

THE ARCHITECTS' JOURNAL

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The Architects' JOURNAL for January 28th, 1960

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Major Buildings described:

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[No. 3380

[Vol. 131

THE ARCHITECTURAL PRESS

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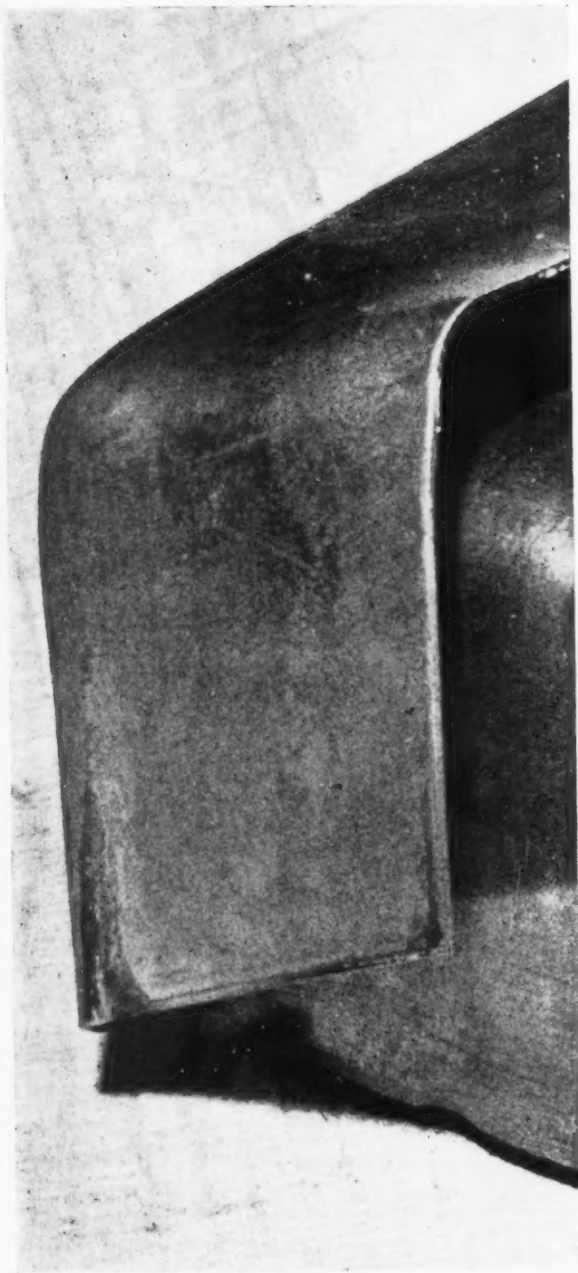
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★A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to I in one week, II to Z the next. In all cases where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

ILA	Institute of Landscape Architects. 1, Park Crescent, Portland Place, W.1. Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1. Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W.1. Welbeck 9966
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee). Fire Research Station, Boreham Wood, Herts. Elstree 1341/1797
LDA	Lead Development Association. 18, Adam Street, W.C.2. Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Hyde Park 7070
MOH	Ministry of Health. 23, Savile Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James's Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2. Gerrard 6933
MOT	Ministry of Transport, Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 14 Howick Place, Victoria Street, S.W.1. Victoria 1600 & 6477
NAS	National Association of Shopfitters. 2, Caxton St., S.W.1. Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1. Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalte Industry. 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whitehall 1693
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1. Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9245
RFAC	Royal Fine Arts Commission. 5, Old Palace Yard, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1. Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, E.C.3. Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1. Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1. Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4. City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1. Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4. City 5040
WDC	War Damage Commission, 6, Carlton House Terrace, S.W.1. Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1. Grosvenor 6636

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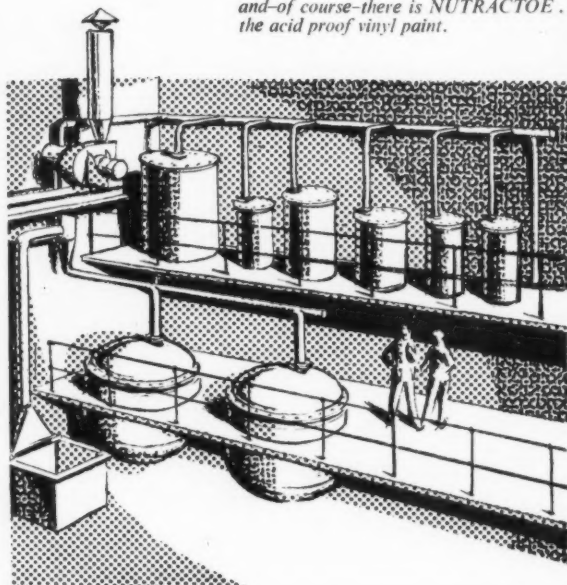
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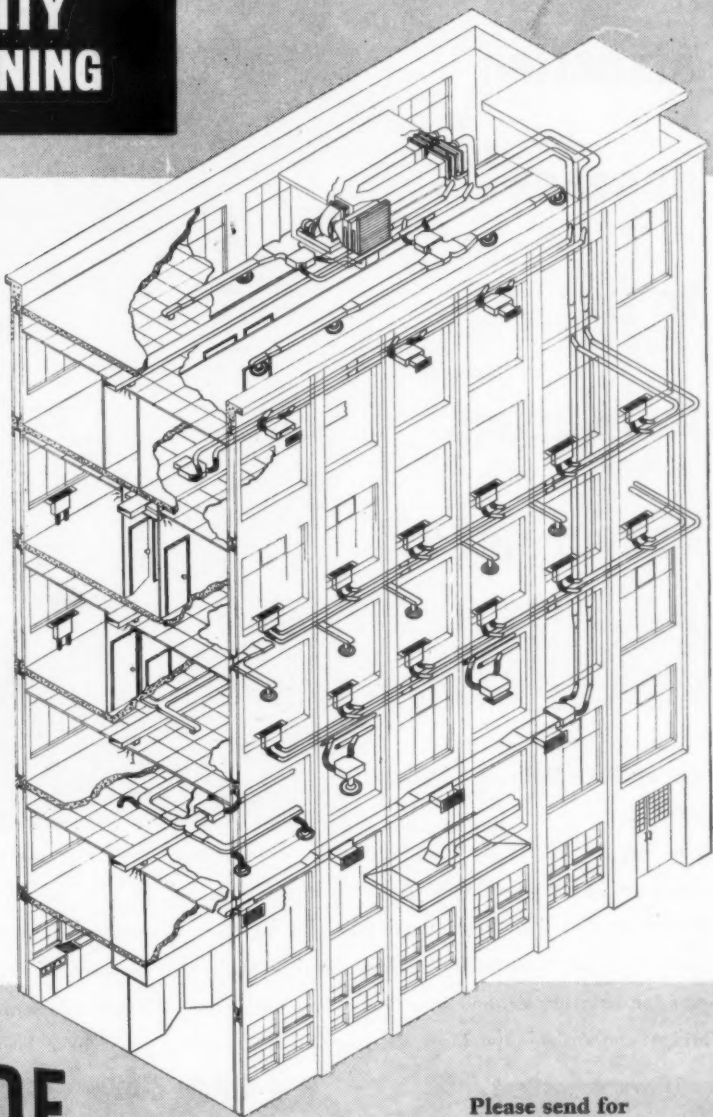
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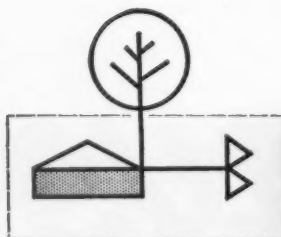
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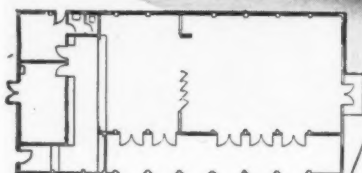
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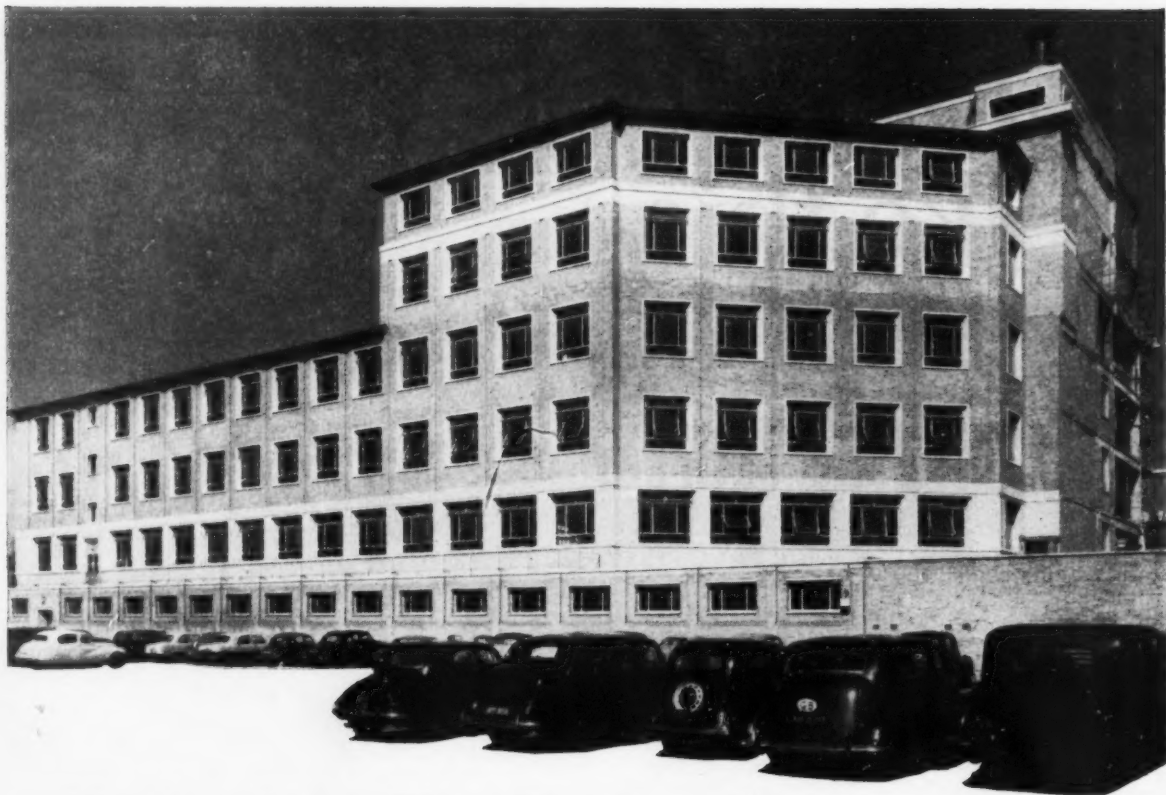
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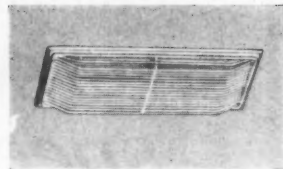
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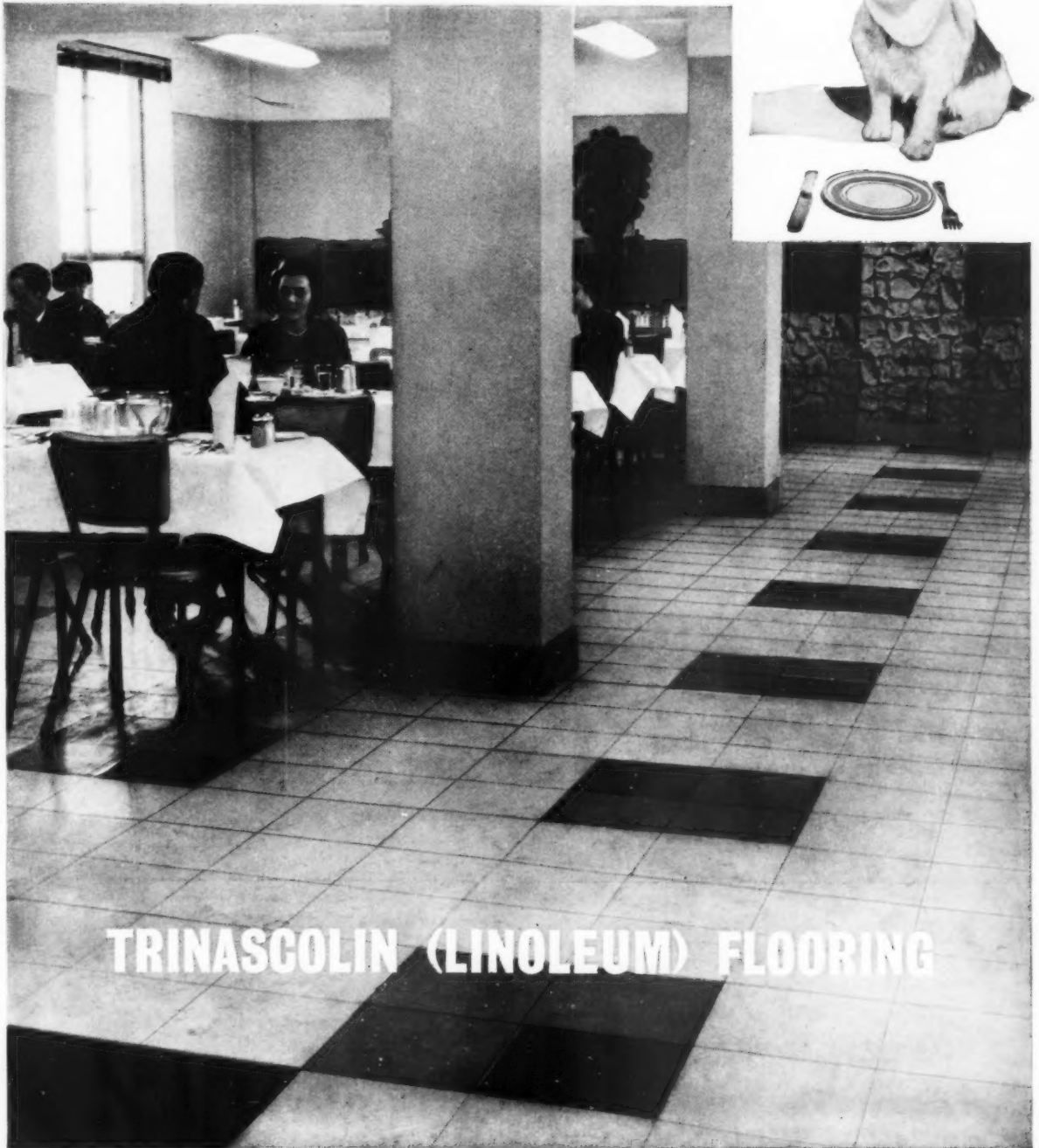


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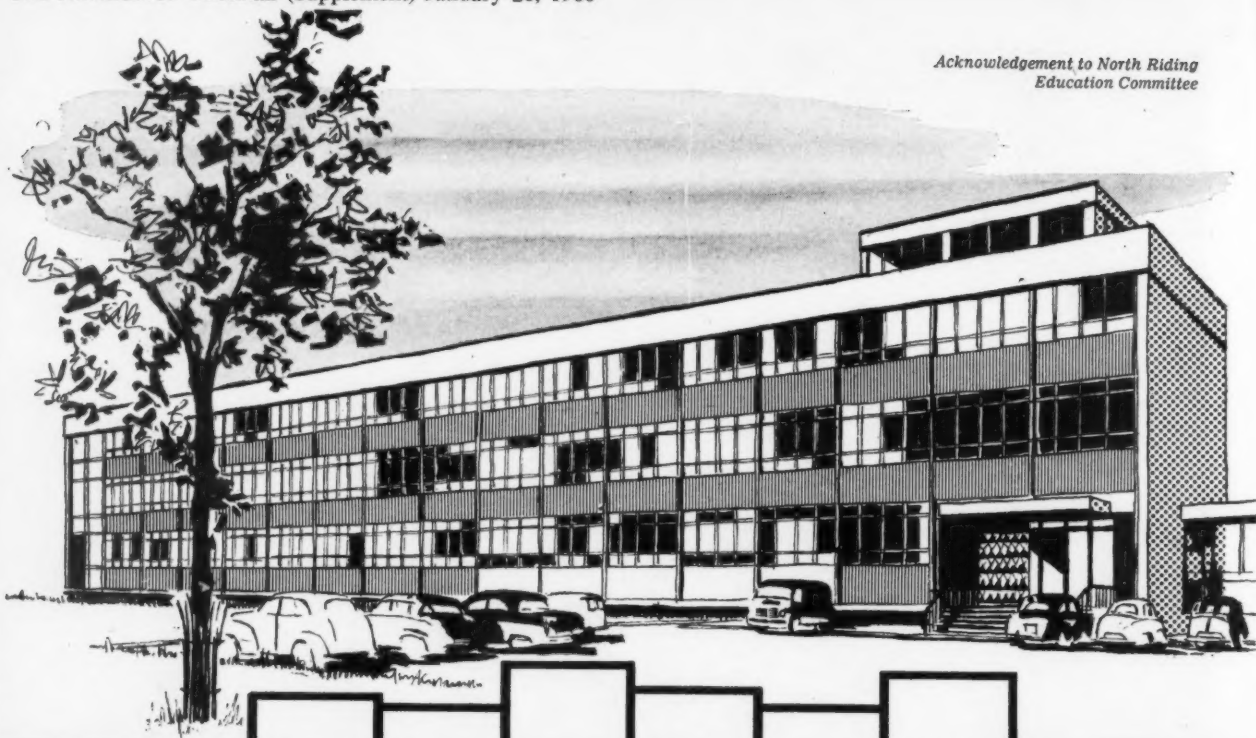
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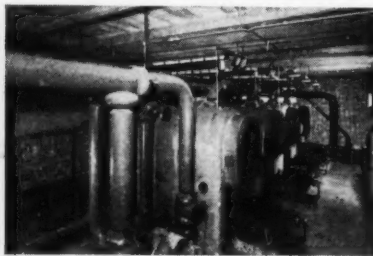
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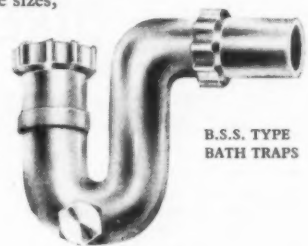
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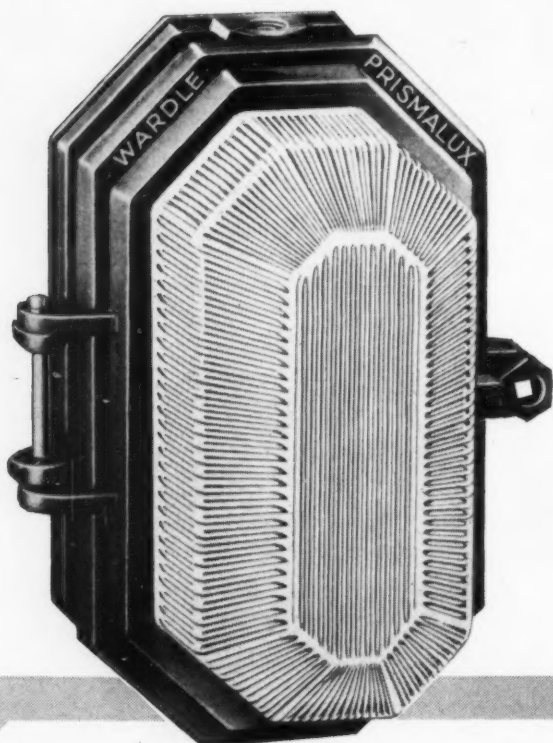
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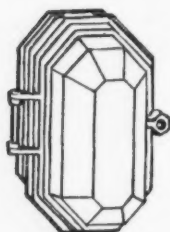


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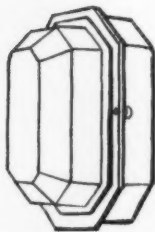
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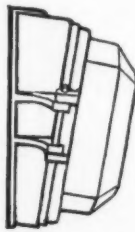
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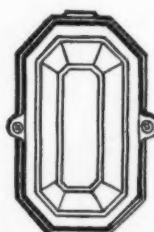
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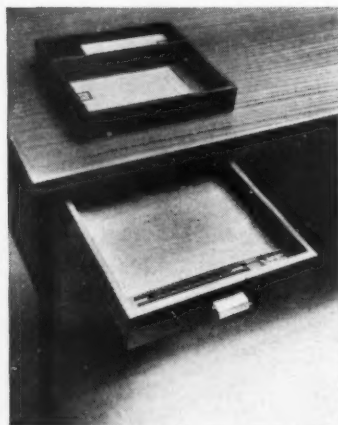
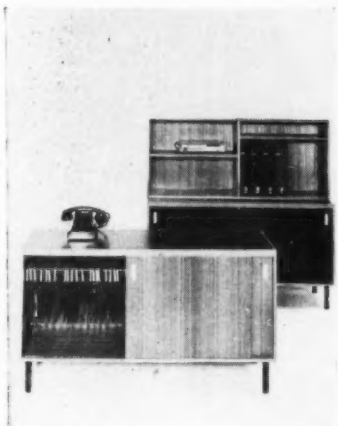
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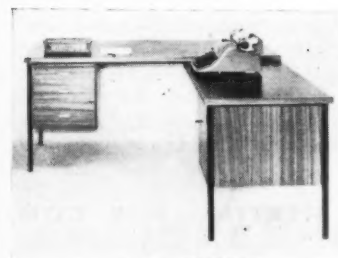
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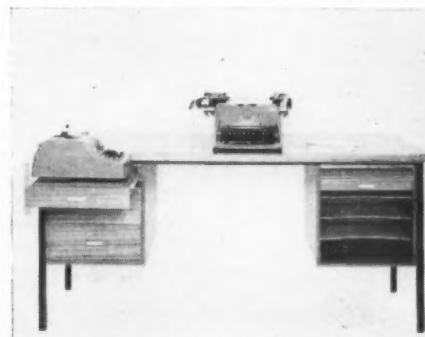
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Planet House, Chiltern Street, Baker Street, London. Architects: R. Seifert and Partners.

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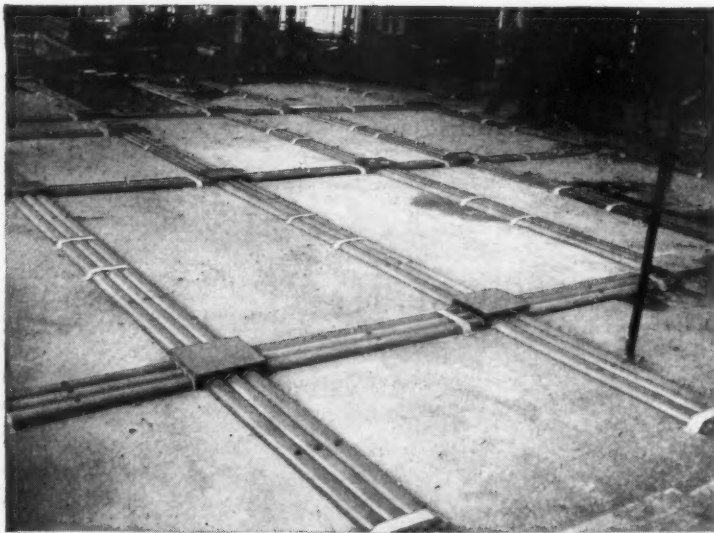
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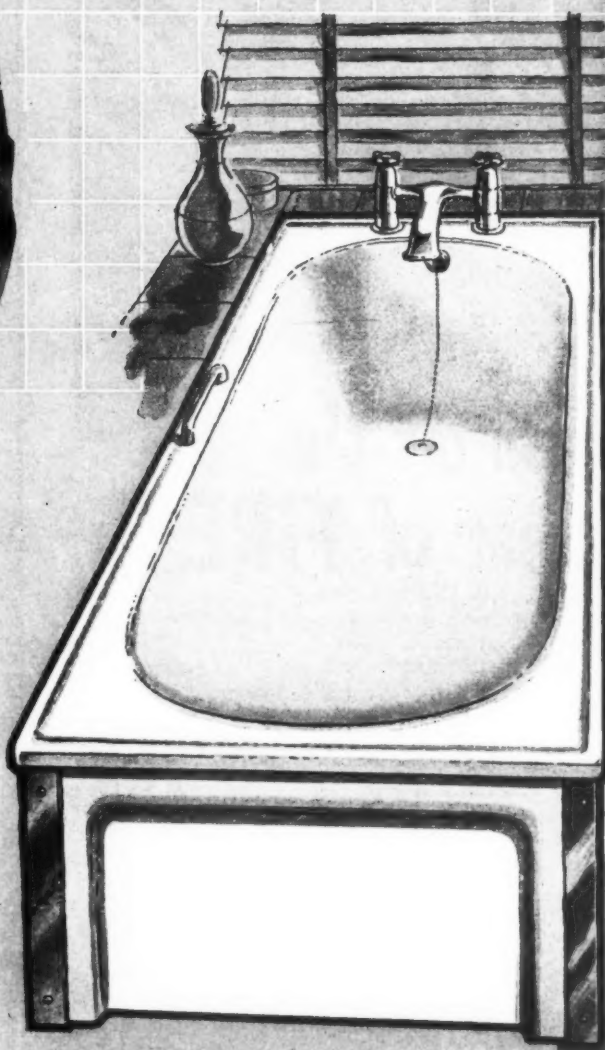
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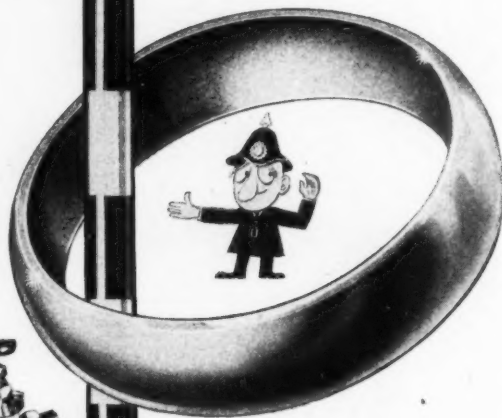
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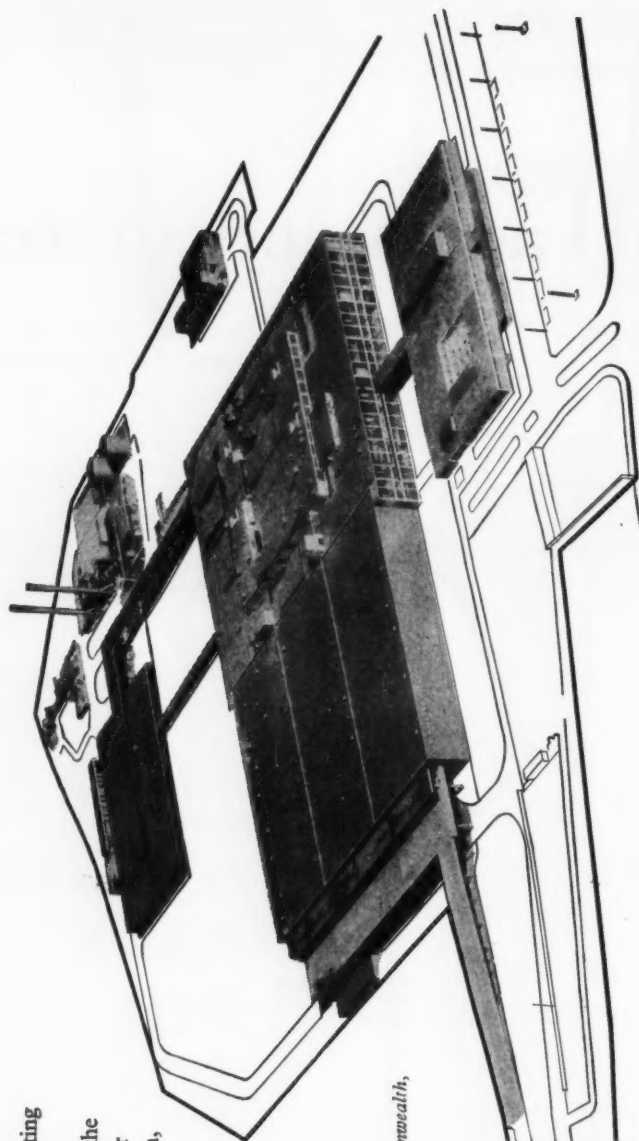
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TAS/BK.29

COLOUR

the logical use of colour in building no.1

introduction:

Few subjects can claim a more diverse group of interests than colour.

Psychologists, photographers, physicists, physiologists, philosophers, printers, paint manufacturers, lighting engineers and artists are but a few with such interests, each with their own problems and inevitably each with their own definitions—a babel of many tongues. The chemist employs it as a generic term for dyes, pigments and like materials. The physicist regards the term as a description of certain phenomena in optics. Physiologists and psychologists use the term to denote a sensation in the consciousness of a human observer. Colour is a household word as well and is commonly used indiscriminately in all three senses.

The three definitions are firmly rooted in the language and it is futile to expect one definition only to be adopted. The definition used must be the one most nearly applicable to the case under consideration.

There is no difficulty in distinguishing the use of the word "colour" to mean a pigment, dyestuff or other coloured material in a finely divided form, but the distinction between the objective physical definition and the subjective psychological one is more subtle. The objective measurement of colour is a physical reality and once determined remains fixed. The sensation that results when one looks upon a coloured object depends to a considerable extent upon the nature of the surrounding field and the nature of the field to which the observer has previously been exposed.

It is intended to run a series of these announcements which will endeavour to outline the importance of the subjective use of colour to the architect and building designer, and to show how such knowledge can be used.

Goodlass Wall & Co. Ltd., Corn Exchange, Liverpool 2, or 179/185 Gt. Portland Street, London, W.1

COLOUR



Eric de Maré

CARTER

This detail of the old Custom House at Poole in Dorset, where the tiles are made, is simple and functional enough, but those virtues alone do not account for its special charm. Here is rich texture and a pleasing patina of wear, though the brickwork and bollaster are fresh with new whitewash. Even the accidental tufts of green grass add a decorative touch to the whole. Is there a lesson here? You cannot provide pleasing decay in a new building and you must accept that many modern synthetic materials will either wear badly and without charm, or will not wear at all. But you can do something about permanent texture, especially through the power of contrast—for example, the bright gleam of ceramic tiles against the dark and mellow roughness of brickwork. Carters make textured surface tiles.

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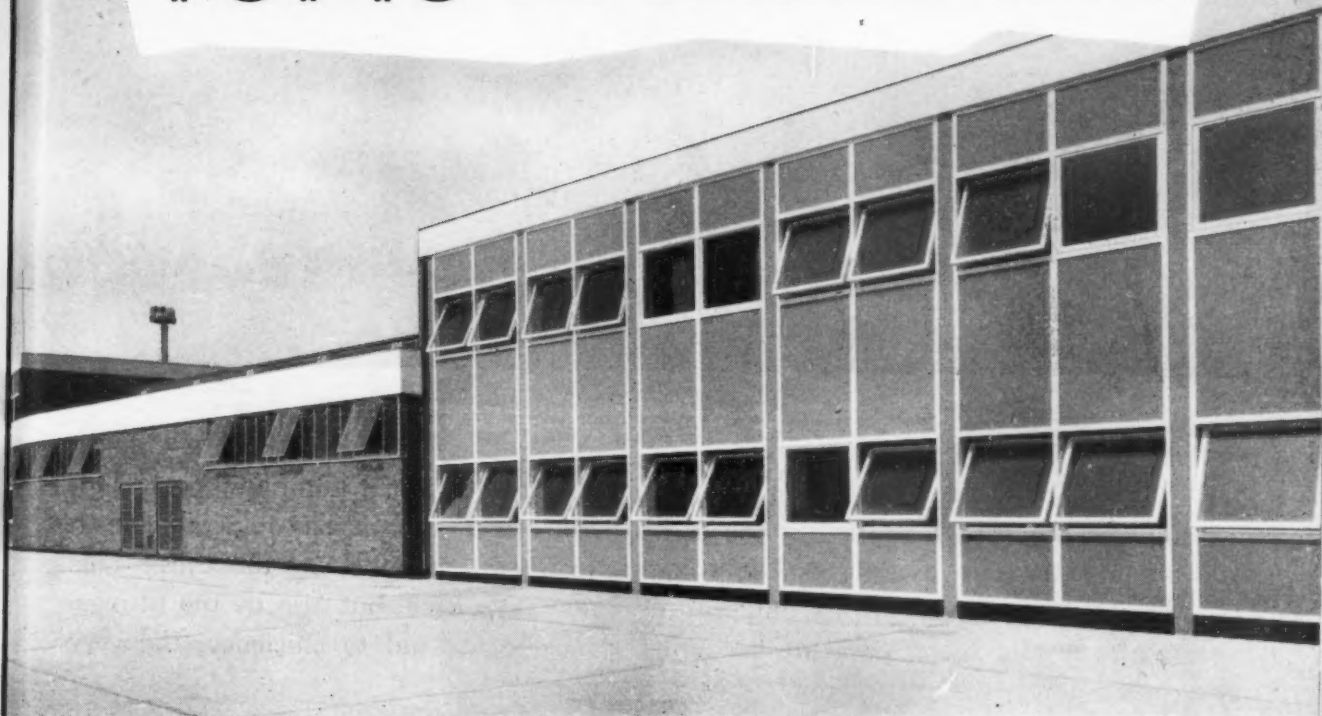
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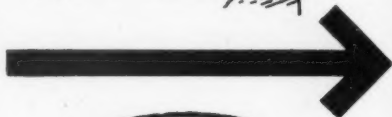
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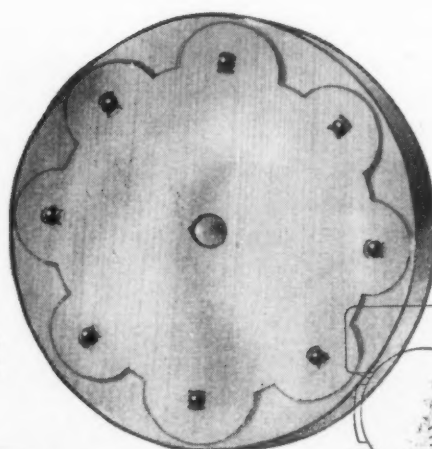
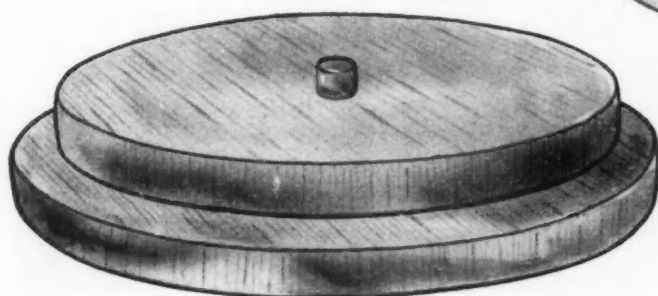
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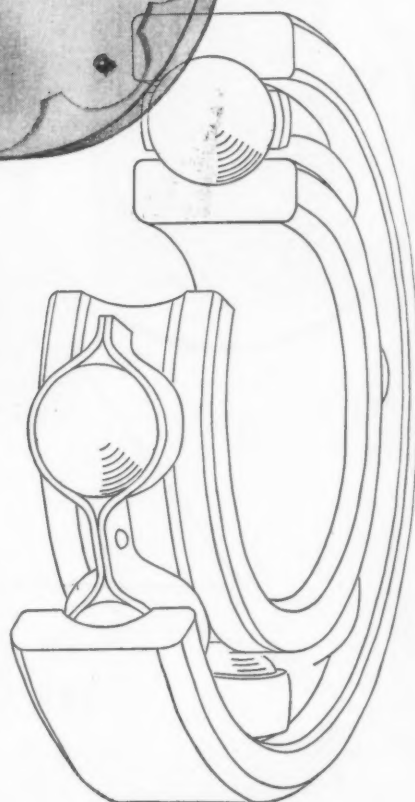


*The Emperor Caligula
A.D. 12-41*

*Artist's drawing of
Roman ball bearing
found in Lake Nemi*



*Cut-away drawing of
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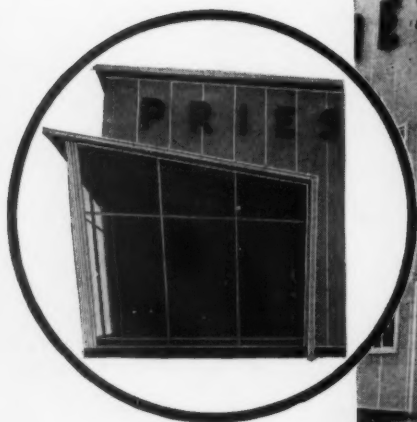


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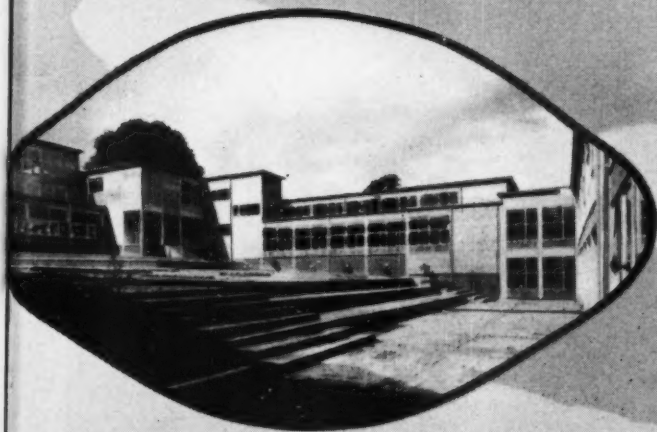


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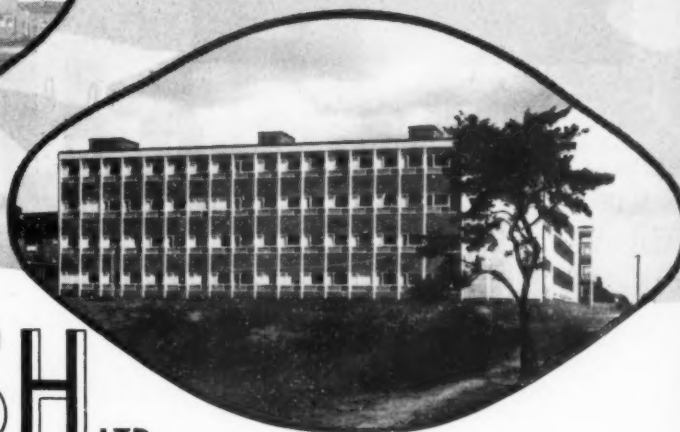
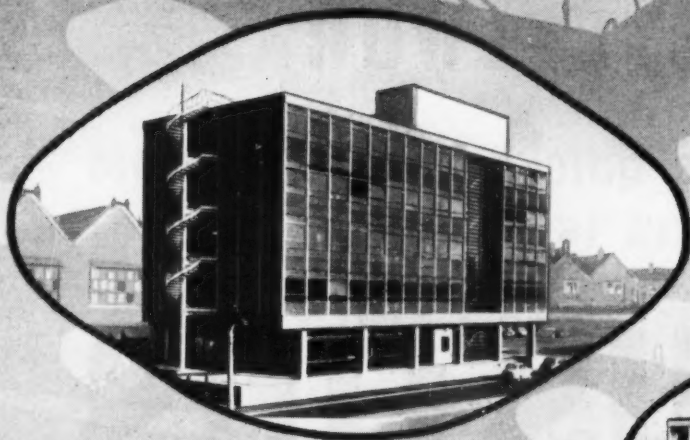
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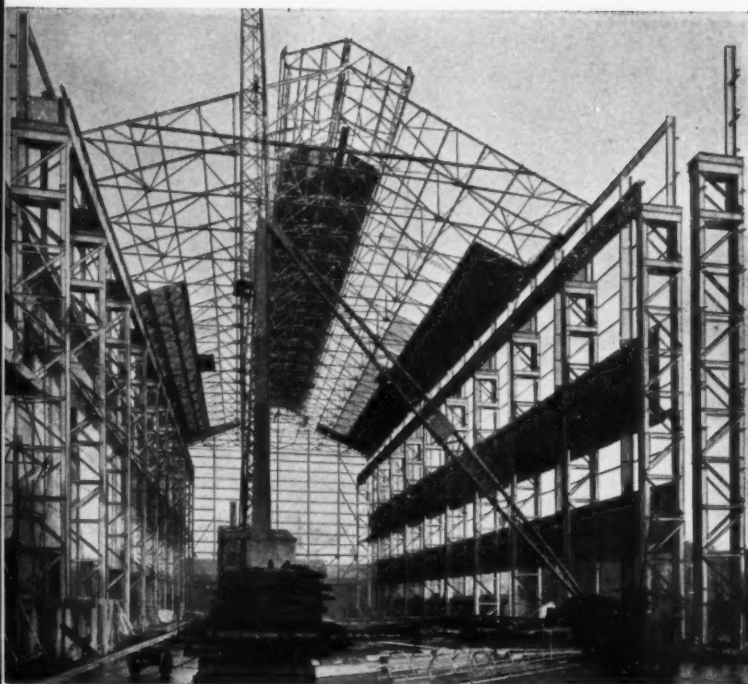


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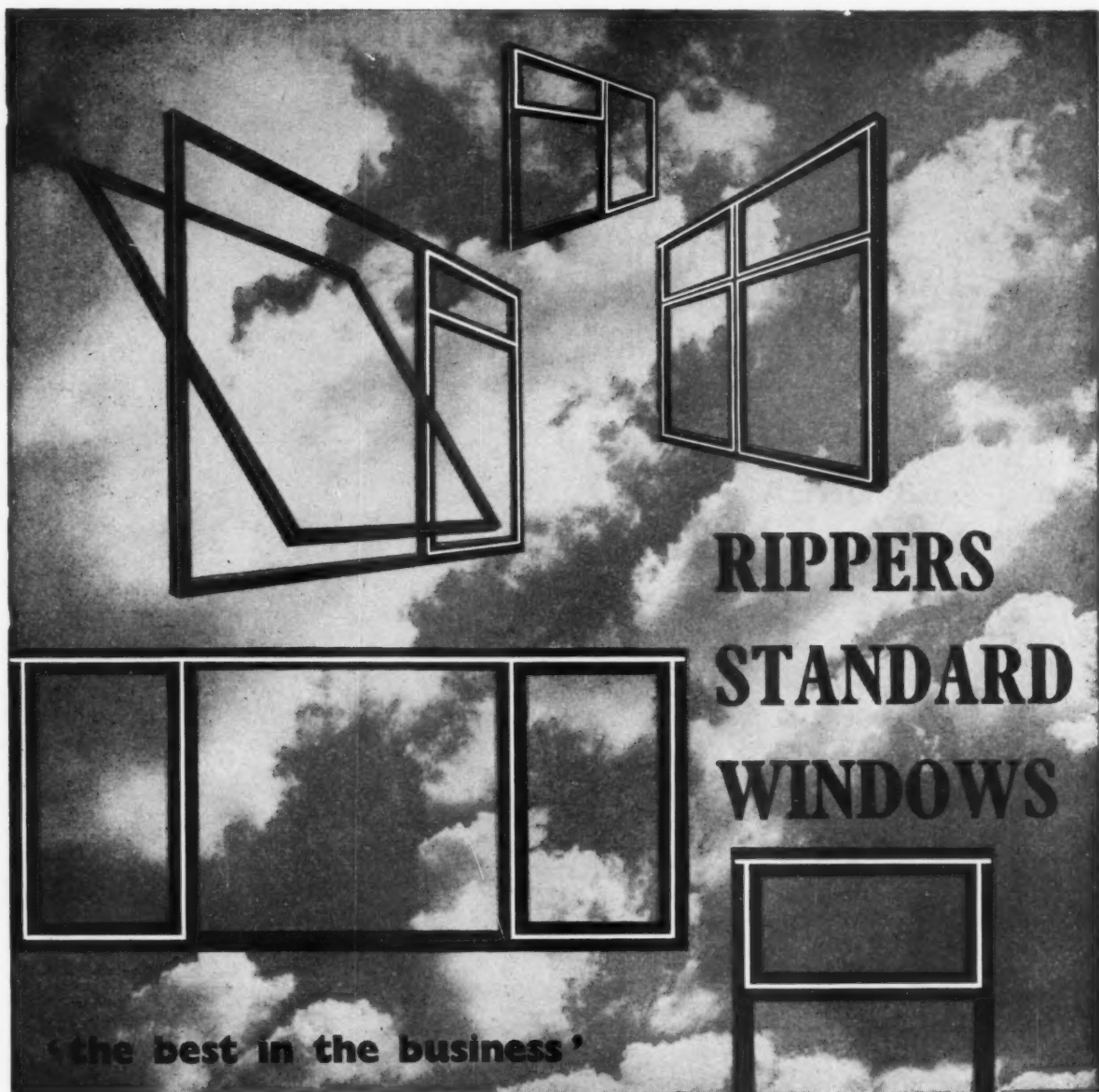
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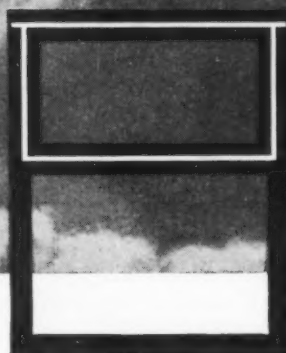
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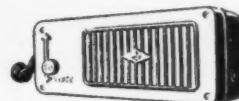
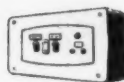
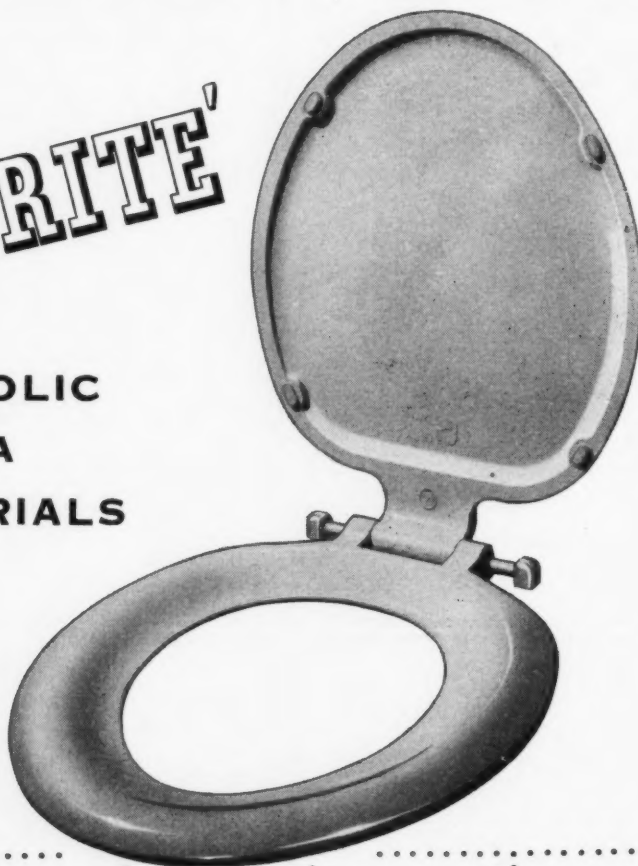
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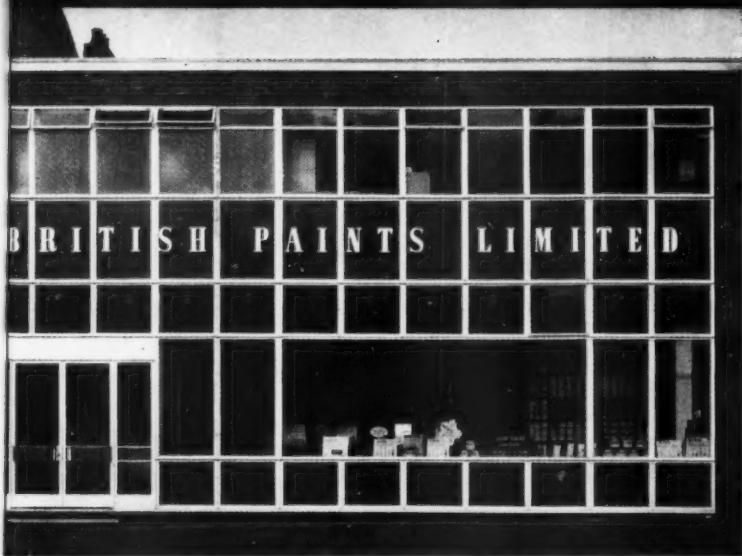
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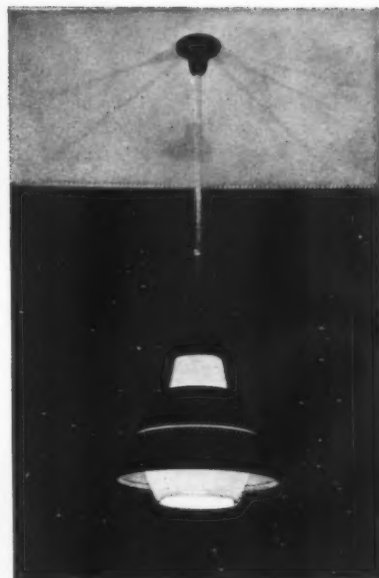


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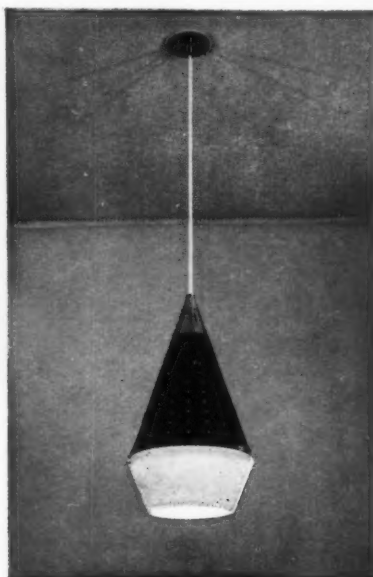
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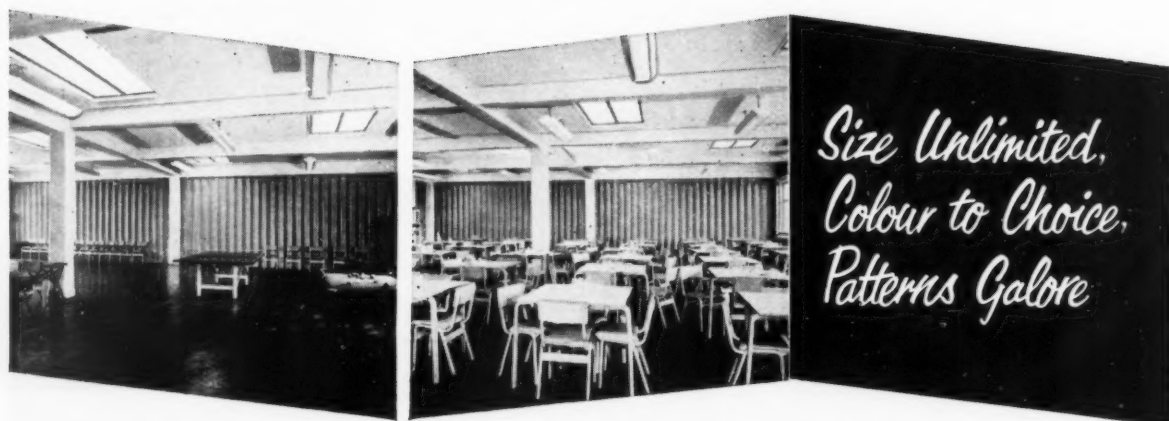
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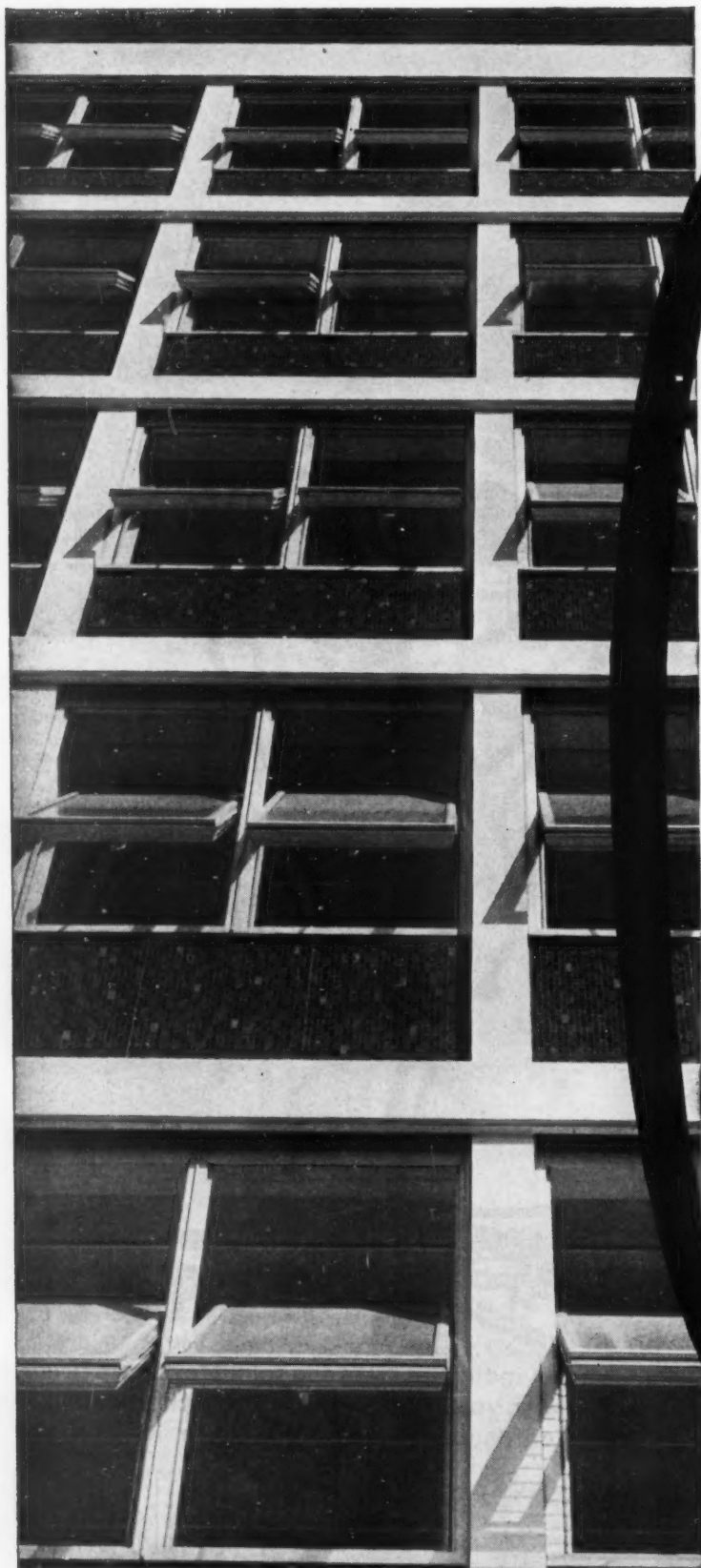
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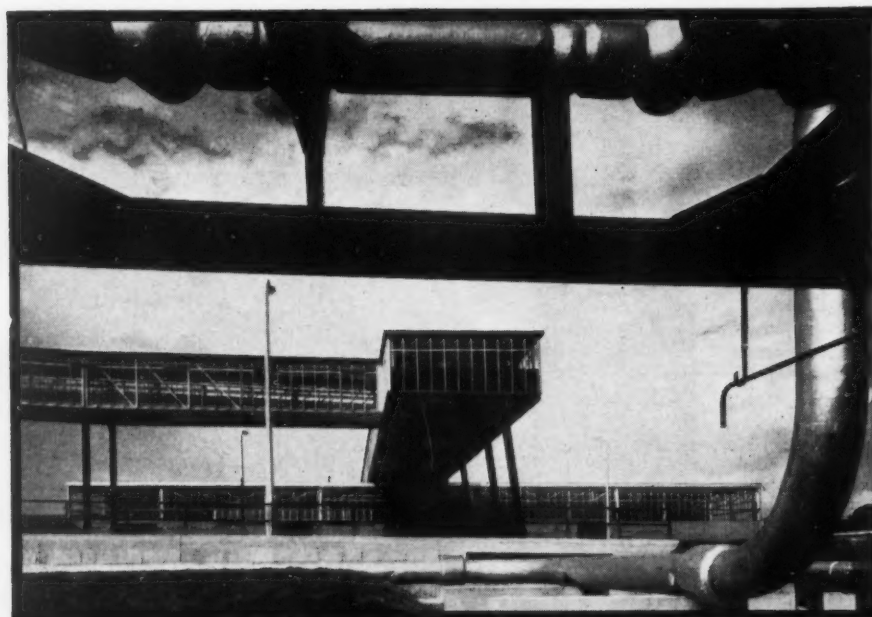
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Architects:
J. Douglass Mathews
and Partners, London
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The new Heinz factory is turning depressed Wigan into a boom area. By the time it is in full production it will be employing some 3,000 local people and taking up a good deal of the local agricultural produce, which is both abundant and high in quality.

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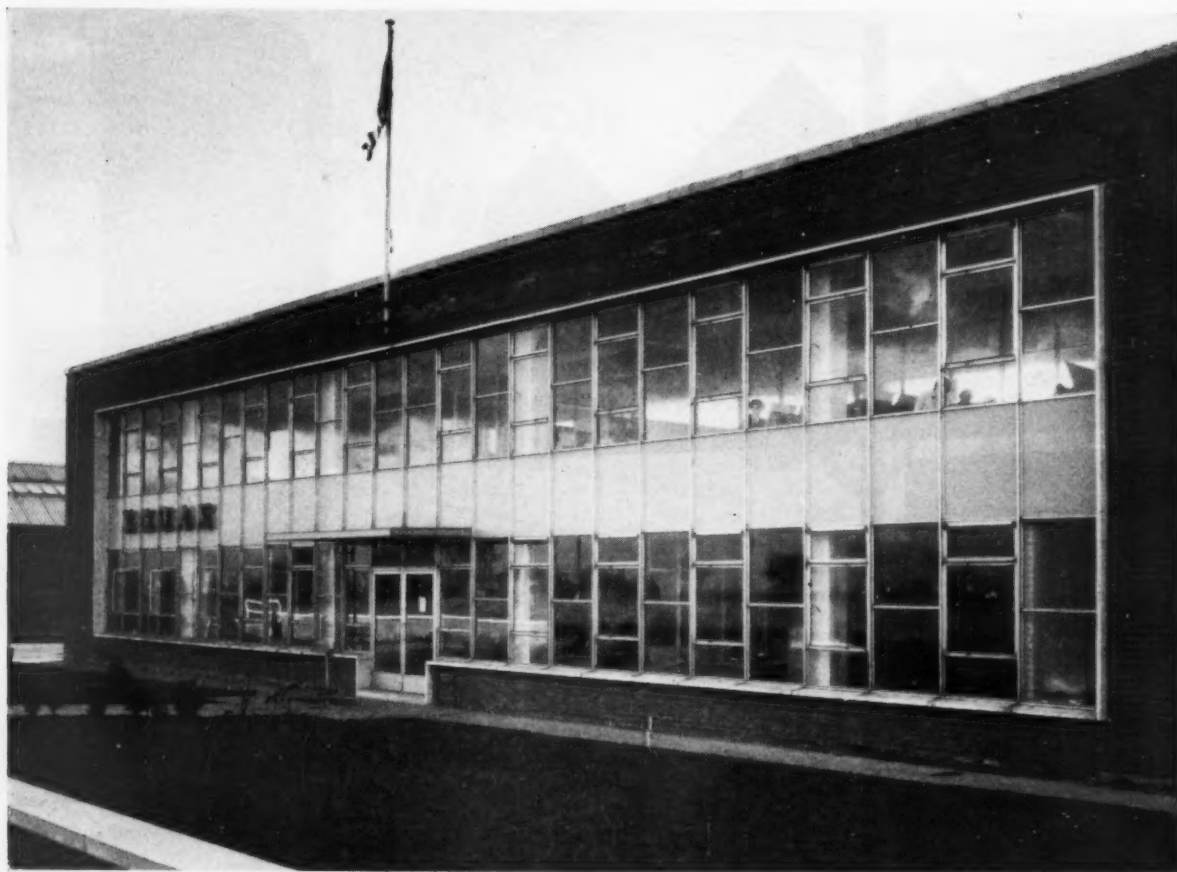
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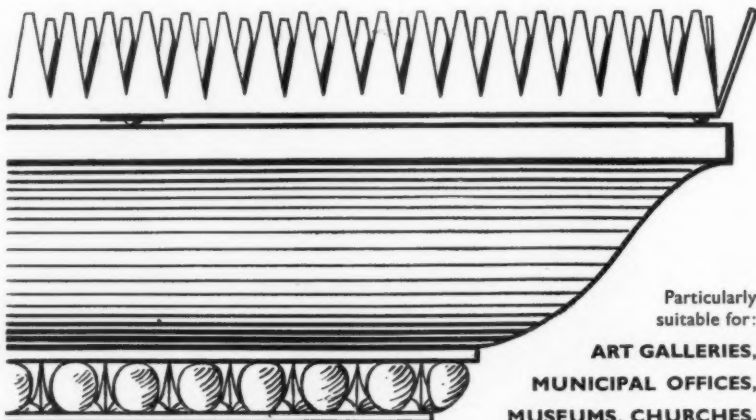


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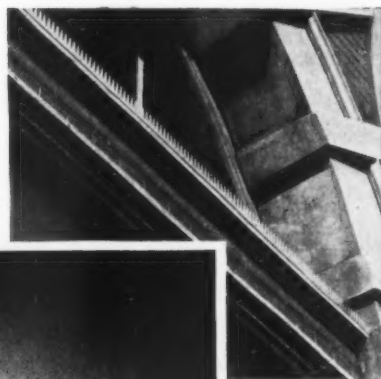
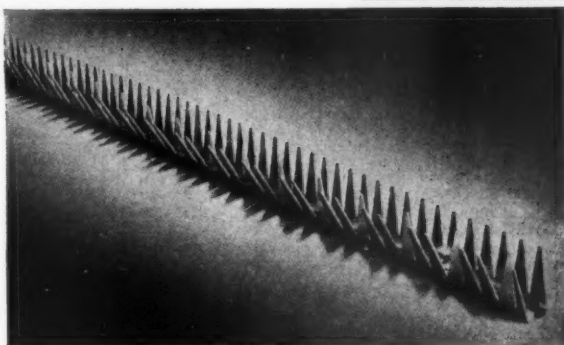
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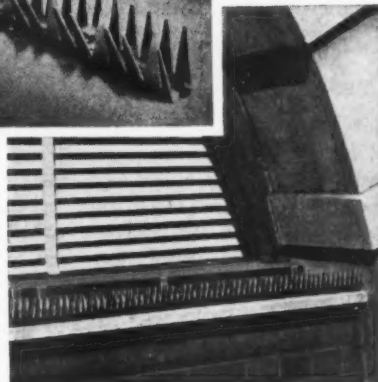


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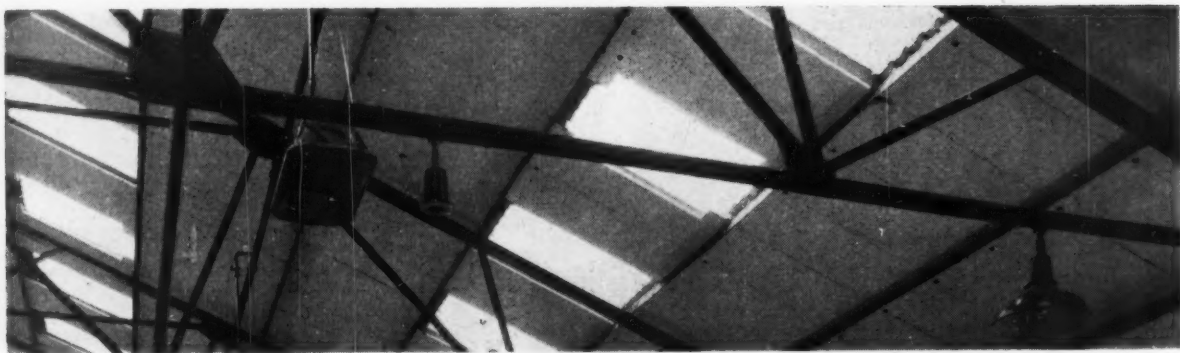
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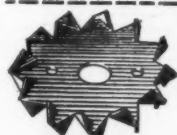
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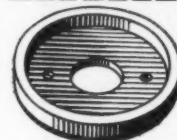
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The Architects' Journal

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NOT QUITE ARCHITECTURE

All Spock and Spon

It would have made a better story if my son had been born in the Clerk of Works' hut in September, after his mother had been frightened by the mechanical auger. In fact I spent the minimum of time admiring the auger as it bored its way into the earthenware-hard Essex clay, since it set my unborn child's teeth on edge (Clare Booth's immortal phrase) and G survived both this and the nasty shocks that those peeping sentimentally into prams are apt to receive around Guy Fawkes' Day. His arrival was nicely timed in mid-November, which spared me a hearty hospital Christmas, and ensured that G will get his proper quota of presents. (Mem. must buy him some Ernie-Bonds, first making sure that parents are allowed to spend the prize-money on their infants' behalf, as he seems such a lucky little boy on the whole.)

*

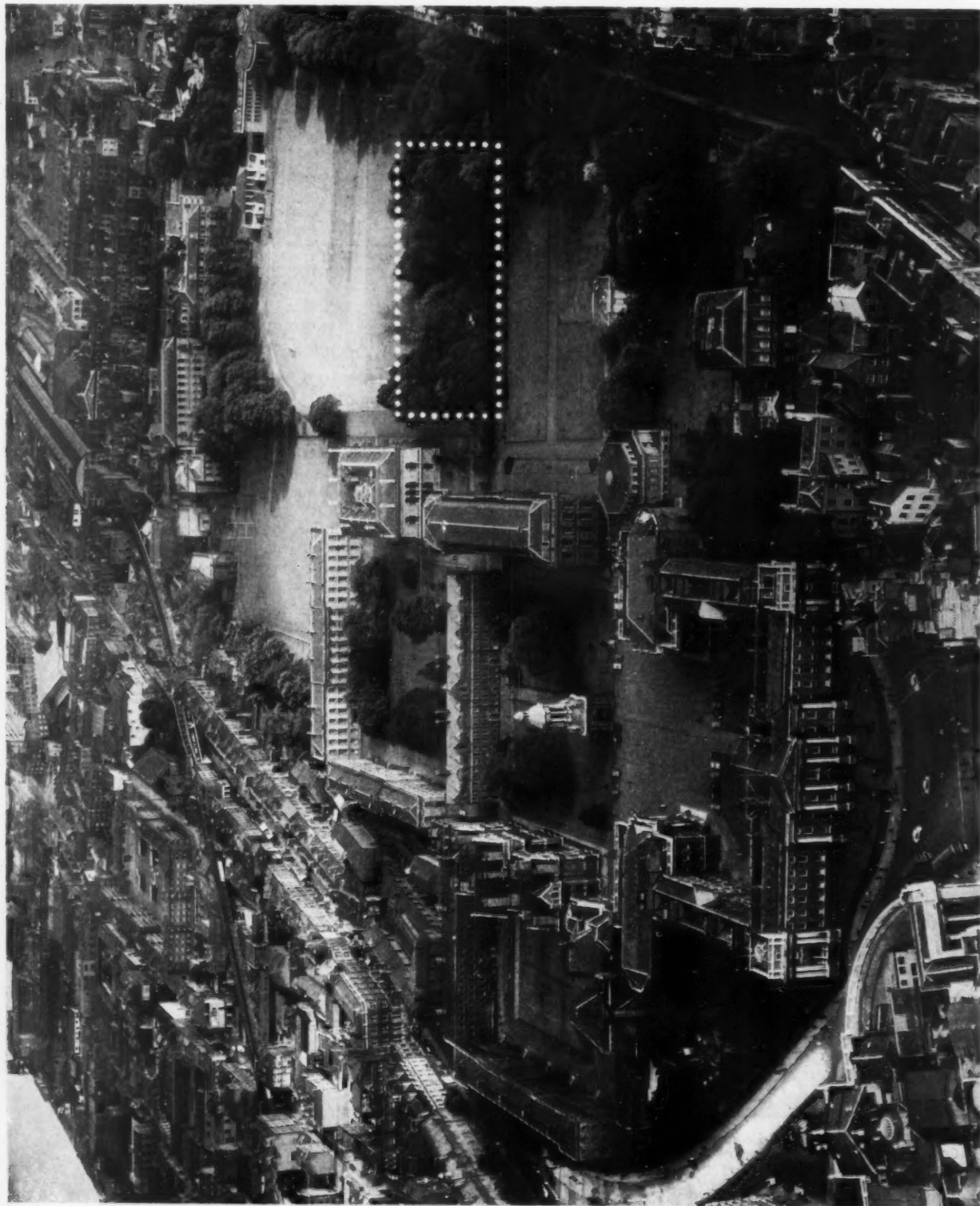
I had given up my job by then, and the private practice (if you can call one almost-finished and two half-obtained small conversions a practice) by which I hope to supplement my husband's meagre, though non-architectural salary, was just in the letter and telephone stage. The telephone calls were answered by W and Q who have the flat below and a phone extension; they explained that I had just had a baby but not that I was married, as they assumed people knew. They didn't, but politely concealed their surprise, and addressed all subsequent letters to me as "Mrs."

*

It was about this time that someone called Theo Goldrey wrote those articles in the

Dublin Looks Ahead

An international competition has been announced for an extension to the library of Trinity College, Dublin, at a cost of half a million pounds, on the site shown in outline left. The jury consists of Lord Rosse (Vice-Chancellor of the University), Sir Hugh Casson, Raymond McGrath (Principal Architect of the Office of Public Works, Dublin), K. Dewar Metcalf (former Director of Harvard University Library), and Franco Albini (Professor of Architecture at Venice and a specialist in urban planning). The decision to hold an international competition in Ireland can only be applauded, and should prove a most valuable stimulus to architecture in a country which has not yet really entered the mainstream of the modern movement. The University hopes to secure a design in a contemporary idiom that will express the middle of the 20th century as faithfully as the College built in 1712 expresses its own time. The conditions should be available early next month.



Observer from which one learned about the U, or Jones, baby, who has a second-hand folding pram for reasons of economy, though his mother can afford nursing home fees; big prams and public wards are apparently non-U, like smocks. G was born in Hospital and a very neat job the National Health Service made of us too, but he travels Jones-fashion in a minute carry-cot on wheels. I must admit feeling somewhat envious, though, as I see the Robinson babies riding smoothly over kerbs in their huge-wheeled Edwardian barouches, while G's head rolls horribly on his smother-proof mattress (rubberized hair in a rather nasty Disney-printed cover).

Actually the best pram would be a combination of carry-cot and car, if only we could afford it. This is ideal for Architectural mothers, as you can park in a quiet spot near the site to give him his two o'clock feed—quite a problem otherwise. Those whose jobs are in central London could possibly manage to sneak into the RIBA with the infant in a shopping bag, and make use of the dim recesses of the powder room. Or there's always a main line station—"Facilities for mothers with babies are provided on Platform 19"—unless they ask to see your ticket.

Meanwhile, G sleeps, grizzles or feeds contentedly unaware of what's in store. I must make sure he won't get a complex through being treated too much like luggage. My well-thumbed Spock (which I keep next to my well-thumbed Spon's) is quite reassuring on this, as on most matters.

But the knowledgeable Mrs. Goldrey states that it's well nigh impossible to resume one's normal work for some time after a baby is born because "something cowlike comes over you." Well, if it comes over me I shall just have to think of some more cowlike ways of earning. Maybe I could mind P's three-year-old (making sure she doesn't reduce the placid G to a mangled pulp while my back is turned). The LCC Day Nursery have already shown her indignant mother the door, stating that they didn't cater for "people of your class," before she could explain how broke she was. I have already decided to take in washing on a do-it-yourself basis at so much a load, in opposition to the local launderette. I could get really mercenary and start to charge for such small neighbourly actions as letting X and Y use our bathtub for baths while theirs is being used for other purposes—not coal as the flats do have small cupboards (the kind the Coal Utilisation Council doesn't approve) so we suspect it must be gin. Perhaps they will pay us in kind—what a delightful thought.

MARGARET LAWSON

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The Editors

FLAT OUT—BUT WHERE TO?

PROFESSORS of geography and economics and others who have been telling us that there is something "inevitable" about the movement of industry and population to the Midlands and South East England should reconsider their views. The decision of the British Motor Corporation to transfer its entire production of heavy vehicles and tractors to Scotland, and to erect other factories in South Wales, Lancashire and North Staffordshire shows that national planning is possible, and that the growth of the London and Midland city regions (to use the now fashionable term) can be limited. It is true that the greater part of the BMC expansion (£28 million out of £49 million) is to be concentrated in the Midlands, and that this continues the process of expansion and the pressure on the green belts. But the possibility of a more rational distribution of industry has been demonstrated. One must again ask, however, whether the gigantic expansion of the motor industry now being planned is desirable, or whether any realistic measures are contemplated by the Government to cope with the consequences. The expansion schemes of the five main producers total some £150 million. The Government is itself investing £9.5 million of public money in the projects. The total investment in new vehicles in these factories will, of course, be vastly greater when they get into production.

The Piccadilly Circus Inquiry, if it has proved nothing else, has demonstrated the crisis into which the planning and renewal of city centres has been flung by the increase of motor traffic and the prohibitive cost of acquiring property for road or other public improvements. The Government, by its encouragement of another great forward leap in motor car production, is plunging us blindly into an even worse crisis in the cities. The increased bank rate may intensify still further the financial handicaps under which the planning authorities labour. Mr. Marples' study group is obviously a long-term project. It is impossible to conceive of a road building programme large enough to keep pace with the motor manufacturers, and a road building programme by itself can solve nothing. When is the Government going to recognize that planned urban renewal is more important than the unlimited production of motor cars?

WHY NO COSTS ?

This week we publish the new BSI Centre at Hemel Hempstead. In view of the importance of this building as the prototype essay in 4-in. modular planning produced by this country for the EPA Project, and the fact that it is for a public body in a new town and wholly financed by public money, it is surprising that costs have not been made available for publication. The JOURNAL series of Buildings Illustrated is well established, and for a public authority to refuse to release cost information can only cause grounds for suspicion, however unjustifiable it may be in this case.

A BAD SIGN

It is an excellent thing when members of a trade association prescribe minimum standards below which none shall fall. It is quite the other way when they at the same time prescribe maximum standards above which none shall rise. A case in point is the new code of practice published by the Master Sign Makers Association. This code does indeed call for compliance with the standards set down by other authorities (BSI, IEE and the Local Authority); but its main concern appears to be to make the sign maker's life an easier one. The most questionable provision is that no member is to offer a guarantee on a neon installation for longer than six months. Once a trade association becomes known to the public for the limitations it sets to the performance of its members, people will turn to the services of those outside it.



A GRIEVOUS SHOCK

It was a grievous shock to learn on Monday of the death of David Nenck

and Peter Floud. Both were in their 40s, Floud being 48 and Nenck only 43. Both were civil servants, Nenck being Under-Secretary for Finance and Accountant-General at the Ministry of Education, and Floud Keeper of the Department of Circulation at the V and A. Neither was an architect or well known to the public: yet few architects have contributed so much to post-war architecture as Nenck, or so much to an understanding of Victorian (and so of modern) architecture as Floud.

PETER FLOUD

Peter Floud did not begin to impinge on the world of architecture until his great exhibition of Victorian and Edwardian Decorative Art in the early fifties, but he had a distinguished and adventurous career before that, having been head of the UNRRA mission to Albania, as well as running the Circulation Department of the V and A since 1947.

Looking back, I feel that exhibition was a real landmark. Once one had seen it and digested its scholarly cata-

logue, the home life of the most eminent Victorians ceased to be a morass of bad taste, and began to appear as something with a progressive and often daring drive towards improvement and simplification. As a result, the pioneers of the modern movement ceased to look like lonely giants at war with their times, and began to take their place in history. The revision of ideas that this triggered off (*Who were the Pioneers of the Modern Movement?* asked a meeting at the ICA) was carried further by Peter Floud himself, with his studies of William Morris and of the fields of design, such as textiles, in which Morris was interested. He was our most distinguished newcomer to the under-manned sphere of serious Nineteenth-century studies.

DAVID NENCK

The death of David Nenck is a particular loss to those architects who have served or are serving in the Architects and Building Branch at the MOE, of which he was the administrative head from 1950 to 1955, and where he made an immense contribution to the revolution in school design and cost. By his intense interest in the work of architects he immediately became their personal friend—a friendship that remained unchanged by his promotion to Accountant-General.

*

This friendship was cultivated in many ways: by his sharing technical, cultural and recreational pursuits of all kinds, but perhaps most of all by dropping in for a talk over the desk or the drawing board. He could see the architects' contribution more clearly than they could themselves, and by the continuous application of his powers, architects and administrators concerned with building in other fields besides education are able to work more effectively today. David Nenck was that very rare type of man who, with his understanding of the temperament of creative people and with his clarity of vision and administrative ability, is so urgently needed to harness professional skills so that they may serve not merely themselves but their country.

A BROAD HINT

The other week I reported that no-one wanted to go to the Aegean on a Florence Scholarship. Perhaps some of you would prefer the United States. It is not as difficult to get there as you

might think. For instance, Harvard's Graduate School of Design is offering an impressive list of scholarships in architecture or landscape. Apply before March 15, or—if you favour an even greater attraction—apply by March 1 to Pennsylvania University. Ian McHarg is running what Peter Shephard (a visiting critic last year) regards as the best landscape course in the world. He tells me there are scholarships worth up to five hundred dollars plus free board and tuition. There are only thirty graduate students (from 10 countries) at the moment and McHarg has assembled a splendid team of teachers, including Gordon Cullen as a visiting critic.

*

By the way, if you *do* want the Aegean, there is still time to apply to the AA, before February 1, for the £100 Michael Ventris Award to Study Mycaenean civilization.

WATCH THIS SPACE

This week there's another example of the patronage of art by big business. The patrons are the John Lewis Partnership, who want an artist to provide a partnership symbol on their new building between Oxford Street and Cavendish Square. On the south-east corner of the building is a high blank panel (visible from Oxford Street) which is waiting to be embellished by sculpture, a mosaic mural or some other art form. Five people have agreed to submit designs in a limited competition: Ralph Brown, Geoffrey Clarke, Stefan Knapp, Han Tisdall and the two artists who have been experimenting so successfully with mural techniques for the LCC, Mitchell and Holloway. The competition will be judged, at the end of April, by Sir Hugh Casson, Robin Darwin, Sir Gordon Russell, J. M. Richards, and R. E. Uren, who is the architect of the building. And the winner, who will have to produce something pretty robust to stand up to the hurly-burly of Oxford Street, will have to finish his work by October.

BLUNDERS IN BRYANSTON SQUARE

Although individual buildings in London can often be protected by schedule, it is almost impossible to preserve whole squares and terraces. The bottom picture on this page shows a block of flats that is going up in Bryanston Square which, until its west side was



Sir Albert Richardson's design (top) and W. Russell Orme's (below) for Bryanston Square. See ASTRAGAL's comment.

bombed, was one of the finest Georgian squares in London. This nondescript building, by W. Russell Orme, has upset quite a lot of locals—including Lord Mancroft and Brinsley Ford (a trustee of the National Gallery). But their objections came too late, after the LCC had given its approval and the framework was partly in place.

*

One of the saddest things about the story is that many of the complaints have come from people who were in favour of a very much bigger scheme—a scheme by Sir Albert Richardson (top picture) for much of the west side. This pseudo-Georgian terrace would have been two storeys higher than other buildings in the Square and would have had no real relationship to it. And yet it was approved by the LCC in spite of objections by the Royal Fine Art Commission.

*

What worries me is that the first one hears of these schemes is often when

building starts, for no public inquiry has to take place if a scheme is approved. Whatever the merits of these two schemes their combined effect is deplorable.

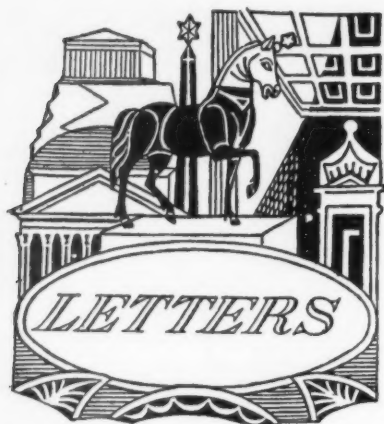
ALL WHOSE OWN WORK?

Architects are still the poor relations of other artists. I can't imagine *The Guardian* publishing a picture of a sculptor standing beside one of his works without giving us the man's name. Yet the other day it printed a photograph of a nameless architect pointing to his brain child. The design was the new grandstand for Ascot; the architect was E. V. Collins, who did the job with fellow members of Wimpey's staff.

MY MISTAKE

My apologies for a slip of the pen, to Sir Alfred Bossom, who has, of course, been a baronet for many years. His New Year honour was, in fact, a barony.

ASTRAGAL



James Nisbet, F.R.I.C.S.

"Architect Competitor"

*R. P. Harris, A.M.P.T.I.,
A.M.I.Mun. E.*

*Richard Edmonds,
Chairman, Town Planning Committee, L.C.C.*

*Jack Pritchard,
Director & Secretary, Furniture Development Council*

P. G. Forbes

*Peter Cowan, Tony Howard,
A./A.R.I.B.A.*

A. Upton, A.R.I.B.A.

D. C. Croghan

*Alison Imrie,
Press Assistant, Timber Development Association
Maurice Hall, F.I.A.S., F.C.I.I.*

Costs Complimented

SIR: Just a note to convey my heartiest congratulations on the publication of over 170 cost analyses all of which were listed in your issue of January 7.

The analyses published over the last five years have involved a wide variety of buildings, clients, architects and quantity surveyors and have amply demonstrated that there are few objections to the publication of building costs. The form of analysis has been surprisingly versatile and the fact that your Study Group could confirm it with only one major alteration is not without its significance.

As the Group's report indicates the form of analysis is not perfect but it has proved to be a practical working instrument and is a great improvement on previous practice. Now that the definition of the elements have been published the quality and usefulness of the analyses should be further improved.

But even as they stand the 170 or so analyses, with the photographs and drawings, probably constitute one of the best collections of cost information related to completed buildings which is currently available. As such it represents a unique service and an outstanding contribution to the

efficiency and wellbeing of the building industry. Long may it continue!

No doubt the ARCHITECTS' JOURNAL would be the last to suggest that 35 or so cost analyses is good enough for an industry spending £2,000 million per year. It now remains to be seen whether other bodies will follow your enterprising example and extend the volume of cost analyses which is readily available to architects and quantity surveyors.

JAMES NISBET

Cobham

Competition by Tender

SIR: The present publicity on this subject indicates the widespread anxiety by both architects and developers on this system which involves much hard work by many, and sometimes heartburning as well. A lot of discussion will take place undoubtedly before a satisfactory solution to this problem will be achieved, but in the meantime, would it be too much to ask that all the schemes submitted should be publicly exhibited *before* the final decision is made so that everybody can see what they are going to get before it is too late to do anything about it. This applies particularly to the two large schemes at present under consideration—The Bull Ring, Birmingham and the Elephant & Castle London. Will the Birmingham Corporation and the London County Council agree to this, or must they make their decision behind closed doors?

"ARCHITECT COMPETITOR"

London

Planning Inquiries

SIR: ASTRAGAL in your Christmas issue spotlights a point, the full significance of which has not as yet, in my opinion, been fully appreciated by corporate members of the Town Planning Institute.

Members of associated professional institutions may continue to represent clients at public inquiries, but members of the Town Planning Institute have lost the rights which they would otherwise possess as laymen.

This is the cost of securing the Institute's Charter, which some members may feel is too high a price to have paid, and should never have been accepted by their Council without prior reference to the members.

R. P. HARRIS

Woking

The editors write: The Royal Charter of the TPI, granted last year, prescribes (Clause 6 [3]) that "no member shall carry out the work of an advocate unless he is a solicitor or barrister." This provision, we understand, was inserted to meet the wishes of the Law Society and of the legal members of the TPI. Its effect is that an architect member of the TPI, or any other member except a legal member, may not represent his client at even the simplest town planning inquiry. The client must go to the expense of employing a solicitor, and junior and senior counsel if necessary. Only the solicitor may examine witnesses, and the cost of representation at

a town planning inquiry is enormously increased. Fortunately architects who are not members of the TPI have not entered into this conspiracy with the legal profession. We are advised, moreover, that it is doubtful if the provision in the TPI Charter could be legally enforced, and it is of course open to the TPI members to petition for the amendment of the Charter.

Advert-Architecture

SIR: The letter from Geoffrey L. Price in your issue of January 7, 1960, attributes to Mr. Hubert Bennett, the Architect to the London County Council, the idea of "large-scale illuminated signs on many of our larger new buildings."

In his evidence at the public inquiry Mr. Bennett was putting forward the views of the Council embodied in its resolution of October 21, 1958, that the policy of retaining Piccadilly Circus as a cheerful centre of London's entertainment world should be continued and fostered by the approval of architectural schemes which could incorporate illuminated signs in the design, so producing pleasing buildings by day and animation by night.

Surely Mr. Price is unduly apprehensive. Illuminated advertisements are one of the attractions of Piccadilly Circus; but it is widely accepted that Piccadilly Circus is unique and other places where comparable illuminated advertisements might be appropriate must therefore be very few and far between; the Elephant and Castle has been mentioned as one possibility. In any case, it seems unlikely that the authorities exercising control under the Town and Country Planning (Control of Advertisements) Regulations would agree to similar displays in many other places, and the most careful consideration would be given by the Council and the Borough Council before any approval were given.

RICHARD EDMONDS

*Chairman of the Town Planning Committee,
London County Council*

Changing Furniture

SIR: Under the title "High Fashion Furniture?" you refer to a statistical report recently published by the Furniture Development Council. Our report states that "the average life of a piece of furniture in this country is now about 20 to 25 years" and goes on to say that in America it is about 10 to 12 years.

The report suggests that as real incomes increase, the consumers can afford to change their furniture more often. The report goes on to suggest that if the public could be persuaded to take as much interest in their homes as they appear to do in their motor-cars, they would change their furniture more often and "the average life" would be reduced below the present figure.

As you yourself know, much of the research now carried out by this Council is aimed at increasing the durability, strength and convenience of furniture. This work helps to increase the value for money offered by the furniture industry and we hope increase its

competitive power with other consumer durables.

We do not say in our report, as you seem to think, that the "public should be jerked out of its ideas that furniture ought to last 20 or 25 years" (it will probably last longer, anyway) but why shouldn't we change our furniture more often and take advantage of new materials, new processes and new designs?

JACK PRITCHARD
Director and Secretary,
Furniture Development Council

Teaching Building Crafts

SIR: I beg leave to correct the statement in the report on the training of architects in Birmingham (AJ, October 15) that normal classes suffered surprisingly little.

The time spent by craft teachers on the pupil architects was time which should properly have been devoted to and which was originally scheduled for craft apprentices. The result was that whilst pupil architects were being taught craft techniques, even though they didn't master them, the apprentices were neglected. These architects' classes are all additional to normal craft teaching timetables, always full to the brim, and replace periods required for preparing lectures, experiments and workshop exercises, etc., etc. Whilst these periods are spent teaching craft techniques to people who have no real intention of using more than their theoretical application when training is completed, the teaching of apprentices whose very livelihood may depend on their mastery of the techniques is seriously neglected.

A much better arrangement all round would be for the pupil architects to design work to be done by the apprentices. The pupils could then pay occasional visits to see how their scheme is progressing, to see any snags which have occurred and to help decide on how they are to be overcome. Will not both parties concerned have to do just this in practice? Or isn't building largely teamwork any more, with each member an expert in his own line?

P. G. FORBES
(Craft Teacher)

Birmingham

18,000 Marbleheads

SIR: Though not falling into the Polygut of other categories recognised by Dr. Banham (AJ, Jan. 14), we wore our respective whiskers to Dr. Margerison's absorbing lecture and strongly echo the comments on the deadheads who just don't want to know. It is not often that we have the opportunity of hearing speakers of the calibre of Dr. Margerison on his type of space—the astrophysical type, not the "plastic expression of meta-physical experience" clobber.

However, due credit should be given to the RIBA for presenting the lecture and all the bright young things who absented themselves have only themselves to blame if the Institute just forgets there was ever such a thing as twentieth-century science and reverts to "Eighteenth Century Follies and Their Influence on Edward Clagg." Nevertheless,

we need not abandon all hopes of salvation, as there are indications that Portland Place is beginning to take science seriously and may even contemplate further discourses on all sorts of interesting subjects—perhaps in less awe-inspiring surroundings. Let's hope that, if we are lucky enough to have these meetings, some of the art-boys will open their bleary eyes sufficiently to find their way to the Institute and give distinguished visitors the idea that architects are interested in 1960 and all that it implies. They might even rehearse by trying the Masevich lecture on "The Conquest of Space" (RFH, February 6).

On the showing at the RIBA, scientists would be quite justified in classifying architects, along with stockbrokers and battle-ships, as redundant.

PETER COWAN,
TONY HOWARD

London

SIR: If only the RIBA lecture seats were fitted with portable radios! Conscientious members might then risk a dull evening, they could always switch on "Building Matters" to relieve the boredom. Alternatively, the RIBA could break away from Tuesday meetings. Last week's BBC programme was a must on "International Building."

London

A. UPTON

Were Architects Afraid?

SIR: It has been encouraging to hear that the architectural profession has rallied strongly behind the Civic Trust at the Piccadilly Circus enquiry.

Just the opposite happened in Cambridge at the recent enquiry into the proposed commercial exploitation of the Lion Yard area in the centre of the city. The proposals of Edger Investments (illustrated in your issue of May 28, 1959), abetted by the County Council as local planning authority, were of such a nature that the present and future character of Cambridge became seriously prejudiced.

On this occasion several well-known architects were invited to support an alternative proposal for more moderate development by appearing as expert witnesses. They all declined, though they made no secret that their sympathies were on the side of this alternative proposal. It seemed that on this occasion they did not wish to become involved with a complex issue; they were affected lest their hoped-for future activities in Cambridge might be adversely affected; they were unwilling to face that doyen of the Public Enquiry, Sir William Holford, who was appearing as a not very disinterested expert witness for the local planning authority. Or, maybe, they were just discouraged by no offer of a fat fee and the relatively small publicity value of affairs in the provinces when compared with those in the West End.

Whatever the motives for non-support in a

cause of much greater intrinsic significance than Piccadilly, one thing is certain—the absence of architect witnesses was noted by the layman and an unpleasant taste remains.

D. C. CROGHAN

Cambridge

Not Patented

SIR. In your feature on "Stands at the Building Exhibition" (December 3, 1959), referring to the Timber Development Association's exhibit you state that "The Timber Development Association . . . has devoted this stand to timber roof systems in cross-wall construction and a number of these are, in fact, patent systems exhibited by different manufacturers."

I should like to point out that none of the systems exhibited at the TDA stand were patent designs and none were exhibited by individual manufacturers. The designs exhibited by the TDA are available to all on application and do not involve the use of any proprietary design or product.

ALISON IMRIE
Press Assistant,
Timber Development Association

London

Glazing Materials

SIR: Your short report on the meeting convened by the Building Research Station in November (AJ, December 17, 1959) finished with a note on the fire aspect. Langdon Thomas mentioned that the very low melting point of p.v.c. glazing will provide early "ventilation" of a fire through a factory roof (plain glass does the same on shattering) but the circumstances in which this may be desirable are rare and arguable.

More frequent are the cases where glazing should be fire-resisting. This applies particularly to "borrowed lights" on stairs and corridors which may be escape routes in case of fire. On a north London Victorian estate which is being modernized, light for the foot of stairs is borrowed from semi-basement kitchen/dining rooms. The use of plain glass makes it almost certain that the stairs would soon be enveloped in fire and smoke, and the occupiers in attic bedrooms at the top would be lucky to escape. There is of course, no breach of by-law requirements but such callous disregard for fire safety is difficult to understand. The same sort of hazard is encountered in buildings with lights borrowed for "dead end" corridors, i.e. corridors from which escape is possible at one end only.

A fact that may discourage the use of fire-resisting glass is that reeded and similar ornamental glasses are not made in fire-resisting form. Etched or sanded wired glass does not seem to be an acceptable alternative. If glass manufacturers would agree to make a really attractive looking, obscure, fire-resisting glass they could make a real contribution to fire safety in buildings.

MAURICE HALL

Ockley



This plan, redrawn from one produced by the LCC at the Piccadilly Circus Inquiry, shows the sites where early redevelopment seems probable in the area between Piccadilly Circus and Charing Cross Road. The alarming thing about it is that outline planning permission has already been given by the LCC for the Trocadero site (5) and a site (16) in Lisle Street, although no plan for this area, advisory, official or otherwise, has been published or (so far as we know) approved for any purpose by the LCC or its Planning Committee. The map would lead one to suppose that the area may be redeveloped piecemeal on the existing pattern of narrow and congested streets, although on very much larger sites. The map also shows some of the obsolete property, and the obsolete street pattern in Soho where piecemeal development is already taking place. Mr. Dulake, the chartered surveyor who gave evidence for the Civic Trust, suggested that the area bounded by Brewer Street, Wardour Street, Coventry Street and Jermyn Street be defined as a comprehensive development area. Moon's Garage (4) clearly obstructs redevelopment of the block in which it stands. Key to sites: 1. Application by T. P. Bennett and Sons refused by Minister on Appeal. Further application in June, 1959; no decision yet. 2. Scott's Restaurant: no application, but part of site required for road improvement. 3. The Monaco site. 4. Moon's Garage, acquired as garage for Monaco site. 5. Trocadero site: outline permission on whole island site granted to F. T. Willis

and Son, May, 1958. 6. Lyons Corner House. 7. London Pavilion; to be demolished for road improvement when leases expire in 1965. Owned by LCC. 8. Application by Leslie C. Norton, May, 1955. No decision. 9. The Criterion site. No application, but redevelopment proposed in second stage of LCC Advisory Scheme. 10. Gaumont Cinema. Application by Shugler and Risdon for office, showrooms and theatre, granted February, 1958 (on appeal). Application by Leslie C. Norton for use of existing building as cinema, shops and offices; conditional permission, June, 1959. 11. Lyric Theatre. 12. Peter Robinson block. Application, Stone Thoms and Partners for restaurant, dance hall, shops and residential; no decision. 13. Applications refused in 1955, 1957. Application by Owen Luder, August, 1959; no decision. 14. Application by Corvill and Matthews, May, 1958, refused. 15. Application by Leslie C. Norton, August, 1959, for 180-ft. office block, multi-storey car park, shops, cinema, restaurant and flats; no decision. 16. Application by Carl Fisher for theatre, clubs, shops and offices; outline permission granted, August, 1959. 17. Application by Chapman, Taylor and Partners in August, 1959, for buildings with mixed uses, including cinema, theatres, restaurant, shops, offices, flats, fire station and church; no decision. The tinted areas are freeholds owned by the LCC.

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IDEAS FOR PICCADILLY CIRCUS

Peter Rawstorne reviews the alternative solutions suggested by architects at the Piccadilly Circus Inquiry

On the tenth day of the Piccadilly Circus Inquiry Professor John Grace (School of Architecture, Tulane University, New Orleans) commented: "I am amazed at the way in which my professional colleagues have submitted to a process of brain-picking without this being challenged."

Although perfectly right, Professor Grace seemed not fully to appreciate the reason why top-flight UK planners and architects willingly allowed this "brain-picking" to happen at all. They appeared at the Inquiry because they wanted to see something better than the mediocre little monster cringing on the north side of the Circus.

Every opposition witness demanded comprehensive planning and vehicle/pedestrian separation. Four alternatives were suggested by architects (Jane Drew, Noel Moffett, Thomas Sharp, and A. E. Mathews) as the kind of thing that is possible. They were not final solutions.

Jane Drew

Jane Drew (Fry, Drew, Drake & Lasdun) kept one foot firmly on the ground and suggested "a scheme that they could do now," conforming closely to the LCC advisory scheme of October, 1958. Retaining, broadly, the existing street layout but adapting

slightly the existing building lines to north and east, she concentrated on a traffic-free, ground-level, paved area and a people-traffic-people sandwich of three-level (basement, ground, and first floor) vertical separation.

Her proposed piazza, like the LCC's, would sweep out from a new or adapted Criterion block on the south, enclose Eros, stop opposite a squared-off Monico site and turn back on a corner which would straddle the present London Pavilion, which is owned by the LCC and will be removed anyway when the lease expires in 1965. By kinking Shaftesbury Avenue and bringing it in at a more sensible angle to the now rectangular Circus (Dr. Sharp also suggested this) she would add about 100 ft. more to the frontage of the Monico site.

Within her proposed piazza itself would be a large open well, daylighting an extensive basement concourse linked to the Underground and containing more shops and circulating space than at present. This should please the LCC's chief architect Hubert Bennett with his known addiction to underground solutions. An extensive system of outlets (stair and escalator) would link this basement area with the perimeter sidewalks around the piazza and this open area itself. Above ground would be a pedestrian bridge 16 ft. 6 in. over the road and linking the buildings to north and south and extending fingers in other directions. There would be some shops and a restaurant on the bridge but none at ground level.

Noel Moffett

Noel Moffett (Senior Lecturer, Department of Architecture, Kingston School of Art) produced what he called "a few rapid sketches" to illustrate his ideas and show that they were practical. They suggest a large-scale overall development surrounding an intimate, human-scale elevated piazza larger, all the same, than Trafalgar Square. Making use of the land fall from north to south, he raises Eros (steps and all) on to a 20-ft. high piazza, puts two and three floor parking (2,200 cars) with shops and restaurants below it, connects it to perimeter buildings by overhead walkways and makes all

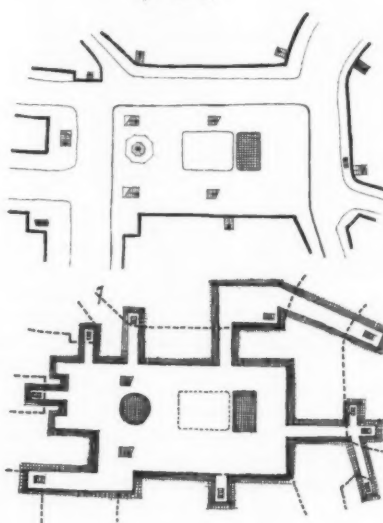
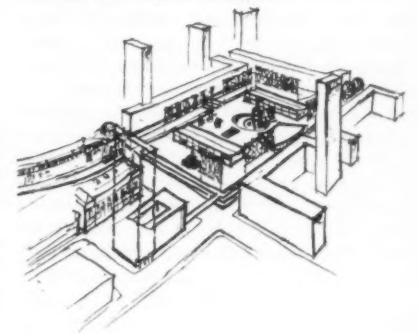
traffic go round it in new, one-way roads 40-ft. wide or more.

Seeking complete traffic separation he would also entirely remove large-scale advertising in neon lights from the buildings. "Design noble buildings and good advertising," he said, "but do not try to do the same together."

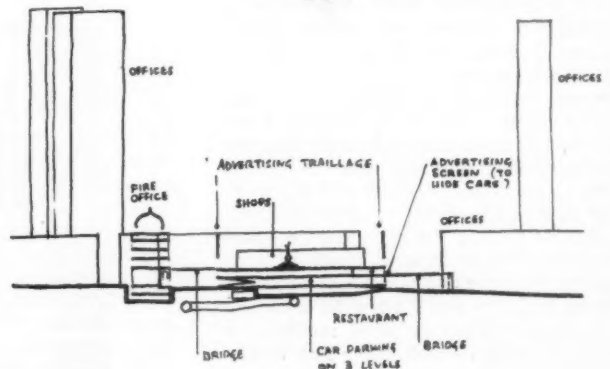
He would restrict the height of signs to a maximum of 60 ft. and fixing them onto open frames (treillages) housing their electrical gear. These treillages could be wide, two-way-facing panels on the perimeter of the piazza (in lines, staggered, or at right angles to each other) to more or less enclose it. Within this scaled-down enclosure would be free-standing metal assemblies carrying smaller advertising.

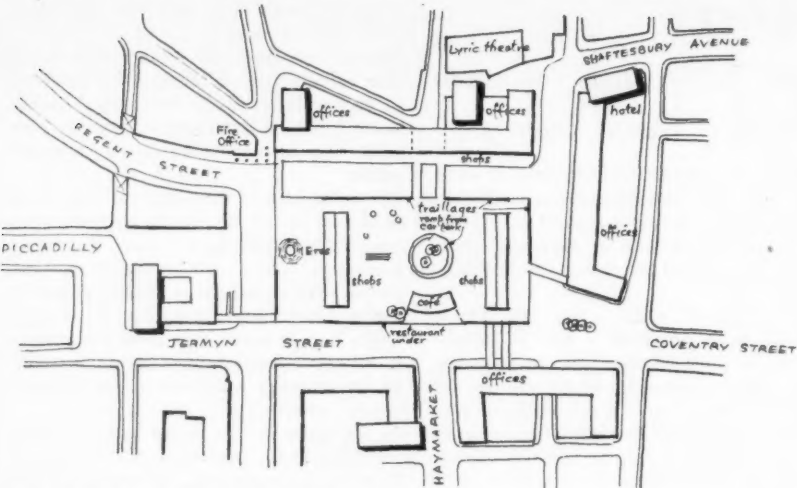
In the centre of this piazza would be lifts, escalators and a circular ramp down to the Underground concourse. At strategic points on its perimeter would be pedestrian bridges spanning the roadway and feeding onto surrounding sidewalks by escalators. Enclosing the piazza, except on the west where Swan

Below, Noel Moffett's scheme in perspective, from a pedestrian Piccadilly, and in section.



Left, Jane Drew's scheme seen in perspective, and in plan at ground and basement levels.





Plan of Noel Moffett's scheme at Piazza level.

& Edgars and the County Fire Office would remain, would be entirely new buildings to a related design and about six floors high. Behind these would be high (350 ft.) office or hotel towers. There would be no ground floor shops in perimeter buildings. These would either be on *piloti* or contain only display windows for the shops above. Office entrances could be from streets behind. Apart from a total rejection of the Monico project, his ideas would entail extensive demolition on the east and the south. Lyons Corner House, Simpsons and the Criterion block would go completely and Jermyn Street (widened) would connect in almost a straight line from a re-routed Piccadilly on the west to the New Coventry Street entrance to Leicester Square on the east. The end of Piccadilly itself would be closed to form a minor pedestrian precinct. Although enormously costly, Moffett's bold scheme at least puts a much-needed tight fist on the sloppy layout of the area.

Thomas Sharp

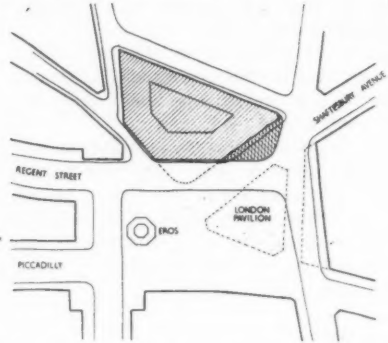
Calling for "substantial national financial backing" to radically develop the Circus as a whole, Dr. Thomas Sharp (P.P.T.P.I. & P.P.I.L.A.) suggested an underground traffic roundabout and a traffic-free upper level left much as it is at present. Taking advantage of the fall in levels from north to south, his roundabout would be more of a U than an O and, with a gradient of 1:15, it would be possible to drop down 20 ft. with ramps about 350 ft. long. Thus part would emerge almost directly into the open and relatively short approach ramps would not interfere with existing above-ground building. He did not illustrate this idea with drawings. It was considered in 1957 by a sub-committee of the LCC Town Planning Committee, and the idea was rejected as impracticable. Taking the LCC plan as a less practical solution, Dr. Sharp said that either the Monico site should be left undeveloped until the London Pavilion could be pulled down in 1965 or its lease should be compulsorily acquired to allow it to be pulled down now. This would allow the lower end of Shaftesbury Avenue to be re-aligned to canalize traffic more definitely than at pre-

sent in the north-east corner of the Circus, it would add 100 ft. onto the frontage of the Monico site, and produce a squared-off site that would allow more satisfactory architecture than the present shapeless mess. If his more ambitious solution of underground roadways was impossible, he suggested that the whole of the perimeter sidewalks of a new Circus should be arcaded with walkways much wider than the present 15 ft. width. He was against overhead pedestrian bridges, disliked tower blocks in the area, and he wanted to see the existing scale adhered to with an enclosure of new

buildings no higher than those existing.

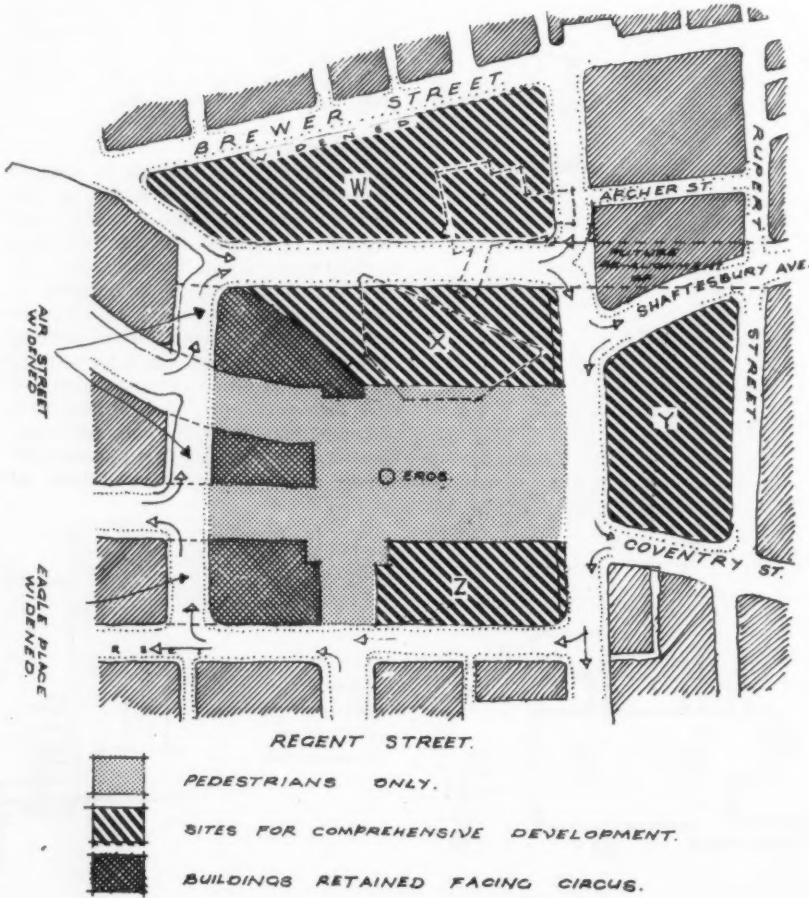
A. E. T. Mathews

A. E. T. Mathews (Covell & Mathews) suggested a scheme to close the whole of the Circus to traffic, and to surround it with a huge roundabout that would take traffic round the other side of the perimeter buildings in new and widened streets. Leaving the Café Royal alone he envisages cutting a new road eastwards through the Regent Palace Hotel, to connect with Shaftesbury Avenue, and rips a new road on the west through Regent Street and Piccadilly on the line of the existing little thoroughway, Air Street.



Above, Thomas Sharp's suggestion for extending the Monico site. The present site is shown in outline, the site of the proposed development is hatched, and Dr. Sharp's extension is cross-hatched.

Below, A. E. T. Mathew's plan for a roundabout, with some very acute traffic angles, outside the Circus.





COMPETITION

Flats in Westminster

The Westminster City Council is to promote an Architectural Competition for redevelopment for housing purposes of a site bounded by Vauxhall Bridge Road, Churton Street, Tachbrook Street and Rempayne Street, having a total area of about 13 acres, and has appointed Mr. Philip Powell, of Powell & Moya, as assessor. The Council intends to publish particulars of this competition during May or June, 1960. Powell and Moya were, of course, themselves the winners of the Westminster City Council's Competition for the Churchill Gardens scheme in Pimlico.

LMBA

The new Directors

Dr. C. A. Hart, D.Sc. (Eng.), Rector and Principal of the Nigerian College of Arts, Science and Technology, has been appointed to succeed G. H. A. Hughes, as Director of the London Master Builders' Association. He will take up his duties as Director Designate at the beginning of April and assume full responsibility on September 1 when Mr Hughes retires.

Dr. Hart was formerly the holder of the second Chair of Civil Engineering at University College, London, has been actively concerned in building research for most of his life. He was appointed C.M.G. in 1958.

COURT OF APPEAL

What Is Negligence?

The Court of Appeal has refused to hold an architect liable for negligence, taking the view that even if his advice was wrong, a wrong opinion was not necessarily negligent if he had acted with reasonable professional skill.

L. R. Armitage, a chartered accountant of Enfield, appealed unsuccessfully against a judgment dismissing his action against E. William Palmer and Partners, architects, Enfield, for damages for alleged negligence in designing and siting a block of flats on his land.

Giving judgment, Lord Justice Harman said that after the builders had started digging trenches for the erection of the flats in accordance with the architects' drawings, Mr. Golledge, of 65, London Road, complained that the building would infringe his right to light. Mr. Armitage then sent for the architects' senior partner, Mr. E. W. Palmer, who said that the proposed building would infringe the neighbour's rights.

That was an astonishing admission for an architect, and it was admitted that it was a breach of his professional duty not to have warned his client. Mr. Palmer suggested turning the building which would have the effect of putting it 4 ft. 6 in. further from the boundary, and said that the building would then be all right so far as the neighbour's rights were concerned. This was the negligent advice alleged, and it was said to be wrong advice.

Mr. Golledge took the advice of a light specialist, who contended that Mr. Armitage could be compelled to set back his building so that he could have only three instead of four flats. Mr. Armitage also took expert advice and eventually the action was settled by an agreed order under which the slope of the roof and the height of the eaves were altered. Mr. Armitage sought to recover from the architects some £830 expenses he had incurred, as a result.

In the upshot, it was not for the court to say that the advice Mr. Palmer gave when he advised turning the building was right or wrong. Two experts on the very technical subject of light had been prepared to go into the witness box to give opposite views as to whether he was right or wrong. In such circumstances, could it be said that Mr. Palmer's advice fell below the standard demanded of an architect that he should act with reasonable professional skill and competence? His lordship did not think so.

Mr. Palmer had cured his original negligence when he advised turning the building. He did not then leave out any precaution an architect should have taken except perhaps in not going into the room in Mr. Golledge's property to see how the light might be affected. That was not very essential, because he could judge from the size of the window. Assuming that Mr. Palmer's advice was wrong, his lordship would not hold it to be negligent, because a wrong opinion was not necessarily negligent.

The appeal was dismissed, with costs. Leave to appeal to the House of Lords was refused.

CENTRAL HEATING

Small Bore Forum

The Forum on small bore central heating held at the Building Centre on January 13 was well attended but brought forth few, if any, facts over and beyond those given in the two articles on this subject published in the JOURNAL two years ago (November 17 and 24, 1957). The writer of these articles, D. V. Brook, of BCURA, was one of the main speakers at the Forum, the other being Peter Matthews, senior construction master at the AA, and Gontran Goulden was in the chair. Small bore central heating is not a

hotly contested subject like electric under-floor heating and Gontran Goulden appealed in vain for speakers who would say anything against it. The evening was spent in a patient, lucid exposition by Mr. Brook of what the system is and does. The only development of importance since 1957 is the great increase in the number of pumps available which can be used for small bore circuits. Mr. Brook was insistent that only pumps of the "canned rotor" type were sufficiently silent. Of these BCURA has tested no less than 18 different models and 10 have passed muster. A subsequent enquiry reveals that these 10 are: Bush Perfecta 1½ in. duty H; Bush Perfecta High Pressure; CTC Silentpump 3½ in. Impeller; Opio Type C90; Radax Type H42-1; Rovi Type HP.02; Safrax; Sigmund ThermoPak CR1-B; Sigmund ThermoPak CP2/H; De Blora Type 0.

Some of these pumps are made to larger sizes so that the original limitation of small pipe central heating to houses of not more than 1,500 sq. ft. no longer applies. There was some discussion on installation costs. The BCURA field trials (carried out four years ago) showed that the average cost of a small bore installation in a 1,200 sq. ft. house was £320. One speaker said that he had difficulty in getting tenders as low as this. Other speakers remarked on claims by the oil and gas interests that small bore installations cost less. Mr. Brook thought that this latter discrepancy was accounted for by the fact that those who gave lower figures were, in fact, quoting for installations which supply only background heating.

SHELL STRUCTURES

International Association

Following a symposium held last September at Madrid and devoted to Non-Conventional Processes of Construction, an international committee has recently set up an International Association for Shell Structures. This Association will hold congresses and symposia and will deal "not only with reinforced concrete shells, but also with other materials, such as reinforced ceramics, metals, wood, plastics, etc., when these form a continuous surface, and also when a plane structure consists of triangulation or cables, such as hanging shells." English representatives on the Committee are Professor A. L. L. Baker and R. S. Jenkins. The subscription is \$10 a year and the address of the Secretariat is: International Association for Shell Structures, Alfonso XII, 3, Madrid (7), Spain.

PRE-STRESSING

British Bridge Design

A correspondent writes:

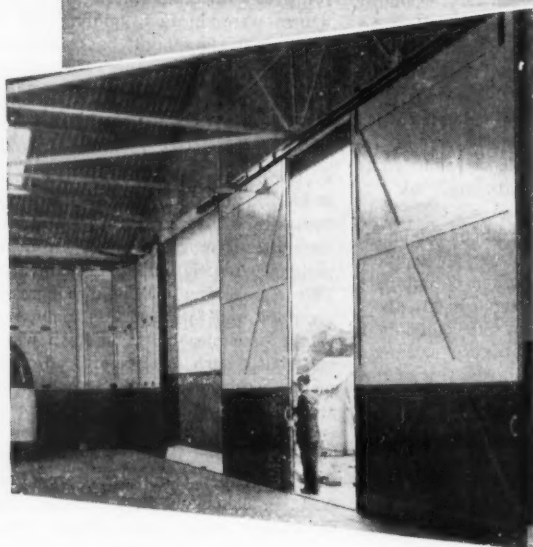
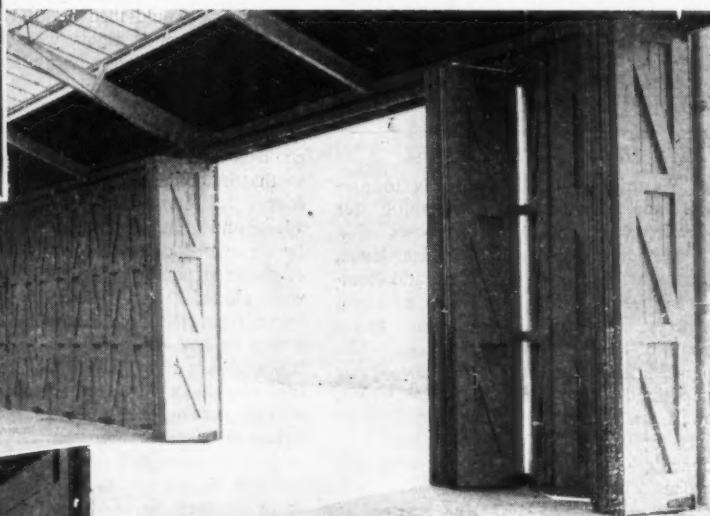
The Prestressed Concrete Development Group's annual manifestation combined two exhibitions and a series of lectures on bridge design; they formed an interesting contrast. The main exhibition consisted of a series of photographs of notable works and examples of equipment marketed in this country. It was impressive; there was a sense of achieve-



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ment about it; the days of fumbling are gone. Prestressing has clearly taken root and flourished in this country as in few others; particularly is this so in the field of building.

The exhibition downstairs was composed of drawings and models of prize winning and commended entries for the Group's recent competition for the design of an elevated motorway. The assessors had damned the entries with the faintest of praise; none, they said, was really adequate and all had defects of varying magnitude. Note that the great Finsterwalder, who had actually built elevated motorways in prestressed concrete in Germany, submitted a scheme—which was placed fifth! Now the schemes can be seen in the round, the assessors' report takes on a faintly ridiculous air; these are sound structures and not ungainly ones at that. There may well have been inadequacies of presentation and, for all we know, errors in calculation, but none of these schemes looks as if it could not be induced to carry the loads; in all, the assessors seem to have conceived their task as one of marking examination papers rather than of appreciating structures.

This competition leads us from the wide fields of general civil engineering, where the health of prestressing is robust, to a field which in this country at any rate is much narrower—that of bridges, where prestressing suffers a curious malaise.

Mr. Adams of the Ministry of Transport opened the meeting. What was expected to be a brief introduction became a lengthy defence against the criticism which has been voiced these last few months. This criticism is basically one of technical inadequacy, and it is one to which he who is criticized cannot answer. The Civil Service tradition of silence is often unhappy; it should have been observed here.

The answer could have come from Goldstein's paper on prestressed bridges in Britain. We had already heard that there were some 400 highway bridges now in service and Goldstein could have tried to show a picture of achievement in bridge design comparable to that shown by the exhibition upstairs, which would have helped satisfy the critics of the Ministry of Transport. He chose not to do so and we were offered a few comments on aesthetics (balancing of masses and so on) and a series of slides, showing almost exclusively perspective drawings of projects, the larger proportion of which were from his own office.

Now this is a singularly sterile occupation, however attractive one or two of the schemes shown. Little technical information was provided by which the value of the schemes could be judged and even from the point of view of appearance a perspective drawing is notoriously unsatisfactory. As a matter of principle until a bridge has been built, it should not be talked about, so much can happen during construction. To devote the major part of this paper to projects gives the impression that was all that was available for presentation; an unfortunate and inexact impression.

Harris in his paper on Prestressed Bridges

abroad seemed anxious to stand aside from the dispute. Rather than attempt to show how better ordered these things are abroad he spoke of one or two technical novelties—a triangulated bridge in Cuba, a suspension bridge in Belgium and a composite prestressed bridge of steel and concrete in Holland. The last was rather special, the second was curious rather than promising but the first may well represent the next step ahead. Had he wished, he could have made the point that triangulated structures are a major contribution of this country to prestressing; the first application to highway bridges could have been British—but was not.

Rowe then gave a brief summary of structural research work being carried out at the CACA laboratories. An impressive paper; where else in the country is any work at all being done on bridge construction? The meeting ended with a pedestrian account of the honestly pedestrian bridges on the Maidstone by-pass. These gave only minor support to Adams theory that all was well in bridge design; they contrived to be neither shallow nor light and might just as well have been made of reinforced concrete. There, as elsewhere, the County bridges were rather better than the Consultant Bridges. So there was the contrast; prestressed concrete bridgework is dull whilst prestressed concrete general engineering has much that is very good and not a little that is brilliant. What should the Ministry of Transport do? The meeting was followed by a television appearance of A. J. Harris. The initial intention was to demonstrate prestressing, but BBC television decided that Adams' speech had more news value and J. Dayton was brought in to discuss competitive design with Harris. Is there a way out in competitive design? There is little attraction in a general return to the early days of reinforced concrete when every minor bridge was a designers' battlefield. The disadvantages are clear; multiplication of design work many times over, the heavy burden of judging between dissimilar designs and a general opening of the door to all sorts of jobbery.

But what about choosing a substantial bridge, writing a careful functional specification and calling for competitive designs and tenders? The thing has been done before. The Castle Bridge at Shrewsbury was so decided in about 1950 and the winning entry started the present fashion for suspended spans; the Air Ministry arranged a similar competition for the BEA Hangars at London Airport at about the same time and the successful design was the first really large scale prestressed concrete building in the country. Neither of these works could have been done in this way at that time without the open door of competition; both had enormous influence on designs all over the country.

Were the Ministry to do this for a single sizeable bridge, at worst it would show that the County Engineers and that generation of consultants whom they engage are merely representative; at best it could let in a breath of fresh air and provide a new impetus. After the competition, the Ministry would

be in no way committed to continued competition, but they would have a clearer idea of what can be done and it might well modify their policy.

Above all, it might provide what is needed in the bridge world, an example of good design for all to see; not just a drawing or a perspective, but a real bridge carried out for a known price, forming a standard against which all can measure their own efforts. It does not yet exist in this country.

NEWS IN BRIEF

The 1960 programme of the York Institute of Advanced Architectural Studies is now available (from the Director, Micklegate, York) and includes a wider range of subjects than previously. There are, for example, courses on the renewal of town centres, the architecture of new roads, the architecture of new theatres, new ways of servicing buildings, colour in architecture and analysis of architectural forms.

The Hereford City Council has re-designated the post of Architect (Housing) held by Norman Roberts, to "City Architect."

Percy Woodcock has been appointed County Architect to Staffordshire County Council. The appointment becomes effective from the end of June, 1960. He has been Deputy County Architect since 1946. He succeeds A. C. H. Stillman, who proposes to continue architectural work after his retirement in a consultative capacity. G. H. Hopkinson, the Senior Assistant County Architect, becomes Deputy County Architect.

Dr. F. M. Lea, the Director of BRS, has been elected President of CIB, the International Council for Building Research, Studies and Documentation.

DIARY

Brasilia. Talk by Sir William Holford at the ICA, 17/18, Dover Street, W.1. 6.30 p.m.

JANUARY 28

Cleaning Maintenance and Floor Trades Exhibition and Convention. At the RHS, Old Hall, Vincent Square, S.W.1.

FEBRUARY 1-5

High Buildings. Illustrated talk by Professor Robert Matthew at the RICS, 12, Great George Street, London, S.W.1. 5.45 p.m.

FEBRUARY 1

RIBA President's Address to Students: Criticism by Philip Powell of Work Submitted for Prizes and Studentships. At 66, Portland Place, London, W.1. 6 p.m.

FEBRUARY 2

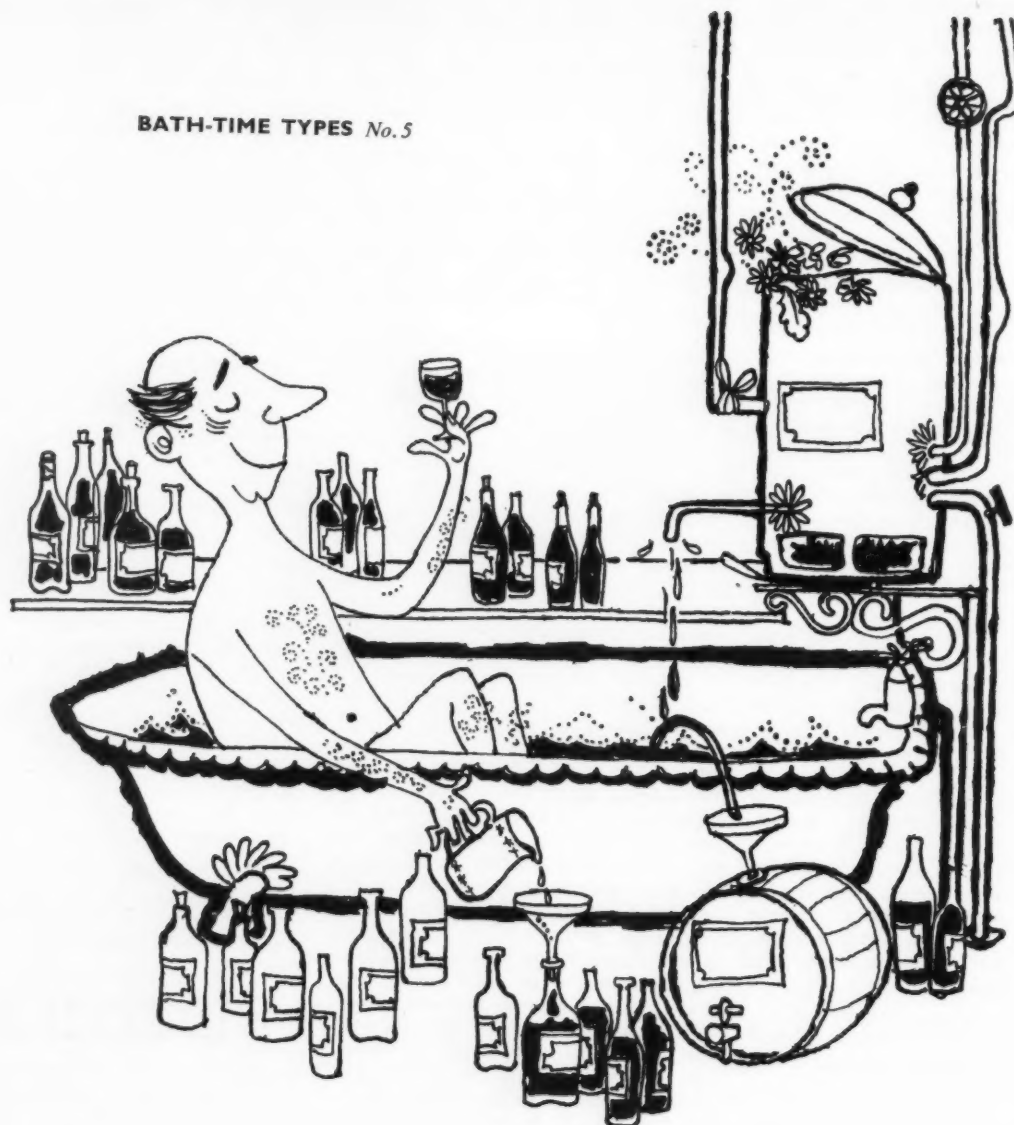
The Social Responsibility of Architects. An illustrated lecture by A. W. Cleeve Barr at the YMCA (Reception Room), Great Russell Street, London, W.C.1. 6.15 p.m.

FEBRUARY 4

Corby Civic Centre Competition. The four premiated designs submitted in this competition. On exhibition at the Building Centre, Store Street, W.C.1.

UNTIL FEBRUARY 12

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THE INDUSTRY

From the industry this week Brian Grant describes a Swiss series of aluminium windows, a sink water heater, radiator valves, shielded light fittings and a floor heating system.

Aluminium windows

Heywood-Helliwell are now making, under licence from the Swiss firm Tuchschnid Bros., of Frauenfeld, a series of aluminium windows which are produced in three types. Series A is for single glazing, whereas series B and C have heavier extruded sections and are suitable for either single or double glazing. The whole range is available with side hung or centre pivoted casements, and series B includes a horizontal or vertical pivoted window opening a full 180 degrees for cleaning. The pivots are concealed within the frames and friction holds the windows in any required position.

At the moment there are no standard sizes, and any limitations are controlled by the maximum available sizes of glass or double glazed units.

The appearance of the windows is excellent and weld marks are not visible. Colour anodized finishes are available in black and gold (the only two which the makers recommend as fast to light) but plain self-colour anodizing can provide a good matt or polished finish.

Costs are slightly more than wood or steel windows, but maintenance should be negligible. (Heywood-Helliwell Ltd., Bayhall, Huddersfield.)

New sink water heaters

Ascots have produced a new sink water heater known as the G.512. The main changes from the previous models are that the casing is removed by tilting it forward, so that less head room is needed above the appliance, and that water is provided at a constant temperature, selected by a separate control, so that there is no longer any need to fiddle with the hot tap. Price is £16 2s. 8d. (Ascot Gas Water Heaters

Ltd., 255, North Circular Road, Neasden, London, N.W.10.)

Radiator control valves

Aerco gunmetal radiator valves have been produced with the idea of providing exceptionally long life with a minimum of maintenance. The valve spindle and seating are made of heat-resistant nylon and there are no glands or stuffing boxes to leak, the makers claiming that no measurable wear occurred after tests equivalent to 30 years of use. Both angle and straight valves are produced, with or without lock shields, and prices start at 14s. (Aerotaps Ltd., Hudson's Drive, Cotteridge, Birmingham, 20.)

New light fittings

The GEC has just introduced a new range of Comfort fluorescent lighting fittings which will provide general illumination levels of to 100 lumens per sq. ft. without any unpleasant glare. The light source is shielded from the eye and the brightness of the remainder of the fitting is low, while the angle of cut-off has been kept down to about 55 degrees. The fittings are made in a series of designs for recessed, flush or pendant mounting, and with single or double tubes. Prices run from about £7 upwards. (The General Electric Co. Ltd., Magnet House Kingsway, London, W.C.2.)

Electric floor warming

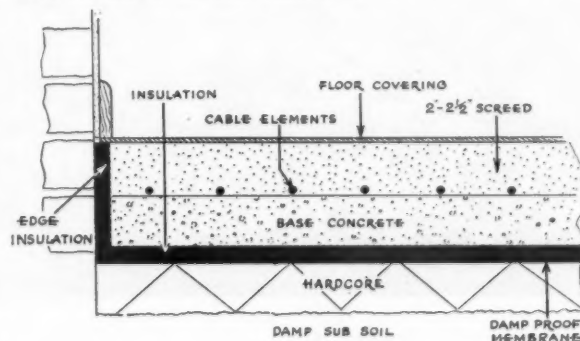
A leaflet from Simplex electric describes their floor heating system, evolved with the Mersey Cable Works. The cables are stocked in several lengths and ratings and this makes it simpler to provide the appropriate wattage without crossing expansion joints. The cables can be laid in two different ways, first, by spiking semi-circular wood formers to the base concrete at the

required spacing and winding the cables round them, or with prefabricated mats, in which the cables are laid to the correct spacing at the factory on a special form of mat and fastened with adhesive. The mat, complete with cable, is then rolled up and delivered to site, where it can be connected up in a few minutes so that the screed can be laid with little danger of damage to the cables. The system seems admirable for blocks of offices, flats or housing estates, as it should be possible to make a considerable number of mats to the same dimensions and loadings.

The booklet contains notes on the appropriate mixtures for screeds, and also points out that with damp subsoils a membrane should be provided in the base concrete, see section. (Simplex Electric Co. Ltd., Creda Works, Blythe Bridge, Staffs.)



Above, a Swiss aluminium window made in this country by Heywood-Helliwell Ltd. Left, section showing the Dimplex floor heating system used in damp sub-soil.



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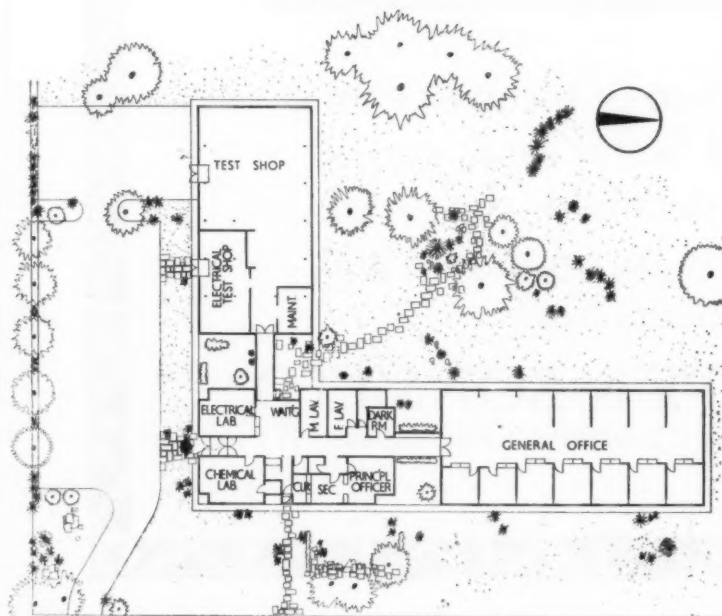
9 DESIGN: GENERAL

modular co-ordination at BSI's new laboratory

In 1956 the European Productivity Agency agreed to try out the 4-in./10-cm. module before finally adopting it as an international module. As a part of their own investigation, BSI (who with BRS are British representatives on this EPA project) have built a laboratory for themselves at Hemel Hempstead (architect: Bruce Martin) using this module. Considering that this raises the building out of the ordinary run of "Buildings Illustrated," we are treating our account of it in the form of a technical article. The author is Michael Keyte.



General view from the south.



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

The BSI has purchased a site in the industrial area of Hemel Hempstead New Town and this building represents the first stage in its development. The architects insist that the project must be primarily judged as the normal outcome of meeting a client's requirements. But the fact that they are otherwise fully engaged in modular co-ordination work, and that the building has been the opportunity for a pilot practical experiment in this field, is undoubtedly the most interesting aspect of the design.

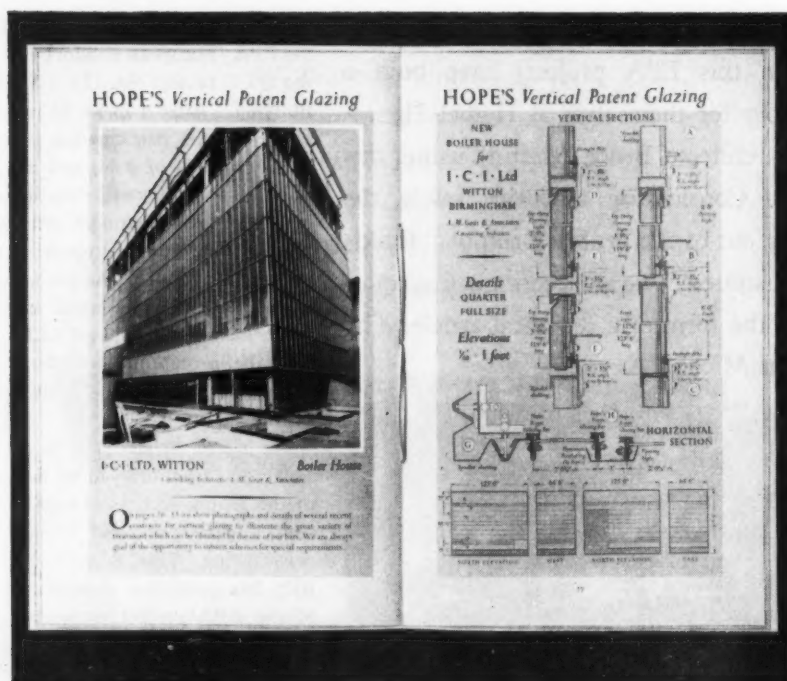
Very briefly, the general background to the current position on modular co-ordination in BSI policy is the EPA (European Productivity Agency—financed by the USA) project No. 174, "Modular Co-ordination in Building." After a series of meetings, with BSI as the convenor, the participating countries agreed in 1956 that a module of 4 in. and 10 centimetres should be provisionally adopted, subject to each country carrying out a test experiment in terms of an actual building, and submitting a report on it, before this module was finally adopted. As far as this country was concerned, BRS was nominated to carry out a field experiment, having participated fully in the discussions before the provisional adoption of this module, and having set up a group of architects specifically to work in this field.

Their project, which is to be housed in Hatfield New Town, has been delayed by factors beyond the control of the group, such as change of site by the Development Corporation, and is only now about to begin construction. This is particularly unfortunate since BRS has somewhat dissented from the general view of the EPA project members, that a single module dimension of 4 in. is required, and favoured a series of preferred dimensions, which they call the "Number Pattern." BRS gave two reasons for this: first that in this country modular co-ordination ought to be wedded to existing brick sizes of 4 1/2 in. multiples, and second that a logarithmic scale is needed to give relatively more choice in the smaller sizes and less in the bigger ones. The BRS project will, it is hoped, in due course show how the 4 in. module and the BRS Number Pattern work side by side on similar designs, so that comparisons can be made.

In the meantime, during this hiatus, the opportunity came for the BSI Modular Studies Group, who favoured the 4 in. module, to carry out a development project. The BSI itself required new office and laboratory space for testing various types of crash helmets, and for work, chiefly with electrical manufacturers and in collaboration with the Canadian Standards Institution, to ensure that products they export to Canada conform to the standards that apply there. This new building has thus been the opportunity to test out in this country the majority view amongst the EPA project members in favour of the 4 in. (10 centimetres) unit.

The building consists of three separate, single-storey

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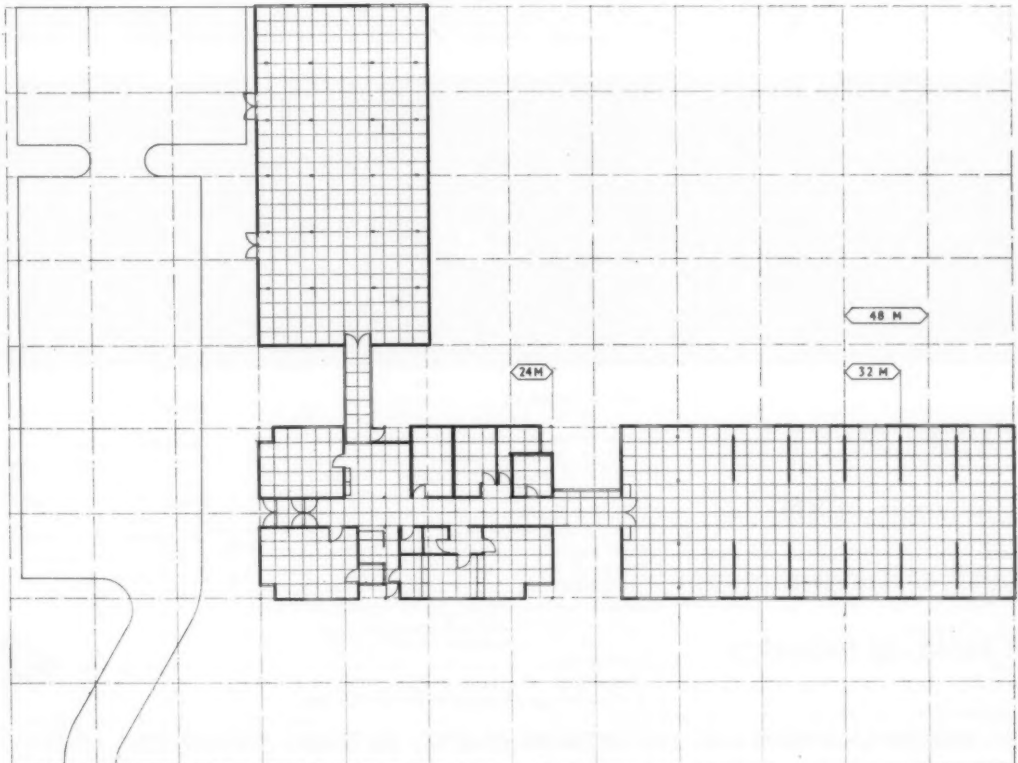
The small twin towers penetrating the roof of the test shops in the foreground are for the carrying out of experimental tests.

blocks, providing accommodation for general office work, administration, laboratories, and for control testing. In addition to the use of modular sizes, and the need for the design to conform to relevant Codes of Practice and British Standards, the Architects set themselves two further objectives. These were, first, that above finished floor level the entire building should be dry-mounted; and second, that the design should aim at the lowest possible maintenance costs. The characteristics of the building are dominated by these two disciplines. At the same time, the use of dry construction has meant that the field of experiment for modular sizes does not impinge upon an important aspect of the BRS project—the question whether or not 4 in. module components are compatible with brick sizes.

The architects adopted a CLASP type, 5-in. thick con-

crete slab, on a 6½-in. bed of hoggin, carrying the structural frame. Since the building has electric floor slab heating, the concrete was insulated from the ground by being laid on 1-in. thick slabs of foam polystyrene on aluminium foil. Subsequent measurements have shown that the building has settled about $\frac{1}{8}$ in., probably because of the compression of the insulation, but since this has been relatively uniform throughout it has created no problems. The structural frame is aluminium (no painting) and carries the pitched aluminium sheet roof. The latter was chosen deliberately in preference to a flat roof in felt or other material so as to be entirely maintenance free even though it meant cutting to non-modular, splayed sizes in the external cladding and partitions. An important feature of the frame is that the structural consultants considered horizontal ties to be necessary between columns at about door-head height, and these have been turned to positive advantage by being used as trunking for services, for housing fluorescent tubes for indirect lighting, and for carrying the top edge of solid partitions where required. Cladding is generally in sheet materials, such as chipboard, asbestos cement and glass, carried in aluminium tees externally and between columns and door frames internally. Where necessary, 4-in. × 4-in. timber posts have been provided to supplement the structural frame for rigidity. Opening windows are timber sub-frames, or adjustable glass louvres.

Sizing of components used in the building are of two main types, those which are 4 in. or multiples of 4 in., called *modular*, and those which consist of a range of



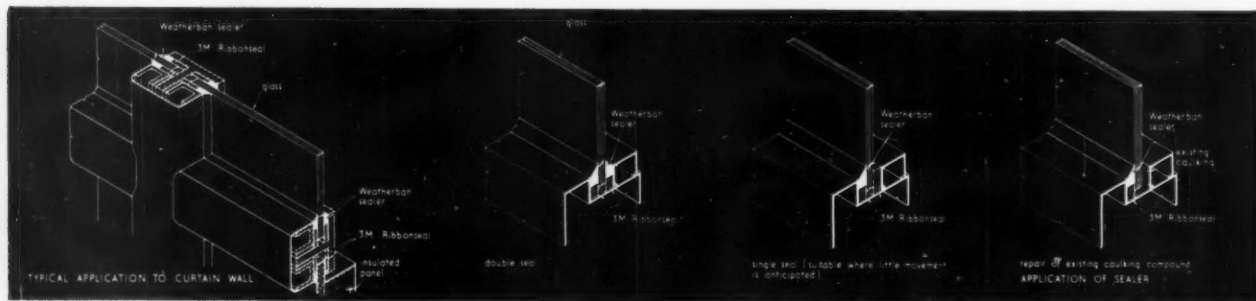
Plan showing modular grid [Scale: $\frac{1}{8}$ " = 1' 0"]

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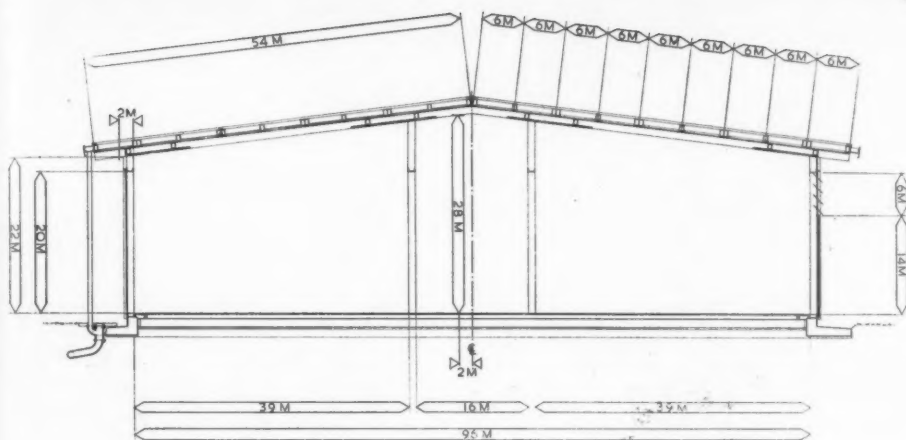
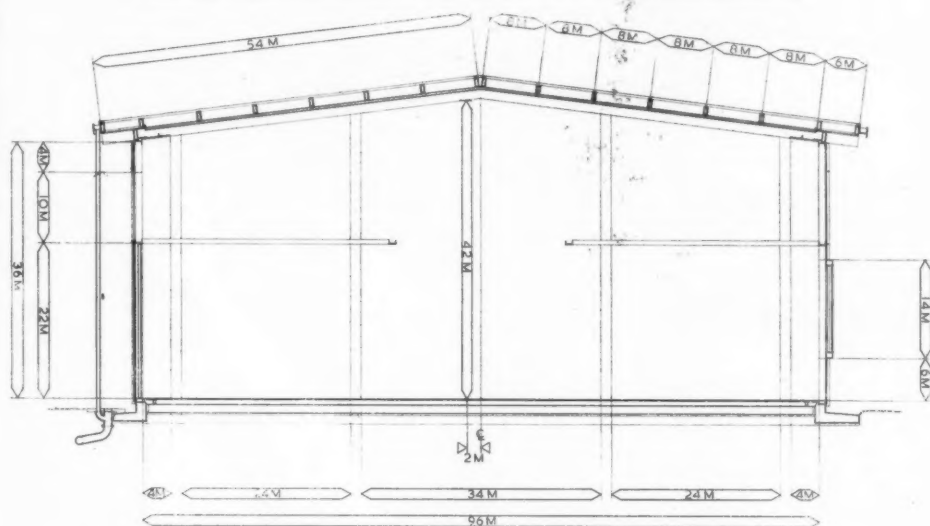


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technical section

Section through administration block [Scale: $\frac{1}{4}$ " = 1' 0"]Section through general office and test shops [Scale: $\frac{1}{4}$ " = 1' 0"]

small sizes below 4 in., called *sub-modular*. Modular sizes were chosen according to normal functional requirements, and in relation to the position in the building of components. Sub-modular sizes were accepted as they occurred, no particular sub-modular dimensions being preferred. For instance, the aluminium tees for external cladding are $21/16$ in. \times $1\frac{1}{2}$ in.; there is a whole range of timber bead sizes, and thicknesses of the various sheet materials were accepted as they were available. These units are, however, carefully related in detailing to the 4 in. modular grid.

The only important departure from this sizing is in the columns for the two taller blocks, which are 6 in. \times 4 in. on plan. The structural engineer at first proposed 5 in. \times 5 in., and since 4 in. \times 4 in. would have proved too small, 8 in. \times 8 in. uneconomic, the actual size represents a compromise. It has meant that in addition certain internal sheets used for partitioning have had to be off-module. The only other cases of non-modular sizes occur with sinks, where 4 in. multiple sizes are not available, and with the height of vitreous enamel steel panels, which the architects subsequently consider would be eliminated by different detailing of the external cladding.

Beyond the basic module of 4 in. (equals one M) the architects have used a further set of grids of larger dimensions, the most important being the planning

grid. They stress that the unit adopted after some study of 8M (equals 32 in.) has not been used in the same manner as the 3 ft. 4 in. grid of the school prefabricated systems in at least one important respect, that it does not locate centre lines of structure, cladding and partitions. In fact these are set into the 4 in. grid, the planning module of 8M being, as far as they are concerned, merely a device of convenience from the point of view of uniformity for both design and construction. The tendency towards a relatively small unit of 8M was largely because the architects considered that this was likely to offer the greatest flexibility, particularly in the planning of small rooms, and in the spacing of stanchions. With regard to the latter, the structural grid has been built up as multiples of the planning grid, at 24M (8 ft.) and 32M (10 ft. 8 in.) in a longitudinal direction along the three blocks.

These dimensions result from a study of the functional requirements, in particular that 8 ft. was considered a suitable minimal width of room in the administrative block but that 10 ft. or over was needed in the general office block and laboratories. Across the blocks, however, it was found that any large scale grid would have been too restrictive in terms of planning and detailing, and therefore none was adopted beyond the basic one of 4 in.

A further grid was developed at a late stage in the



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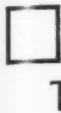
Wood

Plywood

Screed

Key
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170-

technical section

Aluminium
sectionsWood
blockings

Glass

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particle

Insulation

Asbestos
cement

Wood



Plywood



Screed

Key to
drawings
on pages
170-172.

design, which is a planning grid of 48M (16 ft.), used to determine the overall pattern of building on the site. This is not applied throughout, but could have been fully integrated, had it been adopted at the start. The elevations of the three blocks have been developed in a variety of ways. The general office block, based on the unit bay 32M (10 ft. 8 in.) wide, determined a series of repetitive units, in terms of fixed and opening lights. With the test shop block, it was considered desirable to provide a high degree of flexibility, by being able to place partitions at any interval on the 8M (2 ft. 8 in.) planning grid, and this has determined the repetitive use of vertical mullions at these centres. With the administrative and laboratory block, however, it was considered that the layout was likely to be fixed and permanent, and therefore there was freedom to develop an irregular pattern based only upon the multiple of 1M.

An important factor in the design of this building has been the development of working drawings. The details on pages 170-172 (scale: $1\frac{1}{2}$ in. = 1 ft. 0 in.) are not copies from those originally drawn, but are diagrams for the report on the building to the EPA. They show, however, a technique by which working drawings for 4-in. module building should be developed in the view of the architects. It is particularly interesting to note the simplicity of presentation that results. The drawings reproduced show some inconsistencies in the detailing which the architects say would have been avoided if this technique had been adopted for the actual constructional drawings. Similar diagrams show all the details on section.

One of the particularly important exercises has been in relation to tolerances allowed in the building, whether these were sufficient to mask inaccuracies in the construction. Apart from the settling of the site slab already mentioned, excessive inaccuracies occurred in the setting out of drainage outlets, and some difficulties were encountered in fixing the aluminium tees for the external cladding to a tolerance of \pm or $-\frac{1}{16}$ in. As a result, however, no insert panel had to be cut or otherwise adjusted before assembly. A considerable degree of "creep" occurred with the cork floor tiles, owing to their having an actual size of 12 in. square, and some easing of chip-board panels was necessary, due to the structure's being slightly out of square. This question of tolerances emphasises the difference between the modular (or nominal) size of a component and its actual size, which has to be worked out in practice for each type of component, bearing in mind manufacturing tolerance and that required in construction.

The long term view, as far as this country is concerned, is that it would now appear likely that the 4 in. module will be adopted in principle by the BSI and that as a consequence a long process of adjustment of the very many Standards covering size of building components to nominal multiples of 4 in. will begin, with actual sizes also defined as necessary, and starting with the more obvious items, such as kitchen fittings, door frames and paving slabs. It is likely that

this will be set in motion by the adoption of the final report of the EPA project, due later this year, and by the publication of a general Standard by BSI endorsing the 4 in. module.

The Hemel Hempstead Centre itself, despite the heavyweight intellectualisation that lies behind its birth, is pleasantly modest in scale and appearance. A notable success of the design externally is that maintenance-free treatment is not, as so often happens, flat and dull. On the contrary, the use of thin aluminium trim in conjunction with a variety of colours and textures, has resulted in richness and sparkle. It will be particularly interesting to observe, when it has weathered for a few years, if this quality is retained.

The dominant features of the exterior, however, are the repetitive use of the low-pitched roof, and the breakdown of the building into three separate blocks. On the assumption that BSI will in due course require further accommodation on the site, the combination of these two basic features does not seem highly adaptable for extension, change of use, or for the compact siting of further structures. The design has, however, the obvious merit from the point of view of the modular study that it allowed a variety of solutions to dry-mounted cladding and internal partitioning to be attempted in the three different blocks. The use of the particular pitch and span repetitively has nevertheless made the aesthetic differentiation between the mass of the three blocks limited and slightly unenterprising.

Internally the use of maintenance-free surfaces is repeated, such as waxed plywood and timber and applied thermoplastic sheeting, with foamed polystyrene or plywood ceilings. The general impression is that the internal detailing has not been carried out so successfully as the exterior. This is largely due to unresolved methods of fixing some of the sheet materials, particularly those on the ceiling: in general nails have been used with exposed heads. The foamed polystyrene has, in addition, obviously damaged rather easily during erection and the making good with filler does not match the original. More fundamental to the modular story is the extensive use in the internal partitioning of butt joints, usually at the junction of two components, such as a column and a door frame, on the 4-in. module line. Despite the use of beads round the edges of panels, the joints in every case go straight through the partition, and in many cases these have opened out, presumably owing to drying shrinkage. There would seem, on the face of it, every reason to have used more normal detailing with architraves and cover moulds, even though these would not fit tidily onto the 4-in. grid. Such lapping in any case occurs externally with the aluminium tees. These difficulties are, however, minor and are a side effect of the deliberate attempt to recast normal and conventional detailing into a 4-in. modular pattern. Indeed if this type of testing was not evident in the design, it would have indicated that opportunities for experiment in a prototype building had been missed.



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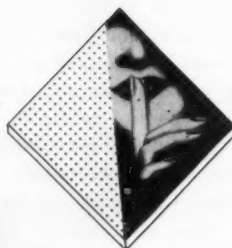
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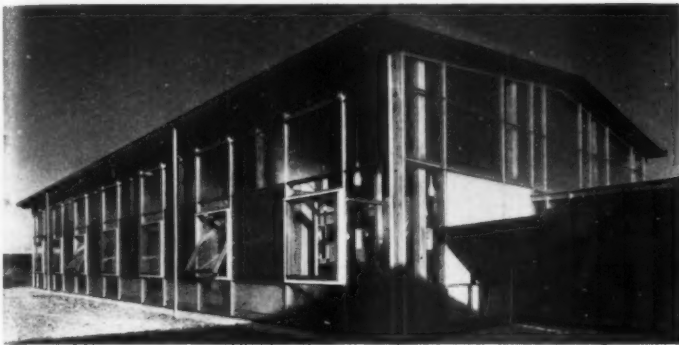
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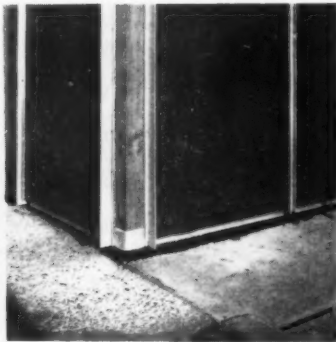
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technical section



The pattern of external cladding for the general office block is determined by the internal layout of a series of 10 ft. 8 in. wide bays.



Above left: cladding is carried in vertical aluminium tees, here in the test shops, at 2 ft. 8 in. centres. At corners these are fixed to 4 in. by 4 in. timber posts. The top chord of the aluminium portal frames, formed of two channels, oversails to carry the eaves. Above right: at the footings, tees and cladding have been carried down beyond finished floor level, but the 4 in. by 4 in. post sits on the site slab with aluminium flashing below. To avoid unnecessary delays in construction, 4 in. \times 4 in. nominal timbers had to be accepted instead of 4 in. \times 4 in. actual size, and as a result the aluminium tees were packed out with small additional timbers.

Below left: At corner stanchions in the administration and laboratory block the cladding is set back. Infilling includes asbestos cement panels, beaded in, and vertical cedar boarding, the latter being shop fabricated into panels requiring fixing only. The perimeter paving of the building is generally exposed aggregate concrete with cobbles infilling areas when the cladding has been set back. Below right: in the same position, the column head is exposed, showing the assembly of the main members of the aluminium frame.



CLIENT'S REQUIREMENTS

Accommodation for general office work, laboratory, and the testing of industrial components and equipment, involving a total staff of about 30.

In addition, these terms of reference were laid down:

1. Codes of Practice and British Standards to be applied wherever possible;
2. The building to be erected within predetermined overall cost targets;
3. Design to provide for low maintenance costs throughout the life of the building;
4. Dimensions of components and design generally to comply with requirements of Modular Co-ordination as set out in first International Report of EPA Project 174, and in the international documentation on the subject.

SUMMARY

Ground floor area: 6,500 sq. ft. (over external walls).

Total area: 7,510 sq. ft. (over edge beam).

Type of contract: RIBA with bill of quantities.

Tender date: September 26, 1958.

Work began: October 17, 1958 (possession of site).

Work finished: July 31, 1959.

DESCRIPTION OF ELEMENTS

Work below ground floor level

5-in. 1 : 2 : 4 concrete slab with one layer 124 BRC mesh (2 layers 2 ft. sq. under stairs), on 1-in. foamed polystyrene insulation slabs, on 1 layer aluminium foil building paper, over 6-in. minimum hoggins.

Polystyrene turns up around heated slab.

Boot edge beam on all sides of building, 10 in. high \times 26 in., with one layer of 124 mesh and one $\frac{3}{8}$ -in. diameter bar on 1-in. ashes.

STRUCTURAL

Frame or load-bearing element

General office and test shop: 6-in. \times 2-in. \times $\frac{1}{8}$ -in. and 4-in. \times 2-in. \times $\frac{3}{16}$ -in. extruded aluminium channels as box stanchions, and back to back 4 in. apart as roof beams, with 3-in. \times 1 $\frac{1}{2}$ -in. + $\frac{1}{2}$ -in. aluminium channel intermediate bracings.

Administration block: 4-in. \times 2-in. \times $\frac{3}{16}$ -in. extruded aluminium channels assembled as above.

Total weight of all aluminium frame, 6 $\frac{1}{2}$ tons, erected as portal frames.

External walls

Generally two-skin cavity construction up to transome level (6 ft. 8 in. and 7 ft. 4 in.) in each block outer skin is formed of aluminium tees with waterproof sheet infill. Inner skin provides insulation and finish, designed as internal partitions. Above transome level (protected by deep eaves) an outer skin only is employed.

Windows

General office: Double-glazed, pivot-hung, with pleated blinds. Hardwood.

Test shop and general office: high-level, bottom-hung vents. Hardwood.

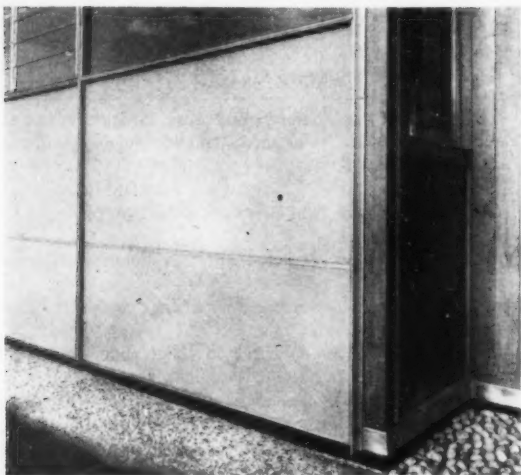
Test shop: low-level top-hung vents (both these are based on EJMA sections). Hardwood.

Administration block: Glass louvres in anodized aluminium sections.

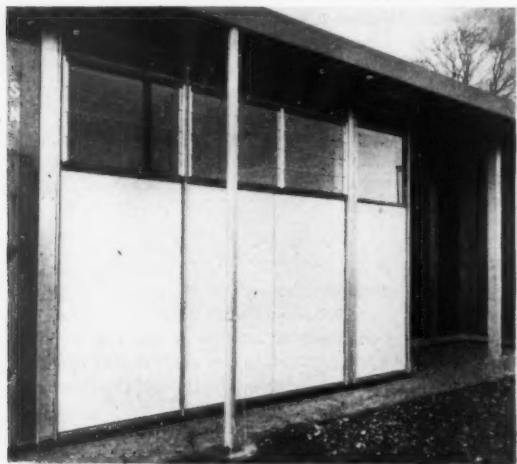
External doors

Administration block: Four (2 double and 2 single), toughened plate glass in hardwood frames.

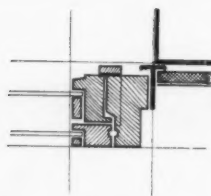
Test shop: Two pairs of hardwood, ledged, framed and braced, and faced with vertical weatherboard externally and plywood internally.



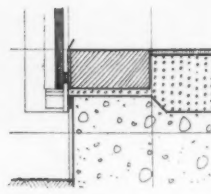
Above: asbestos cement panels are jointed horizontally by being fitted into a small H-section aluminium extrusion. In some cases the panels had to be slightly eased to fit into this member, because the true size is occasionally slightly greater than the nominal. Below: r.w.ps. are carried down independent of the structure. The columns in the external wall of the administration block are expressed by double aluminium tees, 1M (4 in.) apart, with aluminium panels between. Opening lights are adjustable glass louvres set into the tees, with vitreous enamel panels below.



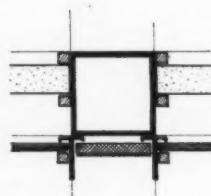
Below: a simple teak deck oversails the slab to form the entrance step, under an extended aluminium canopy. The doors, together with their frame, form the component, 5 ft. 4 in. wide.



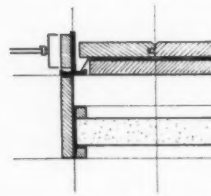
Plan of window/
external panel



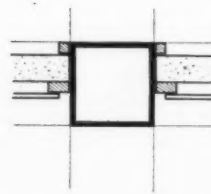
Section through
sill (internal panel and
external panel)



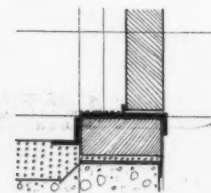
Plan of column
(internal panel, external
panel)



Plan of external louvre
(internal panel, external
panel)



Plan of internal panel/
column



Section through sill/
external door

technical section



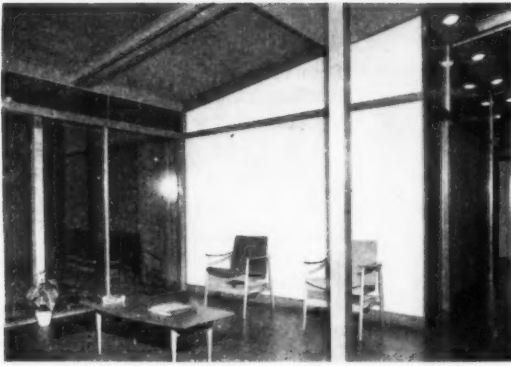
Above: in the general office block, double glazed timber opening lights with subframe are fixed into the aluminium tees.

Below: the only disappointment in otherwise immaculate external detailing is the rather untidy flashing at the junction of the low level roofs of the links into the three blocks.

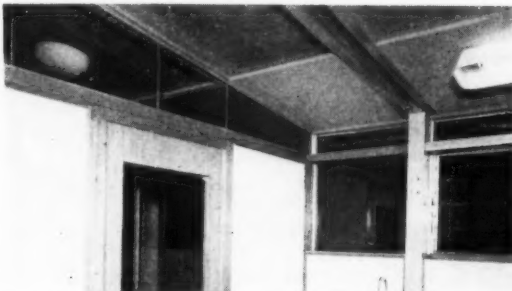


The spine corridor through the administrative block connects the entrance hall with the general office. Internal partitions are generally fair-faced plywood up to door-head height, with glass above, which has vertical joints in lead comes.

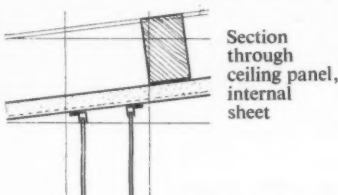




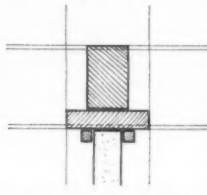
Above: one of the very few internal surfaces to be painted is the white wall in the entrance hall, shortly to be covered by a mural representing a map of Canada, the subject chosen because of the work in the building being carried out on behalf of the Canadian Standards Institution. The ceiling is lined level with the top edge of the main joist with plywood, interspersed with bands of chipboard resting on the bottom flange.



This detail is typical of partitions in the administrative block, and indicates the considerable reliance placed on butt jointing, in this case at door frame heads, which has not proved entirely satisfactory because of shrinkage cracks occurring which would have been masked by a conventional architrave.

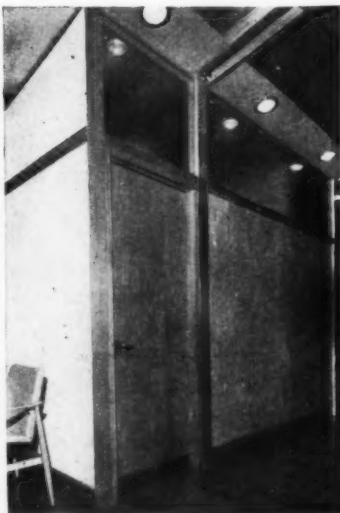


Section through ceiling panel, internal sheet



Section through int. panel, int. panel head

Below left: door frames similarly butt directly up to stanchions, where they are adjacent. Below right: the link to the test shops, fully glazed both sides, punctuates clearly the circulation from one block to the other.



Roof construction

General office and test shop: Timber purlins at 2 ft. 8 in. centres spanning between aluminium frames with corrugated aluminium covering.

Administration block: Timber purlins at 2 ft. centres between aluminium frames with corrugated aluminium covering and mineral insulation.

Links and shock absorption test towers: $\frac{1}{2}$ -in. ply sheet on spruce frames with aluminium sheet covering.

Glazing

Various types of glass, asbestos and vitreous enamelled steel sheets are all glazed into the aluminium tee system designed by the architects, bedded in non-setting strip mastic and fixed with hardwood $\frac{1}{2}$ -in. \times $\frac{1}{2}$ in. beads.

PARTITIONS AND FITTINGS

Internal partitions

Up to transome level partitions are of 36 mm. chipboard panel with 4-in. \times $\frac{1}{2}$ in. agba skirtings, all beaded into floor, transoms and stanchions. In the test shop all partitions are $\frac{3}{4}$ -in. ply on studs.

Screens

Above transome level in administrative block and general office, rooms are divided by either single or double glass up to ceiling level.

Chipboard panel is substituted for this between lavatories in administrative block.

The glass is fixed in aluminium angle sections and edged with channel section plastic strip. Adjacent sheets are joined with lead cames.

Internal doors

Generally solid core flush agba veneered (some with glass panels).

Eight hollowcore hardboard-faced, painted.

No. of single doors: 20 and 1 slider.

No. of double doors: 3 pairs, fully glazed, hardwood framed.

All doors are in polished agba frames.

Ironmongery

Satin-chrome plated on all normal items.

Bronze roller stays on bottom-hung vents.

Fittings

Benches in test shops, laboratories, pantry and dark room, all iroko tops on agba leg-frames.

Cupboards, under-benches, timber ply with agba solid timber.

Some storage racks in test shop, softwood, framed with ply. All units are polished.

FINISHES

Floor finishes

Cork tile; Linoleum; Maple strip; Carpet.

Wall finishes

Limba, beech and Douglas fir plywood.

P.v.c.-coated fabric.

Agba skirtings and door frames.

All wall finishes applied to chipboard panels.

Ceiling finishes

Foamed polystyrene panels, Douglas fir plywood, flax fibreboard panels.

Roof finishes

Corrugated aluminium sheet (20g. modified LT section) on all blocks.

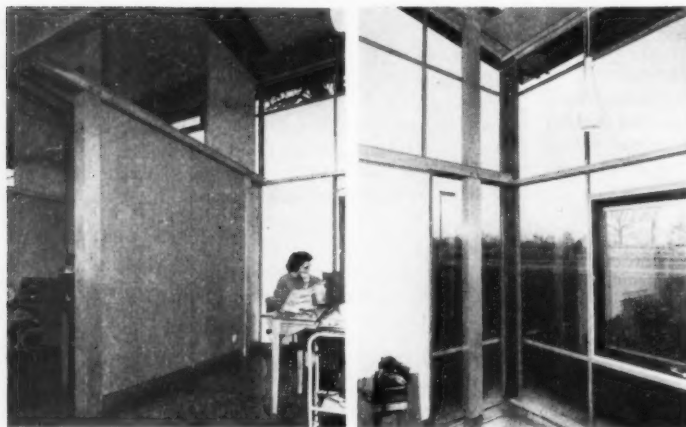
Flat aluminium sheet on $\frac{1}{2}$ -in. ply deck with standing seams on link roofs.

Aluminium fascias and gutters.

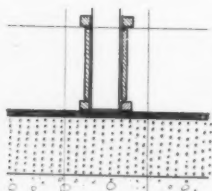
technical section



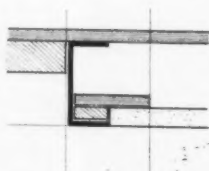
Above left: the test shops are currently being used for the control testing of crash helmets and other protective headgear. There are timber opening lights, top-hung, at high and low level, with a band of diffusing glass between. The rig in the background, which penetrates the roof, is used for testing helmets under impact by dropping weights from various heights. Above right: open planning has been used for the general offices, consisting of a spine of central circulation with bays off it for working. Partitioning is inserted between stanchions up to tie-rail height. In order to reduce noise as much as possible a cork floor has been used and foamed polystyrene slabs on the ceiling. With the use of typewriters and other machines in the area, however, the spread of noise is apparently still sufficient to be irritating.



Above left: each bay has high level clerestory lighting, which except for the top strip is diffused. In addition there are the low level timber windows. In order to limit views of a bright sky and help diffuse the light, additional free-standing solid panels have been inserted near the windows above the solid partitions. Despite this, the diffusing glass in sunshine appears to be far too bright, and thus glaring. Above right: in the taller blocks the corner stanchions are set back in one direction only. At floor level there is a continuous hardwood strip round the perimeter beyond the cork tiles. To this is fixed a continuous run of tubular heaters to supplement the electric floor slab heating.



Section through floor tile/
int. panel



Section through joist/
ceiling panel

Decorations

Emulsion paint. Clear sealer and matt wax on internal timber (including doors).

SERVICES

External plumbing

2½-in. (o.d.) extruded aluminium r.w.ps. to 4-in. × 4-in. aluminium box gutters.

3-in. diameter vent pipe in test shop passes through fascia under eaves.

Cistern overflow pipes (ducted through ground slab) appear on edge beam face.

Hot and cold water installation

Cold: polythene pipes in asbestos cement tube ducts in hoggin under site slab rise to fittings in copper with compression joints. Galvanized tube in test shop.

Hot: copper pipes in asbestos cement tube ducts in hoggin under site slab, from multipoint storage heater.

Most hot water from instantaneous gas water-heaters over sinks.

Sanitary fittings

Type of fitting	Number of each type
Laboratory sinks	3
Sinks	2
Stainless steel sink	1
Lavatory basins	5
W.c.s	5
Urinals	2
Incinerator	1

Heating and ventilation

Air temperature: 65 deg. F. (including supplementary heating).

Floor temperature (maximum): 75 deg. F. Total floor load, 84 kW, for underfloor heating.

Air change: 1½ per hour in test shop and general office.

1 per hour in administration block.

U of walls: 0.20 to 0.24 over various cavity assemblies.

U of roof: 0.113 for test shop and general office; 0.135 for administration block.

Gas installation

Storage water heater and four instantaneous water heaters, of which two are multipoint.

Four two-way laboratory gas taps.

Electrical installation

Type of point	Number of each type
Lighting	136
Clock	7
13-amp. sockets	57

Lighting is a mixture of tungsten and fluorescent as appropriate.

Cables run (a) in roof cavity, (b) at intermediate level of structure, and (c) in floor chases.

Telephones: GPO, 16; internal, 23 plus 2 secretarial.

Other elements

Two shock absorption test towers, glazing and boarding on timber frames. Roof as for links.

Drainage

3-in. and 4-in. pitchfibre with stoneware fittings and precast concrete ring manholes. Pitchfibre junctions wherever possible. Pitchfibre is uncased under building. Polythene wastes in labs, chromed copper elsewhere. Stoneware cased with 6-in. concrete.

Surface water and foul to sewers near road boundary.

TWO HOUSES

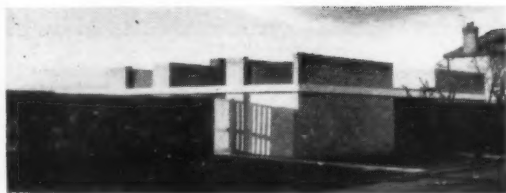
at DUNBAR, EAST LOTHIAN
 designed by MICHAEL LAIRD
 quantity surveyor JAMES GENTLES AND SON
 at LASSWADE, NR. EDINBURGH
 designed by MORRIS AND STEEDMAN
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UDC No.

728.37



Above: the house at Dunbar. Garage court and entrance and (on right) entrance to house as seen from north-west on main road adjoining site. Below: the house at Lasswade from the south.

Two small houses in Scotland, one on the site of old tennis courts in the outskirts of Dunbar and one on a wooded hillside at Lasswade, are the subject of this week's cost analyses and of a critical appraisal in dialogue form between their respective architects, Michael Laird and Robert Steedman, who have assessed their own and each other's work with exemplary freedom.



building illustrated

Two Scottish houses criticized by their own architects in dialogue form.

Steedman: One of the striking differences between these houses is the introspective setting of the Dunbar house, whereas at Lasswade the prospect compels one to look out. **Laird:** I agree, and I suppose there wasn't much choice given to the architects. It certainly seemed to me there was virtually none at Dunbar, surrounded by Subtopia, bounded by a main traffic road, and possessing no views.

Steedman: I feel that its placing on the site is excellent and the way the individual elements are placed.

Possibly the transition between the house and garden requires a different level of space, a slight enclosure? It is a court house and may need some transitional areas. The pool links the house to the wall and so ties it in very well. I don't know if it could have been possible in any other way to tie it to the other walls or integrate it into this court by reflecting new building elsewhere on the site?

Laird: I was aware at all stages of this problem, particularly where the court created between the house and the east wall of the site seems rather a Waste Land. In fact there wasn't any cash left by the time we had built the house, with the large areas and high ceilings the client demanded, to treat that area.

Steedman: I think it's not a question of bricks and mortar at all. Sensitive planting could form the link.

Laird: Yes, but in this case the clients are horticulturists with very fixed ideas about what they mean to do. The garden and furniture were their own affair and I made no endeavour to persuade them otherwise.

Steedman: I would like to know why you used the pool, because it is obviously quite a large element in the design.

Laird: Apart from its linking the house to the perimeter wall, I think it was primarily a romantic notion. I was keen on the idea of the western sky in the evening picking up, or rather putting down, all its colours in this constantly moving mirror, to compensate a little for the long view which it is impossible to achieve on this site.

Steedman: Now that you've seen the building completed I would be interested to know if there are any different approaches to the problem that you would make in approach and execution—or would you do very much the same again?

Laird: No, I don't think I'd do the same thing again at all. I've argued much more with clients since, but this being my first modern house design I was so thrilled with having people who were prepared to put up with an argument in favour of unfamiliar forms that, for instance, I compromised on the question of ceiling height. Obviously it was not sensible to allow a clear ceiling height of 9 ft. plus, when they had only £5,000 to spend on a house of 1,600 sq. ft.

Steedman: I note that the floor area of the Dunbar house is 400 sq. ft. more than it is in Lasswade.

Laird: And yet in some ways it doesn't seem as large. . . .

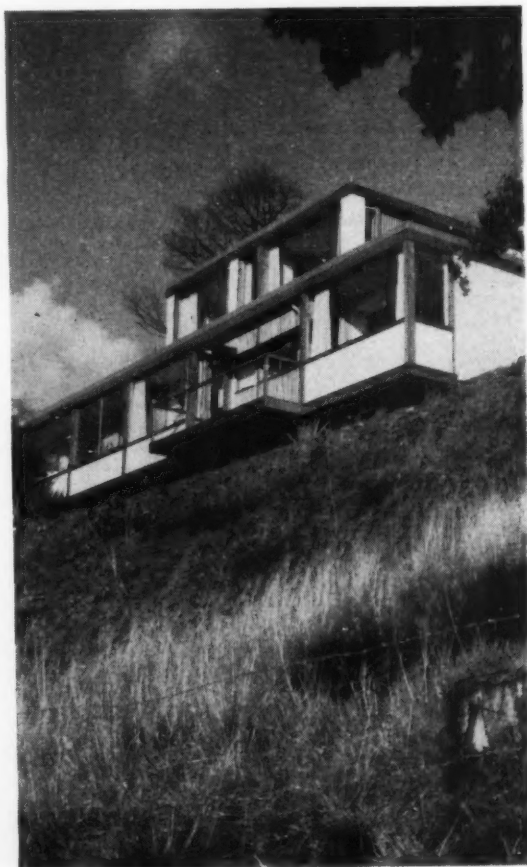
Steedman: That may be the presence of one long, internal view stretching out the comparatively small areas of the rooms, which resulted from the square foot price of building today.

Laird: Well, I think it's fair to stretch anything out to any extent provided it's within your client's budget. The fact that the Lasswade house seems larger than Dunbar must

House at Dunbar



House at Lasswade



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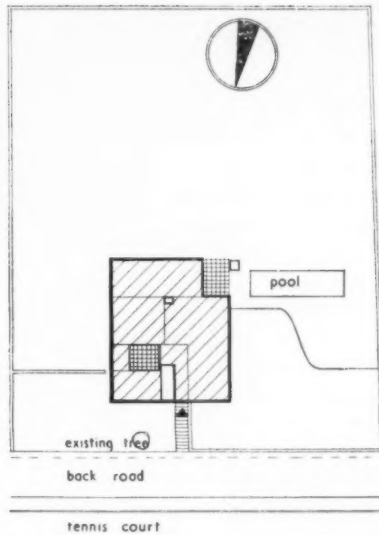
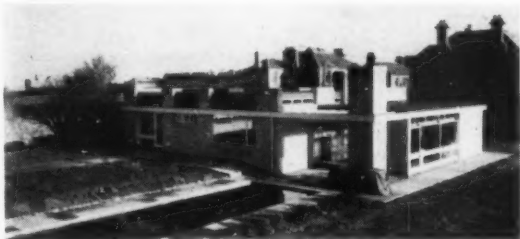
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Above: Head-on view of the entrance and north elevation. The lilac on the left has been cut down by the clients and it is hoped that this will grow again satisfactorily before next summer.

Opposite: front entrance door and fixed window to hall as seen from pavement on south side of road. The brick between these openings is of a dark grey/blue colour (as also in the case of the coat-hanging compartment behind it and the flue stack beyond) to contrast these aligned elements with the off-white brick prevailing on the main walls.

Below: general view from south-west showing the house in its environment.



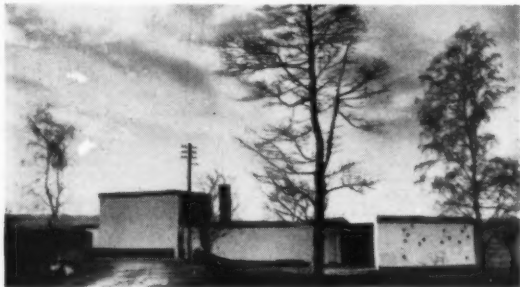
Site plan



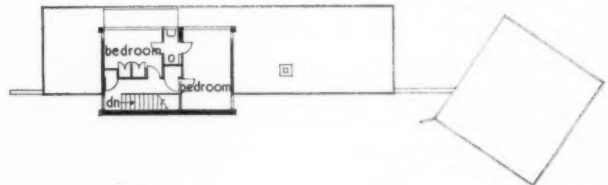
Cross section



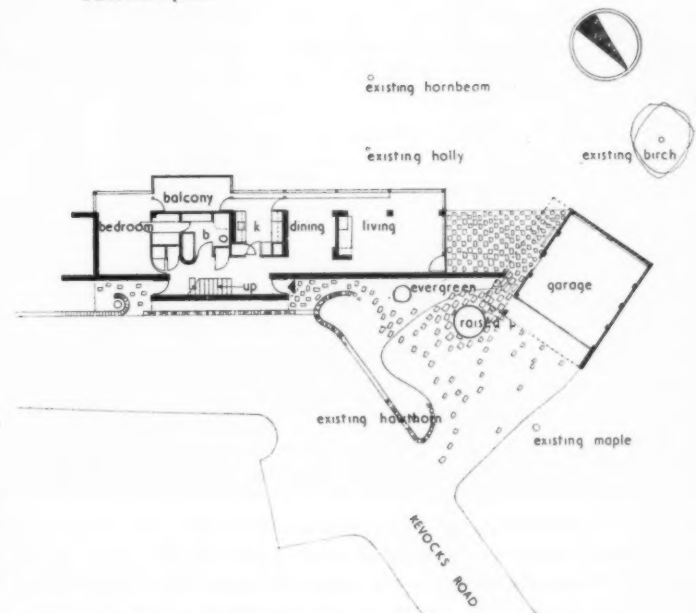
Ground floor plan [Scale: $\frac{1}{8}$ " = 1' 0"]



View from the approach road. Main entrance door visible in two-storeyed portion; double garage to right.



First floor plan



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

Opposite: from the south-east. Materials used externally are hardwood framing and fascias, aluminium flashing to roof, smooth rendered brick white painted, plastic coated steel panels white finish in cantilevered portion. Internally, buff coloured lining to curtains. The fall of the ground in front of the house is 1:1.75.

building illustrated

reflect to the advantage of Lasswade, but it is partly because the rooms at Dunbar are larger and fewer.

Steedman: I know you have views about how the building for Lasswade could have been placed on the site . . .

Laird: In my view, what you've done here is really well done, but it has been done at a certain cost. It seemed to me that this concept would inevitably cost more than the stipulated limit and from that standpoint I began to disagree. I've never argued that, disregarding financial considerations, there was anything the matter with the concept itself, but I thought it would have been feasible to design a very interesting house on the site of the garage and entrance court and from there to extend a terrace (where the house is now) to a garage at the point where your main bedroom is now. That implies a house on a flat site with no need for cantilevering and semi-introspective in plan. But then you would have had your car boofing out into a very narrow roadway with a completely blind corner just to your left!

Steedman: I feel that the house has been planned in the way that has got the most out of the site. The very form of the contours and topography of the ground suggested the building of an enclosed terrace to the view and the sun, which were fortunately on the same side here. The design resulting was the simplest structural expression of that idea. But we were very fortunate in that the subsoil was compacted gravel in an ideal state to take the load of the floor at the south wall, which as a domestic building is pretty light anyway.

Laird: Well, I'll capitulate to this extent: you've given each of the bedrooms the most superb view, and that would certainly have been impossible with the semi-introspective concept that I envisaged straight off the cuff. Nevertheless, was this within the budget, or not?

Steedman: It was above the cost asked for by the client, but I do not feel that the design was extravagant.

Laird: I think in the outcome it has been extremely worth while, because this is, I think, one of the finest modern houses in Scotland, and that is largely because you've got the right character. Here we have a rather dreich landscape around the house, which itself is not at all dreich, but seems to honour these conditions admirably. That's not something one can consciously contrive.

Steedman: I think it is worth noticing in both these houses how the most reserved, simple and untried views of the building are probably the most successful. At Dunbar it's the simplicity—the sort of kicking around till the stuff's stopped wriggling kind of approach—that has been achieved in the north and south elevation, but possibly less successfully on the east and west, which have to absorb the change in level. There is always a problem in establishing the base line or even the roof line for a building. I know your concept here was to establish a very heavy roof line, but this might have been increased slightly to be completely dominant.

Laird: I agree. This gutter, this bumper bar, so to speak, should have been heavier in its visual effects. Perhaps the same sort of consideration applies to Lasswade, where there is a definite change of alignment of which I am very conscious between the garage and the house. The effect of that from the entrance court to my mind is not altogether satisfactory.

House at Dunbar

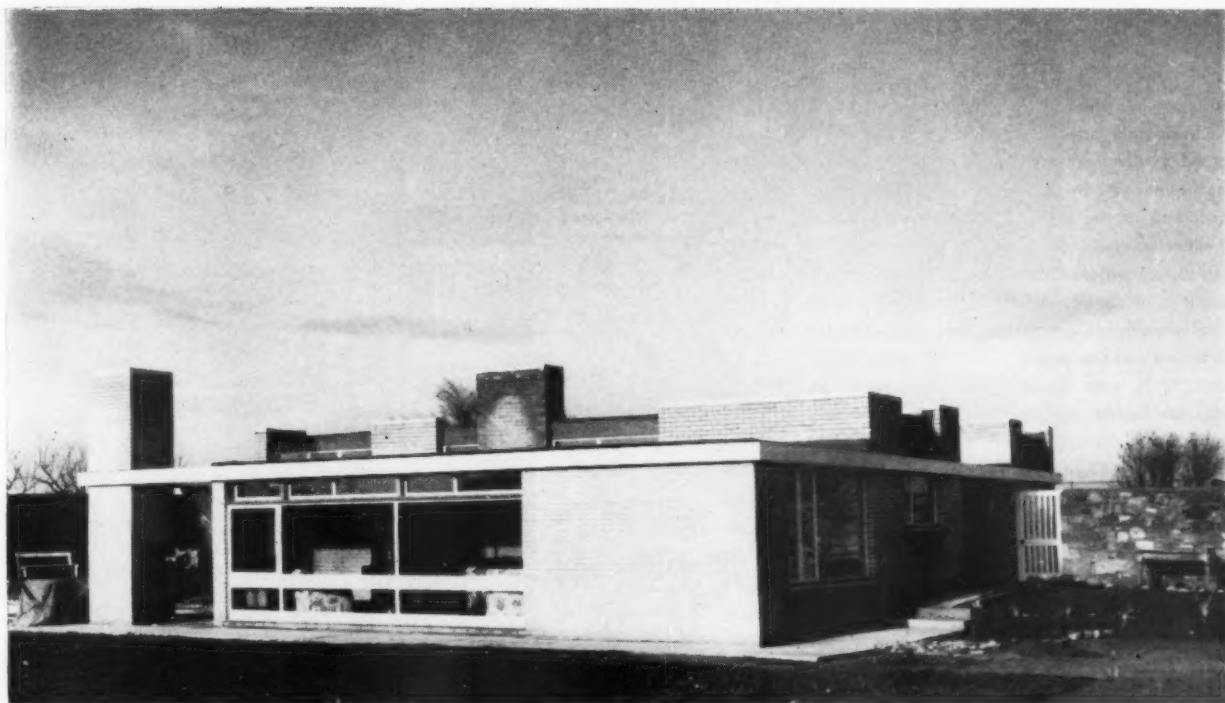


House at Lasswade



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Above: looking from south-east corner inside the site with barbecue fireplace at pergola on left and patio adjoining kitchen by garden entrance gate on right. Opposite: "castellated" wall

structure at north-west corner of bedroom wing. When the site is properly cleared up there will be another small sheltered court open to the west, on the left of this photograph.



Opposite: from the balcony (for dining outside) looking through the kitchen to the dining and living areas, terrace beyond. Asbestos tiles and soffit.

Above: the house from the road to the north-east. The upper floor contains two bedrooms. The main entrance door and the

service door are on either side between the blank walls. The garage turned towards the road for ease of access, is separated from the main wall of the house by a high wood gate leading onto the terrace. The existing stone wall on the left was reduced to 2 ft. in height opposite the house.

building illustrated

Steedman: I think there is enough space on this site, in one dimension anyway, for the garage to be differently aligned to the main spine wall of the house and that the main spine wall in the house does predominate over the orientation of the garage sufficiently to relate the one to the other satisfactorily. I see on looking at the cost analysis of these two buildings that the cost of plate glass and double glazing is pretty well equal. In designing a house the size of the windows is one of the major decisions the architect has to tackle at the outset.

Laird: Well, your proportion of window to wall area is somewhat higher than in Dunbar so one expects a higher proportion of the total cost to be borne by that element, as indeed it is. At Dunbar an effort was made towards limiting the sizes of glazed areas in order to keep within the limits of ordinary drawn sheet dimensions. There are other things, however, which the compared cost analyses do not show quite clearly. For instance, the "Frame" for Lasswade has about 7s 6d accruing to it and there is nothing at all for Dunbar under that heading. There must be some frame or load-bearing element in Dunbar but we thought it fair to put these elements under the heading of external and partition walls, so whereas "external walls" are nearly the same price for the two houses (10s and 11s) there is a complete absence of frame in the one, and 7s 6d in the other.

Steedman: Because of the extremely narrow site at Lasswade before the fall it was important to keep the main structure with the minimum underbuilding, and yet to gain the necessary width it was imperative to extend the width by cantilever. Therefore we get almost two walls, either of which could partially be called structural, adding to the cost of the building.

Laird: If you look at heating and ventilation costs there's a significant difference and I wonder whether because of the single glazing at Lasswade there is a greater demand upon the heating elements. Do you agree?

Steedman: The character of the building at Lasswade did insist that there should be undivided panes and therefore plate glass. I feel that a distant view has to be taken in by large sheets of glass.

Laird: I'd like to ask, how did you persuade your client, who was already spending more than he wished, to accept the standard of finish and the relatively expensive materials provided internally at Lasswade?

Steedman: Well, I don't know if the finishes are particularly successful. We tried to change the ceiling finish from plaster to woodboard or even to continuous acoustic ceilings, but nothing came out as cheap as plasterboard. The only other element which could have been reduced in the internal finishes, 90 per cent of which are plaster, was the hardwood $\frac{1}{4}$ -in. plywood finish to the cupboards, which we felt were essential to the design, as a foil to so much plaster. And whether it was ordinary plywood or mahogany plywood the cost really wasn't very different.

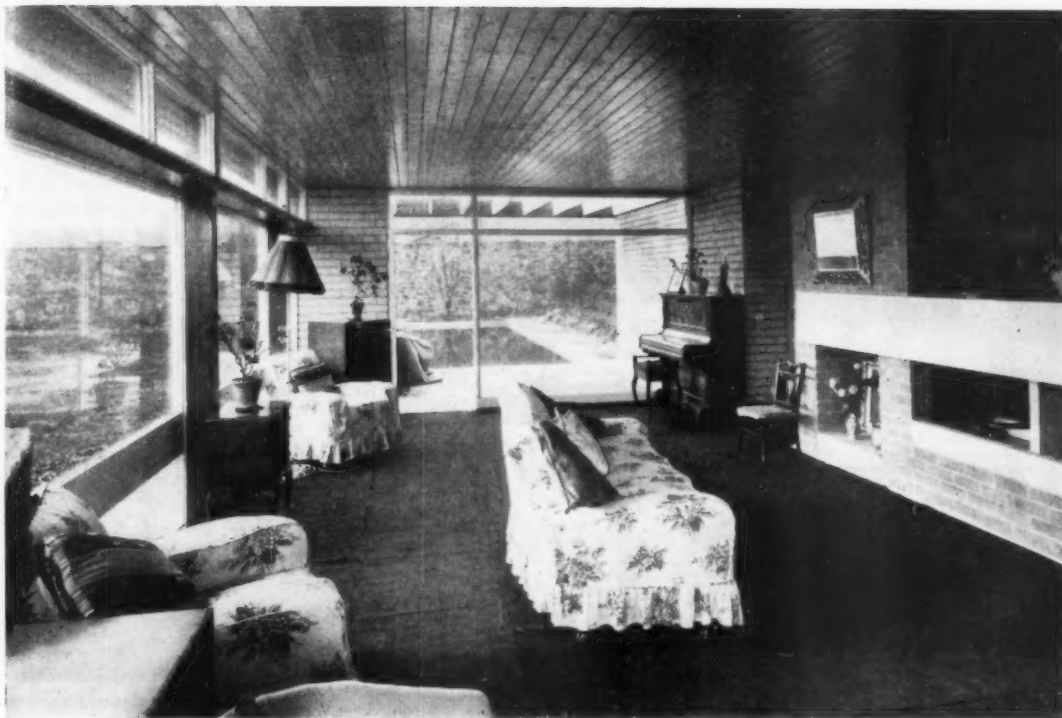
Laird: Yes, the natural textures and the unpredictable character of the graining could hardly be found in any other material. Certainly the result is very successful. I was interested to find that the timber ceilings in Dunbar were extremely cheap. They are all whitewood, with the knots

House at Dunbar



House at Lasswade



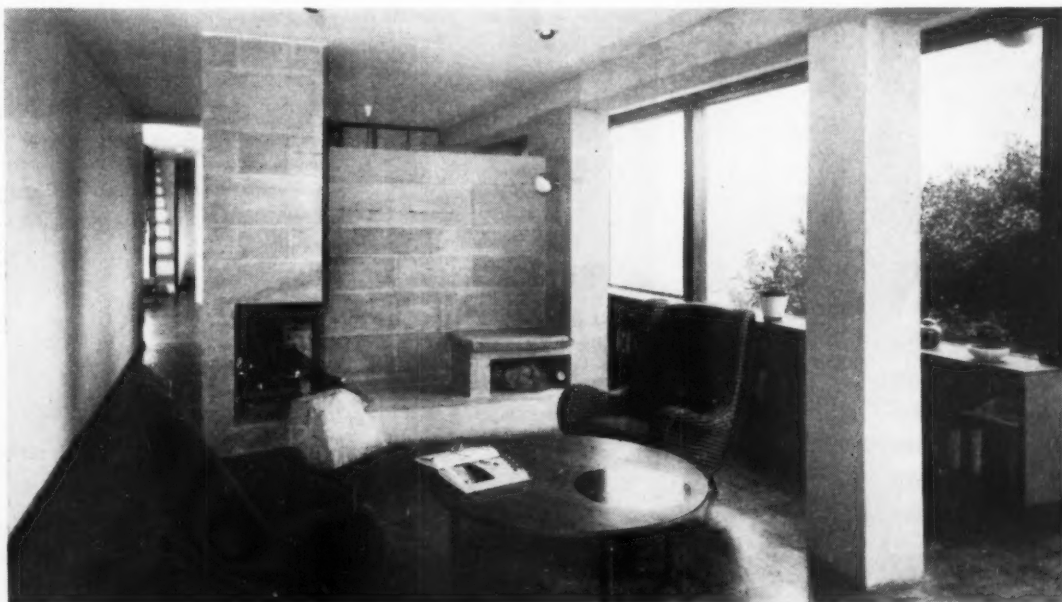


Opposite: view to living room from west end of pool. The rainwater pipe in evidence here is the only one outside the walls and is in fact the only rainwater pipe from the gutter which completely circumscribes the house behind the white painted "bumper bar" at window lintel level. During these winter months the

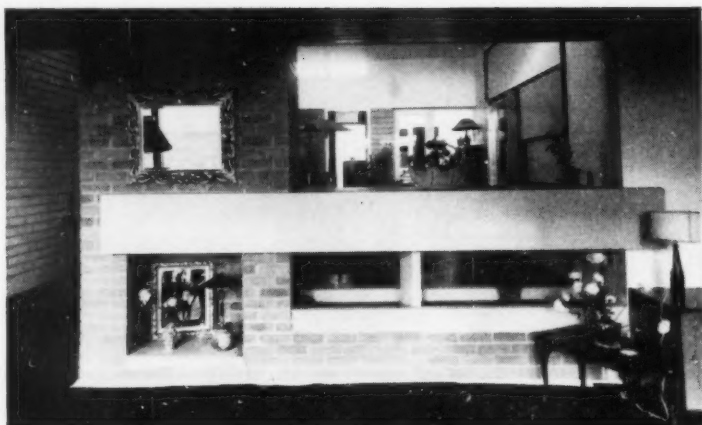
tarpaulin on the right covers "outdoor" furniture. Above: view from living room through pergola covered terrace towards pool. All clients' own furniture straight from bungalow previously occupied by them and disposed entirely according to their own preferences in new house.

Opposite: the entrance hall with main door to the right. To the left, doors to coat cupboard, kitchen, and full height panel door which may be used to close off the living and dining areas from the hall when required; glazed door to terrace. Material used internally, white painted walls and ceiling, mahogany-faced flush doors and panels with exposed softwood framing painted dark blue, light-grey dressed stone fireplace, and wood block flooring. Below: the living room showing the open fireplace in

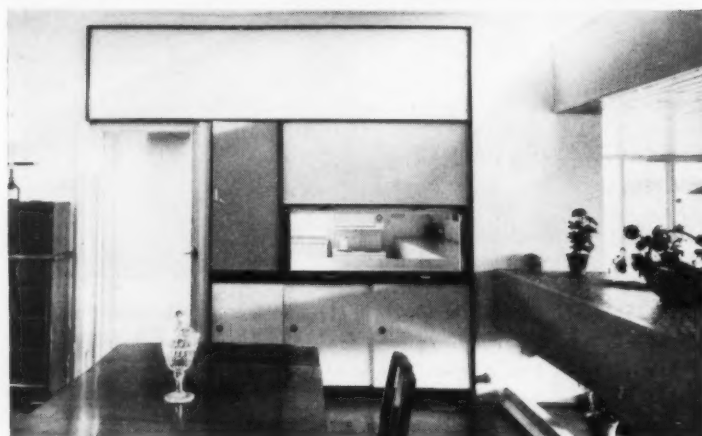
dressed stone with seat incorporated, which forms a screen wall between the living and dining areas. The entrance hall may be closed off from the dining area by a full height door. The general lighting is by small swivel-mounted recessed spotlights in the ceiling, supplemented by recessed lights behind the main beam directed onto the curtains. Two floodlights are mounted on the fascia externally to illuminate the trees. (The curtains were not yet hung at the time the photographs were taken).



House at Dunbar



Left: living room side of precast concrete fireplace, mosaic covered mantel shelf, and blue-brick stack. Recess in stack is for television cabinet, fireplace to right serves both dining and living room areas and space on extreme right below mantel is for log storage. The actual grate is between the chimney stack and the concrete upright, and smoke is diverted into the chimney by a small baffle in the concrete cross beam above.



Above: typical bedroom interior. General lighting is provided by tubes reflecting on the ceiling from behind top of built-in pelmet running full width of window wall. Left: looking over dining table at two-way kitchen fitments. Living room is at lower level to right of mantel shelf.

House at Lasswade



Above: the driveway viewed from upper bedroom window. Lithograph stones set in concrete with lamp black added, also placed in surrounding grass area. Pool employed to provide a point of light by reflection in shaded north corner of house, may be illuminated by spotlight at night; overflow pipe protected from floating leaves by area of 1-in. glass set slightly above water level.

Left: view from the terrace towards the living room, the south-west corner of which is glazed floor to ceiling and the structural frame evident. Lithograph stones (supplied by client) set in concrete with lamp black added.

building illustrated

left as an acknowledged characteristic and it turned out surprisingly cheap.

Steedman: I know all different possibilities for the ceiling at Lasswade were gone into, including whitewood, but we didn't feel the design would suffer through deciding not to separate the main spine wall from the ceiling visually.

Laird: The outcome justifies the idea, because the shell which the spine wall and the ceiling form together is essential to the appreciation not only of these beautifully detailed fittings, but also in providing the context of the fireplace. Had this very precisely cut stone to compete with something like the very knotty quality of the whitewood I've just been advocating, there is no doubt it would have suffered.

Steedman: One of the biggest differences between these houses is that one is built on reinforced concrete floor and therefore it was essential to keep its ground floor area to

a minimum and put the two additional bedrooms on a first floor. There is 400 sq. ft. more ground floor area at Dunbar, and it is designed as a simple square comprising the same elements as, at Lasswade, have been designed in a line. Both designs have been completely dominated by the possibilities and limitations of their site. One of the problems of modern architecture is the fact that it is not just aesthetic appreciation—a rather educated appreciation of certain forms—that is wanted, but the most sensible use of present-day materials for the way we live today.

Laird: In my view, whatever we do should be capable of being immediately appreciated by anyone. In this respect I think that Lasswade is considerably more successful than Dunbar. I feel reasonably happy with Dunbar while moving around the house, but my impression from some stationary positions is really quite alarming!

analysis

House at Dunbar

CLIENT'S REQUIREMENTS

1. As large a floor area as possible for their money, both overall and in individual rooms, along with high ceilings generally.
2. Large areas of glass in living room, to take advantage of sun in winter.
3. Complete privacy from main road close by, and shelter outside from all wind directions.
4. Maximum amount of built-in furniture within the financial limit of £5,500 including site works and everything except fees and cost of land.

PLANNING AIMS

To meet the client's requirements in all respects the endeavour has been made to articulate the internal spaces so as to give the maximum variety of visual experience, in compensation for the lack of long views from the site, and to dispose the mass of house and wall in reasonable resolution of its context of villas and rather stridently suburban surroundings. Material and form was chosen to achieve maximum strength, so as to read through whatever might be done in the way of furnishing and landscaping.

SUMMARY

Ground floor area: 1,436 sq. ft.
Total floor area: 1,602 sq. ft.
Type of contract: Schedule of quantities.
Tender date: April 1958.
Work began: July 1958.
Work finished: April 1959.
Tender price of foundations, superstructure, installations and finishes: £4,454.
Final contract price: £4,670.
Tender price of external works, drainage and ancillary buildings: £1,150.
Final contract price: £1,180.
Total: £5,850.

House at Lasswade

CLIENT'S REQUIREMENTS

A modern house taking advantage of the exceptionally fine view. Accommodation to include three bedrooms and a double garage.

PLANNING AIMS

To exploit in the simplest and most direct way the topography of the site, for the greater part a shelf of land 16 ft. wide between a road to the north and a steep slope to the south. To secure the best aspect for all the rooms in the house, and to ensure maximum privacy from the road. To ensure that the plan conformed to a simple structural grid.

The house was conceived as an enclosed terrace to the south, overlooking the view, and to gain sufficient width on the site, the reinforced concrete floor cantilevers 4 ft. for its full length. To keep the area of this structural floor to the minimum the second and third bedrooms are on an upper floor.

SUMMARY

Ground floor area: 1,031 sq. ft.
Total floor area: 1,362 sq. ft.
Type of contract: Schedule of quantities, fixed price labour and materials.
Tender date: May 15, 1958.
Work began: August, 1958.
Work finished: September, 1959.
Tender price of foundations, superstructure, installations and finishes: £7,024 19s. 7d.
Final contract price: £6,803 6s. 8d.
Tender price of external works, including drainage and ancillary buildings: £1,434 16s. 6½d.
Final contract price: £1,338 7s. 0d.
Total: £8,141 13s. 8d.

analysis

House at Dunbar

	cost per sq. ft.	s	d
Preliminaries and insurances		1	10
Contingencies			
None			

Work below ground floor level	8	10½
12-in. hollow wall to floor level, concrete foundations, hardcore filling, concrete sandwich floor and dpc membrane with fibreglass insulation to heating panels.		

STRUCTURAL ELEMENTS

Frame or load-bearing element
None.

External walls

12-in. hollow walls with 27-in. parapet. Solid brick chimney stack complete with fireplace unit. Facing brick externally.

$$\text{Ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{1.03}{1}$$

Windows

Timber casement windows.

$$\text{Ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0.35}{1}$$

External doors

Four glazed doors.

$$\text{Ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{0.06}{1}$$

Upper floors

None.

Staircase

Three steps between dining and living room. Width, 3 ft. 2 in. Total rise, 1 ft. 6 in.

Roof construction

7-in. × 2½-in. joists at 16-in. centres.
2-in. woodwool slabs.
Area: 1525 sq. ft. Timber box gutter to perimeter.

Glazing

Double glazing to windows and external doors.
Lens glass in internal doors.

Total of structural elements: 21s 7½d

House at Lasswade

	cost per sq. ft.	s	d
Preliminaries and insurances		4	6½
Contingencies			
None.			

Work below ground floor level	9	7½
Concrete strip foundations increased at stanchion bases. 11-in. cavity brick wall to floor level except south wall, where 13½-in. reducing to 9-in. Hardcore filling, concrete sandwich floor, 1 : 2 : 4 mix r.c. on d.p. membrane.		

STRUCTURAL ELEMENTS

Frame or load-bearing element
Steel frame and load-bearing brick.

External walls

11-in. cavity walling with ½-in. cement rendering externally.

Woodframing faced externally with impregnated redwood boarding and cedar battens.

Plastic coated steel panels.

$$\text{Ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0.02}{1}$$

1 7

Windows

Hardwood casement windows except for two sliding windows.

Framing to glazed portions of timber walls is included under "External walls" above.

$$\text{Ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0.43}{1}$$

6

External doors

Five glazed hardwood doors.

$$\text{Ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{0.07}{1}$$

Upper floors

1 in. t.g. softwood flooring on

7-in. × 2-in. joists at 18-in. centres.

Span average 12 ft.

Area: 297 sq. ft.

Normal domestic superloads.

2½

Staircases

1 suspended stair ½-in. × ½-in. m.s. bars and hardwood treads.

Width, 3 ft.; total rise, 9 ft.

4 2

Roof construction

A flat roof of timber joists and wood wool slabs.

Lower roof, 7-in. × 2-in. at 14-in. centres; upper roof, 9-in. × 2-in. at 18-in. centres.

Total area: 1,233 sq. ft.

4 8½

Glazing

½-in. plate generally with ¾-in. plate in living room.
Obscured glass in external doors. 7½-in. sq. halved glass blocks in garage.

Total of structural elements: 35s 2½d

analysis

House at Dunbar

PARTITIONS AND FITTINGS

Internal partitions

4½-in. brick. Area, 601 sq. ft.

Internal doors

3 single glazed. 2 single flush.

2 pairs double flush to cloakroom and larder.

Ironmongery

Generally Swedish and German in satin chrome finish.

Fittings

Window seat and cupboard fitment in living room, full-length wall wardrobes in bedrooms, cupboard in bathroom, servery hatch and kitchen cupboards. Sink unit, curtain pelmets in bedrooms.

Total of partitions and fittings: 8s. 6½d

FINISHES

Floor finishes

Type of finish	Area in sq. ft.	Cost per sq. yd.
Thermoplastic tiles	186	26s 3d
Iroko flooring	317	42s
Screeds for flooring and carpeting	1,390	
Skirtings.		

Wall finishes

Facing brickwork, flush-pointed brickwork, plaster, chipboard panels at clerestoreys, wall tiling in bathroom.

Ceiling finishes

Part timber lining, part plasterboard and plaster.

Roof finishes

3 layers bitumen felt on vermiculite screed falling to box gutter via felt finished vertical drops over windows. Felt lining with copper trim to gutter. Area 11,525 sq. ft.

Decorations

Externally, 3 coats gloss paint on wood and metal generally.

3 coats varnish on entrance door and sills.

Internally, 2 coats water paint on plaster ceilings; 3 coats varnish on timber ceiling; 2 coats eggshell gloss on plaster walls, 2 coats emulsion paint on flush pointed walls, 2 coats of gloss elsewhere.

Total of finishes: 13s 6d

House at Lasswade

PARTITIONS AND FITTINGS

Internal partitions

Type of partition	Area of each type
Stud	49 sq. yds.
Stone	9 sq. yds.
Breeze	25 sq. yds.
Concrete	5 sq. yds.

Internal doors

16 single flush hardwood faced doors; 1 single glazed, hardwood frame.

2 double flush hardwood faced doors.

Ironmongery

Teak and satin nickel lever to all external doors. Internal doors, s.n. lever or pull handles (Swedish and German).

Espagnolette casement fastenings and stays (Swedish).

Fittings

Central core of cupboards on ground floor.

Continuous bookcase unit in living areas.

Cupboard unit to bedroom 3. Kitchen units.

Total of partitions and fittings: 16s 10½d

FINISHES

Floor finishes

Type of finish	Area in sq. ft.	Cost per sq. yd.
Tiles	117	73s.
Iroko flooring	738	36s. 6d.

Wall finishes

¾-in. plaster on brick.

¼-in. mahogany plywood.

3-in. × 3-in. tiles in bathroom.

Ceiling finishes

Plasterboard with skim coat.

Roof finishes

Limestone chips on 3-layer bitumen felt on pumice concrete screed with aluminium edge flashing. Area: 1,233 sq. ft.

Decorations

External: walls, two coats tallow lime wash; wood, three coats flat varnish.

Internal: walls and ceilings, 2 coats water paint.

Woodwork, two coats flat varnish.

Total of finishes: 15s 2½d

analysis

House at Dunbar

SERVICES

External plumbing 8
 External r.w.p.s.
 Internal soil pipes with copper wastes.

Hot and cold water installation 1 7½
 70-gallon m.s. cistern and 36-gallon copper storage cylinder with immersion heater. Copper pipes.

Sanitary fittings 1 5½
 1 basin, 1 bath, 1 w.c., 1 steel sink unit.

Heating and ventilation 1 11½
 Electric floor heating, on time-switch off-peak tariff.
 Natural ventilation with opening casements.

Electrical installation 3 3½

Type of point	No. of each type
Lighting	18
1-way switch	10
2-way switch	4
Cooker	1
13-amp power	15

Total of services: 8s 11½d

Drainage 1 8½
 4-in. fireclay pipes to manhole.

Shillings per sq. ft. of floor area:
 £4,670 (net cost excluding drainage and ext. works)
 1,436 sq. ft. (floor area measured inside external walls) = 65 0½

CONTRACTORS

Builder: R. Baptie Baillie & Co. Sub-contractors: Joinery: George Low & Son. Glazing: City Glass Company. Electrical: J. Armet. Roofing: Neuchatel Asphalte Co. Ltd.

House at Lasswade

SERVICES

External plumbing 11½
 All r.w.p., soil waste and vent pipes are inside.

Hot and cold water installation 1 4½
 75 gallons m.s. cistern. 25 gall. copper storage cylinder with immersion heater. Copper pipes.

Sanitary fittings 2 0½

Type of fitting	No. of each type
Sink	1
Bath	1
Wash hand basins	2
W.c.s	2
Shower	1

Heating and ventilation 3 2½
 Electric floor heating (off-peak tariff) with independent thermostatic control for each room.
 Natural ventilation with opening casements.
 Extract fan over cooker.

Electrical installation 5 4

Type of point	No. of each type
Lighting	37
1-way switch	16
2-way switch	18
Cooker	1
13-amp power	13

Total of services: 12s 11d

Drainage 5 6
 Single stack system. 4-in. c.i. pipes under building
 4-in. fireclay pipes to septic tank. Cost includes septic tank.

Shillings per sq. ft. of floor area:
 £6,803 6s 8d (net cost excluding ext. works)
 1,362 sq. ft. (floor area measured inside ext. walls) = 99 10½

CONTRACTORS

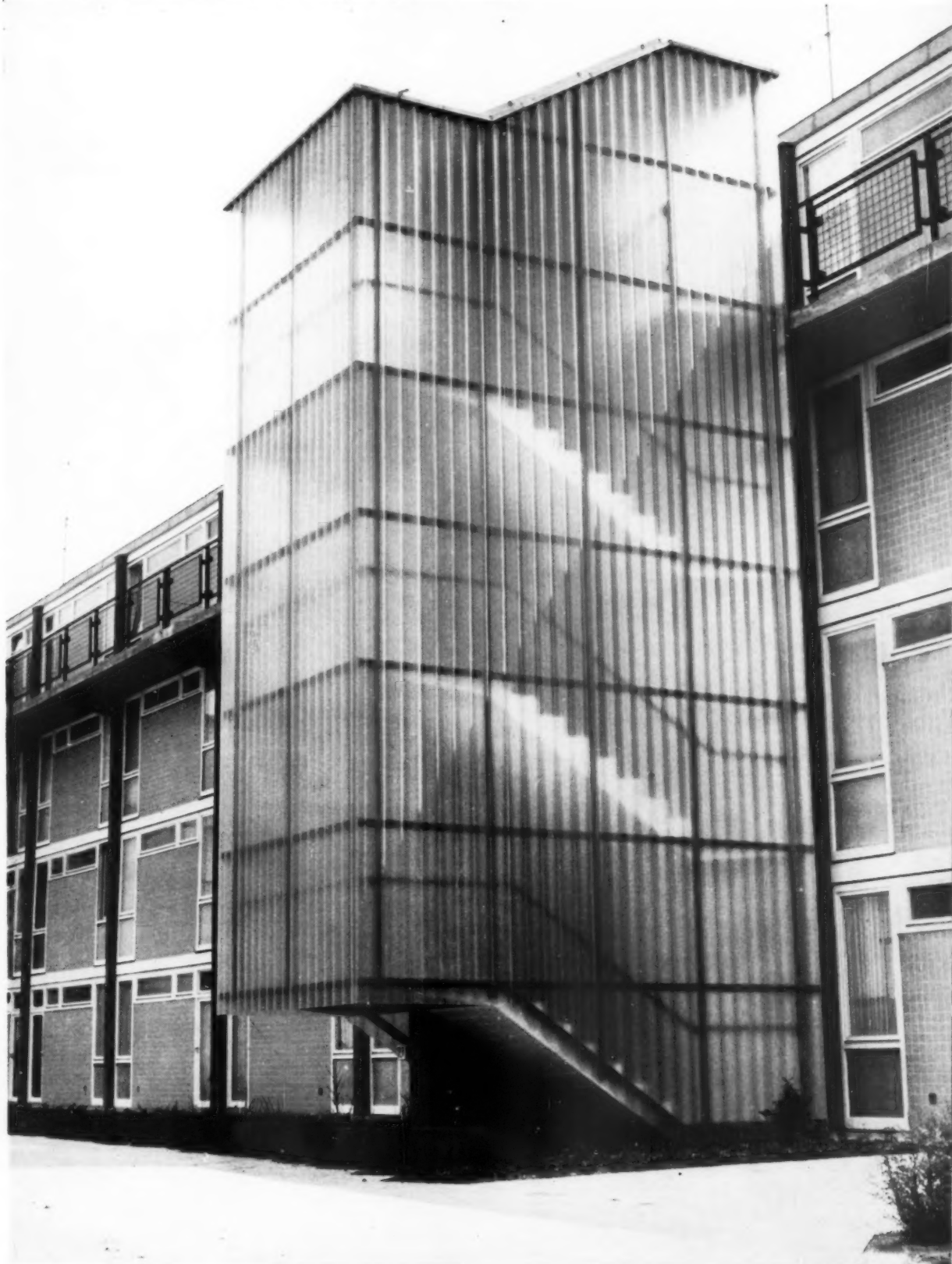
Builder: Houston & Brownlie. Sub-contractors: Glazing: James Thow Ltd. Bituminous felt roofing: H. V. Smith Ltd. Plumbing: McGowan & Co. Plastering: D. & G. Borthwick. Electrical: Richard Smith.

working detail

WALLS AND PARTITIONS: 89

STAIRCASE CLADDING: FLATS IN BERLIN

Paul Schneider-Esleben, architect (material supplied by Hans Haenlein)

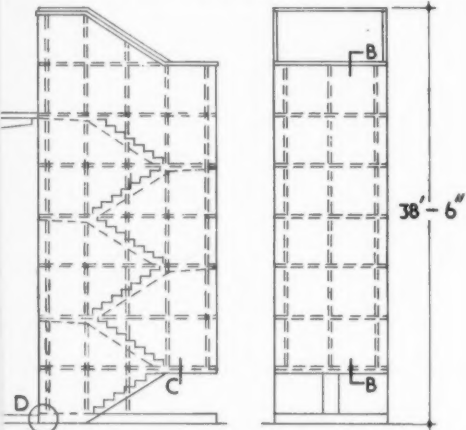


This use of translucent sheeting to enclose an escape stair may be questioned (the Germans have a confidence in the continued good looks of corrugated materials not shared by the English), but the detailing is well thought out. Note the architectural use of the simple timber sub-frame and the rainwater spout at roof level.

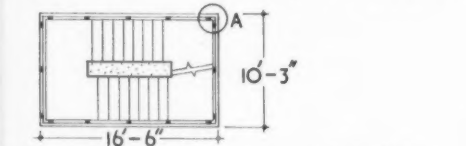
working detail

TAIRCASE CLADDING: FLATS IN BERLIN

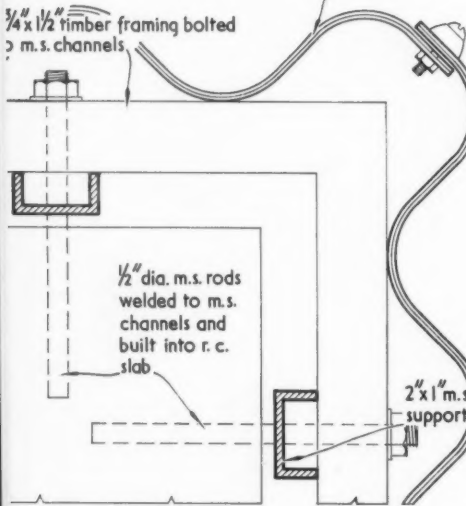
'aul Schneider-Esleben, architect (material supplied by Hans Haenlein)



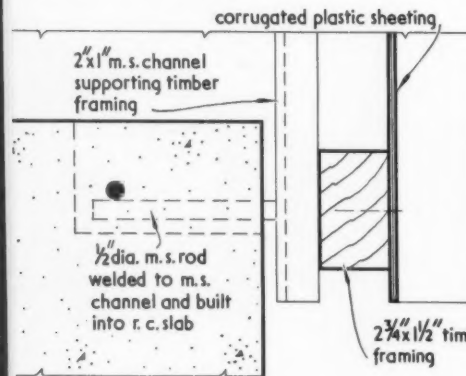
SIDE ELEVATION. scale 1/16" = 1' - 0"



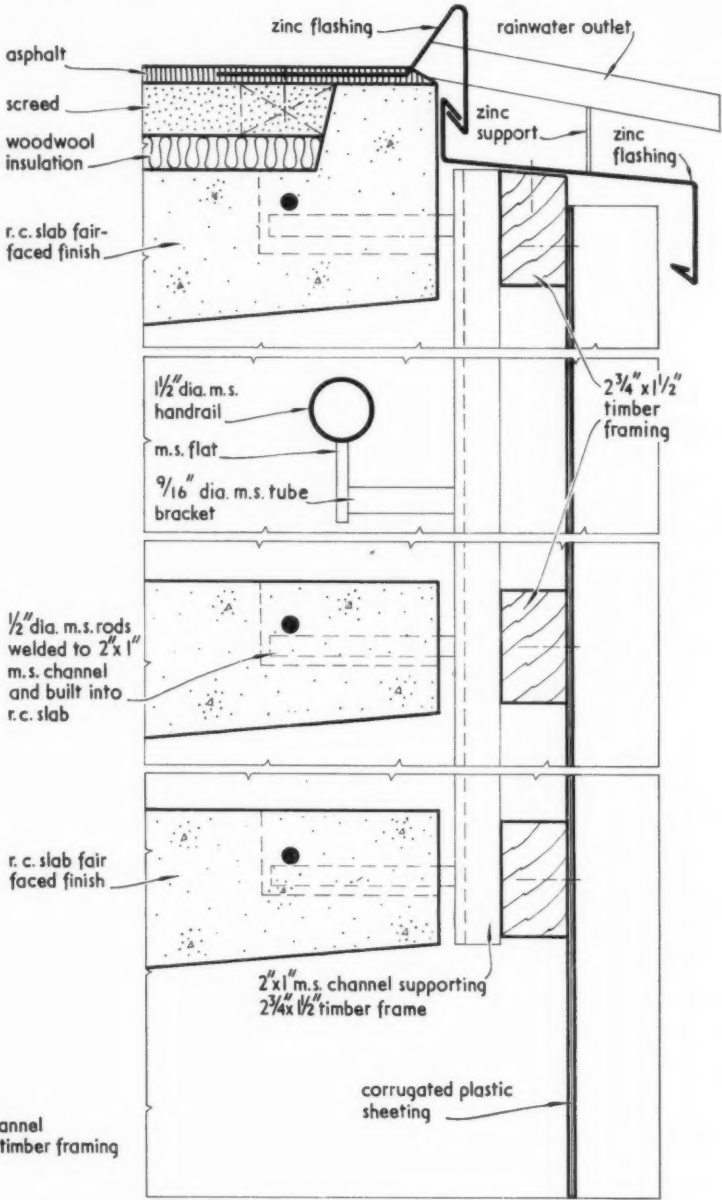
PLAN. scale 1/16" = 1' - 0"



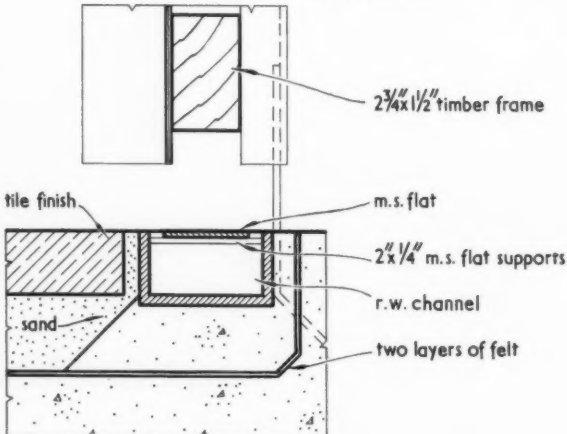
SECTION AT A. scale 1/4 full size



DETAIL AT C. scale 1/4 full size



SECTION B - B. scale 1/4 full size



DETAIL AT D.

note: figured dimensions in feet and inches are approximate

working detail

TIMBER STAIRCASE: FLATS IN BERLIN

Paul Schneider-Esleben, architect (material supplied by Hans Haenlein)

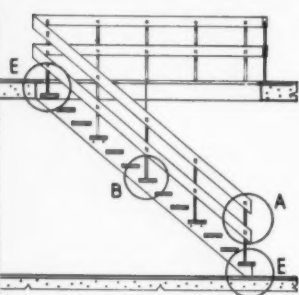


The designer of this stair uses wood to provide his architectural planes and steel on'y to give stiffness and unobtrusive fixing. Note that the timber strings are kept clear of plaster and floor surfaces, being bolted with mild steel plates. Note also the tie rods between the strings.

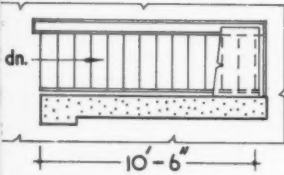
working detail

TIMBER STAIRCASE: FLATS IN BERLIN

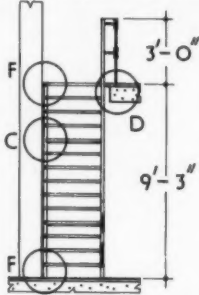
Paul Schneider-Esleben, architect (material supplied by Hans Haenlein)



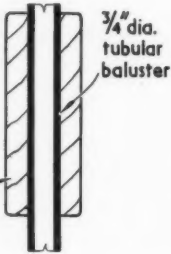
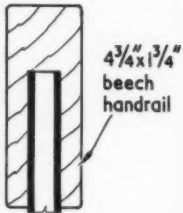
SECTION. scale 1/8" = 1' - 0"



PLAN. scale 1/8" = 1' - 0"



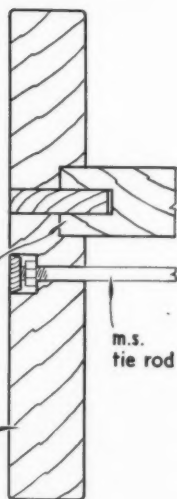
ELEVATION.



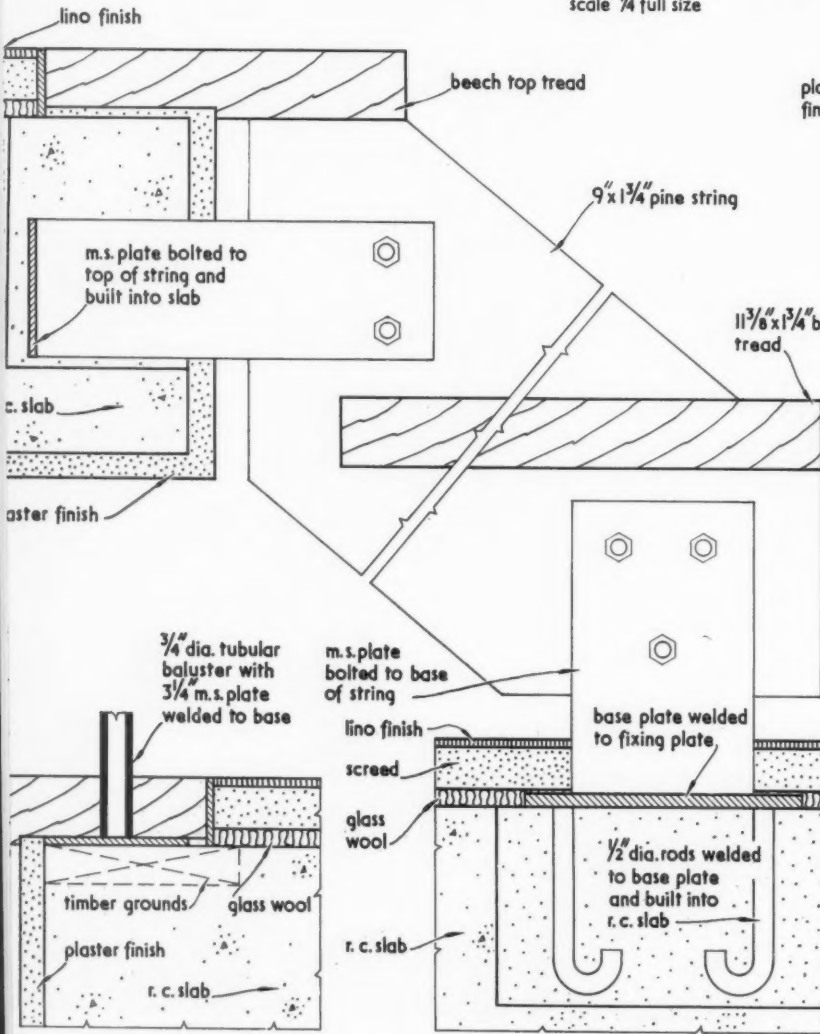
DETAIL AT A. scale 1/4 full size



DETAIL AT B.

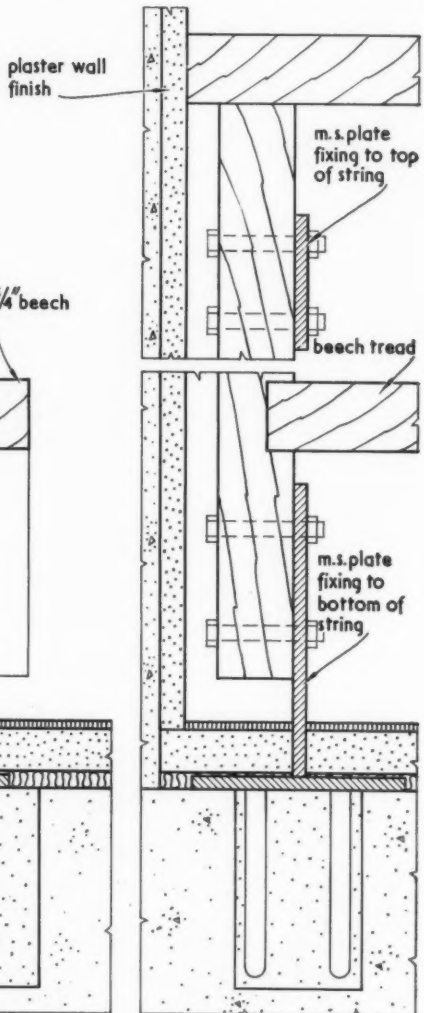


DETAIL AT C.



TAIL AT D. scale 1/4 full size

DETAIL AT E. scale 1/4 full size



DETAIL AT F.

note: figured dimensions in feet and inches are approximate

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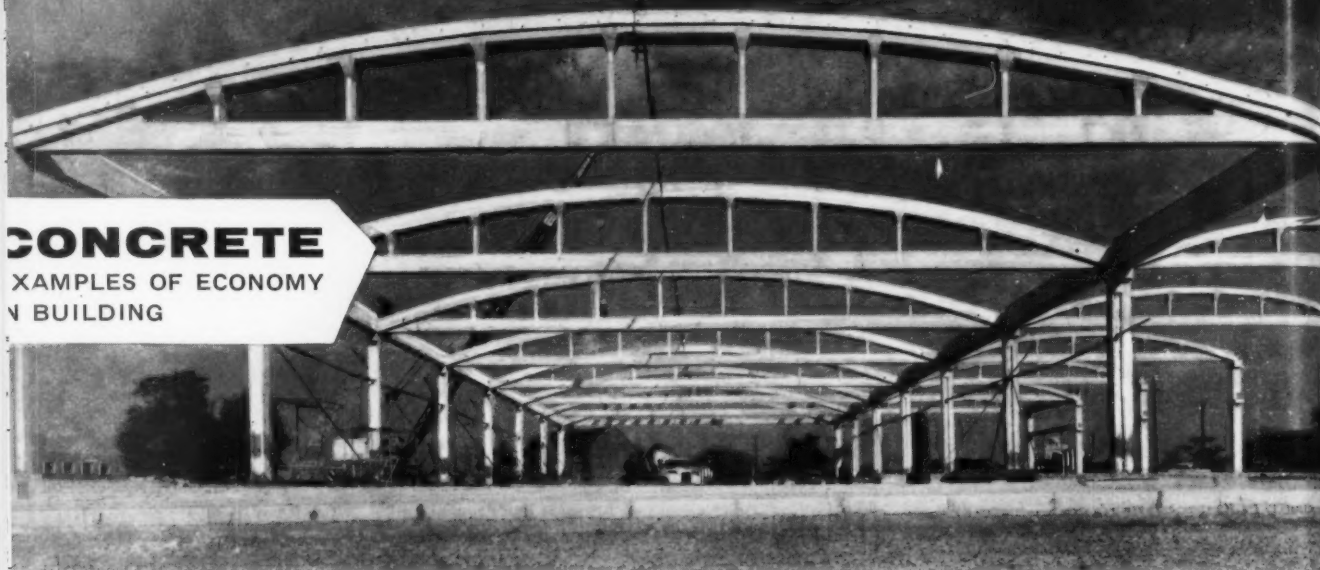
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A.15

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The perimeter and spine beams are hollow precast reinforced concrete and house the gutter. Outlets for rainwater pipes can be seen in the lower photograph adjacent to columns. Rebates in the sides of the columns, visible in the upper photograph, are for housing brick panel walls.

All columns are precast, external ones being 12" x 14" and 15" x 14", internal ones being 15" x 18" and corner columns 24" x 18".

Architect: Matthew Maybury, A.R.I.B.A.

Contractors: Carlton Contractors Ltd.

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CON.135

OLD PEOPLE'S FLATLETS AT OXFORD



Headley House, a two-storey block of old people's flatlets, opened at Oxford this month, was built by Oxford City Council (architect and planning officer, E. G. Chandler) as a pilot scheme embodying the ideas contained in the MOHLG booklet, Flatlets for Old People. New and controversial in the scheme is the sharing of bathrooms and lavatories. The T-shaped block contains 20 single flatlets consisting of bed-sittingroom and kitchenette, with four bathrooms and five lavatories provided on the north and east side of the corridors on each floor. Four double flatlets at the ends of the arms include a lavatory and washbasin of their own. The block also includes a communal sitting room and small laundry, warden's flat and minute guest room. The contract price of the scheme was £31,941.

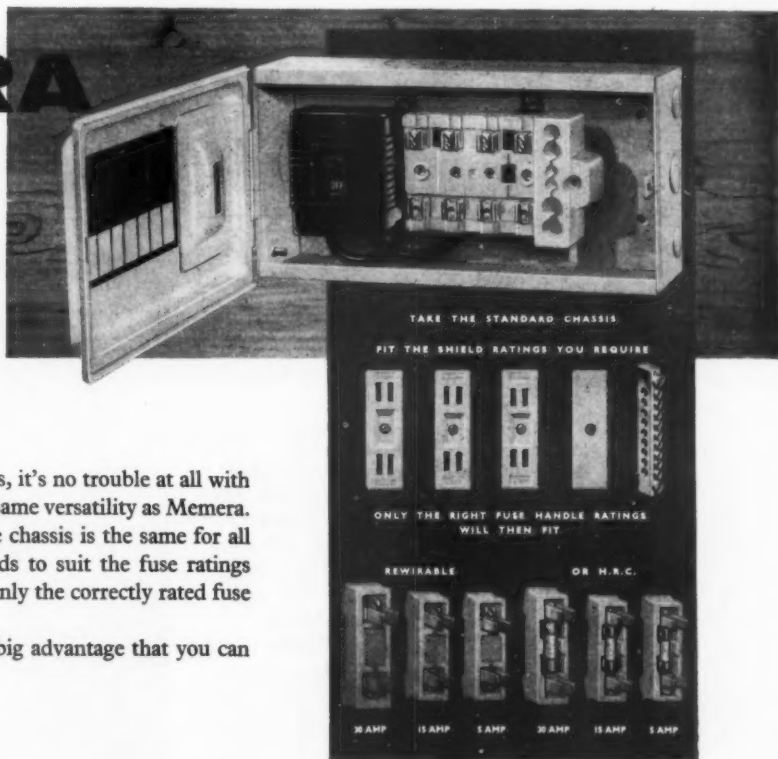
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Contractors

Laboratory and offices for British Standards Institution, Hemel Hempstead, Herts (pages 164-172). *Architect:* Bruce Martin, A.R.I.B.A., *Modular Co-ordination Studies, BSI. Assistant architect:* John Weate, A.R.I.B.A. *Quantity surveyor:* Nigel Rose of Lemon and Blizzard. *Consultants (structure):* A. V. R. Bowen of British Aluminium Co. (*landscape*): H. F. Clark. *General contractor:* Allen Fairhead & Sons Ltd. *Sub-contractors:* *Structural frame and roof sheeting:* Templewood Hawksley Ltd. *Timber framed windows:* General contractor, under licence from Tomo Trading Co. Ltd. *Ironmongery:* James Gibbons Ltd. *Naco louvres:* N. V. Appleton. *Asbestos panels:* G. R. Speaker. *Vitreous enamel steel panels:* Stewart and Gray. *Sanitary fittings:* Shanks & Co. Ltd. *Floor heating installation:* Eastern Electricity Board. *Lighting and power installation:* Brunel Electro-Installations; Bromley and Ekco-Ensign Electrics Ltd. *Gas installation:* Eastern Gas Board. *Sliding window units:* P. G. Allday. *Pleated blinds:* Tomo Trading Co. Ltd. *Venetian blinds:* Venetian Blinds Ltd. *Lettering:* Ward & Co. (Sign Letters) Ltd.; Compra Plastics Ltd. *Cupboard units:* Bruynseel Wood Products Co. Ltd. *Joinery:* E. C. Rodge. *Cycle blocks:* Stelcon Ltd. *Ventilation:* Vent-Axia Ltd.; Greenwoods Airvac Ventilating Co. Ltd. *Pitch fibre pipes:* Key Engineering Ltd. *Manholes:* Mono Concrete Co. *Glazing:* Faulkner-Greene Ltd. *Walling erection:* Industrial Engineering Ltd. *Special screws:* British Screw Company Ltd. *Gline-panels:* Gliksten Building Materials. *P.v.c.-coated fabric:* Storeys of Lancaster. *Emulsion paint:* Vitretex Ltd. *Oil paint:* Walpamur. *Linoleum:* Haskel Robertson Ltd. *Lino supplier:* Catesbys. *Foamed plastic panels:* Jablo Plastics Industries. *Isolite:* William Kenyon and Sons Ltd.

Laboratory fittings: J. S. Folkard & Co. Ltd. *Floor sealer:* Floor Treatments Ltd. *Timber sealer and polish:* Cellon Ltd. *Sliding door gear:* Beckett, Laycock and Watkinson Ltd. *Additional builders work:* Dunham Builders Ltd. *Reinforcing fabric:* BRC. *Building paper:* J. H. Sankey. *Furniture and fabrics:* Russell Furnishings. *Furniture:* ESA; Russell Furnishings; and Conran Furniture. *Site shaping:* Garden Services Ltd. *Aluminium extrusions:* Northern Aluminium; British Aluminium Ltd. *Mastic:* Kelseal; Storry Witty & Co. Ltd. *York stone and cobbles:* Fitzpatrick. *Clocks:* Gent & Co. Ltd. *Internal telephones:* Modern Telephones Ltd. *Light fittings:* Frederick Thomas, Ekco Ensign Electric Ltd.; Lumitron Ltd. *Switch gear:* Revo Electric Co. Ltd. *Plastic extrusions:* Howard Clayton-Wright Ltd.

Announcements

PROFESSIONAL

Laurance G. D. Thompson, dip.Arch.(Edin.), A.R.I.B.A., and Eleanor G. Thompson, dip.Arch.(Edin.), A.R.I.B.A., have commenced practice at 135, Main Street, Larne, Co. Antrim, N. Ireland, where they will be pleased to receive trade catalogues, etc.

Bryden & Woodford, Chartered Quantity Surveyors, of 33, Catherine Place, S.W.1, have now opened a branch office at 28, Wilkinson Street, Sheffield, 10, under the management of Brian Mitchell, A.R.I.C.S., who will be pleased to receive trade literature.

H. Place, F.R.I.C.S., Chartered Quantity Surveyor, of Reform Club Buildings, Peel Street, Farnworth, and 46, Yorkshire Street, Burnley, has taken into partnership Gordon Holt, A.R.I.C.S., who will be in charge of the Burnley office. The style of the firm will in future be known as Harry Place & Partners.

The firm of Westwood Sons & Partners, Chartered Architects, has now changed its name to Bryan & Norman Westwood & Partners.

M. H. Dove, B.A.(Arch.), A.R.I.B.A., and Deirdre C. Dove, A.R.I.B.A., are now in practice at Blackheath, under the title of Myles and Deirdre Dove. Trade catalogues with price lists should be sent to 1, Montague House, Dartmouth Hill, London, S.E.10 (telephone Tideway 1313).

TRADE

Bowater Sales Co. Ltd. announce that Walter Griffiths has been appointed Sales Manager of Flexpipe Ltd., now a member of the Bowater Organization.

J. V. Turner, Chairman and Managing Director of PSC Equipment Ltd., is now Chairman of the newly set up International Committee for the co-ordination of pre-stressing affairs throughout the world.

Truscon Ltd. have now moved their Birmingham office to George House, George Road, Edgbaston, Birmingham, 15 (telephone Edgbaston 4391/2/3).

Atlas Copco (Great Britain) Ltd. announce that T. M. Horn is retiring from the position of Manager of the Leeds Branch. His successor is A. W. Tombleston.

Corrections

Laboratory benches, chairs and tables at Arnold School, Nottingham (cost analysed AJ, December 17, 1959) should have been credited to Geo. M. Hammer & Co. Ltd.

In the list of cost analyses published in the AJ for January 7, the date of the Folkestone School was given as 6.11.59 instead of 26.11.59.



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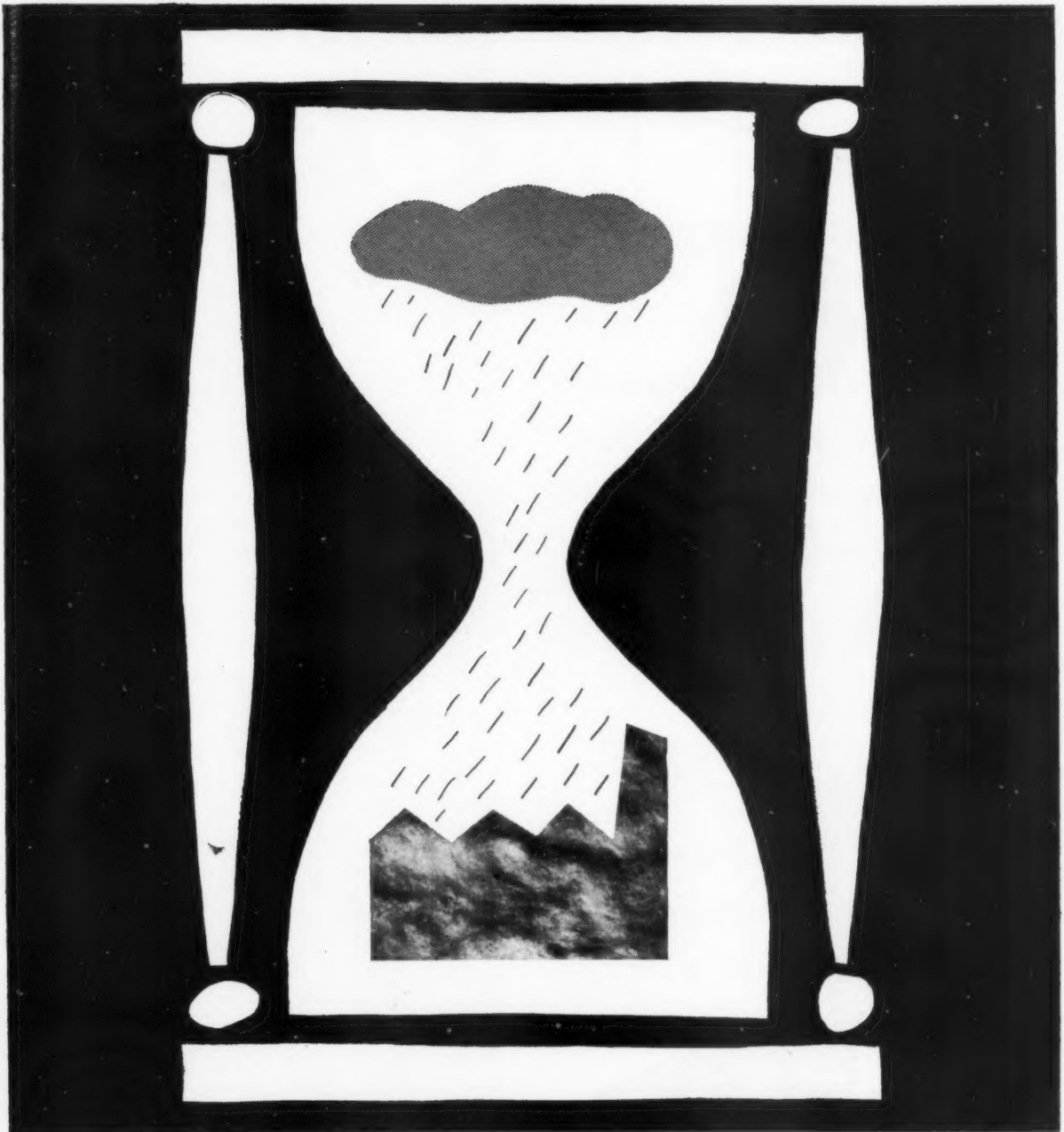




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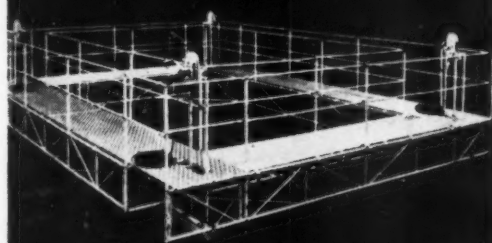
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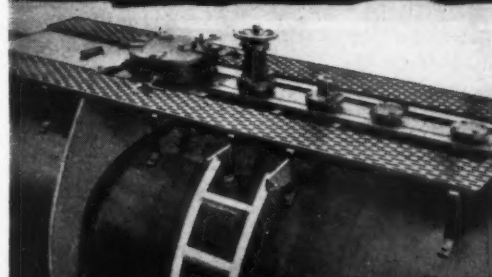
AP151



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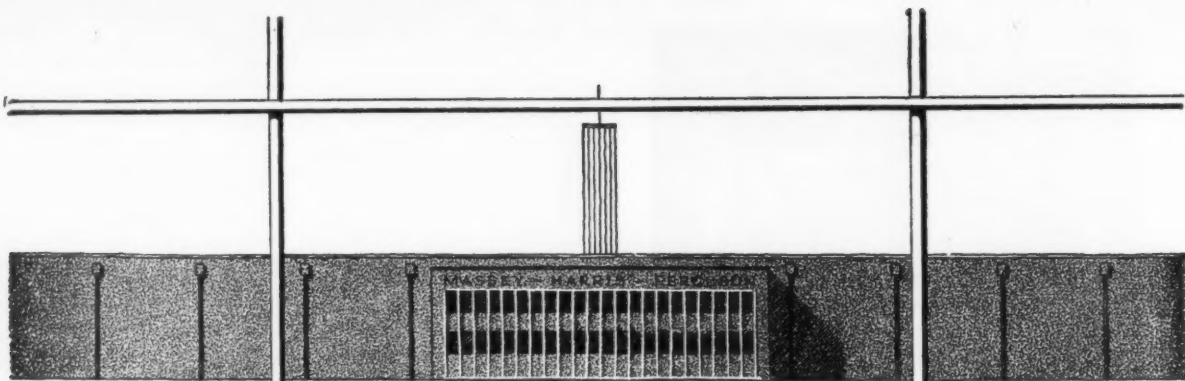
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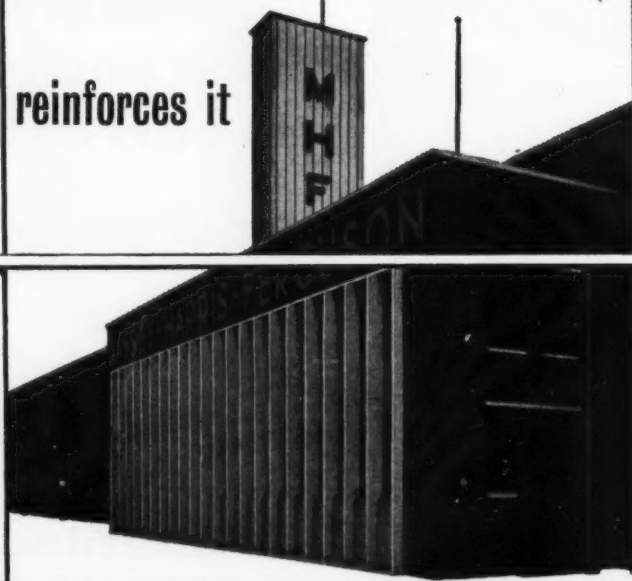
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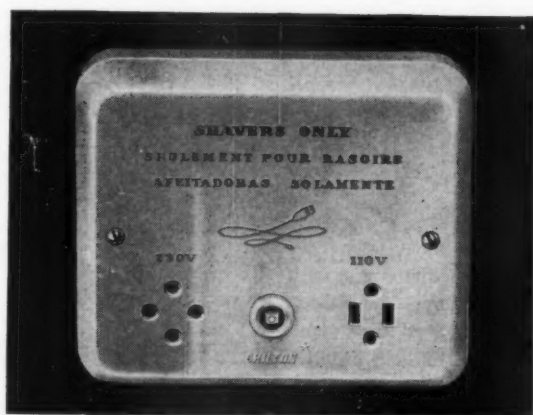


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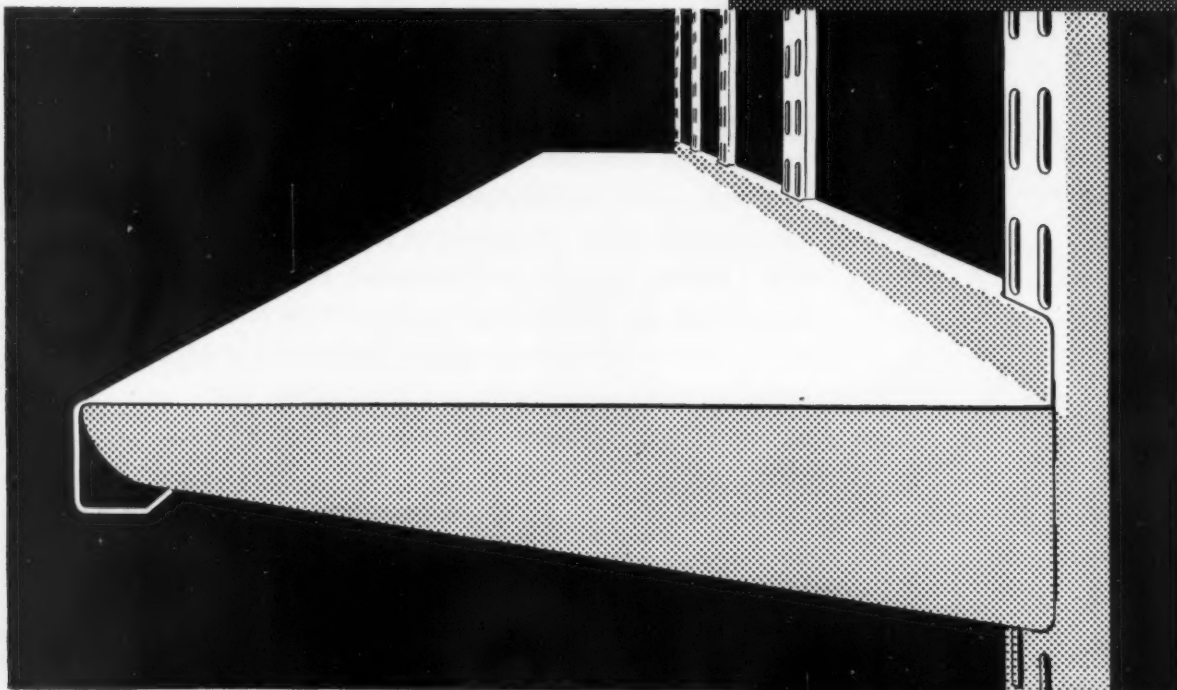


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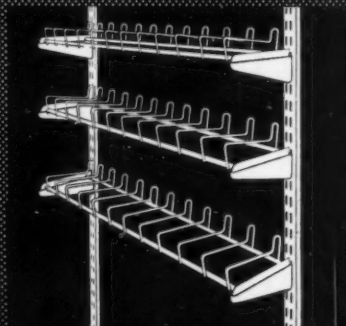
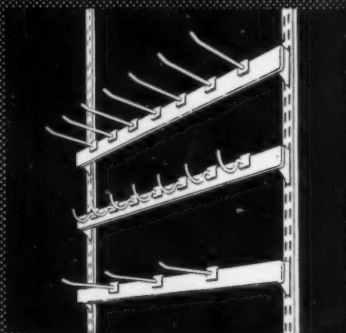
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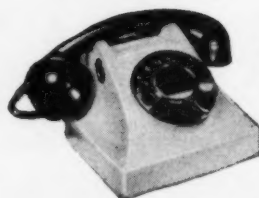
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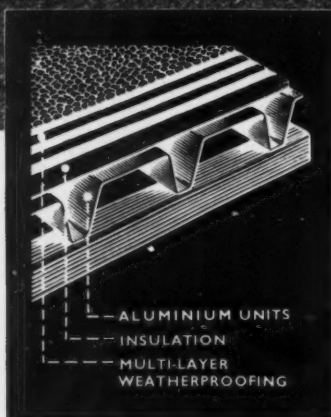
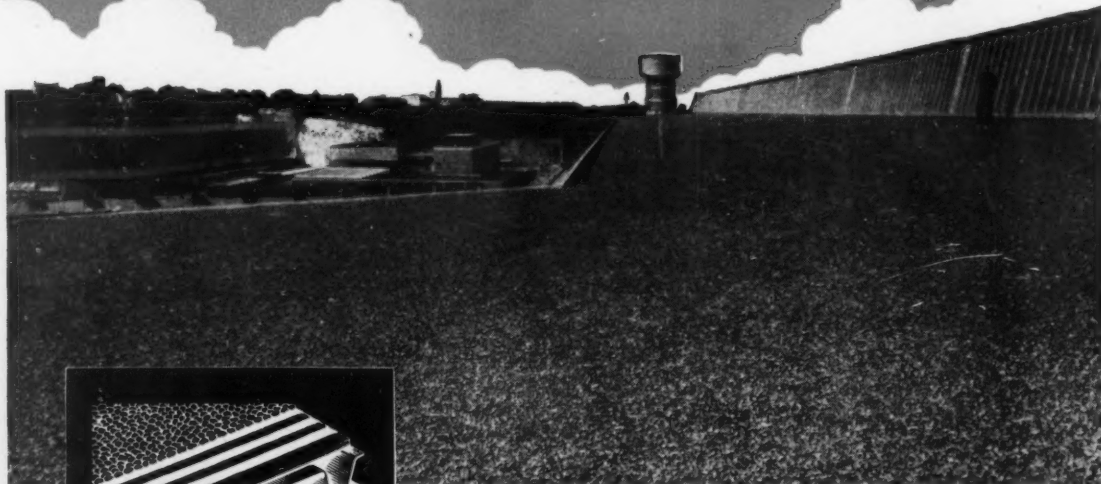
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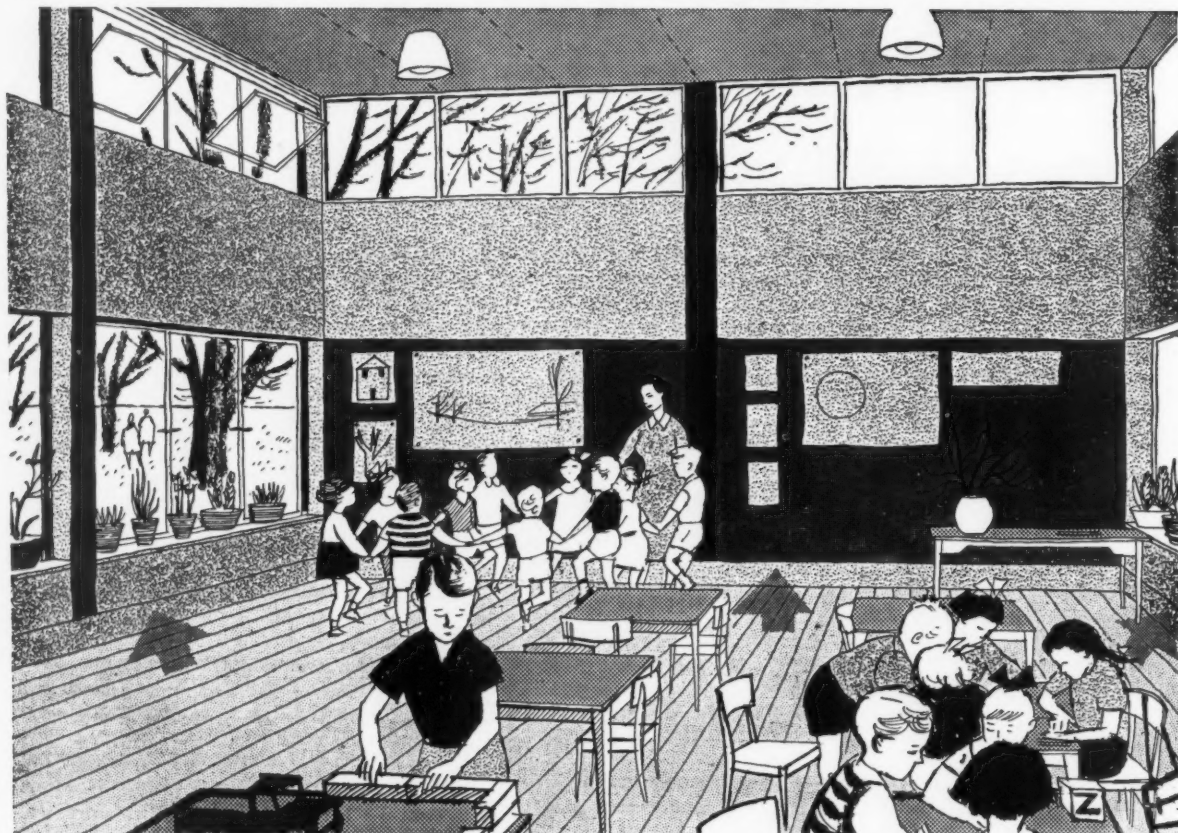
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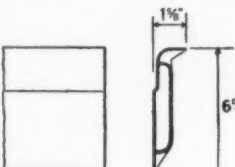
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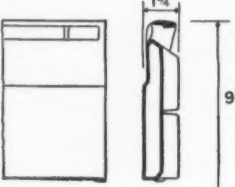
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Floor line

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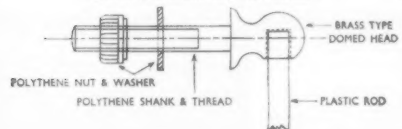
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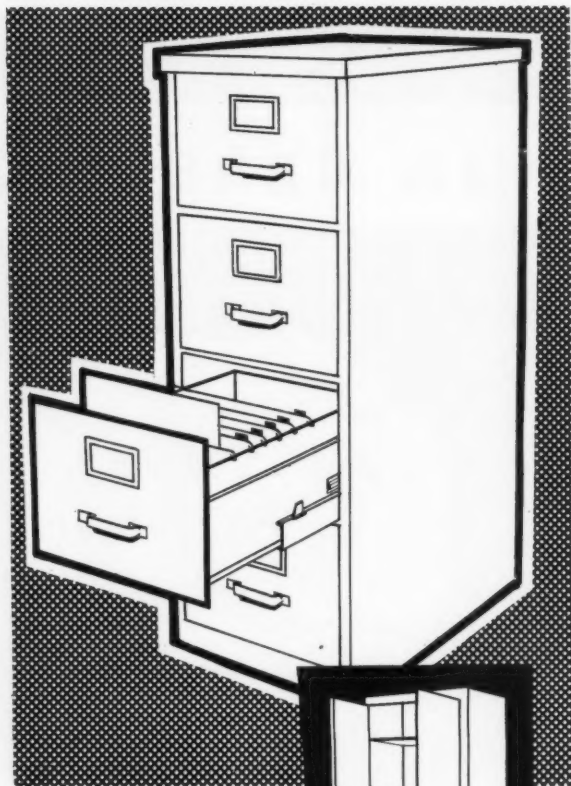
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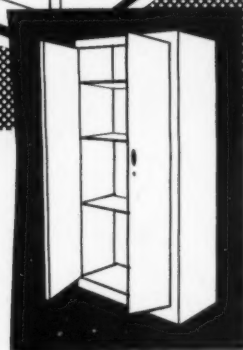


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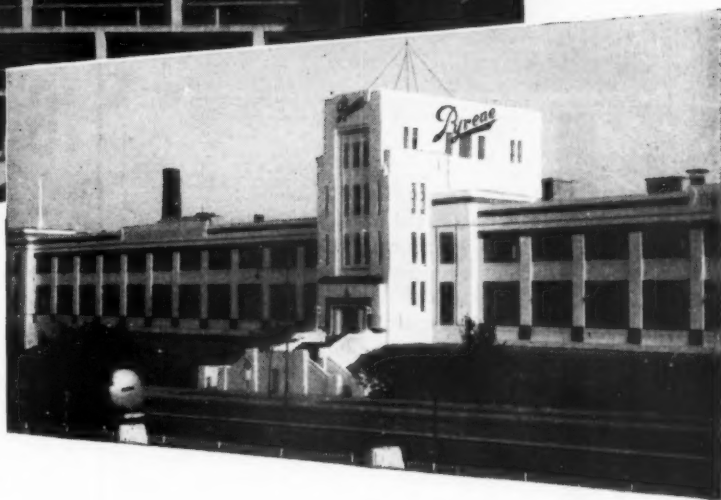
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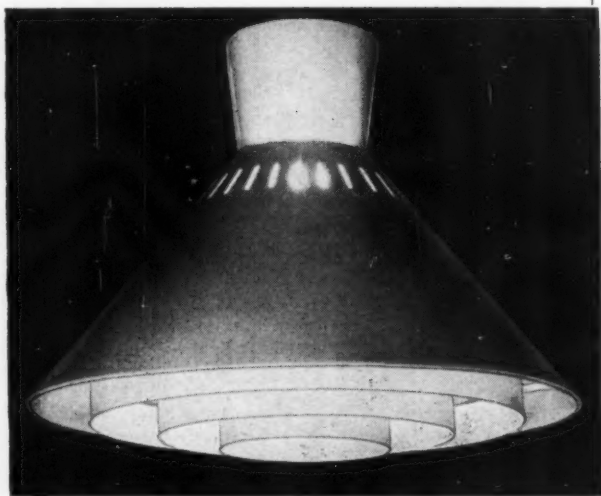
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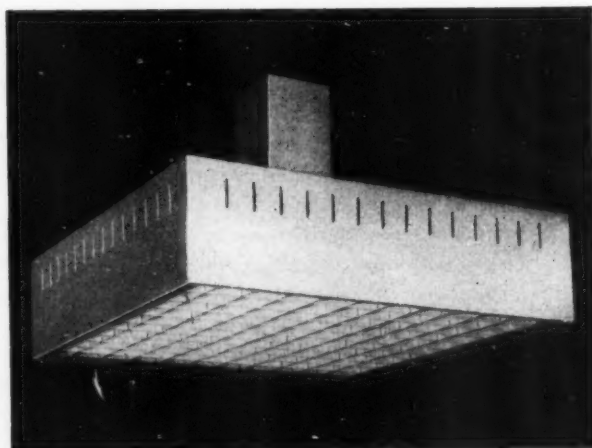


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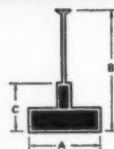
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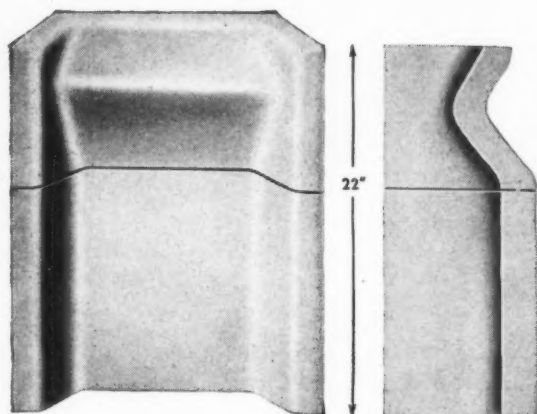


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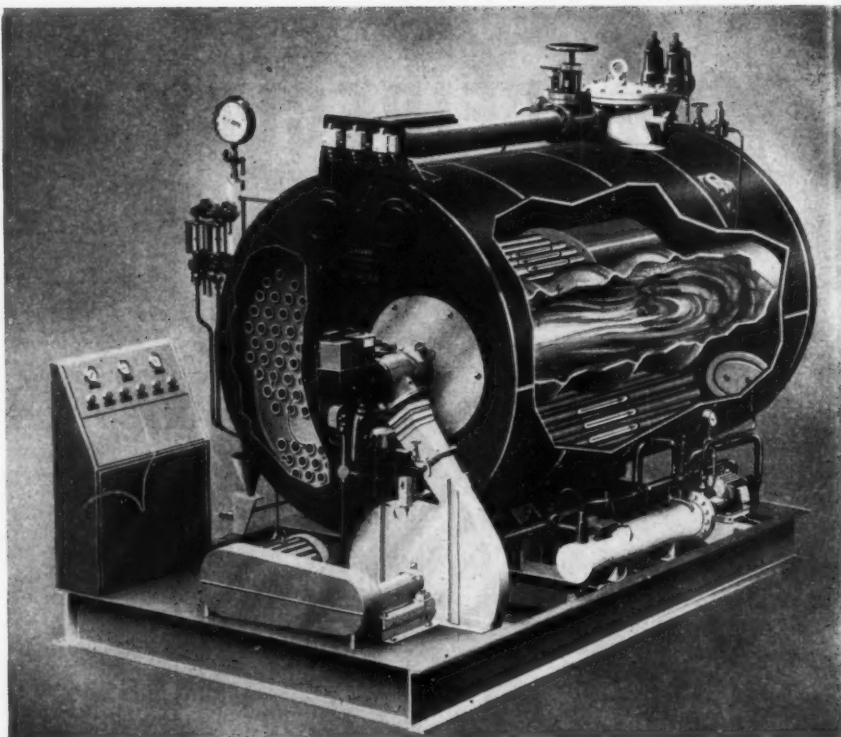
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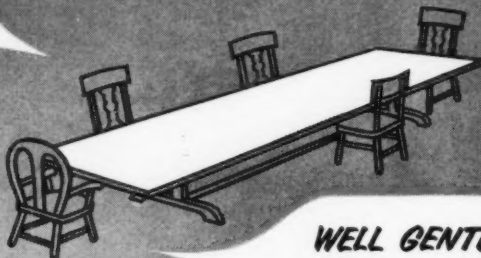
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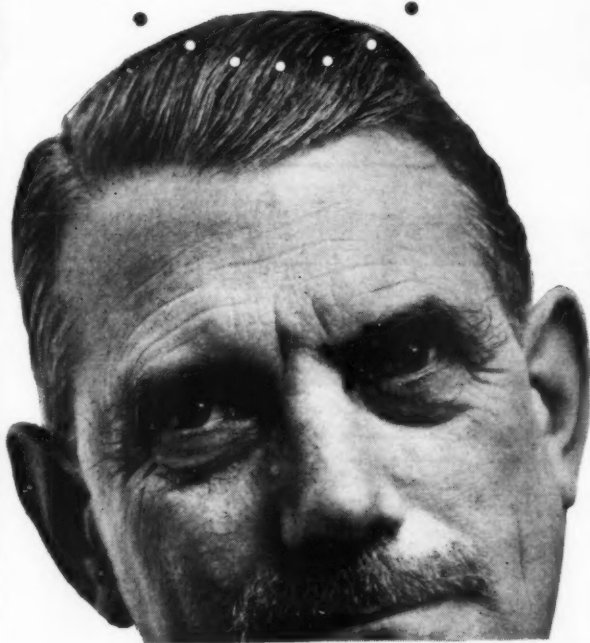
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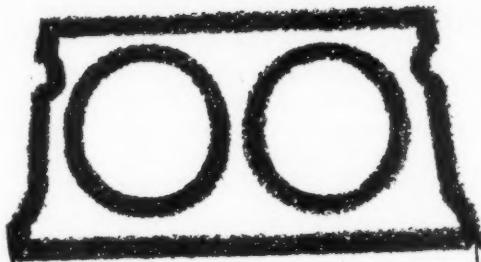
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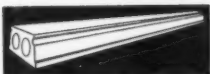
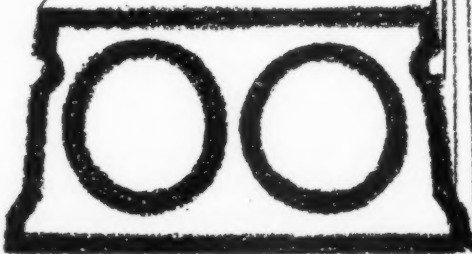
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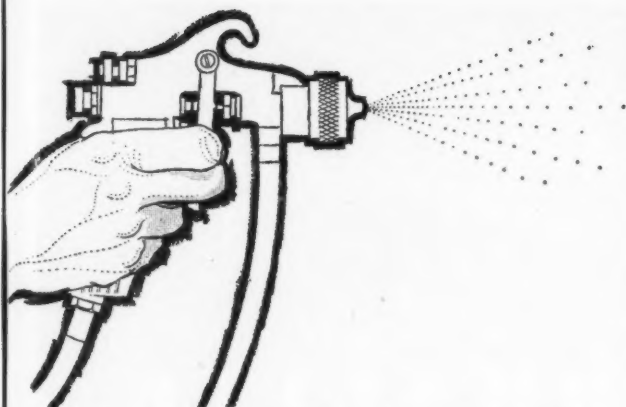
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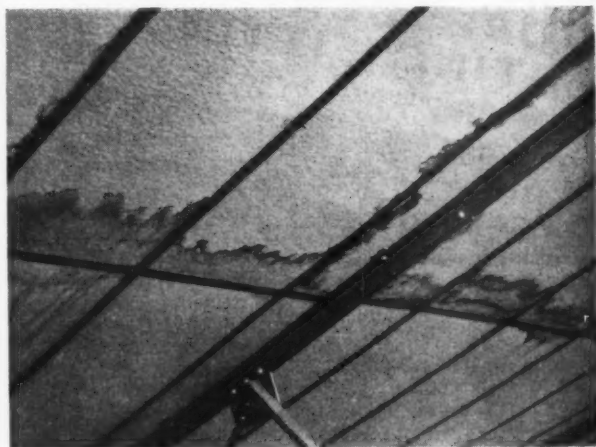
has been developed by the 'Cocoon' and 'Texi-koon' teams, whose skill and technical 'know-how' protected the Royal Navy's battleships and the aero-engines of the R.A.F.

The 'Plastapak' system enables a continuous film to be spray applied to rooms and buildings of orthodox construction to provide:—

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Before the application of "Plastapak" the ingress of moisture was a serious problem in this roof.

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Miss Jones
is
walking on air

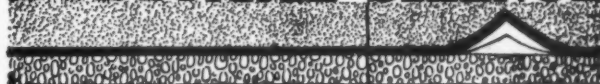
Yes, Miss Jones really is walking on air, or to be exact, she's walking on millions of tiny air cells each cushioning her step against noise and fatigue.

What's more, she will be able to walk over exactly the same piece of flooring in five, ten or fifteen years time, and it will still absorb the noise and wear just as efficiently as the day it was first put down.

What Miss Jones is walking on is, of course, Bulgomme-Silence, the amazing cellular based rubber flooring that can never collapse or lose its elasticity.

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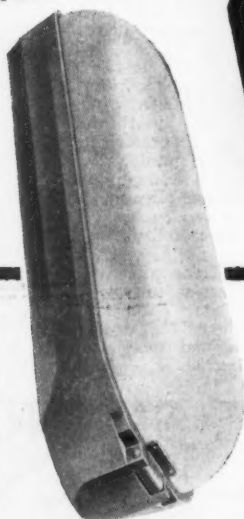
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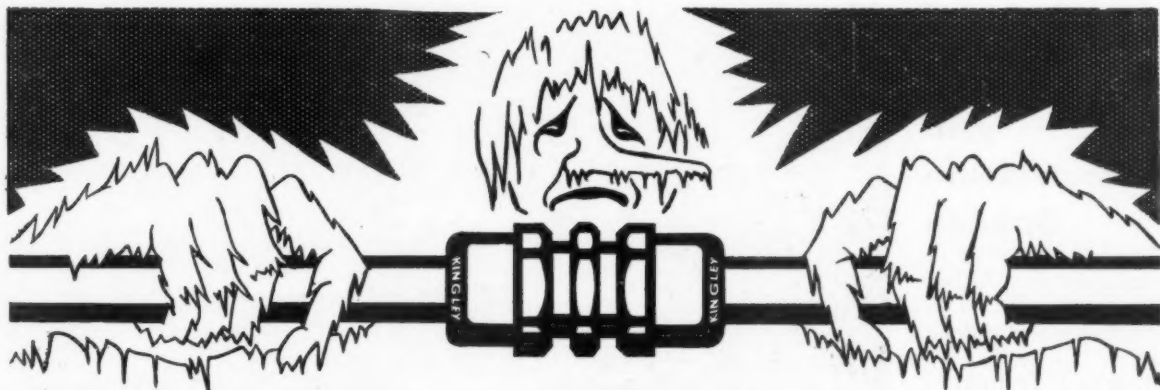
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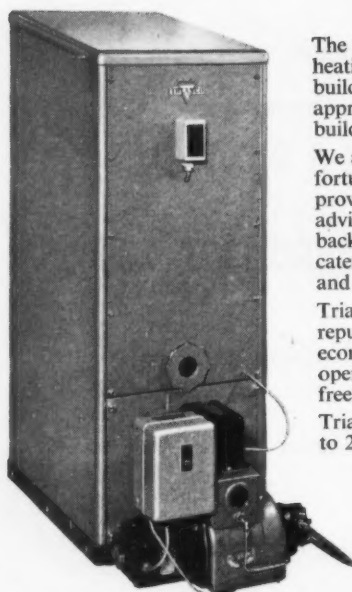
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Playgrounds and Recreation Spaces

Introduction by Alfred Ledermann and Alfred Trächsel. Translated by Ernst Priefert.

Size 8½ by 11½ in. 176 pages with 302 halftones and 83 line illustrations. 63s. net, postage 2s. 0d.

just published



It is now recognised by planners and local authorities that imaginatively-designed children's playgrounds and adult recreation spaces should be regarded as an essential amenity for all urban areas of any size, whether new or old; but so far very few really successful examples have appeared in the British Isles, and children in towns and cities continue, at their peril, to play their games in streets

and on roads. On the Continent, in Scandinavia and in the U.S., however, the subject is being tackled with the seriousness and care that it deserves, and there are many interesting and successful solutions to be seen. This book, after short introductory essays written by two of Europe's leading playground designers, consists of photographs and plans of a great variety of interesting examples

taken from many countries. Each of the schemes illustrated is accompanied by a short explanatory text, together with notes on constructional details. Examples shown range from the smallest and most inexpensive to large schemes covering many acres, and they contain a wide variety of ingenious ideas, constructions and equipment for play and recreation.

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CLASSIFIED ADVERTISEMENTS

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

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

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

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BUILDING SURVEYORS

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

Up to £1,135, commencing according to qualifications and experience. Application form and particulars from Hubert Bennett, R.I.B.A., Architect to Council, EK/111/59, County Hall, S.E.1. (2638.) 7132

BOROUGH OF SWINDON

TOWN PLANNING OPPORTUNITIES
The Borough is expanding rapidly under the Town Development Act, and there is considerable scope for imaginative and skilful planning work—both in the layout of the large open areas earmarked for expansion, and in the town centre, which is being extensively remodelled and developed on pedestrian way lines for shopping. Applications are therefore invited for the following appointments in the Borough Surveyor and Planning Officer's Department:—

- SENIOR PLANNING ASSISTANT A.P.T. IV** (£1,065–£1,220). Candidates should have had suitable experience and have passed the final examination of the Town Planning Institute.
- PLANNING ASSISTANT (VALUATION) A.P.T. II** (£765–£880). Duties will include valuation reports in connection with planning proposals including redevelopment. Candidates should have passed the intermediate examination of the R.I.C.S. or possess an equivalent qualification.
- PLANNING ASSISTANT A.P.T. I** (£610–£765) or **A.P.T. II** (£765–£880) according to qualifications and experience.
- TOWN PLANNING PUPIL** (age 16 or over) General Division (£240–£595 according to age, with annual increments of £30 or £35). Candidates must possess the minimum entrance qualifications required for the profession, details of which will be sent on request. Practical training and supervision will be given for a period of three years, together with one day off with pay per week for the pursuance of approved studies under the Corporation's Post-entry Training Scheme.

Consideration may be given to the allocation of HOUSING ACCOMMODATION in the case of appointments (a), (b) and (c).

Applications, on forms to be obtained from the Town Clerk, Civic Offices, Swindon, should be submitted as soon as possible and in any case not later than 16th February. 7885

THE ROYAL INFIRMARY OF EDINBURGH AND ASSOCIATED HOSPITALS

ARCHITECTURAL ASSISTANT
Applications are invited from candidates holding the Intermediate certificate of the R.I.B.A. and having practical experience. Varied and interesting work. Starting salary £525 to £605 per annum according to age and experience. Apply in writing to Personnel Officer, Royal Infirmary, Lauriston Place, Edinburgh, 3. 7647

WARWICKSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT
PLANNING ASSISTANT—GRADE A.P.T. I/II (£610–£880 per annum)

The post is in the Development Plan Section and the appointment is superannuable and subject to the National Scheme of Conditions of Service. Consideration will be given to the granting of financial assistance towards removal expenses.

Applicants must have passed the Intermediate Examination of a professional body, preferably that of the Town Planning Institute. Commencing salary will be according to experience.

Applications stating age, education, qualifications and experience, together with the names of two referees, should be sent to J. J. BROOKS, County Planning Officer, Northgate, Warwick, not later than Monday, 8th February, 1960.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick. 8053

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT

Vacancies occur on the permanent staff for ASSISTANT ARCHITECTS to act as Team Leaders for a large and increasing programme of work, chiefly educational buildings. Must be A.R.I.B.A. and capable of controlling team. Grade A.P.T. IV, £1,065–£1,220. Commencing salary within the grade dependent upon experience.

N.J.C. Conditions of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Council.

Applications giving age, qualifications, experience, present post and salary and the names of two persons to whom reference can be made to be sent not later than 1st February, 1960, to the County Architect, County Offices, Lincoln. 7611

WEST SUSSEX COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

- ASSISTANT COUNTY ARCHITECT**, at a salary in accordance with Scale B (£1,265 × £55 (4)–£1,485).
- CHIEF HEATING, MECHANICAL, ELECTRICAL ENGINEER**, at a salary in accordance with Scale A (£1,130 × £55 (4)–£1,350).
- SENIOR ASSISTANT HEATING, MECHANICAL ENGINEER**, at a salary in accordance with A.P.T. Grade IV of the National Scales of salaries (£1,065–£1,220).
- ASSISTANT MAINTENANCE SURVEYORS**, one on A.P.T. Grade II (£765–£880) and one on A.P.T. Grade I (£610–£765).
- ARCHITECTURAL ASSISTANTS**, one on A.P.T. Grade II (£765–£880) and one on A.P.T. Grade I (£610–£765).

Commencing salary in all cases will be 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 the 10th February, 1960. 7860

BOROUGH OF WREXHAM

ENGINEER & SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments:—

- 2 ENGINEERING ASSISTANTS**, Salary Range Specialist Grade (£785–£1,070 per annum).

Candidates should have passed the appropriate examinations of the Institute of Civil or Municipal Engineers or equivalent and have a general experience of Municipal Engineering.

- 2 ARCHITECTURAL ASSISTANTS**, Salary Range Specialist Grade (£785–£1,070 per annum).

Candidates should have passed appropriate examinations of the R.I.B.A. or equivalent and have general experience of Architectural work.

Casual car user allowance payable on authority of the Borough Engineer.

HOUSING ACCOMMODATION supplied, if required.

Forms of application and particulars of works in hand may be obtained from the Borough Engineer and Surveyor, 31 Chester Street, Wrexham, and applications stating age, experience, qualifications, etc., and the names of two referees to be sent to the undersigned by not later than the 5th day of February, 1960.

PHILIP J. WALTERS,
Town Clerk.

Guildhall,
Wrexham.
11th January, 1960. 7888

NORTHERN IRELAND HOUSING TRUST

The Trust invites applications for the following posts:—

- ASSISTANT ARCHITECTS**—Scales ranging from £950–£1,300. Candidates must be qualified architects and placing will be according to experience.

- ARCHITECTURAL ASSISTANTS**—Scales ranging from £650–£950. Placing will be according to qualifications and experience.

The persons appointed will be required to participate in a contributory superannuation scheme which allows for the reciprocal transfer of benefits in Local Government Schemes in suitable cases.

Assistance in obtaining housing accommodation may be given in suitable circumstances to the successful candidates.

Please apply not later than 12th February, 1960 giving full details of age, education, qualifications and experience, including present post and salary, to the General Manager, Northern Ireland Housing Trust, 12 Hone Street, Belfast, 12.

For post (a) please mark envelope 33/77.
For post (b) please mark envelope 33/78. 8025

ADMINISTRATIVE COUNTY OF LEICESTER

(a) SENIOR ASSISTANT ARCHITECT

£1,075–£1,220.

(b) ASSISTANT ARCHITECT £785–£1,070.

Candidates for (a) must be Chartered members of the R.I.B.A. have had considerable experience and be capable of taking charge of contracts from inception to completion; for (b) must have passed Parts I and II of the R.I.B.A. final and be capable of executing working drawings.

Lodging allowance and removal expenses may be paid to a married man.

Apply by 12th February, 1960 on form obtainable from County Architect, 123 London Road, Leicester. 8057

SOUTHAMPTON COUNTY BOROUGH COUNCIL requires under N.J.C. conditions of service: ASSISTANT QUANTITY SURVEYOR, salary within the Special Grade, £785/£1,070. Applicants must be chartered quantity surveyors, preferably with experience in municipal housing including multi-storey flats and shopping centres.

Consideration will be given, if necessary, to the provision of housing accommodation.

Apply on application forms, obtainable from the Borough Engineer and Surveyor, Civic Centre, Southampton, by Monday, 8th February, 1960. 7884

LONDON ELECTRICITY BOARD

ARCHITECTURAL DRAUGHTSMAN

Applications are invited for the position of Architectural Draughtsman in the Architect's Section of the Board.

Applicants should be neat draughtsmen and have had experience in an Architect's office. Preference will be given to those who are taking recognised course of study with a view to obtaining architectural qualifications.

The post is graded under Schedule "D" of the National Joint Board Agreement as Grade VI (£660 to £780 per annum, inclusive of London Allowance).

Application form obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2, to be returned completed within fourteen days of the publication date of this advertisement. Please quote ref.: PER/V/2721/A. 7849

HEREFORDSHIRE COUNTY COUNCIL

SENIOR ASSISTANT ARCHITECT required on A.P.T. IV (£1,065 to £1,220 per annum). Must be A.R.I.B.A. Interesting and varied programme. FIVE-day week.

Superannuated post, subject to medical examination, and one month's notice either side. Travel and subsistence payable to married men in certain cases for limited period.

Application forms from County Architect, Bath Street, Hereford, to be submitted by 11th February, 1960.

Hereford is situated in the beautiful Wye Valley. 7892

CITY OF MANCHESTER—

HOUSING COMMITTEE

Applications invited from suitably qualified persons for the post of ARCHITECTURAL ASSISTANT Grade APT I £610–£765 p.a.

Applicants who should have passed the Intermediate R.I.B.A. examination or its equivalent should send particulars of age, qualifications and experience to the Director of Housing, Town Hall, Manchester, 2, to be received not later than February 6th, 1960. 7886

COUNTY BOROUGH OF EAST HAM

HOUSING DEPARTMENT

APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited. Salary Grade APT.II (£765 × £25(1) × £30(3)—£880 per annum, plus London Weighting).

Applicants should be experienced in the design, construction and supervision of the erection of housing schemes.

Further details and application form (returnable by 10th February, 1960) from the Town Clerk, Town Hall, East Ham, E.6. 7909

AMENDED ADVERTISEMENT

CRICKLADE AND WOOTTON BASSETT

RURAL DISTRICT COUNCIL

ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT to the Engineer and Surveyor at a commencing salary within the A.P.T. II and "Special" Grades (£765–£880 and £785–£1,070) according to qualifications and experience. If appointed to A.P.T. II, promotion to "Special" grade on qualifying.

Preference will be given to applicants who have had experience in housing, sewerage and sewage disposal works.

The appointment is superannuable, subject to one month's notice on either side, National Joint Council Service Conditions, and to the successful candidate passing a medical examination.

Housing accommodation if required.

Applications endorsed "Engineering and Surveying Assistant" stating age, qualifications and experience, together with copies of not more than three recent testimonials, should reach the undersigned by Wednesday, the 10th February, 1960.

W. J. HOSIER,
Clerk of the Council.

Council Offices,
Manor House,
Wootton Bassett,
Swindon, Wilts. 7932

HARLOW DEVELOPMENT CORPORATION

ASSISTANT ARCHITECTS. Applications are

invited from candidates interested in taking part in New Town work. Candidates should have passed R.I.B.A. Intermediate or equivalent. Salary within the range £765–£880 p.a. Housing provided in suitable cases. Applications within 14 days to General Manager, Terlins, Harlow, Essex. 7941

LONDON COUNTY COUNCIL

ARCHITECTS (up to £1,135) required for Housing, Schools and General Divisions. Full and varied programme of new work including schools, multi-storey flats and Town Development. Starting salaries according to qualifications and experience.

Particulars and application form from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/113/59, County Hall, S.E.1. (2630.) 7133

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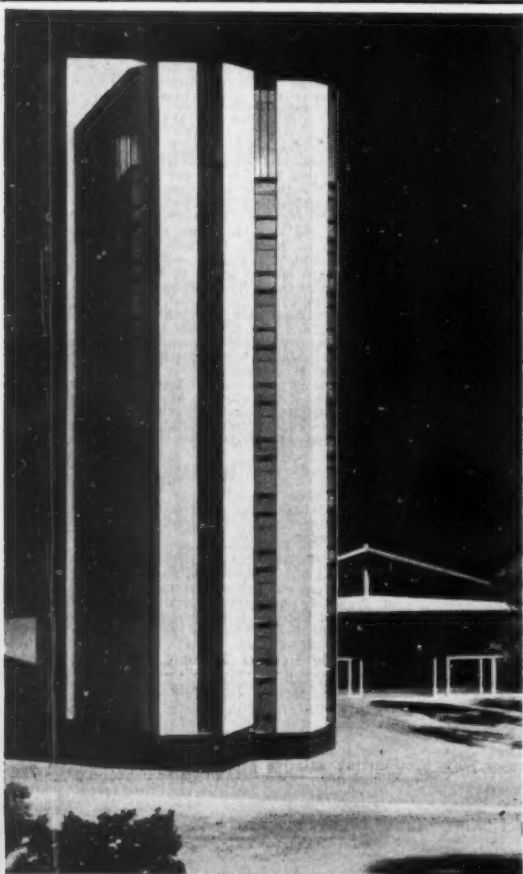
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AT EUSTON STATION, LONDON

The Electrification Programme offers great opportunities for imaginative designers and the work is of wide architectural scope and interest. In addition to vacancies for general architectural work the present Research Unit is to be strengthened and its activities will embrace standardisation of buildings, furniture, equipment and unit planning.

SALARIES are offered within the range £833 per annum to £1,200 per annum, with five-day week and concessionary rail travel.

Apply in writing quoting reference No. 89, stating qualifications, age, experience and salary required to :-

W. R. HEADLEY, A.R.I.B.A., A.A., Dipl.,
REGIONAL ARCHITECT
Chief Civil Engineer's Office, 5a, Euston Grove, London, N.W.1.



NEW DIVISION AT COUNTY HALL Architects

ARCHITECTS wanted for New Special Works Division set up under Geoffrey Horsfall to deal with Crystal Palace, South Bank Development, including the extension of the Royal Festival Hall, small Concert Hall and gallery, etc., and a variety of other new work. The programme is expected to last for several years after which there will be opportunities to continue on other work in the Department.

- First-class Designers are wanted to match this challenging opportunity.
- Grade II - £1,080 to £1,355
- Grade III - £858 to £1,135
- Assistant Architects - £710 to £895

Starting points will be according to experience and qualifications. Application form and particulars obtainable from Hubert Bennett, F.R.I.B.A., Architect to the London County Council, the County Hall, S.E.1, quoting ref. No. AR/EK/17/60.

METROPOLITAN BOROUGH OF BATTERSEA

Applications are invited for the following permanent appointments:

- (i) ASSISTANT ARCHITECT—A.P.T. Grade III (£380—£1,065 per annum).
- (ii) ARCHITECTURAL ASSISTANT—A.P.T. Grade I (£610—£765 per annum).

London weighting £10—£30 per annum, according to age, also payable.
For appointment (i) applicants should be registered architects or have passed the Final R.I.B.A. Examination and have had several years' thorough office experience. Previous Local Government experience is not essential. The commencing salary will be according to qualifications and experience.

Further particulars and application forms obtainable from the Borough Engineer & Surveyor, Town Hall, S.W.11. Closing date 17th February, 1960. 7960

EAST SUFFOLK COUNTY COUNCIL

ASSISTANT ARCHITECT—A.P.T. GRADE III (£380—£1,065)

Applications are invited for the above appointment which offers interesting and responsible work in connection with the Council's extensive programme of school and other building.

The starting salary will be fixed according to qualifications and experience; removal expenses will be paid in approved cases and the appointment will be subject to the provisions of the Superannuation Acts.

Applications stating age, qualifications, experience and present employment, together with the names of two referees, must be delivered to the County Architect, Mr. E. J. Cundliffe, A.R.I.B.A., County Hall, Ipswich, by Tuesday, the 9th February, 1960. 8059

ROYAL COUNTY OF BERKSHIRE

Those who are studying for the Final Examinations of the R.I.B.A. are invited to apply for a post in the Architect's Department as ARCHITECTURAL ASSISTANT.

A.P.T. GRADE II (£765—£880)
Opportunities for obtaining a good general experience exist in this expanding County, and in particular work is now in hand on New Police Divisional Headquarters, Courts and Colleges of Further Education.

One day per week will be allowed for study at a recognised School of Architecture.

There is a number of staff houses and flats, some of which become available from time to time and assistance up to 75% is given with removal expenses.

Application forms and particulars of the Department can be obtained from J. T. Castle, R.I.B.A., A.M.T.P.I., Wilton House, Parkside Road, Reading, to whom they should be returned not later than Tuesday, 9th February, 1960. 8049

COUNTY OF CORNWALL

APPOINTMENT OF PLANNING ASSISTANT
Applications are invited for this appointment in the County Planning Department at Headquarters, Truro, with salary within A.P.T. III according to qualifications and experience.

The post is one involving considerable responsibility and the successful applicant will be expected to take charge of the Headquarters Drawing Office in the absence of the Chief Planning Assistant. Applicants must have had sound experience in the preparation of Development Plan maps and survey work of all kinds, and also in preparing schemes of urban renewal.

The customary service conditions of the Local Government Service will apply and the successful candidate will be required to pass a medical examination.

Applications, together with the names and addresses of three referees, should be addressed to the County Planning Officer, County Hall, Truro, to reach him not later than 13th February, 1960. (No application forms are being issued.)

CLERK OF THE COUNTY COUNCIL, County Hall, Truro. 8052

COUNTY COUNCIL OF ESSEX

COUNTY PLANNING DEPARTMENT

Applications invited for post of PLANNING ASSISTANT, A.P.T. II (£765—£880) at Colchester. This is a new post in the development control section of an important area office and applicants must have had experience in development control.

All reasonable facilities, including day release, will be given to the successful candidates to enable them to obtain Corporate Membership of the Town Planning Institute.

Five day week; medical examination; superannuation.

Applications on forms obtainable from the County Planning Adviser, Broomfield Place, Broomfield, Chelmsford, returnable by 20th February, 1960. 8054

THE UNIVERSITY OF LIVERPOOL

Applications are invited for TWO LEVERHULME POSTGRADUATE FELLOWSHIPS, one in the School of Architecture or the Department of Civic Design, and one in any Department of the Faculty of Arts. The Fellowships will be tenable for one year at a value of £600, but may be renewed for a second year.

Applications, three copies, stating age, qualifications and experience, proposed field of research, the names of two referees and, in the case of the Fellowship in Architecture or Civic Design, enclosing copies or photographs of work, should be received not later than 1st March, 1960, by the Registrar, quoting Ref. CV/A2, from whom further particulars may be obtained. 7942

NOTTINGHAMSHIRE COUNTY COUNCIL

APPOINTMENT OF ASSISTANT ARCHITECT

A.P.T. SPECIAL SCALE

Applications are invited from students who have passed the final examination of the R.I.B.A. or the Diploma examination of a recognised school or from qualified architects to work on the County Council's major building programmes. These programmes are handled by four groups of approximately eight architects per group, under a Groupleader. All the architects in the group carry out in turn the design, organisation, and supervision of projects as Job Architects through all stages of the job, from sketch plan to completion. As part of carrying out the County Council's building programme, the office has a policy of continuous development in planning and construction, on which all architects take part from time to time. The salary ranges from £755 to £1,070 commencing salary to be offered will be in accordance with ability and experience. Starting date by agreement.

Forms of application may be obtained from the County Architect, County Hall, West Bridgford, Nottingham, to whom they should be returned as soon as possible.

A. R. DAVIS, Clerk of the County Council. 8055

NOTTINGHAM AND DISTRICT TECHNICAL COLLEGE

BURTON STREET, NOTTINGHAM

D. A. R. CLARK, M.Sc.(Tech.), M.I.Mech.E., Principal

Applications are invited for the following full-time RESEARCH ASSOCIATESHIP: BUILDING AND CIVIL ENGINEERING DEPARTMENT. Applicants should have an interest in research on civil, municipal or structural engineering topics, including soil mechanics, or general building subjects such as timber development work, or cost research and analysis, or architectural research on the technological side, particularly the development of methods of acoustic investigation.

The salary for the above post is as follows: £650—£750 per annum.

Further particulars and form of application may be obtained from the Principal, to whom completed forms should be returned not later than 29th February, 1960. 8058

CITY OF BRADFORD

ARCHITECTURAL ASSISTANTS

Applications are invited for the following superannuable appointments in the Architectural Section of the City Engineer and Surveyor's Department:—

- (a) ARCHITECTURAL ASSISTANT, Post No. 204. Special Grade (£785—£1,070, according to qualifications).
- (b) TOWN PLANNING ASSISTANT, Post No. 30. A.P.T. I/Special (£510—£1,070, according to qualifications).
- (c) ARCHITECTURAL ASSISTANT, Post No. 122. A.P.T. II/Special (£765—£1,070, according to qualifications).
- (d) ARCHITECTURAL ASSISTANT, Post No. 123. A.P.T. I (£610—£765).

Applicants for (a) and (c) should have had experience in the design of houses, flats and shops and the layout of housing estates, have sound design ability and be experienced in the preparation of working and detail drawings. Candidates for (b) will be required in connection with the layout of large Corporation Housing Estates and schemes of development as the result of slum clearance. Applicants for (d) should have had experience in architectural design and should have passed the Intermediate examination of the appropriate professional body.

Applicants for (a), (b) and (c) should be either A.R.I.B.A. or A.M.T.P.I. No housing accommodation can be provided.

Application forms, obtainable from the City Engineer and Surveyor, Town Hall, Bradford, 1, with three testimonials, must be received by the undersigned by 13th February 1960.

HENRY PATTEN, Town Clerk. 7944

CITY OF BRADFORD

ARCHITECTURAL ASSISTANTS

Applications are invited for the following superannuable appointments in the Architectural Section of the City Engineer and Surveyor's Department:—

- (a) SENIOR ARCHITECTURAL ASSISTANT, Post No. 217. Grade A.P.T. V (£1,220—£1,375).
- (b) SENIOR ARCHITECTURAL ASSISTANT, Post No. 219. Grade A.P.T. IV (£1,065—£1,220).

The successful candidates would be engaged in the design of multi-storey flats, maisonettes, houses and shopping centres for large housing estates and in connection with the redevelopment of slum clearance areas near the centre of the City. They would also be concerned with architectural work for the replanning of the City centre. Candidates should have sound design ability and experience in the preparation of working and detail drawings, and should be either A.R.I.B.A. or A.M.T.P.I. No housing accommodation can be provided.

Application forms, obtainable from the City Engineer and Surveyor, Town Hall, Bradford, 1, with three testimonials, must be received by the undersigned by 13th February 1960.

HENRY PATTEN, Town Clerk. 7943

Town Hall, Bradford, 1. 7943

COUNTY BOROUGH OF SOUTHAMPTON

BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent posts:—

- (a) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV (£1,065—£1,220).
- (b) SENIOR ASSISTANT ARCHITECT, Special Grade (£785—£1,070). Experience in School major projects an advantage.
- (c) ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£510—£765).
- (d) SENIOR QUANTITY SURVEYOR, Special Grade (£785—£1,070).

Applicants should possess appropriate qualifications and should state their housing needs and commencing salary required.

Application forms from the Borough Architect, Civic Centre, Southampton, returnable by 13th February, 1960. 7993

EAST RIDING OF YORKSHIRE COUNTY COUNCIL

Applications are invited for the following permanent appointments on the staff of the County Architect.

ASSISTANT ARCHITECTS. Special Scale

Salary—£785 to £1,070 per annum.

Applicants are required to have passed Parts I and II of the R.I.B.A. Final or special Final Examination or their equivalent at one of the recognised schools of architecture.

ARCHITECTURAL ASSISTANTS, Grade

A.P.T. I—£510 to £765 per annum.

Applicants are required to have passed the Intermediate R.I.B.A. Examination.

Particulars of qualifications, age, experience, past and present appointments with salaries, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Friday, 5th February, 1960.

Assistance towards removal, lodging and travelling expenses may be granted.

THOMAS STEPHENSON, Clerk of the Council. 7951

WIDNES CORPORATION

BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

- (a) SENIOR ARCHITECT (1)—Grade A.P.T. V, £1,220—£1,375.
- (b) ASSISTANT ARCHITECTS (3)—Grade A.P.T. IV, £1,065—£1,220.
- (c) JUNIOR ASSISTANT (1)—Grade A.P.T. I, £510—£765.

Five-day week; housing accommodation to rent or lodging allowance in lieu for married applicants; removal expenses in full for appointments (a) and (b); generous leave allowance. Appointments are permanent and pensionable. Interesting building programme which includes schools, housing, public baths, municipal offices, etc.

Candidates for (a) and (b) must be Associate members of the R.I.B.A. and suitably experienced. Candidates for (c) must be probationer members of the R.I.B.A. and preferably have passed the Intermediate Examination.

Applications for above posts, quoting two referees, by 15th February, 1960, to Borough Architect, Brendan House, Widnes.

FRANK HOWARTH, Town Clerk. 7953

SURREY COUNTY COUNCIL

COUNTY PLANNING DEPARTMENT

Applications are invited for the following posts in the Development Plan Section at Headquarters at Kingston-upon-Thames for work on Town Maps, areas for comprehensive redevelopment and similar work.

(a) One GRADE IV (£1,065 × £55/£50—£1,220 + London Allowance). To prepare schemes for comprehensive redevelopment and to advise on layouts and design. Experience in this work is essential. Applicants must be corporate members of the Town Planning Institute and preference will be given to those holding a further qualification in architecture.

(b) One SPECIAL (QUALIFIED) GRADE post (£785 × £40/£45—£1,070 + London Allowance). To be responsible for work on certain Town Maps and other Development Plan and research work. Applicants must be Corporate Members of the Town Planning Institute.

Applications endorsed "Confidential—Vacancies" stating age, qualifications and experience, with details of present post and salary and the names of two referees, should be sent to the County Planning Officer, "Elmhurst," Penrhyn Road, Kingston-upon-Thames, not later than 15th February, 1960. 7974

BOROUGH OF PRESTWICH

BOROUGH ENGINEER'S DEPARTMENT

APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the position of Architectural Assistant at a salary in accordance with Special Classes (£785—£1,070 per annum). Applicants should hold suitable qualifications and have had experience in housing and public buildings. Preference will be given to applicants who have passed the Final Examination of the R.I.B.A.

Applications, stating age, qualifications, experience, etc., together with the names of two persons to whom reference may be made, should be received by the undersigned not later than 6th February, 1960.

C. A. CROSS, Town Clerk. 7971

Town Hall, Prestwich, Lancs. 7971

PEAK DISTRICT NATIONAL PARK

Applications are invited for the appointment under N.J.C. service conditions of two JUNIOR PLANNING ASSISTANTS, A.P.T. Grade I (£610-£765) in the office of the Peak Park Planning Board at Bakewell. Both posts offer a wide range of interest both in the field of general planning and in national park activities.

Forms of application and further particulars from the Planning Officer, Aldern House, Bakewell, Derbyshire. Applications to be received by 8th February, 1960. Canvassing disqualified.

7977

**LONDON COUNTY COUNCIL
ARCHITECTS' DEPARTMENT
TOWN PLANNING DIVISION**

Applications invited for PRINCIPAL ASSISTANT (Professional) grade. £1,475-£1,765; commencing according to experience and ability.

Applicants should have had wide planning experience in urban areas either of civic design or of development plans and planning research generally.

Application form returnable by 20th February and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, EK/18/60, County Hall, S.E.1. (117.)

7982

COUNTY BOROUGH OF WEST BROMWICH

Applications are invited for the following permanent appointments:

- (a) ASSISTANT ARCHITECT, Salary Grade A.P.T. IV (£1,065-£1,220).
- (b) ARCHITECTURAL ASSISTANT, Salary Grade A.P.T. II (£765-£880).
- (c) ARCHITECTURAL ASSISTANT, Salary Grade A.P.T. I (£610-£765).

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

N.J.C. Conditions of Service.

Applications, naming two referees, to the undersigned by 1st February, 1960.

W. H. GREENWOOD,
Borough Engineer and Surveyor.

Town Hall,
West Bromwich. 7990

BOROUGH OF SLOUGH

ASSISTANT ARCHITECT required for housing, redevelopment, factories and general building works. Applicants should have good experience in design and supervision and must be A.R.I.B.A. Knowledge of multi-storey flat construction an advantage. Salary-Grade A.P.T. IV (£1,065-£1,220 per annum). Housing accommodation for married candidate.

Applications, stating age, qualifications and experience and names and addresses of two referees, to Borough Engineer, Town Hall, Slough, Bucks., by Monday, 8th February, 1960.

7973

HUNTINGDONSHIRE**COUNTY ARCHITECTS' DEPARTMENT
ARCHITECTURAL ASSISTANT**

Grade A.P.T. II (£765-£880)

Applications are invited to fill a number of appointments which exist in the above Department on Grade A.P.T. II.

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

Application forms may be obtained from S. M. Holloway, A.R.I.B.A., County Architect, County Buildings, Huntingdon, and completed forms should be returned to the undersigned by Monday, 8th February, 1960.

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

County Buildings,
Huntingdon. 7992

BARNET URBAN DISTRICT COUNCIL**PART-TIME ARCHITECTURAL ASSISTANT**

Applications are invited for the appointment of a part-time architectural assistant. Salary pro rata to Grade A.P.T. IV, £1,065 to £1,220 per annum, plus London weighting. Candidates should hold a recognised professional qualification.

Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should reach the Engineer and Surveyor, Ravenscroft House, Wood Street, Barnet, Herts., on or before 12 noon on Thursday, 4th February, 1960.

ALFRED S. MAYS,
Clerk of the Council.

Municipal Offices,
Wood Street,
Barnet.

15th January, 1960. 7975

COUNTY OF ESSEX**BOROUGH OF WALTHAMSTOW
COMMITTEE FOR EDUCATION**

Applications are invited for the post of SENIOR ASSISTANT ARCHITECT in the Office of the Education Architect, Mr. T. L. Rampton, A.R.I.B.A., A.R.I.C.S.

Salary in accordance with A.P.T. Grade IV, £1,065 to £1,220 per annum plus £30 London weighting.

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

Experience in design and construction of schools and contract administration an advantage.

Forms of application to be obtained from and returned to the Borough Education Officer, Town Hall, Forest Road, Walthamstow, E.17, within two weeks of the appearance of this notice. 8014

COUNTY BOROUGH OF EAST HAM**BOROUGH ENGINEER'S DEPARTMENT**

Applications are invited for the following temporary appointment: SENIOR ASSISTANT ARCHITECT, Grade IV (£1,065-£1,220).

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

Further details and application forms, returnable by 12th February, 1960, from the Town Clerk, Town Hall, East Ham, E.6. 8034

PADDINGTON BOROUGH COUNCIL**ASSISTANT ARCHITECT (£815 to £1,100)**

Starting salary according to qualifications and experience of the successful candidate, who should preferably be A.R.I.B.A., with experience in the design and supervision of building works of some magnitude and a knowledge of local authority requirements. Applications should state age, qualifications, present and past appointments with dates, names and addresses of three referees. Applications should reach me by 8th February, 1960 (quoting A.450).

W. H. BENTLEY,
Town Clerk.

Town Hall,
Paddington Green, W.2. 7998

COUNTY BOROUGH OF WALSALL**PUBLIC WORKS DEPARTMENT**

Applications are invited from suitably qualified persons for the following appointments:—

- (a) PRINCIPAL ASSISTANT ARCHITECT (Housing), Grade A.P.T. V (£1,220-£1,375 p.a.).
- (b) PRINCIPAL ASSISTANT ARCHITECT (Education), Grade A.P.T. V (£1,220-£1,375 p.a.).
- (c) ASSISTANT ARCHITECT, Special Grade (£785-£1,070 p.a.).

Applicants for posts (a) and (b) must be A.R.I.B.A. and have had considerable experience in housing or education work. The persons appointed will be responsible to the Chief Architect for all work of the housing and education sections respectively.

Applicants for post (c) must be A.R.I.B.A. Starting point in all grades will be fixed according to qualifications and experience and housing accommodation will be available for all posts if required.

Applications, stating age, present position, salary, qualifications and details of experience, together with copies of two recent testimonials, should be submitted to the undersigned not later than Monday, February 8th, 1960.

Applicants should disclose if they are related to a member or officer of the Council. All posts are superannuated and subject to medical examination.

M. E. HABERSHON,
Borough Engineer and Surveyor.

Council House,
Walsall.

January 18th, 1960. 7962

DENBIGHSHIRE COUNTY COUNCIL

Applications are invited for the appointment of QUANTITY SURVEYING ASSISTANT, A.P.T. Grade I (£610-£765 per annum) in the County Architect's Department, Wrexham.

Preference will be given to applicants who are Student Members of the Royal Institution of Chartered Surveyors—Sub. Division III (Quantities Section). Applicants must be capable principally of Abstracting and Billing all types of building works and have some experience of elementary Taking-off.

The appointment is subject to one month's written notice on either side to expire at the end of a calendar month, to a satisfactory medical examination and is superannuable.

Application forms, obtainable from me, to be returned by 6th February 1960.

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

County Offices,
Ruthin.

Denbighshire. 7964

BOROUGH OF ROMFORD

Applications are invited for the under-mentioned vacancies:—

- (a) SENIOR ASSISTANT ARCHITECTS, A.P.T. IV (£1,065-£1,220 per annum).
- (b) ARCHITECTURAL ASSISTANTS, A.P.T. I-II, Special Grade (£610-£1,070 p.a.).

Appointments will be made at a salary within the scale according to qualifications and experience. In addition, a plussage up to £30 per annum will be paid according to age.

Applicants for (a) must be Associate Members of the Royal Institution of British Architects and have had at least three years' experience subsequent to election.

With regard to (b) newly elected Associates of the Institute will be considered for appointment within the Special Grade. Persons who have passed the Intermediate Examination of the Institute or who are probationers will be considered for appointment in A.P.T. I-II and successful applicants will, on qualifying, be placed in the Special Grade.

Consideration will be given to the payment of reasonable removal expenses and, if required, to the provision of housing accommodation.

Particulars and conditions of each appointment may be obtained on application to the Town Clerk, Town Hall, Romford, to whom completed applications are to be sent by the 6th February. 7972

THE STEWARTRY OF KIRKCUDBRIGHT

COUNTY COUNCIL require ASSISTANT ARCHITECTS on salary scale £795 by £35 to £1,075 per annum. There are also vacancies for ARCHITECTURAL ASSISTANTS on salary scale £605 to £735 per annum. Placing on salary scales will be in accordance with qualifications and experience. Applications, giving age, qualifications and details of previous experience, and the names of two referees, to be lodged with the County Clerk, County Offices, Kirkcudbright, not later than 14 days from the appearance of this advertisement. 8005

BOROUGH OF DOVER**SENIOR ASSISTANT ARCHITECT**

Applications are invited from qualified Architects for the above appointment within the Special Grade (£785-£1,070).

Applications, together with the names and addresses of two persons to whom reference may be made, must be delivered to the Borough Engineer, Brook House, Dover, not later than the 15th February, 1960.

The provision of housing accommodation will be considered.

JAMES A. JOHNSON,
Town Clerk.

New Bridge House,
Dover.

20th January, 1960. 8024

BOROUGH OF RAMSGATE**TEMPORARY QUANTITY SURVEYING**

ASSISTANT Applications are invited for the above appointment at a salary in accordance with A.P.T. Grade I (£610-£765).

Candidates should have experience in all types of work, measurements of variation and settlement of final accounts. The appointment will be for a minimum of twelve months.

Applications, endorsed "Quantity Surveying Assistant," giving details of qualifications, experience and the names and addresses of two referees, must be received by the Borough Engineer, Municipal Buildings, by not later than Friday, 19th February, 1960.

Candidates must disclose whether or not they are related to any member of, or the holder of any senior office under the Council. Canvassing will disqualify.

K. F. SPEAKMAN,
Town Clerk.

Municipal Buildings,
19th January, 1960. 8026

ASSISTANT ARCHITECTS, Borough Architect's Department (Mr. E. A. H. MacDonald, A.R.I.B.A.). Housing, Libraries, Baths, etc. Assisted training scheme. Minimum two years' continuous office experience essential. Salary according to qualifications and experience. A.P.T. I (£630-£785), A.P.T. II (£785-£910), Special Scale (£815-£1,100). Details from Town Clerk, Town Hall, Fulham, S.W.6. Closing date 11th February. 7994

BOROUGH OF WARWICK**APPOINTMENT OF****SENIOR ARCHITECTURAL ASSISTANT**

Applications are invited for a Senior Assistant to work immediately under the Chief Architectural Assistant in the Borough Surveyor's Department. Salary A.P.T. III (£880-£1,065), entry in the scale according to qualifications and experience. The position is permanent and subject to Medical Examination; housing accommodation will be provided if necessary and removal expenses paid.

Applicants must have passed at least the Finals of the R.I.B.A.

The post offered is for the design and site supervision of large Housing Estate Development incorporating shops, multi-storey flats, etc., and for the general supervision of Direct Labour Staff.

Applications, stating age, qualifications, experience and the names and addresses of two referees, should be sent to the Borough Surveyor, 23, Jury Street, Warwick, not later than Monday the 15th February, 1960.

HECTOR SETON BROWN,
A.M.I.C.E., A.M.I.W.E.,
Borough Engineer & Surveyor.

23, Jury Street,
Warwick. 8045

ISLE OF WIGHT COUNTY COUNCIL

PLANNING ASSISTANT required. A.P.T. Special Grade, £785-£1,070. Permanent post. Candidates should be suitably qualified. General planning duties mainly in connection with the preparation of Town Maps.

Applications on forms obtainable from the Clerk of the County Council, County Hall, Newport, I.W. Closing date 15th February, 1960. 8056

COUNTY BOROUGH OF BIRKENHEAD**BOROUGH ARCHITECTS' DEPARTMENT**

Applications are invited for the Established Posts of FOUR PRINCIPAL ASSISTANTS, Grade A.P.T. IV (£1,065-£1,220). Applicants must be qualified and have a good general experience in design and construction and capable of taking charge of large projects with the minimum of supervision. Salaries commensurate with qualifications and experience. The posts offer interesting and responsible work in connection with the Council's extensive programme of Schools and other major building schemes. Form of application and further particulars from Borough Architect's Department, 3, Conway Street, Birkenhead. Closing date for applications—13th February, 1960. Relationship to Members or Senior Officers of the Council must be disclosed. 8064

BOROUGH OF BILSTON**HOUSING DIRECTOR'S DEPARTMENT**

Applications are invited for the following appointments:—

ARCHITECTURAL ASSISTANT, A.P.T. Grade II (£765—£880).

ARCHITECTURAL DRAUGHTSMAN, General Division (£210—£595).

The appointments will be subject to the National Scheme of Conditions of Service, a medical examination and the Local Government Superannuation Acts, 1937 and 1959.

Applications in writing, stating age, qualifications and previous experience including any services with a Local Authority, together with the names and addresses of two referees, should be sent to the Housing Director, Municipal Buildings, Hall Street, Bilston, not later than Friday, 12th February, 1960.

A. M. WILLIAMS,

Town Clerk.

Town Hall,

Bilston.

22nd January, 1960.

8081

MIDDLESEX COUNTY COUNCIL

ASSISTANT AREA PLANNING OFFICER required initially in Westminster (A.P.T. IV; Salary £1,095—£1,250). Must have professional qualification and suitable experience. Car allowance normally granted. Application forms from County Planning Officer, 10, Great George Street, S.W.1, returnable by 14th February. Prescribed conditions. (Quote B.847, A.J.)

8083

COUNTY BOROUGH OF SOUTHEAST-ON-SEA BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following posts:—

ASSISTANT ARCHITECT, Special Classes Scale (£785 × £40 (6) × £45—£1,070).

TECHNICAL ASSISTANT (Architectural), Grade A.P.T. II (£765 × £25 (1) × £30 (3)—£880).

ASSISTANT QUANTITY SURVEYOR, Special Classes Scale (£785 × £40 (6) × £45—£1,070).

STUDENT HEATING ENGINEER (General) Division salary range £210—£655).

Candidates must be suitably qualified and experienced.

The appointments will be subject to the provisions of the Local Government Superannuation Acts and the National Joint Council's Scheme of Conditions of Service so far as adopted by the Council. Medical examination.

Applications, stating age, qualifications and experience, with the names of two referees, should be submitted to the Borough Architect, 30, Alexandra Street, Southend-on-Sea, forthwith.

Canvassing will disqualify. Any candidate who is related to member or officer of the Council is required to disclose the fact.

ARCHIBALD GLEN,

Town Clerk.

8077

BEESTON AND STAPLEFORD URBAN DISTRICT COUNCIL**ARCHITECTURAL ASSISTANT**

Applications are invited for the above appointment, in Grade II (£765—£880) or Special Grade (£785—£1,070), the grade and commencing salary to be according to applicant's qualifications and experience.

Applications, accompanied by the names and addresses of two referees should be forwarded to the Housing Architect, Town Hall, Beeston, Nottingham, not later than 5th February, 1960.

H. D. JEFFRIES,

Clerk of the Council.

8066

CORPORATION OF BARKING**DEPARTMENT OF THE BOROUGH ARCHITECT****ARCHITECTURAL ASSISTANT—A.P.T. I**

Applications are invited for the above appointment on Grade A.P.T. I (£610 by £30 per annum to £765 plus London weighting £20 or £30 per annum according to age). Commencing salary according to experience.

The office has a large programme of housing development, including multi-storey blocks, a varied and interesting programme of educational projects, and also a number of public building schemes are in hand. The post will offer to an interested candidate a sound and varied experience.

Applications should reach the undersigned at the Town Hall, Barking, within seven days of the appearance of this advertisement.

E. R. FARR,

Town Clerk.

Town Hall,

Tenders Invited

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

CITY OF BIRMINGHAM HOUSING MANAGEMENT DEPARTMENT**CLEFT CHESTNUT FENCING**

The Birmingham Corporation invite tenders for the supply and delivery of approximately 120,000 yards of 3 ft. cleft chestnut fencing, 12,000 yards of 3 ft. 6 in. cleft chestnut fencing and 60,000 4 ft. 6 in. posts, to be supplied during the 12 months commencing the 1st April, 1960.

The attention of persons submitting tenders is drawn to the following points:—

1. Delivery will be required in 12 equal monthly instalments, but deliveries can, if it suits the Supplier, be made in advance.

2. Tenders may be accepted for quantities less than the total amount specified, but such tenders must be for not less than 20,000 yards of fencing and 6,000 posts.

Forms of Tender can be obtained from the undersigned and should be returned by the 16th February, 1960.

J. P. MACEY,

Housing Manager.

Bush House,

Broad Street,

Birmingham, 1.

7991

Architectural Appointments Vacant

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

ERIC FIRMIN & PARTNERS require Senior ASSISTANTS for work on industrial and commercial projects. Five-day week. Luncheon Vouchers. Salary by arrangement. Please apply 5 Holborn Circus, E.C.1. CITY 8811. 6884

Apply Feather & Hadfield, Mazda Buildings, Campo Lane, Sheffield, 1. 7796

ASSISTANT ARCHITECT required with sufficient tact and "know how" to take charge of medium sized contracts for work of some variety. Contemporary outlook desirable. Apply Feather & Hadfield, Mazda Buildings, Campo Lane, Sheffield, 1. 7796

ASSISTANTS of Intermediate or equivalent standard, required for office in South Kensington. Interesting and varied work, offering scope for initiative, responsibility and opportunities for design. Salary approximately £800 per annum. Five-day week. Apply H. Mountford Pigott & Partners, KENSINGTON 1242. 6776

ARCHITECTURAL ASSISTANTS, Intermediate and Final standards, required in Architect's Department for work in connection with Flat, Maisonette, Shop and Housing developments throughout the country. Applicants must be competent draughtsmen with contemporary outlook. Good salary and prospects. Pension scheme in operation. Apply: Architectural Department, Davis Estates Ltd., 346/350, Kilburn High Road, N.W.5. 7784

ASSISTANTS required for busy Architect's City office: Laboratory and Industrial projects. Intermediate standard or above. Apply to: Secretary, Fairclough and Morris, Temple Chambers, Temple Avenue, E.C.4. FLE. 6256. 5938

RONALD WARD & PARTNERS have immediate vacancies for ASSISTANT ARCHITECTS with initiative and some experience, for interesting, commercial, industrial and civil projects. Salaries commensurate with ability. Apply, 29, Chesham Place, S.W.1. BELGRAVIA 3361. 6538

ARCHITECTURAL ASSISTANT at Final standard required by Buckinghamshire office. Interesting and varied work with scope for initiative and responsibility. State age, experience and salary required to Box 5871.

ARCHITECTURAL ASSISTANTS, Senior and Junior, required by firm in High Wycombe for commercial and industrial schemes. Scope for responsibility and experience. Five-day week. Write Box 6536.

TREHEARNE & NORMAN, PRESTON & PARTNERS, have vacancies for ARCHITECTS and ASSISTANTS with imagination and designing ability to assist with important new developments in the London area. Apply in confidence to 83, Kingsway, London, W.C.2 (ROL. 4071.) 6429

SENIOR ASSISTANTS urgently required for busy City office engaged in industrial and commercial work, 5-day week. Luncheon Vouchers. Salary up to £1,200 according to experience. Box 6554.

QUALIFIED ASSISTANT ARCHITECTS required, minimum three years' office experience, preferably in London. Minimum salary £1,000 according to ability and experience. Theo. H. Birks, 38, Portland Place, W.1. LAN 7236. 7126

INTERMEDIATE standard ASSISTANTS required, minimum two years' office experience. Minimum salary £750 according to ability. Theo. H. Birks, 38, Portland Place, W.1. LAN. 7236. 7127

SENIOR ARCHITECTURAL ASSISTANTS, and JUNIORS up to about Intermediate standard, required for varied industrial and commercial work in West End Office. Scope for initiative and advancement. Salary from £500 to £1,000 according to age and experience. Five-day week. Write, giving full details, to Box 7220.

ARCHITECTURAL ASSISTANT required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20, Bedford Square, London, W.C.1. 7282

ARCHITECTURAL ASSISTANTS of Final and Intermediate standard required for work on industrial buildings. Excellent opportunities in an expanding London office. Apply, stating age, experience and salary range, to the Chief Architect, Nuclear Civil Constructors, 52/56, Carnaby Street, London, W.1. 7480

MESSRS. BEARD, BENNETT, WILKINS & PARTNERS still require SENIOR ASSISTANTS with enthusiastic outlook on modern design for major hospital and industrial projects. Profit sharing and Pension schemes. Salary according to qualification and experience. Apply in writing to 101, Baker Street, London, W.1. 7735

ARCHITECTURAL ASSISTANTS required by Hasker & Hall, L./F.R.I.B.A., for senior and intermediate positions. Good salary with scope for initiative and responsibility. Write to 13, Welbeck Street, W.1, or telephone WELBECK 0061. 7743

BURLES & NEWTON require ARCHITECTURAL ASSISTANTS in their London and Southend offices. Age 20—25. Intermediate/Final standard. Apply 26, Great James Street, W.C.1, or 36/38, County Chambers, Weston Road, Southend. 7775

NORMAN & DAWBARN require experienced ARCHITECTS for interesting projects both here and overseas. Applicants should be good designers. Salaries from £500 upwards. Phone or write for an appointment to 7, Portland Place, W.1. 7746

HENRY C. SMART & PARTNERS require experienced ASSISTANT for School and other projects. Write stating age, experience and salary required to 120, Moorgate, London, E.C.2. 7759

GRENFELL BAINES & HARGREAVES require SENIOR ASSISTANTS with at least four years' experience for interesting variety of work in their Manchester office. Salary about £1,200 p.a. Please apply to: D. A. Cobb, 423, Oxford Road, Manchester 13. 7771

LEWIS SOLOMON, KAYE & PARTNERS, rapidly expanding practice, require ARCHITECTS and ASSISTANTS with initiative and competence to work on major design projects in the London area. These projects include Comprehensive Development Schemes, Hotels, Schools, Offices, and Luxury Flats. Good salaries according to ability and experience, luncheon vouchers, five-day week, and excellent working conditions. Write 5, Holborn Circus, Tavies Inn House, E.C.1, or telephone CITY 8811, quoting SLB in both instances. 7700

ARCHITECTURAL ASSISTANTS AND DRAUGHTSMEN required for progressive pensionable positions in Berkshire. Full details to Box 8078.

RALPH TUBBS, 46, Queen Anne Street, W.1, requires young qualified ASSISTANT ARCHITECT with both imagination and experience. Please apply by letter with brief particulars. 8070

INTERMEDIATE ASSISTANT required at Worthing Office. Local Authority experience an advantage. Good working conditions and Pension Scheme. Apply Box 8071.

HARRY BANISTER & PARTNERS, 67, Rodney Street, Liverpool 1, require qualified ASSISTANTS. Apply stating experience. Salary by arrangement. 8072

ARCHITECTS in Westminster area, with busy commercial/industrial practice, require competent ASSISTANTS in varying grades. Five-day week. Superannuation scheme. Apply with full details and salary expected to Box 8073.

ELLIOTT, COX & PARTNERS require ARCHITECTURAL ASSISTANTS, varying grades, from Intermediate R.I.B.A. standard upwards. Five-day week. Superannuation scheme. Apply in first instance, in writing, stating qualifications, experience, age and salary required, to 172, Buckingham Palace Road, S.W.1. 8074

JUNIOR ASSISTANT ARCHITECT. The London Hospital, Whitechapel, E.1, has vacancy in the Architect's office. Salary scale £565—£795 p.a. Starting salary dependent on qualifications, age and experience. Applications with full details to the House Governor by the 6th February, 1960. 8075

SENIOR ARCHITECTURAL ASSISTANT. Vacancy occurs in leading Bristol and Plymouth Offices engaged in highly interesting projects. Applicant must possess initiative and be thoroughly conversant with supervision in addition to being first-class in design and details. The position offered covers the use of a car and inclusion in a Non-contributory Pensions Scheme. Apply with full details of experience, etc., and indication of salary required, to: Alec F. French, F.R.I.B.A., Halifax House, St. Augustine's Parade, Bristol, 1. 8082

LARGE SCALE Development in London and Industrial Buildings in Home Counties. High office blocks and residential flats. Four ASSISTANT ARCHITECTS required. Senior and Intermediate standard. West End Office. Five-day week. Good salaries and bonuses. Box 8086.

ARCHITECTURAL ASSISTANT, Intermediate to Final standard with some office experience required in small office near Victoria. Reply in writing to David E. Nye & Partners, 172, Buckingham Palace Road, S.W.1. 8085

SENIOR AND INTERMEDIATE ASSISTANTS required. Sound knowledge of contemporary design and construction. Ring VICTORIA 7088 for an appointment. 8079

DIVISIONAL Architect requires competent ASSISTANTS for new projects, experience in alteration work an asset but not essential. Full details on application. Box 7645.

SENIOR AND INTERMEDIATE ARCHITECTURAL ASSISTANTS required in Company's Architectural Department in Nottingham, working on prefabricated systems and the design and construction of traditional buildings. Qualifications desirable but not essential. Varied experience and enthusiasm required. Please write to Stan Architect, W. J. Simms Sons & Cooke Ltd., Building and Civil Engineering Contractors and Prefabricators, Haydn Road, Shrewsbury, Nottingham. 7703

OLIVER LAW & PARTNERS, 36, Ebury Street, S.W.1, require experienced **ARCHITECTURAL ASSISTANT**, full qualifications not essential but must be good draughtsman able to prepare working drawings, etc. 7701

ASSISTANT required. Final standard, for varied practice in Kingston office of Barber, Bundy & Greenfield, F.A./A.R.I.B.A. Salary by arrangement. Reply to 5, Apple Market, Kingston-upon-Thames. 7637

EXCELLENT opportunity for **SENIOR AND INTERMEDIATE ASSISTANTS** in a permanent and progressive appointment with Midland firm of Architects who are working on large projects of an advanced type of design, including comprehensive development schemes, multi-storey office buildings, multi-storey flats, shopping centres, schools, banks, public houses and industrial projects. Apply Box 7538.

SYDNEY GREENWOOD, A.R.I.B.A., Chief Architect, John Laing and Son Ltd., requires **SENIOR ARCHITECTS, ARCHITECTS AND ARCHITECTURAL ASSISTANTS** in all grades to work on a wide range of projects in an office that is continually expanding. Salaries will be commensurate with experience.

Senior Architects should be Associates, R.I.B.A., and have some years' experience in one or more of the types of project listed below. They should be able and imaginative designers with competence in project management.

Architects and Architectural Assistants are required in all grades.

Projects in hand include:
Major Commercial developments.
Industrial projects including factories.
Laboratories, etc.
Multi-storey dwellings.
Schools.
Housing.
Proprietary systems.

Staff are also required to work with the development Architect in the Research and Development Division.

The office offers opportunity for advancement and for close collaboration with all other branches of the building industry.

Applicants should apply in the first instance to Personnel Manager (Ref. AA2), John Laing and Son Limited, Building and Civil Engineering Contractors, London, N.W.7. 7650

SENIOR ARCHITECTURAL ASSISTANT required, must be qualified and good draughtsman, with at least seven years' practical experience; commence soon as possible, excellent prospects for anyone really keen and efficient. Salary £1,000 p.a. upwards according to ability, with annual bonus. Light and spacious London offices. Write full details of experience, age, and when available to Box 7635.

AN excellent opportunity for two qualified **SENIOR ARCHITECTURAL ASSISTANTS** to join immediately small but long established London firm to become Associate Architects in near future due to present reorganisation of firm. Previous experience in private practice, good draughtsmanship and keenness essential. Ability, accuracy and speed of execution will determine future salary and share of profit, but good salary from start. Practice covers general work in London and Home Counties. Write full details to Box 7636.

JOHN H. D. MADIN, Chartered Architect, 83/85, Hagley Road, Birmingham 16, has further vacancies for **SENIOR AND INTERMEDIATE ASSISTANTS**. Suitable senior assistants would be required to take full responsibility for large scale interesting projects. 7639

MAIDSTONE, Kent, vacancies for **ARCHITECTURAL ASSISTANTS**, five-day week, non-contributory pension. House assistance scheme. Three weeks holiday after first year. Box 7646.

GOTCH AND PARTNERS, ARCHITECTS OF LONDON AND BRIGHTON, require **ASSISTANTS**, both Senior and Junior. Salary according to ability and experience. Five-day week. Write or telephone for appointment 8, City Road, London, E.C.2. Monarch 3235. 7906

J. H. NAPPER & PARTNERS require an **ARCHITECTURAL ASSISTANT** for interesting and varied work in a busy office. Salary by arrangement according to experience. Please write giving full details of career and qualifications to 133 Osborne Road, Newcastle upon Tyne 2. 7905

QUALIFIED ARCHITECT required. Bristol. Industrial/commercial experience. Scope for individuality and freedom of expression. Good salary. Interesting work. Pension scheme. **ASSISTANTS** of Intermediate standard also required. Details of experience to W. H. Watkins, Gray and Partners, 1, Clare Street, Bristol. 7868

JUNIOR ARCHITECTURAL ASSISTANT required in Wembley. Write stating age, experience and salary required. Box 7834.

ARCHITECTURAL ASSISTANTS, qualified and Intermediate standard, required for Glasgow Office. Work comprising schools, commercial and industrial buildings. Salary £200-£1,000 according to qualifications and experience with good prospects for suitable applicants. Box 7859.

ARCHITECTURAL ASSISTANT required with good general training, capable of taking charge of London Office. Good opportunity for progressive young architect. Write giving particulars of qualifications and salary required to Box 7870.

LEAMINGTON SPA—Quirk & Lee (Guy Silk, F.R.I.B.A., A.A. Dip.; A. S. Gasson, F.R.I.B.A., F.R.I.C.S.), Chartered Architects, require immediately **ASSISTANT**, of Intermediate-Final standard, with ability and experience. Applications, giving full particulars, to: 11, Waterloo Place, Leamington Spa, Warwickshire. 7871

PART-TIME WORK—Qualified WOMAN **ARCHITECT** required part-time office work, e.g. three-four days per week or equivalent, is invited to telephone Gerrard 3584 for an appointment. Small central London office with easy access by Northern and Central lines. 7872

BRIGHTON & HOVE—ASSISTANTS in all grades required. Details please to: H. Hubbard Ford & Associates, F/A.R.I.B.A., 51, Church Road, Hove, 3, Sussex. 7877

ARCHITECTURAL ASSISTANT with about five years' experience required for small congenial office in Lewes, Sussex, concerned with a variety of work. Salary entirely dependent upon ability. Box 7815.

INTERESTING opportunity for a qualified Architect as **CHIEF ASSISTANT** to Staff Architect of leading London Storefronts. Salary £1,500 upwards according to experience, with opportunity for promotion later. Must be interested in contemporary design as applied to Stores and Shops. Write full particulars to Box 7816.

INTERMEDIATE STANDARD ASSISTANT required, hospital and industrial work. Salary range £550-£750. Apply Howard Kelly and Partners, Chartered Architects, 11, Duke Street, London, W.1. WELbeck 3995. 7818

ARCHITECTURAL or SURVEYING ASSISTANT required, with minimum of Intermediate standard, for varied private architectural practice. Apply Victor Bloom & Partners, 12, Gloucester Place, W.1. HUNter 2069. 7819

ROBERT MATTHEW AND JOHNSON. MARSHALL have some vacancies in their London office for **ARCHITECTS** with two to five years' experience. Please apply in writing to 24, Park Square East, London, N.W.1. 7824

ARCHITECTS AND ARCHITECTURAL ASSISTANTS required immediately in Birmingham Office with progressive outlook. Excellent prospects. Salary by arrangement and according to experience, within commencing salary grades of £350 to £1,400. Please reply in confidence, giving experience, qualifications, age and salary expected. Box 7826.

TOOLEY AND FOSTER require a senior (qualified) **ASSISTANT** for interesting and varied work on school and general projects with opportunities for taking responsibility and supervising work in progress. Salary will be according to age and length and type of experience. Five-day week; voluntary superannuation scheme. Apply by letter only to: Midland Bank Chambers, Buckhurst Hill, Essex. 7829

TOOLEY AND FOSTER require immediately an **ARCHITECTURAL ASSISTANT** of Intermediate standard for interesting and varied general work with opportunities for taking responsibility. Salary will be according to age and length and type of experience. Five-day week; voluntary superannuation scheme. Apply by letter only to: Midland Bank Chambers, Buckhurst Hill, Essex. 7830

ARCHITECT'S ASSISTANT, Intermediate standard, required in Architect's office, Brighton, Sussex. Interesting work in connection with Public Transport undertakings. Apply H. A. F. Spooner, L.R.I.B.A., 5, Steine Street, Brighton. 7831

WATFORD, Herts.—Two ARCHITECTURAL ASSISTANTS, of at least R.I.B.A. Intermediate standard, required for lively, varied and expanding practice. Write or telephone: Dawe, Carter & Partners, 33, Clarendon Road, Watford—27296. 7832

ARCHITECTURAL ASSISTANT required in Wembley. Experience in design and construction of industrial buildings and office blocks. Write stating age, experience and salary required. Box 7833.

ARCHITECTURAL ASSISTANTS of Senior and Intermediate standard required for contemporary commercial work, experience in industrial office desirable. Permanent progressive appointment. Apply, stating salary required, to P. L. Howells, Esq., A.R.I.B.A., Chief Architect, Cow & Gate Ltd., Guildford, Surrey. 7799

SENIOR AND JUNIOR ASSISTANTS required for small Office with interesting work. Green, Lloyd & Son, 5, Pickering Place, St. James's Street, S.W.1. Whitehall 8926. 7836

ELIE MAYORCAS requires senior **ASSISTANTS** with minimum of three years' office experience in this country. Write, giving particulars of architectural education and experience, and salary required, to: 13, David Mews, Baker Street, W.1. 7840

NORMAN & DAWBARN invite applications from **ARCHITECTURAL ASSISTANTS** at Intermediate/Final standard with at least three years' office experience. Salary approximately £900 upwards. Write to: 7, Portland Place, W.1, giving full particulars. 7861

H. C. JONES LTD., invite applications for the following positions:—

1. **ARCHITECTURAL ASSISTANTS**
(a) with experience of the design of industrial and miscellaneous buildings;
(b) with experience in designing layouts for housing estates.

2. **CIVIL ENGINEERING ASSISTANT** with experience of designing roads and sewers in connection with housing estate development.

A pension scheme is in operation and assistance with housing may be granted. Apply in writing, giving age, experience and salary required, to Head Office, 185, High Town Road, Luton. 7862

AN opportunity exists for an imaginative **ARCHITECT** with a flair for the proper presentation of sketch plans and perspectives, to join a practice in the Midlands with considerable potential.

The opportunity also exists to carry out various interesting jobs from their inception to completion.

Reply, stating age, details of experience and salary required, to Box 7806.

JUNIOR ASSISTANT required for small varied practice at Bromley, Kent. Applicants should have a minimum of two years' practical experience.—Telephone Ravensbourne 8543. 7910

ARCHITECTURAL ASSISTANT, Final standard required. Interesting and contemporary work. Five-day week. J. Seymour Harris & Partners. EDG. 4571. 7852

ARCHITECTURAL ASSISTANT required, Sussex area. Salary £400/£500 p.a. Five-day week. Reply giving full details of experience and when available. Box 7853.

ASSISTANT (R.I.B.A. Intermediate or Final) required in City Office. Varied and interesting schemes from design stage. Five-day week, luncheon vouchers. State age, experience and salary required, to Box 7856.

SENIOR ARCHITECT urgently required for small but expanding London practice with a wide variety of work. Good all round experience with design ability is essential and there is a promising future for a man of the right calibre. Salary initially within the range £1,000-£1,200 p.a. Details please to Alan S. Rames & Associates, 6, Holborn Viaduct, London, E.C.1. 7858

ARCHITECTURAL ASSISTANTS required. Intermediate and Final standards. State age, experience, salary, etc. D. Harvey & A. Scott, 2, Lynedoch Place, Glasgow, C.3. 7866

ARCHITECTURAL ASSISTANTS, Intermediate standard, required in London Office with varied practice. Interesting projects. Five-day week. Write, giving particulars of age, experience, etc., to Box 906, c/o 7, Coptic Street, W.C.1. 7864

WELLS, HICKMAN & PARTNERS need a keen **ARCHITECTURAL ASSISTANT** capable of working without supervision. Several years' experience, sound knowledge of construction and very good draughtsmanship are vital. Salary in the region of £700. Please ring TEL. 1404 for appointment. 7920

BURTON-ON-TRENT Brewery Company requires an **ARCHITECTURAL ASSISTANT** of Intermediate standard for public house improvement and maintenance work. Apply, giving age, experience and amount of salary required to Box 7923.

ARCHITECT required for Leicester Office to deal with housing development, both private and Local Authority. The position offers considerable scope for an experienced Architect working within the framework of a National Organisation. Apply in confidence, giving all details to Box 7924.

FULLY QUALIFIED (R.I.B.A. Final) Assistant Architect required. Write, stating age and experience, to S. W. Milburn & Partners, F/R.I.B.A., Chartered Architects, 9, The Esplanade, Sunderland. 7912

QUALIFIED and Intermediate standard assistants required, to work on 17-storey flats and other schemes. Salaries £1,000 to £1,100 and £800 to £850. Co-partnership office, ideal working conditions. Five-day week.—Harry Moncrieff, F.R.I.B.A., A.M.T.P.I., Co-operative Planning Ltd., 73b, South Side, S.W.4. TULse Hill 4871. 7917

ARCHITECTURAL ASSISTANTS, from R.I.B.A. Intermediate Standard, are required in the Nottingham office of a firm engaged on an extensive school and church programme. Applications stating qualifications, experience, and salary, etc., to: Messrs. Reynolds & Scott, F/A.R.I.B.A., 72, St. James's Street, Nottingham. 7915

ARCHITECT'S Department in City requires an ASSISTANT of about Intermediate R.I.B.A. standard with some office experience. Salary £700-£750 and work of an interesting and varied nature. Secure future for suitable applicant. Write giving particulars of age, experience and salary required. Box 8080.

IMPERIAL CHEMICAL INDUSTRIES LIMITED, PLASTICS DIVISION, has vacancies for two ARCHITECTURAL ASSISTANTS of Final standard for employment in the Civil Architectural Section of its Engineering Department at Welwyn Garden City. It is implicit in the function of this Section that it should co-operate easily with other technical staffs both inside and outside the Chief Engineer's Department. The work is interesting and varied and will include site development with multi-storey R.C. and steel frame buildings to house manufacturing plant and all ancillaries such as offices, laboratories, amenity and welfare buildings. Five-day, 39-hour week. Pension and Profit Sharing schemes in operation. Apply briefly to the Staff Manager, Imperial Chemical Industries Limited, Plastics Division, Black Fan Road, Welwyn Garden City, Herts. 7939

ARCHITECTURAL ASSISTANTS required in an expanding Architect's office in following professional grades: Grade II, £400-£600 per annum; Grade III, £600-£800 per annum; Grade IV, £800-£1,000 per annum. To deal with local authority housing, commercial and industrial contracts, agricultural developments, etc. Applicants in Grade III and IV to be able to initiate and run own contracts. Apply stating age and full details of experience to A. Roscoe-Hudson, A.R.I.B.A., 14, Market Place, Faringdon, Berks. 7950

BOURNVILLE VILLAGE TRUST. A vacancy exists for a SENIOR ASSISTANT ARCHITECT with good experience in public and/or private practice. Salary range £1,000-£1,300. Interesting and varied work. Car allowance. Pension Scheme. Apply, stating age, qualifications, experience, present post and salary, and names of two referees, to the Chief Architect, Bournville Village Trust, Estate Office, Oak Tree Lane, Birmingham 30. 7952

SIR ALFRED McALPINE & SON LTD. require additional ARCHITECTURAL ASSISTANTS in their Design Department at Hooton. Applicants should be of Intermediate R.I.B.A. standard and be capable of rapidly producing accurate working drawings and details, and also be able to prepare presentation drawings for projects. Contributory Pension Scheme in operation. Apply in writing to Head Office, Hooton, Wirral, Cheshire. 7965

ARCHITECTURAL ASSISTANT with good knowledge of building construction and drawing required in the Architect's Department of a London Property Company. Mainly domestic development. Luncheon vouchers. Five-day week. Write age, experience and salary required. Box 7969.

ARCHITECT'S well established office, Charing Cross, require qualified SENIOR ASSISTANTS and INTERMEDIATE ASSISTANTS. Varied type of work. Good salaries commensurate with experience. Five-day week. Write Box 7968.

AMBITIOUS ARCHITECTURAL ASSISTANTS of Intermediate or Final standard should contact Lev. Colbeck & Partners, F.F.R.I.B.A., who have vacancies for men of initiative. Salary according to standing, pension scheme, L.V. and 5-day week. Apply 51, Bishopsgate, E.C.2. Tel.: Lon. 7282. 7967

ARCHITECTS, London Office, have vacancies for a number of competent ARCHITECTURAL ASSISTANTS. Excellent opportunity for men with drive, L.V., 5-day week and pension scheme. Write Box JA/102 c/o 95, Bishopsgate, E.C.2. 7966

WANTED. ARCHITECTURAL ASSISTANT, Intermediate (minimum) standard, in Halifax. Full particulars including salary required to Box 7963.

HICKSON & WELCH LTD., Chemical Manufacturers, Ings Lane, Castleford, Yorkshire, requires a **CLERK OF WORKS** to supervise large building programme and take charge of a maintenance building team. Full particulars of employment from the Company Architect. 7964

MONRO & PARTNERS require Intermediate ARCHITECTURAL ASSISTANTS in their London and Watford Offices. Interesting Commercial projects. Surveying, modelling, perspective experience helpful. Non-contributory Pension Scheme. Salary up to £900 p.a. commensurate with experience. Apply in writing to 32, Clarendon Road, Watford. 7967

SENIOR AND INTERMEDIATE ASSISTANTS required for busy Victoria Office with several large industrial schemes about to commence. Salary: Senior Assistant £1,000-£1,200; Intermediate Assistant £800-£800 according to circumstances. Tel. SLO 0833. 7965

QUALIFIED ARCHITECT required, age approximately 28-35 years, particularly interested in high quality Exhibition and Interior work, to take charge of small design studio. Salary £1,500-£2,000. Box 7949.

ARCHITECTURAL ASSISTANT required for university laboratories and other buildings. Good draughtsman with knowledge of building construction. At least five years' office experience. Reply giving details of experience and salary desired to Caroe & Partners, 16, Great College Street, Westminster. 7948

THERE are vacancies in our design teams for keen types of all grades who enjoy working in groups on very varied projects, such as schools, commercial work, churches, etc., etc. Five-day week. Three weeks' holiday. Excellent salaries progressively reviewed. Arthur Farebrother & Partners, 99, Seymour Grove, Manchester 16. 7946

MICHAEL LAIRD requires ASSISTANTS, with some experience, to work primarily on housing and/or office buildings (with optional admixture of alterations in rural areas); initiative and reliability prerequisite for joining young and happy office (within salary range £750-£1,000 p.a.) at 65, Castle Street, Edinburgh. 7936

ARCHITECTS with offices in City and at Loughton, Essex, require SENIOR ASSISTANT. Ability in design and able to work on own initiative. Salary £900 to £1,000 according to experience. Apply: Kenneth Lindy, Joseph Hill & Partners, 24, St. Mary Axe, E.C.3. 7938

GLASGOW ASSISTANTS, Qualified and Intermediate standard, required for interesting projects. Five-day week, three weeks' annual vacation, salary ranging from £744 to £1,032 according to experience. Honeyman, Jack & Robertson, Chartered Architects, 195, Bath Street, Glasgow, C.2. 7940

ASSISTANTS required in West End Architects' Office. Salary up to £1,300. Box 8046.

ARCHITECTS required for interesting work in progressive office. Salary according to age and experience. Apply in writing to Oxley and Bussey, A.A.R.I.B.A., 91, Pinstone Street, Sheffield, 1. 8048

ARCHITECTS' CO-PARTNERSHIP require a qualified and nearly qualified ASSISTANTS with some experience for Hotel, Houses and College for Further Education. Write to 44, Charlotte Street, W.1. or phone LANGHAM 5791. 8060

WELL established firm London Architects with considerable programme new development contemplates appointment of salaried partner with extensive London experience. Commencing salary £1,750-£2,250. Person already in practice wishing to amalgamate would be considered. Box 8018.

ARCHITECTURAL STAFF required by Basil Spence & Partners. Write stating details of experience and salary required to 40, Moray Place, Edinburgh, 3. 8020

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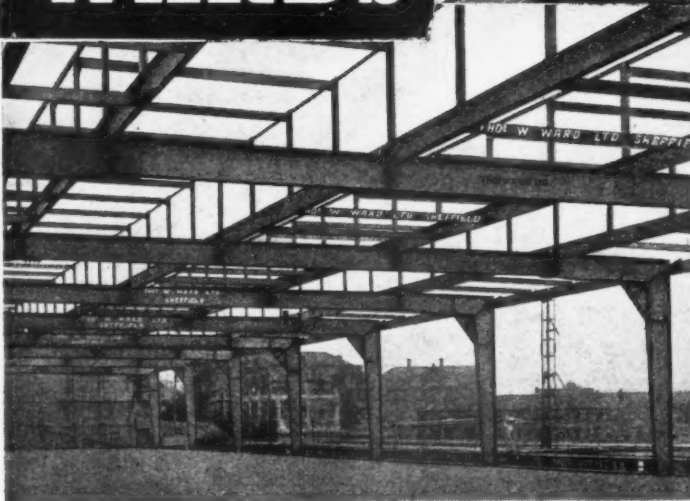
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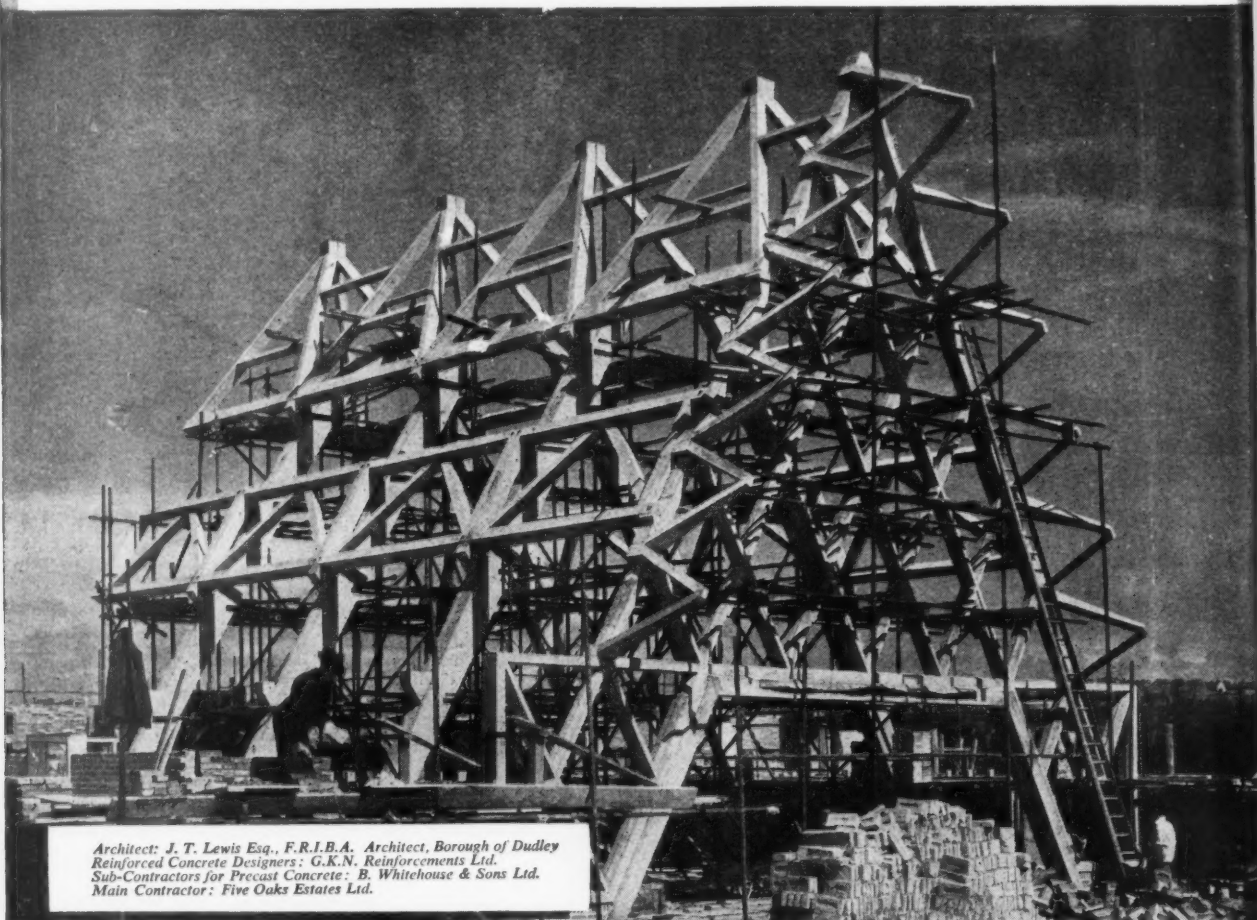
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