expressive of its use, and a breakdown of its structural cost shows that it is not an expensive gimmick (in spite of its finishes and air conditioning, it was cheaper per square foot than the tower block), while it gives shelter to bicycles and cars below.

The prestressed-concrete flanking walls are faced with honed Derbydene stone, and this intermediate finish between riven and polished stone has failed to get the best out of the material. Already it looks rather tired and dirty in the Liverpool grime, and on wet days it stains irregularly and from a distance is almost indistinguishable from concrete. The gable ends are faced with mixed grey and blue glass mosaic, which has not sufficient tonal contrast with the Derbydene stone, and one is left with a feeling that value for money has not been got from the expensive external finish to this unit.

Internally, much use has been made of timber and there is an immediate sense of mastery of materials and a sureness of touch. The lecture rooms have a quiet yet luxurious atmosphere, and attention is focused firmly on the demonstration bench while the knuckle-boarded walls give good hearing conditions. All three theatres are windowless and completely air-conditioned. The original scheme with ventilated rooflights was seen to be quite inappropriate because of the very elaborate precautions which would have had to be taken to provide 100 per cent blackout and still retain ventilation. There was also the problem of the noise and dirt from the railway cutting. In fact, the omission of natural light from these rooms has met with general acceptance.

The store below the lecture theatres is the principal intake point for all laboratory materials and equipment, and from here it is fed to the preparation rooms above and the teaching and research laboratories. Goods are lifted to ground level by hoist and taken by trolley to their destination. There is a bad fault here, however, in that there is a flight of six or seven steps from lecture room level to the entrance lobby down which the trolley has to be manhandled. This, happily is not too frequent an occurrence since there is very com-

modious underbench storage which holds a considerable reserve of materials, but it must be a correspondingly heavy job when materials have to be replenished.

The entrance hall to the lecture theatres is a generous space of very pleasant proportions and simple, straightforward detailing. It is dominated by a decorative mosaic mural, 30 ft. × 8 ft., designed by Geoffrey Clarke, which communicates a brooding melancholy quality.

This has been illuminated, as its position and general colouring were so dark as to preclude appreciation of the very subtle tonal variations in the large, dark areas.

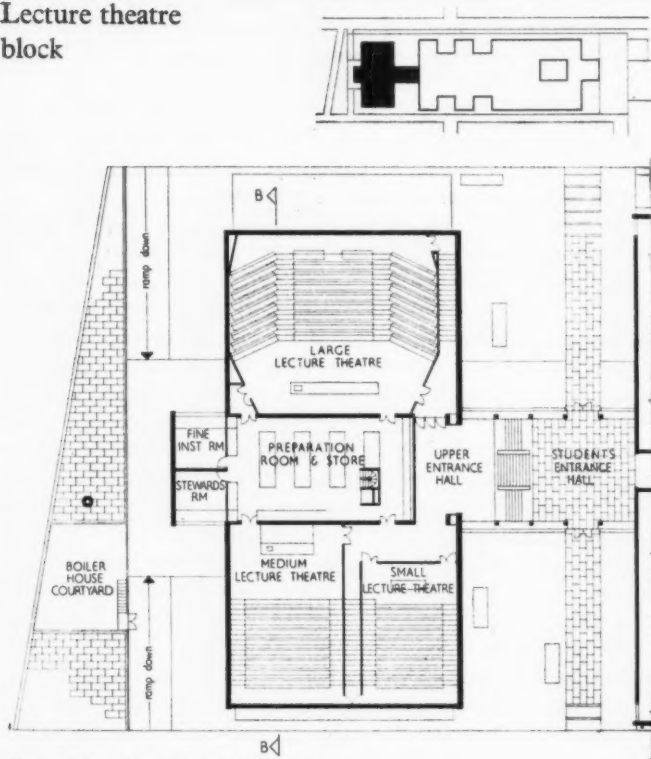
The double doors to the link on both sides are very exposed. They have no protecting canopy and only open outwards, so that in heavy rain the inadequate door mats and a considerable area of the lobby are awash as students go in and out. The problem is aggravated by the ramps becoming dead level for the last 14 ft., so that water blows under the toughened glass doors, which have no threshold. (Incidentally, although the ramps have a riven slate finish, they may be very slippery on icy winter mornings.)

Below the entrance link are the main cloakrooms and lavatories for the whole scheme, facilities which seem somewhat meagre, but have been installed as specified by the clients. They are adequate for the students who are using the building regularly, but become very much overcrowded sometimes when students from other faculties are also using the lecture theatres. The architects found great difficulty in getting a forecast from the clients on student population and future use, and it seems high time that some research was insisted upon by university administrators and some agreed standard of space and sanitary provision arrived at. The only other provision in this case is at the other end of the building, in the tower block, which necessitates a long walk for those using the teaching and research laboratories. There are lockers for the physics students below the entrance hall, other users are provided with coat pegs near the lockers since few students from other faculties coming only for one or two lectures a week are likely to want to rent a locker.

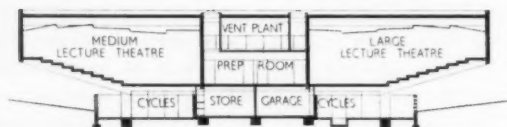
The teaching laboratories are very successful. They are beautifully scaled and the detailing throughout is well considered. Doors, heater grilles, window transoms, bench tops, blackboard shelving, have all been disciplined into well-ordered compositions, and the effect is heightened by well-chosen colours. The only dubious note is struck by the white painted trusses, which are fussily detailed and one fears for their crispness when a year's soot lies on the hundreds of exposed bars. In the small laboratories between the main rooms the trusses are less happily to scale: the span is the same and therefore, in section, the much lower ceiling height makes them appear oppressive. The central corridor, like the big laboratories, is admirable; particularly notable is the framed roof light and its suspended louvres which are related to the doors on each side of the corridor (p. 152). These laboratories have proved successful from the functional aspect also: the top light gives an even, adequate level of illumination, and leaves a valuable unbroken expanse of wall surface below the clerestory lights, which can be used to mount experiments. Particularly interesting are two recessed metal channels (p. 152, bottom) about 2 ft. apart to which can be clamped a wide variety of equipment

building illustrated

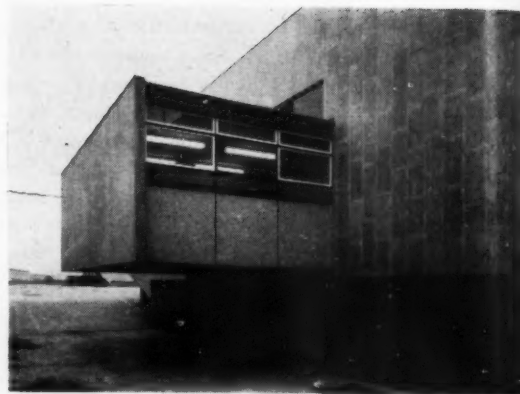
Lecture theatre
block



Ground floor plan [Scale: $\frac{1}{4}'' = 1' 0''$]



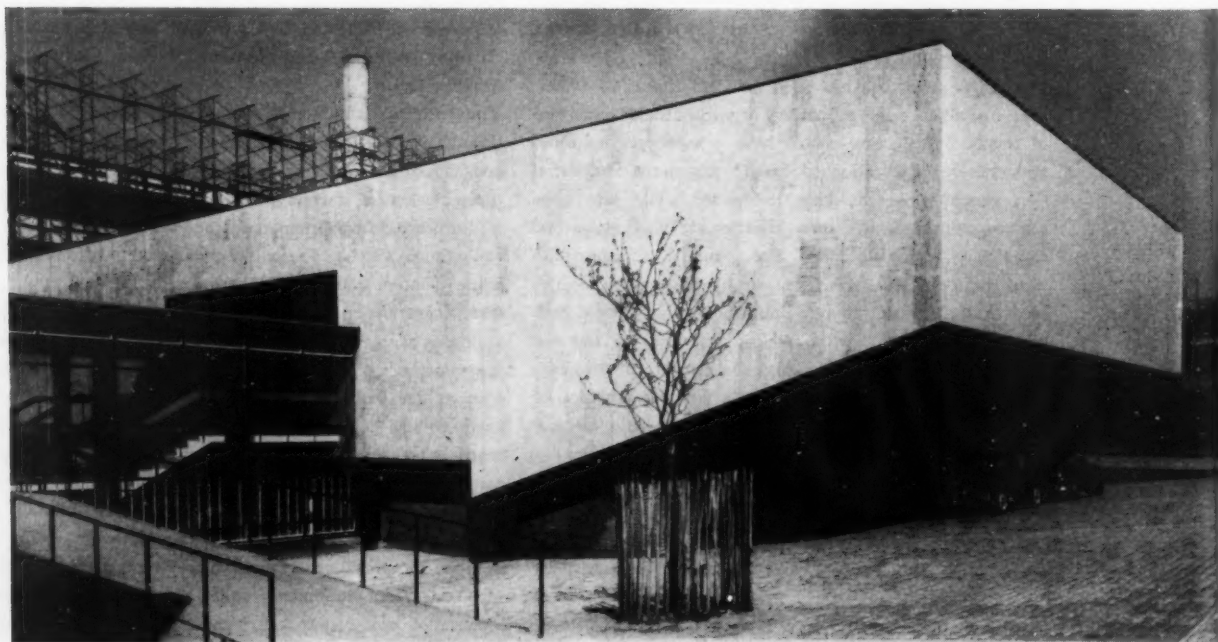
Section BB



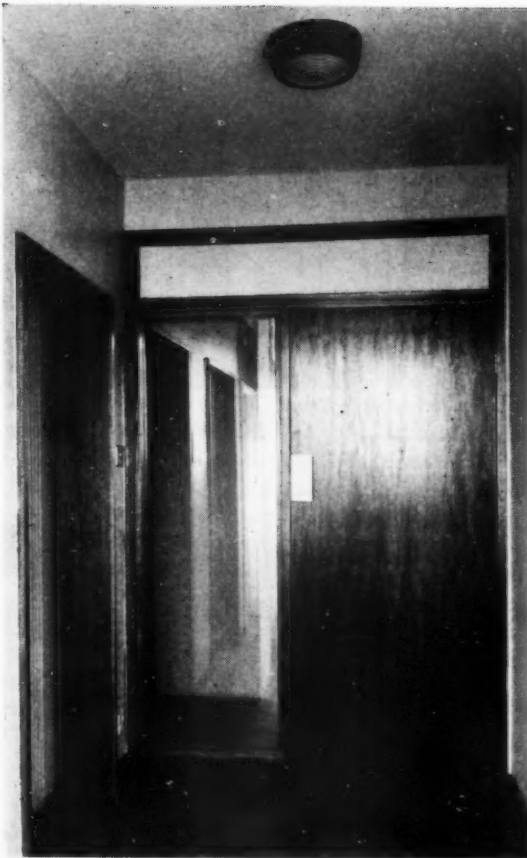
Rear view of the lecture theatre block, showing the doors to the boiler house and store rooms and the cantilevered laboratory.



The main lecture theatre is completely air-conditioned (see inlet and extraction grooves over doors and in the suspended plaster ceiling) and artificially lit. The benches are comfortable and the acoustics excellent.



The lecture theatre block and entrance hall from the east. Two smaller theatres balance a large auditorium about a service core and cantilever dramatically over the site. The detailing is precise and clean, but there is a lack of contrast between the mosaic end wall and the marble flank wall. The outward-opening entrance doors suffer from want of a canopy.



The hardwood and glass fire screen between the lift entrance and the corridor in the tower block. Detailing is simple but luxurious.



Detail of door into lecture theatre, showing the excellent detailing of the knuckle boards and their cutting around ventgrille, architrave, and light switch.

without the need for plugging the walls. They have also been used for fixing fire extinguishers and towel rails. The floors are finished in 6-in. \times 6-in. parquet mahuhu blocks, which are more successful than the cork tile in the corridor, which has to take a great deal of foot traffic and is already looking shabby.

The benches are framed up in softwood in 4 ft. 9 in. \times 1 ft. 6 in. units faced in either gaboony-faced blockboard or selected West African mahogany. The bench tops are 2 ft. 6 in. wide and are framed up separately so that they cantilever forward to provide continuous knee room. Island benches are of the same construction placed back to back with a duct down the centre. The only service other than the normal gas, water and electricity is compressed air, which is generated in the basement of the tower block and piped to all laboratories in the building and to the demonstration benches in the lecture theatres. The electric wiring has caused some annoyance, in that if the current was turned off to the benches in one laboratory it not only stopped the clock there but the clocks in laboratories three rooms away! The heating system too has exhibited symptoms of inadequate consultant engineering, some rooms being badly under-heated, others unevenly heated, and it has taken a good deal of trial and error—at the expense of considerable goodwill by the clients—to eliminate temperature gradients of 64 deg. F. at the demonstration bench to 80 degs. at the top seats, in the lecture theatres. Architects are entitled to better service than this from their specialists.

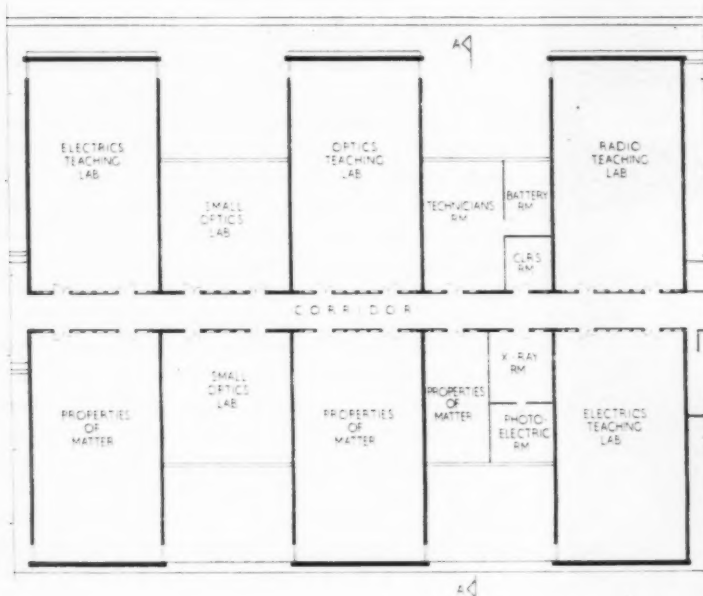
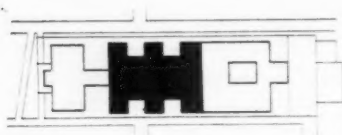
The research laboratories have an r.c. frame which is taken outside the building and the roof suspended from it. The flashing problems are immense, although there is the obvious merit of a flush internal ceiling which enables partitions to be moved around at will. The architects were not asked for movable partitions, however, and in fact the partition walls are in breeze block and would be messy to demolish. The services are kept to the external walls and structural columns: since research requirements change so rapidly there would seem to be a strong case for demountable partitions in future schemes. Contained in this block is an anechoic chamber which simulates sound conditions 10,000 ft. above the earth, which has an elaborate sound insulating construction with a system of fibre-glass wedges projecting from all surfaces of the room.

From the central corridor of the research laboratory block one has to run the gauntlet of an open-sided, glass-roofed loggia across an open courtyard to get to the tower block. Liverpool is a wet, cold and very windy city for much of the year, and on such days the loggia is useless for weather protection.

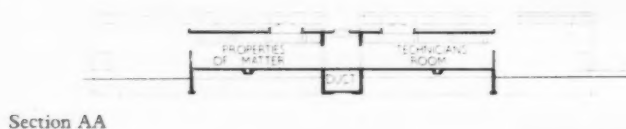
The tower block is a very successful building. Externally its blue-grey mosaic spandrel panels give a quiet feeling of luxury to the flat, well-proportioned façades. The steel framed windows and infill panels are kept clear of the columns, allowing a sheer wall face which has no gutter at first floor level, yet strangely does not produce an unbearable "water-fall" in heavy rain. The tiny metal transoms seem to break up the flow and scatter the water over a wide area.

building illustrated

Teaching laboratories



Ground floor [Scale: 1/4" = 1' 0"]



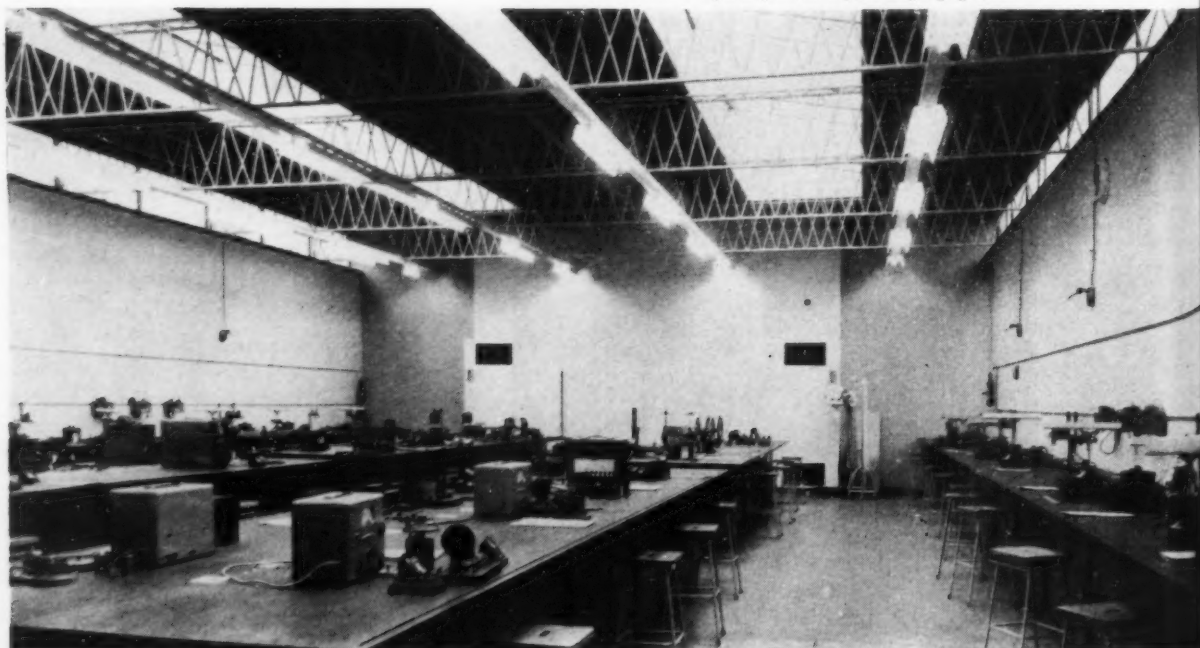
Section A-A



Central corridor in teaching laboratory block. Note the careful detailing by which doors, artificial and natural daylighting are combined into clearly defined units at regular intervals.



The teaching laboratory: the inside of this block has been carefully considered and is very successful. Note the heat grilles and the glazed side frame to the door, which can be opened for access for bulky equipment.



The teaching laboratory: the lattice girders are bolted to a continuous r.c. padstone which rests on load-bearing brickwork, thus eliminating stanchions. Laboratory furniture generally was made by the general contractor. On the walls are the channels for carrying equipment.

Internally the two-way "waffle" ribbed floor system produces a flat ceiling in which the heating is embedded. Again, the internal elevations are well considered. There are two lifts running at 200 ft. per minute, and the lavatories, main riser duct and staircase are together on the north side of the building, which goes some way to answer a criticism that the tower overlooks an enormous expanse of roof and roof lights. In fact, only one corner laboratory has this aspect, and it has windows on the west as well.

The north-east corner has a curious 15-in.-wide corridor between the frame and the window, which seems to be a prolific waste of floor space in a tower block and has obviously been an aesthetic embarrassment to the design. The columns were set back from the face of the building in order to allow the services to the wall benches to continue uninterruptedly along the wall, and the architects were left with a wall face which they could fenestrate without being shackled too rigidly to the structural grid. As a result, however, at each half-landing they were faced with an edge beam about chest high, which looked very odd spanning the window in isolation. A wall was therefore built on the line of the beam, so that a presentable appearance is given to the staircase and the incongruity only shows from the outside.

For the length of this 15-in. corridor, however, it has proved impossible to reverse the windows so as to clean them from the inside. All the windows in the block were designed to be cleaned from within, although in places the reach is excessive for a small man and therefore dangerous. At the completion of the job, however, a conference was held with the university window cleaning contractor, who said he would be happier doing the job from a suspended cradle. A roof gantry is therefore being added to the building as an extra to the contract.

The main entrance hall is straightforwardly detailed and is very pleasant indeed. The entrance is protected by restricting its line one bay in from the tower proper, so avoiding the weathering problems of the other external doors.

The external works are not yet complete, but much use has been made of secondhand granite sets which abound in Liverpool, and the forecourt of the tower block in particular should be very elegant when complete, with its raised pool and planting.

CLIENT'S REQUIREMENTS

To provide accommodation for three lecture theatres, six large and four small teaching laboratories, one large research area for heavy equipment, which could be subdivided to suit changing requirements; a library, several laboratories for research using light equipment, areas for the study of theoretical physics and a certain amount of space for administration.

PLANNING AIMS

Several plan arrangements were investigated and it was decided that the best solution was a single-storey development for teaching, lecture theatres and research requiring heavy equipment, and where the majority of students and postgraduates would work, with a tower building to house the other research laboratories, administration, and quiet areas for theoretical study. This was also the most economical solution, as the single-storey

development could be of a load-bearing structure with a reinforced concrete tower at one end.

SITE

The site is a rectangle, approximately 568 ft. \times 173 ft., orientated north and south, and is part of a slum clearance area being developed by the University. Site conditions were unsatisfactory and it was found to be much more economical to have a concentration of piling and framed structure at one end and light foundations over the rest of the site.

SUMMARY

Ground floor area: 53,594 sq. ft.
Total floor area: 87,923 sq. ft.
Type of contract: RIBA with Bills of Quantities with fluctuations.
Tender date: June 5, 1957.
Work began: August, 1957.
Work finished: November, 1959.
Tender price of foundations, superstructure, installations and finishes: £477,076.
Tender price of external works (including drainage) and ancillary buildings: £17,416.
Total: £494,482.

Preliminaries and insurances

8 d

Contingencies

6 9½

1 5

Work below ground floor level

6 6½

Reducing surface levels

Strip foundations, column bases, piling, basements.

Surface beds and hardcore underneath.

STRUCTURAL ELEMENTS

Frame or load-bearing element

8 0½

Prestressed and reinforced concrete to lecture theatres.

Load-bearing brickwork to teaching laboratories and research area.

Reinforced concrete to tower block.

External walls

9 1½

Lecture theatres: 1 ft. 3 in. prestressed concrete walls faced with 1½-in. honed Derbydene with ½-in. airspace behind stone. End gable walls are 12-in. prestressed concrete faced with *in-situ* Kosta mosaic, grey/blue random mix.

Teaching laboratories: 11-in. cavity load-bearing walls. End gable walls to large teaching labs, 13½-in., faced with 1½-in. honed Derbydene stone. Spandrel panels to small teaching labs. of precast concrete faced with Kosta mosaic.

Research area: 11-in. cavity brick walls.

Tower: Precast concrete mosaic-faced panels (self supporting), with 3-in. insulating block.

Ratio: $\frac{\text{solid walls}}{\text{floor area}} = \frac{0.564}{1}$

Windows

5 0½

Hot-dipped galvanized.

Ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0.212}{1}$

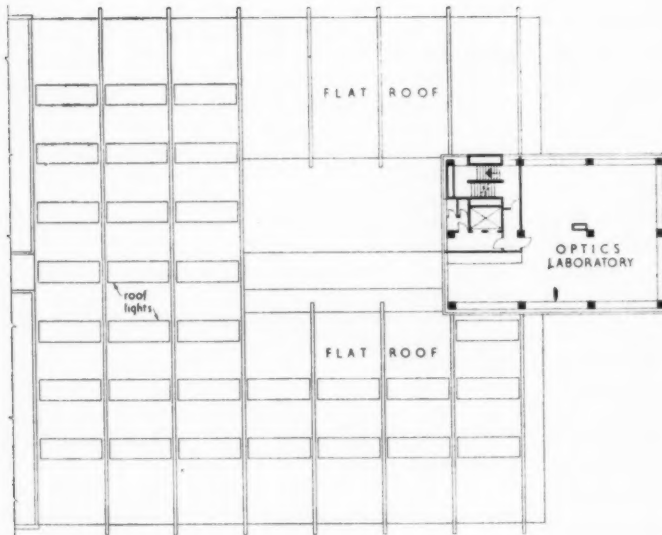
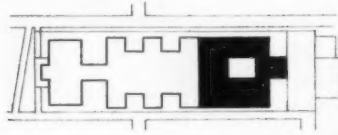
External doors

7½

8 pairs of steel framed, toughened glass, double

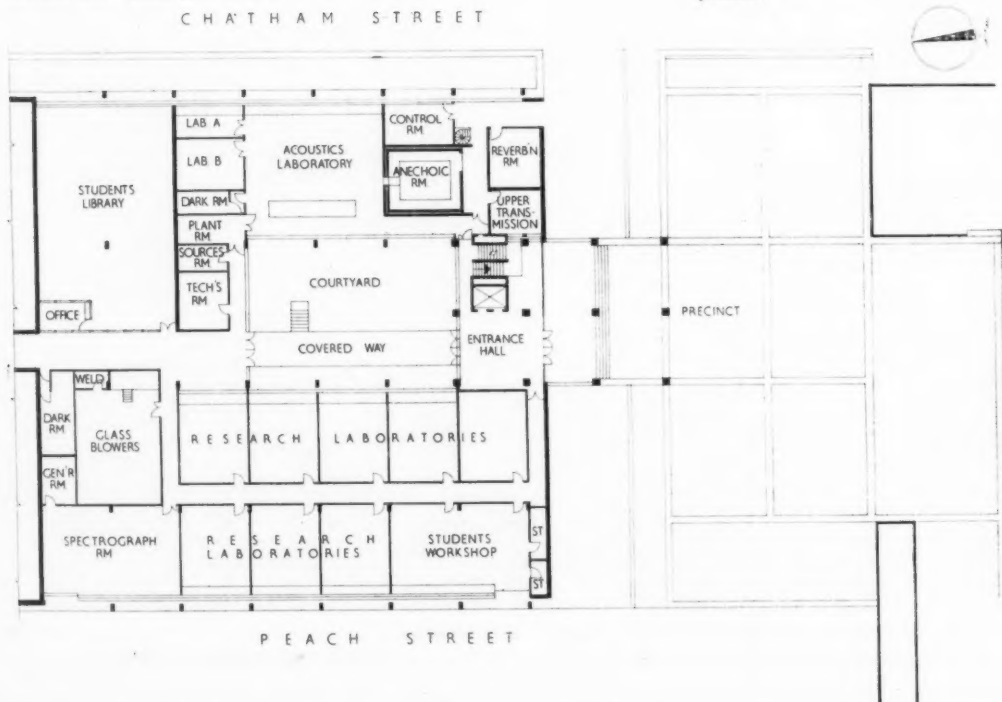
building illustrated

Research
laboratories and
tower block



First floor

Ground floor [Scale: $\frac{1}{8}'' = 1' 0''$]



Detail of the exposed r.c. frame over the research laboratories. The felt upstands to the beam look unsightly on some of the frames.



The main entrance to the tower block, which is raised on stilts at this point. The intersecting planes and the horizontal r.c. subframe which corrects the scale of the otherwise spindly pilotti have been cleanly resolved. The forecourt is not yet finished.

doors with hardwood push/pull plates.
5 special steel shutter doors.

Upper floors

Tower block: 16-in. r.c. pot floor with 12-in. × 12-in. × 12-in. pots, concrete topping and ribs in both directions. Beams formed in depth of slab.

Staircases

Students' entrance: r.c. *in-situ* with terrazzo finish. Width, 8 ft. 8 in. Total rise, 13 ft.

Tower: r.c. *in-situ* with 6-in. concrete spine wall precast concrete treads, fairface risers. Width, 4 ft. 1 in. Total rise, 109 ft.

Roof construction

Type of construction	Area of each type
5-in. reinforced concrete	50 sq. yds.
10-in. ditto	100 sq. yds.
13-in. ditto	160 sq. yds.
9-in. hollow tile	1,595 sq. yds.
12-in. ditto	194 sq. yds.
16-in. ditto	227 sq. yds.
5-in. precast concrete slabs	817 sq. yds.
3-in. heavy duty woodwool	2,048 sq. yds.
Steel trusses and purlins to teaching laboratories.	
V-shaped truss, 2 ft. 5½ in. deep spanning 37 ft. 6 in.	
4-in. × 3-in. × ½-in. steel T purlins at 3 ft. centres.	

Rooflights

Standard patent glazing with rough cast georgian wired glass.

In library, double glazed.

In research area, in r.c. upstands.

In teaching lab. area, on timber-framed upstands.

Type of rooflight	Location	No. of each type
30 ft. × 9 ft. 3 in.	Small teaching labs	4
4 ft. 6 in. × 4 ft. 6 in.	Spine corridor	10
54 ft. 7½ in. × 6 ft. 0 in.	Large teaching labs	12
17 ft. 6 in. × 4 ft. 6 in.	Research area	30

Glazing

Polished wire plate to lecture theatre doors.
Side screens to fire doors in tower block.
Rough cast wired glass in large fanlights.
Plate and sheet glass generally.
Acid etched glass in lavatories.
Polished plate to library screen.

Total of structural elements: 33s 8½d

PARTITIONS AND FITTINGS

Internal partitions

Type of partition	Area of each type
2-in. precast concrete solid blocks	132 sq. yds.
3-in. ditto	502 sq. yds.
4-in. ditto	1,671 sq. yds.
12-in., consisting of two 3-in. ditto with cavity between	157 sq. yds.
12-in. consisting of two 4-in. ditto with cavity between	88 sq. yds.

s d

4-in. stud partitions covered softwood panelling, compressed chipboard, or expanded metal

3 2½	lathing and plaster	938 sq. yds.
	11-in. cavity brickwork	1,585 sq. yds.
	11½-in. ditto	424 sq. yds.
	13½-in. brickwork	223 sq. yds.

1 0 Screens

Glazed hardwood.

s d

Internal doors

1½-in. solid core alderfaced ply flush doors, painted.

1½-in. and 2½-in. solid core veneered fire door in tower block.

3 3½

West African mahogany glazed doors to large lecture theatres.

No. of single, 138: pairs of double, 4: 1 and 1/3rd (one fixed leaf), 38: Treble doors (single swing each door), 1.

Ironmongery

Anodized aluminium with lever furniture.

Fittings

Laboratory benches, tables, fume cupboards, notice boards, cupboards, chalk boards, lecture theatre seating, workshop benches.

2 4½

Total of partitions and fittings: 15s 9½d

FINISHES

Floor finishes

Type of finish	Area in sq. yds.	Cost per sq. yd.
½-in. granolithic on screed	108	13s 3d.
1½-in. granolithic	375	11s 7d
½-in. black quarry tiles on screed	762	46s 1d
6·7 mm. linoleum on screed	2,233	39s 0d
1-in. wood block on screed	4,170	41s 1d

Wall finishes

Generally plaster on block or concrete walls.

Knuckle boarding to lecture theatre walls.

6-in. × 1-in. West African mahogany boarding to latecomers' corridors.

Small areas of pine boarding (European redwood) in male students' lockers (basement entrance)

Cement glaze, smooth spray finish, to lift core and staircase of tower block, and in lavatories, spectrograph lab, glassblowing lab and workshop.

Ceiling finishes

Lecture theatres, suspended plaster ceiling, with acoustic treatment.

Spine corridor, perforated hardboard on battens with fibreglass infill.

Teaching laboratories, sprayed acoustic plaster on woodwool slabs.

Library and acoustic lab, patent suspended ceiling.

Research area generally and tower block ceilings, plaster on pugging between hot water heating coils.

Tower entrance, 3-in. × 1-in. V-jointed mahogany strip.

1 5½

0½

9½

4½

13 1

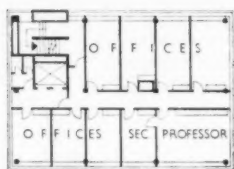
5 6½

4 6½

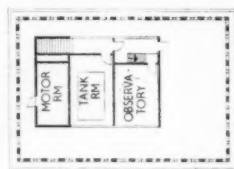
2 2½

building illustrated

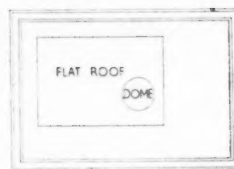
Tower block:
eighth floor



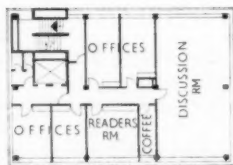
penthouse



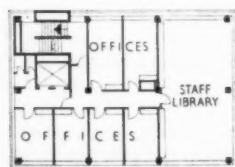
roof



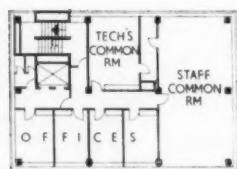
seventh floor



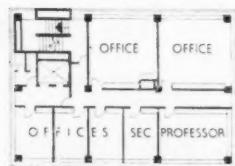
sixth floor



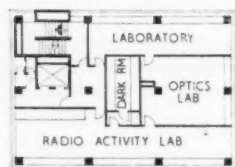
fifth floor



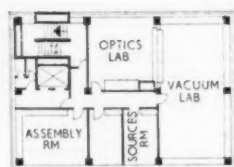
fourth floor



third floor

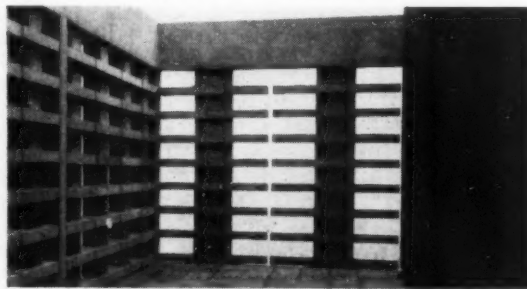


second floor



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

Roof level on the tower block. The precast concrete screen is lower than the tank room and does not mask it from a distance. The precast fins are cast separately and grouted together with joggle joints and $4\frac{1}{2}$ -in.-diameter mild steel bars.



A general view of the tower block from the south-east, with the single-storey brick-clad research laboratories abutting the recessed main entrance. The blue-and-grey mosaic spandril panels and black-and-white-painted steel windows give an air of cool elegance which should successfully withstand the industrial atmosphere.

Tower corridors, suspended ceiling of plaster and blockboard access panels.
Upper entrance hall, lecture theatres, pine strip.

Sanitary fittings

Type of fitting	No. of each type
Lavatory basins	18
W.c.s	14
Urinals	8
Cleaners' sinks for tea and coffee rooms	7
Showers	1
Laboratory sinks	90
Laboratory acid wastes	3

Heating and ventilation

The main heat source is a district heating scheme, the boilerhouse of which is on the adjacent site. Heating is by high pressure hot water at 300 deg. F, which is reduced to 230 deg F by a mixing valve on entering the site. This is fed to the two main plant rooms, located in the lecture theatres and tower block basements. Heat exchangers reduce the flow temperatures to 110 deg F for the ceiling heating panels.

Warm air plenum system in lecture theatres: under-floor heating in students' entrance. Warm

air units in spine duct of teaching labs. Heating panels in ceiling of research area and library: under floor heating and warm air over entrance doors in tower entrance; ceiling panels in upper floors of tower block.

Roof finishes

Three-layer bituminous felt on cork and light-weight concrete screed.
Area, 4,950 sq. yds.

Decorations

Emulsion on plaster surfaces; gloss on door frames, skirtings and cupboards; eggshell on doors (light colours); dark gloss on doors.
All specified under BS 101 range.

Total of finishes: 15s 9d

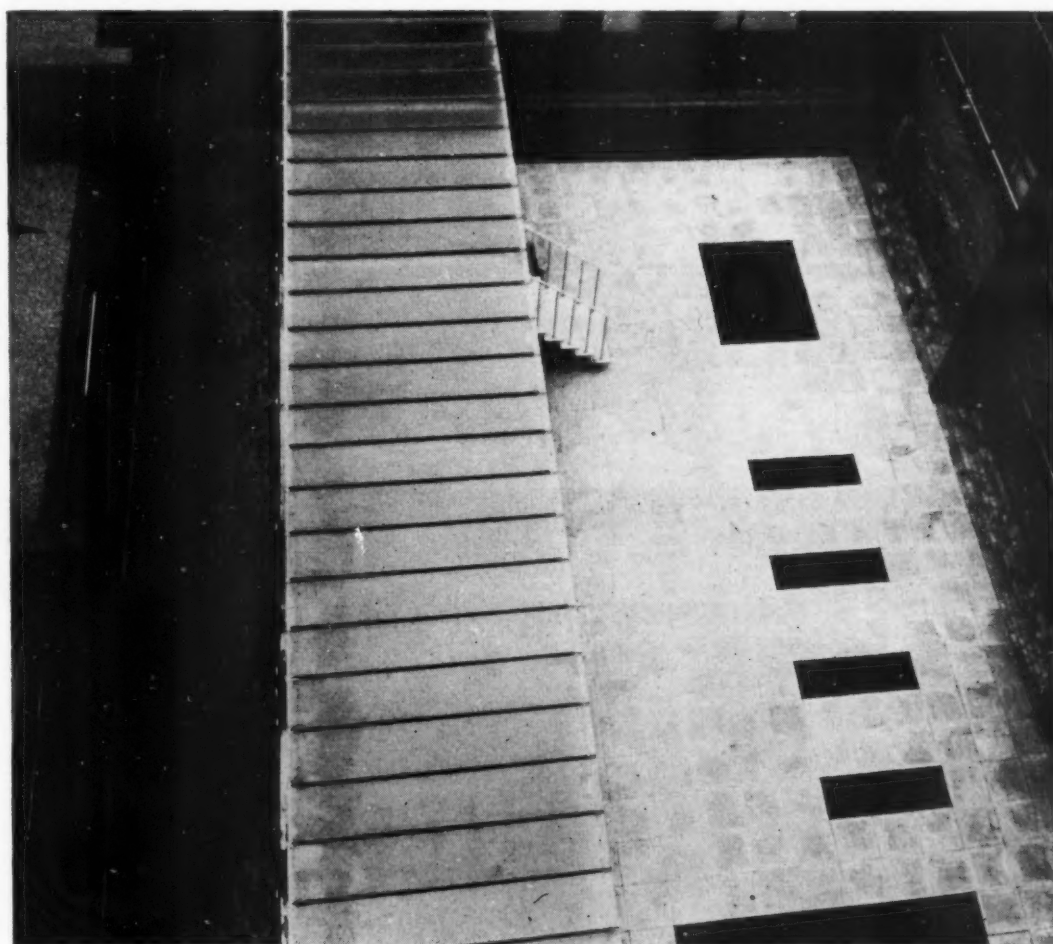
SERVICES

External plumbing

Metal box gutter and downpipes.
Covered way, cast-iron drainage in vertical ducts.

Hot and cold water installation

Cold water tank in penthouse on tower block.
Capacity, 4,680 gallons.



View from the tower block into the open court between the research laboratories. Note the exposed r.c. frame, painted black. The patent-glazed roof to the open-sided corridor is nearly flat and is giving trouble at the joints in heavy rain. This court looks cheerless on most days and very imaginative landscaping will be required to make a success of this feature.

building illustrated

Hot water is provided off main hot water service, and by local instantaneous heaters.

Gas installation

Points distributed round laboratories

Electrical installation

Type of point	No. of each type
Tungsten light points	402
Fluorescent light points	602
13-amp socket outlets	784
3-phase points	101
Fire alarm bells	23
Fire alarm pushers	27
Radio points	7
Telephones	78
Clocks	21
A.c. supply	

Lifts

Two passenger lifts serve basement, ground floor and floors 1 to 8 of tower block. Each lift carries 8 persons at 200 f.p.m.

One goods hoist in lecture theatre block serving store in basement and preparation room on ground floor.

Fire fighting installation

120 ft. hose reels are placed at convenient points on ground floor and on each floor of tower block. Total, 12.

Dry riser in outer duct of tower block.

CO₂ installation in separate bottles in laboratories, provided under separate contract, and not included in cost here.

Oxygen and compressed air

Oxygen supplied by local cylinders in glassblower's room, connected to floor ducts for distribution to special outlets.

Compressed air from 2 two-stage air compressors running at 900 r.p.m. and delivering 61·8 cu. ft. of free air per min. at 80 lb. per sq. in. pressure.

s d

Total of services: 27s 6½d

Drainage

1 9

External works

4 10½

5 7½

Total cost per sq. ft. of floor area:

£473,097 (net cost excluding external works and drainage)

87,923 sq. ft. (measured inside external walls) = 107 7½

COST COMMENTS

This analysis is a little disappointing. The cost per sq. ft. floor area of each element is the average cost of four different types of building. This averaging out is often unavoidable, but it is apparent from the appraisal that the alternative solutions to the problems raised by the site conditions were resolved in terms of cost at the design stage and therefore one would have expected a ready-made cost presentation of the final solution available in its four differing structural approaches.

The true distribution of costs is therefore cloaked and further cost study is prevented. What effect on cost, for instance, had the research lab.'s external frame with suspended roof, or the element Fire Fighting Installation on the cost per sq. ft. of the tower block only?

Certain average unit rates are available for those who want them, either printed cold, as in Floor Finishes or in the

form of ratios as in Windows $\left(\frac{5s. 0\frac{1}{2}d.}{0.212} \right) 23s. 10\frac{1}{2}d. \text{ sq. ft. })$

The windows are expensive relative to curtain walling, for they are obviously purpose-made with a large proportion of opening lights.

By a process of elimination from the total roof element cost (87,923 sq. ft. \times 3s. 3½d.: the sum total of individual roof costs), one arrives at the cost of 7s. 5d. per sq. ft. for the steel trusses to the teaching laboratory, which span 37 ft. 6 in. with T-purlins at 3 ft. centres.



Geoffrey Clarke's mural dominates the entrance hall. It is dark in tone but very effectively illuminated.

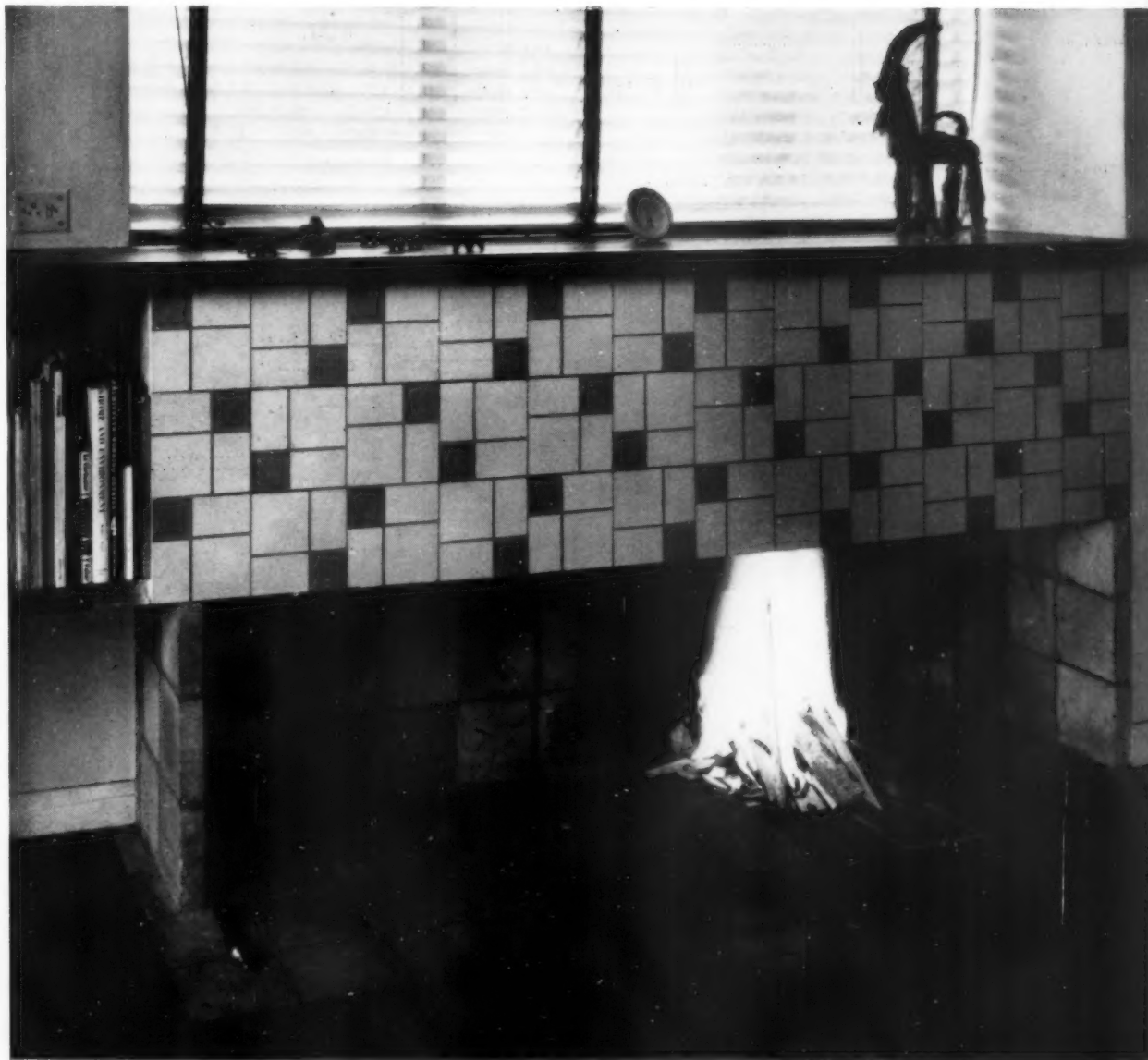
working detail

(56)

HEATING: 24

FIREPLACE: HOUSE IN LONDON, N.6

Walter Segal, architect

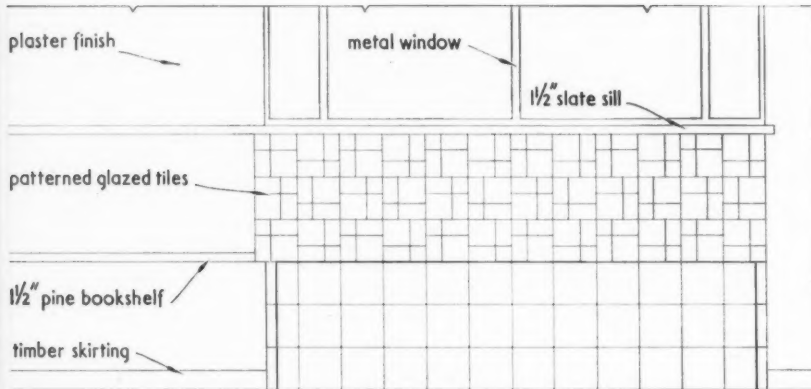


This fireplace appears to defy most of the rules of fireplace construction yet works satisfactorily, proving that the flue need not play a visually dominating role in fireplace design.

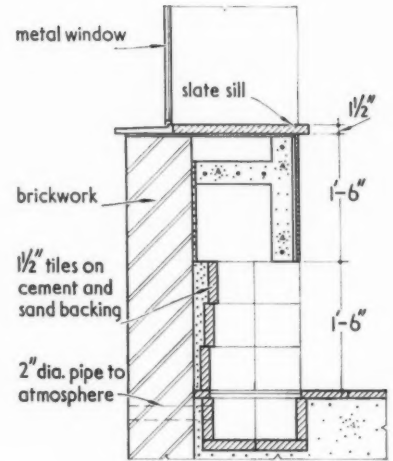
working detail

FIREPLACE: HOUSE IN LONDON, N.6

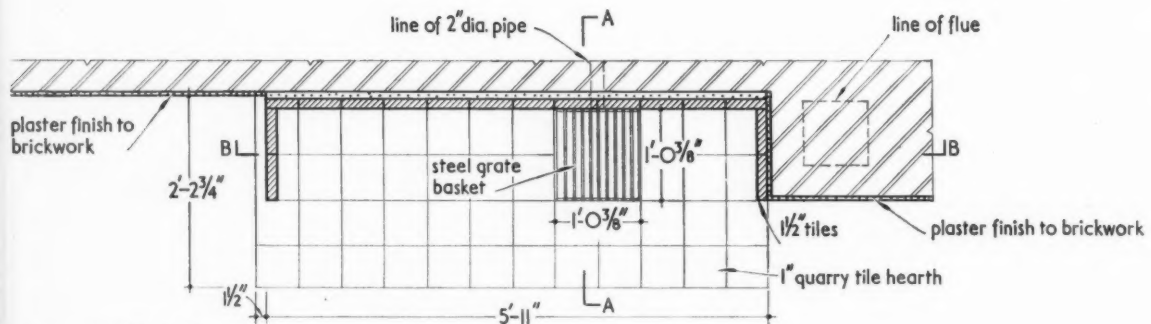
Walter Segal, architect



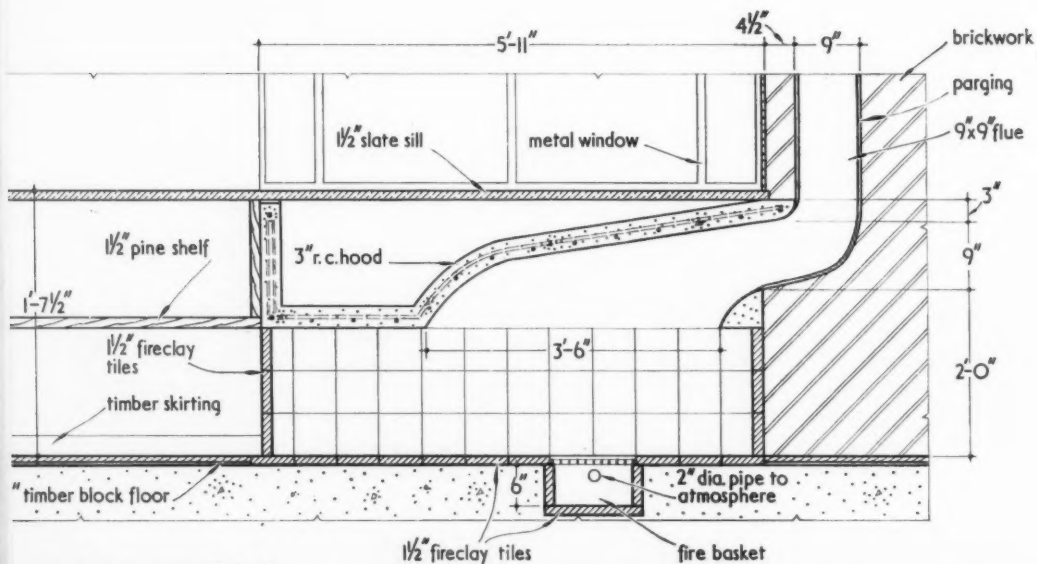
ELEVATION. scale $\frac{1}{2}'' = 1'-0''$



SECTION A-A.



PLAN. scale $\frac{1}{2}'' = 1'-0''$



SECTION B-B. scale $\frac{1}{2}'' = 1'-0''$

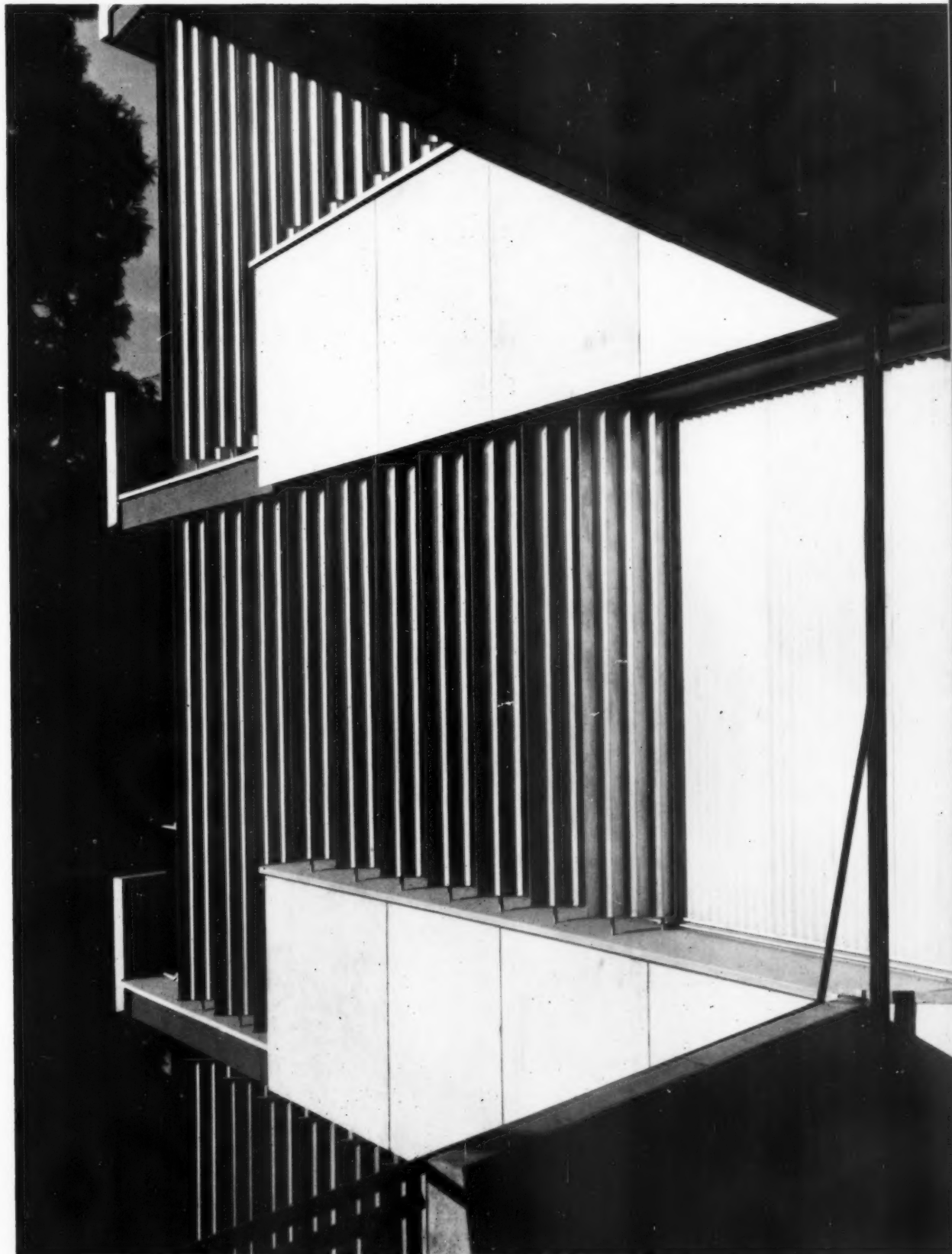
working detail

Dd

MISCELLANEOUS: 34

SUN BREAKERS: FLATS IN GENEVA

Marc J. Saugey, architect (material supplied by Dariush Borbor)

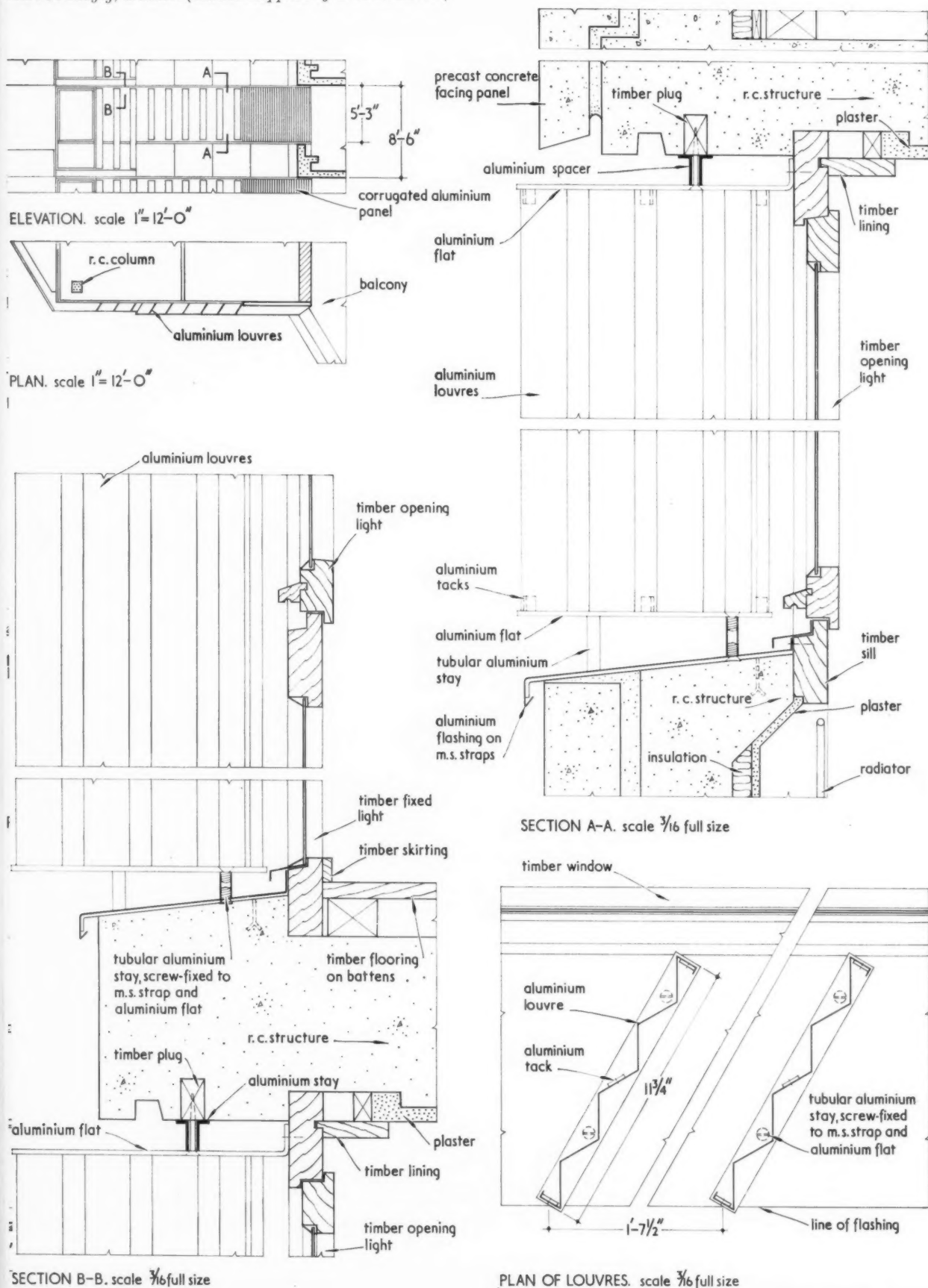


The feature to note in these fixed sun control louvers is that each louvre blade is made up of sheet aluminium pressed to a corrugated cross section.

working detail

SUN BREAKERS: FLATS IN GENEVA

Marc J. Saugey, architect (material supplied by Dariush Borbor)



note: figured dimensions in feet and inches are approximate

CELSIUS

[188]

celsius See THERMOMETER (person)

celt 1. *n.*, chisel-edged prehistoric tool (imaginary L.)

celt 2. *n.*, (*pl.*) peoples speaking or having spoken languages akin to that of the Gauls (Bretons, Cornish, Welsh, Irish, Manx, Gaels) (*sing.*) member of such people.

celtic (*adj.*; *-ically*) of the Cc. (Celtic fringe, the Scots, Irish, Welsh and Cornish, in relation to the U.K.) (*n.*) the Celtic language, celticism, celtomania, celtomaniac, celtophobe, celtophobia, *mn.* (L. Celta)

cement 1. *n.*, Substance made by calcining lime and clay, applied as paste and hardening into stony consistence, and used as material for floors and walls and tanks or as mortar: TUNNEL C. is particularly strong, rapid hardening, weather resistant c. Best C. *see* The Tunnel Portland Cement Company Limited, 105 Piccadilly, London W.1. GROsvenor 4100.

cement 2. *v.t.* Apply c. to, line or cover with c., unite (as) with c. To C. for best results *see* TUNNEL

cemetery *n.*, Burial ground other than churchyard (Gk. Koimao, put to sleep)

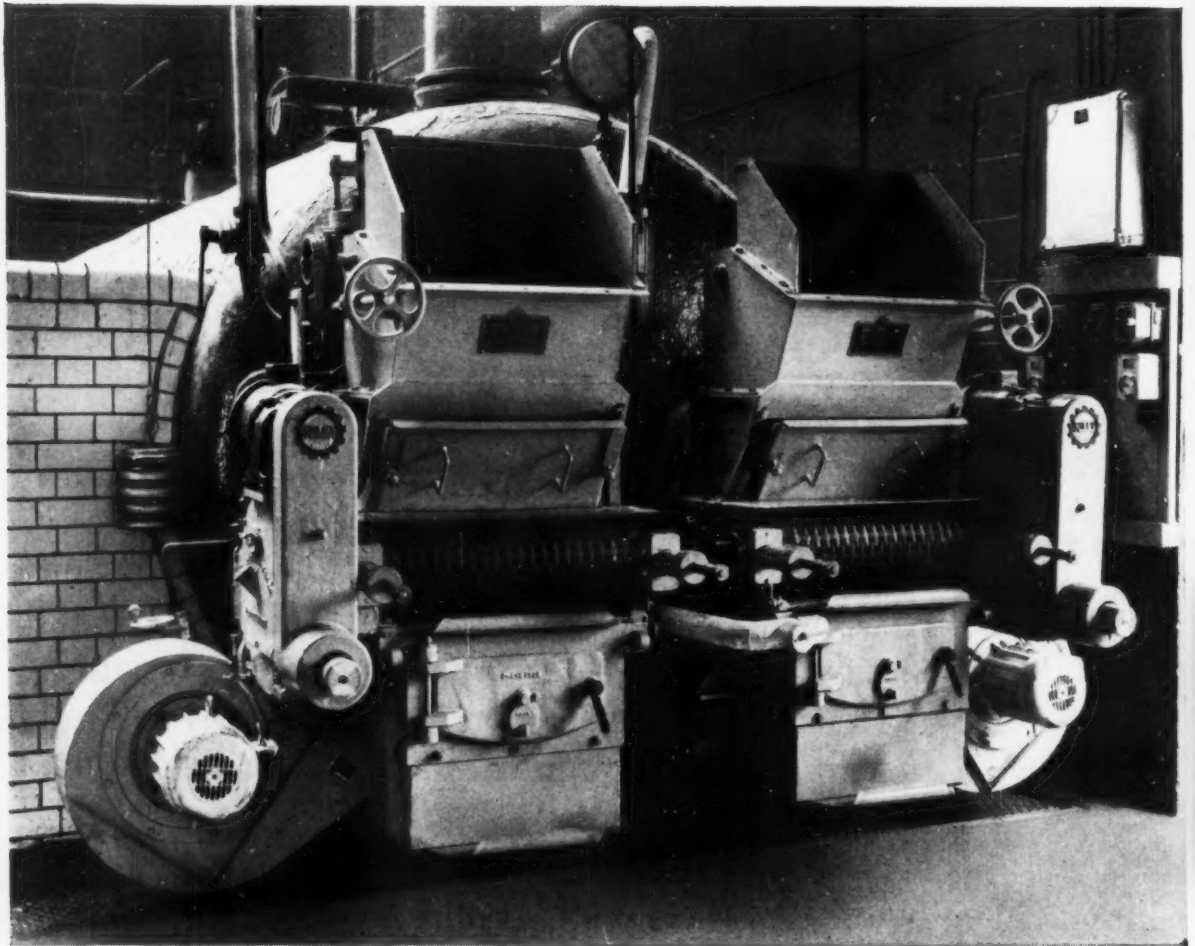
cenobite *see* COENOBITE

cenotaph (-ahf) *n.* Sepulchral monument to one whose remains are elsewhere.

censer *n.* Incense-burning vessel. Cense *v.t.* adore or perfume with incense (INCENSE 2)

ensor 1. *n.* Ancient-Roman supervisor of census and public morals; modern official examining plays books news correspondence etc

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TGA R78

building illustrated

Considering that the element Heating and Ventilation does not carry the capital cost of boilers but taps its heating and hot water from a district heating scheme, the amount of £11s. 10d. per sq. ft. floor area (£52,000) spent on this element seems a little unbalanced. Not an uncommon phenomenon in present-day building but an item that can often be glossed over when the client is satisfied with the completed scheme. The frame to the tower block appears simple and economical, although taking longer to erect than a more costly steel frame. Internal partitions are solid and inexpensive (probably some 50 per cent of the cost of demountable partitions), and apart from Heating and Ventilation mentioned above the money seems to have been spent on user requirements (fittings) and on finishings. Finishings, that is, with the exception of the roof, where 3-ply felt is adequate but not in the same cost bracket as natural stone facings.

A summing-up of the cost-picture must necessarily be as sharp and defined as its presentation, but bearing in mind the poor nature of the sub-soil, the very restricted site which must have been a critical factor to the builder in respect of plant disposal and general site organisation (a factor reflected in his tender price), and the high standard of finishings (which must have its effect on maintenance costs), the average cost per sq. ft. of 107s. 7½d. does not appear unreasonable.

CONTRACTORS

General contractors: Holland & Hannan and Cubitts (North West) Ltd. *Sub-contractors:* *Piling:* Cementation Ltd. *Metal windows and rooflights:* The Crittall Manufacturing Co. Ltd. *Stone facings:* The Nine Elms Stonemasonry Works. *Electrical installation:* B. French Ltd. *Structural steelwork, steel roof trusses, purlins and bearers:* R. Smith (Horley) Ltd. *Precast concrete paving:* Mears Bros. (Contractors) Ltd. *Wood block flooring:* Bennetts Wood Flooring (Tungit) Co. Ltd. *Spiral staircases and fire escape ladders:* S. W. Farmer & Son Ltd. *Staircase balustrading:* George Lowe & Sons Ltd. *Mosaic wall tiling:* Proctor & Lavender. *Mechanical services installation:* C. Seward & Co. Ltd. *Lift installation:* Marryatt & Scott Ltd. *Soundproof rooms:* Soundproof Construction Ltd. *Steel sliding doors:* Potter Rax Ltd. *Precast concrete cladding:* Naybro Stone Ltd. *Precast concrete roof slabs:* Celcon Ltd. *Precast prestressed roof beams:* Pierhead Ltd. *Westmorland slate paving:* Setchell & Sons Ltd. *Ironmongery:* Quiggen Bros. Ltd. *Lecture theatre seats:* Race Furniture Ltd. *Sanitary fittings:* Musgrave (Liverpool) Ltd. *Steel wall channels:* Metal Sections Ltd. *Armourplate glass doors:* James Clark & Eaton Ltd. *Cement glaze:* John Ellis.

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as listed
on request

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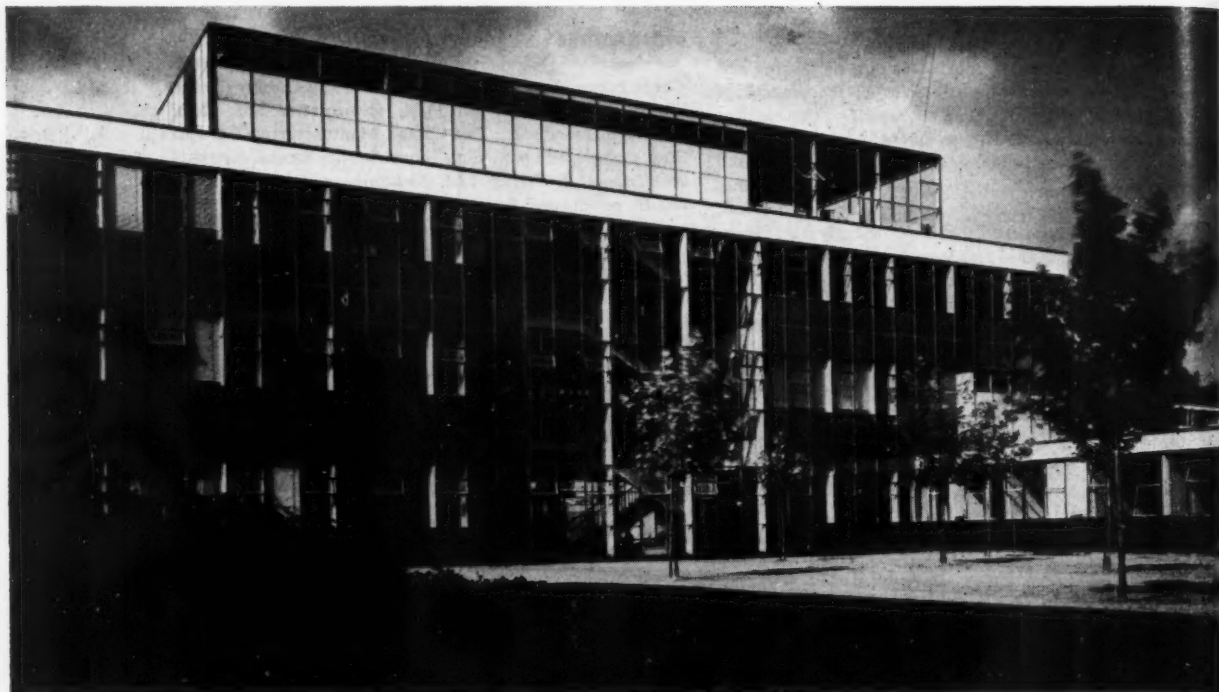
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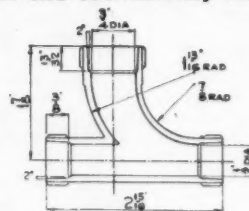
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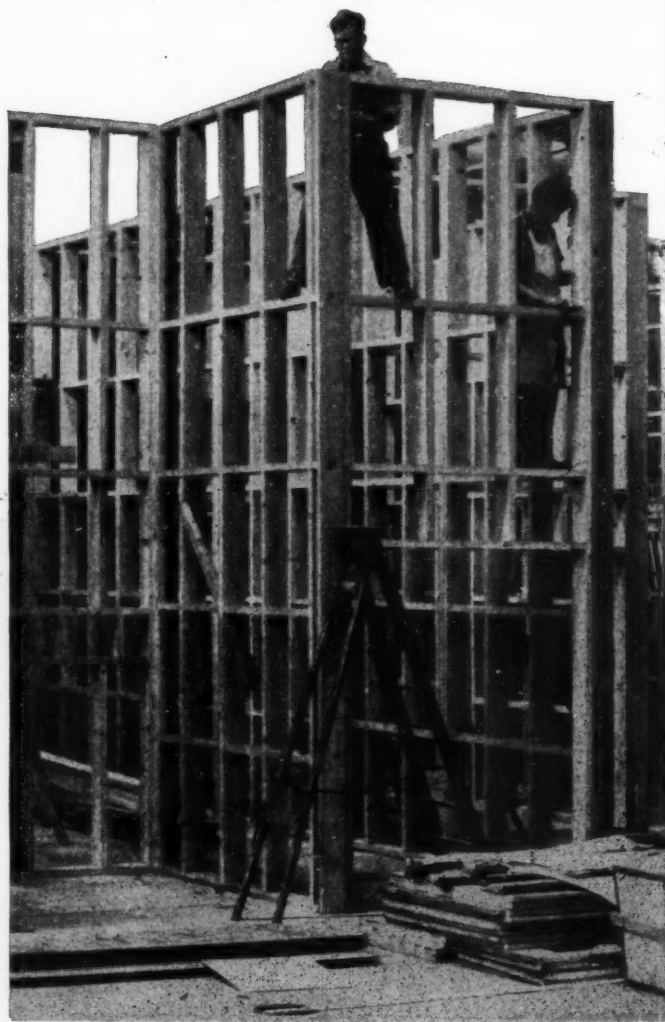
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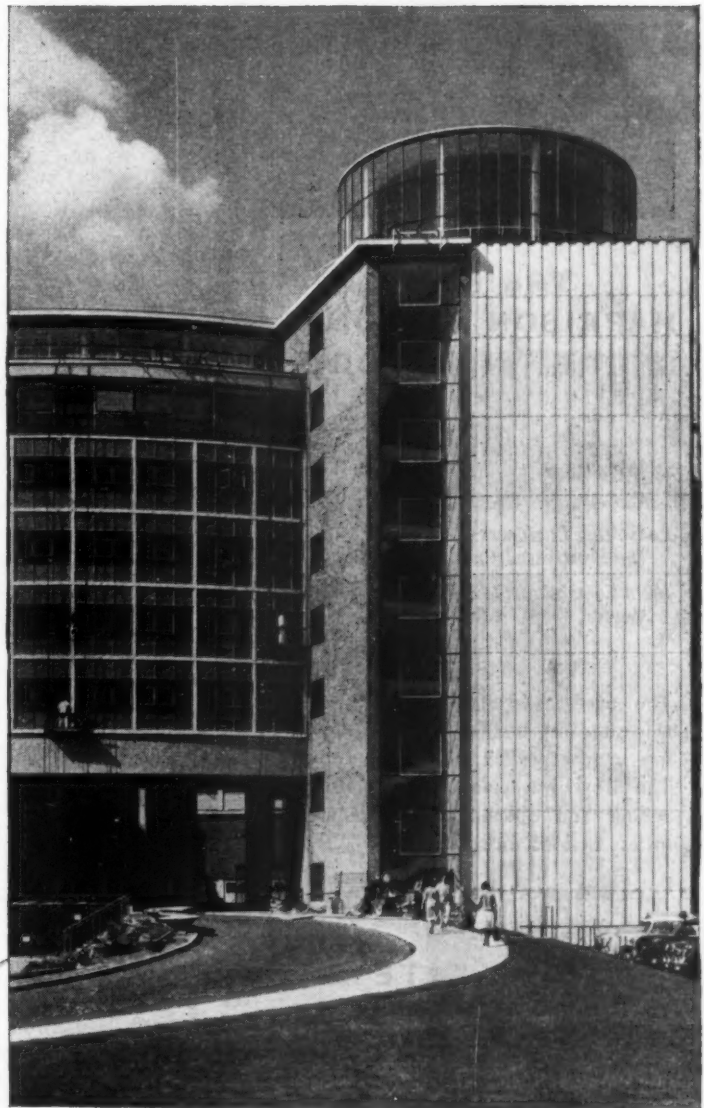
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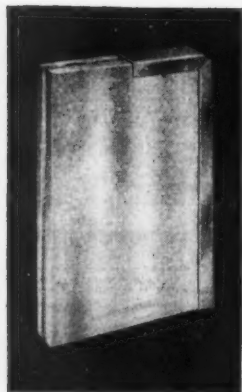
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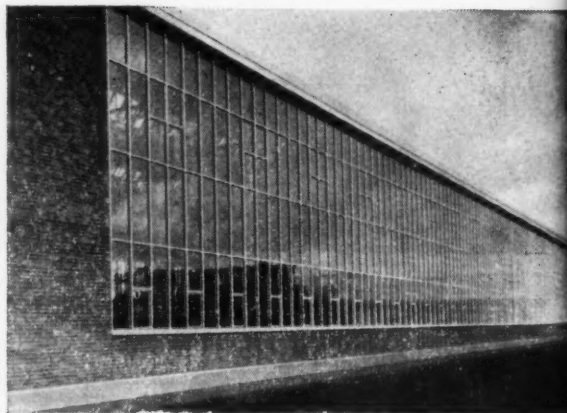
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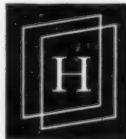
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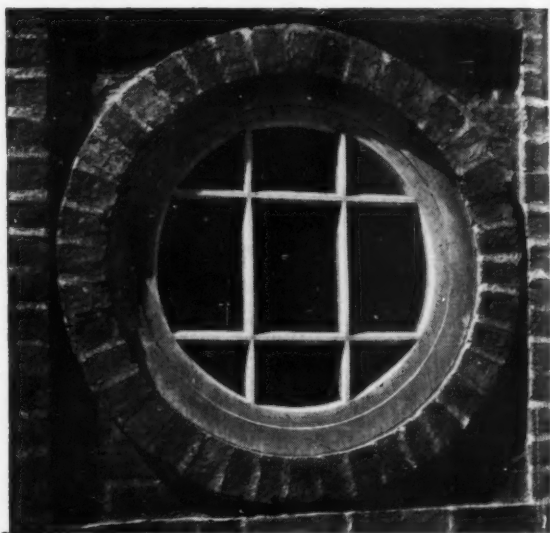
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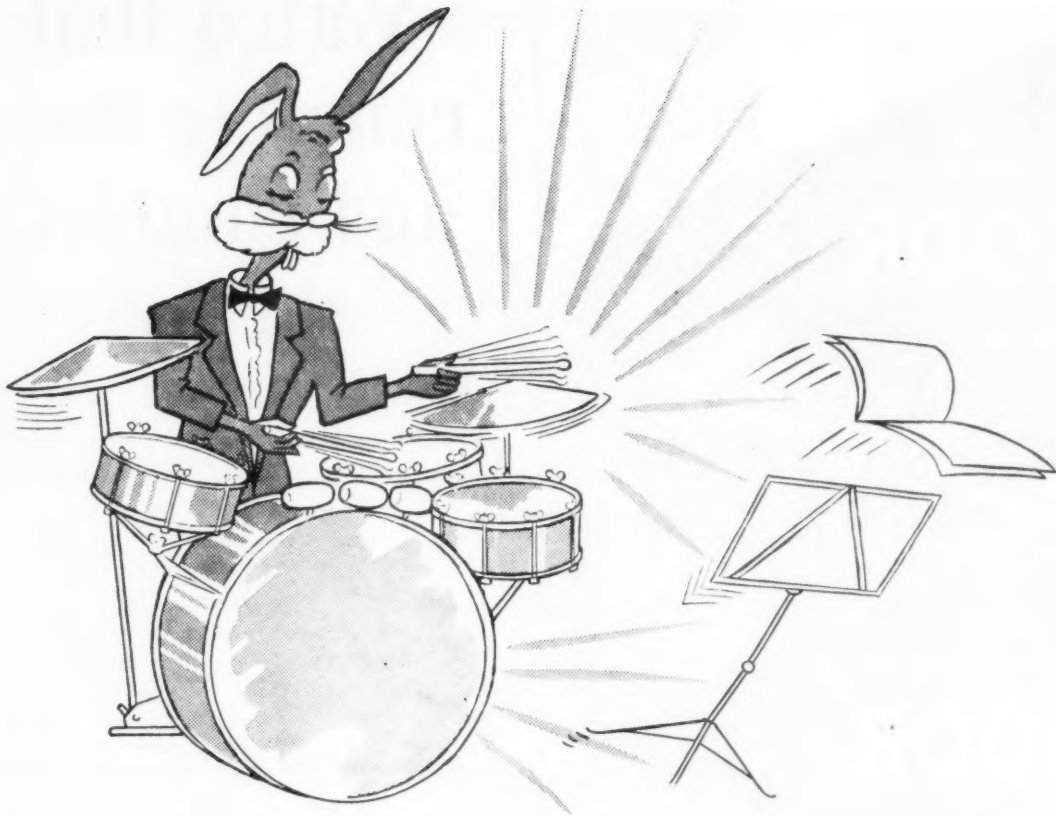
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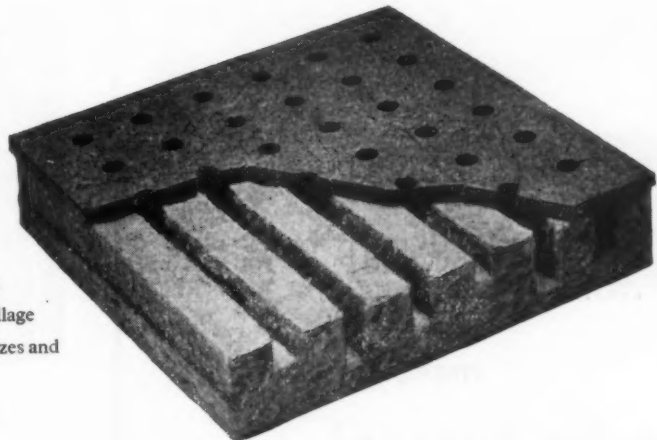
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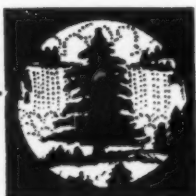


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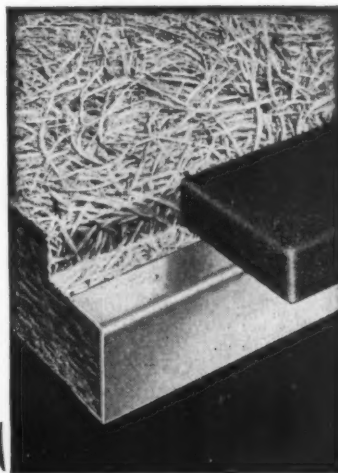
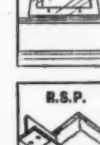
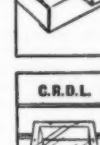
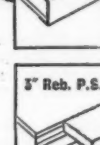
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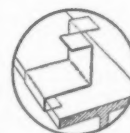
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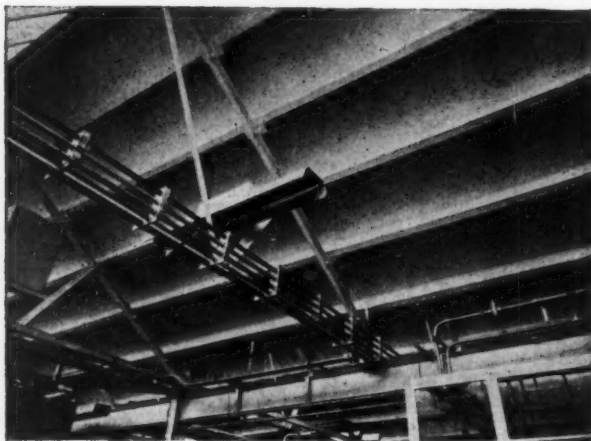
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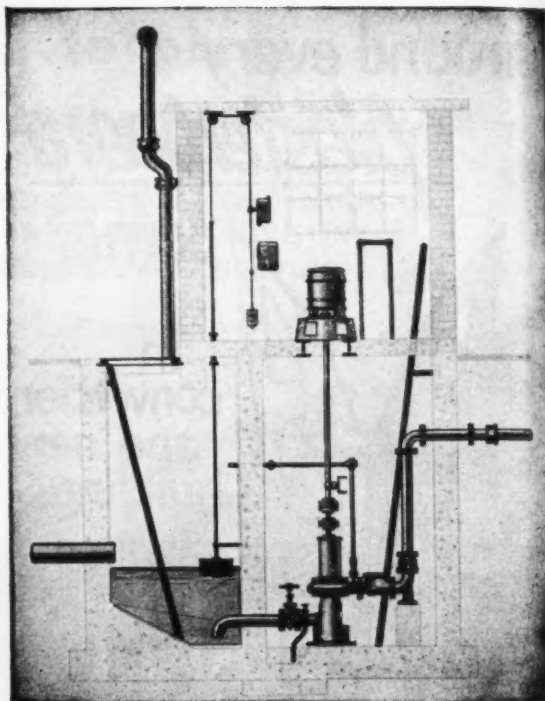
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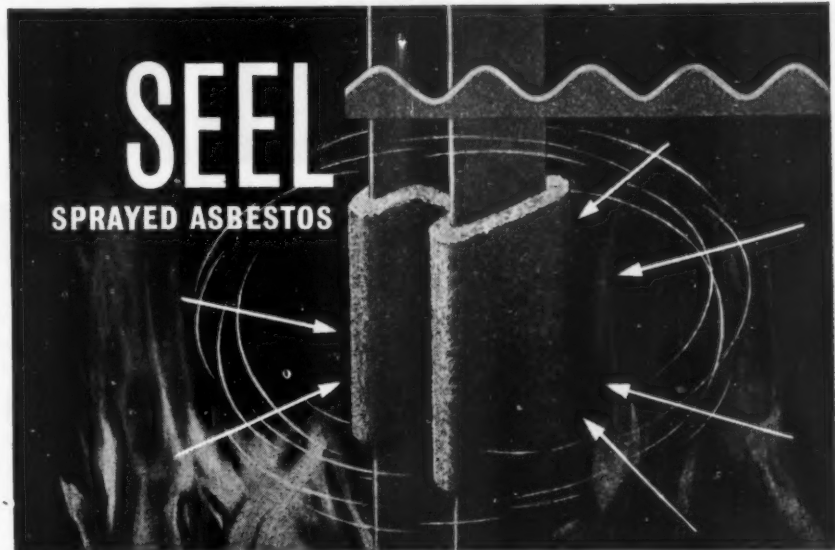
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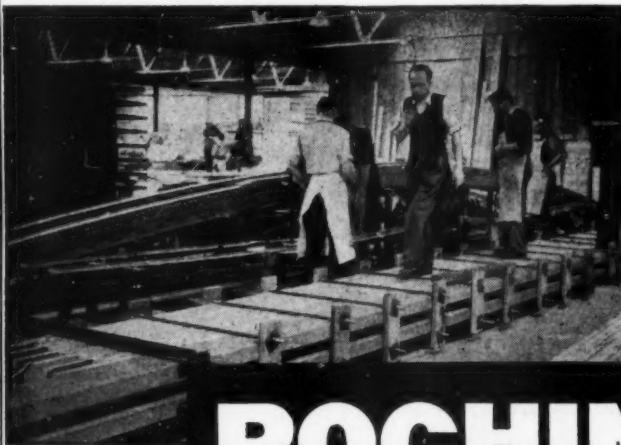
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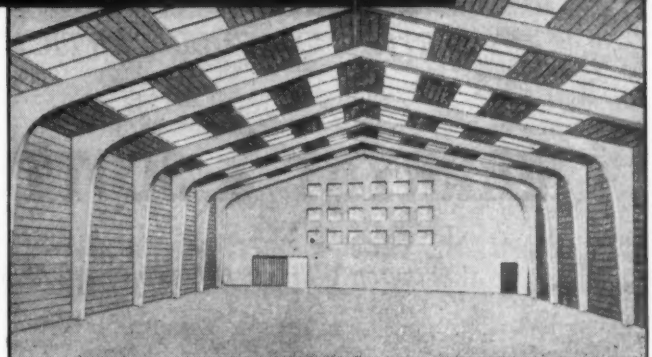


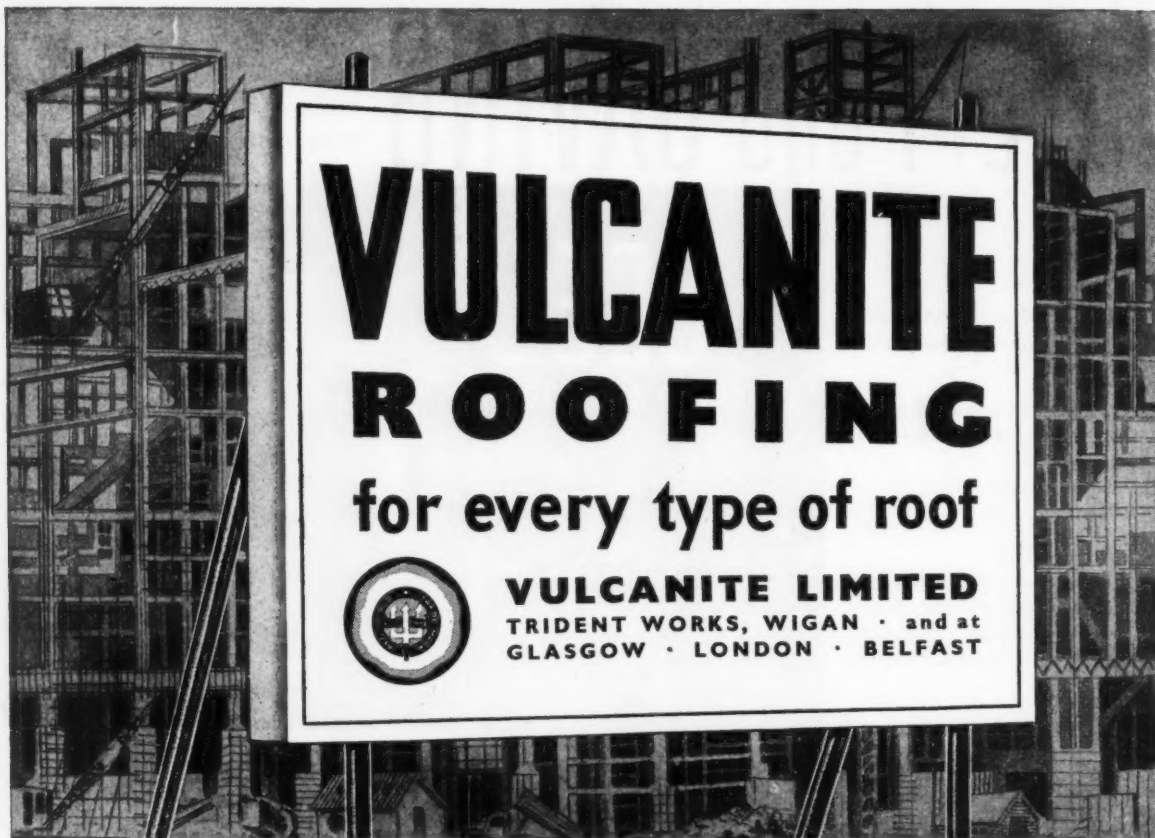
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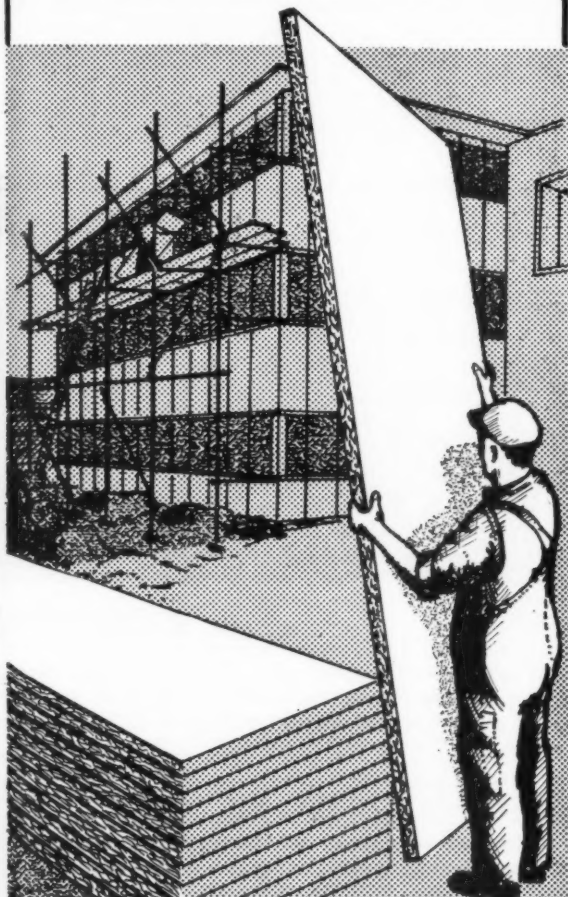
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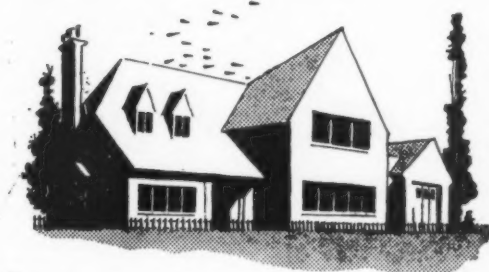
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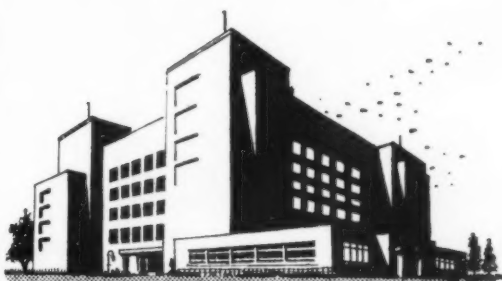


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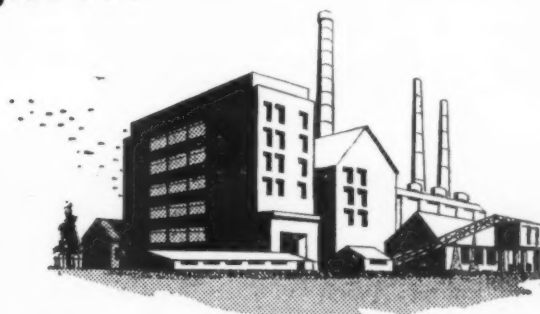
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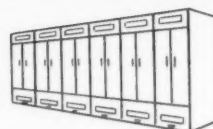
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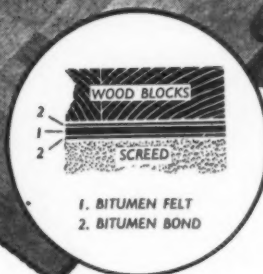
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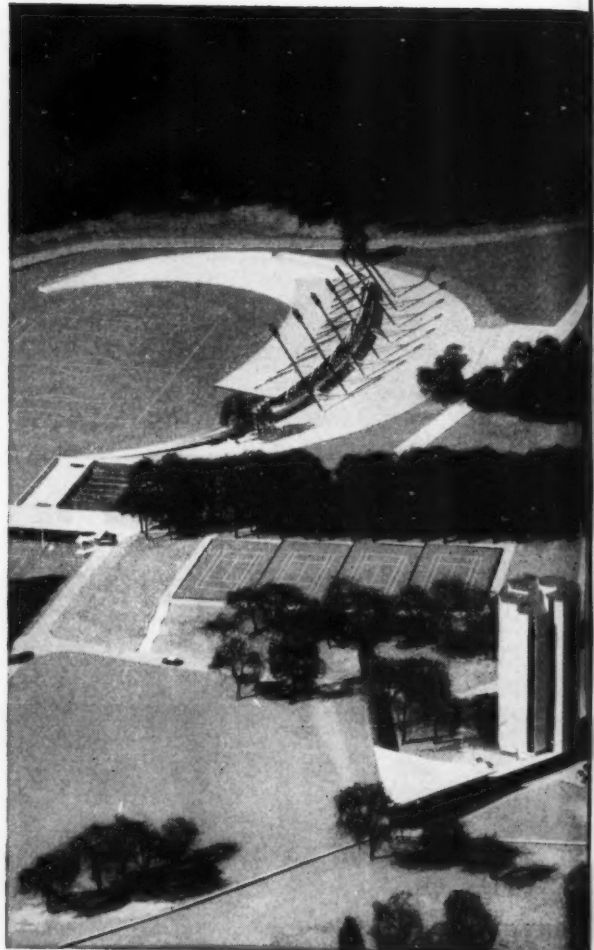
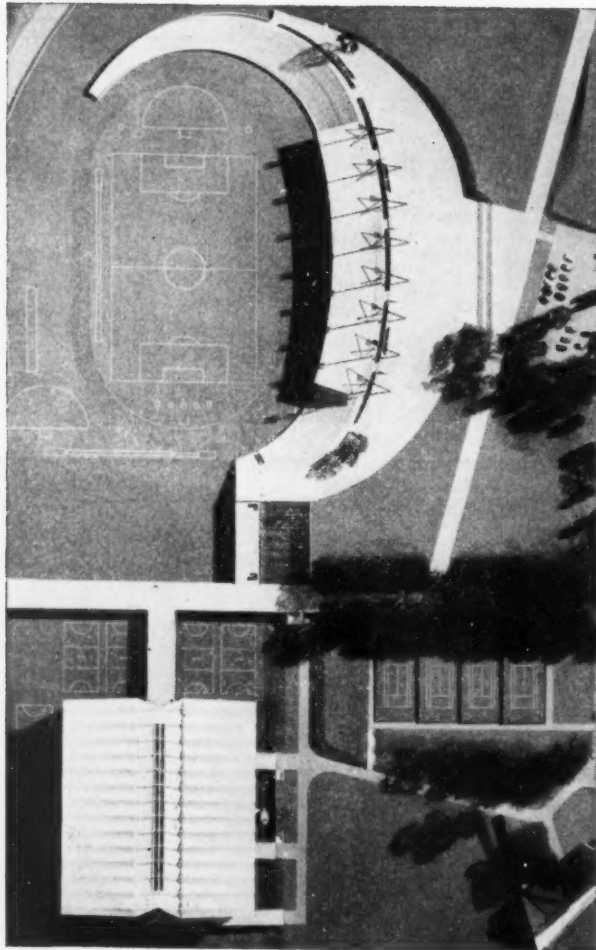
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NEW DIVISION AT COUNTY HALL



ARCHITECTS are wanted for the New Special Works Division to deal with Crystal Palace, South Bank Development, (including extension of Royal Festival Hall, small Concert Hall and gallery), and a variety of other new work. The programme is expected to last several years after which there will be opportunities to continue on other work in the Department. First-class Designers are wanted to match this challenging opportunity. **Grade II—£1,250 - £1,500, Grade III—£830 - £1,250, Architectural Assistants up to £950.** In addition to the major projects on the South Bank and at Crystal Palace, there are wide opportunities for young recently qualified architects on small individual buildings such as children's homes, approved schools, ambulance and fire stations. Starting points suitable to experience and qualifications. Application form and particulars obtainable from Hubert Bennett, F.R.I.B.A., Architect to the London County Council, the County Hall, S.E.1. quoting ref. EK/AJ/1397/8.

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CLASSIFIED ADVERTISEMENTS

Owing to the August Bank holiday the issue of August 4th will go to press one day earlier than usual. All advertisements for this issue must reach the publishers not later than first post Thursday, July 28th.

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

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

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

Public and Official Accouncements

36s. per inch; each additional line, 3s.

GLASGOW CORPORATION
ASSISTANT ARCHITECTS
TOWN PLANNERS
QUANTITY SURVEYORS

The Architectural and Planning Department of the Corporation of the City of Glasgow has vacancies for a number of qualified Assistants in the above professions.

The Department has in hand a large, varied and interesting programme of works including comprehensive redevelopment, multi-storey flats, schools and civic buildings. The work will provide scope for personal initiative in the preparation of designs and details of schemes upon which construction work will follow.

The salary scale for these Assistantships is up to £1,385 with placing according to experience. Form of application may be obtained from the Principal Administrative Officer, 20, Trongate, Glasgow, C.1.

A. G. JURY,
City Architect and Planning Officer. 1938

BOROUGH OF ILFORD
BOROUGH ENGINEER'S DEPARTMENT
ASSISTANT ARCHITECT

Candidates should have passed the Intermediate Examination of the R.I.B.A. or equivalent. Commencing salary within the scales according to qualifications and experience. London weighting payable in addition. Five-day week.

The candidate appointed will be required for specific work in connection with the design and working drawings for a scheme comprising New Public Baths and Library at Fullwell Cross.

The Council is prepared to consider, if necessary, the provision of housing accommodation. The appointment will be subject to one month's notice on either side, the provisions of the Local Government Superannuation Acts, National Conditions of Service and medical examination.

Application forms obtainable from the Borough Engineer, Town Hall, Ilford, should be returned not later than 2nd August. 2327

BOROUGH OF ENFIELD
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

(Non-County Borough in the County of Middlesex. Population 109,700. Area 12,400 acres.) Applications are invited, from suitably qualified persons, for the following permanent appointments:

- (1) ASSISTANT ARCHITECT, A.P.T. IV (£1,065-£1,220 plus London weighting).
- (2) ARCHITECTURAL ASSISTANTS (TWO No.). A.P.T. III (£880-£1,065 plus London weighting).
- (3) ARCHITECTURAL ASSISTANT, A.P.T. II (£765-£880 plus London weighting).
- (4) JUNIOR ARCHITECTURAL ASSISTANT, A.P.T. I (£610-£765 plus London weighting).

The commencing salary will be fixed at points within the Scale commensurate with qualifications and experience.

There is a large varied programme of work, including the redevelopment of Clearance Areas and other areas scheduled for Comprehensive Development.

Saturday mornings are normally free from duty. Application forms obtainable from H. D. Peake, M.Sc. (Eng.), M.I.C.E., Borough Engineer & Surveyor, 7, Little Park Gardens, Enfield, Middx., must be delivered to the undersigned not later than Tuesday, 9th August, 1960.

CYRIL E. C. R. PLATTEN,
Town Clerk.

Public Offices,
Gentlemen's Row,
Enfield, Middx. 2352

COUNTY BOROUGH OF NORTHAMPTON
THREE SENIOR ASSISTANT ARCHITECTS
A.P.T. IV/V (£1,065-£1,375)

Applications are invited for these appointments in Northampton which has an interesting programme of new schools, Municipal buildings and multi-storey flats in redevelopment schemes.

Commencing salaries will depend upon ability and experience.

Full particulars and application forms, returnable by 8th August, from Borough Architect, Guildhall, Northampton.

C. E. VIVIAN ROWE,
Town Clerk. 2356

RADNORSHIRE COUNTY COUNCIL
APPOINTMENT OF ARCHITECTURAL ASSISTANTS

Applications are invited for the following permanent appointments on the established staff of the County Architect's Department:

THREE ARCHITECTURAL ASSISTANTS—

Salary Grade A.P.T. II (£765-£880 p.a.).

The Council have a varied and interesting building programme on hand including new schools, police houses and old people's homes.

The appointments will be subject to the National Scheme of Conditions of Service; to the Local Government Superannuation Acts and to termination by one month's notice in writing by either party.

Application, stating age, qualifications and experience, with the names and addresses of two persons to whom reference may be made, must be received by the undersigned not later than the 16th August, 1960.

D. C. S. LANE,
Clerk of the Council.

County Hall,
Llandrindod Wells,
Radnorshire. 2346

CITY OF LEICESTER
CITY ARCHITECT'S DEPARTMENT

Qualified Architects are required as follows:—

GENERAL SECTION.

GROUP LEADER, Grade A.P.T. IV (£1,065-£1,220).

ASSISTANT ARCHITECTS, Special Grade (£765-£1,070).

HOUSING SECTION.

ASSISTANT ARCHITECTS, Special Grade (£765-£1,070).

The commencing salary in the Special Grade posts will be up to maximum according to experience.

Current projects of the General Section include new Municipal Baths and Civic Centre.

The work of the Housing Architects includes the redevelopment of Central Areas.

Previous Local Government experience not essential. Housing accommodation, at an economic rent, will be provided, if necessary.

National Conditions of Service apply. Applications, stating post applied for, together with names of two referees, should reach the undersigned not later than Monday, 8th August, 1960.

J. H. LLOYD OWEN,
City Architect. 2333

10, Loseby Lane,
Leicester.

WEDNESFIELD URBAN DISTRICT COUNCIL
ASSISTANT ARCHITECT

Applications are invited for an experienced Architect for the above position at a salary in accordance with A.P.T. Grade IV (£1,065 to £1,220).

Wednesfield has a population of approximately 31,000, and is developing rapidly.

A large programme of varied schemes has to be undertaken, and the district is a reception area for overspill population.

The National Joint Council Conditions of Service will apply and the successful candidate will be required to contribute to a Superannuation Scheme and also undergo a medical examination.

Housing accommodation will be provided, if necessary, and reasonable removal expenses will be paid.

Applications stating age, qualifications, experience, with the names of two referees, must be received by the undersigned by not later than 25th July, 1960.

J. HENWOOD JONES,
Clerk of the Council.

Council Offices,
Alfred Smire Road,
Wednesfield,
Staffs. 2283

CITY OF PETERBOROUGH
CITY ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of a SENIOR ARCHITECTURAL ASSISTANT on the staff of the City Engineer, at a salary within Grade IV, A.P. & T. (£1,065 per annum rising by annual increments to £1,220).

Applicants should be qualified architects, experienced in school building, and capable of carrying out sketch designs, working and detail drawings and site control, with the minimum of supervision.

Housing accommodation, if desired, will be provided.

Forms of application may be obtained from the City Engineer, Town Hall, Peterborough. Closing date for applications 11th August, 1960.

C. PETER CLARK —
Town Clerk. 2324

Town Hall,
Peterborough.
July, 1960.

WORCESTERSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the positions of:—

SENIOR ASSISTANT ARCHITECTS, Grade IV (£1,065-£1,220).

ARCHITECTURAL ASSISTANTS, Grade III (£880-£1,065).

ASSISTANT ARCHITECTS, Special Grade (£765-£1,070).

HEATING ENGINEERING ASSISTANT, Grade II (£765-£880).

The Senior Architects should be qualified members of the R.I.B.A. and should preferably have had some experience of Education work, though this is not essential.

The Assistant Architects are required for Education, Police, Health and Fire Brigade projects of a large and varied nature. Previous experience of these types of contracts is not necessary, but the applicants should have an architectural training, a good knowledge of building construction and practice and be reliable draughtsmen.

The Heating Engineering Assistant is required for work in connection with general fuel economy in County buildings in conjunction with N.I.F.E.S. and will be responsible for the general maintenance of all types of heating equipment, instructing caretakers on operation of it and issuing orders to contractors for necessary repairs, etc. He may also prepare simple drawings and specifications for small heating systems and conversions. This position will give interesting and varied work and experience which could lead to future promotion.

The County Council has a certain amount of housing accommodation for staff and the successful candidates may apply for this as it is available. The Council also makes some allowance towards necessary removal expenses to married applicants.

A five-day week is in operation.

Forms of application may be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester. (B.104). 2316

NORTH RIDING COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments on the permanent staff:—

A.P.T. II and Special (£765-£1,070). Intermediate R.I.B.A. standard, point of entry will depend upon experience, with promotion to special grade on passing the Final R.I.B.A. examination.

Special—A.P.T. IV (£765-£1,220) Final R.I.B.A. essential and point of entry will depend upon experience.

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

Forms of application are not being issued but application should state age, qualifications and experience, together with particulars of present and previous appointments and names and addresses of three referees, to be delivered to the undersigned not later than the 8th August, 1960.

Canvassing, directly or indirectly, will be deemed a disqualification and candidates should state in writing whether they are related to any member of, or senior officer under, the Council.

These appointments relate to the amalgamated architectural department dealing with both Education and General works.

ROBERT A. WOTHERSPOON,
Clerk of the County Council. 2381

12th July, 1960.

BOROUGH OF LEYTON
(in the County of Essex)
COMMITTEE FOR EDUCATION
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the permanent appointment of Architectural Assistant, Grade A.P.T. II £765-£880 per annum plus London Weighting. The successful applicant will be employed by the Essex County Council, and will work in the School Architect's Section of the Borough Engineer & Surveyor's Department, Town Hall, Leyton, E.10. five-day week is operated.

Details and forms of application from the Borough Education Officer, Education Offices, Kirkdale Road, Leytonstone, E.11, to whom they should be returned not later than Friday, the 5th August, 1960. 2377

BOROUGH OF NELSON
JUNIOR ASSISTANT ARCHITECT

Applications are invited for the appointment of a Junior Assistant Architect in the office of the Borough Engineer and Surveyor, at a salary within the scale A.P.T. I/II (£610-£880 per annum), commencing salary in accordance with age and experience.

Applicants should have some experience of an Architect's office and be studying for the R.I.B.A. qualification.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts and to the passing of a medical examination.

Consideration will be given to the provision of housing accommodation.

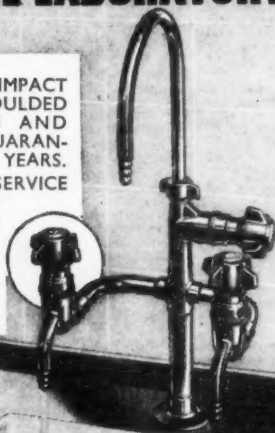
Applications (endorsed "Junior Assistant Architect") giving details of age, education, qualifications, experience and present salary, together with the names and addresses of two referees, to be received by the undersigned not later than first post on Saturday, the 6th August, 1960.

F. W. ROBERTS,
Town Clerk.

Town Hall,
NELSON.
Lancs.
23rd June, 1960. 2382

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SALOP COUNTY ARCHITECT'S
DEPARTMENT

SENIOR ARCHITECT required to act as Deputy Group Head for new work of an interesting character. Salary Grade A.P.T. V (£1,220-£1,375 p.a.). Applicants must be Associate R.I.B.A. N.J.C. Conditions. Five-day week. A disturbance allowance or weekly separation allowance will be paid to a married man taking up this appointment.

Conditions of service and application forms obtainable from Ralph Crowe, A.A.Dipl., A.R.I.B.A., A.M.T.P.I., County Architect, Column House, London Road, Shrewsbury. Closing date 12th August, 1960. 2304

ADMIRALTY-NAVY WORKS DEPARTMENT
ARCHITECTURAL ASSISTANTS are required in the newly-formed Architects' Branch at Pinner where a wide variety of new works is being handled comprising all forms of accommodation building, i.e. for sleeping, messing and recreation of naval personnel, instructional buildings, hospitals, industrial type of buildings in Dockyards, office blocks, housing estates and residences.

Architectural Assistants will work in groups with professional grade Architects.
Candidates are expected to be keen to explore new forms of construction and must be quick and competent draughtsmen. Preference will be given to those who are studying for professional qualifications and successful candidates will be considered for day release to help them in their studies.

Salary (London Rate) starting £570 p.a. (at age 21) to £783 (28 and over); maximum of scale £900 p.a.

Opportunities exist for promotion to Leading grade (salary maximum £1,055, London Rate) and further prospects for those becoming fully qualified are favourable. Every facility will be given to Assistants to obtain the necessary professional practice for Part III of their final examination.

Five-day week—annual leave 18 days rising to 22 after 10 years.

Candidates, who must be British subjects, are invited to apply in writing, giving details of qualifications and experience, to Director General, Navy Works, Admiralty, Chamberlain Way, Pinner, Middlesex. 2291

LONDON COUNTY COUNCIL
ARCHITECTS' DEPARTMENT

Vacancies for **ARCHITECT/PLANNERS**. Tasks include three-dimensional planning in Comprehensive Development Areas and all other important areas of new development throughout London, including those associated with road improvements. Up to £1,250 according to experience and qualifications. Forms and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council (EK/AJ/1790/7c), County Hall, S.E.1. 2180

COUNTY BOROUGH OF BLACKPOOL
Applications invited for **ARCHITECTURAL ASSISTANT, A.P.T. I** (£610-£765).
Forms, etc. from Arthur Hamilton, B.Sc., A.R.I.B.A. (Borough Surveyor), P.O. Box 17, Municipal Offices, Blackpool. 2353

MIDDLESEX COUNTY COUNCIL
COUNTY ARCHITECTS' DEPARTMENT
ASSISTANT ARCHITECT, A.P.T. V, £1,265-£1,420 p.a.
ASSISTANT ARCHITECT, A.P.T. IV, £1,110-£1,265 p.a.
ASSISTANT ARCHITECT, Special Grade, £785-£1,070 p.a., plus London weighting up to £45.
JUNIOR ASSISTANT, A.P.T. I, £610-£765 p.a., plus London weighting up to £40.
The department has in hand a large and interesting programme of works for School Buildings, Technical Colleges, Old People's Homes, Fire Stations and other County Buildings which will be designed under the direction of Mr. Whitfield Lewis, F.R.I.B.A., the County Architect. Organisation is on a group basis and full scope will be given to Architects who show design ability.
Appropriate professional qualifications are required for all posts and commencing salaries will be assessed according to qualifications and experience. Established appointments subject to prescribed conditions.

Application forms (s.a.e.) from The County Architect, 1 Queen Anne's Gate Buildings, Dartmouth Street, S.W.1, returnable by 10th August. (Quote C979.) 2407

BOROUGH OF TAMWORTH

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department:—

- (a) **SENIOR ENGINEERING ASSISTANT.** Salary within A.P.T. Grade II.
(b) **ENGINEERING ASSISTANT.** Salary within A.P.T. Grade I.

Applicants should have had a good general experience in a Municipal Engineer's office (housing experience would be an advantage). Preference will be given to applicants who have passed the Intermediate Examination of the Institution of Municipal Engineers or hold an equivalent qualification.

Housing accommodation available, if required. Applications stating age, qualifications and experience, together with names of two referees should reach the undersigned, not later than 8th August, 1960. Canvassing, directly or indirectly, will disqualify.

H. B. LEAKE,
Town Clerk.

Municipal Offices,
Tamworth, Staffs.
19th July, 1960. 2442

BUILDING SURVEYORS

* Architect's Department, L.C.C., has vacancies in Building Regulation Division and District Surveyors' Service for work in connection with applications under the London Building Acts and Byelaws. District Surveyors' offices are located in Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress.

Up to £1,250, commencing according to qualifications and experience. Form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council (EK/AJ/1637/7d), County Hall, S.E.1. 1964

CORPORATION OF THE CITY OF ABERDEEN
TOWN PLANNING DEPARTMENT
SENIOR ASSISTANT (DEVELOPMENT CONTROL)

Applications are invited for the above appointment from persons who have a recognised qualification. Salary scale £1,085-£1,235 per annum, with placing in accordance with qualifications and experience.

Applications by letter, with usual particulars and names of two referees, should reach the Director of Town Planning, 5, Bon-Accord Crescent, Aberdeen, on or before Monday, 8th August, 1960.

J. C. RENNIE,
Town Clerk.

Town House,
Aberdeen.
July, 1960. 2408

COUNTY OF ANGLESEY
CHIEF ASSISTANT ARCHITECT
Grade A.P.T. IV

Applications are invited from appropriately qualified architects for the above appointment within the salary scale £1,065-£1,220.

Applications to the Acting Clerk of the County Council, Shire Hall, Llangefni, Anglesey, by not later than 13th August, 1960. 2421

BOROUGH OF SLOUGH
APPOINTMENT OF ASSISTANT ARCHITECTS.
GRADE A.P.T. IV (£1,065-£1,220 per annum) and
JUNIOR ARCHITECTURAL ASSISTANT,
GRADE A.P.T. II (£765-£880 per annum)

These vacancies arise in consequence of the Council's approval of a MAJOR PROGRAMME OF BUILDING WORKS, including, in addition to normal housing development, 12-storey blocks of flats, factories, shops, and buildings for parks and other municipal functions.

The appointments will be for the duration of the programme, which is estimated will be completed in 3-4 years. The appointments on Grade A.P.T. IV are suited to fully qualified architects who are particularly interested in the application of original thought to the design of buildings for a variety of functions and to whom contemporary architectural design appeals. The junior appointment is particularly suited to students who have passed the Intermediate examination and wish to extend their experience in a progressive town, and facilities for part-time release will be arranged for the successful applicant who is pursuing a recognised course of architectural study.

A five-day week is in operation and housing accommodation will be provided for married candidates, if required.

Persons interested in these appointments are invited to write to the Borough Engineer, Town Hall, Slough, Bucks, giving brief details of their qualifications and experience. He will be pleased to send them details of the programme of design work, together with information which would be of particular interest to those not familiar with Slough in regard to the Department, the town and its surroundings. 2422

HUNTINGDONSHIRE
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

- (a) **ARCHITECTURAL ASSISTANT, Special Grade** (£785-£1,070).
(b) **ARCHITECTURAL ASSISTANT, Grade A.P.T. II** (£765-£880).

The persons appointed will become members of small architectural teams engaged in projects of varying size. It is desired that the persons appointed should be keenly interested in architecture with an up-to-date approach to both planning and design.

Application forms and further particulars may be obtained from the County Architect, County Buildings, Huntingdon and completed forms should be returned to the undersigned by Friday, 12th August, 1960.

A. C. AYLWARD,
Clerk of the County Council.

County Buildings,
Huntingdon. 2423

LONDON ELECTRICITY BOARD
ARCHITECTURAL ASSISTANTS

Applications are invited for the above positions in the Chief Engineer's Architect's Section at Lesco House, Stamford Street, S.E.1.

Applicants should be studying for, or have passed, the Intermediate Examination of the R.I.B.A., be capable draughtsmen and have had several years' experience in an architect's office.

Pending determination as to the grading of the posts within Schedule "B" of the National Joint Board Agreement, the salary will be in the provisional range £995 per annum rising to £925 per annum inclusive of London Allowance.

Application form obtainable from the Personnel Officer, 46, New Broad Street, E.C.2., to be returned completed within 14 days of the publication of this notice. Please quote ref. PER/V3033/A. 2441

CITY OF OXFORD
CITY ARCHITECT AND PLANNING
OFFICER'S DEPARTMENT

Applications are invited for the undermentioned posts:—

SURVEYING ASSISTANT, Grade Special Classes (within the range £785-£1,070).

Candidates must be qualified members of the Royal Institution of Chartered Surveyors or equivalent and additional qualifications will be an advantage.

The successful applicant will be required to undertake varied duties in the Estates Maintenance Section of the Department, dealing particularly with general maintenance work and alterations, including all repairs, redecoration, etc. for Council buildings (e.g. Municipal offices, schools, shops, markets, houses, etc.). Experience in the work of a Local Authority is desirable. Car allowance on the Council's scale.

ARCHITECTURAL ASSISTANTS, Special Classes/A.P.T. IV (within the range £785-£1,070/£1,065-£1,220).

The successful applicants must be Members of the Royal Institute of British Architects and should have several years' experience, possess a wide knowledge of modern methods of construction and contract procedure and must be capable of carrying through contracts from sketch stage to completion with minimum supervision. A high standard of design ability and a keen interest in contemporary architecture is expected. Assistants are encouraged to control their own contracts from sketch design onwards. The work will be of a general nature including redevelopment housing. Suitable housing accommodation will be made available, if required, in connection with the above appointments. Five-day week.

The appointments will be subject to the National Conditions of Service and the successful candidates will be required to pass a medical examination.

Application forms to be obtained from the City Architect and Planning Officer, Town Hall, Oxford. Closing date 6th August, 1960.

HARRY PLOWMAN,
Town Clerk.

Town Hall,
Oxford.
14th July, 1960. 2424

WOKING U.D.C.

ARCHITECTURAL ASSISTANT
A.P.T. GRADE SPECIAL (£785-£1,070)

Applicants for this appointment in Architectural Section of Engineer & Surveyor's Department should be A.R.I.B.A.

Appointment offers competent assistant excellent opportunity for work on variety of architectural projects in a town that has rapidly grown to 63,000 population.

Housing accommodation if required.

Casual User's car allowance.
Forms of application from Engineer and Surveyor, Council Offices, Woking. Closing date 8th August, 1960. 2440

BUCKS COUNTY COUNCIL

Applications are invited for the position of **ASSISTANT COUNTY ARCHITECT, Grade "D"**, £1,520-£1,755 p.a. Starting salary in accordance with qualifications and experience. The position offers considerable scope to the right man.

The appointment is superannuable and subject to medical examination and applicants should be Associates of the Royal Institute of British Architects.

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

Applications, on forms provided, must be returned by the 15th August, 1960.

F. B. POOLEY,
County Architect.

County Offices,
Aylesbury,
Bucks. 2439

COUNTY BOROUGH OF WEST BROMWICH

Applications are invited for the following appointments:—

SENIOR ASSISTANT ARCHITECT, A.P.T. IV (£1,065 to £1,220 per annum).

ARCHITECTURAL ASSISTANTS, A.P.T. I (£610 to £765 per annum).

Applications stating age, qualifications and experience, together with the names and addresses of two referees should be sent to the undersigned by the 10th August, 1960.

W. H. GREENWOOD,
Borough Engineer & Surveyor.

Town Hall,
West Bromwich. 2432

COUNTY BOROUGH OF WOLVERHAMPTON
BOROUGH ENGINEER'S DEPARTMENT

Applications are invited for the following appointments:—

(a) **PRINCIPAL ASSISTANT ARCHITECT.** Salary within Grades A.P.T. IV to V (£1,065-£1,375).

(b) **ASSISTANT ARCHITECTS.** Salary in accordance with the Special Scale (£785-£1,070).

(c) **ARCHITECTURAL ASSISTANTS.** Salary within Grades A.P.T. I to II (£610-£880).

Commencing salaries according to qualifications and experience.

Housing accommodation may be made available in respect of post (a).

Applications, stating age, qualifications, training and experience, and naming two referees, to the Borough Engineer, Town Hall, Wolverhampton, by Thursday, 11th August, 1960. 2464

**COUNTY BOROUGH OF WEST HAM
BOROUGH ARCHITECT & PLANNING
OFFICER'S DEPARTMENT**
Applications invited for established posts as follows:
GROUP ARCHITECT, £1,065-£1,220 p.a.
DEPUTY GROUP ARCHITECT, £785-£1,070 p.a.
ARCHITECTURAL ASSISTANT, £610-£765 p.a.
(London Allowance in addition).
Commencing salary according to qualifications and experience.

Applications to: Borough Architect & Planning Officer, 70, West Ham Lane, Stratford, E.15. 2461

**CWMBRAN DEVELOPMENT CORPORATION
APPOINTMENT OF ASSISTANT ARCHITECTS**
Applications are invited for the following superannuable vacancies in my Department:-
(a) **ONE ASSISTANT ARCHITECT, Grade IV (£1,065-£1,220).**
(b) **ONE ASSISTANT ARCHITECT, Grade II/III (£765-£1,065).**

Candidates for post (a) should be Associates of the R.I.B.A. with suitable office experience particularly in house design, construction and layout. For post (b) applicants should either have passed the Intermediate Examination of the R.I.B.A. and had some office experience or be graduate architects who may have recently completed their training.

Housing accommodation will be made available to the successful applicants if needed.

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 15th August, 1960.

J. C. P. WEST, A.R.I.B.A., M.T.P.I.,
Chief Architect.

Victoria Street,
Cwmbran, Mon. 2463

**COUNTY COUNCIL OF THE WEST RIDING
OF YORKSHIRE**

OFFICE OF THE COUNTY ARCHITECT
Applications are invited for the undermentioned appointments at Divisional Offices:-

(1) **ARCHITECTURAL ASSISTANTS OR BUILDING SURVEYORS, Grade A.P.T. II, £765-£980 p.a.** at the Huddersfield and Doncaster Divisional Offices to deal with maintenance, adaptation and minor capital works.

(2) **ARCHITECTURAL ASSISTANT, Grade A.P.T. I, £610-£765 p.a.** at the Huddersfield Divisional Office.

(3) **CLERKS OF WORKS, Grade A.P.T. I, £610-£765 p.a.** at the Huddersfield and Wakefield Divisional Offices. Candidates should have a sound knowledge of building construction and maintenance, be experienced in the supervision of building works and capable of preparing reports and approximate estimates of cost and the checking of builders' accounts.

Applications, stating age, qualifications, experience, present position and giving the names and addresses of two referees, to be delivered to the County Architect, Bishopgarth, Westfield Road, Wakefield, not later than the first post on Tuesday, 16th August, 1960. 2476

**WARWICKSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT**

Applications are invited for the following appointments:-

(a) **ARCHITECTS, Special Grade (£785-£1,070).** Applications are invited from architects who have passed Parts I and II of the R.I.B.A. Final or special examination or their equivalent at one of the recognised schools of architecture. The successful applicants will work in groups on large projects, and an opportunity will be given to men with enthusiasm and ability to design and carry out projects under a group architect.

(b) **ARCHITECTURAL ASSISTANTS, Grade A.P.T. II (£765-£980).**

Vacancies exist for assistants who are up to Intermediate R.I.B.A. standard and who require experience in a variety of interesting projects.

The commencing salary can be within the grade according to ability and experience. Five-day week worked. The Council have schemes for the payment of removal expenses and a lodging allowance to married officers. Application forms and full conditions applicable to the appointments can be obtained from Eric Davies, F.R.I.B.A., A.M.T.P.I., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick.
July, 1960. 2465

**SURREY COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT**

Applications are invited for the following posts on Grade III/IV (£880-£1,220 plus London Allowance) at Headquarters at Kingston-upon-Thames. Position on Grade to be according to qualifications and experience. Applicants must be corporate members of the Town Planning Institute.

(a) To be responsible for a Section connected with Development Control in two Areas of the County.

(b) To be responsible for work on certain Town Maps and other Development Plan and research work.

Applications endorsed "Confidential-Vacancies," stating age, qualifications and experience, with details of present post and salary and the names of two referees, should be sent to the County Planning Officer, "Elmhurst," Penrhyn Road, Kingston-upon-Thames, not later than 12th August, 1960. 2466

**BOROUGH OF COLCHESTER
APPOINTMENT OF BOROUGH ARCHITECT**

Applications are invited for the above appointment. The salary will be £1,655 x £70 (2) and £65 (2) to £1,925 per annum and the terms and conditions of the J.N.C. for Chief Officers of Local Authorities will apply. Car allowance.

Further particulars may be obtained from the undersigned. Closing date 16th September.

N. CATCHPOLE,
Town Clerk.

Town Hall,
Colchester.
July, 1960. 2443

**BOROUGH OF SOLIHULL
APPOINTMENT OF ARCHITECTURAL
ASSISTANTS**

Applications are invited from Architects with suitable qualifications and experience for the under-mentioned appointments:-

(a) **SENIOR ASSISTANT ARCHITECT, A.P.T. Grade V (£1,220-£1,375 per annum).**

(b) **ASSISTANT ARCHITECTS, A.P.T. Grade IV (£1,065-£1,220 per annum).**

(c) **ASSISTANT ARCHITECTS, A.P.T. Special (£785-£1,070 per annum).**

(d) **ASSISTANT ARCHITECT, A.P.T. Grade I-II (£610-£880 per annum).**

The Borough, which has a population of approximately 90,000 and which is still expanding rapidly, is an Exceeded District for education and has been recommended for County Borough status by the Local Government Commission for England. There is a considerable programme of varied capital works to be undertaken in the very near future. The appointments will be subject to satisfactory medical reports, the Local Government Superannuation Acts, the National Scheme of Conditions of Service and to one month's notice in writing on either side.

In appropriate cases the Council will assist in the provision of housing accommodation and half removal expenses will be paid. Applications, giving full particulars as to age, qualifications and past and present experience, together with the names and addresses of two referees should be submitted to the Borough Surveyor, 90, Station Road, Solihull, not later than Tuesday, 9th August, 1960.

W. MAURICE MELL,
Town Clerk.

The Council House,
Solihull.
Warks. 2467

**BOROUGH OF SOLIHULL
APPOINTMENT OF LANDSCAPE ARCHITECT**

Applications are invited from members of the Institute of Landscape Architects who have had considerable experience, for appointment as Landscape Architect in the Borough Engineer and Surveyor's Department at a salary in accordance with A.P.T. Grade IV-£1,065 x £55 (1) x £50 (2) to £1,220.

The rapid growth of the Borough has necessitated the development of public open spaces and playing fields, as well as the landscaping of housing estates, etc. Half the reasonable cost of removal expenses will be paid, and where applicable housing accommodation made available as soon as possible.

The appointment is subject to the provisions of the Local Government Superannuation Acts; the National Scheme of Conditions of Service, a medical examination and to one month's notice on either side.

Applications, giving full particulars as to present and past experience, together with the names and addresses of two referees, should be submitted to the Borough Surveyor, 90, Station Road, Solihull, not later than 9th August, 1960.

W. MAURICE MELL,
Town Clerk.

The Council House,
Solihull.
14th July, 1960. 2468

**ALL-GAS HOUSE ARCHITECTURAL
COMPETITION**

The Scottish Gas Board invite architects resident in the United Kingdom to submit designs for an All-Gas House which will exploit and demonstrate the possibilities of gas as a means of heating, cooking, water heating, refrigeration and home laundry.

Assessor: Professor Frank Fielden, M.A., F.R.I.B.A.

Premiums: £250: £150: £75.

Last day for submitting designs: 26th September, 1960.

Conditions may be obtained from: The Commercial Manager, The Scottish Gas Board, 1, Rotheray Terrace, Edinburgh, 3.

No deposit.

An applicant for the conditions must state his registration number. 1953

BOROUGH OF WATFORD

Applications are invited for the following appointments:-

ASSISTANT ARCHITECT, Salary within Grade A.P.T. IV (£1,065-£1,220).

ARCHITECTURAL ASSISTANT, Salary within Grades A.P.T. II/III (£765-£1,065).

Commencing salaries will be commensurate with experience and ability and housing accommodation may be made available.

Applications to the undersigned not later than 11th August, 1960.

F. C. SAGE,
Borough Engineer.

Town Hall,
Watford,
Herts. 2485

AIR MINISTRY Works Design Branch requires in LONDON and PROVINCES ARCHITECTURAL ASSISTANTS with adequate training and drawing office experience. O.N.C. (Building) an advantage. Work includes site layouts, sketches, plans, working drawings and details for variety of technical and domestic buildings in permanent and semi-permanent construction. Financial assistance and time off given for recognised courses of study. Pension and pension prospects. Five-day week with 18 days paid leave per year initially. Overseas tours for which special allowances granted. Salary in LONDON ranges from £680 (age 25) to £900 p.a. for men; from £570 to £668 p.a. for women; somewhat lower in PROVINCES. Commencing salary dependent on age, quals, and exp. Applicants, who must be natural born British subjects, should write to AIR MINISTRY, W.G.d., Laccon House, Theobalds Road, London, W.C.1. or apply to any Employment Exchange quoting Kings Cross 891 giving age, details of training, quals., full particulars of former posts held and copies of any testimonials. Candidates selected will normally be interviewed in London and certain expenses reimbursed. 198

**NEWCASTLE REGIONAL HOSPITAL BOARD
EXPANSION OF ARCHITECTURAL
DEPARTMENT**

P. H. KNIGHTON, M.B.E., A.R.I.B.A.,
REGIONAL ARCHITECT

Arising from the number of major projects (totalling about £14m.) to be carried out in the Newcastle Region as part of the Hospital Expansion Programme, the Board intends to add considerably to its Architectural Department in Newcastle.

The work is of a high-class and varied nature and offers ample opportunity for gaining experience in both highly-specialised hospital structures and many types of ancillary general and domestic buildings. Possession of hospital experience is not essential. The work will involve all stages from sketch plans to supervision of construction and a car mileage allowance will be paid.

APPLICATIONS are invited for the following (superannuable) posts:

SENIOR ASSISTANT ARCHITECTS.
(£1,300 x £50(5) - £1,600)

Applicants should be registered architects and have had experience of the design and construction of major public buildings. Experience of hospital work is desirable but not essential.

ASSISTANT ARCHITECTS.
(£905 x £35(1) x £45(6) x £50(2) - £1,310)

Applicants should have passed the R.I.B.A. Final Examination. For Registered architects increments can be given above the bottom of the grade in accordance with relevant practical experience since qualifying.

ARCHITECTURAL ASSISTANTS.
(£625 x £30(8) x £35(1) - £900)

Enter R.I.B.A. and preferably some practical experience.

ARCHITECTURAL DRAUGHTSMEN.
(£475 x £25(6) x £30(2) - £685)

Applicants should have had 3 years' previous experience in an architect's drawing office and be neat and quick draughtsmen.

Evening study facilities are available at King's College of Durham University in Newcastle.

Applications should give details of professional training, qualifications, experience and posts held. Present salary and any other relevant information, and should be accompanied by the names of three architectural referees and should reach the Secretary to the Board, Benfield Road, Newcastle upon Tyne 6, not later than 11th August, 1960.

Canvassing will disqualify. 2486

**AYCLIFFE DEVELOPMENT CORPORATION
(NEW TOWN OF NEWTON AYCLIFFE)**

ARCHITECTURAL ASSISTANT (Grade A.P.T. III, £880-£1,065 p.a.).

JUNIOR ARCHITECTURAL ASSISTANT (Grade A.P.T. I, £610-£765 p.a.).

Applications are invited for the above appointments within the grades stated according to experience and ability, for work on a variety of projects in 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, training, qualifications (if any), present and previous appointments and experience together with the names of two referees to arrive by Monday, 15th August, 1960. The post applied for must be clearly stated.

A. V. WILLIAMS,
General Manager.

Churchill House,
Newton Aycliffe,
Nr. Darlington. 2484

**SCOTTISH SPECIAL HOUSING ASSOCIATION
LTD.**

ARCHITECTS
The Association, a government sponsored and financed body, is developing large scale housing schemes throughout Scotland with an interesting programme of mixed development including multi-storey blocks of flats on both virgin sites and urban renewal in Glasgow and elsewhere invite applications from qualified architects. The posts are superannuable under the Local Government Superannuation Acts and carry salaries up to £1,390 with placing for experience.

Headquarters would be in Edinburgh where a house could be provided if required. Application forms with particulars from Harold E. Buteux, A.R.I.B.A., A.M.T.P.I., Chief Technical Officer, 19, Palmerston Place, Edinburgh, 12. 2493

CUMBERLAND COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
Applications are invited for the appointment of an **ASSISTANT COUNTY ARCHITECT (DESIGN)** at a salary within J.N.C. Scale A (£1,260 × £50 (2) £50—£1,390). Essential User Grade C travelling allowance. Housing accommodation is available.
Applicants must be A.R.I.B.A.—this is an excellent opportunity for a young Architect with a fair for design.
Further details and application forms, to be returned not later than Monday, 22nd August, 1960, may be obtained from the Acting County Architect, 15, Portland Square, Carlisle. The successful applicant will be required to take up his duties as soon as possible.

G. N. C. SWIFT,
Clerk of the County Council. 2483

BOROUGH OF OLDBURY
Applications are invited for the following appointments on the staff of the Borough Surveyor's Department:
(a) **ARCHITECTURAL ASSISTANT.** Salary A.P.T. Grade III (£880—£1,065).
(b) **ARCHITECTURAL ASSISTANT.** Salary A.P.T. Grade II (£767—£880).
Candidates should be well trained and experienced in the design and preparation of schemes and supervising contracts in connection with general housing including multi-storey flats, public buildings, school buildings, and minor improvements and maintenance works.
The appointments will be superannuable subject to the National Conditions of Service and to the selected candidates passing a medical examination.
Applications giving particulars of age, qualifications, experience, and the names of two referees, should be delivered to the undersigned not later than the 9th of August, 1960.

KENNETH PEARCE,
Town Clerk. 2452

GLoucestershire COUNTY COUNCIL
APPOINTMENT OF ASSISTANT ARCHITECTS
Applications are invited for the following appointments:—
(a) "Career Class" commencing in A.P.T. IV (£1,065—£1,220) progressing to A.P.T. V (£1,220—£1,375) 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.
(b) "Qualifying Class" Special Grade (£785—£1,070). Applicants must have passed the Final Examination R.I.B.A.
N.J.C. Service Conditions, Superannuation, Medical Examination.

Applications, stating age, present position, salary and date of appointment, previous appointments, names and addresses of two persons for reference, to be submitted to County Architect, Shire Hall, Gloucester, by 8th August, 1960.

GUY H. DAVIS,
Clerk of the County Council. 2482

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE
COUNTY SUPPLIES DEPARTMENT
Applications are invited for the post of **DRAUGHTSMAN** for Library, Laboratory and School furniture. Candidates should preferably have had a sound technical training in furniture construction and be capable of preparing drawings, full-size working details and specifications. Experience in design and manufacture of school furniture an advantage.

Salary in accordance with Grade A.P.T. I of the National Scales, i.e., £510 × £30 (4) × £35 (1) —£765 per annum. Appointment subject to the Local Government Superannuation Acts, to a medical examination, and to the County Council's general conditions of service.

Applications, stating age, qualifications and experience should be sent to the Chief Officer of Supplies, County Supplies Department, Cliff Lane, Wakefield, not later than the 11th August, 1960.

2477

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
Applications are invited from Architects possessing a keen sense of architectural design for the post of **PRINCIPAL ASSISTANT ARCHITECT** in Senior Officers' Scale "E"—£1,555 to £1,885, according to experience and qualifications.
The successful applicant will be concerned with the co-ordination of the work at all project stages of four groups of architects and the co-ordination of their efforts with other branches of the Department.

Application forms and details of the appointment are obtainable from the County Architect, P.O. Box 26, County Hall, Preston, and should be returned by 12th August, 1960, quoting Ref. A/AJ.

2481

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
ARCHITECTS (up to £1,250) and **ARCHITECTURAL ASSISTANTS** (up to £950) required in the Development Group of the Housing Division. The Group is to be expanded and work will involve application of building techniques in experimental building schemes of substantial size. Starting salary according to experience and qualifications. Particulars and form, returnable by 12th August, from Hubert Bennett, F.R.I.B.A., Architect to Council (EK/AJ/1962/7), County Hall, S.E.1. 2456

Vacancies occur in the office of the Architect to the Northern (N & C) Division of the National Coal Board, Divisional Headquarters, Whitley Road, Longbenton, Newcastle-upon-Tyne, 12, for qualified **ARCHITECTS** of some experience, to work as seconds in teams on a variety of work, including offices, medical centres, laboratories, pithead baths, and colliery surface buildings. Applicants must be A.R.I.B.A. with office experience of working drawings of first class work. Salary within scale £815 × £30—£1,125 p.a.

Applications giving date of birth and full details of education, qualifications and experience to Divisional Chief Staff Officer at the above address by 8th August, 1960. Please quote: A/1.

2458

BOROUGH OF MAIDSTONE
(a) **CHIEF ASSISTANT ARCHITECT—**
A.P.T. IV — £1,120—£1,220.
(b) **ASSISTANT ARCHITECT—**
A.P.T. II-III — £765—£1,065.

The person appointed for (a) will be mainly responsible for housing and flat construction under the Principal Architect, and will have an Essential User's car allowance. Consideration will be given to the provision of **HOUSING ACCOMMODATION** if required.

The appointments will be subject to the Local Government Superannuation Acts and to the National Joint Council's Scheme of Conditions of Service.

Application forms obtainable from the Borough Engineer, Palace Avenue, Maidstone, to whom they should be returned not later than August 23rd.

T. SCHOLES,
Town Clerk. 2487

CARSHALTON URBAN DISTRICT COUNCIL
ENGINEER AND SURVEYOR'S DEPARTMENT
ASSISTANT ARCHITECTS

(a) One within scale £810—£1,115. Qualifications: Final R.I.B.A. or equivalent.
(b) Two within scale £780—£920. Qualifications: Intermediate R.I.B.A. or equivalent.

Commencing salaries according to experience of candidates. Building work envisaged offers a varied and interesting programme for both senior and junior appointments. Carshalton is a large Urban District within the Greater London area and has a population of 60,000. Five-day working week in operation.

Application forms for above appointments, indicating post required, obtainable from the undersigned, to be returned within fourteen days from date of appearance of this advertisement.

C. H. DURRANT,
Clerk of the Council.

District Council Offices,
The Grove,
Carshalton, Surrey. 2491

EASTERN REGIONAL HOSPITAL BOARD, SCOTLAND

Applications are invited for the following posts:—

(a) **ASSISTANT ARCHITECT.** £906 to £1,310.
(b) **ARCHITECTURAL ASSISTANT.** £625 to £900.
Applicants for post (a) must be Registered Architects by examination preferably having some experience of the design and construction of modern public buildings.

Applicants for post (b) must be of R.I.B.A. Intermediate standard with some practical experience. Starting salaries according to age and experience.

Applications stating age, training, qualifications, past and present appointments, experience and the names and addresses of three referees should be sent to The Secretary, Eastern Regional Hospital Board, Vernonholme, Riverside Drive, Dundee, not later than 16th August, 1960. 2499

BUCKS COUNTY COUNCIL

Applications are invited for the following appointments in the County Architect's Department:—

ASSISTANT ARCHITECT, J.N.C. Scale "C," £1,385—£1,620 p.a.
ASSISTANT ARCHITECT, J.N.C. Scale "B," £1,285—£1,485 p.a.
ASSISTANT ARCHITECT, A.P.T. Grade V, £1,220—£1,375 p.a.

The appointments are superannuable and subject to medical examination and applicants should be suitably qualified for architectural appointment.

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

Applications, on forms provided, must be returned by the 15th August, 1960.

F. B. POOLEY,
County Architect.

County Offices,
Aylesbury,
Bucks. 2438

WELSH COLLEGE OF ADVANCED TECHNOLOGY

Cathays Park, Cardiff
(Associated with the University of Wales)

WELSH SCHOOL OF ARCHITECTURE

Applications are invited for the post of **TEMPORARY ASSISTANT LECTURER AND STUDIO INSTRUCTOR** in the Welsh School of Architecture, a department of the College. Candidates should have been trained in a "Recognised" School of Architecture, be Associates of the R.I.B.A., and have had approximately three years post-academic practical professional experience. The salary will be in accordance with the Burnham Technical Scale for Assistants, Grade "B," £700 × £27 10s.—£1,150 (men), plus allowances for degree (or degree equivalent) and training. Allowance will be made in placing on the scale for previous teaching or professional experience, and for persons with the qualifications and experience stated above the minimum commencing salary will be £962 10s. per annum.

ROBERT E. PRESSWOOD,
Clerk to the Governors.

City Hall,
Cardiff.
18th July, 1960. 2437

MODERNISATION OF

BRITISH RAILWAYS

The Western Region requires the following technical staff:

CIVIL ENGINEERING

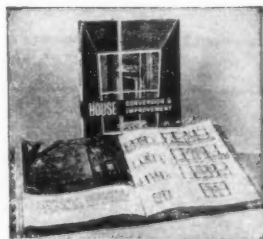
ARCHITECTURAL

BUILDING

HEATING & VENTILATING

Interesting work in pleasant conditions with promotion on merit; Superannuation Fund; reduced rates of travel and other concessions. Commencing salaries up to £1,000 according to ability. A limited number of posts in ranges between £1,150 and £1,695. Five-day week.

Applications in the first instance, giving qualifications and experience, to:—
Chief Civil Engineer, British Railways, Western Region, Paddington Station, London, W.2. 2405



Felix
Walter
F.R.I.B.A.

HOUSE CONVERSION AND IMPROVEMENT

THE FIRST comprehensive illustrated book on the subject of the conversion and improvement of all kinds of house property. It is designed to help architects, local housing authorities and private owners. Mr. Walter thoroughly illustrates and describes a large variety of successful conversions, from luxury Belgravia terrace houses to remote rural cottages, giving full details of building costs, rent and rates for most of them. And specialist authors contribute chapters on law, finance, management and town planning.

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**AMERSHAM RURAL DISTRICT COUNCIL
CIVIC CENTRE SITE, AMERSHAM**
The Rural District Council have acquired for development land included in the Town Map of Amersham as a Civic Centre.

Included in the development are proposals for:—

- (a) Two blocks of multi-storey (Higher Income Group) flats;
- (b) One block of multi-storey commercial offices;
- (c) Council Offices and Council Chamber;
- (d) Other Civic development, e.g., Courts of Justice, etc.;

in respect of which outline planning permission in principle has been obtained.

The whole area is to be treated as one scheme for the purposes of ensuring that architectural and landscaping amenities are provided and maintained in accordance with the general principles laid down by the Council's Architect.

The Council are prepared to consider tenders from estate developers for that part of the development shown in "A" above on the basis of a building lease or leases of the area to be developed.

The period of the lease or leases will be restricted to ninety-nine years.

Copies of a location plan of the site and the Council's statement as to the general principles to be observed with a diagrammatic layout can be obtained from the undersigned together with form of tender and the conditions of tender upon payment of a fee of £5. 5. 0. which shall not be returnable.

Dated this 22nd day of July, 1960.
H. E. BUXTON,
Clerk to the Council.

2495

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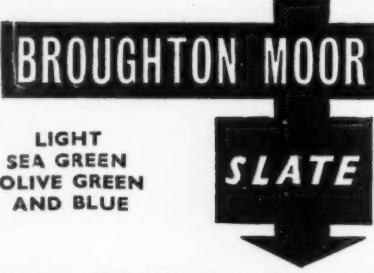
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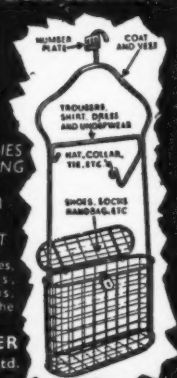
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