

THE ARCHITECTS' JOURNAL



standard contents

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

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No. 3343]

[Vol. 129

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 H one week, H to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1.	Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5533
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 5861
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BE	Building Exhibition. 11, Manchester Square, W.1.	Hunter 1951
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1.	Holborn 3411
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2.	Covent Garden 3008
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders., 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)	
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square.	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street Grosvenor Square, W.1.	Mayfair 7086



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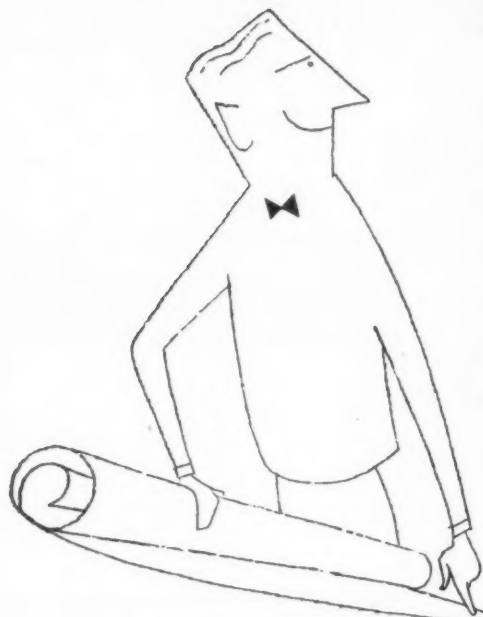
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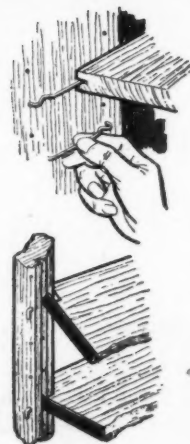
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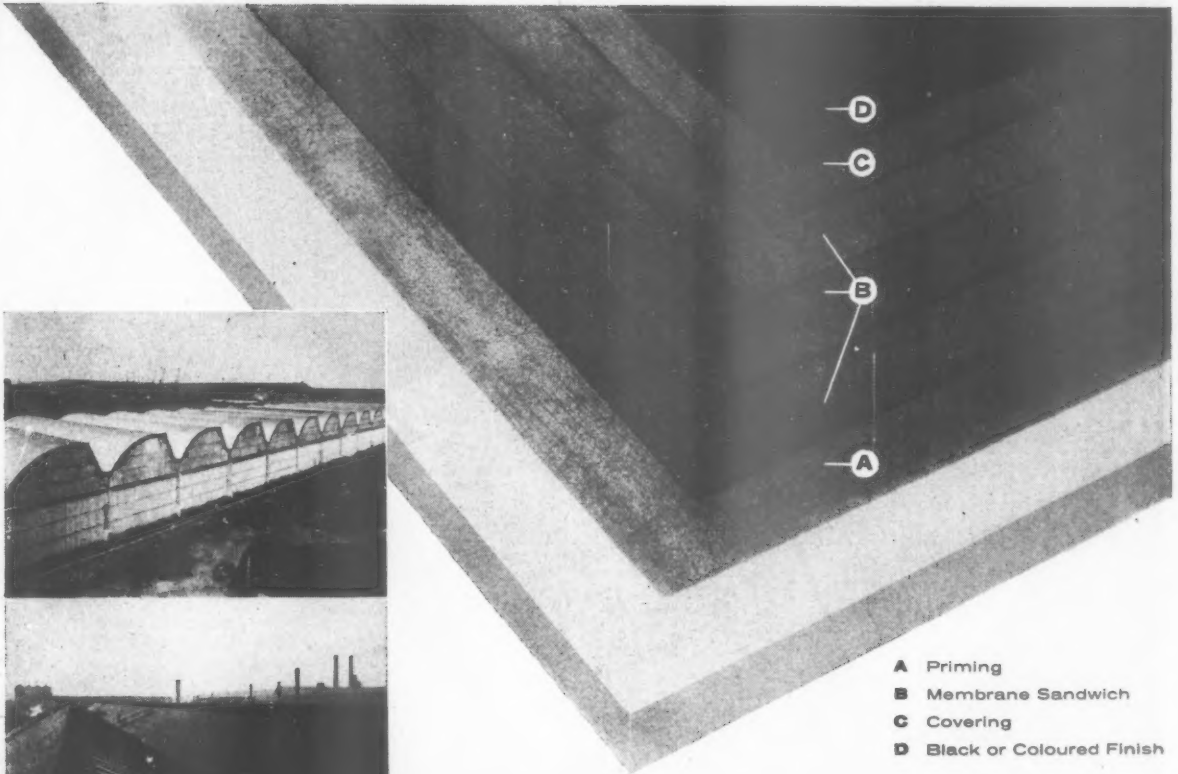
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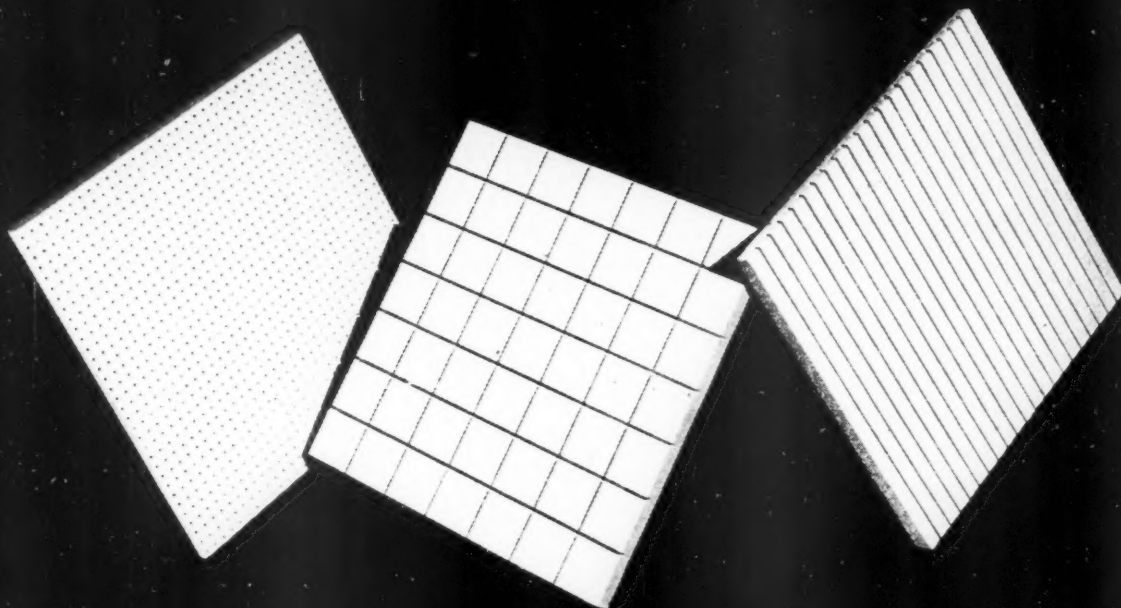
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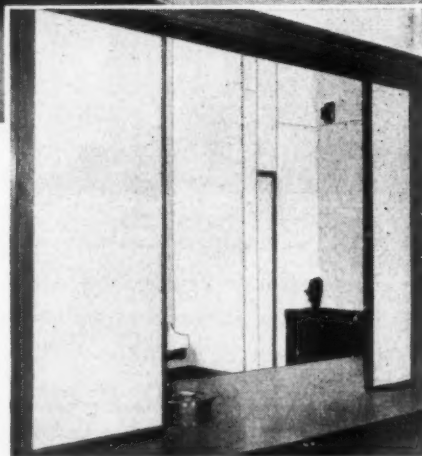
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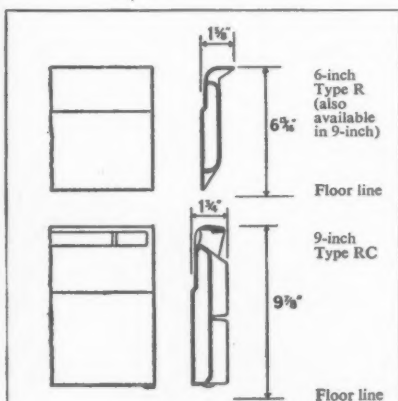
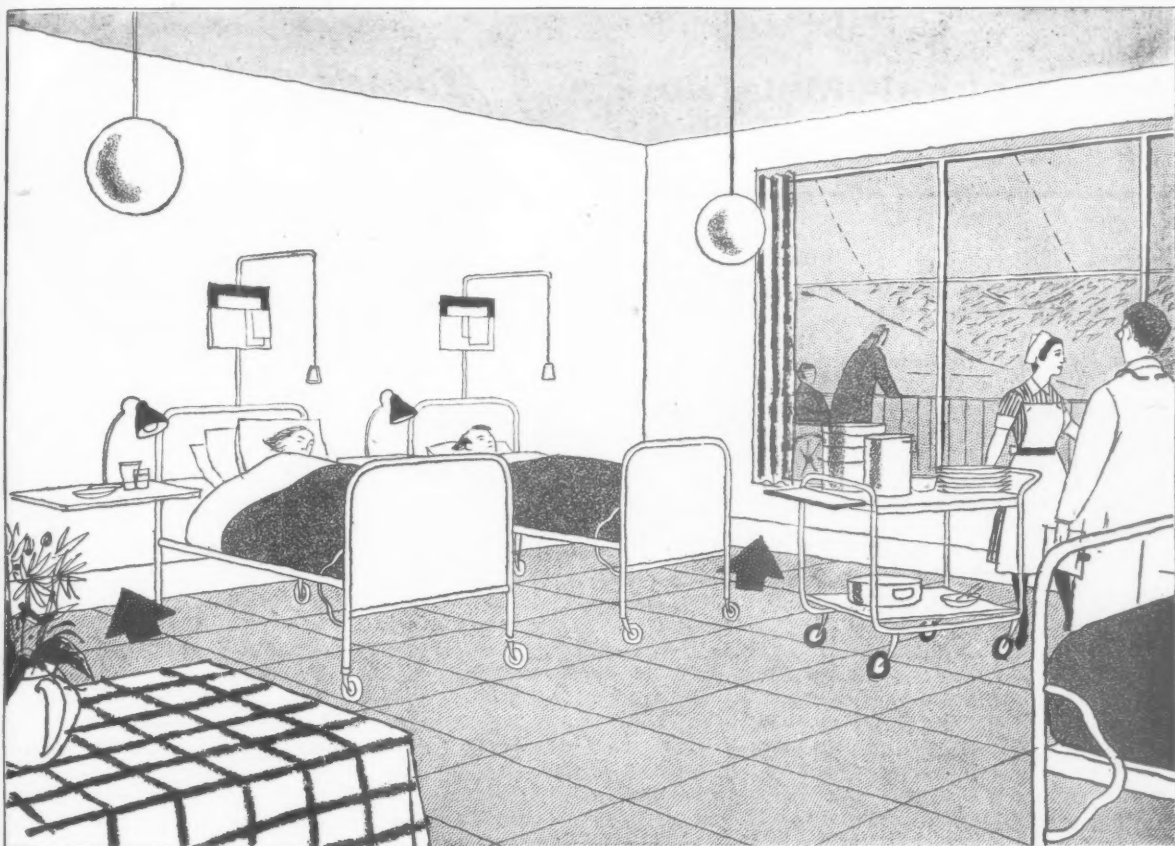
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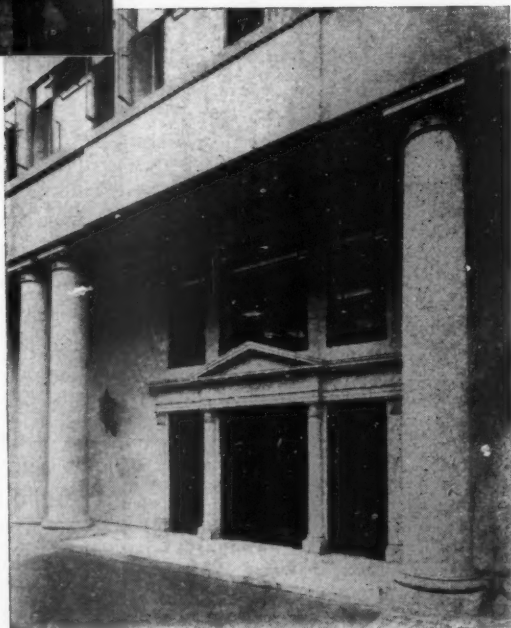


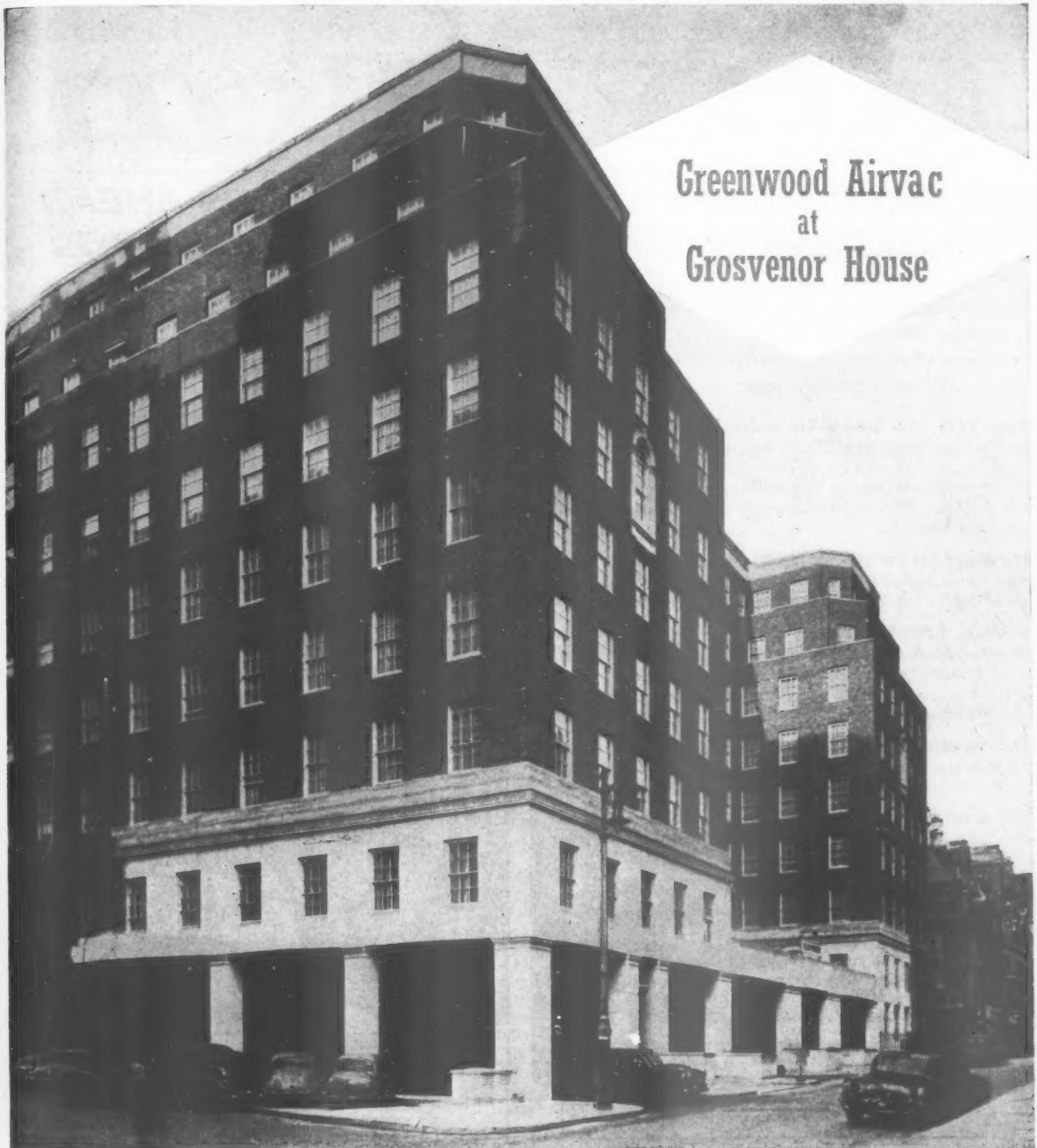
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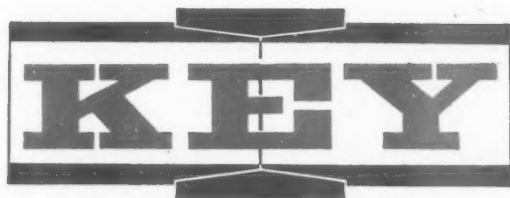
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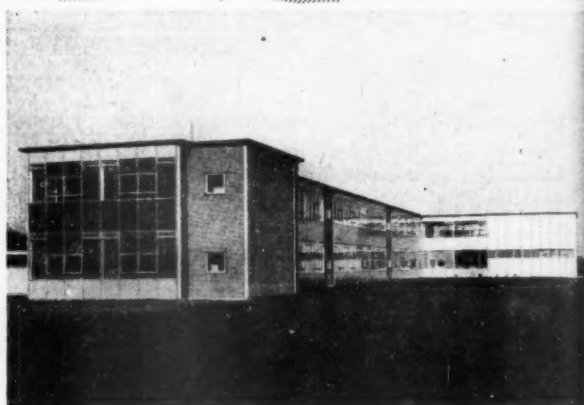
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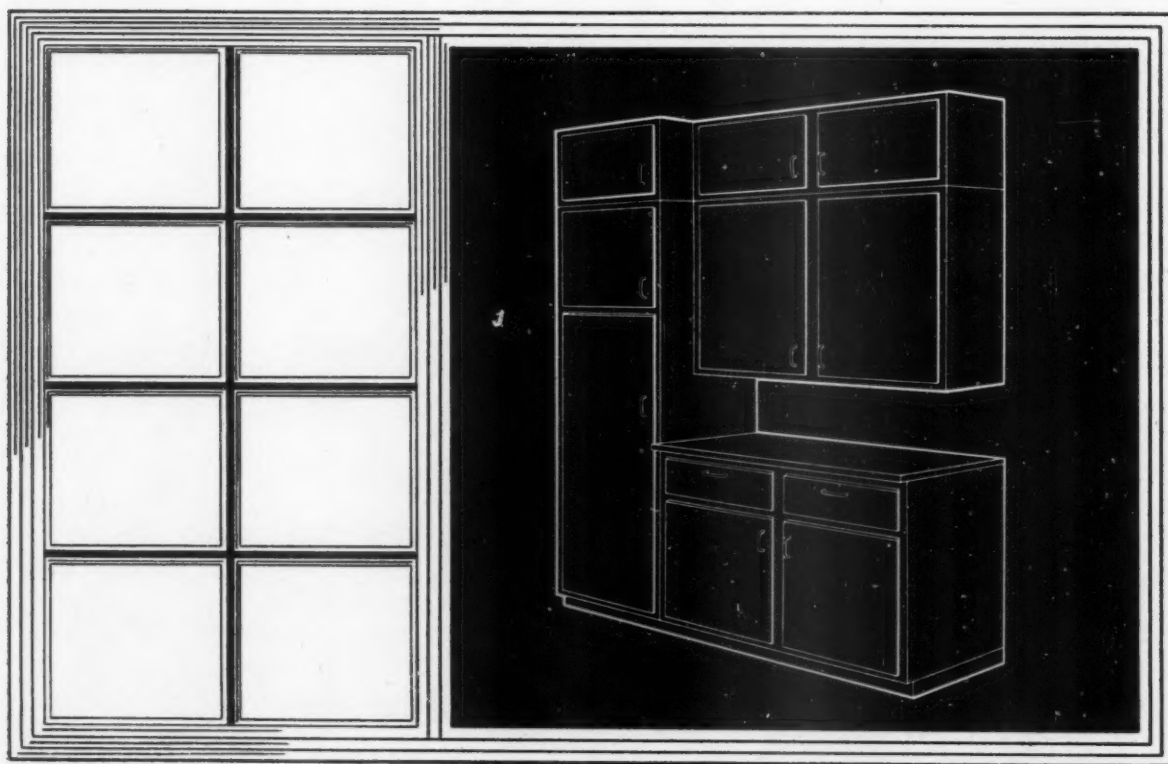
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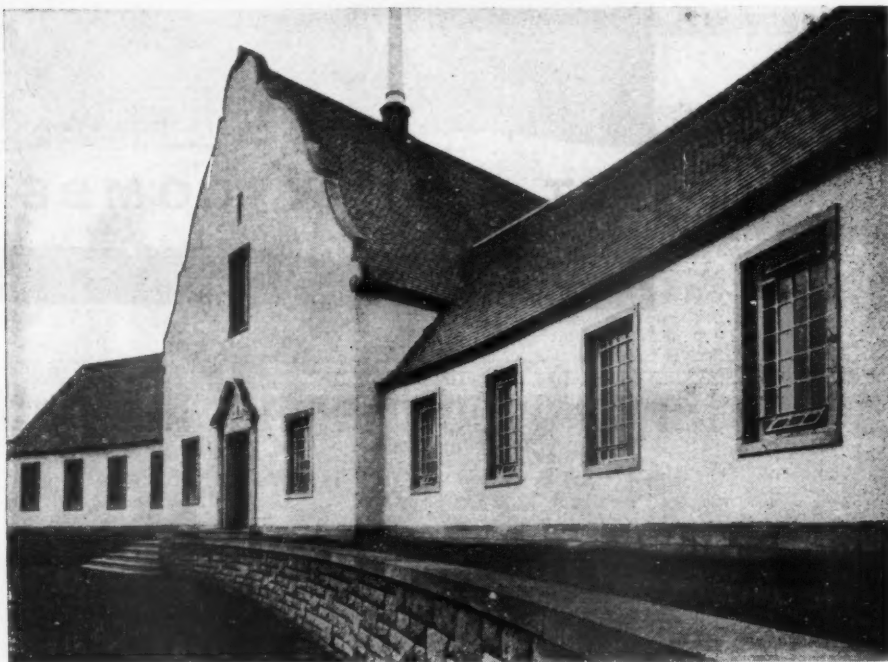
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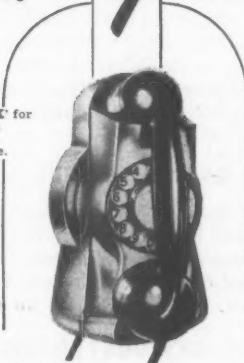
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says 37 year-old Ronald Edward Stanley, leading Bournemouth builder

YOUNG, go-ahead Bournemouth builder, Ronald Edward Stanley, first advertised houses with oil fired heating about fifteen months ago. "The response was fabulous," he told us. "Greater than any we'd ever received. *Actual sales doubled!* And it's gratifying to note that most of the enquiries actually repeated the words oil fired heating – as if to make doubly sure."

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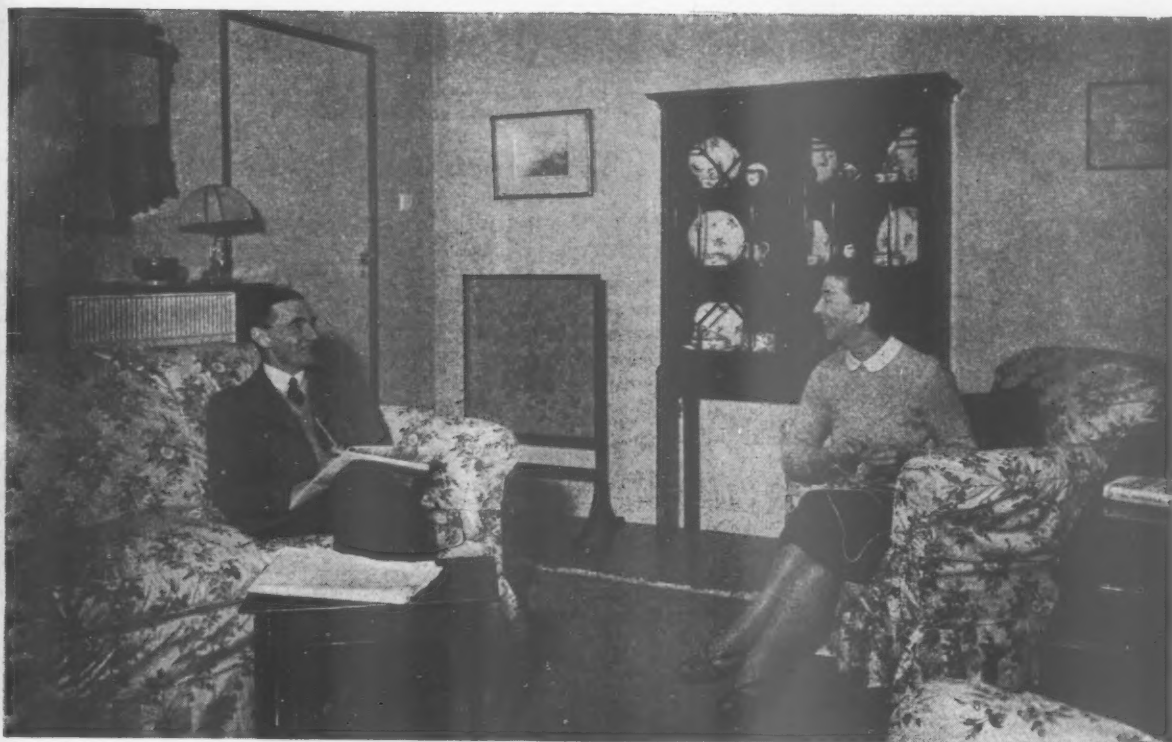
in Bournemouth but throughout the country. That's because more and more people today want something more than a new house – they want the very latest in labour-saving homes. As Mr. Stanley put it – "If we hadn't put in oil fired heating we'd be way behind the times. It's an absolute must nowadays."

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Oil fired heating is an absolute must not only from the customers' point of view, but from the builders', too. It makes a house more desirable, *easier to sell*. It increases the value of a house out of all proportion to the cost of the heating system itself.

WHAT MR. STANLEY'S CUSTOMERS SAY

John Backler is a retired bank official. He and his wife



Mr. and Mrs. John Backler in the lounge of their home at Highcliffe-on-Sea near Bournemouth. The house is heated by an Agavector air system (ideal for new homes) which not only keeps it warm, but also fresh because with a warm air system the air is always gently on the move. The Agavector can also be used for circulating cool air in the summer months.

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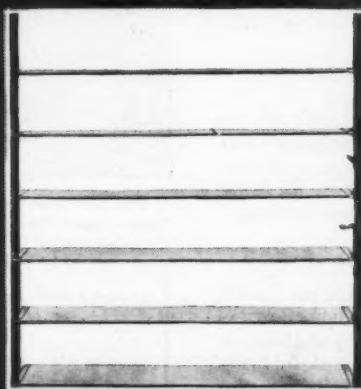
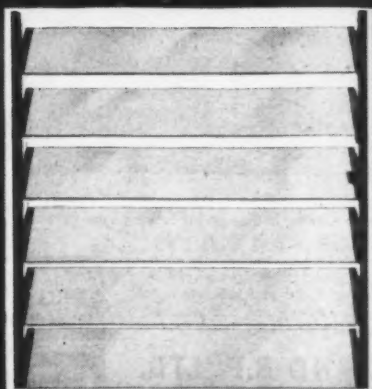
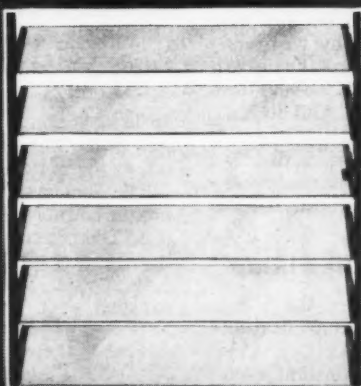
The Ministry of Education (Architects and Building Branch) have recently specified Naco Sunsash for many new developments. Other users include: U.K. Atomic Energy Authority; Ministry of Agriculture; Air Ministry; Ministry of Supply; Ministry of Works; London County Council; Bucks County Council; Herts County Council; The English Electric Co. Ltd., Nestlé Co. Ltd., and Roneo Ltd.

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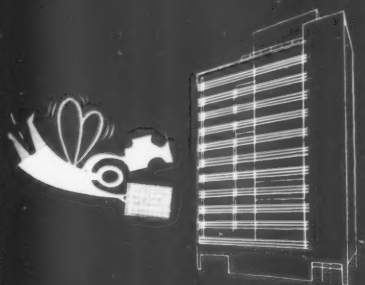
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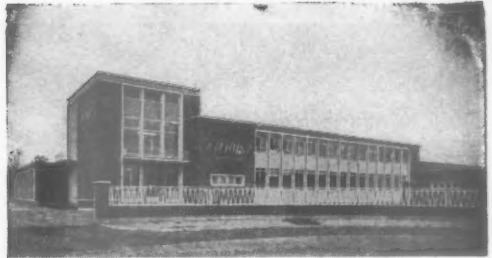
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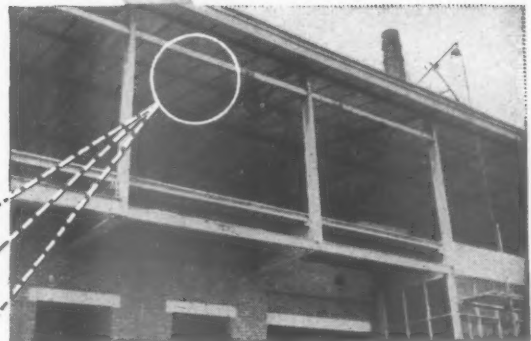
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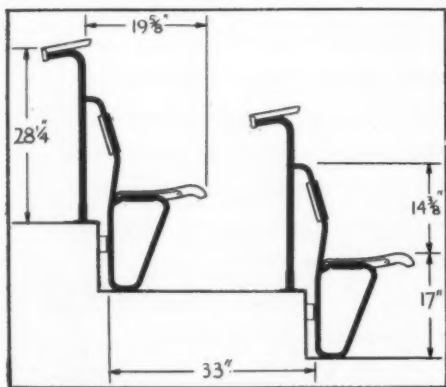


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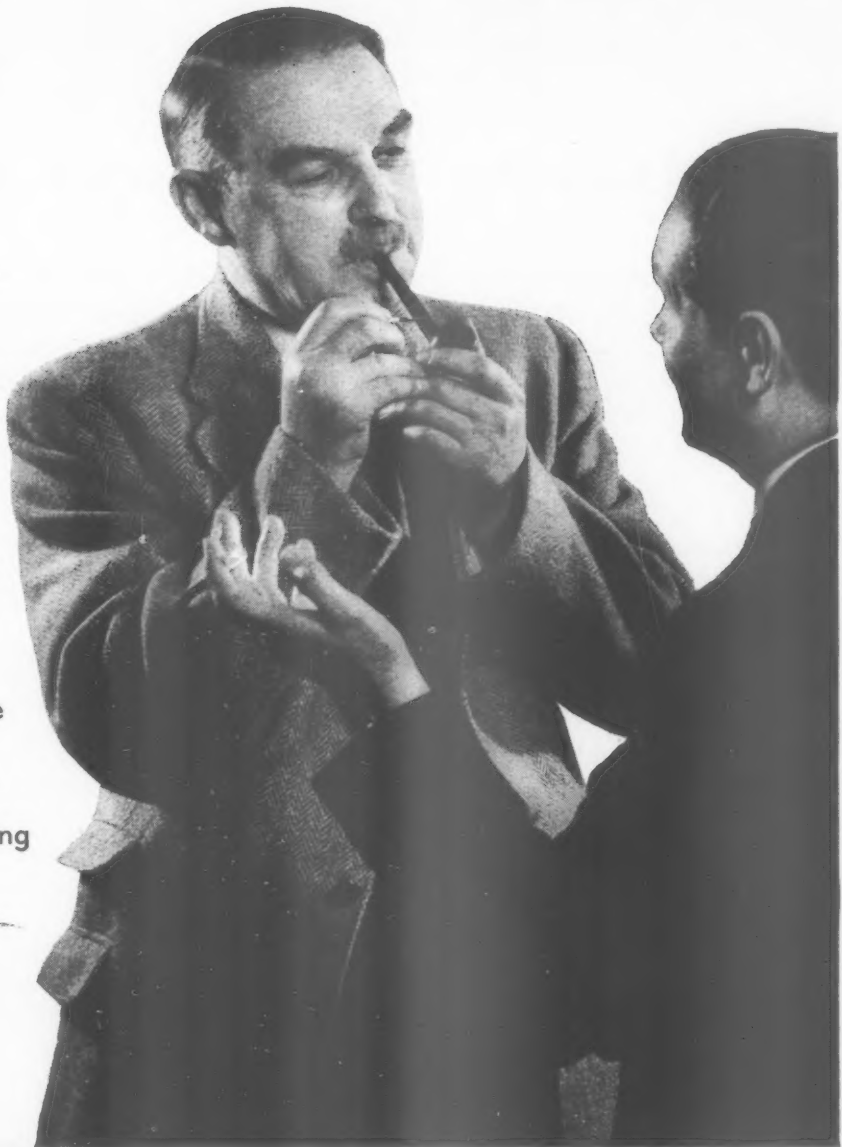
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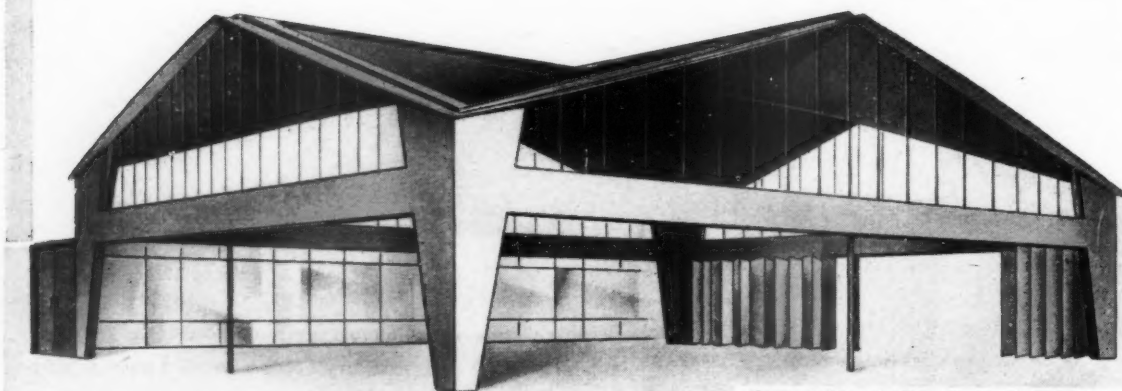
The illustration shows how hyperbolic paraboloid shells are being used as an assembly hall roof for Kingsbrook Infants School at Bedford. The compact planning of this school consists of rooms grouped round a square central hall and incorporates circulation area and dining space. This gives the feeling of spaciousness in a building which has been planned well below the Ministry of Education's limits of cost. The high level windows and lightness of structure give the answer to several problems in tight planning and the structure is a prototype to be used in Bedfordshire by the County Architect.

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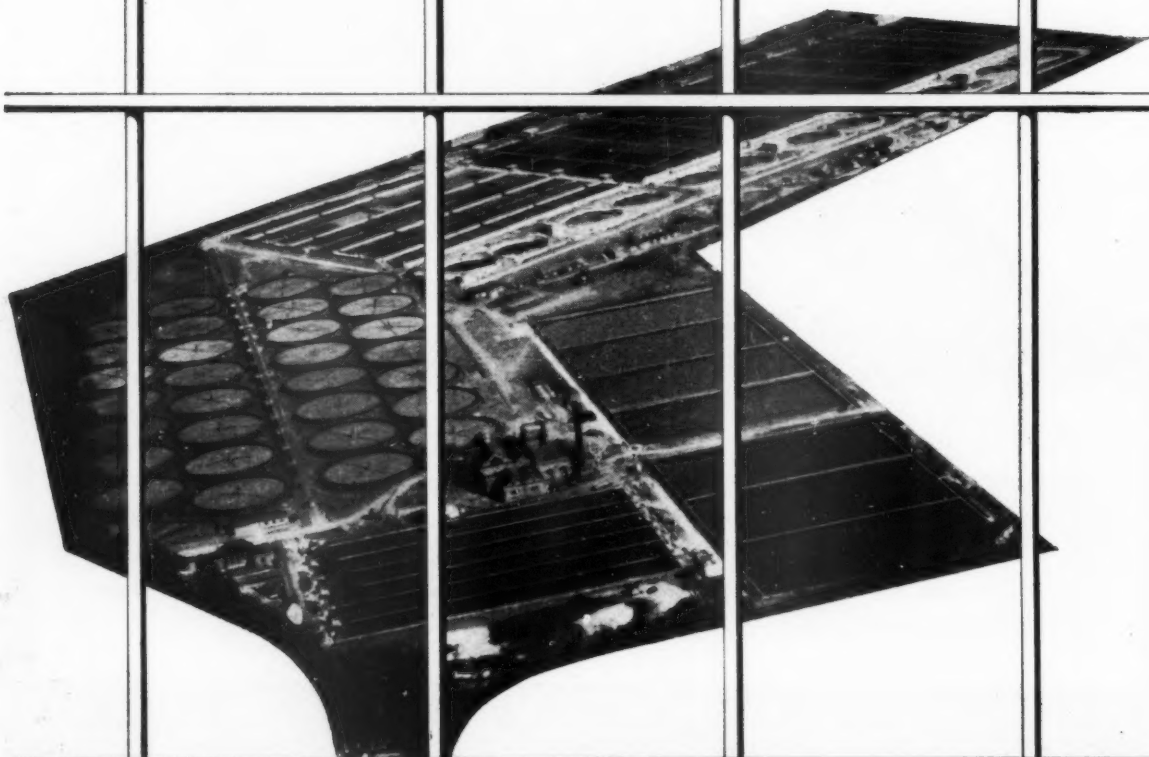
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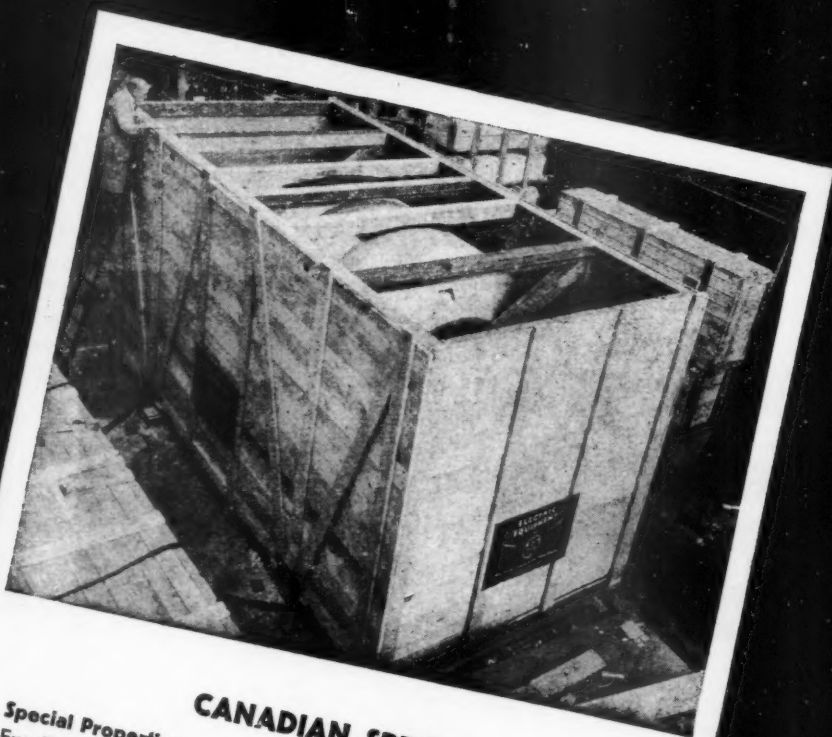
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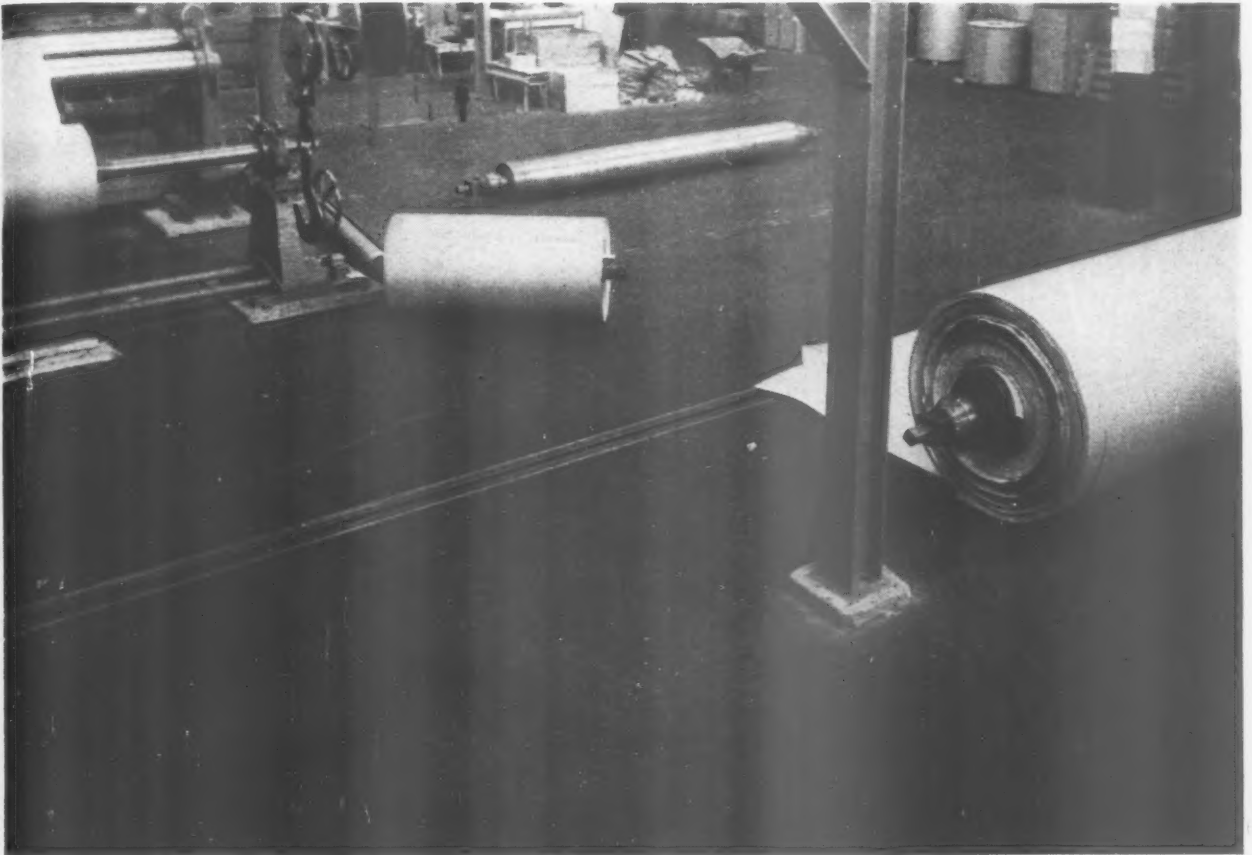
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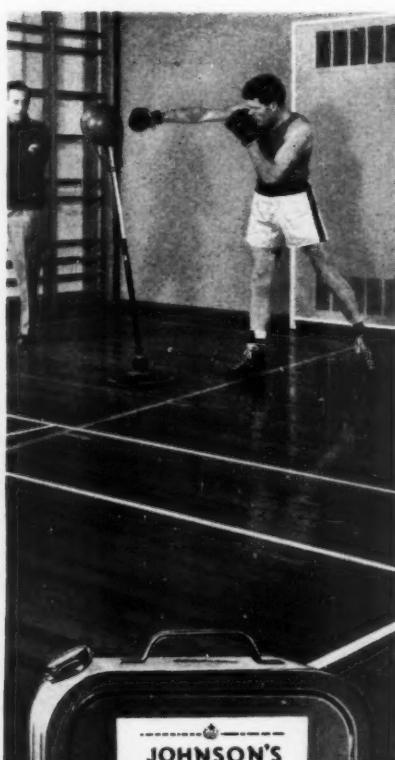
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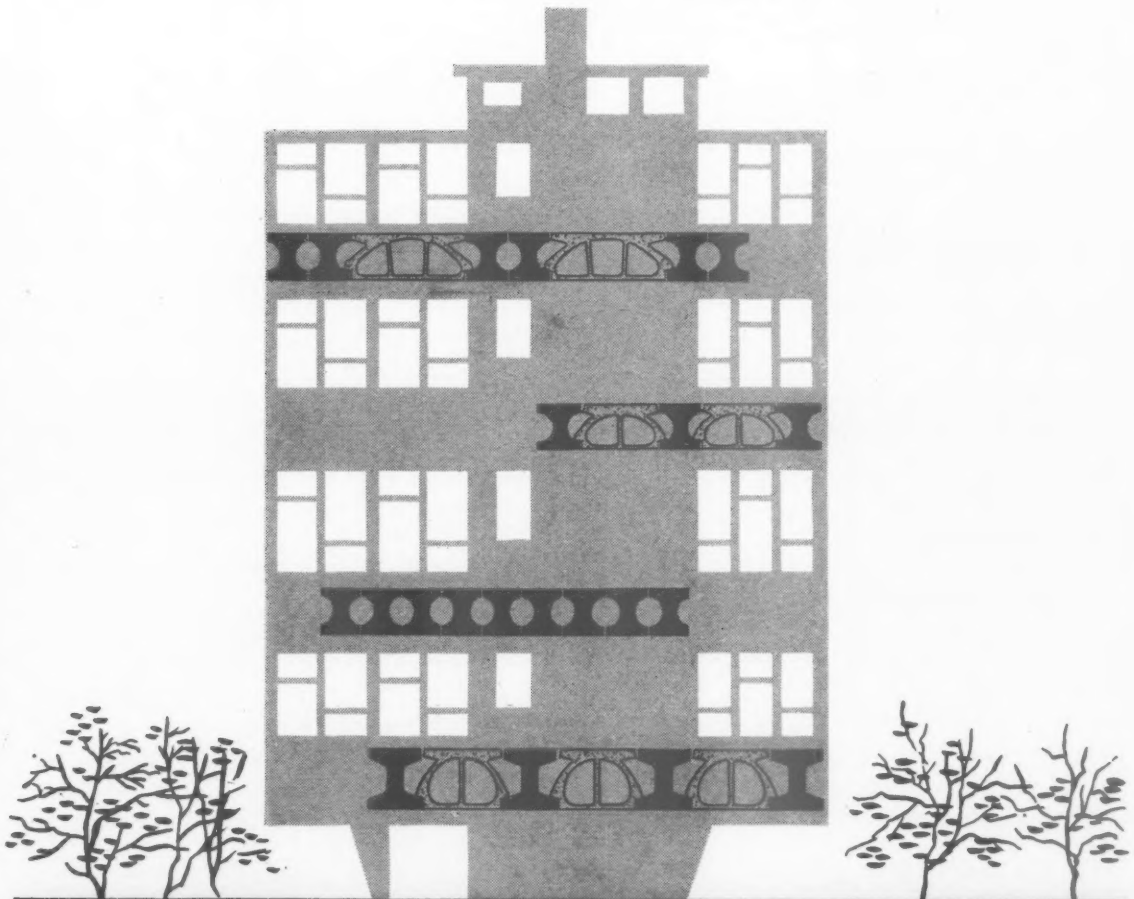


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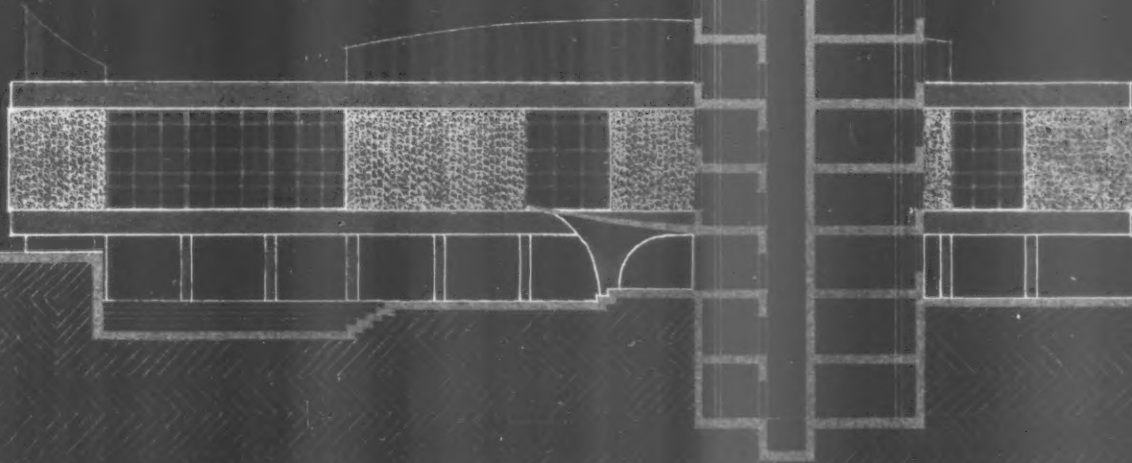
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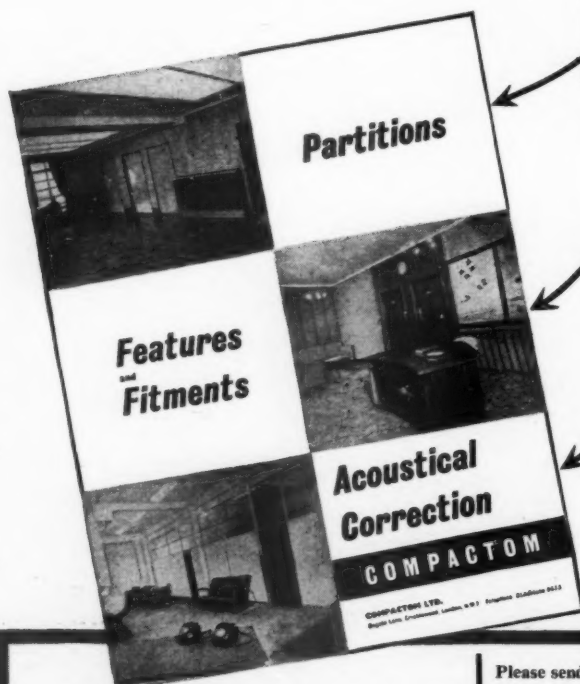


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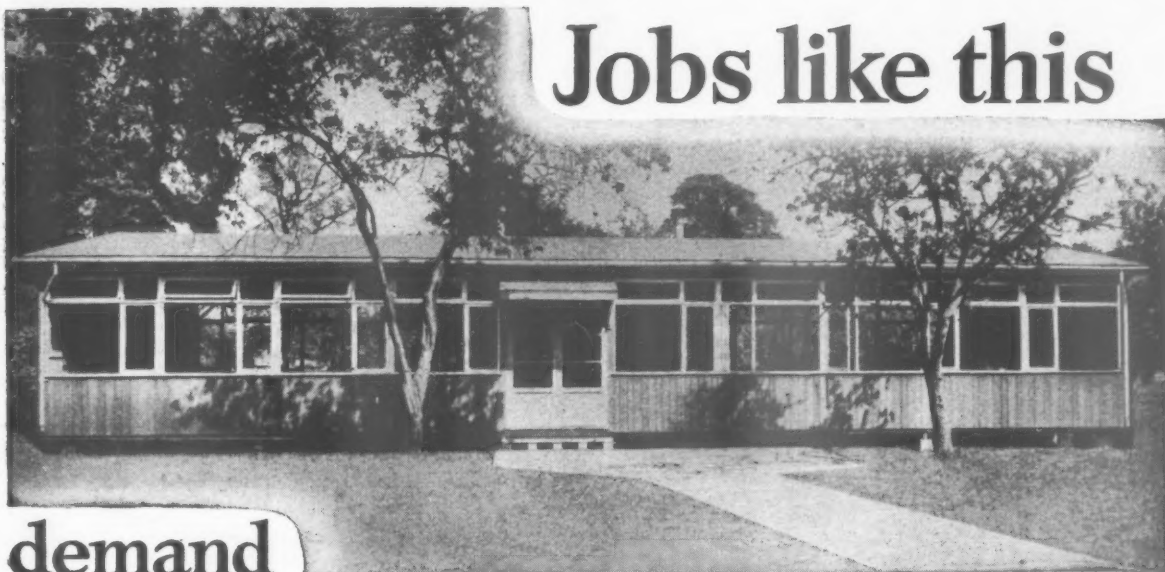
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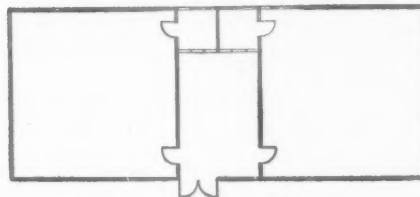
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Photographs by courtesy of the County Architect, Gloucestershire County Council.



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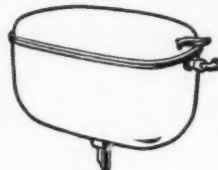


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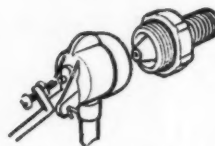
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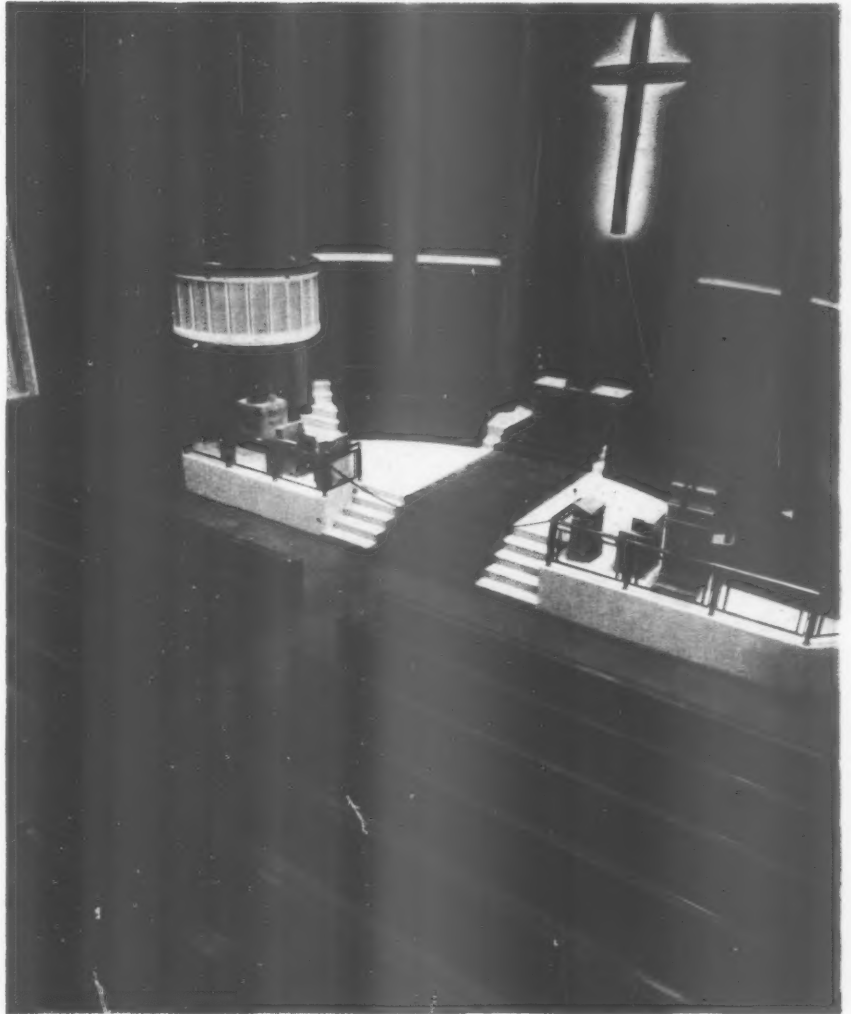
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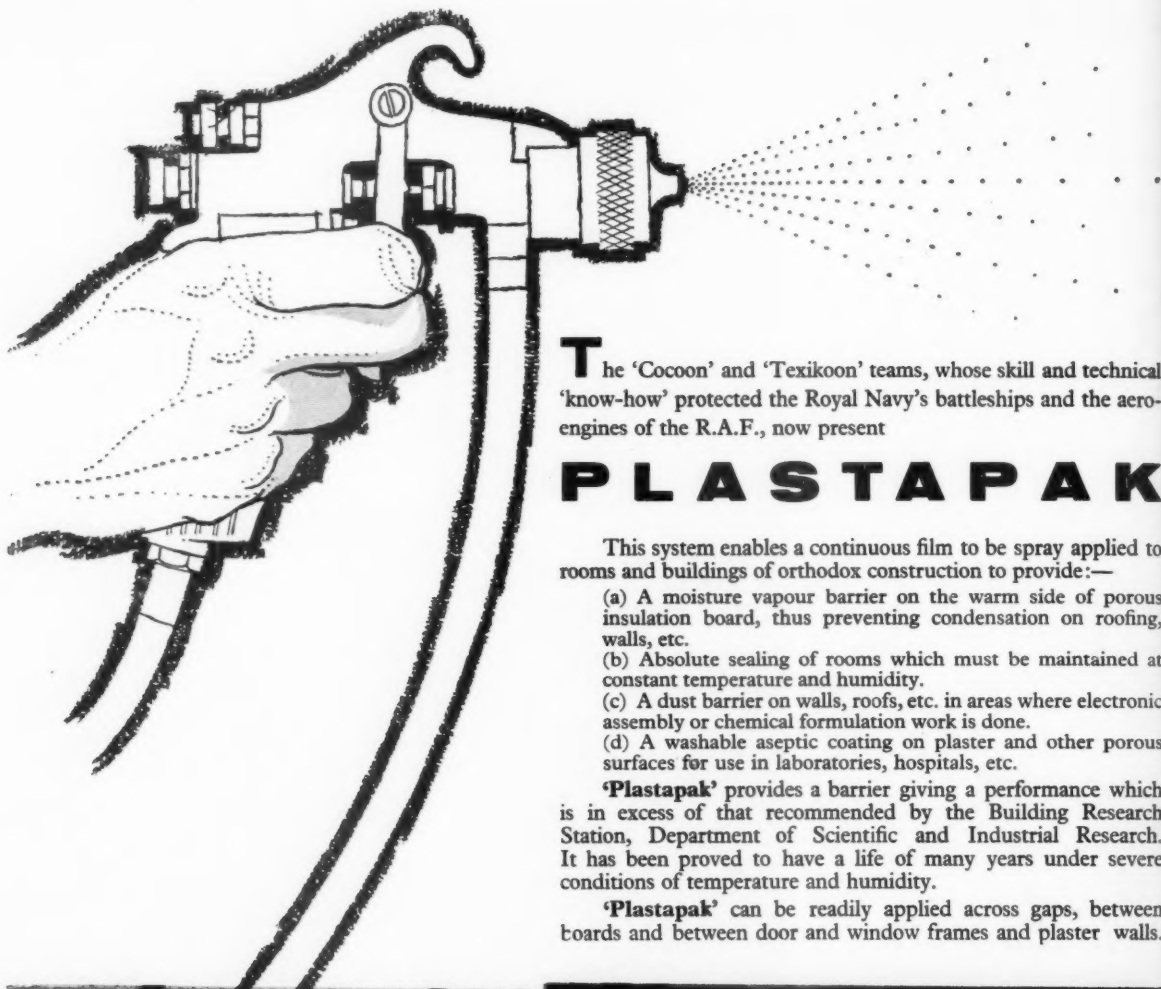
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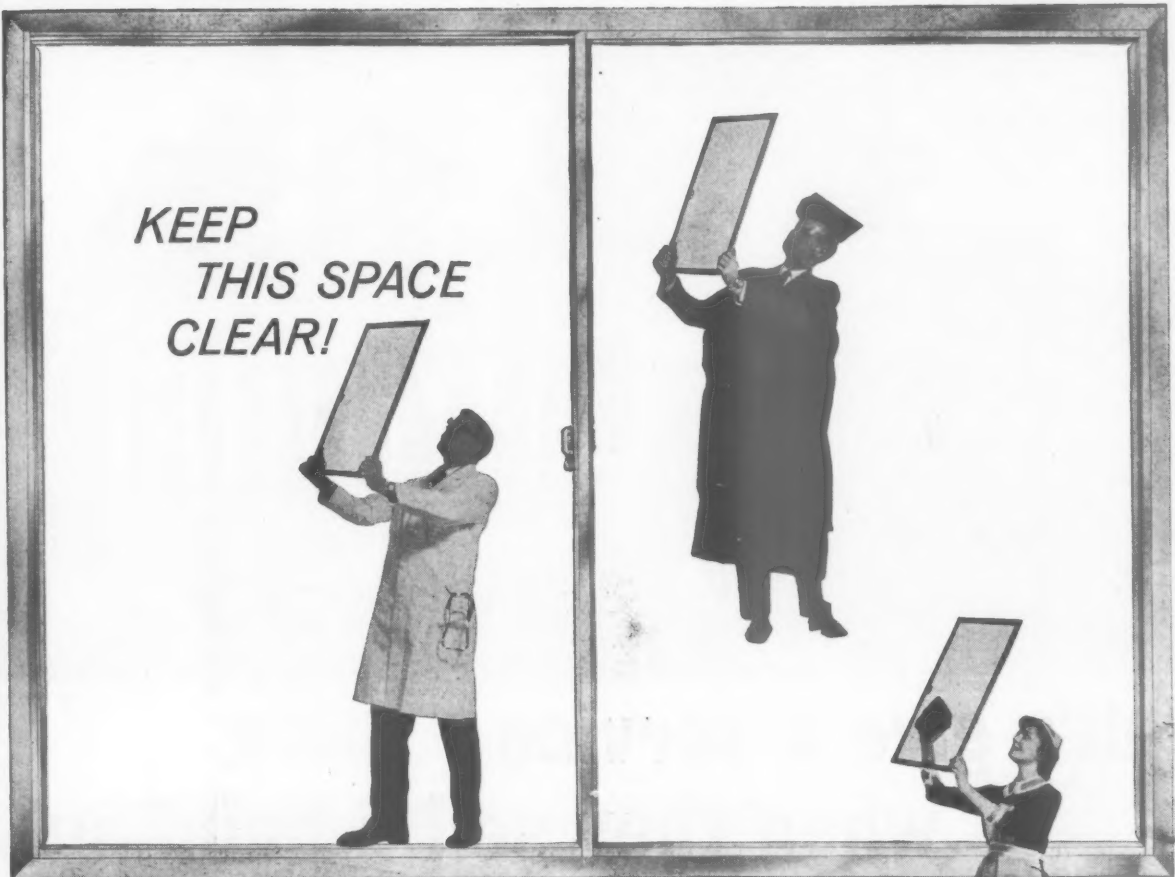
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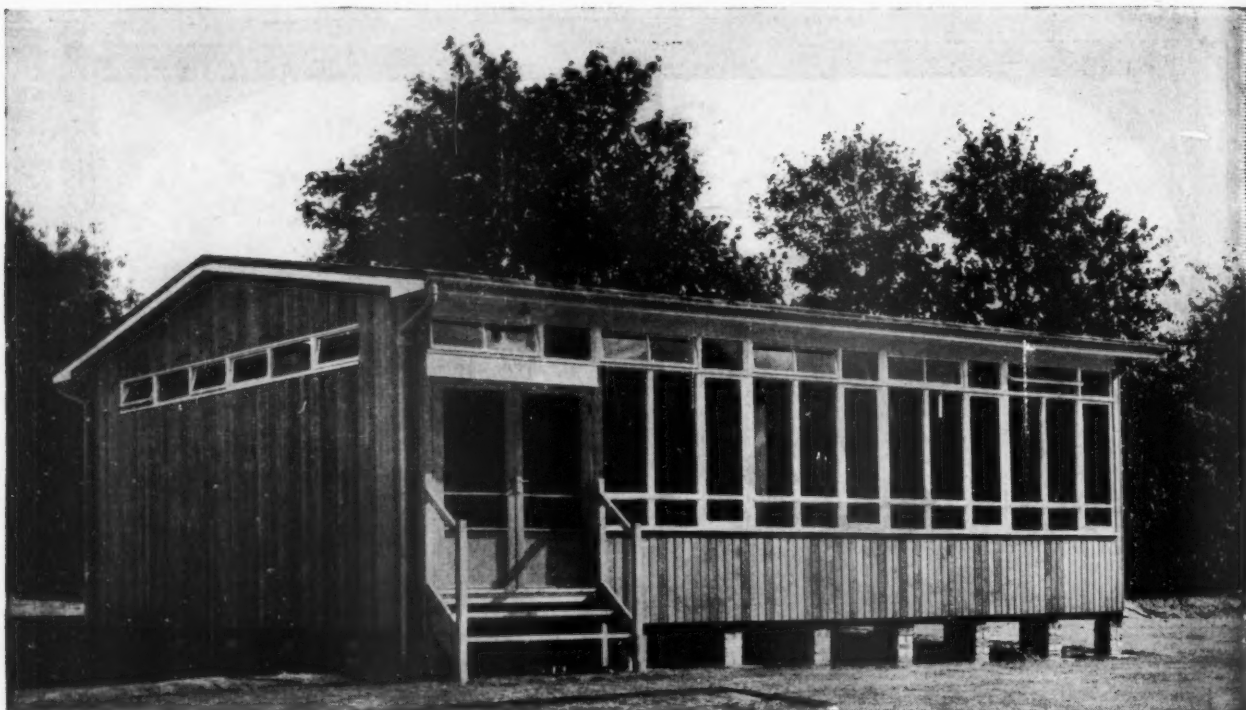
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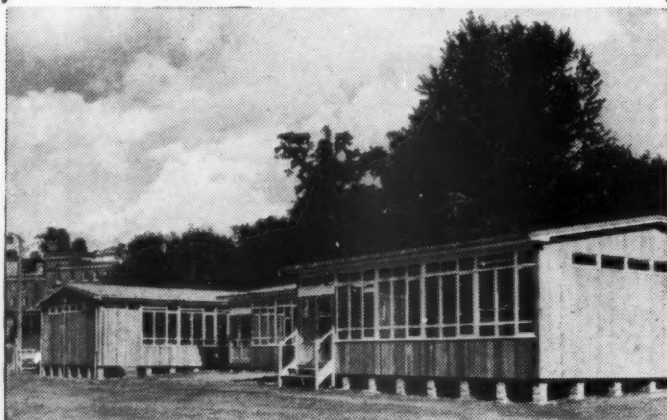
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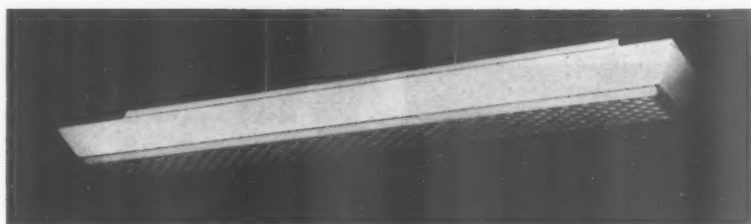


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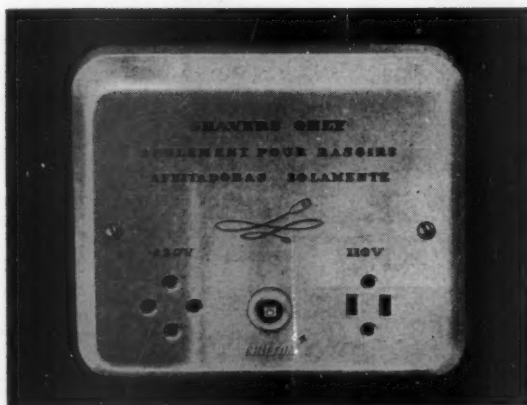
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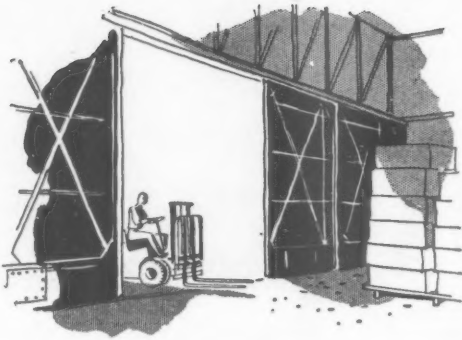
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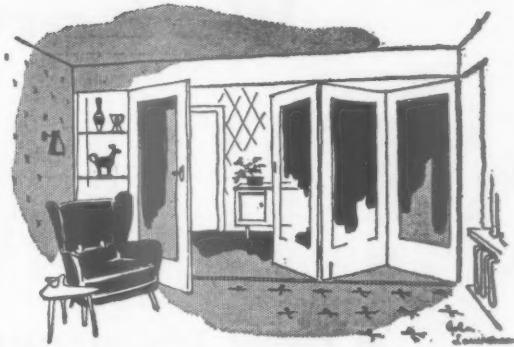
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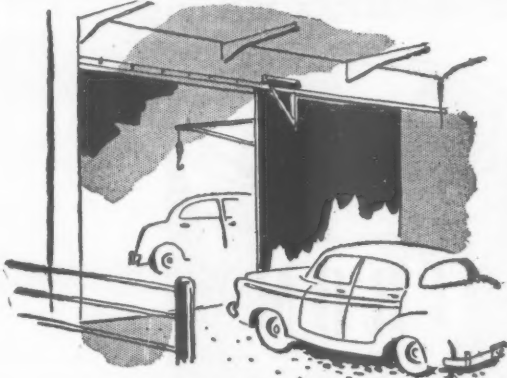
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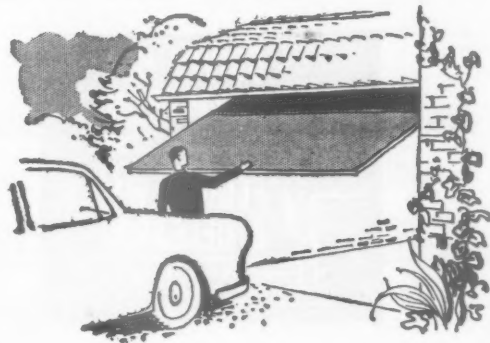
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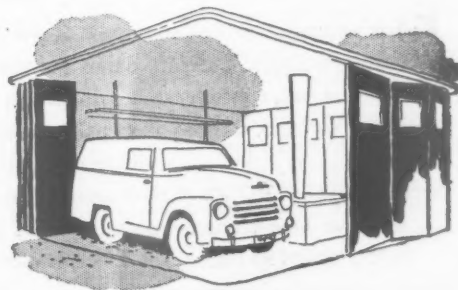
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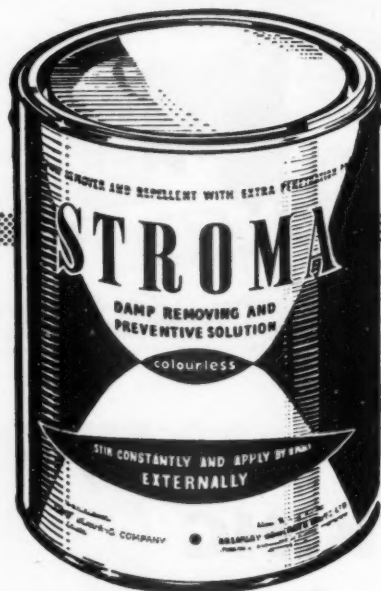
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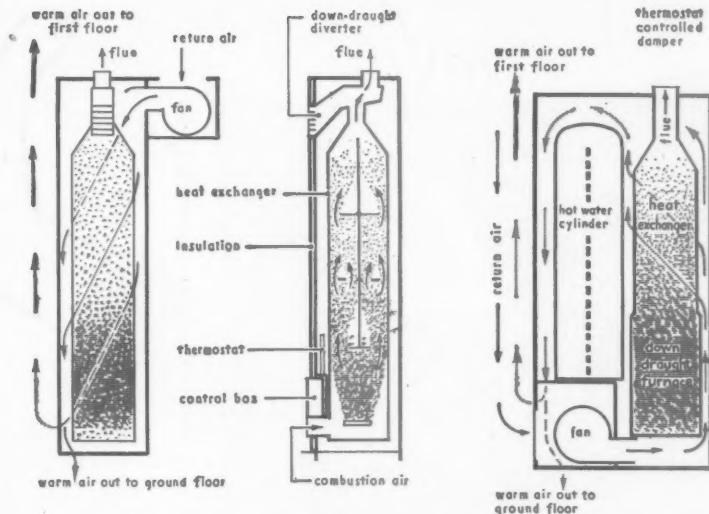
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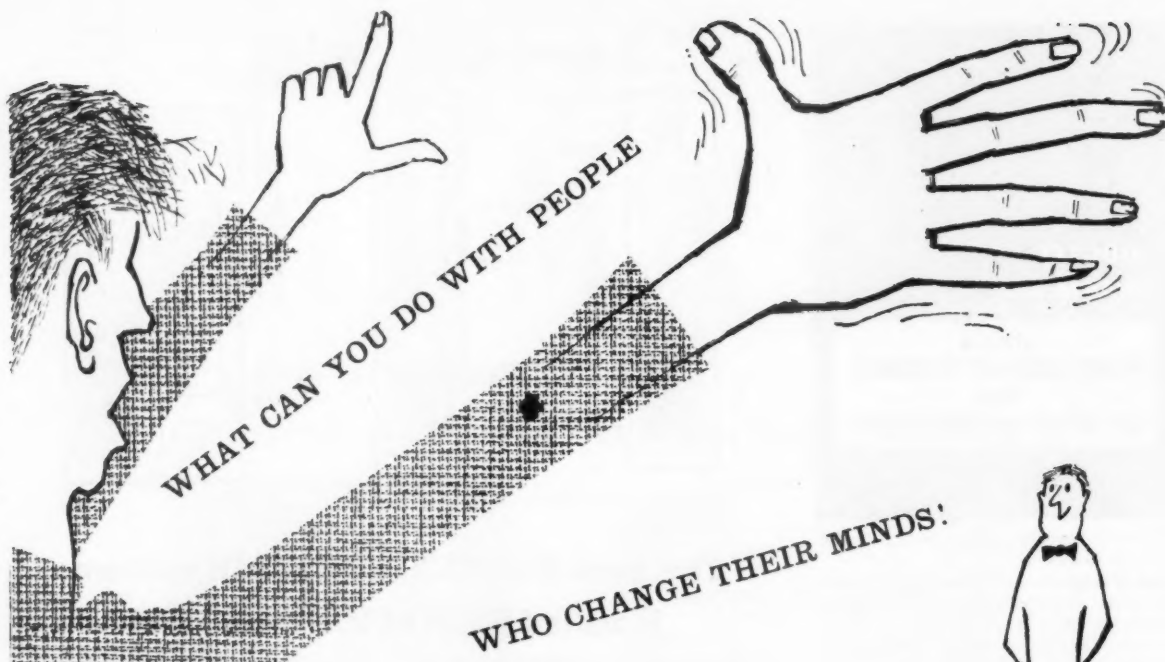
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Small Bore?

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VERNON WORKS, OLDHAM

A J

buildings from the air



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Flying now is commonplace, but architectural critics, as well as architects, have taken a long time to get air-borne. For the first time, so far as we know, a critic (Ian Nairn) has flown with a photographer (W. J. Toomey) over Britain and studied the landscape in terms of planning and townscape and of the often-neglected fifth elevation: the roof. The resulting record of Britain-from-the-air presents dozens of object lessons to architects and planners, many of which Ian Nairn describes in this issue of the JOURNAL. We hope it will help our reader's imagination to make further flights over the Easter holidays.

BUILDINGS FROM THE AIR

This issue is an experiment. It is simply a selection of the photographs taken last summer and autumn in an aerial trip from London to central Scotland and back, up the eastern side of England and back via Lancashire

and the Black Country. The original purpose of this was simply to show the various ways in which air photographs of buildings could add to, or simplify, or replace, ground shots and descriptions of jobs. The

"Cluster block" may sound like jargon but the air view shows that Drake and Lasdun's block of flats at Usk Street, Bethnal Green, is exactly that: it gathers up and ties a knot in the surrounding rectangular sheet pattern.



various ways of doing this are outlined in the first dozen photographs and amply prove the value of air photography as a permanent technique in architectural journalism, particularly in a journal with limited space. Put shortly, the main advantages are immediate apprehension of relationship of parts to whole in a complex building, relationship of building to surrounding services where the two are indivisible—stations, airports, factories—a shatteringly candid revelation of both the fifth elevation (the roof) and usually two of the other four—the “back and sides”: in fact, complete honesty and freedom from trick photography—and immediate description of landscape treatment or lack of it. It is obvious that all this cannot be properly read from plans and elevations; what did surprise me was that the results were so much more revealing than appropriate shots of architectural models, even the best models: there seems to be no substitute for the modelling of actual daylight and the textures of actual surfaces. Air photographs look like shots of models only if the architectural volumes themselves are insubstantial and model-like, a point brought home vividly in the shot of Hemel Hempstead on page 471.

But on looking at the results I got a surprise. I was expecting that the air shots of schemes as a whole would show up mathematical doodling on the landscape, whether bovine or smart, for what it is. But I also found that environments which worked on the ground—interlocking space, enclosure, tension-and-release, all the townscape categories—also looked as though they worked from the air. The low-angle, low-altitude shots made it possible for the eye to go down into the streets and squares and feel the surrounding spaces in sequence—not as separate staccato impressions, as one would have to in looking at successive ground shots, but continuously, as one would do on the ground. The air photograph seems to provide a touchstone to see whether environments as a whole are going to fit together: a key to the sense of place, and to relationships between objects. This has been explored in a very tentative way in the shots of East Kilbride on page 475, of Kimbolton and of Eaglesham on page 477, it can be taken much further, for example, with comparative air and ground shots of the same places—say, of an area in one of the New Towns—to show just what won't work and why, and also to show what does work and how. But just as to Humpty Dumpty “words mean what I choose them to mean,” so I, already obsessed with trying to make the parts of the environment fit together, may be reading into these photographs what I feel to be true; or alternatively, details which may be self-evident in the prints may disappear in the blockmaking and printing. The beginning and end of the issue—the straightforward buildings and the pretty pictures—are both self-evident and unlikely to cause argument, but this middle is tendentious and may be unintelligible; the AJ would like to have readers' views on this.

The simple facts of subtopia, however, are all too intelligible from the air, and so are most of the causes of subtopia. The shots on pages 478-481 show obviously enough the monotony and sterility and placelessness,

but they also show exactly how the land is wasted, exactly how nothing in the view is brought into relationship with anything else. Most of all, it shows the folly of each separate organization standing on its pompous dignity and saying the town-hall or civil-service equivalent of “blow you Jack,” enclosing its own site with wire and plonking its silly self in the middle heedless of surroundings—the surroundings usually being some other ostrich doing the same thing. And whether the ostrich is beautiful or ugly is almost the least of it: the charge brought against military huts and shacks on page 479 is just as true of the surroundings of good buildings like the Fairmile Admission Unit (page 471). It is not so much that somebody is failing on the job as that it is nobody's job to do anything about it. Until it is, landscape gardeners will continue to be landscape Gardeners instead of Landscape gardeners—the gardening stopping at the boundary fence too—and subtopia will continue, however pretty the little individual unrelated bits.

The last dozen photographs are intended—not to put too romantic a point on it—as a kind of Easter oratorio, a celebration of the resurrection or rebirth of vision that this sort of flying can bring to jaded or depressed eyes, and which, incidentally, bears not the least relationship to airline flying, whether in the things seen or the atmosphere in which one sees them. Club or private flying is not transport in a floating capsule with a maximum of identification with the ground so improbably and unrealistically far below: roast turkey on the meal tray and *Country Life* in the periodical rack. Navigation depends more on a knowledge of topography than on an ability to fly radio ranges; in good weather you can fly almost where you will—across the centre of London, for instance—and not where a controller tells you. In bad weather it is your own skill and judgment *versus* the wind and industrial haze—English weather takes on a new meaning when you have to fly through it. When you land there is not impersonality and form filling but—unless you land downwind—a free and easy *bonhomie* of acceptance. Every journey, in good or bad weather, is a perpetual series of eye-opening shocks of the pattern “goodness, fancy *this* looking like *that*!”

It is not a replacement for seeing things from the ground, but to anyone who knows the ground-level views already, air touring is a tremendous enrichment—especially to architects who should know Britain well from the ground anyway. It is not too expensive and in some circumstances—flying from near London to Northern France or the Low Countries, for example—can be cheaper than any other comparable form of travel. There are no traffic jams, and there is a very specialized and sadistic pleasure to be got out of flying on a summer evening over, say, the Medway towns or the road to Southend. Every other pilot is flying because he wants to, not because he has to or is in some obscure way keeping up with the Joneses. He is in fact keeping up above the Joneses: nothing looks so silly, so pointlessly separate, as a bit of suburban sprawl from 1,500 ft. The AJ's wayward and unlikely Easter message to architects is—Get airborne: you'll find it is fun.

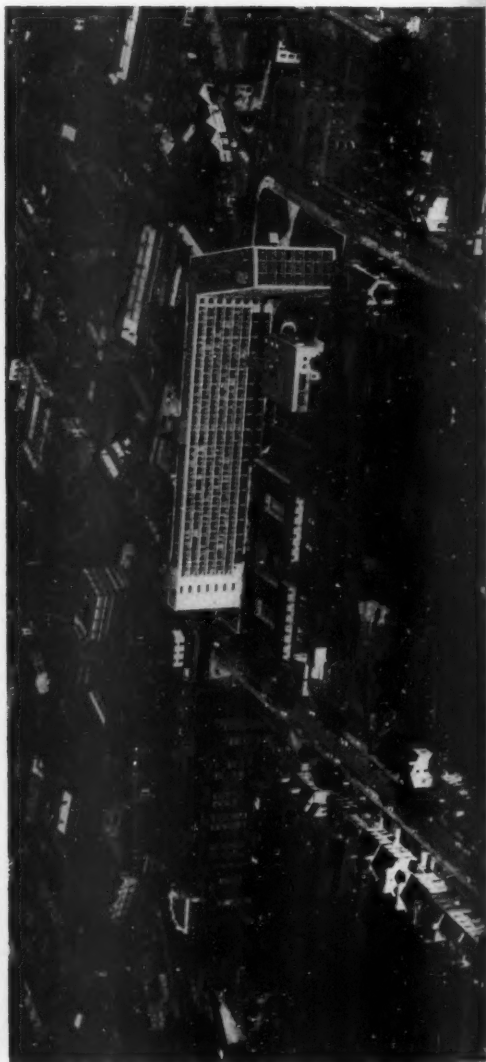
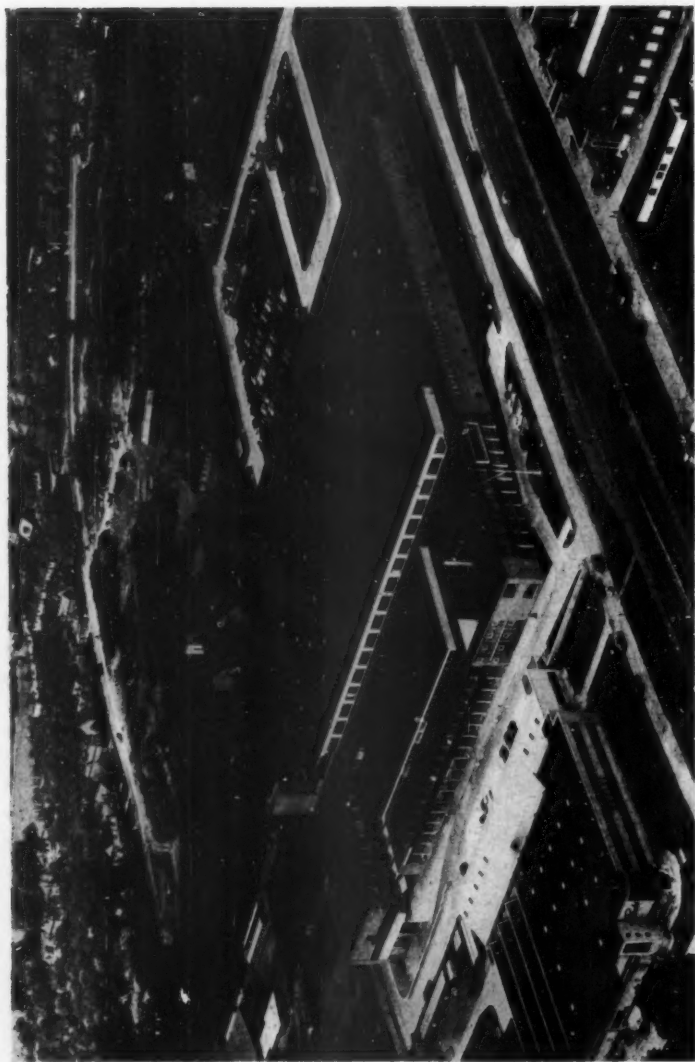
buildings

The simplest use of air photography is to take the place of axonometric drawings or models and show relationship of parts—functional, volumetric, spatial. Even for such a simple building as the Aspro-Nicholas factory (top left) it can show in one photograph what may need a page of text and several ground shots—compare the description in AJ July 17, 1958, when an air photograph was not used. Being honest, air shots show the building, the whole building—but never “nothing but the building.” Immediately and inevitably it is put in its environment—Great West Road honky-tonk for the Aspro factory; the exact dividing line between slum industrial and high class old suburban, for the MOW offices at Birmingham (bottom left). Immediately one sees what it will do to its surroundings and what the surroundings will do to it. Most models not only do not show this but are trying to disguise the usually unpalatable facts as hard as possible.

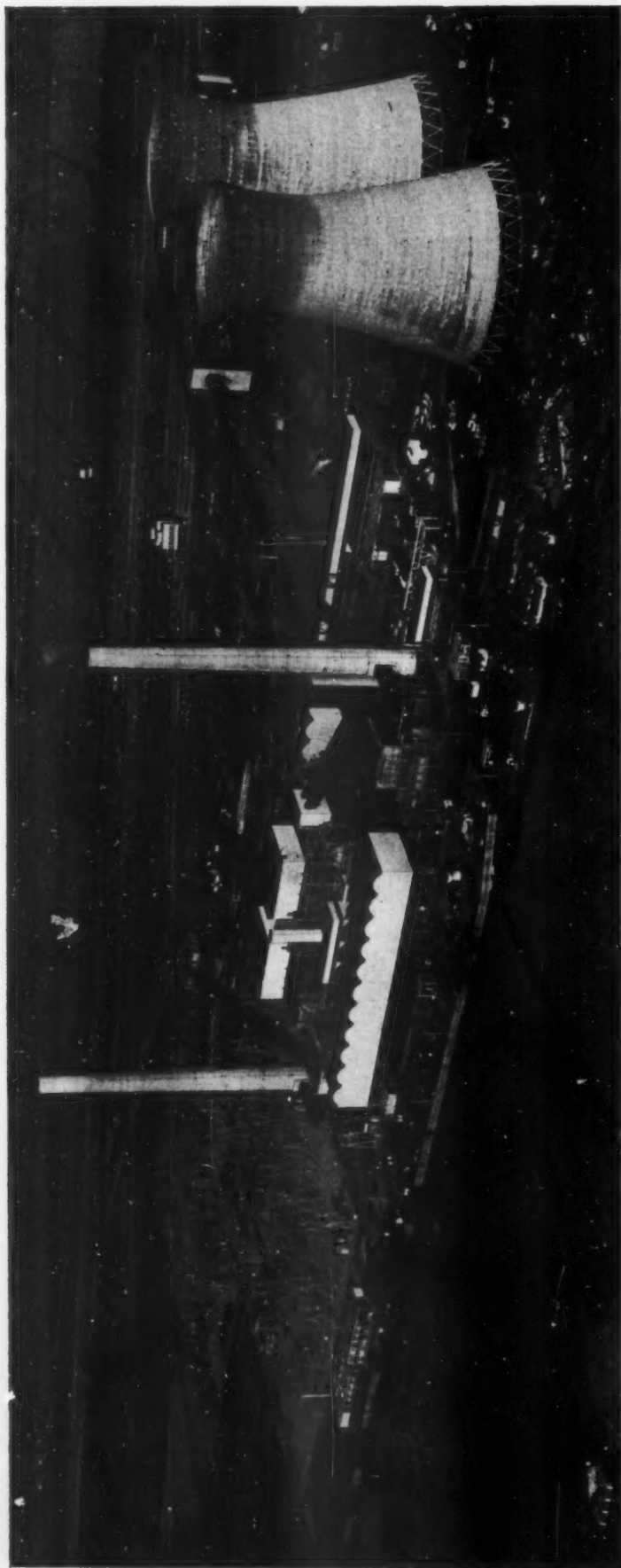
Left, Aspro Nicholas factory, Slough (architect, E. D. Jefferiss Mathews.)

For a job made up of separate components, the air photograph can suggest the quality and weight of the space joining them. In the school at West Bromwich (opposite) the degree of dependence of the paired house-blocks can be apprehended: the eye can project itself credibly on to the entrance drive or into the middle of the playing field. And it shows, pitilessly, the landscape of fact not that of the architect's perspective. West Bromwich comes out of this well, as it does on most other counts. But how many more buildings would?

Left, offices, Islington Row, Birmingham (architects, MOW). Opposite, Churchfield School, West Bromwich (architects, Richard Shoppard and Partners.)







Above, Willington power station, Derbyshire (architects, Farmer and Dark); below, SAI factory, Leith (architects, Basil Spence and Partners).

buildings and services

At a simpler level the air shot simply adds up all the complicated parts which make up a complicated building. For the landscape if not for the architect, the words "power station" mean that one-third of the site is switchgear. Willington (above) is the first British power station to attempt an aesthetic built up out of the exposed forms themselves. It is also the first to attempt any kind of organization of the switchgear, with a few coloured patterns and some of the parade-ground order and smartness which would be a natural solution to these bright regular rows of frameworks. Both techniques evidently still have a long way to go.

Storage and transportation buildings often extend limbs far outside the building site and only air photography can show this. Even the circulation of a building like the SAI fertilizer factory at Leith (left) can be apprehended from the air: raw materials come from the wharves on the right via the overhead conveyor belt to one end of the main ...



...storage building. Another belt feeds the raw material into the two process buildings (chequerboard walling) whence they are taken away by road and rail. Banbury Station,

... storage building. Another belt feeds the raw material into the two process buildings (chequerboard walling) whence they are taken away by road and rail. Banbury Station, left, can only be understood together with the pattern of platforms, sidings, station yard and road access. Comparison with the photographs which actually appeared of Banbury Station (AJ 19.2.59) make words superfluous. One good air shot can remove the affliction, perhaps commoner to AR than AJ readers, of not knowing at the end of a job what the damned thing really looked like. To be fair, however, this is sometimes done deliberately, out of kindness.



Banbury Station, Oxon (Architect's Department, BR Midlands Region).

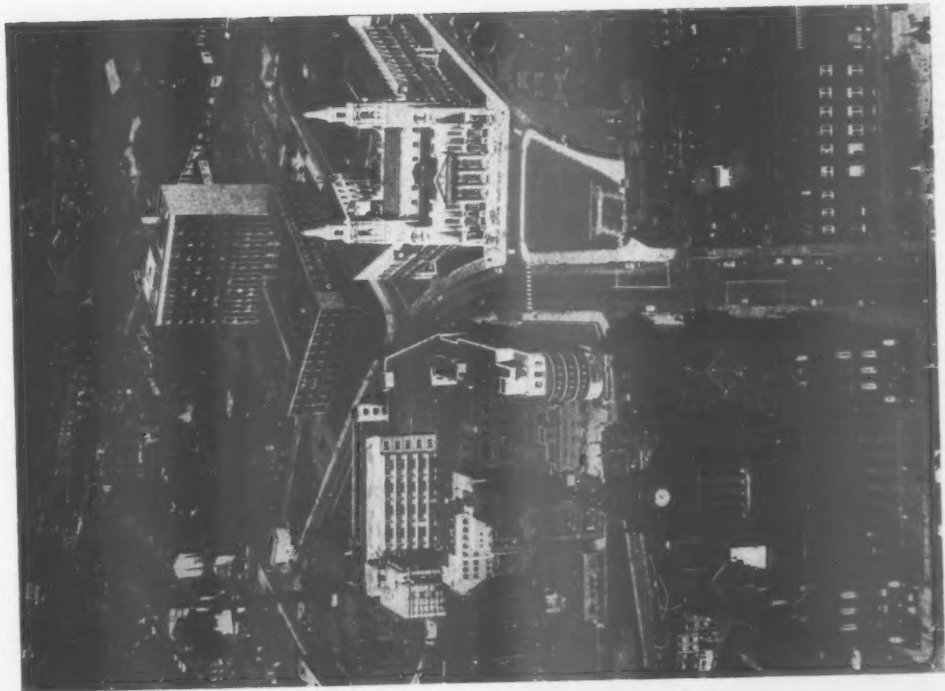
buildings and environment

Wolvercote Paper Mill, below, is an admirable example of fitting a very big building behind an existing small-scale village street without overshadowing it—no ground shot would be able to show all of the mill building. Leeds Technical College (right) on the other hand looks like missing all the environmental tricks. It is just there, not part of a sequence: the eye is going to glance off it along the street line in exasperation, when it ought to be brought up sharp by the slab as a conclusion to the 1850 and 1930 classical towers forming the rest of the civic centre. This was doubtless not the architects' fault here; the fault was in the road pattern and its inflexibility (suppose for example that the tall block could have spanned the road on the left).

The fact that a building plot is automatically defined by the roads and that the architect automatically puts his building in the middle of it is a kind of microcosm of subtopia which is so often caused by each object being set down in its own plot independent of the next one (whether the object be spec. house or power station). There has got to be flexibility and co-operation for the good of the town pattern as a whole—sometimes the architect giving way, sometimes the borough engineer, sometimes the town planner—even if it needs a new profession to achieve it: a knocker-of-heads-together. The chief value of low-angle aerial shots is that they can be a guide to relationship between the parts of the environment (i.e. townscape) or the lack of it.



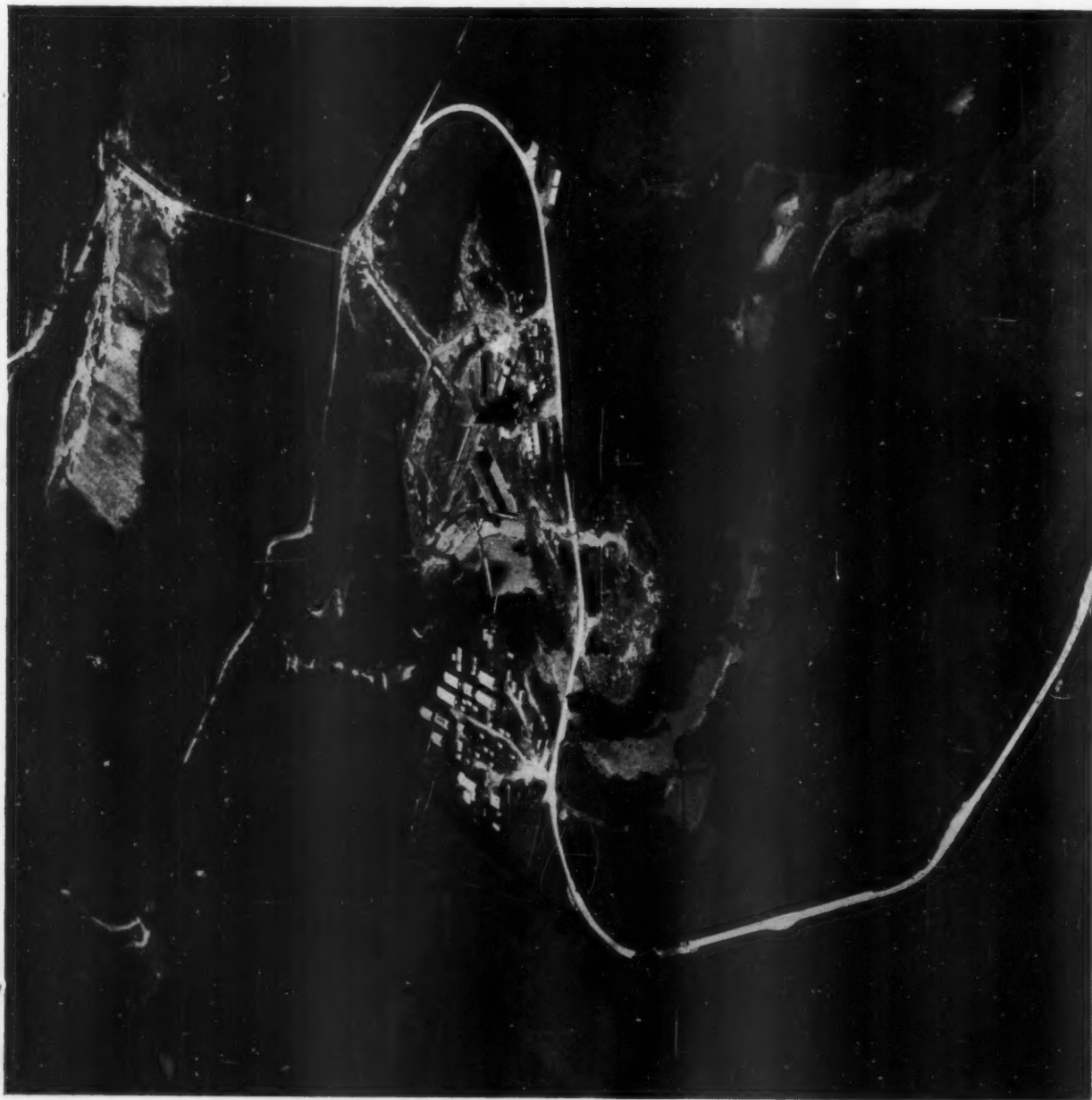
Above, Wolvercote Paper Mills, near Oxford (architects, Booth and Ledeboer); right, Leeds Technical College (architects F. R. S. Yorke, E. Rosenberg and C. S. Mardall).



progress shots

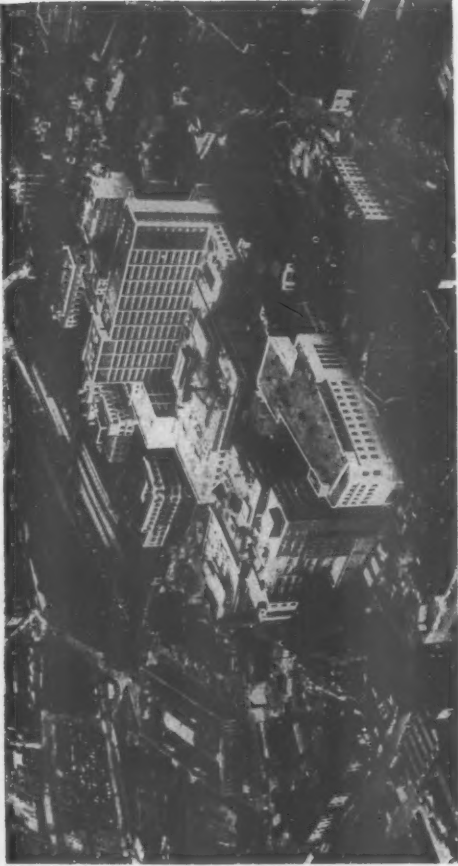
Left, a progress shot of Killin Hydro-Electric Power Station half-built, showing immediately what landscape damage will have to be repaired after the contractors have gone. Killin is in a narrow valley and the view is approximately that from the tops of the surrounding hills. At one time pilot, photographer and passengers thought that the two were going to be indistinguishable.

Power Station at Killin (architects, Robert Matthew and Stirling Johnson-Marshall.)

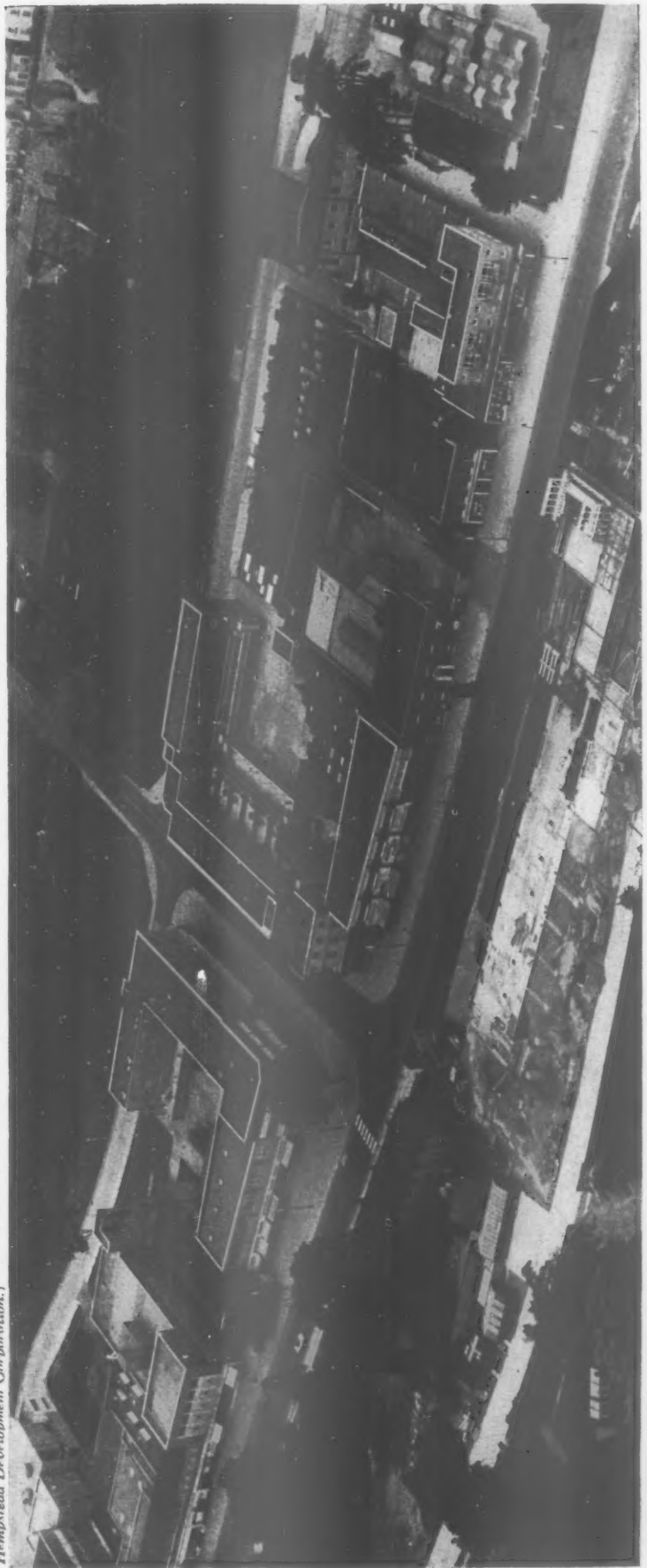


fifth elevation

Opposite page, roofscapes shown up, or the forgotten fifth elevation; two fair shots and one unfair one. Fairmile Admission Unit, top left, is a delightful building on the ground: the air view unfairly emphasises a dear expanse of wet roof—single-storey buildings rarely make good air photographs. What it also shows, in the silly snippet of land between the admission unit and the back gardens, is an extreme case of parcelling out land irrespective of what is going on around and then of putting the building in the centre like a postage stamp in an album. But the *laissez-faire* and aridity of roofscape and the futility of fiddling with wall patterns are faithful reflections of the ground view in the shot of the new office blocks and shops, including the Big Top, in central Birmingham (top right). And the poverty of invention and mishandling of spatial relationships so evident down below is exactly matched by the air view of part of Hemel Hempstead New Town centre (bottom)—more dolls-house and model-like than a model would be.



Above left, Fairmile Admission Unit, Wallingford (architects, Powell and Moya); above right, Big Top, Birmingham (architects, Cotton, Ballard and Bloch); below, Town Centre, Hemel Hempstead (Hemel Hempstead Development Corporation.)





buildings and environment

Building schemes in the landscape. On a large scale this part of the Gleadless Valley scheme at Sheffield (below left) is obviously fitting into some kind of comprehensive pattern. But where are the corner shops and the corner pubs to

enliven these elegantly articulated steep slopes? And so are the newer north parts of the Rochampton Estate (above) where the landscape seems to flow through uninterrupted, though inexplicably bunkered (golf courses from the air,

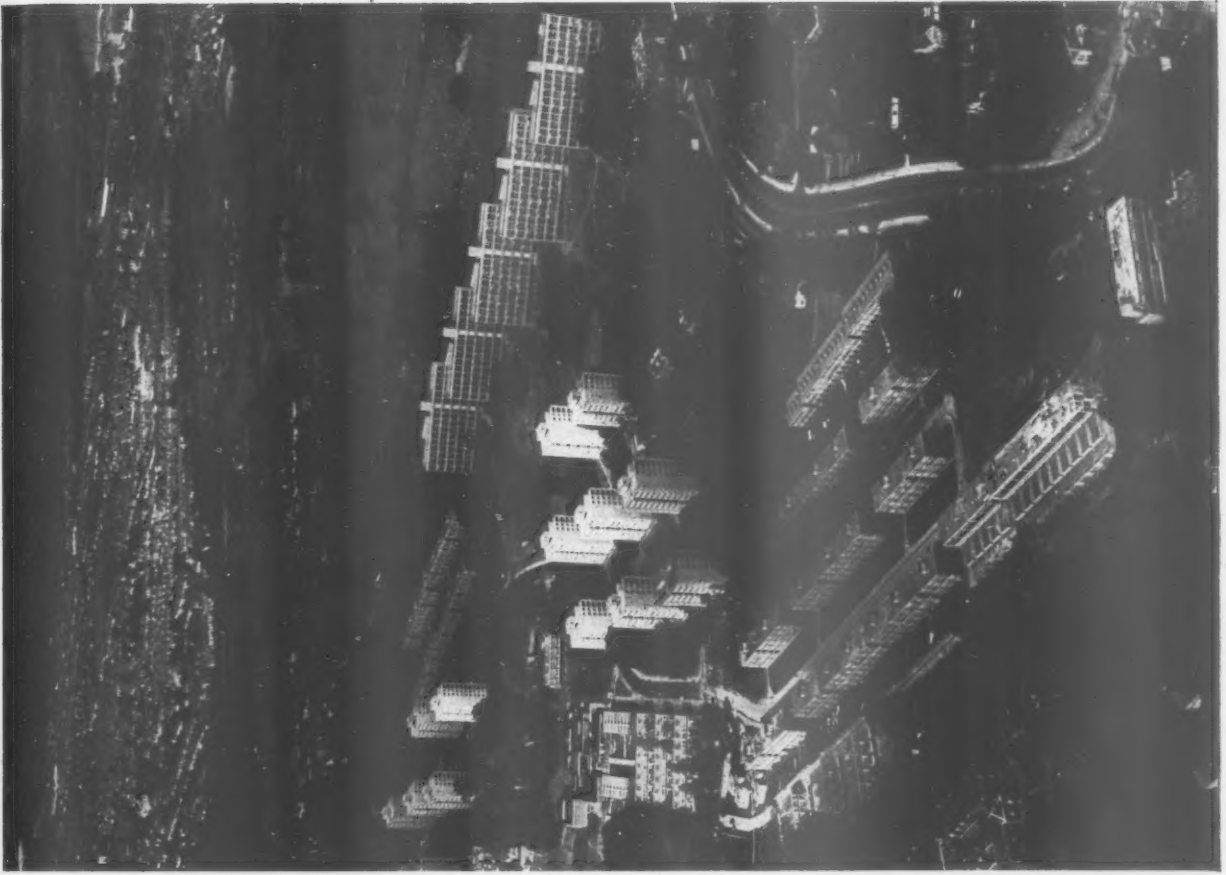
as from the ground, are a kind of spaggy-dog joke on the landscape), to the Thames beyond. But what is this going to be like to walk around? Air views can give a good idea . . .

Opposite and right, LCC Rochampton Estate (Hubert Bennett, architect to the Council); below, Gleadless Valley Estate, Sheffield (J. L. Womersley, city architect.)

Opposite and right, LCC Roehampton Estate (Hubert Bennett, architect to the Council); below, Gleadless Valley Estate, Sheffield (J. L. Womersley, city architect.)

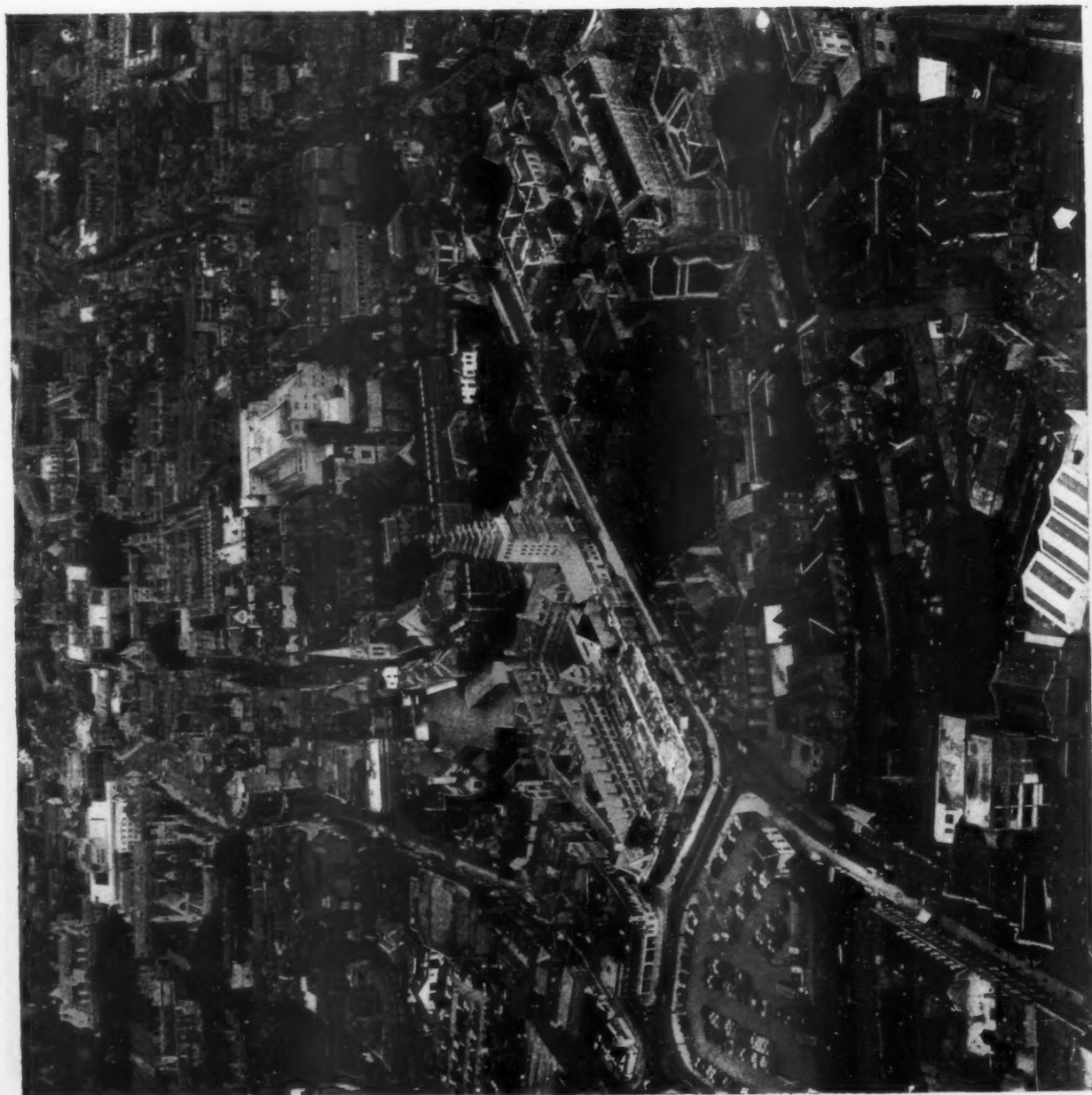


. . . and it is not an encouraging one, right. Just as the eye could project itself down to the visual insipidity likely around the Leeds Civic Centre, it can seek out the sterility likely in the too-wide too-grand avenue of maisonettes and the mathematical monotony of slabs in fives and point blocks in sevens and eights. This is merely a kind of giant game of chess on the landscape. And this is not because of the formal layout but because of the lack of relationship between parts; part of Victorian Edinburgh, below, is just as mathematical, but the shapes are related and in sequence, the axes lead somewhere. From the photograph, the eye can guess that it is likely to be a satisfactory environment to walk and live in—and it is.



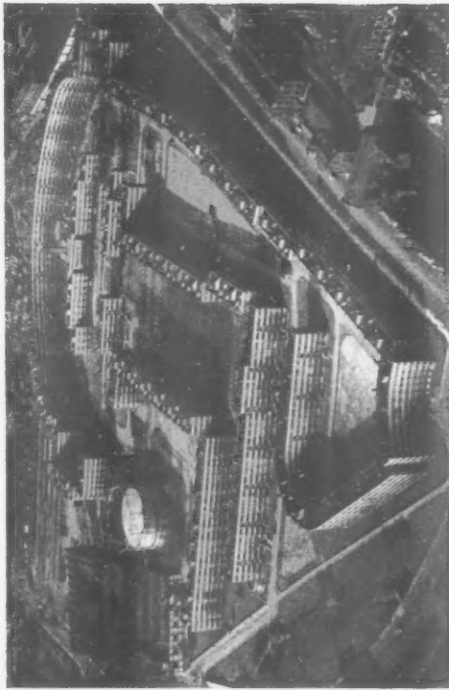
buildings and environment

Air photography as an aid to thinking about redevelopment, a view of Oxford with part of the St. Ebbe's area in the foreground; immediately one sees relationships and "what goes on at the back" far more vividly than on a plan. One also sees a progress shot of Nuffield College, with surely the last neo-Gothic spire to be built in Oxford. Taken last August, it shows the whole improbable business at an improbable stage. Now it is there, as Sir John Summerson says, we must regard it as a kind of folly. But all the other follies were *fun*.



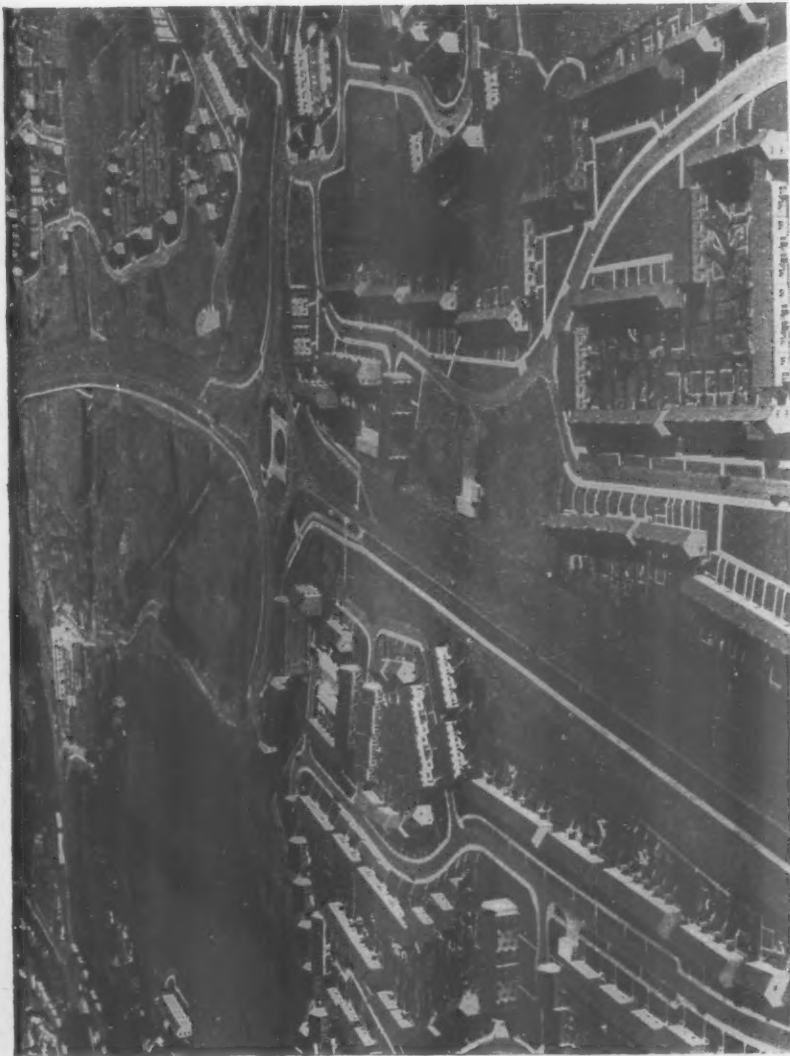
More than anything else, the air photograph is an exploder of formal platitudes—and a seeker-out of formal layouts

More than anything else, the air photograph is an exploder of formal platitudes—and a seeker-out of formal layouts that mean something. The famous Quarry Hill flats at Leeds, below, look as though they are going to make basic sense on the ground and they do: however grim the elevations you can at all times feel that you are inside a recognisable pattern with which you can identify yourself as an individual. And the shadows and (literal) aerial perspective give the verisimilitude lacking in a model: as before, the eye can put itself into any point of the layout and imagine the relative spatial and volumetric effects of the curved outer blocks and the central rectangular layout. In conjunction with a series of ground shots, here is a real way of representing space in three dimensions.



Let nobody take this to be another plea for informality *per se*: the informal platitudes are just as bad. East Kilbride, top left, shows the familiar castor-sugar sprinkling of crisp little terraces, random for random's sake, and one can see just why the result isn't going to work on the ground—that the square in the bottom right-hand corner has too many leaks to be an effective enclosure, that the shuttlecock views along the roads on the left-hand side always finish in *non sequiturs*—a tease with no strip.

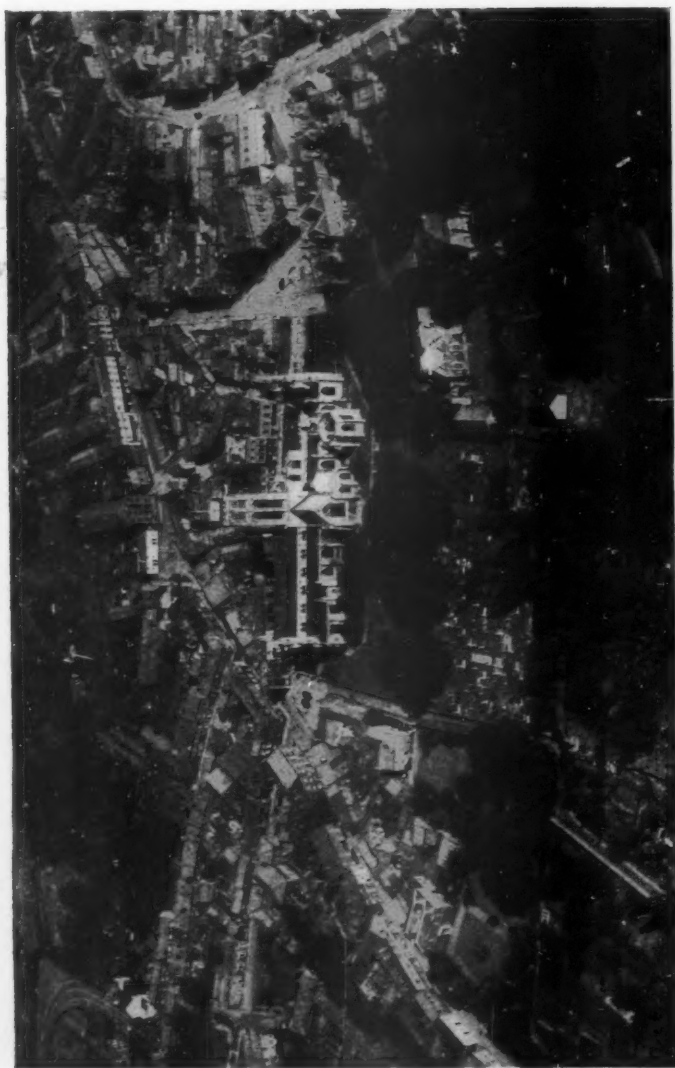
The bottom shot is part of Cumberland New Town and even at this very early stage it is clear that this is going to be a place, an area with a recognisable character, formed largely by the way the woodland has been used—contrast the flag-ends of landscape sticking up out of the Kilbride view. Oddly enough the pattern—formality inside a sweeping curve—is the same as that of Quarry Hill done in an entirely different way with entirely different elements.



townscape

From suggesting the pattern of single building schemes or areas, higher altitude angle shots can suggest the pattern of a whole town. Here is a pair of North Midland towns with their fundamental *genius loci* stamped on the photograph like a signature; above Howden, below Selby. Howden and Selby are variations on a theme—the huge medieval abbey and the small-scale town around it.

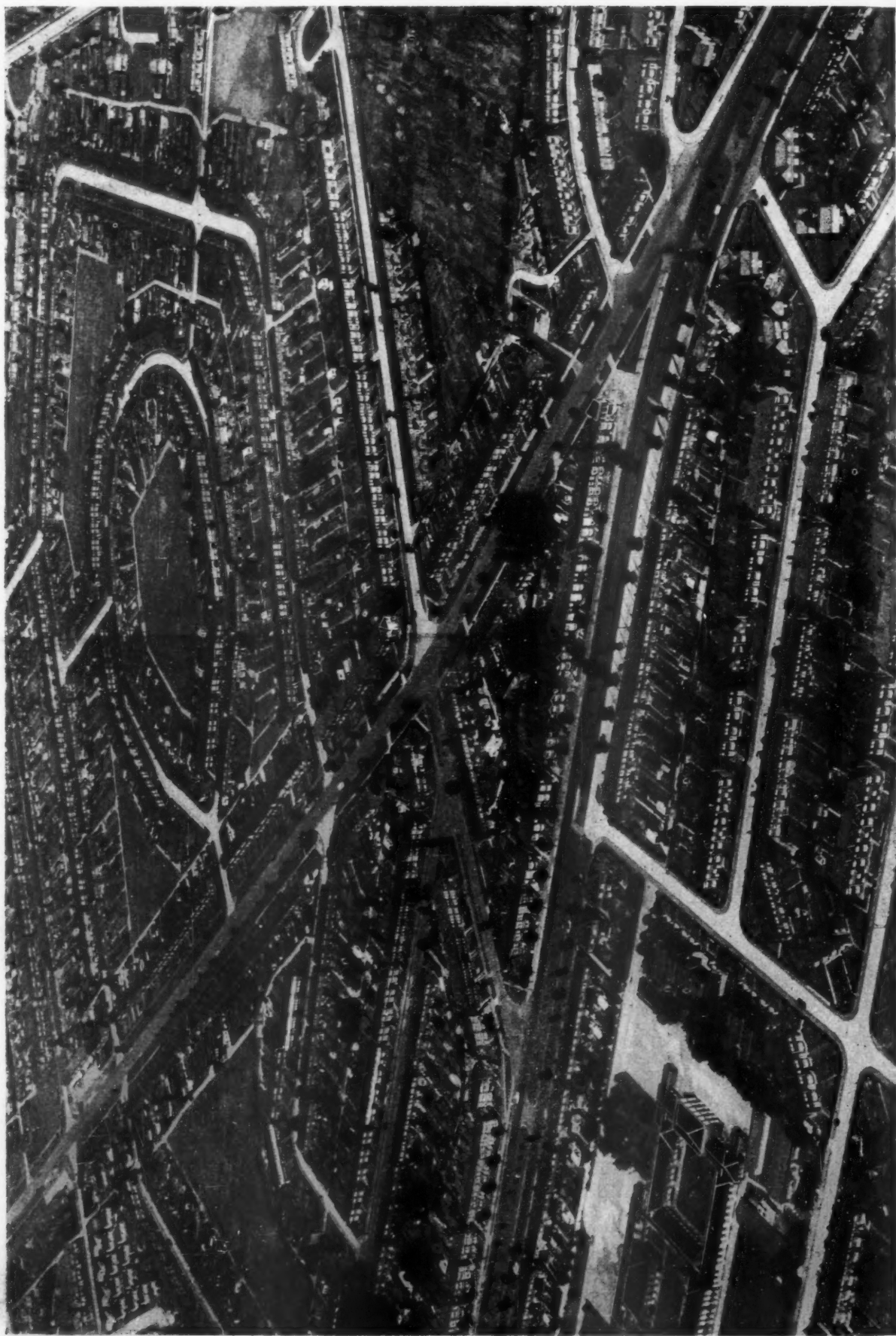
Within that definition they are as different as could be: Howden a kind of mingling of town and church in all sorts of unsuspected ways, Selby a striking case of proud isolation. The isolation is in fact far more striking from the air than on the ground—i.e. this is the idea of a town not yet properly realized down below; the photograph is a townscape article in miniature.





Left, Kimbolton, Huntingdonshire: another townscape article encompassed in one photograph. Gordon Cullen described it some years ago in the *AR*: the case of the inspired zigzag, making a coherent market place by focusing it on the Adam gates of the Castle and at the same time providing a back-lane by-pass if and when it is necessary. Such a plan could translate almost building for building, as a New Town neighbourhood centre. Above, part of Eglestham, a staggeringly good village near East Kilbride. The old plan is a long wedge-shaped green open at the ends and lined with houses along the sides. The photograph shows—so clearly that it would be funny if the results weren't so dreary—just what could have been done to continue the pattern in new housing. It could have echoed the terraces beyond the belt of trees to prolong the green, or made a second terrace with gardens back to back to the existing houses—or even stopped the view out from the green by building across the end. All these would have been comprehensible: anything but the public and private formal doodles that have been dumped down on the site. Half-a-dozen ground shots would be needed to show this: the air view's great virtue is that it can make a townscape point all at once. There is no need to follow an argument back and forth from plan to photographs. Architectural stupidity becomes self-evident . . .



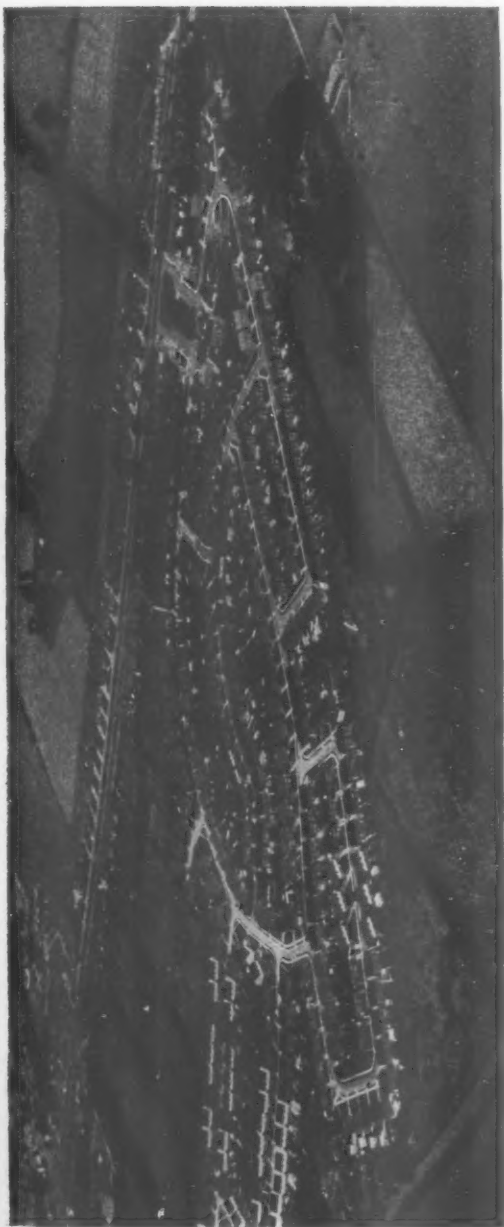


to say nothing of complete architectural chaos; part of outer Hull.

subtopia

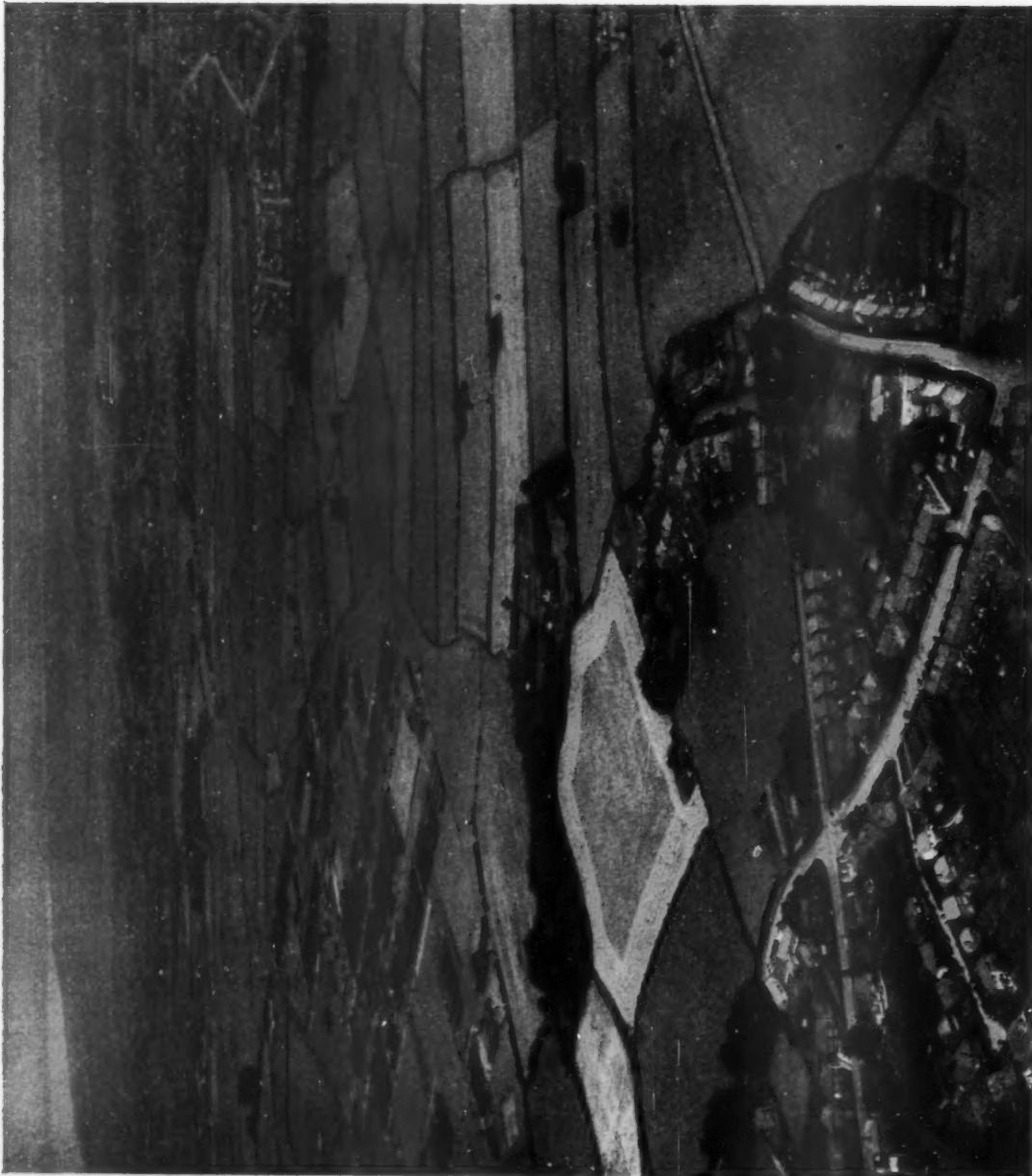
Subtopia is the airman's special torture. It ceases to be static or negatively dreary, and becomes a moving devouring thing. Here it is on the march, left—part of Kidlington, near Oxford. I wonder what planning did for this one—provided the keyhole-shaped green at the entrance, maybe? Self-evident the endlessness and pointlessness, as on the ground, but much more evident the criminal waste of land and criminal lack of relationship. If the H-bomb is one way of matter getting up and repudiating man, who can say that it isn't deserved?

Left, land waste and lack of relationship on the grand scale with nothing in the whole view bearing any relation to anything else—gobbets of farmland, gobbets of scrub; shacks, cottages, private houses, barracks: subtopia. If ever there was an example of all the elements of town and country shaken up into watery solution and then poured out thin over the landscape, this is it. We have forgotten where it was: we think that probably Catterick can claim the privilege of possessing this goulash of rateable value.



subtopia

The proof of the Outrage pudding: the point where the different urban invasions of the countryside are beginning to run together. Left, part of the Wirral peninsula west of Birkenhead: suburbs in background and foreground, an army camp in the middle distance. Grouped and organised—not regimented—these things could make a pattern; as they are they have brought the view to the threshold of subtopia. Opposite, the Black Country near Bilston. Right up to the war the Black Country towns were separated by open space of a desperate kind, often derelict industrial land. Much of it has been reclaimed—and immediately built on in the usual way, now it is almost too far gone. Selective afforestation, carried out by co-operation between the innumerable councils and the forestry commission (and a big laugh that is) could still make a humane pattern out of this—a wood at everyone's back door. All it is likely to get is concrete, sight lines, hack semi-detacheds, and meanwhile the centres of the towns will probably become deserts of slum clearance.



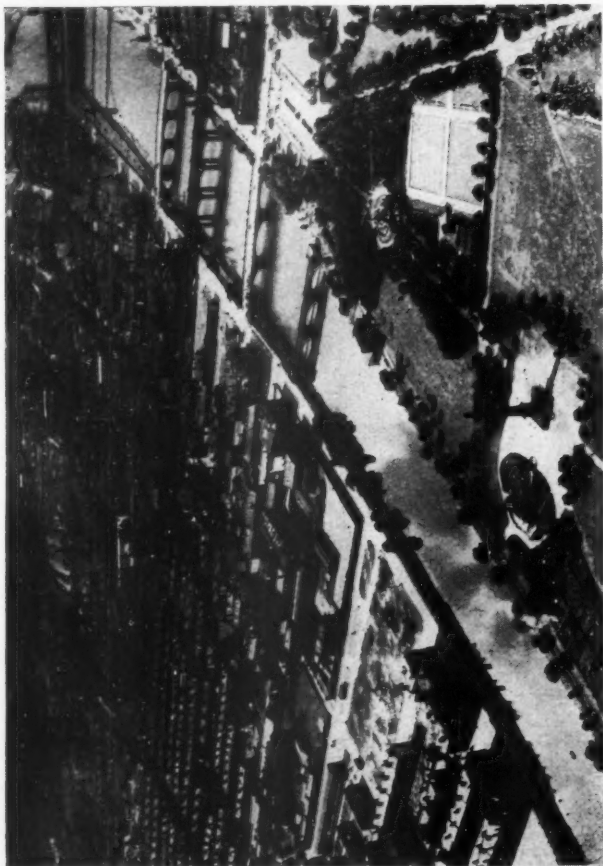




air touring

That is about enough of dreariness, though it is as an exposure of feckless and inhuman planning, whether chaotic or over-formal, that air photography and this sort of air travel has its greatest value. But for anyone who knows his way around England—and especially for an architect—air touring can be sheer delight. Never mind Durham Cathedral from the railway station; opposite is the air—not any kind of substitute for a ground visit but a splendid enrichment of one, showing immediately the plan of the town in the horseshoe-shaped bend of the river, the relationship of castle and cathedral and of the parts of the cathedral. And the confusing plan of Windsor Castle is beautifully and organically alive from the air (left). Here it has to be seen from above at least once before the ground level visit really makes sense.





air touring

Light and weather and viewpoint can usually reveal the whole image of a place far more strikingly to the low-level acroplane than to the person on the ground—though not at all to the high-flying airliner, which bears as little relation to real air touring as a precooked steaklet to fresh-killed Welsh lamb. Left, Corby steelworks at 4 p.m. on a grey summer day: Blake's satanic mills in the round. Above, hard August afternoon sunlight makes a terrifyingly accurate total image of the Gorbals on the far side of the Clyde.





Sometimes Mother Earth has the last laugh on the busy technological ants that we are. Mysterious accidental correspondences appear, and more of them appear in the honest unselective air view than anywhere else. Above is an area of Basildon New Town before the houses got there. Below is an American airfield in Northants after the H-bombers had left. Here, as ineffable as the Goon Show, is a genuine visual joke.

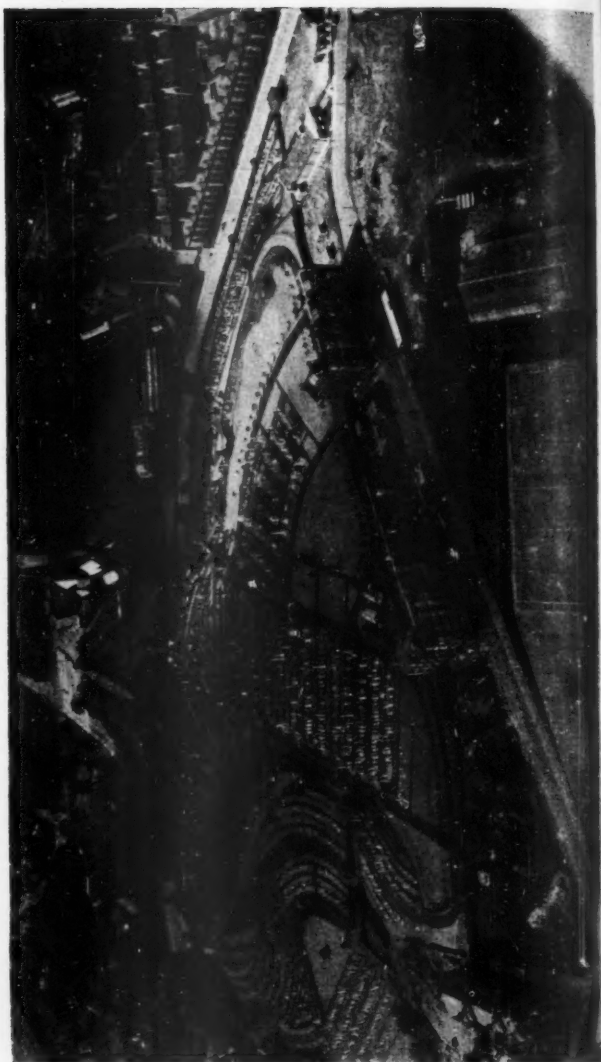
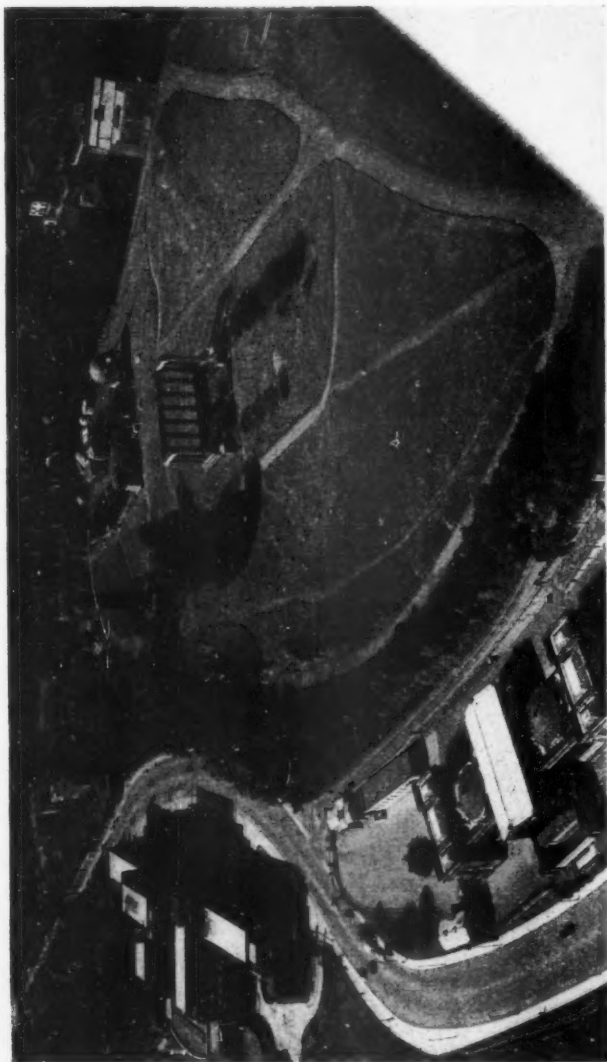


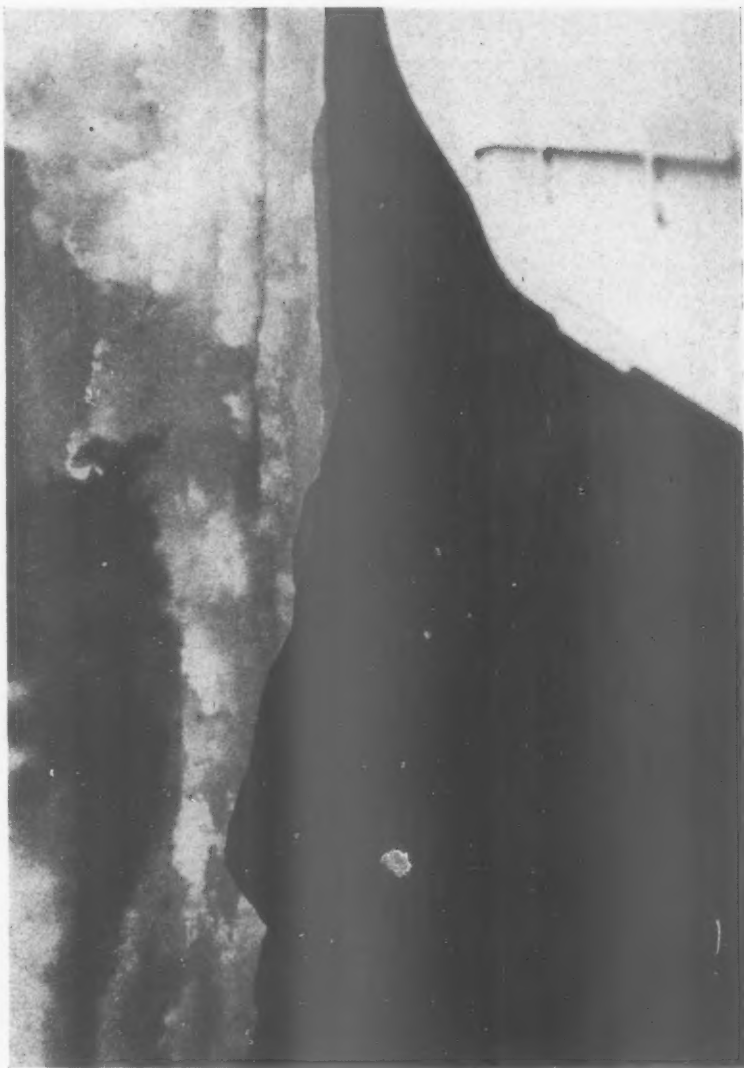
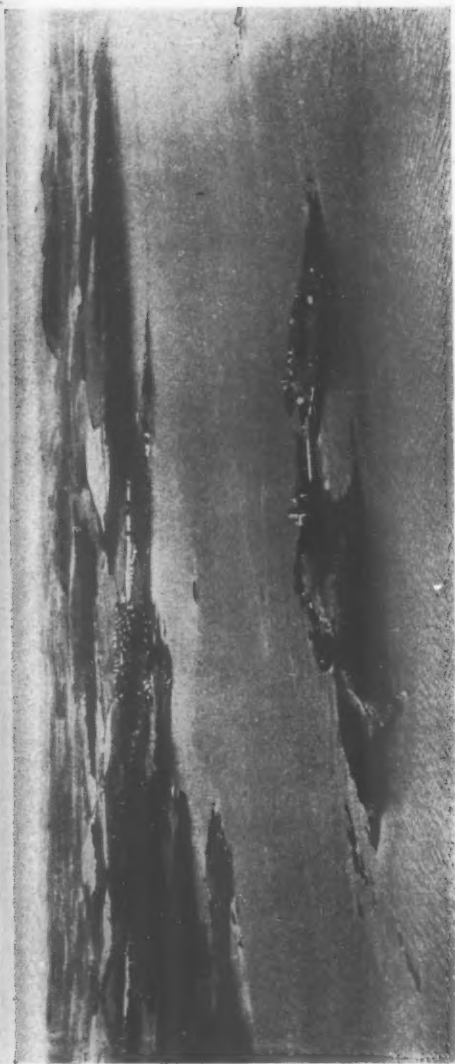
Left, the past in the present: Drumlairig Castle, Dumfriesshire. Country houses always look superb from the air and can always be seen as part of their landscaping. But it isn't everywhere that has a visual ghost—the long-vanished formal gardens just visible on the right-hand side of the picture. How long have they been grown over—thirty years, or three hundred?



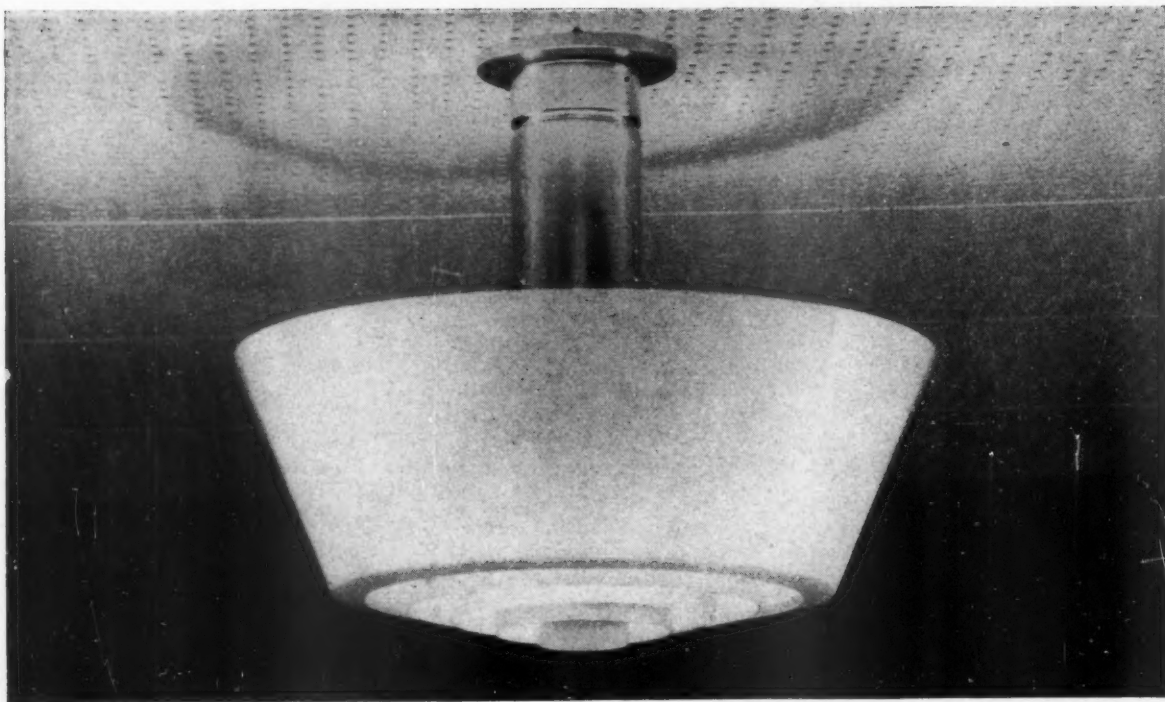
air touring

Air viewpoints, being unselective, are a treasure trove of the ridiculous for those with an irreverent sense of humour. Edinburgh's Calton Hill is well enough known, top, with its strange collection of half-finished monuments, Greek, Roman and baronial, standing on their dignity like nobody's business. It makes a superb pair with Glasgow's central hilltop, below, an even odder mixture of cathedral (a very good piece of English Gothic, incidentally), tenements, sports ground and an enormous landscaped cemetery. It is the Scots' grisly sense of humour to a T; Louis MacNiece's Bagpipe Music in stone and marble.





The secret places—the countryside nobody goes to, or the islands you never have time to visit, or the open moorland miles from any road. In south-east England this may mean only the eerie creeks of the Thames estuary: further north a complete new world opens out for the air traveller. And it is not a violation, as motor car travel can be; you leave no mark, you are dwarfed by the landscape, and if the engine stops, you are completely at its mercy: these things engender a healthy respect. Above right, the island of Inchcolm in the Firth of Forth with its ruined abbey and improbably preserved Gothic chapter house; below right, the Rannoch Moors north of Crianlarich beyond the top end of Loch Lomond. These two were both encompassed in a two-hour round trip from Edinburgh.



V. 82 12" diameter 200 w. 26s.8d. + 6s.0d. Tax

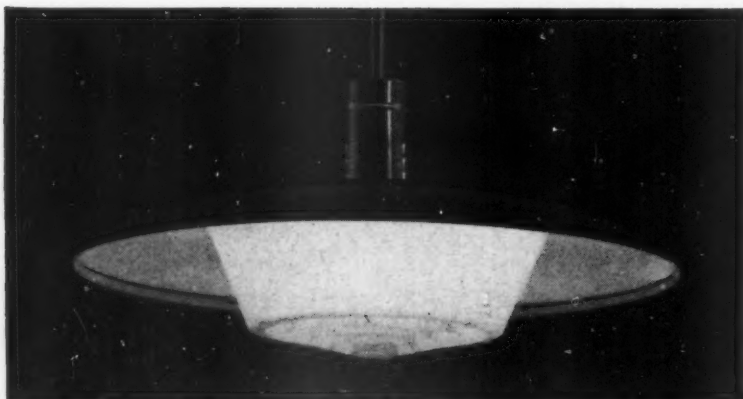
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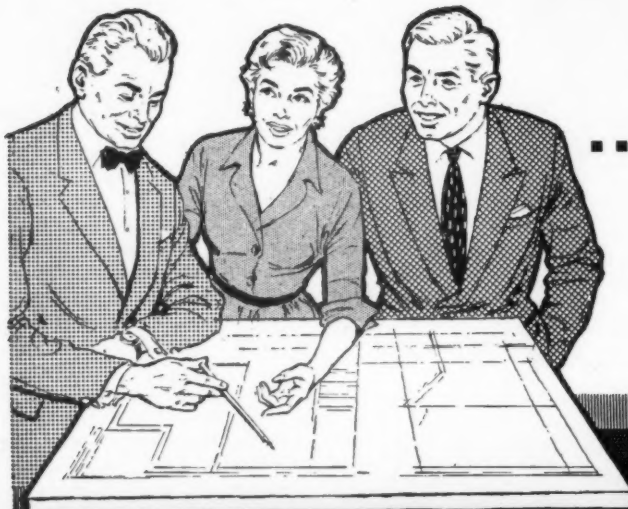
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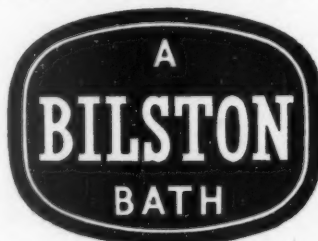
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Reminiscences of an indifferent pilot

by Ian Nairn

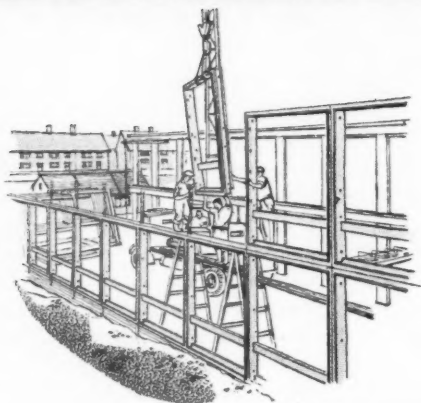
Civil airfields all have a different atmosphere. This is queer, because the hangars, nissen huts and equipment are drab and standardized—and RAF airfields, for example, are depressingly similar from one end of the country to the other. But somehow the countryside and *genius loci* seeps into the cracked tarmac and shabby huts and occasional new buildings (Turnhouse terminal by Robert Matthew is outstanding in its ability to express both flying character and Edinburgh character).

On this trip Derby was sleepy and Midland (when we landed, nobody in the control tower, nobody in the briefing room, not even anybody in the bar, and that's bad), Leeds was friendly and windblown on its hilltop, Newcastle long and gaunt like Northumberland itself. In Scotland, Turnhouse is now for me indissolubly linked with the hospitality of the Edinburgh Flying Club; Scone, the main private airfield in Scotland was oddly different, rather rule-bound and stiff-upper-lip, the only case I have met since I started club flying. Blackpool airfield was like Blackpool itself, noisy and friendly, with charter aircraft continually taking off, flying round the Tower and landing again. Coventry, the next day, was just the opposite: the biggest grass field in Britain, nothing moving on it but one controller and the fire tender crew.

This was a Tuesday, admittedly: but an equivalent airfield on the Continent and certainly in America would have been far busier. The fact that our business and professional men haven't taken to the air as a simple extension of driving Jaguars or first-class rail travel is almost entirely due to Government indifference. This shows in different ways—directly, for example, in lack of subsidies to flying clubs, as the French have, and in complete indifference to whether Britain produces a modern light aeroplane which could sell abroad. But worse than that is the kind of bureaucratic fog that envelops the upper reaches of the Ministry of Transport and Civil Aviation over private flying—the manner of the recent closing of Croydon was a prime example of this. A non-scheduled or non-radio aircraft is somehow regarded as a fearful thing, to be kept out of the regulated form-bound traffic pattern at all costs. They should see how the American airports handle all classes and types of aircraft at once—or an airport like Southend, municipally owned, which handles ten times as much traffic as Gatwick and can still cheerfully accept a Prentice whose pilot was avowedly “just coming in for a cuppa,” as I did three weeks ago. However, the MTCA airfield controllers, at least on the small fields, are quite the opposite: friendly, cheerful, glad of

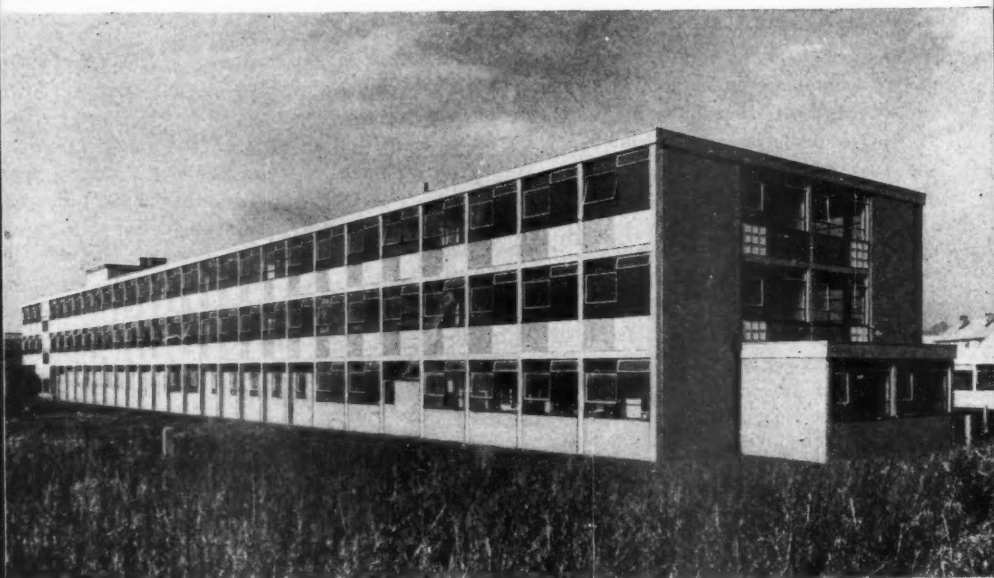
a chat and prepared to let you on to the next airfield if they possibly can.

Leeds to Newcastle was a jolly do. We had flown east down the Humber to Hull in bright sunshine and intended to take shots up the Yorkshire Coast. At Bridlington it was hazy, and just past Flamborough Head, with the cruellest and most remote chalk cliffs in England, the cloud went down to the deck and stayed there. It had been there for days, as part of last year's freak summer, but being an ancient monument (by meteorological standards) was little consolation to us. I climbed to the safety height—highest ground plus 1,000 ft.—and dug out a rusty repertoire of instrument flying that had last seen service in jet fighters in 1953. I was going to give this lot 20 minutes of flying time and if nothing showed up head back for mid-Yorkshire. In fact the mouth of the Tees came up as though seen through chicken soup, and we fingered our way along the Durham coast until, somewhere near Seaham Harbour, I realized that I would be able to find the mouth of the Tyne and then to find Newcastle by flying up it, but in these conditions I would almost certainly take the wrong road north out of Newcastle to the airfield six miles away at Woosington. Hence in exasperation we turned back only to find once inland that the visibility improved to a practicable level—about a mile. So back northwards, and—no nonsense this time—unashamedly following a railway line into Durham city and the Great North Road thereafter. At Durham it thickened again and the last few miles into Newcastle were flown on the glinting tops of the heavy lorries. At Tyne Bridge the visibility was half a mile, but at the Town Moor the mist suddenly stopped; old big-ears was lucky again, as he had been the day before, when after 20 miles of bad weather completely without pinpoints in the fearful tangle of railways and towns that is what the West Riding means to a pilot, he had come out of a rainstorm directly over Yeadon's wet but welcome runways. At Woosington we landed to have a late but very good lunch—airport restaurants tend either to be very good or very bad—with the feeling that that was about enough for one day. It was: within half an hour the mist had come in from the south and all flying had stopped. When we did a repeat trip over this section the weather was as different as could be imagined: brilliant October sunshine and 20 mile visibility. We photographed from Derby to Edinburgh in one day, stopping again at Leeds and Newcastle—three landings, and each one in a howling crosswind: in the words that a Mosquito squadron adopted as its unofficial motto during the war, “there's always bloody



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The photographer and his camera

Bill Toomey, born 1922, flew as a radio operator/air gunner in Wellingtons and Lancasters in the war. When it ended he had flown thirty-six operational sorties over Western Europe; he served in the RAFVR, joined the Architectural Press in 1936 and became a staff photographer in 1951. When the idea of air photography first came up he bravely agreed to trust his neck with I. Nairn Esq., a course of action which he has not (yet) had cause to regret.

The camera has been specially made, using a 7-in. Aero-Ektar ex-American Air Force lens mounted on a 5. in. x 4 in. M.P.P. back. Shutter speed is normally 1/500 and aperture varies from f8 to f16.



The plane and its owners

The aircraft is a Percival Prentice, a four-seater ex-RAF trainer: dual control up front and a big bench seat behind. The Prentice is big (46-ft. span, bigger than the Hawker Hunter), a little underpowered but very solid; it handles heavily but positively and has no vices, an ideal combination for flying in bad or bumpy weather. The pilot being high up above a short nose has a first-rate view at all times, a little too first-rate in a glide approach as the angle is steep and the ground takes on a coming-up-to-get-you appearance. Four channel VHF and all mod. cons. including windscreen wipers that bash away at a rate that would be only needed in the middle of a monsoon. It is a workhorse, not a thoroughbred, but a very good one.

The owners are the Surrey Flying Club, one of the biggest and best clubs in Britain. The two don't always go together, but Surrey, with around five hundred members, keeps a perfect blend of complete informality and just enough control to stop feckless pilots from doing stupid things. Has recently had to move from Croydon to part of Biggin Hill, where it and the other ex-Croydon clubs look like perpetuating the real spirit of the Battle of Britain boys better than the miscellaneous non-flying Air Force units that are still occupying the rest of the airfield.

something!" The Prentice in a crosswind is a bit of a trick: not the touchdown but what happens when the tail is well and truly down. There is so much side area of fuselage that it blanks off the rudder, so that when the wind tries to swing you round like a weathercock there is not enough airflow over the rudder to correct it. The only remedy is brakes, and even then the result looks as though you were trying to land across the runway, not along it.

When we landed at Blackpool the chief flying instructor of the local club came up for a chat and said we could get a drink in a few minutes when the bar opened. This was a bit puzzling as it was then ten to three in the afternoon, but we waited and the mystic truth was revealed to us. Thanks to the licensing authorities, this splendid place opened when everything else shut. Not unnaturally, the place filled up fairly smartly. Come 10.30 p.m., after mussels and the "only real original Gypsy Lee," we were in another pub in the half-mile of Blackpool south of the Tower which is a marvel of honky-tonk vitality when there was one of the people we had seen at 3 p.m. being carried rather than led out. Obviously a man who knew what he wanted and got it.

Calm after storms—the last leg back from Coventry was a sweet summer day with visibility as far as the eye could see: one of those days, perhaps one in a thousand, when the visibility increases proportionately as you go higher: normally it does not go above about 50 miles whatever the weather. Just once above Norwich at 40,000 ft. I have seen the whole of East Anglia spread out like a map. But any way is fun: flying in English weather is like having an affair which never goes stale or boring because each time is different. This sort of thing in any sphere is worth a bit of trouble and expense, which brings me, finally, on to the subject of:

Cash

The Prentice costs £7 per hour to fly to Club members, and in that hour will go approximately 120 miles. This is expensive, but for it you get a genuine four-seater, big enough to be able to fly in any normal wind and weather. A trip from Biggin Hill to Ostend, for example, should take no more than an hour and a half each way, giving cost per head of just over £5 return, which begins to bear thinking about. In addition, there are landing fees away from home, normally between five and ten bob a time. Smaller aircraft cost proportionately less, and many smaller flying groups manage to run two-seat Austers or Tiger Moths at under £3 per hour. Alternatively, the Prentice newly converted (effectively a new aeroplane) costs £1,850—not much more than a Jag., after all—and flying can then become very cheap, for the cost in fuel and oil is under £3 per hour. Again, smaller aircraft cost proportionately less: the famous French two-seat club aircraft, the Jodel, will give 25 m.p.g. and 120 m.p.h.: in the aviation world the Prentice is the equivalent of a high-class family saloon, say the Rover 90.

The flying cost of the round trip, which included a lot of time spent in second runs over buildings and towns to get better shots, was approximately £120.



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CUTTING DOWN OVERHEADS

Last week I wrote about a disappointing development in the proposal for replanning Piccadilly. Since then there has been another disappointment. In the LCC debate on the subject it was revealed that the original proposal to separate pedestrian traffic from motor traffic had been dropped. It is depressing that although the chairman of the town planning committee, Richard Edmonds, has admitted that satisfactory planning can only be achieved by comprehensive Barbican-style development he is unable to do anything about it. Perhaps he is paralysed by his Council or the Treasury. Anyway, another good opportunity has been missed.

THIS IS THE LIFE

Do you remember the NALGO film strip on the work of the municipal engineer? It showed that gentleman as the man responsible for architecture. Architects promptly asked NALGO to make a film strip about their work. They didn't get anywhere, so the City and Borough Architects' Society decided to do the job themselves, and collected fifty pounds. The result—made by Educational Productions, scripted and edited by Thomas E. North, of West Ham, and shot, apparently, in his architect's department—is rather disappointing. One frame, showing nothing more than the rear elevations of three assistants

blocking the view of a drawing, has to be on the screen long enough for the lecturer to read 130 words of script. Strips like this, which are used in careers lectures, should be well designed if they are to appeal to the sort of student that architecture needs. But Thomas North and the CBAS are to be congratulated on an admirable piece of initiative.

CHELSEA RE-PLANNING

Fifth year students at Kingston School of Architecture have been busy on one of those useful "live" problems that are increasingly popular in architectural schools. Their survey and replanning of Chelsea, shown in the borough's town hall, was an admirable, sympathetic study of local needs and character and an intelligent redevelopment of areas that needed it. Most important of all it was a comprehensive study of traffic problems. It contained useful ideas for the diversion of through traffic past Chelsea (along Fulham Road or south of the river), leaving Kings Road as the local High Street it was in the days when A. A. Milne wrote so affectionately about it, and leaving the riverside as a peaceful promenade. I hope that Richard Edmonds, who has seen the plan, will note the ideas so enterprisingly put forward by the Kingston school and displayed by Chelsea's mayor.

CHANGE OF HEART?

ASTRAGAL was glad to read the Minister of Transport's statement, published on another page, that he welcomes the co-operation of the architectural profession in the study of urban traffic problems. Let's hope this signifies a real change of heart, for so far the Minister has not made it possible for architects to co-operate with him. Contrary to what his Parliamentary Secretary says, architects have not been included in the urban motor road committees, except in London.

THE NASH TERRACES

The Crown Commissioners' announcement on the future of the Regent's Park terraces, which comes too late for detailed comment, shows that the future of the greater part of the Nash facades is now secure. That is something to be thankful for, when it is remembered that the Commissioners, not so long ago, were contemplating the possibility of wholesale destruction.

But ASTRAGAL is far from happy

about the proposals for the south-east corner, where the unity of the terraces seems likely to be replaced by a series of unco-ordinated individual statements. Cambridge Terrace is now to come down, to be replaced by a students' hostel with a set-back 14-storey tower by Robert Matthew. The next terrace, Cambridge Gate (a late Victorian building), which was to have come down, is now to stay for at least 16 more years on the ground that it is in good condition. I would much preferred to have seen Cambridge Terrace restored, and the students' hostel put in Cambridge Gate. Someries House, next to Cambridge Gate, is to be replaced by Denys Lasdun's new headquarters for the Royal College of Physicians. Round the corner, the east end of York Terrace is to be replaced by flats by Cyril Elsom.

It is at least satisfactory that such distinguished modern architects have been chosen. But surely the crying need, if there has to be redevelopment, is for it to be comprehensive and not piecemeal. Can the architects not get together?

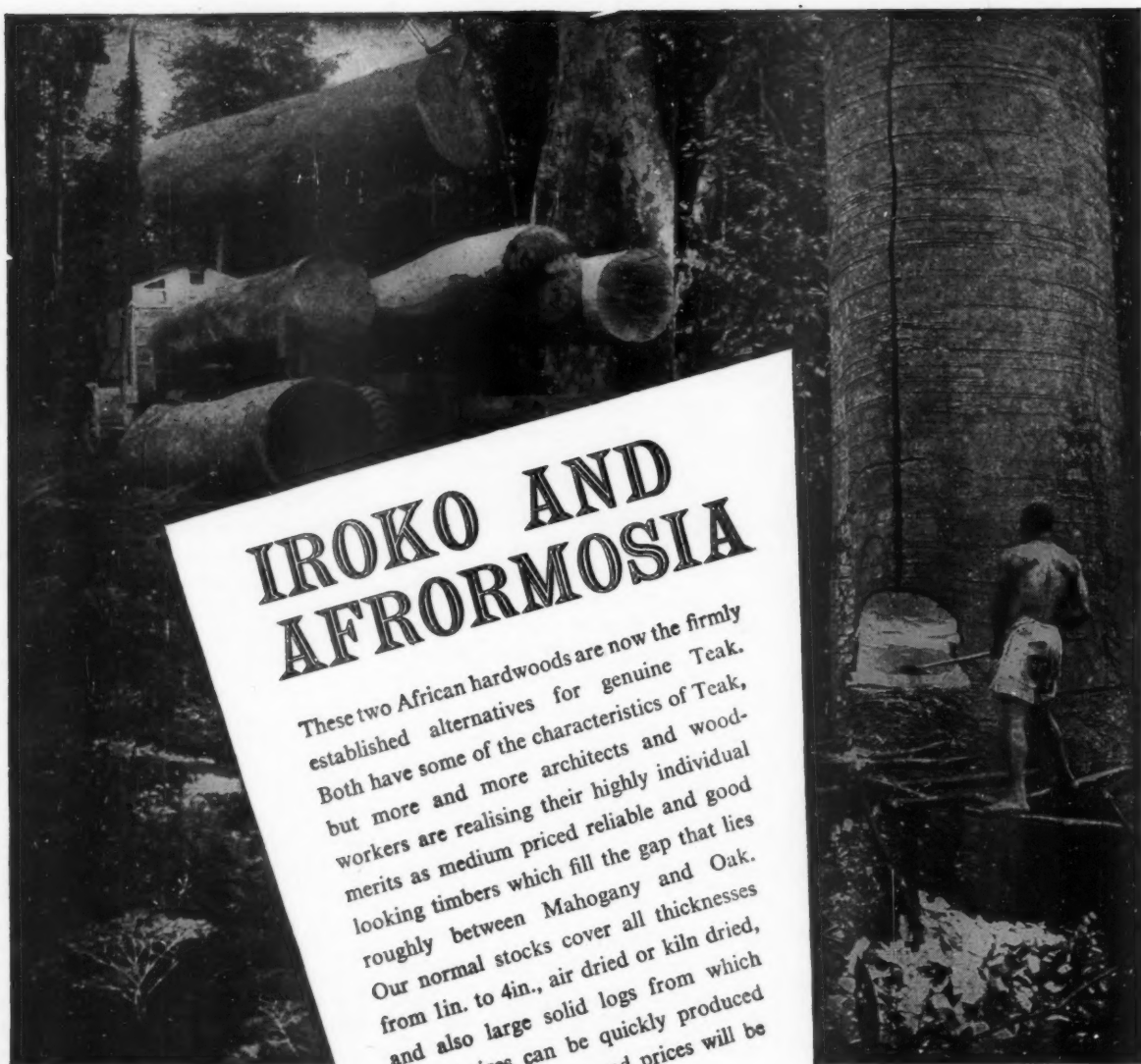
WHY NOT NUFFIELD?

The competition for the new medical teaching centre for Wales is of exceptional importance, a many million-pound job, and the first big medical school and hospital to be built for many years. But why, one asks, have the United Cardiff Hospital and The Welsh National School of Medicine—the promoters—not included somebody from the Nuffield Provincial Hospitals Trust among the assessors? To dispense with Nuffield's unique experience in hospital design in assessing this competition is surely unwise.

AMERICA BUILDS

We have been waiting for a long time for an American equivalent of such books as *Sweden Builds* and *Italy Builds*. The author of these two, Kidder Smith, is, of course, an American, and might have found it difficult to be objective about his own country. But now we have a handsome book* based on a special number of the *Architectural Review* which was published nearly two years ago. The author, Ian McCallum, gives a historical, analytical introduction, and then lists recent work in the form of thirty-three biographies of leading architects. These are arranged in order of seniority

* *Architecture USA*. Ian McCallum. Architectural Press 63s.



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—beginning with Louis Sullivan (1856-1924) and Frank Lloyd Wright (whose birth date McCallum doesn't try to establish), and ending with Ulrich Franzen (born 1921) and Thornton Ladd (born 1924).

*

In spite of the important part America has played in developing an anonymous architecture based on industrial components (this was given more attention in the *Review*) this grouping of buildings in terms of personalities and careers is successful. It is fascinating to see how, over the years, the work

of America's most famous architect-immigrants has been absorbed, digested and recreated by a new generation, so that the elements of an American style are already distinguishable.

EXHIBITIONS

Mr. McCallum's book was written after a couple of teaching visits he made to Yale University. Some of the photographs he took on these visits are now on view, impressively enlarged and critically captioned, at the American Library, 41 Grosvenor Square. In Bedford Square, at the AA, you can

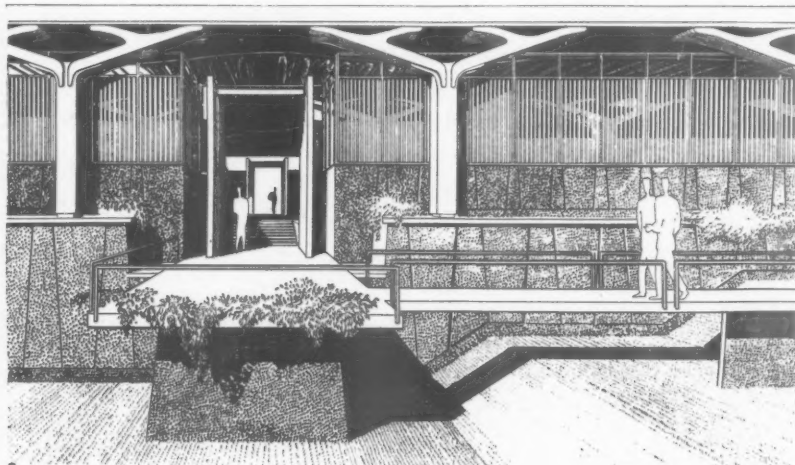
now see the exhibition I mentioned last week—arranged by the Oxford Undergraduates' Design Society. And if you are feeling energetic you can nip over the water and see the LCC's road improvement programme at County Hall. But don't expect to find a real traffic solution, or anything more than minor proposals.

URBAN RENEWAL

Urban renewal is the subject of a course to be held by the York Institute of Architectural Studies from April 9 to 14. So far, too few people have shown an interest in this, the first course of its kind. Yet the Ministry of Housing has given its blessing, which means that local authorities can pay the expenses of architects and planners. What are they holding back for? Don't they think there is anything to be learned?

ASTRAGAL

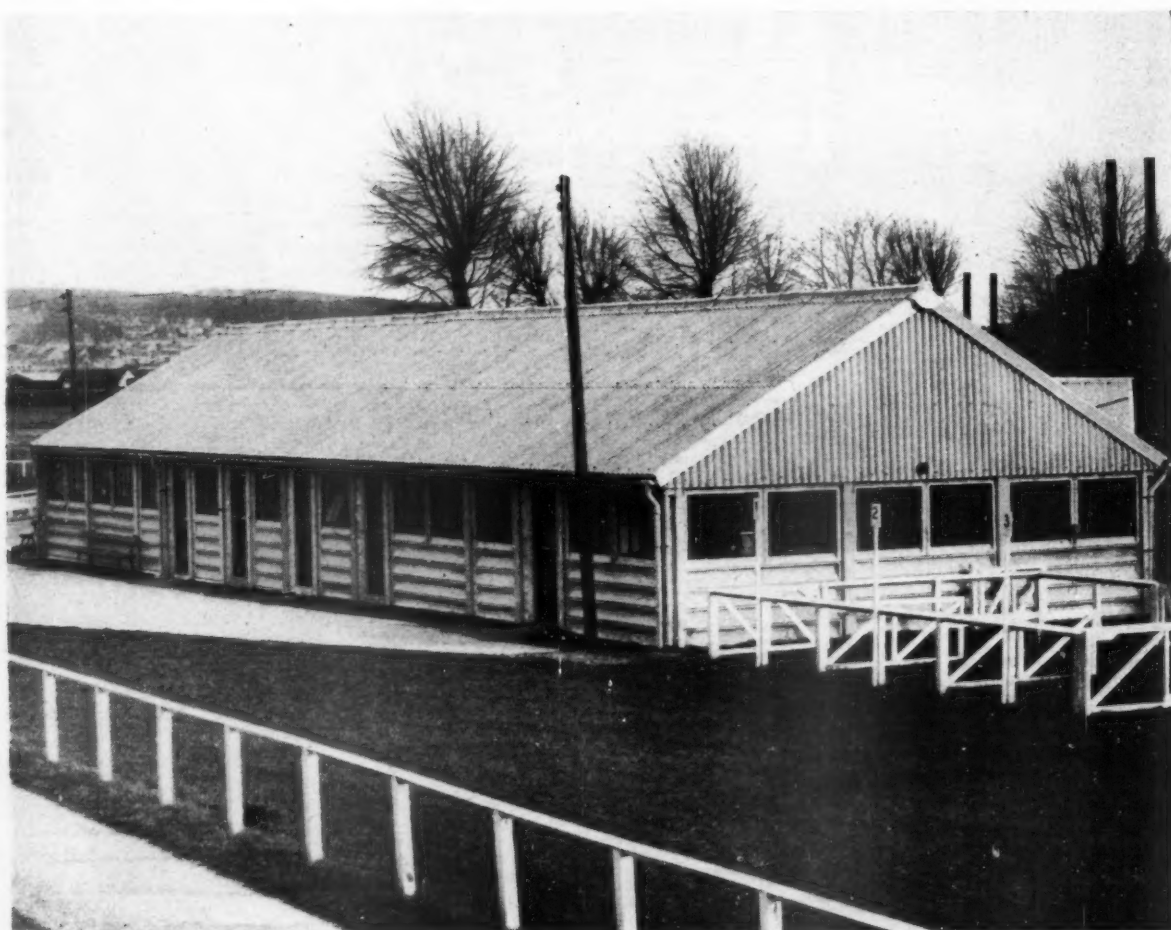
Two pictures from Ian McCallum's lavishly illustrated book *Architecture USA*, which presents and studies the work of the country's leading architects. Below, a house by W. W. Wurster at Los Altos, California. Left, a detail of a laboratory by Paul Rudolph for the school of forestry, Yale University, an exercise in precast concrete which has lessons for English university architects, and, more particularly, clients.



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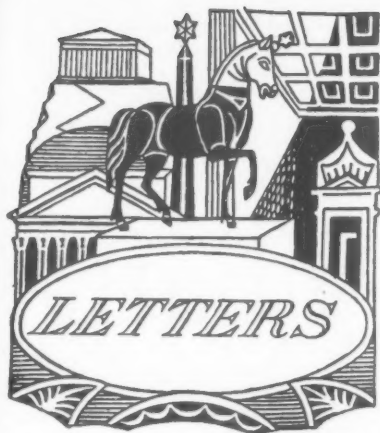
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The Villa Savoye

SIR: We are deeply shocked to read the news that the Villa Savoye is threatened with demolition.

We believe this building and other Corbusier masterpieces of the period, such as the Villa at Garches and the Pavillon Suisse, will occupy as pertinent a place in 20th century architectural history as the Palladian villas of Renaissance times.

It is our hope that the JOURNAL will give all help to the campaign to prevent this act of vandalism, and will find overwhelming support from its readers.

NIGEL A. RENNER
and 28 members of the Derbyshire County
Council Architect's Department,
Derby

SIR: We are very disturbed by your remarks concerning the conditions of the Villa Savoye and the threat of its immediate demolition.

It has been proposed that the villa is bought by ex-members of The Liverpool School of Architecture as a base for anyone wishing to study the work of Le Corbusier and eventually as a place to house a permanent exposition of his work, including furniture, painting, sculpture, and fabrics.

Any ex-members of The Liverpool School of Architecture who are interested, are asked to contact Colin Wilson or James O'Donahue, c/o The School of Architecture, University of Liverpool.

COLIN WILSON
JAMES O'DONAHUE
GEORGE HALL

Liverpool

The Editors write: We understand that the immediate threat to the Villa Savoye arises from the decision of the education authority to acquire the site compulsorily for a school. We also understand that various steps are being taken in France to preserve the villa. The Mayor of Poissy is said to be founding a committee for its preservation. A project which proved abortive some years ago, to purchase the villa and restore it as a museum of modern architecture, may also be revived.

Concrete Sculpture

SIR: Defamatory remarks may add piquancy to reading matter but are particularly objectionable if unsubstantiated and inaccurate. This proposes to be a defence against one printed in the AJ of March 5. I begin with an offering of thanks for this space in which to go into it.

ASTRAGAL went to the Royal Society of British Sculptors' party and while looking at photographs of members' work, somebody caught him to whisper in his ear "warn your readers that the technique of applying a cement mix on to steel to make a sculpture is technically indefensible and that it will have a most limited life"—and this unsupported opinion sees print over ASTRAGAL'S respected signature.

The *spiritus agens* remains anonymous but my work is not and I shall relish taking up the argument.

I do so because this method is a logical and organic outcome of the technical development of our time and an exciting adventure. You anchor your steel in the base, weld a skeleton, span volumes in expanded metal lathing, model with it. It is not a substitute for conventional materials because it has its own character: the materials are unamenable and rigid and they can and should condition the design. The final appearance bears witness to the method. Just as a baroque pediment on a skyscraper is sham and reproducing clay textures in a stone carving is a violation of the stone's character, finicky elaboration of naturalistic detail while working with a trowel over bold sweeps would suggest that the inherent limitations were not turned to an advantage. An honest abstraction can be arrived at and a tectonic strength can crystallize in such a sculpture which makes it a natural offspring of the modern building.

For the benefit of the anxious whisperer and ASTRAGAL'S peace of mind let me say that the principles of a sculpture built in a cement mix over steel reinforcement and background are no less sound and with a life no less limited than any other reinforced concrete, *cemento armato*, *beton* and what have you the world over. And I believe many people say that concrete has come to stay. If the sculpture idea is to be scrapped,

you can think again about those slender mullions and window frames and lamp standards, the whole industry. And you had better tell Maestro Nervi that his sailing yacht in a 1½-in. thick sharp sand and cement mix over a mesh has not really sailed the sea at all.

Some earlier examples of my concrete sculptures have already proved that they were worth the attempt. My "Triga" at Knightsbridge is still too young to prove much but samples of identical compositions were tested for me in labs. of Birmingham University and withstood a simulated life of six centuries. No chances were taken, safety margins, sometimes of several 100 per cent., were put on and it passed the scrutiny of very expert McAlpine engineers and very cautious borough surveyors. The 1:3 Fondu sharp sand shell is in itself waterproof but the entire work is coated for additional protection and colour effects with plastic metal. I happen to be the worrying type in my work—so the whole sculpture then got two layers of perspex in lacquer form.

I stick out for the technique because it can provide a sculpture for a price acceptable to a developer. Too often a bleak setting calls for some manifestation of a human emotion but the funds leave no provision. The materials are only builder's stuff and the cost of producing a work is about 1/25th of the cost of a bronze cast!

And I owe this defence to the sculptors who have asked me for my help in practising it.

FRANTA BELSKY

London

A Disposal Problem

SIR: We were interested to read the letter from "Practising Architect" about the problem of visiting technical representatives, which is one from which we, in common with architects, are also liable to suffer. However, the trouble can be mitigated when it is realized that these gentlemen dislike getting up early.

A notice on the door stating that representatives can only be seen without appointment before 10 a.m. will be helpful, particularly if it is further stated that appointments can only be considered if written application is made. By rigidly enforcing this rule, the menace may be reduced to negligible proportions.

If, however, anyone is enterprising enough to arrive before 10 a.m. it should be a matter of honour to see him (and possibly even reward him with a cup of tea).

"CONSULTING ENGINEERS"

SIR: Like "Practising Architect" (AJ March 12) we find the "reps" a problem. We don't turn them away unless we are very busy: this is partly humanitarian but mainly because we can get nearer the truth about a product by interrogation—if the rep. knows enough. If he doesn't, the interview is apt to be very short indeed.

We don't think our assistants are wasting time if they are *finding out* about polystyrene etc., but "admiring" is a different story. "Admiring" is mostly for suckers. Our assistants are not suckers (we hope).

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* Available at extra cost.

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As regards paint, we shall some day find time to send a very searching questionnaire to the manufacturers, designed to test their awareness of some of our problems. Those who reply satisfactorily will be listed for specification, and their products will be normally specified in rotation, so that they all get a share.

W. S. GAULDIE
A. F. S. WRIGHT

Dundee.

Teaching Structural Theory

SIR: Werner Rosenthal's views on the teaching of structural theory were highly relevant and I do endorse them. I would add that, apart from showing the basic and functional nature of formulae, there is one other way which will convey structural theory usefully and vividly to the architectural student who might well have more leaning towards "structural feeling" than to mathematics. I am referring to the building of structural models to satisfy certain requirements and which can be tested. The techniques of developing this subject have not been much explored but I would say with confidence that my students have learnt more from a few such exercises than from the hundreds of hours of copying examples and notes at lectures.

Therefore I believe it is worth while to explore the teaching method further and feel confident that the number of materials that lend themselves to this, and the number of structural shapes, is very great. Once the student's interest has been aroused with the performance of his own creation, it is then he will have the impetus to get the most out of the better teaching of formulae which Mr. Rosenthal rightly advocates.

PAUL RITTER

Nottingham.

SIR: I was interested in Mr. Rosenthal's article, but I would assure him that others are also aware of the fact that, for the architect, Structural Theory must be something quite different from mere "Structural Engineering and Water."

Already most of the lectures in this subject at the Birmingham School are given by practising architects in the belief that the student may realize that this has something to do with his future, and that besides satisfying "recognition" requirements the lectures can even be useful.

ANTONY SEALEY

Birmingham School of Architecture.
Sutton Coldfield.

Association of Official Architects

SIR: Moira Shield's letter (AJ March 12) highlights vividly the position that is likely to develop in the new Association of Official Architects.

The letter, presumably sponsored by the Provisional Executive Committee, puts forward the case for those in Local Government very strongly. It should, however, be more widely known that membership is not restricted to local government staffs only.

Staffs of Nationalized Boards, New Town Development Corporations, the Health Service, Port Authorities, and others are eligible, and not all of these are covered by NALGO, which could otherwise have been a unifying factor. Comparison with A.L.G.E.S. and the other professional associations is therefore not as close as would appear from Miss Shield's letter. Having already accepted this widening of membership the case against admitting those in private practice and other employment is not quite so strong.

It is true that there is no employers' negotiating organization for these architects, but there never will be unless an association of employees with whom they can negotiate is set up first!

It is also true that no tangible benefits can at present, be offered; but what really concrete developments were offered to local government members in June, 1958, to make membership swell to 1,600 within six months? Salaried architects in private practice and commercial employment might be just as willing to join an association that at least offered a starting point for some future benefits, however intangible at this stage.

My real concern is that the AOA should not come to be looked upon as a society of local government architects only, with no thought for the profession as a whole. Unfortunately Miss Shield's letter does more to confirm my fears than to dispel them.

REX DEMPSEY

Newcastle-upon-Tyne.



COMPETITION

Medical Centre Cardiff

The Board of Governors of the United Cardiff Hospitals and the Welsh National School of Medicine invite architects resident in Great Britain, Northern Ireland and Eire to submit designs in competition for a proposed Medical Teaching Centre to be erected in Cardiff. The Centre will comprise a Medical School, a Teaching Hospital (of 650 beds initially but with a possible future extension to 800 beds), a Dental School and

Dental Hospital, together with residential accommodation for nurses, medical students etc.

Assessors are Sir Percy Thomas, F. R. S. Yorke, J. H. Forshaw, Provost A. Trevor Jones, and Dr. A. R. Culley. The premiums are: First, £5,000 (to be merged with the fee); Second, £3,000; Third, £2,000.

Any applicant for the conditions should state his registration number, and in the case of an unregistered person who has made application for registration, the date of such application and the number of the receipt issued by the Architects' Registration Council in respect of the admission fee. Where application is made by a firm the registration numbers of the architect partner or partners of the firm must be given.

Applications for Conditions, etc. (deposit of £3 3s.) to be made not later than April 24, 1959, to David G. Morgan, Secretary to the Board of Governors, United Cardiff Hospitals, Cardiff Royal Infirmary, Newport Road, Cardiff. Last date for questions, June 19, 1959, for sending in, April 30, 1960.

MODULAR SOCIETY

Professor Van Kuyck on Further Experiments

On March 18, the Modular Society held a meeting at the Building Centre at which Professor Hugo van Kuyck of Antwerp spoke on "Further Experiment in Modular Design." Gontran Goulden was in the chair. Professor van Kuyck's talk was a follow up of one which he gave to the Modular Society five years ago (and which was reported in the JOURNAL of June 3, 1954). On that occasion he described a large housing development (named "Luchtbal") in Rotterdam on which he was then engaged. The object of the Luchtbal experiment was to show how Modular Co-ordination, if rigorously applied, could lead to a more effective use of factory-made components and thus reduce building costs. This development has now been completed, the last section to be built comprising three 17-storey point blocks. The main subject of the lecture was, however, the experience gained in building a new office block in Brussels for the *Prevoyance Sociale*, a large Belgian insurance company. This likewise had 17 storeys above ground, but of these the lower three were of traditional, reinforced concrete construction and only the top 14 were the subject of the experiment. These were of steel construction with aluminium windows. In plan the building is a rectangle 40 m. x 60 m. with a central loadbearing core, containing the lift shafts and the service risers; and load bearing mullions at 1 m. 40 cm. centres (i.e. approximately 4 ft. 6 in.). Light fittings were designed at 70 cm. centres and floor fittings at 2 m. 10 cm. centres. All measurements conform to the 10-cm. module. The greatest difficulty which Professor van Kuyck experienced in carrying out this job was in getting the eight main industries engaged upon it to agree to work together: this he felt was a human rather than a technical problem. On the technical side, he found it necessary to compel the steel erectors to work to a tolerance

of ± 3 mm. ($\frac{1}{8}$ in.). This they in fact achieved though they were unwilling to attempt it at the start. This degree of tolerance necessitated a very accurate check, which was applied by means of tightened wires run (for the vertical measurements) down the lift shafts. Another technical difficulty was to get standardisation of finish, particularly as regards colour matching. This was a greater problem in that all finishing was done in the factories. In the event the architect had to require manufacturers to use paint from a single source.

This off-site finishing made it necessary for all operators to observe a special care in handling: special crates were designed and particular care was taken in transporting components and in stocking them on the site. This caused a considerable dismay among site operatives who took some time to get used to the new procedure. The whole of the internal wall surfaces were enclosed with steel sheet in some form or other (ducts, cupboards, etc.). In the course of the job the time taken by the operatives to fix these in place was progressively reduced to one fifth of the time taken in the beginning. In fact the saving in time on the job as a whole was considerable: the 20 storeys were completed in 18 months less two days and it is Professor van Kuyck's conviction that if a similar building were put up, with the experience gained, it would take less than 12 months. The *Prevoyance Sociale* building was between 5 per cent and 10 per cent more expensive than a traditional construction would have been, but some at least of this would be compensated for by the earlier occupation. A very similar 12 storey job in Antwerp designed by the same architect, but in traditional construction, took a year longer to complete.

Professor van Kuyck next discussed a seven storey office building which he is now designing for the *Societe Nationale du Credit d'Industrie*. This is to be built in concrete for reasons of economy, but the designer hopes, by using steel forms, to achieve an accuracy equal to that of steel. The building has a 130 ft. frontage, front and back, both of which are to be clad with a continuous curtain wall with glazing direct to cast iron frames.

Professor van Kuyck next discussed the paradox that standardisation makes possible a greater variety in the arrangement of building interiors, illustrating his point by reference to the point blocks in the Luchtbal development mentioned above. Here, by standardising the bathrooms and kitchens and by gathering these into one part of the plan it was possible to divide the remainder of the plan in a great many different ways. This division was made with a modular storage wall framing designed to accommodate a variety of cupboarding.

The lecturer concluded by discussing a number of general matters. Estimating that 4 per cent of the ultimate costs of a building are attributable to raw materials, 3 per cent to energy and 93 per cent to labour, he suggested that if you cut labour costs by half you very nearly cut the total cost of a building by a similar amount. Also he pointed out the change that was taking place in the attitude of clients towards their buildings: the tendency to regard these not as capital investments but as consumer goods, to be replaced at the end of a foreseeable useful life.

MOTOR ROADS

Minister's Statement

The Ministry of Transport considers that the anxiety expressed by architects about the building of urban motorways is quite unfounded. In the debate on the roads programme in the House of Commons last week Mr. G. R. H. Nugent, the joint Parliamentary Secretary to the Ministry of Transport, said that the Ministry's general approach to the urban problem was to improve existing all-purpose roads, and particularly to see a development of traffic engineering.

"The anxiety expressed by architects about the building of urban motorways is quite unfounded," he said. "The city committees which have been set up—including the London Roads Committee, of which I am chairman, and the committees in the Midlands and in the West Riding which are considering the big conurbations there—are considering road development in these big urban areas over the next 20 years. The members of these committees include the town planning authorities, with their architects and other experts. There is no doubt that amenity and architectural considerations are fully expressed and are taken into consideration together with engineering views on traffic considerations."

The Minister of Transport, Harold Watkinson, explained that the first phase of the attack on the urban problem was to deal with urgent bottlenecks, tunnels and bridges. They were now considering the next phase, the full-scale urban motor road, but he was not sure that such a scheme in all its severity was the right answer in our historic towns and cities.

"I should welcome," he said "the co-operation of the architectural profession, engineers and the British Road Federation and all those interested in seeing whether we cannot design our own solution to this urgent problem. There may be what one might call a British solution to this problem. In looking ahead to the urban road programme, we will welcome new ideas on how to shape it to fit in which the old and historic buildings and history of our towns and cities and our own special problems."

TALL BUILDINGS

London Building Act Waiver

The LCC announce that, to meet the requirements of tall buildings, they are prepared to modify the bye-law which states that rooms must have opening lights to a minimum of 1/20th of the floor area (Bye-law 11.03(2)(b)). They will now let you seal the upper floors provided you instal a stand-by power plant which will take over when the air conditioning fan motor fails, and provided you fix emergency vents, adding up to 2½ per cent of the floor area, which can be opened by hand in an emergency. They add, however, that each case will be considered on its merits.

RIBA

Chinese Architecture

The RIBA had hoped to present, during April an exhibition of Chinese classical architecture together with a selection of Chinese contemporary work. Unfortunately the Chinese Architectural Society have been delayed in the preparation of this exhibition but it is hoped to show it early in June.

Charles Eames Discourse

Charles Eames is to give this year's Annual Discourse which will take place on Wednesday, April 15, at 6 p.m. A special meeting is being arranged on Tuesday, April 14, at 7.30 p.m. for the purpose of showing some of Mr. Eames' films. These will include: *Black Top, Parade, Communications Primer, House, Toccata for Toy Trains*. No tickets are required for either meeting and admission is free.

The Living Town

Sir William Holford is to take the chair at the RIBA symposium on replanning and renewal, called "The Living Town," to be held at the RIBA on Friday, May 22. The speakers will be Hubert Bennett, Lionel Brett, Sir Hugh Casson, Peter Chamberlin, Richard Edmonds, of the London County Council, Percy Johnson-Marshall, Arthur Ling, Professor Robert Matthew, and David Percival.

Tickets (£1 each covering the printed report, coffee and tea, but not lunch) on application from the Secretary at the RIBA; envelopes should be marked "Symposium—The Living Town." There is also an exhibition on the same subject, designed by the Society for the Promotion of Urban Renewal in collaboration with the RIBA and the Civic Trust. It will remain on view until Wednesday, May 27.

MANAGEMENT

Manchester Forum

The Manchester Society of Architects, the Manchester, Salford and District Building Trades Employers' Association and the Lancashire and Cheshire Chartered Surveyors, having jointly formed the Manchester Building Forum, are holding their first Annual Forum at the Old Hall Hotel, Buxton, on May 1, 2 and 3, 1959. This will be in the form of a residential weekend, under the title "Symposium One: Towards Management"; it will be concerned with current problems in the management of building projects having a contract value up to approximately £100,000.

The cost of the Course will be £4 12s. 6d. for all who are fully residential, and £2 15s. 0d. for those who have meals only but do not stay over-night. Bookings, with advance fee of £1, not later than April 1 from Manchester Building Forum, 2, Conyngham Road, Victoria Park, Manchester 14.

DRAINAGE OF ROOFS, 1: DOMESTIC BUILDINGS

This Sheet on roof drainage is based on information contained in B.R.S. Digest 116 *Roof Drainage*. It is limited in scope to roofs which can be served by gutters of cross-sectional area not greater than that of a 6-in. half-round gutter, i.e., roofs to buildings of domestic size. Sheet 33.J2 deals with the drainage of roofs on industrial buildings.

General

There are four factors to be considered in the designing of a roof drainage system. First, the "flow load" must be estimated (i.e. the greatest amount of water anticipated for the gutter system). Next, it must be decided whether gutters are to be laid to a fall and the positions of the downpipes must be selected: both these factors occasion adjustments to the flow load. Thirdly, the sizes of gutters must be determined, and finally, the sizes of the downpipes must be established. The following notes give the basic data for making the necessary calculations and a typical example is presented.

Flow Load

It is recommended for general design purposes in the U.K. that an average intensity of 3 in. of rainfall per hour be assumed. Using this as a basis, the flow load in gallons per minute will be

For eaves gutters of roofs up to 50° pitch:

$$\frac{2.6}{100} \times \text{area of roof slope in sq. ft.}$$

For eaves gutters of roofs of greater pitch than 50°:

Economy can be effected by using the formula
 $\text{plan area in sq. ft.} \times (0.026 + 0.012 \tan A)$
 where A is the angle of pitch.

For valley gutters of all pitches:

$$\frac{2.6}{100} \times \text{plan area of roof in sq. ft.}$$

The flow load in any given case will be varied by three factors: whether or not the gutter is sloping; the position of the downpipe in relation to the length of gutter draining into it; the proximity to the downpipe of bends in the gutter. Where the gutter is laid to a fall of not less than 1 in. in 50 ft., the flow load may be decreased by 28 per cent. The length of sloping gutters is limited by the consideration that the top edge of the gutter should not be more than 2 in. below the discharging edge of the roof.

Position of Downpipes

The flow load as calculated above assumes that the downpipe will be placed in the least favourable position, that is, at the end of the run of gutter. When it is placed elsewhere, reductions may be allowed up to a maximum of 50 per cent (for downpipe in the

middle of the run). The percentage reduction is calculated as follows:

$$\frac{\text{The larger of the two areas of roof on either side of the downpipe}}{\text{Total area of roof}} \times 100$$

The flow load must next be adjusted to take account of bends. These affect it as follows:

Level gutters

- Bend between 6 ft. and 12 ft. of outlet:
 sharp-cornered, 10 per cent increase.
 bend rounded to 1-in. radius, 5 per cent increase.
- Bend within 6 ft. of outlet:
 sharp-cornered, 17 per cent increase.
 bend rounded to 1-in. radius, 10 per cent increase.

Sloping gutters

- Bend between 6 ft. and 12 ft. of outlet:
 sharp- or round-cornered, 12½ per cent increase.
- Bend within 6 ft. of outlet:
 sharp- or round-cornered, 20 per cent increase.

Sizes of Gutters

Once the final adjustments have been made to the flow load, the gutter sizes may be determined by reference to Table 1 below.

For gutters of different cross section, the flow capacity must be calculated from the formula

$$Q (\text{flow capacity}) = 1.15 A^{\frac{2}{3}}$$

where A = area of cross-section. This formula is only applicable where the ratio of width to depth of the gutter is about 2 to 1.

Table 1

Half round gutters		
Size (in.)	True half-round	Nominal half-round*
3	5.6	4.2
4	11	8.8
4½	15	11
5	20	14
6	31	24

* Aluminium to B.S. 1430:1947; cast iron to B.S. 1205:1948.

Sizes of Downpipes

The number and position of downpipes having been determined, their sizes may be selected by reference to Table 2. The capacity of the gutter is influenced by whether the weir to the outlet is sharp-cornered or rounded. The downpipe sizes given below are less than those used traditionally, therefore as they

33.J1 DRAINAGE OF ROOFS, 1: DOMESTIC BUILDINGS

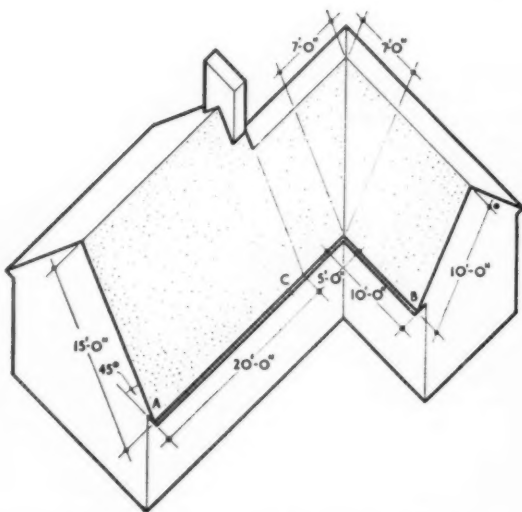
will tend to run full when rainfall is heavy, they must have sealed joints.

Table 2

Half-round gutter size (in.)	Outlet: sharp-cornered (S.C.) round-cornered (R.C.)	Outlet at end of gutter (in.)	Outlet not situated at end of gutter (in.)
3	S.C.	2	2
	R.C.	2	2
4	S.C.	2½	2½
	R.C.	2	2
4½	S.C.	2½	3
	R.C.	2	2½
5	S.C.	3	3½
	R.C.	2½	3
6*	S.C.	3½	4
	R.C.	3	4

* The sizes given for 6-in. gutter size are provisional.

Example



1. To estimate the flow load of shaded parts of roof:

flow load =

$$\frac{2.6}{100} \times \left[(15 \times 20) + (5 \times 10) + \frac{(10 \times 7)}{2} + \frac{(10 \times 7)}{2} + (10 \times 10) \right]$$

$$= \frac{2.6}{100} \times [300 + 50 + 35 + 35 + 100]$$

$$= \frac{2.6}{100} \times 520$$

$$= 13.52 \text{ gal. per min.}$$

2 and 3.—To select positions of downpipes and determine gutter type and size.

Since in the example illustrated the flow load is small, a single outlet should be all that is required. Also, as the total run of gutter is only 35 ft., it is possible to provide the minimum slope (1 in. in 50 ft.) without placing the top edge of the gutter, at its lowest point, more than 2 in. below the edge of the roof. As this solution normally effects a saving, it should be tried first. The flow load figure of 13.52 gal. per min. assumes that the downpipe is fixed at the end of the run, i.e. at A or B. But, since B is between 6 and 12 ft. from a bend, it is necessary to increase the flow load figure by 12½ per cent, bringing it to 15.2 gal.

To obtain the maximum reduction in the flow load, the downpipe should normally be placed in the middle of the run: the near presence of a bend, however, may alter this. To find the most economical position, a point on the gutter run should be fixed which, by eye, seems to be the centre of the run. In the example given, assuming a level gutter and a sharp-cornered angle bend, the following calculation can be made, where x is the length AC and y the remaining length of the large roof.

$$15x = \left[15y + (5 \times 10) + \frac{(10 \times 7)}{2} + \frac{(10 \times 7)}{2} + (10 \times 10) \right] \times \frac{110}{100}$$

Multiplying by $\frac{110}{100}$ compensates for the sharp-cornered angle in the right hand part of the gutter.

$$15x = (15y + 50 + 35 + 35 + 100) \times 1.10$$

$$15x = (15y + 220) \times 1.1$$

$$15x = 16.5y + 242$$

$$\text{but } y = 20 - x$$

$$\therefore 15x = 330 - 16.5x + 242$$

$$31.5x = 572$$

$$\therefore x = 18.16 \text{ ft. or } 18 \text{ ft. } 2 \text{ in. and } y = 1 \text{ ft. } 10 \text{ in.}$$

This method gives an accurate value for the optimum position of the outlet, but, by having to estimate beforehand the position of the outlet in order to know the appropriate correction to apply, it may be necessary to recalculate if the outlet is found to be outside the limits 0 to 6 ft. or 6 ft. to 12 ft. from the angle originally used.

$$\text{The flow load is } Q = \frac{2.6}{100} \times 18.16 \times 15 = 7.1 \text{ gal./min.}$$

Reference to Table 1 shows that a 4-in. gutter is required for this flow load.

4. To establish sizes of the downpipes.

This is done by reference to Table 2. In this case a 2-in. round-cornered outlet and downpipe will be sufficient.

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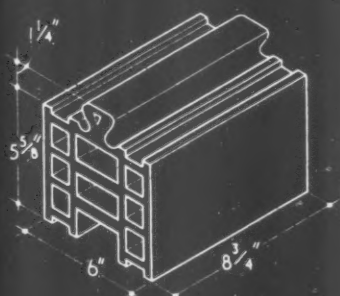
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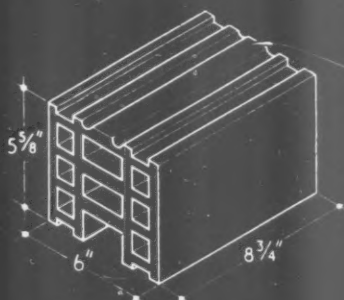
BUILDING BLOCKS HOLLOW CLAY GENERAL DATA

14.B3

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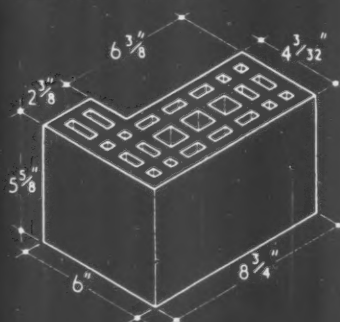


with protruding lifting bar
STRETCHER BLOCKS

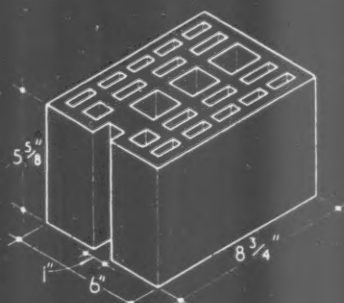


with protruding lifting bar removed

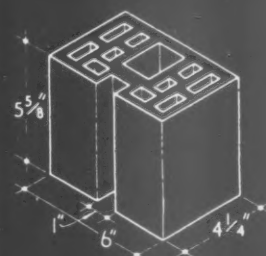
lifting bar cut off, for use with plates, joists etc



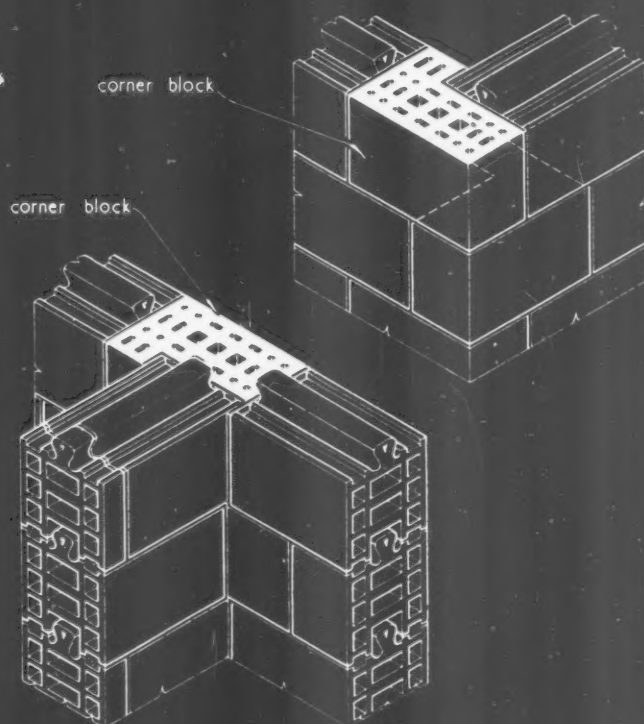
CORNER BLOCK



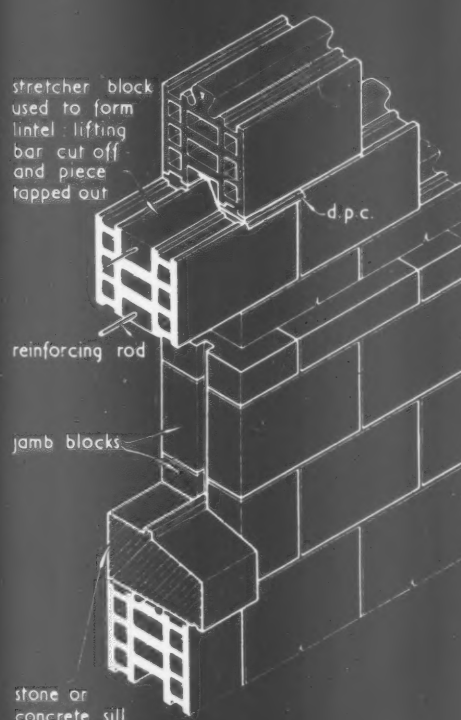
FULL JAMB AND CLOSER



HALF JAMB AND CLOSER



TYPICAL APPLICATIONS OF CORNER BLOCKS



DETAIL OF WINDOW OPENING

14.B3 PHORPRES HOLLOW CLAY BLOCKS FOR WALLS: 2

This Sheet is one of a series on Phorpres hollow clay blocks and, together with Sheet 14.B2, describes their use for walls: these Sheets supersede all previous Sheets on this subject. Sheet 14.B1 deals with Phorpres blocks for partitions and Sheet 14.B4 with floor blocks.

Materials

Phorpres building blocks are manufactured as described on Sheet 14.B1.

Sizes and Weights of Building Blocks

Size	Wt. of blocks lb. per sq. yd.*		Yards per ton	
	Gault	Weald	Gault	Weald
8½" × 5½" × 6"	226	258	10	8½

* 24 blocks per sq. yd.

Crushing Strength

The average crushing strength of individual blocks (calculated on the gross area of the block) is 850 lb./sq. in. (Routine tests by the Technical and Research Laboratories, London Brick Company Limited). There is no British Standard Specification for this block but the LCC requirements are:

external (non-loadbearing) building blocks	500 lb./sq. in.
external or internal (loadbearing) building blocks	750 lb./sq. in.

Model Byelaw requirements are:

for single-storey buildings	400 lb./sq. in.
for two-storey buildings	750 lb./sq. in.

Strength of Walls

For the purposes of test, wall panels 8 ft. high × 4 ft. 6 in. wide × 6 in. thickness were built in 1 : 1 : 6 cement/lime/sand mortar. When crushed with a concentric loading the failing load was 94 tons and with eccentric loading 47 tons. (Strain and deflection readings on both sides of the panel were recorded.)

Thermal Transmittance

The "U" value of 6-in. building blocks rendered externally and plastered internally is 0.31* B.t.u./ft.² h. deg. F. difference in air temperature. The introduction of an additional cavity, as for example by plastering on lathing over battens fixed to the wall, would bring the transmittance down.

* Full details of these tests can be obtained from the Publicity Department of London Brick Company Limited in a booklet entitled "U" Values—The Facts.

Sound Insulation

The sound insulation qualities of Phorpres building blocks are satisfactory. It is generally accepted that resistance to airborne sound is directly proportional to the mass per unit area of the wall, as the denser the body the greater its resistance to airborne sound.

Moisture Penetration

The building block has been designed to provide in one skin all the advantages of cavity wall construction. There can be no capillary attraction through the mortar joints as they are not continuous.

An unrendered panel 8 ft. high × 4 ft. wide × 6 in. thick was tested for resistance to rain penetration. It is considered that the Phorpres block provides a wall that is superior to an unrendered 9-in. brick wall in resistance to rain penetration (this standard is now regarded as a low one) and should normally give a dry interior, though dampness will sometimes appear after exposure to rainstorms of unusual severity. (Tests by Building Research Station D.S.I.R.). Since these tests were made there has been a slight modification to the internal design of the block.

Applications

A wall comparable in performance with contemporary types of cavity construction can be laid in one operation. The size of the blocks and the ease with which they may be handled reduces the amount of scaffolding required to a minimum. As the units are designed to suit brick dimensions, bricks can be used at any point in the construction to line and bond with the blocks. The blocks can be readily cut where special closers are required, and the protruding lifting bar can be removed where the block is required for plates or joists. The special units which are available are required only at corners and openings and may be applied to any design. Lintels may be formed for all types of opening by introducing reinforcement rods into the voids of the units and then filling with concrete, as shown in the drawing on the lower face of the Sheet.

Laying instructions

Phorpres hollow blocks should be laid in 1 : 1 : 6 cement/lime/sand mortar or its equivalent (if other plasticisers are preferred to lime); too rich a mortar mix and thick joints should be avoided. Care should be taken to avoid bridging the gap between the two horizontal joints.

Finish

The standard block is faced on one side and keyed on the other. The external facing, which can be rendered if required, is known as "rug-face." Should the blocks be required smooth-faced, this can be arranged provided sufficient notice is given at the time of ordering.

This Series of Sheets on bricks and blocks covers general data on, and applications of, common, facing, cellular and keyed bricks, hollow walling, partition and floor blocks.

Compiled from information supplied by:

London Brick Company Limited

Head Office: Africa House, Kingsway, London, W.C.2.
Telephone: Holborn 8282.
Telegrams: Phorpres, Westcent, London.

Midland District

Office: Prudential Buildings, St. Philip's Place, Birmingham, 3.
Telephone: Central 4141.

South Western

District Office: 11, Orchard Street, Bristol, 1.
Telephone: Bristol 23004/5.

Northern

District Office: St. Paul's House, St. Paul's St., Leeds, 1.
Telephone: Leeds 20771.

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working detail

DOORS: 40

DOORS: GARAGE AT PITSEA, ESSEX

Eastern Region, British Railways, architect



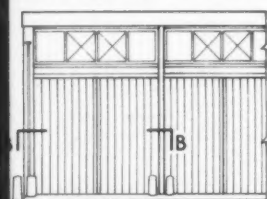
Without claiming to be of supereminent merit, this is a fair example of the tidying up of industrial structures and of obtaining a single, coherent expression from the combined use of steel and traditional materials. Note the plywood fascia and the neat handling of the normally cumbersome overhead door track.

working detail

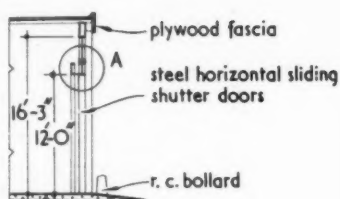
DOORS: 40

DOORS: GARAGE AT PITSEA, ESSEX

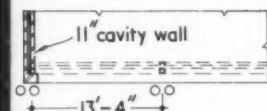
Eastern Region, British Railways, architect



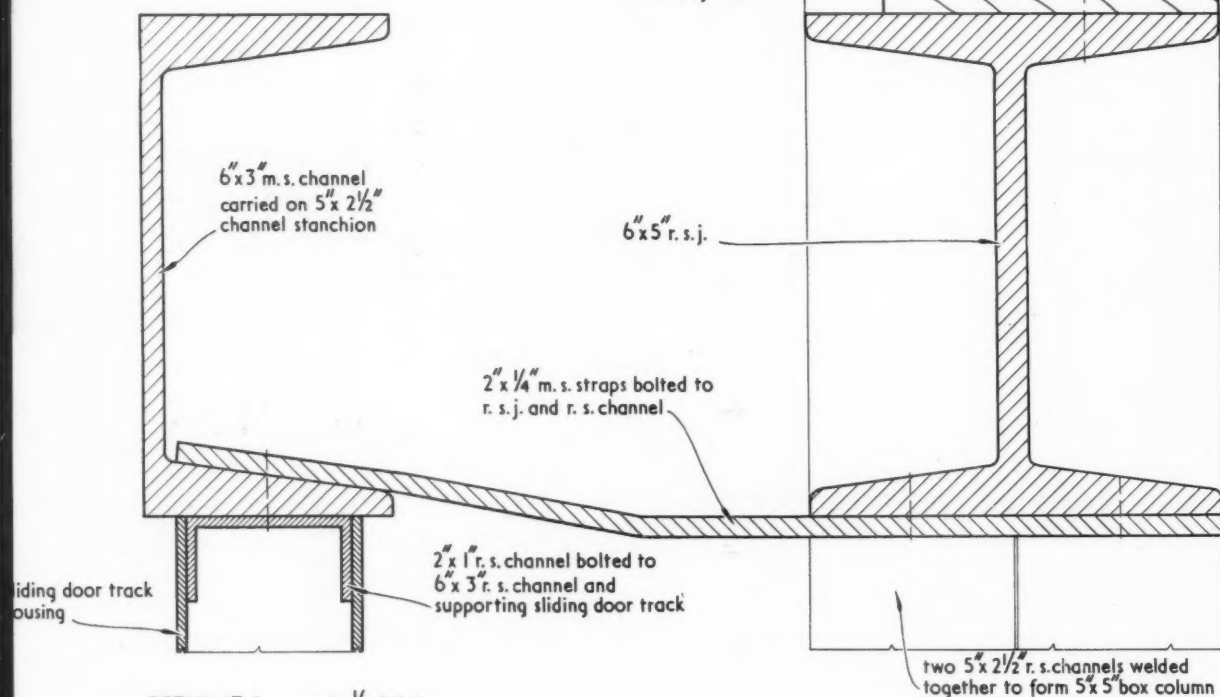
ELEVATION. scale $\frac{1}{16}'' = 1' - 0''$



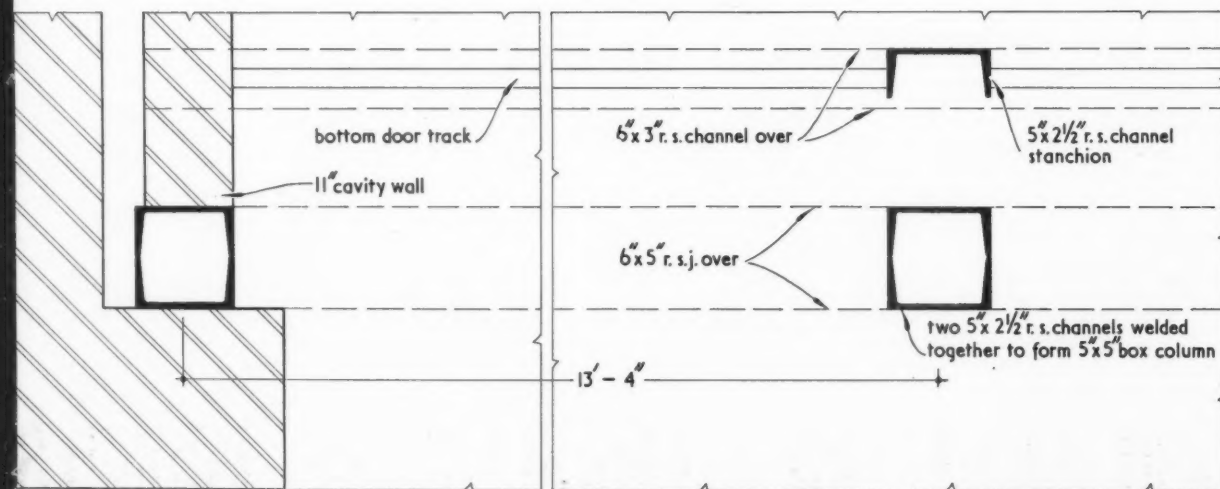
SECTION.



PLAN. scale $\frac{1}{16}'' = 1' - 0''$



DETAIL AT A. scale $\frac{1}{2}$ full size



PLAN AT B - B. scale $\frac{1}{8}$ full size

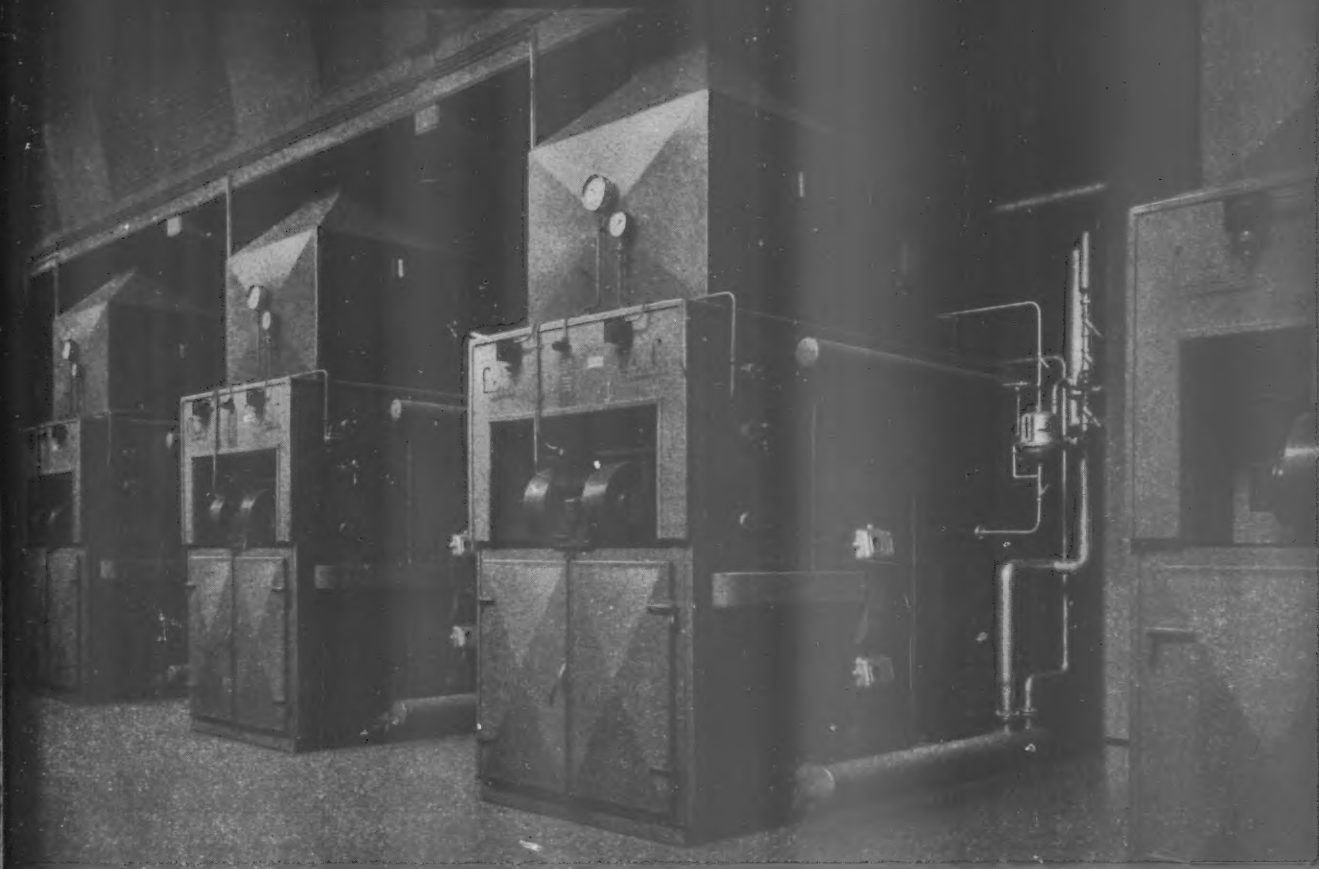
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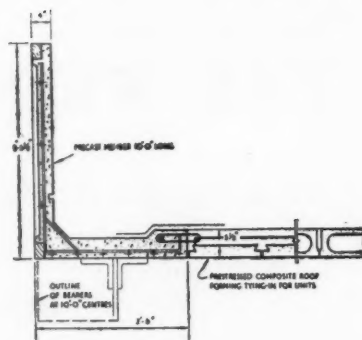
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CON. 122

ILA

Landscape in Italy

At a meeting of the Institute of Landscape Architects, Mrs. Maria Shepherd gave an account of work she is doing in Italy—where she is better known as Maria Pargliolo.

She is landscape consultant to the *Società Generale Immobiliare*, a company owning much land in and around Rome, and engaged in developing housing, shops, hotels, together with all the roads, bridges, swimming pools, gardens and public parks needed in relation to the buildings. The company is indeed a major planning organization in the area, having its own architecture, engineering, agricultural and research departments. The parks appear as an inevitable part of the development and although they will eventually become part of the public park system of Rome, their construction and care must proceed in step with buildings and roads, if only for purely economic reasons.

Mrs. Shepherd showed many colour slides of buildings just erected, set among gardens and trees of an astonishing maturity. When she began, four years ago, most of the sites were in process of building and innocent of vegetation. The essential need, she felt, was for quick effects by the use of very large trees and shrubs. She found the necessary skill among local smallholders accustomed to transplanting mature olive trees, and the

material in woods and old gardens under threat of redevelopment. She avoided trained gardeners on account of their habit of thinking only in terms of flowers and bedding out.

In spite of the need for quick results, she is working on the widest basis and on a very long term scale. We saw a photograph of a site apparently well timbered with pine, but eventually destined to become oakwood; oaks of the required size being unobtainable, small oaks have been used as underplanting to the mature pines which she knows to be less well suited to the locality and unlikely to live so long—though useful for quick effect in the early years.

s.c.

News in Brief

H. T. Cadbury-Brown has been nominated for the Presidency of the Architectural Association by the AA Council. The office-bearers for the 1959-60 session include Edward Playne and Michael Austin-Smith as Vice-Presidents, and Anthony Cox as Secretary.

Felix Candela is to visit this country in May at the invitation of the Cement and Concrete Association.

The TCPA announces a town planning holiday-study tour of Austria from April 29 to May 20, at a cost of £94. Particulars from the TCPA.

The number of houses and flats completed in Great Britain in January, 1959, was 18,293, of which 8,963 were by public authorities and 9,330 by private builders.

*Announcements***PROFESSIONAL**

Michell and Adams (Gordon and Eleanor Michell, A.A.R.I.B.A., and B. L. Adams, A.R.I.B.A.) have moved their offices to 20, Kensington Church Street, W.8 (telephone, Western 4118).

The AGM and Supper of the Brixton School of Building Old Boys' Association is to take place at the Windsor Castle Restaurant, Victoria, S.W.1, on Friday, April 3. The cost of the Supper is 16s. 6d. and application for membership and for Supper tickets should be made as soon as possible to the Hon. Secretary, L. Wilder, School of Building, Ferndale Road, Brixton, S.W.4. The Supper will be at 6 p.m. for 6.30 p.m., followed by the AGM and a general get together.

As from March 24 the private address of P. R. Middleton, Dip.Arch., A.R.I.B.A., will be Dorset Ledges, Thornton-in-Cleveland, Stainton, Nr. Middlesbrough (telephone, Hilton in Cleveland 314).

Correction

In the JOURNAL of March 12, H. Werner Rosenthal was described as "lecturer in structural theory at the Regent Street Polytechnic." This was incorrect: he is a visiting lecture and studio instructor at the Regent Street Polytechnic, and in addition gives occasional short courses which are intended to bridge the gap between structural theory and its application to studio design from the architect's point of view.

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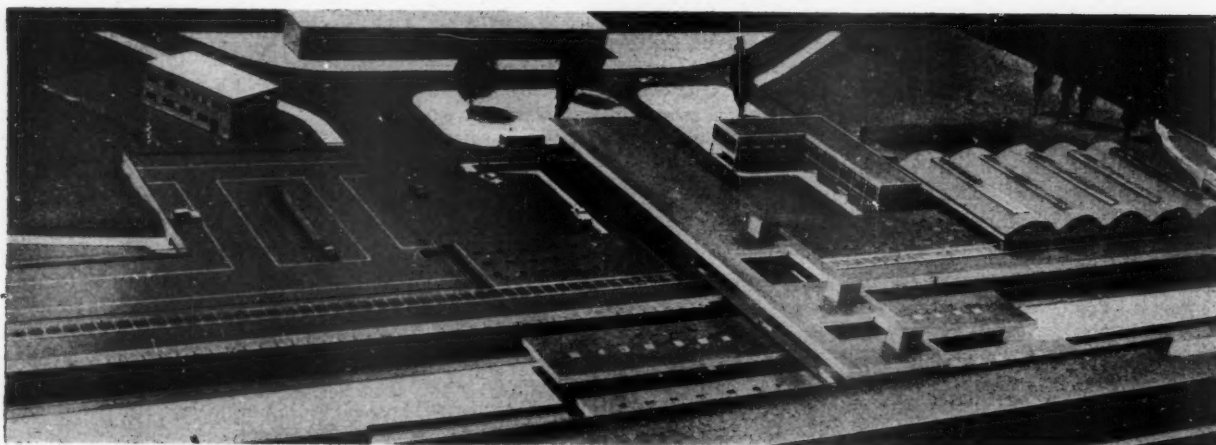
*Medical Officer's Suite.
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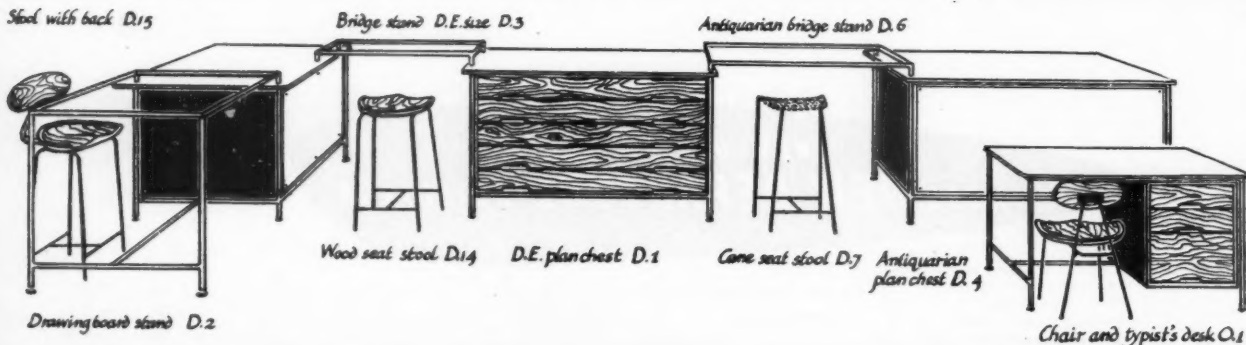
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NEW RAILWAY STATION FOR COVENTRY



Coventry Railway Station, long since outgrown by the expansion of the city, is to be replaced by the new station, seen above, designed by W. R. Headley, Regional Architect, under the direction of A. N. Butland, Chief Civil Engineer, London Midland Region of British Railways. The basis of the plan is the projecting concourse, at right angles to the covered platforms, which splits the area in front of the station into two forecourts, one for parcels and mail and the other for passengers. There is a two-storey car park, on the left, and separate bridges for passengers and parcels. The traffic circulation and the relationship of the buildings to the new square projected by Coventry Corporation have been planned in consultation with Arthur Ling, City Architect and Planning Officer. Construction will start this year and should be completed by 1961.



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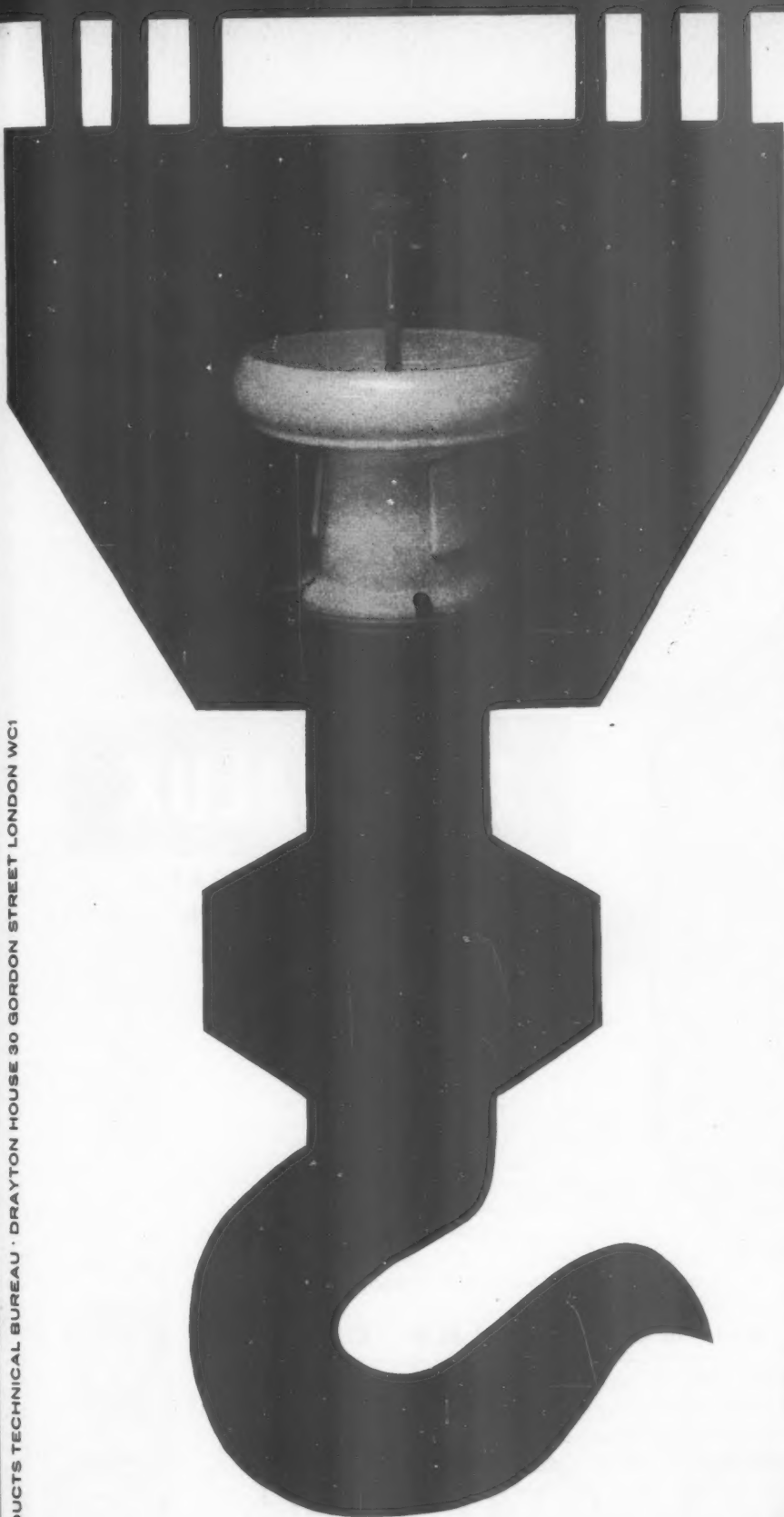
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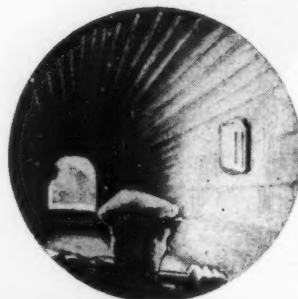
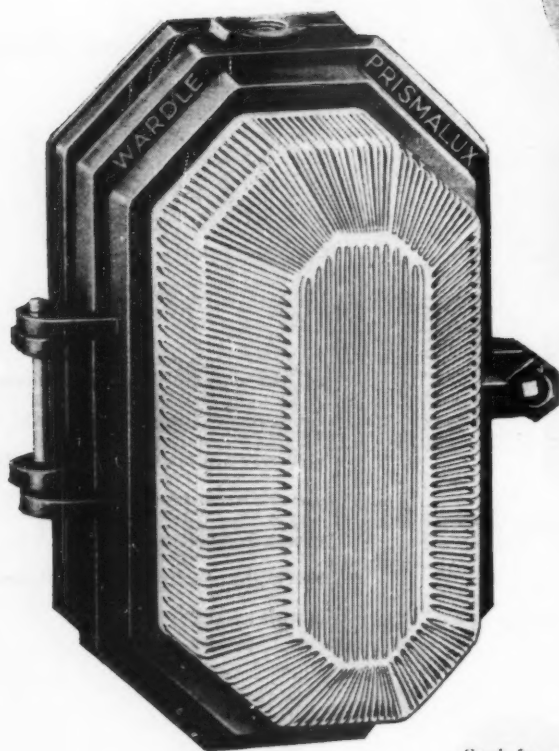
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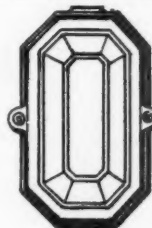
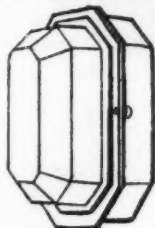
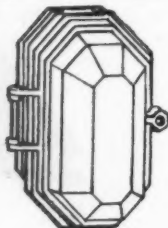
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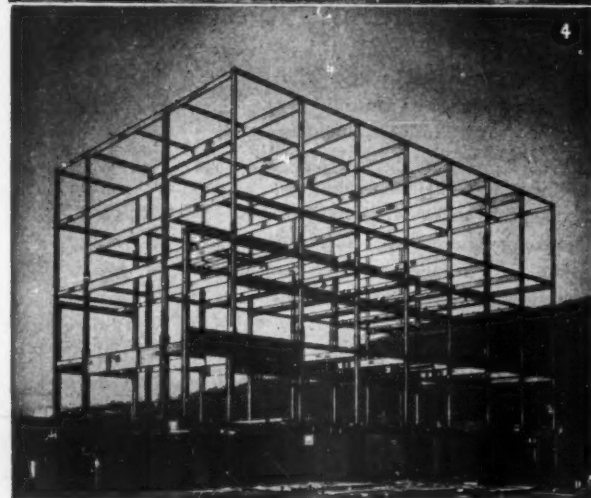
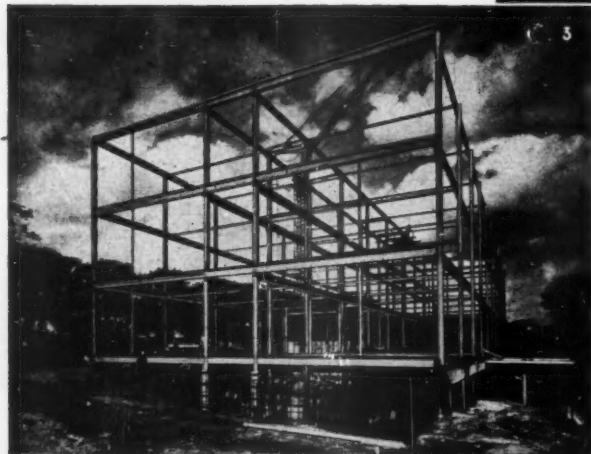
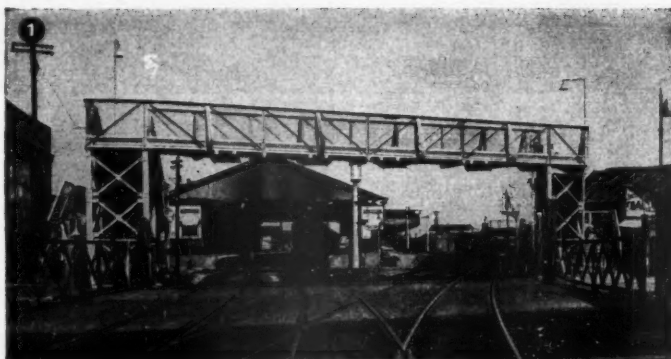
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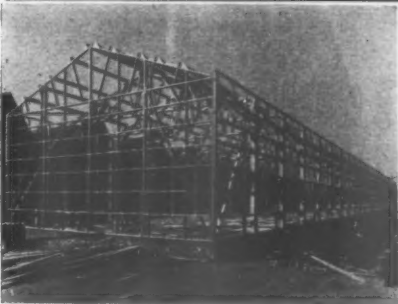
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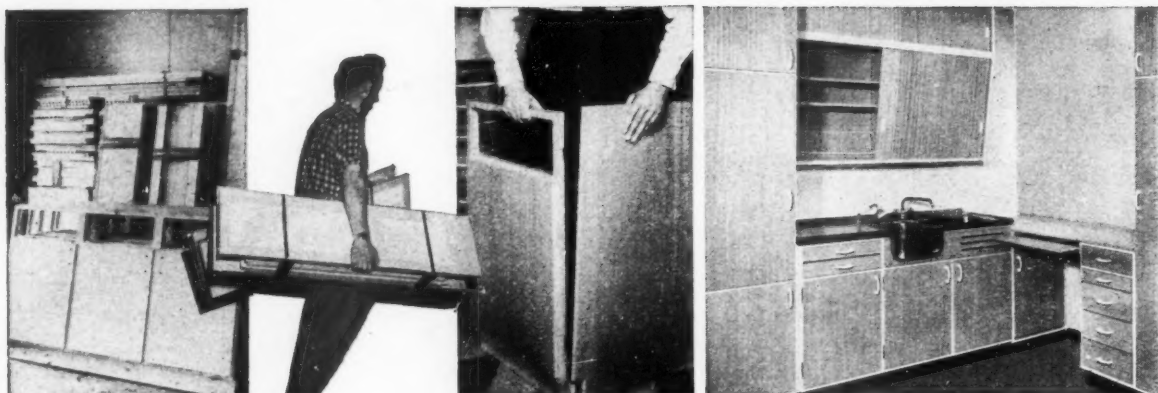
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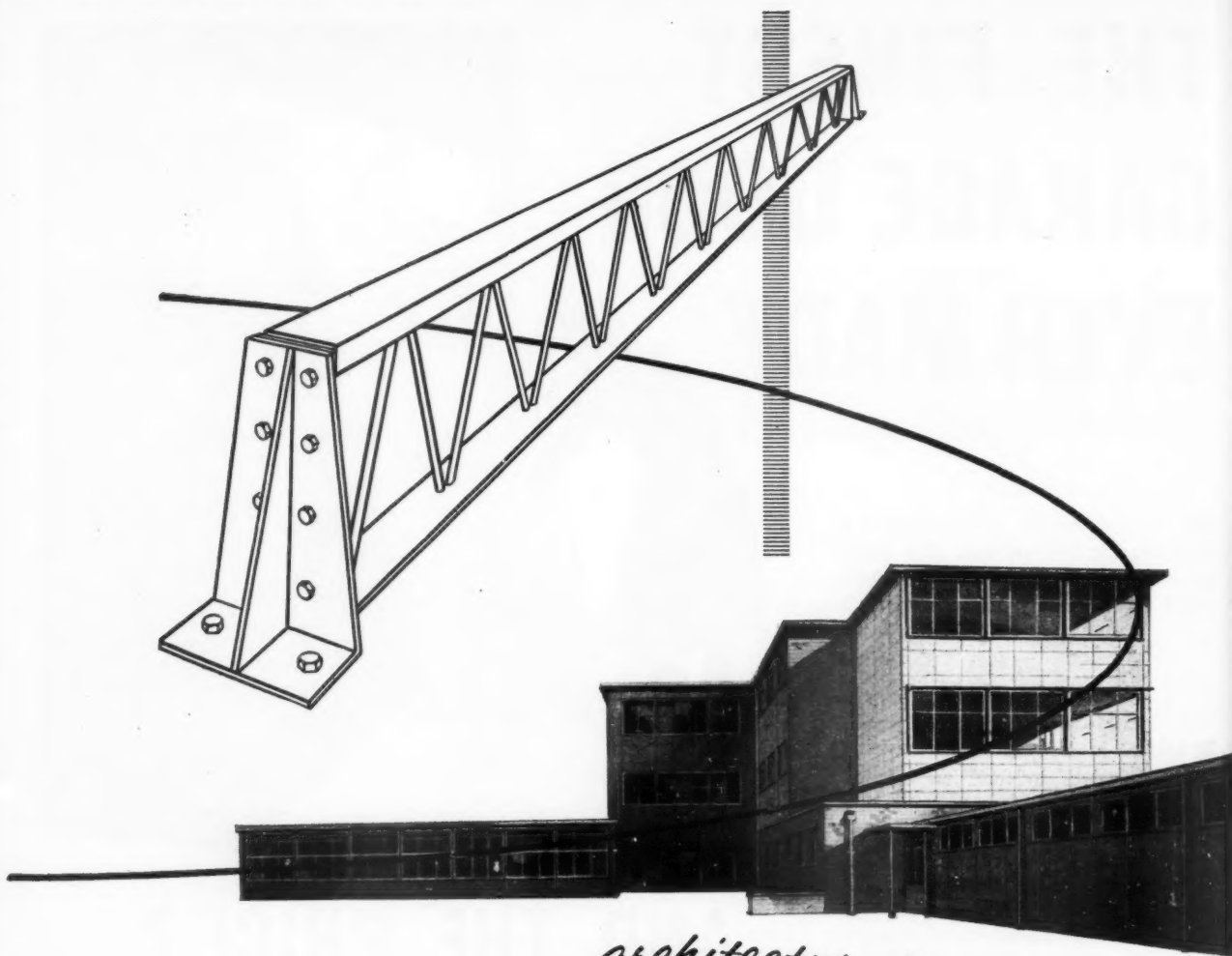
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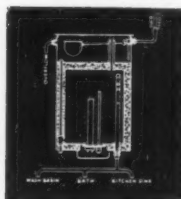
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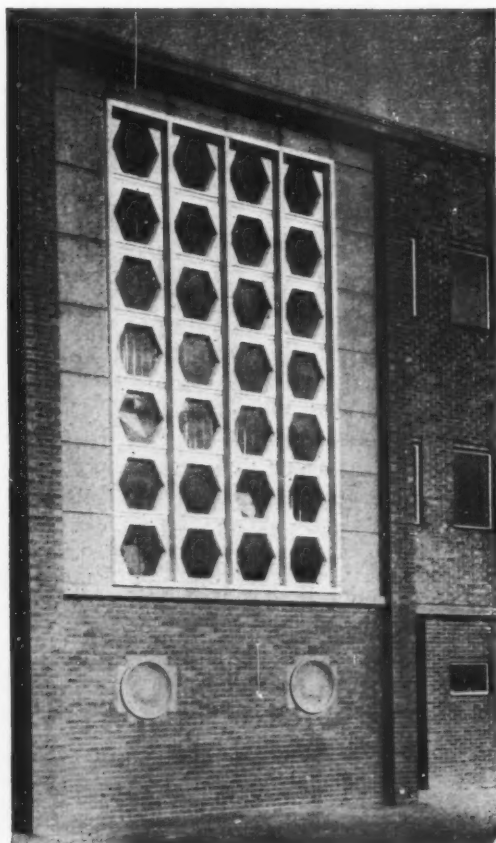
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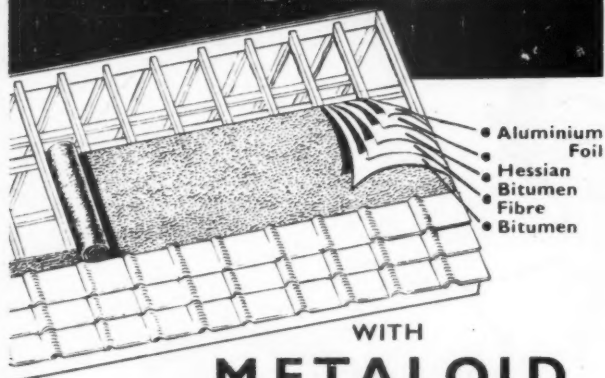
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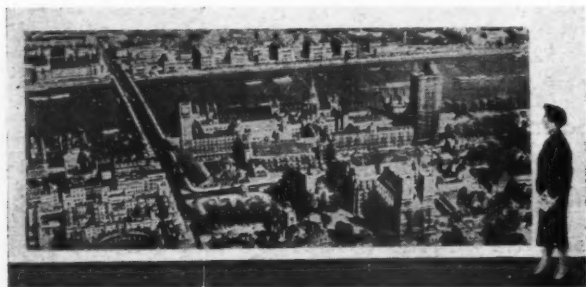
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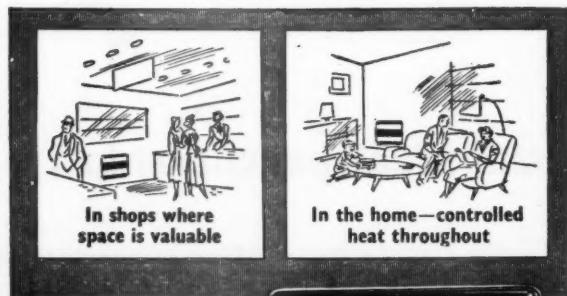
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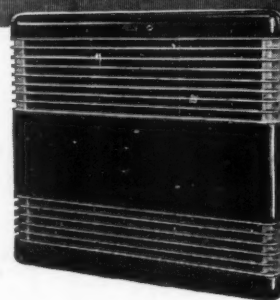
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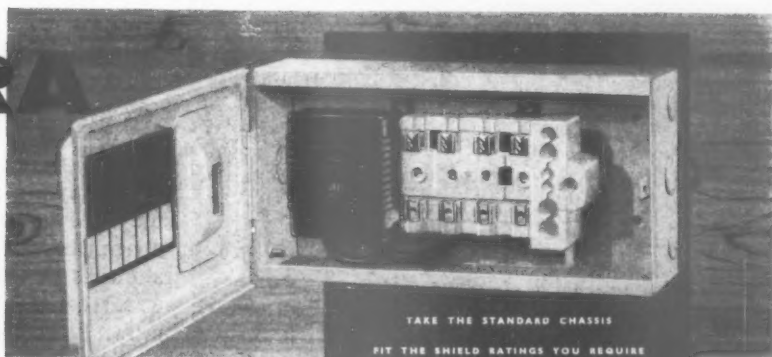
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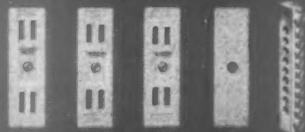
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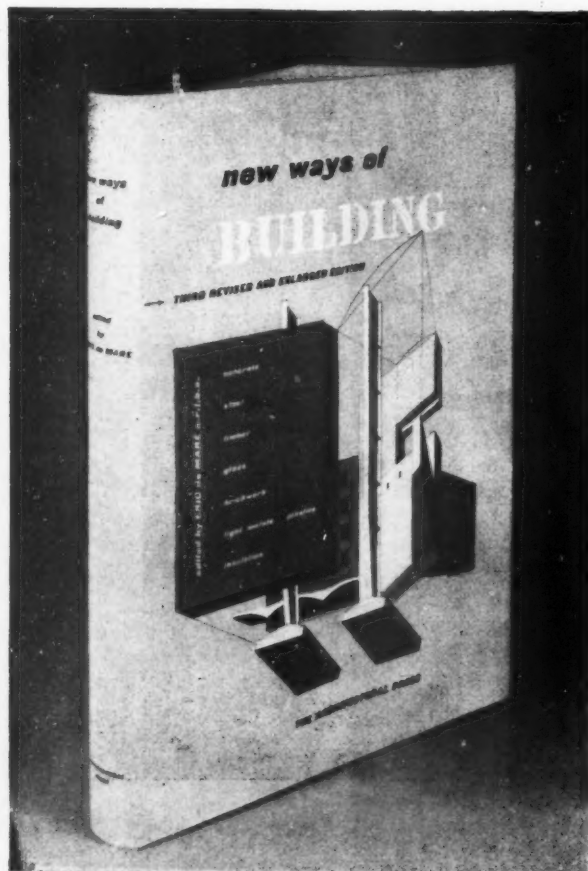
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K. CHEESMAN on *glass*

W. B. MCKAY on *brickwork*

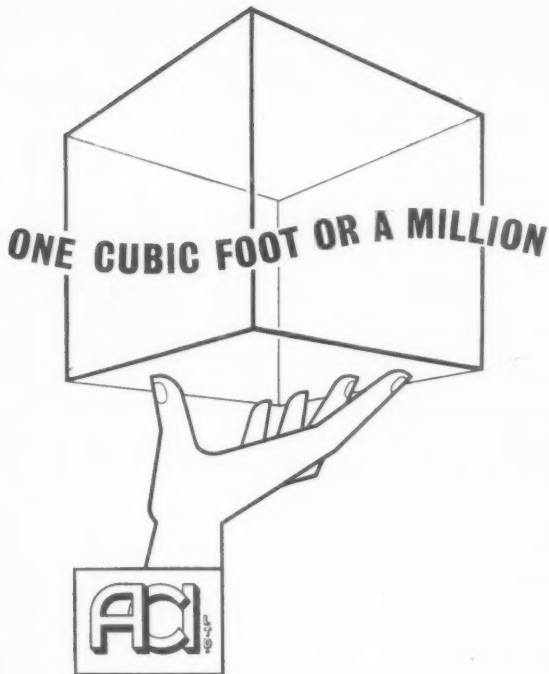
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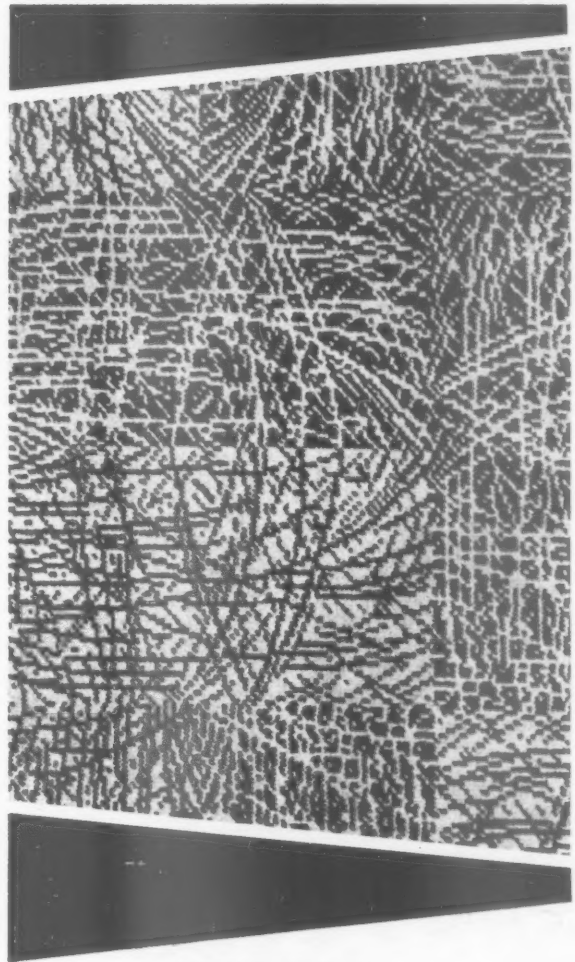
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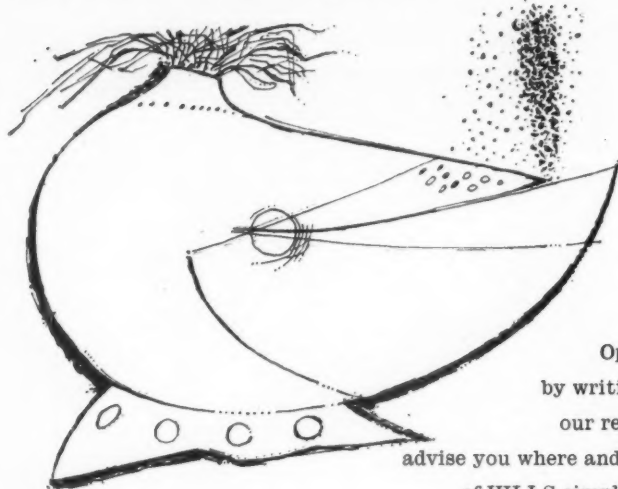
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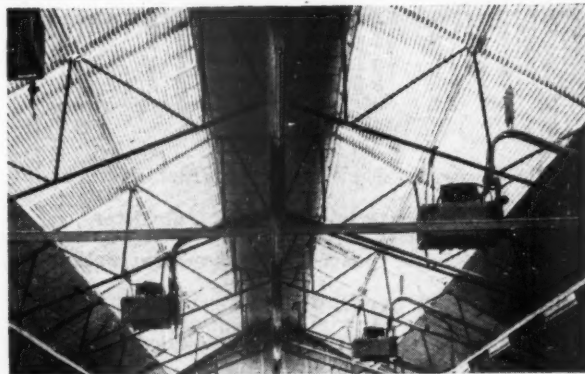
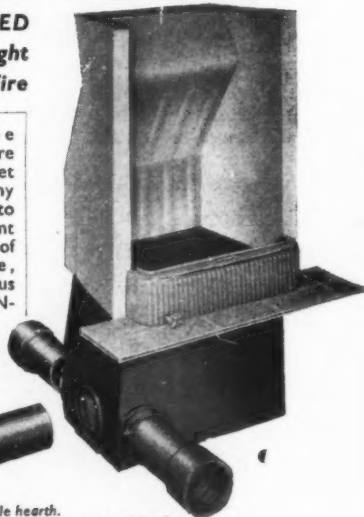
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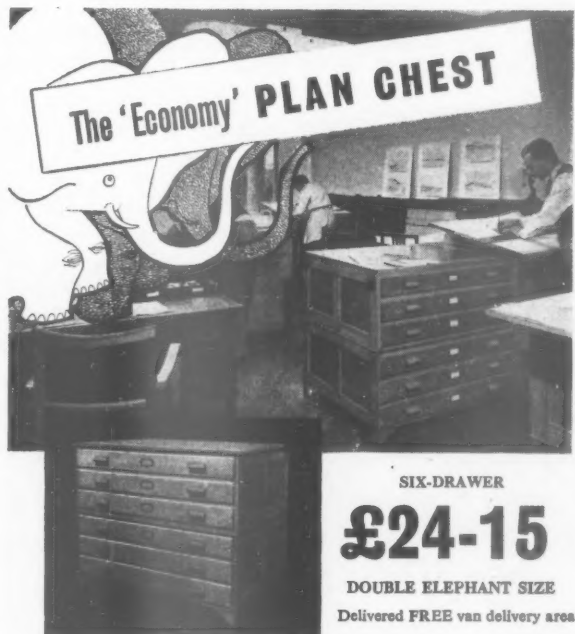
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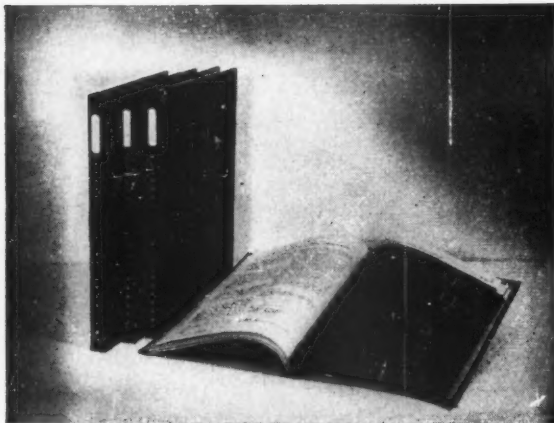
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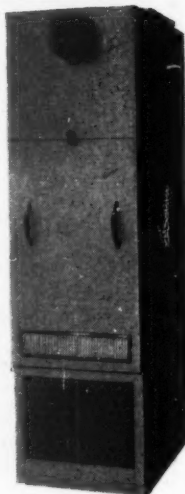
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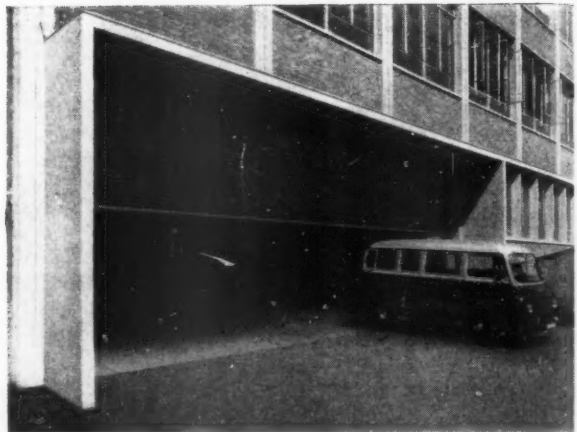
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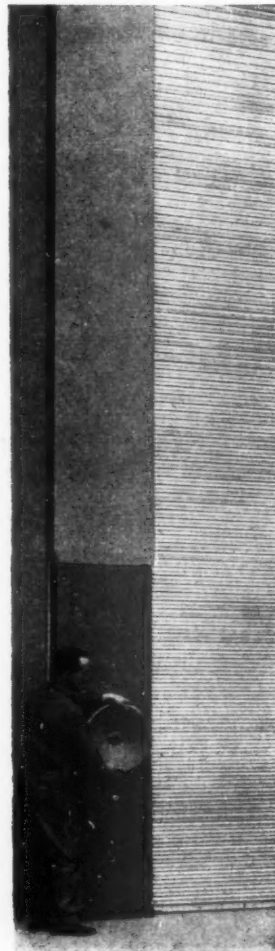


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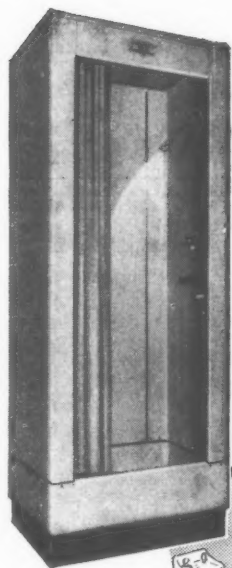
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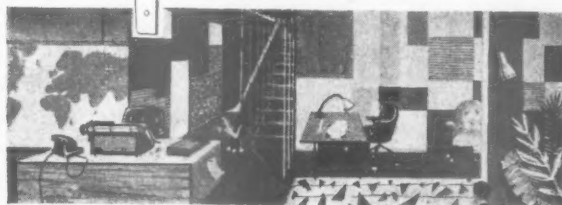
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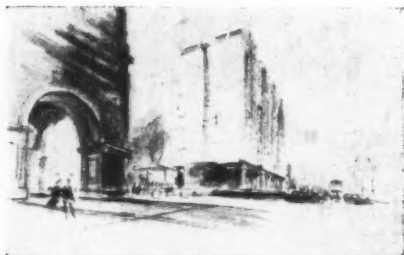
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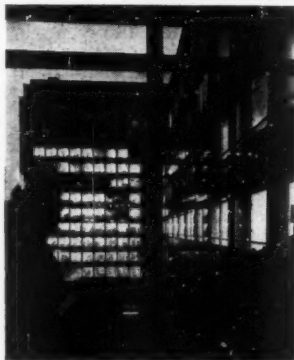
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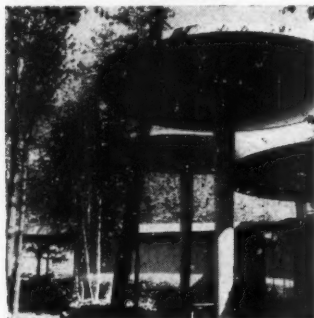


Royal College re-housed: Sir Hugh Casson's impression of the view along Kensington Gore, past the Albert Hall, to the proposed new building for the Royal College of Art Architect: H. T. Cadbury Brown.



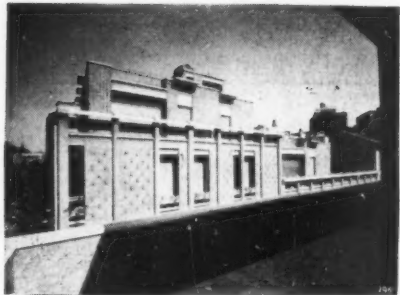
High Knightsbridge: a night view of the Bowater House office block by Guy Morgan and Partners, another stage in the transformation of the London scene.

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



APRIL

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

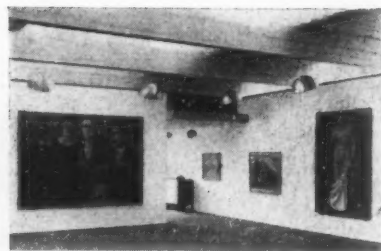


Without proscenium: the stage and amphitheatre of the Festival Theatre, Stratford, Ontario, designed by Rounthwaite and Fairfield, from Richard Leacock's article on the open stage.

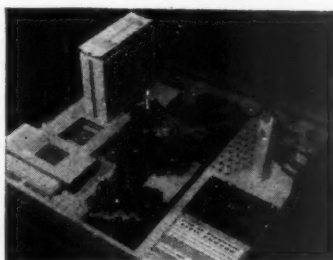


Eastbourne Terrace: right, one of the tall blocks from Cecil Elsom's street-long redevelopment scheme on bombed sites at the side of Paddington station.

MAY

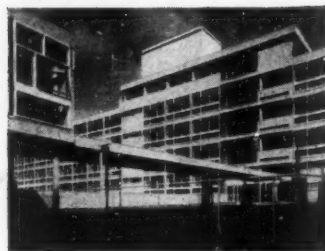


Art Galleries: a room in the Louisiana museum of modern art (Architects: Bo and Wohlert) outside Copenhagen, from a survey of recent trends in art gallery design in this issue.



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

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



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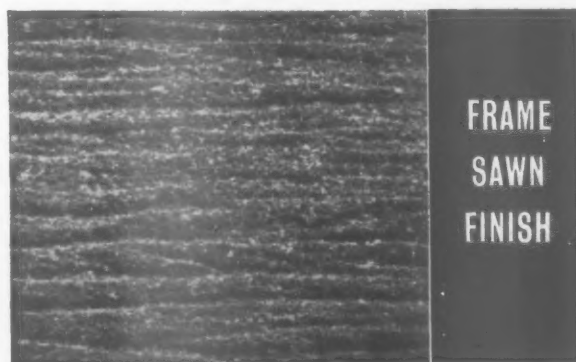


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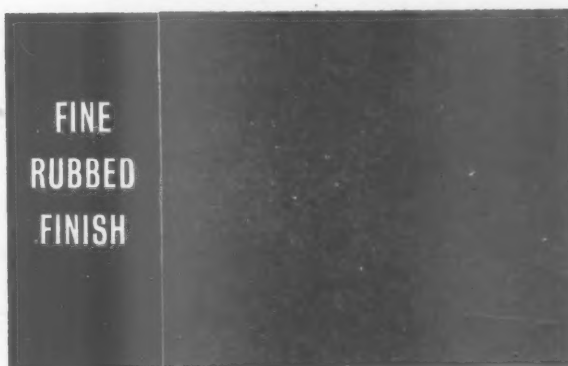
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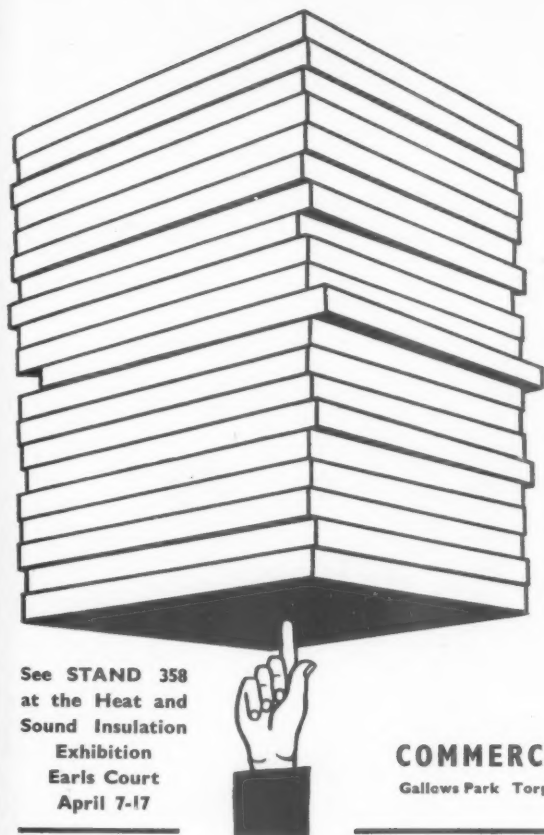
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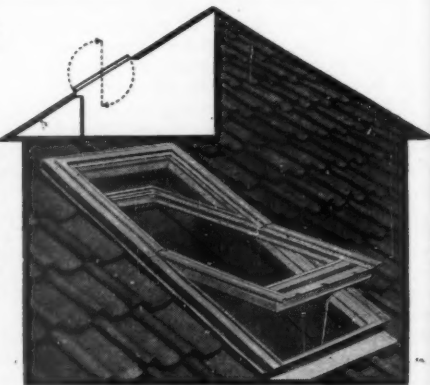
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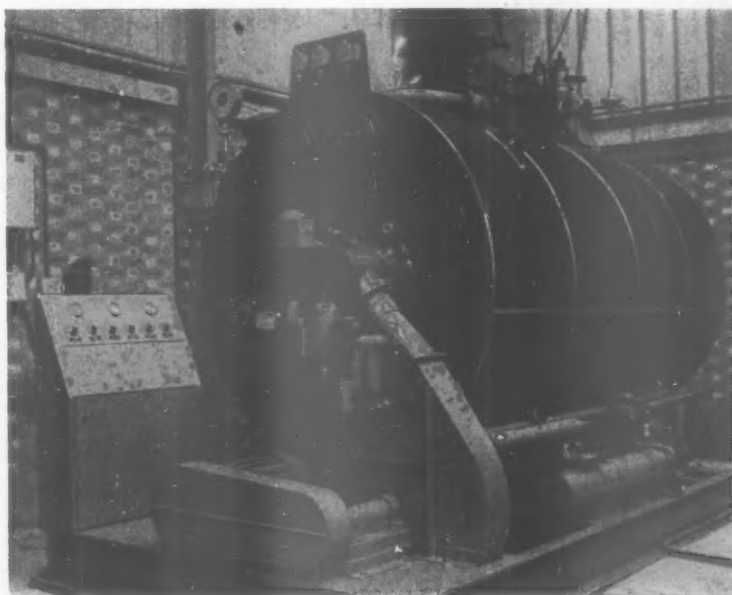
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Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

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

AIR-MAIL SERVICE available on request: In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. 6d. 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.

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BUCKS COUNTY COUNCIL

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

The appointment is supernumerary and subject to medical examination. A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation. Applications, on forms provided, must be returned by the 31st March, 1959.

F. B. POOLEY,
County Architect.

County Offices, Aylesbury. 3423

EAST SUFFOLK COUNTY COUNCIL

ASSISTANT ARCHITECTS

A.P.T. GRADE IV: £1,025 × £50 — £1,175. Applications are invited from qualified Architects who have good general experience in design and construction, and are capable of taking charge of large projects with the minimum of supervision.

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

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

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

CITY OF OXFORD

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

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

HARRY PLOWMAN,
Town Clerk.

Town Hall, Oxford. 3447

NORTH RIDING COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of: (a) TWO ASSISTANT ARCHITECTS, on permanent staff, with Final R.I.B.A. examination. Salary, Special Scale (£750 — £1,030), point of entry will depend on experience.

(b) TEMPORARY JUNIOR ARCHITECTURAL ASSISTANT, with Intermediate R.I.B.A. examination or equivalent school examination. Salary A.P.T. Grade I (£575 — £725), point of entry will depend on experience. Service period will be for two years with possibility of extension.

The National Scheme for Conditions of Service apply, and medical examination required for superannuation purposes. Applications stating age, qualifications and experience, with particulars of present and previous appointments and names and addresses of three referees to be delivered to the Clerk of the County Council, County Hall, Northallerton, by 1st April, 1959.

Canvassing will disqualify and candidates should state whether they are related to any member of, or senior officer under, the Council. 3369

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

Vacancies for ARCHITECT/PLANNERS. Tasks include three-dimensional planning within London's eight major Comprehensive Development Areas (including Stepney/Poplar, South Bank and Elephant and Castle) and other Redevelopment Areas. Work includes preparation of comprehensive layouts for all important areas of new development throughout the County including areas to be redeveloped in connection with road improvements.

Starting salaries up to £860 according to experience and qualifications. Application forms and particulars obtainable from Hubert Bennett, F.R.I.B.A., Architect to Council (Ref. AR/EK/7/59), County Hall, London, S.E.1. (146) 2804

QUANTITY SURVEYING ASSISTANTS required by AIR MINISTRY in LONDON and PROVINCES. Duties include abstracting and billing, site measurement and preparation of estimates. Commencing salary according to age, qualifications and experience. Salary ranges in London £695 at age 26 rising to £870 for candidates holding O.N.C. (Building) or (Builders Quantities) or equivalent, and good experience under Quantity Surveyor or Building Contractor. Knowledge of W.D. schedule an advantage. Approved full time study will count towards period of experience. Salaries somewhat lower in Provinces. Promotion and pensionable prospects. Five-day week, three weeks leave a year. Appointments carry liability for service anywhere U.K. or overseas. Applicants normally should be natural born British subjects. Write stating age, qualifications and previous appointments including type of work done, to Manager, Professional and Executive Register, Ministry of Labour and National Service, Atlantic House, Farringdon Street, E.C.4, quoting reference PE 165/745. No original testimonials should be sent. Only applicants selected for interview will be advised. 3024

DEPARTMENT OF MUNICIPAL AFFAIRS AND SUPPLY PROVINCE OF NEWFOUNDLAND, CANADA APPOINTMENT OF SENIOR PLANNING ASSISTANT

Applications are invited from suitably qualified and experienced persons for the above appointment in the Provincial Planning Division of the Department of Municipal Affairs and Supply in St. John's. The appointment will be contractual for a period of two years and subject to satisfactory service will be established at the end of that time. Salary will be within the salary scale. \$5390 × \$100 — \$5830.

2. Duties will include the preparation of Municipal and Regional Plans including detailed designs for communities in districts throughout the Province, and the control of development in accordance with various Provincial regulations.

The office is situated in St. John's but travelling within the Province will be required.

3. Candidates must have appropriate professional qualifications in Town Planning together with considerable practical post-graduate experience. Experience in public relations and ability to address meetings of different types is very necessary.

4. Conditions of service full details of which are available on request provide free passage of applicant and family to St. John's.

5. Applications giving full details of candidate's age, education, professional qualifications, appointments held, professional experience, together with the names of two referees should be sent to J. T. Allston, Director of Urban and Rural Planning, Department of Municipal Affairs and Supply, P.O. Box E5251, St. John's, Newfoundland. Applications must be received not later than 1 April, '59. 3387

BRIERLEY HILL URBAN DISTRICT COUNCIL APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of Architectural Assistant within Grades A.P.T. II and III, i.e., between £725 — £845 and £845 — £1,025 per annum.

Applicants should be experienced in the management of building contracts, the preparation of designs, working drawings for housing and other architectural works and the appointment offers experience in such projects as Civic Centre development and a public baths scheme.

Commencing salary will be in accordance with qualifications and experience. Applications stating age, full details of qualifications and experience and accompanied by copies of two recent testimonials, must reach the Clerk of the Council, Civic Buildings, Brierley Hill, not later than 4th April 1959.

The Council is prepared to provide housing accommodation for the successful applicant, if necessary. 3531

COUNTY BOROUGH OF SOUTHPORT

Applications are invited for the appointment of an ASSISTANT ARCHITECT (Special Grade £750 — £1,030 per annum) in the Borough Architect and Town Planning Officer's Department.

Applicants must have passed the Final Examination of the R.I.B.A. Application forms may be obtained from the Borough Architect and Town Planning Officer, 99/105, Lord Street. Closing date for the receipt of applications is Saturday, April 4, 1959.

R. EDGAR PERRINS,
Town Clerk. 3463

COUNTY BOROUGH OF READING

Applications invited for the appointment of ASSISTANT ARCHITECTS who have passed Parts I and II, R.I.B.A. Final or Special Final Examination or their equivalent and have had at least five years' experience. Salary range £750 × £40 — £1,030, according to experience. Posts permanent and appointment subject to N.J.C. Conditions. Housing accommodation will be considered. Applications, stating age, qualifications and experience, together with names and addresses of two referees, to Borough Architect, P.O. Box 17, Town Hall, Reading, not later than 14th April, 1959. 3528

BOROUGH OF ENFIELD

BOROUGH ENGINEER'S DEPARTMENT. Applications are invited for established posts within the Grades shown:—

- (a) ARCHITECTURAL ASSISTANT—A.P.T. I & II (£575 — £845 per annum).
- (b) ARCHITECTURAL ASSISTANT (MAINTENANCE)—A.P.T. I (£575 — £725 per annum).

A London Weighting allowance of £10 — £30 per annum, according to age, will be paid in addition to the above salaries. The commencing salary will be in accordance with qualifications and experience.

Saturday mornings are normally free of duty. Application forms, returnable by the 8th APRIL, 1959, to be obtained from H. Deryck Peake, M.Sc.(Eng.), M.I.C.E., "Percy House," 7 Little Park Gardens, Enfield, Middx.

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

Public Offices, Enfield, Middx. 3527

COUNTY BOROUGH OF GREAT YARMOUTH SCHOOLS ARCHITECT'S DEPARTMENT

Applications are invited from Associate Members of the R.I.B.A. for two SENIOR ASSISTANT ARCHITECTS within Special Scale (£750 — £1,030). Candidates must have a thorough knowledge of school design and construction.

Housing accommodation will be available to the successful candidate if married. Assistance with removal expenses will also be made in suitable cases.

Full details of present and past appointments, age, qualifications and experience, together with the names of two referees, should reach The Schools Architect, 22 Euston Road, Great Yarmouth, by Monday, 13th April 1959.

D. G. FARROW,
Chief Education Officer.

22 Euston Road, Great Yarmouth. 3525

STREET URBAN DISTRICT COUNCIL

ARCHITECTURAL ASSISTANT

(Special Scale — £750 — £1,030)

Appointment in the ENGINEER AND SURVEYOR'S DEPARTMENT. Salary according to qualifications and experience.

Preference will be given to Registered Architects with experience in all aspects of the erection of Council houses. A direct labour force is employed.

Provision of housing accommodation considered. Applications, naming two referees, to the undersigned not later than 6th April 1959.

B. E. WALTERS,
Clerk of the Council.

Council Offices, Street. 3538

BOROUGH OF ASHTON-UNDER-LYNE

APPOINTMENTS OF:—

- (a) SENIOR ARCHITECTURAL ASSISTANT.
- (b) QUANTITY SURVEYOR.

Applications are invited for the above appointments in the Borough Surveyor's Office. The salary for each appointment will be within the Special Grade of the A.P.T. Division of the National Scales.

Housing accommodation for the successful candidates will be considered, if necessary.

Particulars of either appointment and application forms may be obtained from the Borough Surveyor; applications should be returned to me by 10th April, 1959.

G. A. MALONE,
Town Clerk.

Town Hall, Ashton-under-Lyne. 3537

GLOUCESTERSHIRE COUNTY COUNCIL

APPOINTMENT OF ASSISTANT COUNTY ARCHITECT

Applications are invited for above appointment (Grade C, £1,385 — £1,620 p.a.). Applicants must be qualified members of the R.I.B.A. and have held a responsible architectural position with a major local authority for a number of years.

The main duties include general co-ordination of the four Architectural Divisions, Heating & Lighting Engineer's Section, and Building Surveyors and responsibility, after programming, for production of all building works within the Council's Budget. The position offers considerable scope for an Architect of initiative and drive.

Post supernumerary; J.N.C. Conditions of Service; is subject to satisfactory medical examination, and appointment determinable by three months' notice on either side.

Applications stating age, qualifications, present and previous appointments and experience, together with names of two persons for reference must reach COUNTY ARCHITECT, SHIRE HALL, GLOUCESTER, not later than 8th April, 1959.

GUY H. DAVIS,
Clerk of the County Council. 3534

COUNTY BOROUGH OF OLDHAM BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

SENIOR ARCHITECTURAL ASSISTANT

Applications are invited from suitably qualified persons for the above appointment on A.P.T. Special Classes Grade (£750 + £40 - £1,030), the commencing salary in accordance with experience and qualifications. The successful candidate will be expected to pass a medical examination. The N.J.C. Conditions of Service and the Local Government Superannuation Acts will apply.

Housing accommodation available if required. Applications, suitably endorsed, together with names of two referees, should reach me not later than Monday, the 6th April.

A. L. HOBSON,

Borough Engineer & Surveyor.
75 Union Street, Oldham. 3536

COUNTY ARCHITECT'S DEPARTMENT ARCHITECTURAL ASSISTANT GRADE A.P.T. II (£725 - £845)

Applications are invited for the above appointment from suitably qualified persons. Further details and application forms may be obtained from S. M. Holloway, A.R.I.B.A., County Architect, County Buildings, Huntingdon. Completed application forms should be returned to the undersigned by Monday, 13th April, 1959.

A. C. AYLDWARD,

Clerk of the County Council.
County Buildings, Huntingdon. 3535

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD APPOINTMENT OF DEPUTY REGIONAL ARCHITECT

The Board is the planning authority for the Hospital Service in an area 45 miles north and west of London. The expanding building programme is now about £14 m. annually; includes several new hospitals and architecturally complete departmental extensions forming part of the comprehensive re-development of many others. Additionally, there are major building maintenance and many minor capital schemes. Importance is attached to the development of techniques to reduce the cost of hospital construction.

The Regional Architect, Mr. F. A. Maunder, R.S., F.R.I.B.S., executes the major part of the above work and is Advisor Consultant for the remainder. The Regional Engineer is responsible for the mechanical and electrical engineering services.

The Deputy Architect will be required to act on behalf of the Regional Architect when so required and in particular, will be responsible for the day-to-day management of the Department. He will be expected to make significant professional contributions to the development of designs under the direction of the Regional Architect.

The present salary scale is £1,415 + 55(4) + 35(1) - £1,670 plus £50 London Weighting. The post is superannuable.

Registered Architects should apply giving personal particulars and the names of three referees to the Secretary, North West Metropolitan Regional Hospital Board, 40, Eastbourne Terrace, London, W.2, by 13th April. 3550

BOROUGH OF BRENTFORD & CHISWICK BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

Applications are invited for the appointments of:

(a) ARCHITECTURAL ASSISTANT, Special Grade (£750 - £1,030 p.a.) or APT III (£845 - £1,025 p.a.), plus London Weighting allowance; grade and commencing salary according to qualifications and experience.

Housing will be provided if necessary.

(b) JUNIOR BUILDING INSPECTOR and TOWN PLANNING ASSISTANT, APT I (£575 - £725 p.a.), plus London Weighting. Applicants should have a good knowledge of building construction.

Application forms, returnable by 6th April, 1959, may be obtained from the Borough Engineer and Surveyor.

W. F. J. CHURCH,

Town Clerk.
Town Hall, Chiswick, W.4. 3563

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the posts of SENIOR ASSISTANT ARCHITECT (one post) and ASSISTANT ARCHITECT (two posts). Candidates must be registered architects, having passed the requisite examinations. Previous hospital experience will be an advantage. Salary scale:

Senior Assistant Grade - £1,050, rising by 6 annual increments to £1,245.
Assistant Grade - £730, rising by 10 annual increments to £1,055.

In the Assistant Grade starting salary may be above the minimum, having regard to experience. The appointments are superannuable and will be terminable on two months' notice on either side. Successful candidates may be required to pass a medical examination.

Applications, stating age, qualifications and full details of previous experience, together with the names of three referees, should be addressed to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, within 14 days of the appearance of this advertisement. 3512

NIGERIAN COLLEGE OF ARTS, SCIENCE AND TECHNOLOGY

(Principal: C. A. HART, C.M.G., T.D., D.Sc., Ph.D., M.I.C.E., M.I.Mech.E., F.R.I.C.S., A.M.I.Struct.E.)
Applications are invited for SENIOR LECTURER or LECTURER in QUANTITY SURVEYING.

Courses at present to Intermediate R.I.C.S. level. Candidates should be professionally qualified and prepared to lecture also in one of the following as a Second Subject: Town and Country Planning, Housing Management, Building Construction. Relevant degree and teaching experience advantageous. Research encouraged.

Contract Salary Scales:

Senior Lecturer, Grade I, £2,160 - £2,376 p.a. consolidated.
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Lecturer, £1,020 - £1,668 p.a. plus £270 - £300 p.a. inducement addition to overseas candidates. All plus gratuity at £37 10s. for each completed 3 months' residential service. Entry point according to qualifications and experience.

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

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

Applications (6 copies) giving age, qualifications, experience and names of 3 referees should be sent to The Council for Overseas Colleges, 12, Lincoln's Inn Fields, London, W.C.2, by 14th April, 1959. 3506

CITY OF SHEFFIELD

CITY ARCHITECT'S DEPARTMENT

ARCHITECTS wanted urgently to augment the group working on the second part of the Park Hill Redevelopment Scheme. This part includes 1,144 dwellings in blocks up to 18 storeys in height together with shops, public houses, garages, factory and clubrooms all integral with the dwelling structure. The site is a hilltop overlooking the city centre. The whole contract will be let this year.

Salary 1 post - Grade A.P.T. IV - £1,025 - £1,175.
2 posts - Special Classes - £750 - £1,030.

Applications stating age, education and training, qualifications, present and past appointments (with dates and salaries), experience and the names of two persons to whom reference may be made should reach me not later than Monday, 6th April, 1959.

JOHN HEYS,

Town Clerk.
Town Hall, Sheffield, 1. 3505

LONDON ELECTRICITY BOARD

SENIOR DRAUGHTSMAN

Applications are invited for the above position in the Board's Western District. Initially the successful candidate will be located at Fulham, but subsequently will be required to work at Shepherd's Bush.

Applicants must have a good experience of building construction and simple reinforced concrete structure work. They should have a knowledge of electrical plant layout, be able to prepare system diagrams, etc., and possess the Ordinary National Certificate.

The post is graded under Schedule "D" of the National Joint Board Agreement as Grade 5 - £830 to £940 per annum, inclusive of London Allowance.

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2, to be returned completed by 7th April, 1959. Please quote ref. PER/2562/A. 3507

BOROUGH OF HARROW

Applications are invited for the following appointments in the Department of the Borough Engineer and Surveyor:

ARCHITECTURAL ASSISTANTS
Special Grade (£750 to £1,030 per annum) plus London weighting.

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

Contributions toward removal expenses will be considered.

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

Application forms are obtainable from me to whom they should be returned not later than Saturday, the 4th April, 1959.

D. H. PRITCHARD,

Town Clerk's Office,
Harrow Weald Lodge,
Harrow. 3515

BOROUGH OF NEWCASTLE-UNDER-LYME

ARCHITECTURAL ASSISTANT - GRADE A.P.T. I

(£575 - £725 p.a.)

Applications are invited for the above appointment. The commencing salary will be in accordance with experience and qualifications.

Favourable consideration will be given to the provision of housing accommodation in suitable cases.

Application Forms and Conditions of Appointment may be obtained from the Borough Surveyor, Lancaster Building, High Street, Newcastle, Staffs., and must be returned to him not later than Friday, 3rd April, 1959.

C. J. MORTON,

Town Clerk. 3513

The Directorate of Works, War Office (Director-General Mr. Donald E. Gibson, C.B.E., D.C.L., F.R.I.B.A., M.T.P.I.) requires qualified Assistant Architects, as JOB ARCHITECTS at Chessington, Surrey. The opportunity occurs of joining an expanding organisation formed to take over design and supervision of all the Army's new building work, at home and overseas. Buildings include Barracks, Clubs, Hostels, Schools, Hospitals, Houses, Messes, Gymnasiums, Churches, Buildings for further education and many others. Not only will Job Architects enjoy full architectural executive responsibilities, but will have opportunity of undertaking original research and development work on functional and structural problems under the Development Group. Opportunities for Establishment and promotion, and service on short tours abroad with generous allowances. Salaries within the range £50 - £1,300 (men) and £350 - £1,260 (women). (Equal pay by 1961). Forms from M.L.N.S., Technical and Scientific Register (K), 26, King Street, London, S.W.1, quoting J27/8. 3516

STAFFORDSHIRE COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following posts from suitably qualified and experienced persons:—

(1) ASSISTANT ARCHITECTS.

(a) A.P.T. V (£1,175 + £50 - £1,325).

(b) Special A.P.T. IV/V, starting on Special Grade (£750 + £40 - £1,030).

(c) A.P.T. II (£725 + £30 - £845).

(d) A.P.T. I (£575 + £30 - £725).

Applicants for (a) and (b) must hold the Final Examination, and (c) and (d) the Intermediate Examination of the R.I.B.A.

Candidates for Grade A.P.T. V should have had extensive experience. The Department has an extensive programme of varied and interesting work.

(2) ASSISTANT QUANTITY SURVEYORS.

(a) Grade A.P.T. IV (£1,025 + £50 - £1,175).

(b) Grade A.P.T. III (£845 + £35(4) + £40 - £1,025).

(c) Grade A.P.T. II (£725 + £30 - £845).

Applicants for (a) and (b) must hold the Final Examination, and (c) the Intermediate Examination of the R.I.C.S.

The work involves mainly taking off for all types of buildings in a newly constituted section of the Department.

(3) ASSISTANT HEATING ENGINEERS.

Grade A.P.T. III/IV, starting on A.P.T. III (£845 + 35(4) + £40 - £1,025).

Applicants must be Corporate Members of the Institution of Heating and Ventilating Engineers, or hold equivalent qualification.

The appointments will be subject to:—

(a) The National Scheme of Conditions of Service.

(b) The Local Government Superannuation Acts and the passing of a medical examination.

The County Council are prepared to grant a lodging allowance of 35/- per week to married applicants maintaining a home outside the geographical County for a period of 6 months; also second class rail travel home every second month during the initial six months. The Council are also prepared to give consideration to the granting of financial assistance in appropriate cases towards removal expenses.

Forms of application, which must be returned by the 13th April, 1959, may be obtained from the County Architect, Green Hall, Lichfield Road, Stafford.

T. H. EVANS,

Clerk of the County Council. 3530

LONDON COUNTY COUNCIL

ARCHITECTS, Grade III (up to £1,090) and

ARCHITECTURAL ASSISTANTS (up to £860)

required for maintenance and restoration work on historic buildings owned by Council. Candidates should have knowledge of historical architectural detail and special interest in the work. Experience in maintenance of buildings an advantage. Starting salaries according to qualifications and experience.

Particulars and application form, returnable by 3rd April, from Hubert Bennett, F.R.I.B.A., Architect to Council, AR/EK/29/59, County Hall, S.E.1. (552) 3491

LAMBETH BOROUGH COUNCIL

Applications invited from ARCHITECTS for housing work, including extensive conversion programme.

Senior applicants—qualified with good experience capable of working with little supervision. Salary according to qualifications, up to £1,055.

Junior Assistants, £755 to £875.

Full details to Town Clerk, Lambeth Town Hall, Brixton Hill, S.W.2, by 31st March. 3335

BOROUGH OF TAUNTON

ARCHITECTURAL ASSISTANT

Applications are invited for appointment of Architectural Assistant in the Housing Architect's Department, Grade APT II, £725 - £845 per annum.

Superannuable post, subject to medical examination, and to National Conditions of Service. Applications stating age, present position and salary, qualifications, experience and names of two referees, to be sent to C. Bacon, F.R.I.B.A., Housing Architect, Flook House, Station Road, Taunton, by 31st March, 1959.

Canvassing will disqualify.

Consideration will be given to housing accommodation, if required.

K. A. HORNE,

Town Clerk. 3375

**NEW TOWN HALL, MILNGAVIE,
DUNBARTONSHIRE**

The Provost, Magistrates and Councillors of the Burgh of Milngavie invite Architects registered under the Architects (Registration) Acts and resident in Great Britain to submit in competition designs for a new Town Hall at Milngavie.

Assessor: William A. P. Jack, Esq., F.R.I.B.A., F.R.I.A.S.

Premiums: £600, £400, £200.

Last day for questions: 30th April, 1959.

Last day for submitting designs: 30th June, 1959.

Conditions may be obtained on application to: The Town Clerk, 3, Buchanan Street, Milngavie, Glasgow, Deposit £2 2s. 3556

DEVON COUNTY COUNCIL require SENIOR ARCHITECT (£750 x £40-£1,030) and ARCHITECTURAL ASSISTANT (£725-£845). Full and interesting programme of Schools and other County Buildings. Previous Local Authority experience not essential.

In approved cases, loans for house purchase and removal expenses are available—also lodging allowance for married officers while seeking accommodation.

Particulars and Application Form, returnable by 10th April, 1959, from County Architect, 97, Heavitree Road, Exeter. 3558

SURREY COUNTY COUNCIL

Applications invited for following appointments:—

1. ASSISTANT ARCHITECT GRADE IV £1,025-£1,175 p.a. plus £30 p.a. London Allowance. Must be A.R.I.B.A.

2. ASSISTANT ARCHITECT GRADE II £726-£845 p.a. plus £30 p.a. London Allowance. Must be of good general training, pref. given those who have passed Inter. R.I.B.A.

Full details, present salary and 3 copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 3381

BIRMINGHAM REGIONAL HOSPITAL BOARD SENIOR ASSISTANT ARCHITECTS required—£1,050 to £1,245 per annum. Applicants must be registered architects having passed the requisite examinations. Experience of hospital planning and construction an advantage. Ability to control drawing-office staff essential. Superannuable. Apply giving details of training, present appointment and previous experience and naming three referees to Secretary, 10, Augustus Road, Birmingham 15, by April 6. 3379

HERTFORDSHIRE COUNTY COUNCIL County Architect's Department. ASSISTANT ARCHITECT (salary range £750-£1,030) required. Previous Local Government experience not essential. Applications with names of two referees to County Architect, County Hall, Hertford, by 11th April, 1959. 3509

WEST SUSSEX COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT Applications are invited for the following appointment:—

ASSISTANT ARCHITECT, at a salary in accordance with the Special Grade of the National Scale of Salaries, £750 x £40-£1,030. Commencing salary according to experience.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom all detailed applications must be submitted not later than 13th April, 1959.

T. C. HAYWARD,
Clerk of the County Council. 3566

ADMINISTRATIVE COUNTY OF LEICESTER

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

**ROYAL WEST OF ENGLAND ACADEMY
SCHOOL OF ARCHITECTURE**

A vacancy occurs on the teaching staff of the School for the Session commencing September next. Applicants should have had some years of professional experience, and preferably the Degree or Diploma of a recognised School of Architecture. Applications, giving full particulars, should be sent to arrive not later than Friday, 10th April, to the Principal, R.W.A. School of Architecture, 25, Great George Street, Bristol 1. 3510

**LONDON COUNTY COUNCIL
ARCHITECTS' DEPARTMENT**
Vacancies for ARCHITECTURAL ASSISTANTS, starting salary up to £860. Full and interesting programme of houses, flats, schools and general buildings.

Application form and particulars from The Architect to the Council, County Hall, S.E.1. quoting AR/EK/14/59 (256). 3040

**WOKING U.D.C.
APPOINTMENT OF ARCHITECTURAL
ASSISTANT**

APT GRADE II (£725 x £30 - £845) Applications invited for appointment in Architectural Section of Engineer & Surveyor's Department. Applicants must be Students R.I.B.A. with good general experience.

Application Forms from, and returned to, Mr. H. P. Tame, Engineer & Surveyor, by Monday, 13th April, 1959. 3533

LONDON COUNTY COUNCIL ARCHITECTS, Grade III, required for Housing, Schools and General Divisions. Full and varied programme of new work including schools, multi-storey flats and Town Development. Up to £1,090 according to qualifications and experience. Particulars and application form from Hubert Bennett, F.R.I.B.A., Architect to Council, AB/EK/25/29, County Hall, S.E.1. (441) 3310

CHIEF ARCHITECTS: DIRECTORATE OF WORKS, WAR OFFICE. Two pensionable posts for men at Chessington, Surrey, in (1) the Development Group, and (2) Works (Abroad). Qualifications: candidates must be Registered Architects and hold professional qualifications in architecture. Additionally, for (1) they must have experience of development work and client-architect briefing in a large organisation, and of development of building types to meet special requirements together with current knowledge of the various institutions concerned with the development of building standards, techniques, and research. They should be familiar with up-to-date cost control and cost analysis methods; for (2) they must have experience in the organisation of a large building programme involving the co-ordination of the several specialist services involved. Duties: (1) To take charge of the Development Group, which is part of an expanding organisation responsible for the design and supervision of the Army's new building work at home and overseas. The Group undertakes original research and development work on functional and structural problems, reviews designs of a wide variety of buildings used by the Army, and examines new building techniques and materials. (2) To direct overseas building work with support of administrative and technical services and of a development group, to enable him to organise the staff on the basis of a real programme of work with priorities and targets, both concerning cost, building time, and value for money. The type of building requirement will vary from time to time and will include housing, hospitals, barracks, amenities, industrial buildings, storage and other specialist buildings. Salary (London) £3,000. Write Civil Service Commission, 17, North Audley Street, London, W.1, for application form, quoting £4962/59. Closing date 14th April, 1959. 3561

**BOROUGH OF WIDNES
BOROUGH ARCHITECT'S DEPARTMENT
ARCHITECTURAL ASSISTANT**

Applications are invited from candidates who have passed the R.I.B.A. Intermediate Examination. Salary within the A.P.T. I Grade (£575 to £725 per annum), according to ability and experience.

N.J.C. Conditions; Superannuation Scheme; medical examination.

Applications quoting two referees, to Borough Architect, Brennan House, Widnes Road, Widnes, by Monday, 6th April, 1959. Canvassing disqualifies.

FRANK HOWARTH,
Town Clerk. 3562

**COUNTY BOROUGH OF WOLVERHAMPTON
PRINCIPAL PLANNING ASSISTANT
REQUIRED**

In Planning Section of the Borough Engineer's Department. Salary within A.P.T. Special Grade (£750-£1,030 per annum) according to qualifications and planning experience. N.J.C. conditions. Superannuable post. Housing accommodation will be provided in suitable cases. Applications stating age, training and experience, naming two referees, to the Borough Engineer, Town Hall, Wolverhampton, by 7th April, 1959. 3567

**CITY OF STOKE ON TRENT
CITY ARCHITECTS' DEPARTMENT**
(a) ASSISTANT ARCHITECTS—Special Scale, £750-£1,030.
(b) ARCHITECTURAL ASSISTANT—A.P.T. I, £575-£725.

Applicants for post (a) should have passed the R.I.B.A. Final and for post (b) the R.I.B.A. Intermediate Examination.

Applications giving full details of training and experience to J. R. Piggott, T.D., F.R.I.B.A., City Architect, Kingsway, Stoke-on-Trent, by Friday, 10th April, 1959.

HARRY TAYLOR,
Town Clerk. 3568

COUNTY BOROUGH OF STOCKPORT ASSISTANT ARCHITECT reqd.—Special Grade (£750-£1,030) or A.P.T. III (£845-£1,025) depending on qualifications. Commencing salary according to age and experience. Large programme of modern buildings. Full particulars (age, experience, two referees) to Borough Architect, Town Hall, Stockport, by 4th April, 1959, stating if related to member/Senior Officer of Council. Post pensionable, subject to medical examination. Canvassing disqualifies. 3545

NOTTINGHAMSHIRE COUNTY COUNCIL COUNTY PLANNING DEPARTMENT APPOINTMENT OF ASSISTANT ARCHITECT Applications are invited for the appointment of Assistant Architect, salary £1,025 to £1,175 per annum. Applicants must be Associates of the Royal Institution of British Architects with experience in the design and grouping of buildings. Experience in the re-development of built-up areas and the preparation of housing layouts would be an advantage. Further particulars from the County Director of Planning, Shire Hall, Nottingham, to whom applications must be submitted not later than 9th April, 1959.

A. R. DAVIS,
Clerk of the County Council. 3566

ASSISTANT ARCHITECT, Grade III, required by BERMUDA GOVERNMENT P.W.D. for tour of 3 years with prospects of permanency after 6 months' probationary period. Salary scale (including present temporary allowance of 25 per cent. of salary) £1,375 rising to £1,595 a year. Free passages. Liberal leave on full salary. Candidates preferably 24 to 35 years of age must have had sound basic training in Architect's Office, be capable of preparing working and detail drawings and specifications and have had some experience in site supervision. Preference given to candidates who have passed Intermediate R.I.B.A. examination. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2B/50546/AG. 3569

Tenders Invited

6 lines or under, 15s.; each additional line, 2s. 6d.

**DURHAM COUNTY COUNCIL
PROPOSED NEW COUNTY OFFICES
TO BUILDING CONTRACTORS**

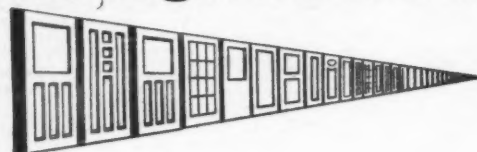
The County Council invite tenders for the erection of the above buildings at Ayley Heads, Durham City. The Contract will include the erection of a main building consisting of a part basement with seven additional storeys and a pent house and a separate ancillary building two storeys high together with a sub-station, certain outbuildings, Garages, etc., internal roads, paths, drainage, sewers, ground layout, etc. The main buildings will entail heavy excavations and site works with reinforced concrete foundations, reinforced concrete frame, precast pre-stressed concrete floors and natural stone and brick in-filling to certain parts of the buildings. It is anticipated that Bills of Quantities will be completed early in June and application should now be made to G. R. Clayton, Esq., F.R.I.B.A., County Architect, South Street, Durham, for copies of the Bills of Quantities. Each application should include a deposit of £10 10s., which will be returned on receipt of a bona fide tender or the return of the contract documents. Cheques should be made payable to Durham County Council.

Only Contractors with experience in carrying out large building Contracts should apply. The Council do not bind themselves to accept the lowest or any tender.

J. K. HOPE,
Clerk of the County Council. 3343

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Durham.

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Architectural Appointments Vacant

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

SENIOR ASSISTANT required of Intermediate/Final standard in Croydon office. Varied practice of interesting work. Good draughtsman and sound knowledge of construction essential, together with ability to manage jobs. Five-day week. Salary according to experience. Apply George Lowe & Partner, 4, High Street, Croydon 3698/9. 2611

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

ARCHITECTURAL firm in Home Counties with varied practice, require ASSISTANTS. Intermediate, qualified, or at that standard. State experience and salary required to Box 3089.

MORRIS DE METZ, F.R.I.B.A., requires experienced ASSISTANTS for large scale projects. West End Office. Salary up to £950. Telephone CITY 4086 or HUNTER 1051. 3133

ARCHITECTURAL ASSISTANTS required in West End Office. Large interesting contracts just commencing. Salaries around £900. Box 3134.

ALL grades. ARCHITECTURAL ASSISTANTS required. Ronald Ward & Partners, 29, Chesham Place, London, S.W.1. Belgravia 3361. 3146

ARCHITECTS' co-partnership require ASSISTANTS for working drawings and detailed design. Salary according to experience. Write 44 Charlotte Street, London, W.1. or telephone Langham 5791. 3265

W. H. WATKINS, GRAY & PARTNERS require ASSISTANT for interesting hospital work, pension scheme in operation. Write or phone, 57, Catherine Place, S.W.1. Victoria 7761. 3200

ARCHITECTURAL ASSISTANTS required. Starting salary £915 per annum. Glasgow office, five-day week. Schools, Offices, etc. State Experience. D. Harvey & A. Scott, 2, Lynedoch Place, Glasgow, C.3. 3368

ARCHITECTURAL ASSISTANTS required. Starting salary £750 per annum. Glasgow office, five-day week. State experience. D. Harvey & A. Scott, 2, Lynedoch Place, Glasgow, C.3. 3369

CLIFFORD CULPIN, O.B.E., F.R.I.B.A., M.T.P.I., of 39, Doughty Street, London, W.C.1. requires immediately several keen ASSISTANTS of about sixth year ("Post Inter") Evening School standard. They are required to assist Associate Partners in the development of projects from sketch designs onwards. Starting salaries £800 to £950 and opportunities for advancement for men with ability and real interest. Phone or write for appointment. (CHANCERY 5395.) 3333

EXPERIENCED ASSISTANT required. Medium size office, varied work. Write or telephone Harker & Hall, L/F.R.I.B.A., 13, Welbeck Street, W.1 (Welbeck 0061). 3375

SENIOR ARCHITECTURAL ASSISTANTS Required in the Architect's Office of Messrs. W. H. Smith & Son, Strand House, London, W.C.2, to assist in development of business and commercial projects. Preference will be given to applications who are qualified or of Intermediate Standard and with knowledge of shop design and other works and must be able to work on own initiative. Varied and interesting work. Remuneration according to qualification and experience. Posts will be subject to Superannuation Scheme. 5-day week and good staff amenities. Also vacancies for JUNIOR ASSISTANTS to work in conjunction with the above. Apply Chief Architect. 3372

INTERMEDIATE ASSISTANTS with several years' office experience. 5-day week. Salary according to ability and experience. Details of training, experience, etc., to Felix Walter, F.R.I.B.A., 4 Raymond Buildings, Gray's Inn, W.C.1. 3383

ASSISTANTS required, Intermediate to Final standard, for interesting Commercial and Industrial work. Salary commensurate with ability and enthusiasm. Good office conditions, lunch facilities. Apply in writing to Alan A. Briggs, F.R.I.B.A., 10 Fleet Street, London, E.C.4. 3390

ARCHITECTURAL ASSISTANTS required about Intermediate standard. Opportunities for good all round experience. Please write stating age, experience and Salary required. Box 3386.

GUY MORGAN & PARTNERS require JUNIOR ASSISTANTS of Intermediate standard and QUALIFIED ASSISTANTS with about two years' experience to work on new projects. Phone: Sloane 0624. 3366

JUNIOR ARCHITECTURAL ASSISTANT required in Engineer's Office of large Midlands Brewery. Sound knowledge of building construction essential. State age, experience and salary required, to Box 3349.

TORQUAY Architect with busy progressive practice requires ASSISTANTS at all levels. Wide variety of contemporary projects. Write or telephone full details of experience, age, salary required, etc., to Charles Blake, A.R.I.B.A., 553, Babbacombe Road, Torquay, S. Devon. Telephone: 25666/7. 3304

ARCHITECTURAL ASSISTANTS (Intermediate/Final standard) required for Southampton Office and New Forest branch, Lyndhurst. Apply, stating age, experience and salary required, to: Hill & Allum, F.R.I.B.A., A.R.I.C.S., 21, Carlton Crescent, Southampton. 3306

LEWIS SOLOMON, KAYE & PARTNERS have vacancies for two Senior or near Senior ASSISTANTS. Applicants must have good knowledge of contemporary design and construction of commercial buildings. Salary according to experience. Apply: Thavies Inn House, 5, Holborn Circus, E.C.1. 3307

ROBERT MATTHEW AND JOHNSON-MARSHALL have vacancies in their London office for qualified ARCHITECTS at various levels. Apply in writing, with full particulars, to 24, Park Square East, N.W.1. 3308

ARCHITECTURAL ASSISTANTS required for private practice, London, for interesting and varied work. Applicants should be of Intermediate to Final standard, having sound knowledge of construction and surveying, capable of handling projects from sketch plan onwards with minimum supervision. Salary by arrangement. Write giving brief particulars, present salary, etc., Box 3429.

APPLICANTS up to Final R.I.B.A. standard required to fill vacancy. Must be practical and productive office trained and experienced in educational buildings and competent in domestic field. A. R. Dannatt & Son, F/R.I.B.A., 65a, Duke Street, Chelmsford (3857). 3340

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JUNIOR ASSISTANT required for detail work on multi-storey University laboratory block. Experienced and intelligent enough to take limited responsibility. Apply: Ramsey, Murray, White & Ward, 32, Wigmore Street, W.1. 3357

SOUTHAMPTON—ARCHITECTURAL ASSISTANTS required, Final and Intermediate standard, for work on industrial and commercial projects. Apply, giving age, qualifications, experience and salary required. Box 3318.

ARCHITECTURAL ASSISTANTS required with at least three years' office experience. Apply in writing, stating age, experience and present salary, to E. J. Thomas, Jolly, Grant & Hunter, 11, Old Steine, Brighton. 3320

ONE/TWO SENIOR ASSISTANT ARCHITECTS and one/two **INTERMEDIATE** or **JUNIOR ASSISTANTS** required to assist with design and working drawings in the architect's department of an expanding organisation. Salary by arrangement. Write brief particulars of qualifications to The Staff Architect, Box 3330.

ARCHITECT. Wanted: Junior ASSISTANT, Bournemouth Office. Intermediate standard. State experience, salary required. Box 3408.

ARCHITECTURAL ASSISTANT. Final standard required for London practice. Salary £750 to £850 according to ability. Sound knowledge of construction essential. Box 3400.

URGENTLY required—A young **ARCHITECT** or **ASSISTANT** near Final stage wishing to gain real and intimate experience before qualifying for his own practice, is offered an interesting post in a pleasant office in the West Midlands. Contemporary outlook, young staff. Full particulars in confidence to Box 3403.

BRIGHTON & HOVE. Experienced Senior and Junior ASSISTANTS required for small office. Box 3422.

SEELY AND PAGET have vacancy in their City Office. Intermediate R.I.B.A. standard with two years' office experience and ability to work with minimum supervision. The work of the practice is varied and covers Ecclesiastical, Training Colleges and Schools, Domestic and General. Salary by agreement. Telephone Met 6511. 3423

CAPABLE ARCHITECTURAL ASSISTANTS (all grades) required in a modern office in Hemel Hempstead. Interesting and varied work ranging from domestic design to nuclear power station projects. State age, training, qualifications and/or experience. Maurice H. J. Bebb, L.R.I.B.A., 16-19, Gresse Street, London, W.1. 3426

RONALD FIELDING, A.R.I.B.A., immediately requires qualified and Intermediate ASSISTANTS for small Kingston-on-Thames office. Please write or telephone for appointment. Aldwych House, London, W.C.2. CHANCERY 6201/5. 3432

ARCHITECTURAL ASSISTANTS, Final and Intermediate, required by progressive firm of Birmingham architects. Work involves preparation of designs, working drawings, site supervision, etc., on numerous types of work. Salary by arrangement. Box 3435.

VINCENT BURR AND PARTNERS urgently require another **ARCHITECTURAL ASSISTANT** of not less than Intermediate Standard. Great scope for future promotion. Large and varied practice. Salary according to experience. Apply by letter only to 85, Gower Street, London, W.C.1. 3460

COMPETENT ASSISTANT required in Architect's Department. Good opportunity for capable man, five-day week, and superannuation scheme in operation. Applications giving details of age, qualifications, experience and salary required to H. M. Robinson, F.R.I.B.A., George J. Mason Ltd., 68, Bradford Street, Birmingham. 3407

EASTBOURNE Practice requires capable, young **ARCHITECT**, not less than R.I.B.A. Intermediate standard. Varied work. Please write stating age and salary required. Box 3309.

ASSISTANT required in Lancaster Office, qualified or near Final. Box 3332.

ARCHITECT'S ASSISTANT required in Leicester. Intermediate standard, general experience, initiative and accuracy essential. Reply with references and salary required. Frederick A. Smith, L.R.I.B.A., 65, Regent Road, Leicester. 3488

QUALIFIED ASSISTANT ARCHITECTS required, minimum three years' office experience, preferably in London. Salary according to ability and experience. Theo. H. Birks, 38, Portland Place, W.1. LAN. 7235. 3485

INTERMEDIATE STANDARD ASSISTANTS required minimum two years' office experience. Salary according to ability. Theo. H. Birks, 38, Portland Place, W.1. LAN. 7235. 3486

IF you have design ability and/or can make sound working and detail drawings, and would like to work in a small friendly office, please write to Edward Armstrong & Frederick MacManus at 28, Gloucester Place, W.1. Salaries and prospects according to ability. 3464

ARCHITECT'S ASSISTANTS required, Intermediate and Final standard, also surveyors. Salaries from £500 to £1,000 per annum. Offices in Stroud and Dursley, and site office in Bristol. Write giving details of qualifications and experience to Elery Anderson, Roiser & Falconer, Imperial House, Stroud, Gloucestershire. 3463

ARCHITECTURAL ASSISTANT for industrial and housing projects in small Architects' Department of leading Building and Civil Engineering Contractors in Manchester area. Canteen facilities. Salary £750 to £900. Apply Box 3467.

TWO SENIOR ASSISTANT ARCHITECTS urgently required for architects' office, W.1. Salary £1,000/£1,200 according to experience. Please write Box 3466.

KEEN and energetic **ASSISTANT** of Intermediate Standard required as second Assistant in busy country Office. Reply with details of experience and salary required to Box 3465.

CAPABLE ASSISTANT required, R.I.B.A. Intermediate standard, for varied and interesting work. Successful candidate will frequently visit work upon which he is engaged, in and out of London, and have good opportunity for own study. Salary £575 to £750 according to ability. Poulton & Freeman, F.R.I.B.A., 6a, Wyndham Place, W.1. Phone: Ambassador 2211. 3517

ARCHITECTURAL ASSISTANT required of Intermediate standard or above, able to prepare details for modern buildings with the minimum of supervision. Salary £750/£850 per annum according to experience. Phone: GROsvenor 6208 for appointment. 3501

ARCHITECTURAL ASSISTANTS required to work on development of large power station project. Previous industrial experience useful but not essential. Salary according to age, experience and qualifications. Applicants should write stating relevant details to A. J. Bryett, Sir William Halcrow & Partners, 47, Park Lane, W.1. 3494

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