

# THE ARCHITECTS' JOURNAL



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

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Wanted and Vacant

No. 3145] [Vol. 121  
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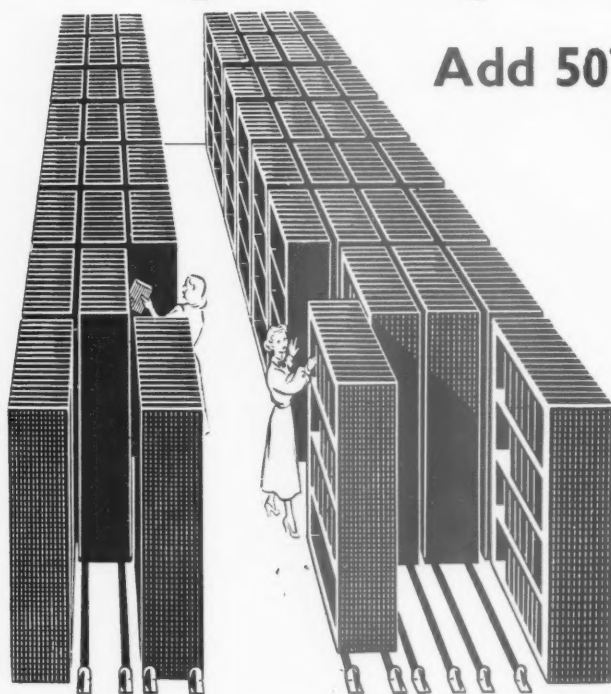
Registered as a Newspaper.

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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhamstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 5, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ArchSA	Architectural Students' Association. 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Reliance 7611, Ext. 1706
BCC	British Colour Council. 13, Portman Square, W.1.	Museum 5400
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Wellbeck 4185
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Ealing 9621
BDA	British Door Association. 10, The Boltons, S.W.10.	Redditch 716
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Fremantle 8494
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Temple Bar 9434
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Glasgow Central 2891
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Chancery 7772
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Langham 2785
BRDB	British Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Trafalgar 8855
BRB	Building Research Station. Bucknalls Lane, Watford	Mansion House 9383
BSA	Building Societies Association. 14, Park Street, W.1.	Garston 2246
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 0515
BTE	Building Trades Exhibition. 4, Vernon Place, W.C.1.	Mayfair 9000
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Holborn 8146/7
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Newport 65491
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Chichester 3001
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Sloane 5255
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Reliance 7611
CIAM	Congrès Internationaux d'Architecture Moderne. Dolderal, 7, Zurich, Switzerland.	Radlett 5616
COID	Council of Industrial Design. Tilbury House, Petty France, S.W.1.	Abbey 7080
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Reliance 7611
DPT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Trafalgar 8855
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	Regent 4448
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organisation, Ltd. 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston Lancs.	
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.	Ulverston 201
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Chancery 7583
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Whitehall 3902
GBPA	Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2.	Langham 4041
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Monarch 8888
GG	Georgian Group. C/o R. H. Davies, F.R.I.B.A., 44, Lowndes St., S.W.1.	Sloane 4554
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Belgravia 3081
LAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Whitehall 2881
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Sloane 5615
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Grosvenor 6186
IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Whitehall 4577
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Temple Bar 7676
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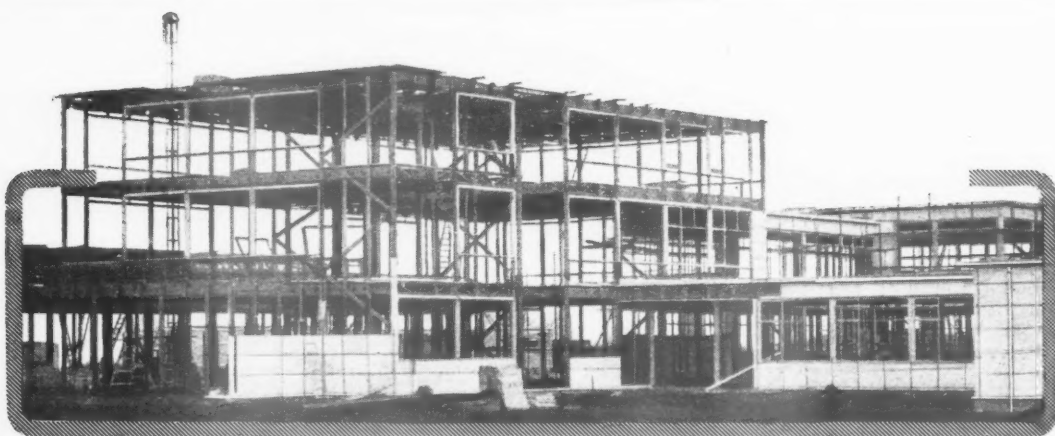
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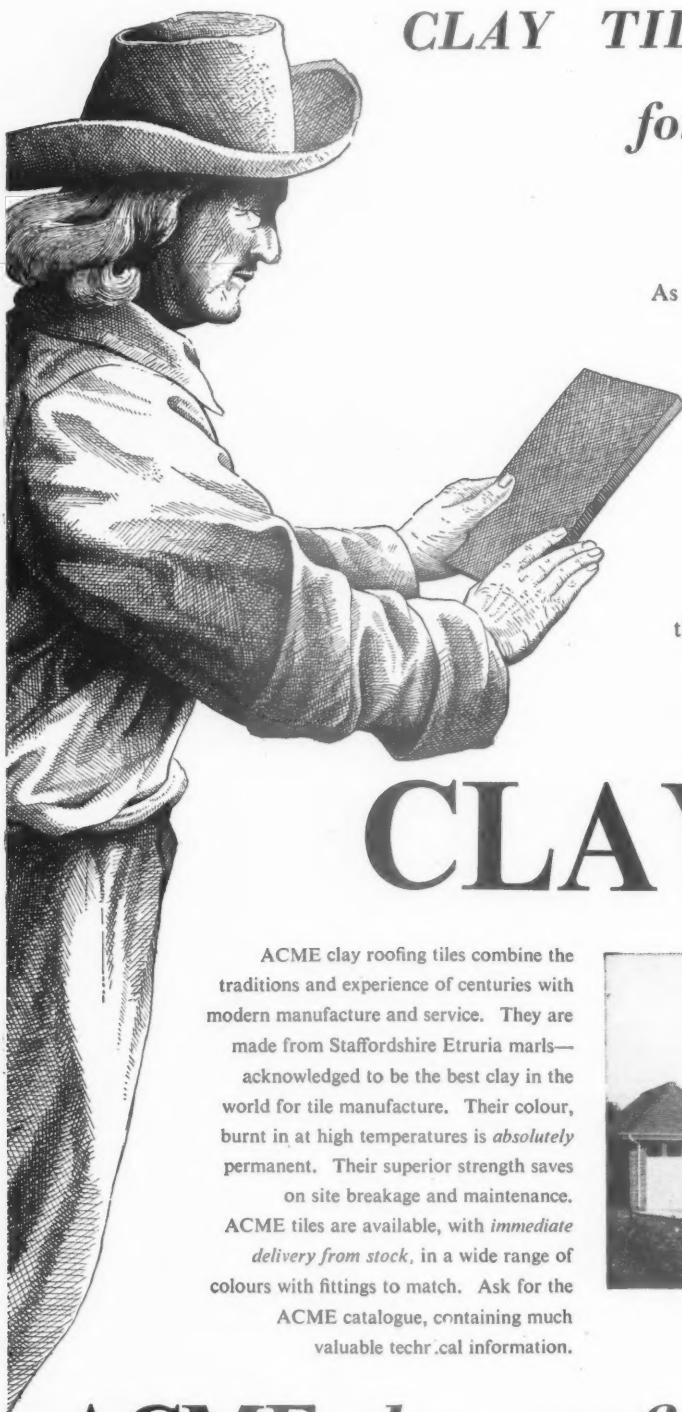
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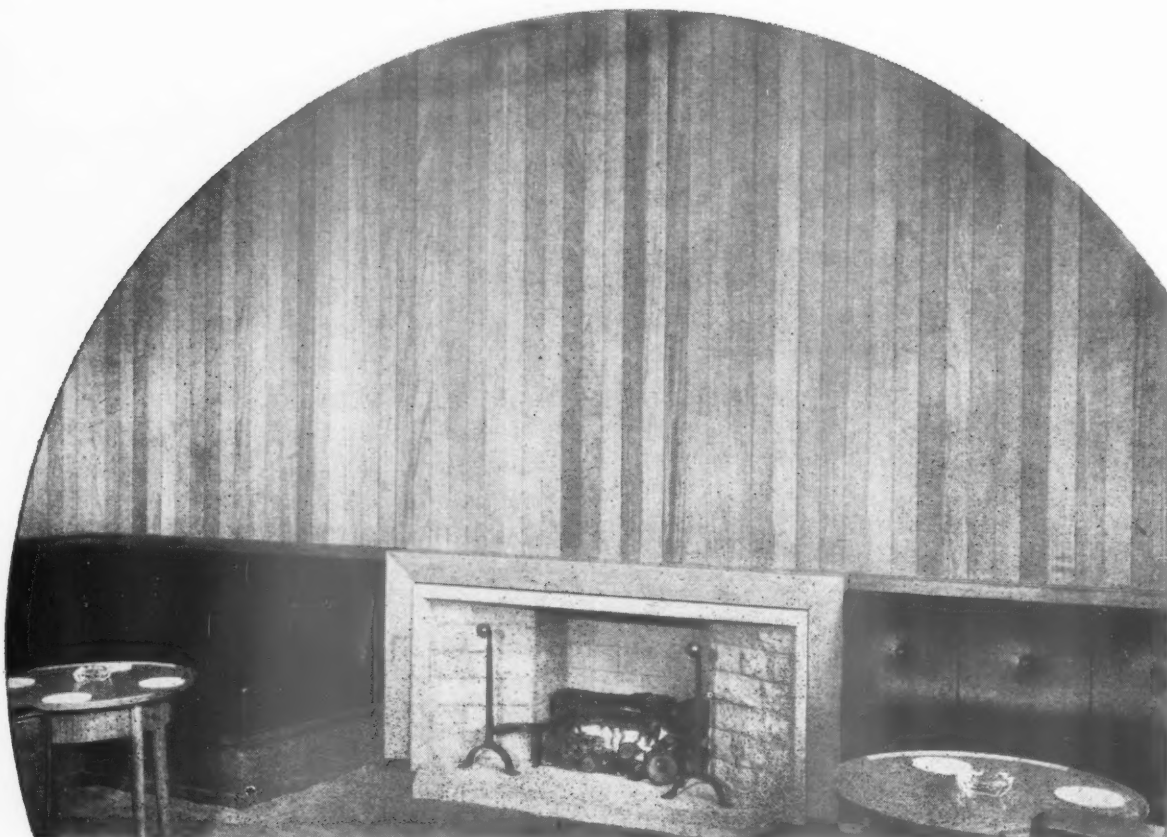
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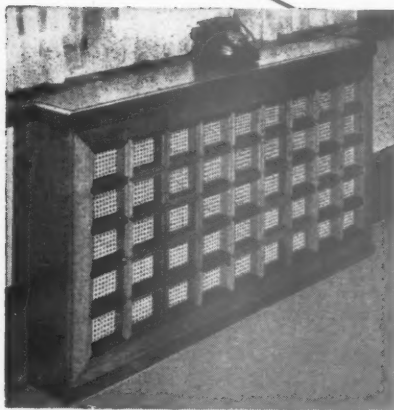


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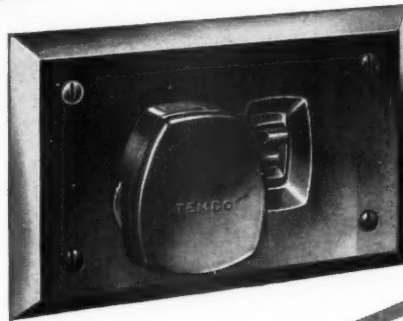
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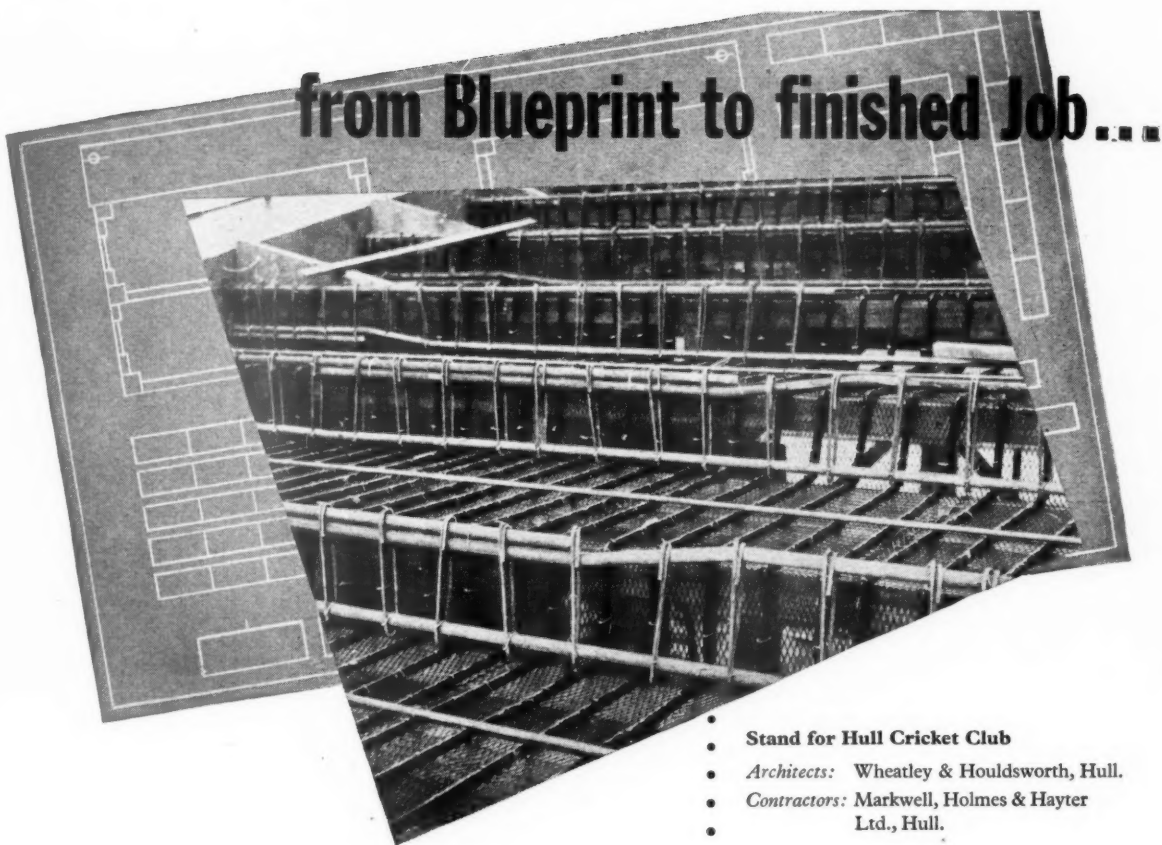


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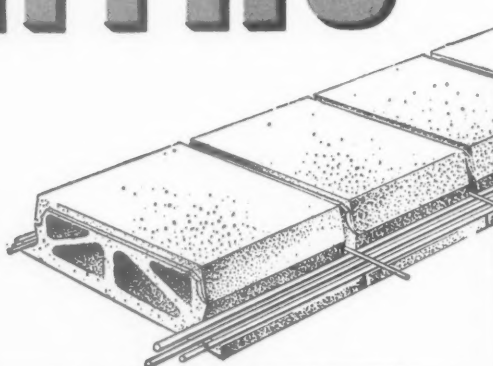
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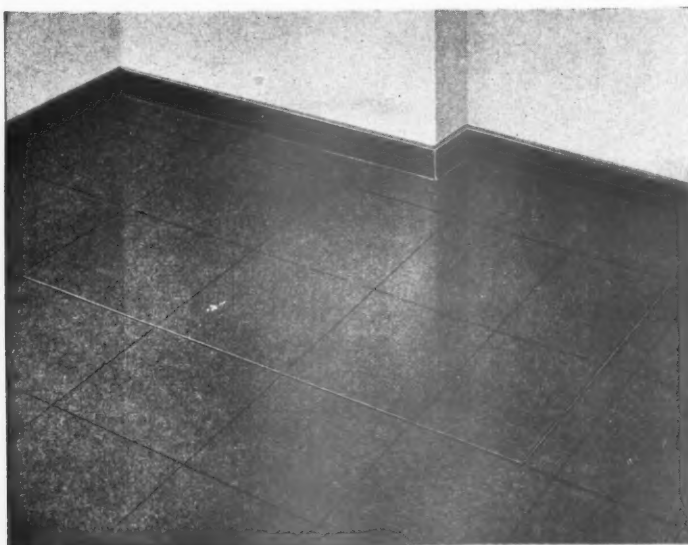
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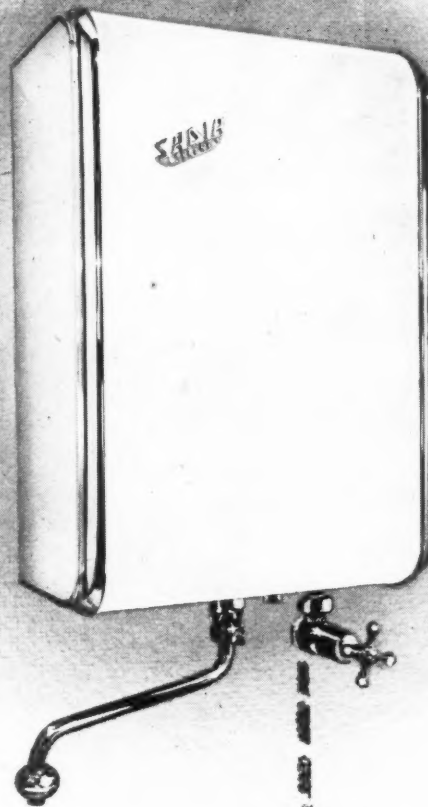
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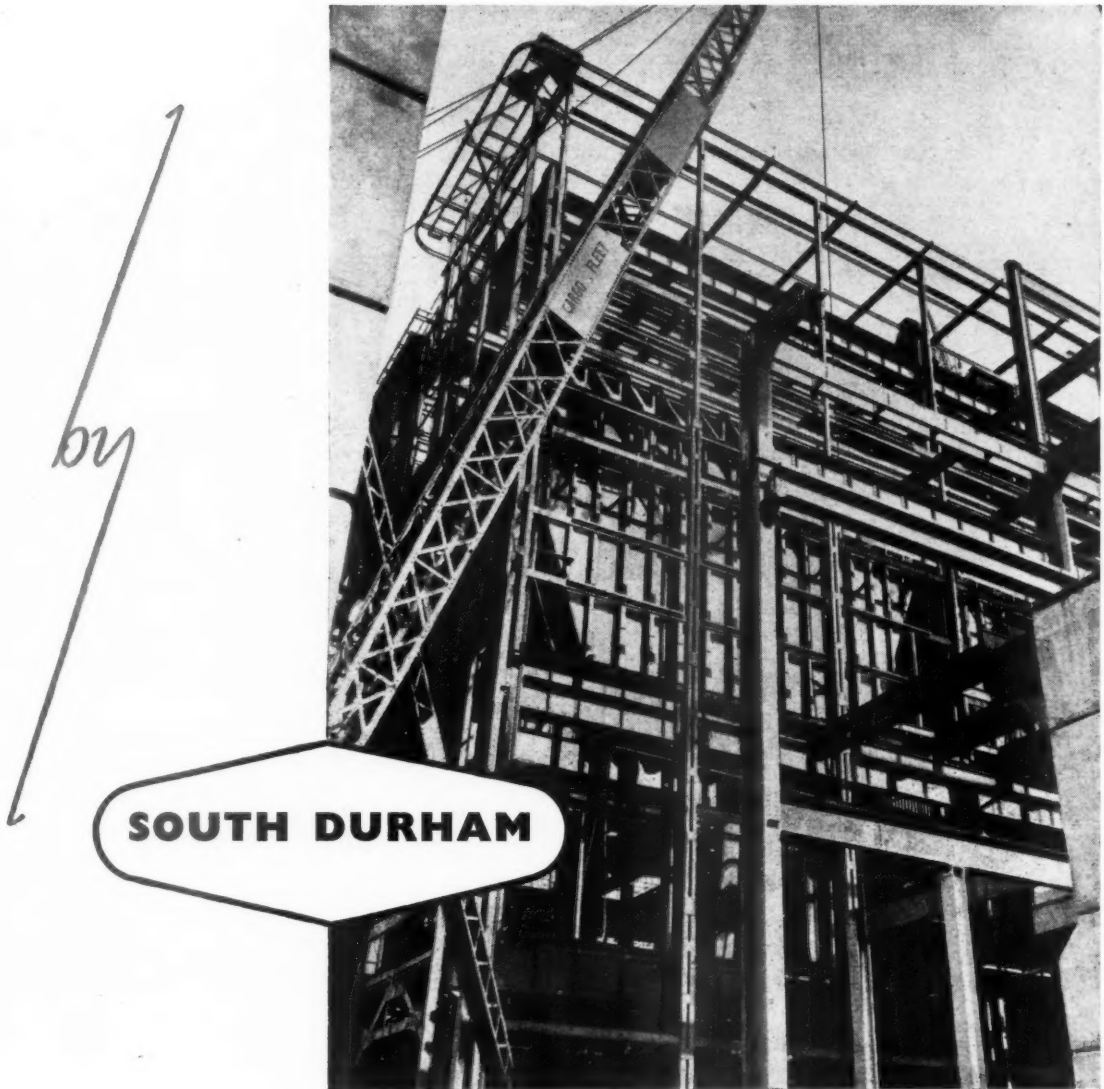
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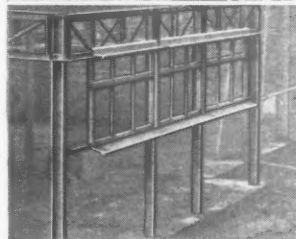
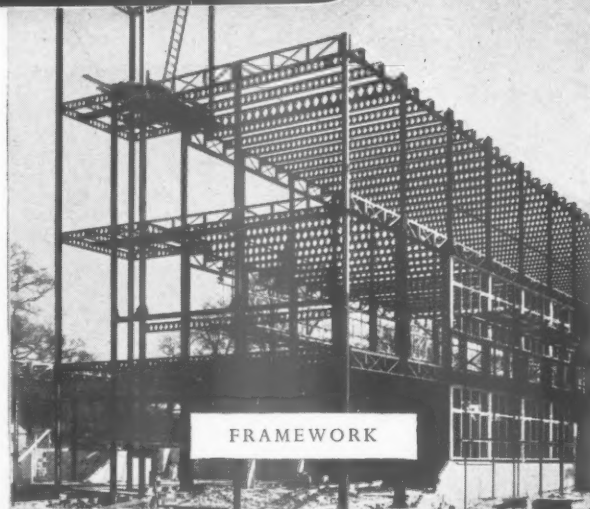
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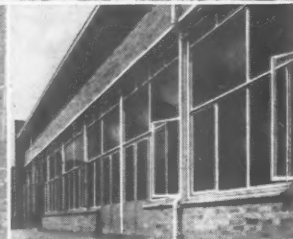


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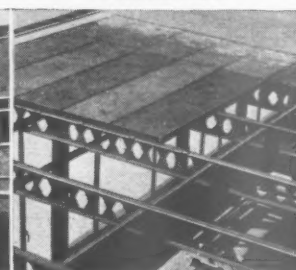
PRESSINGS



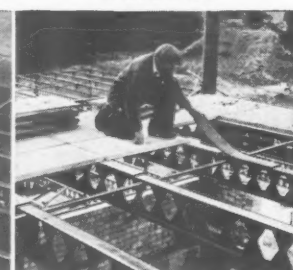
WINDOWS



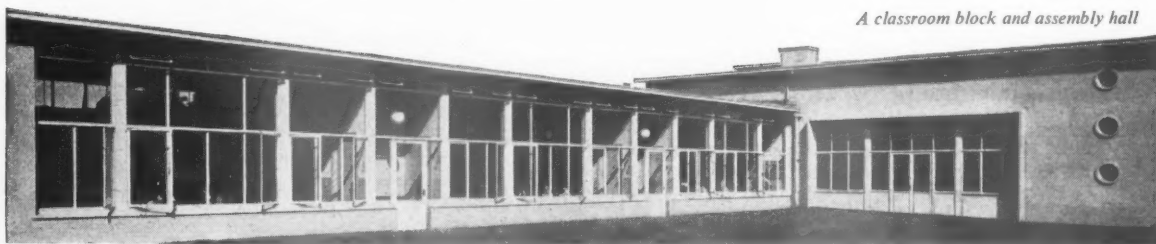
*A main entrance and classroom block*



ROOFS



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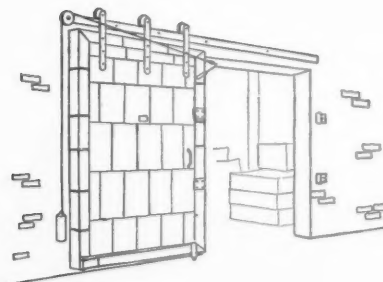


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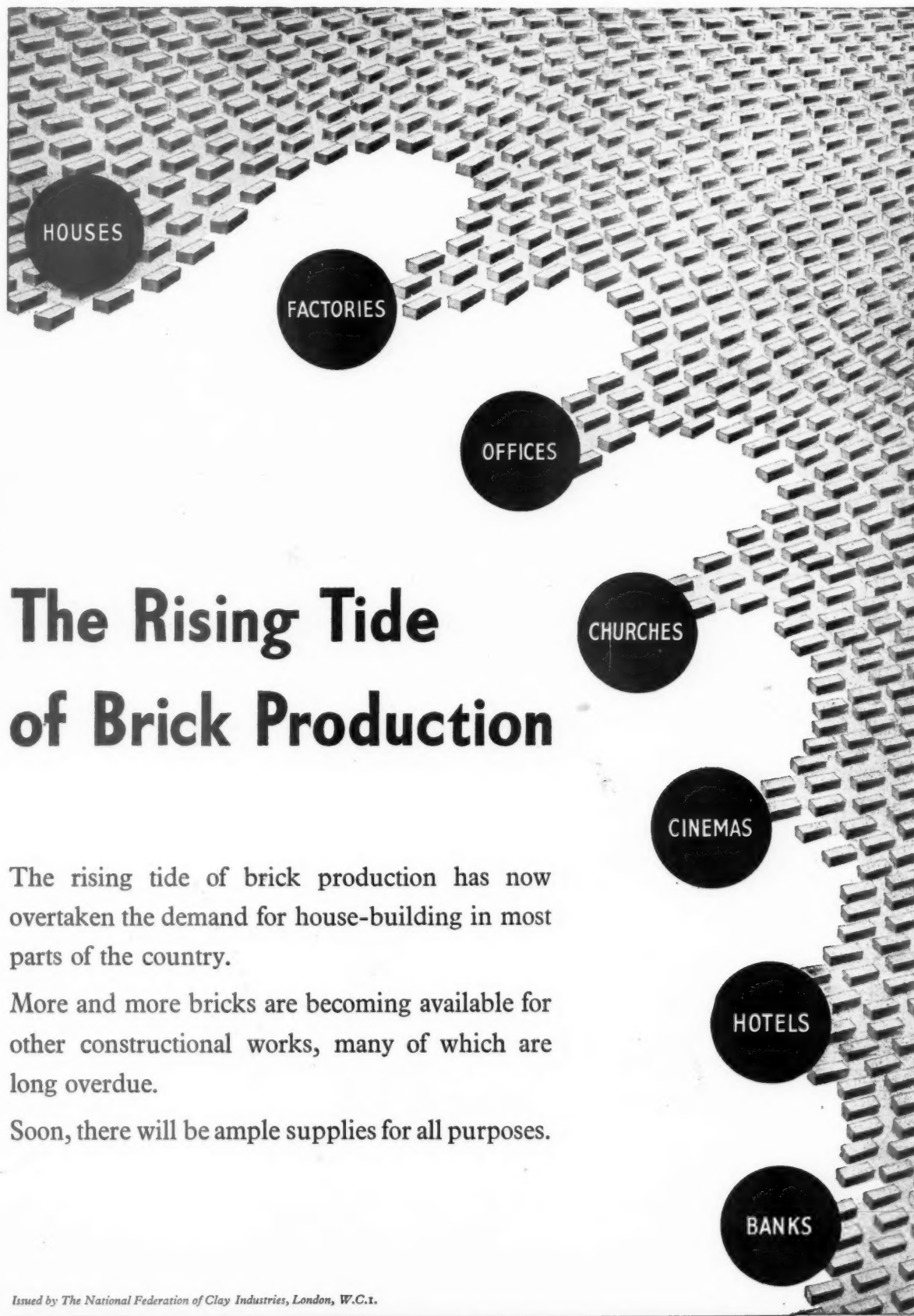
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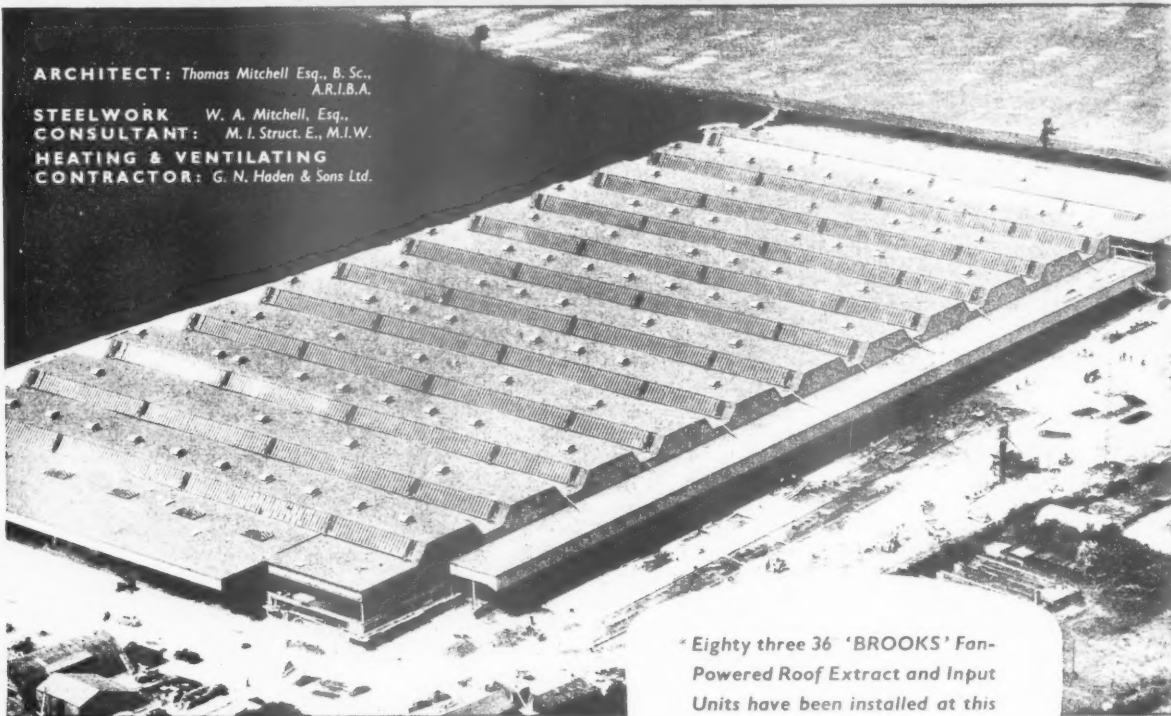


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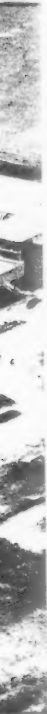
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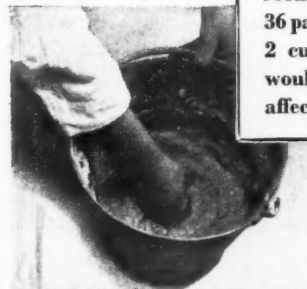
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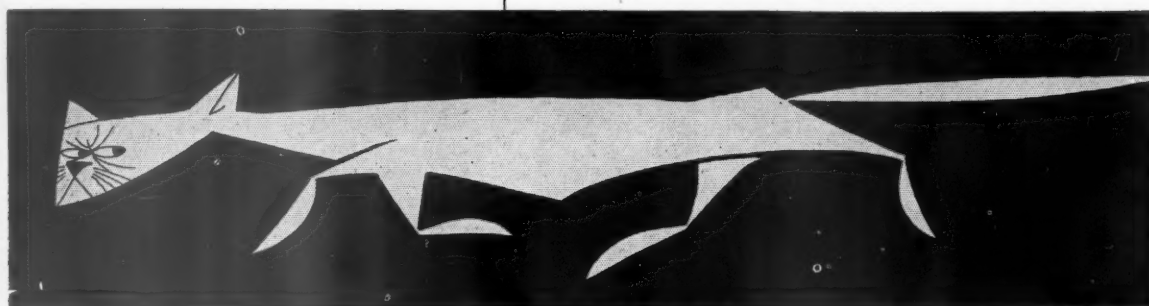
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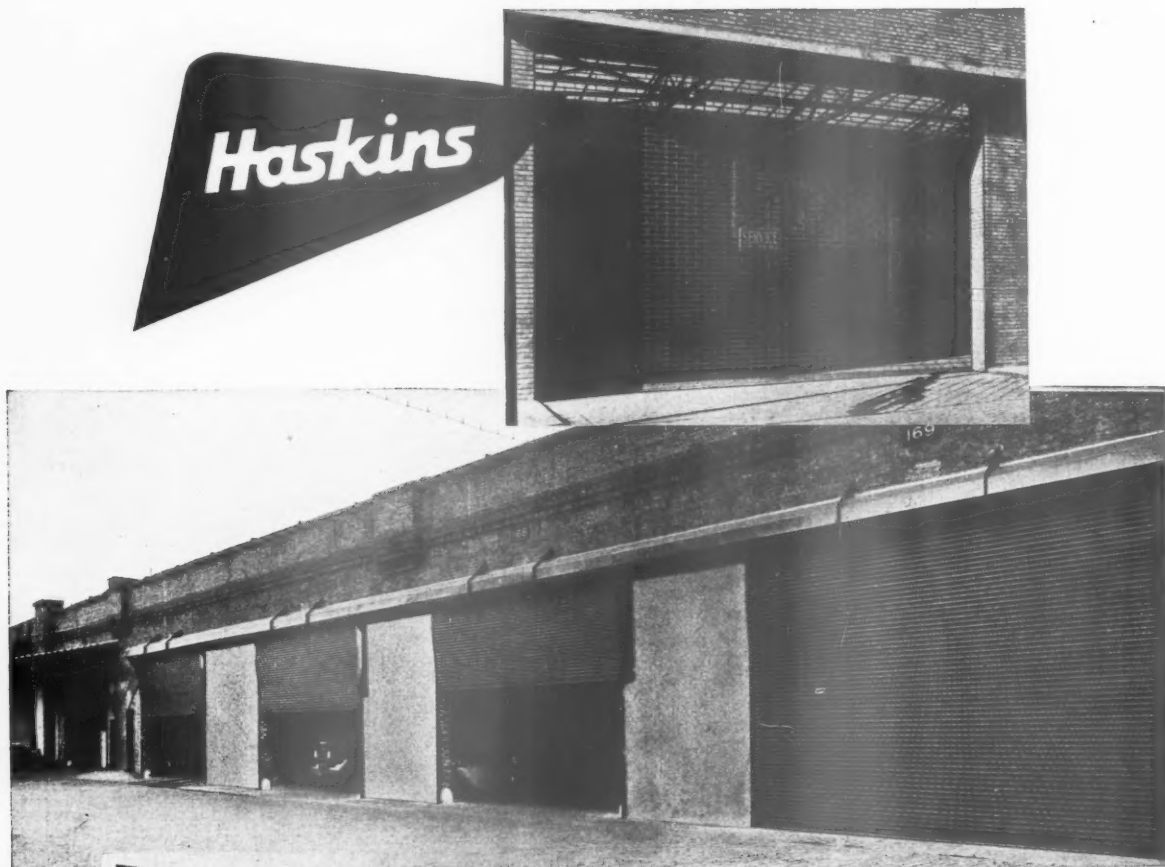


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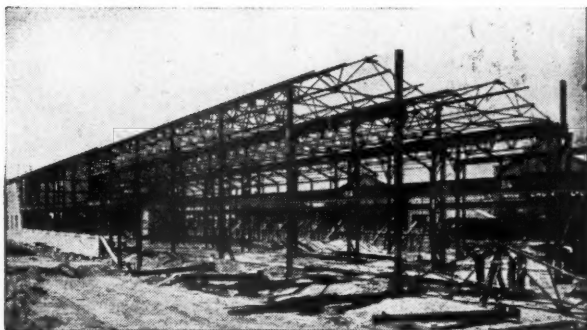
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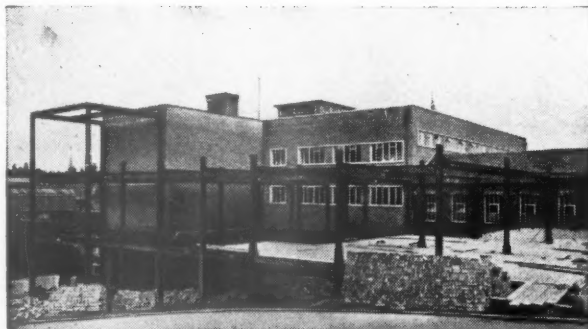
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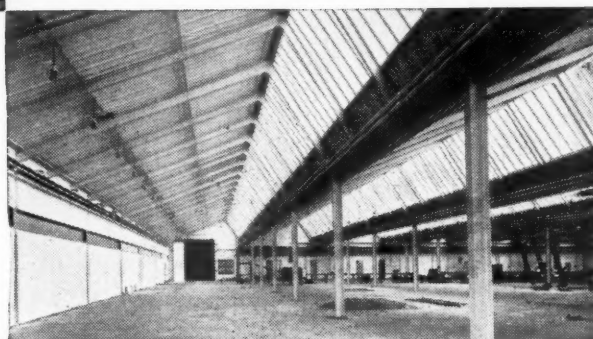


Stores building in course of erection for National Gas & Oil Engines Limited.



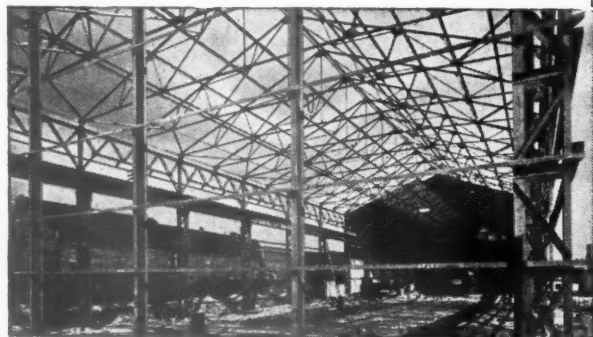
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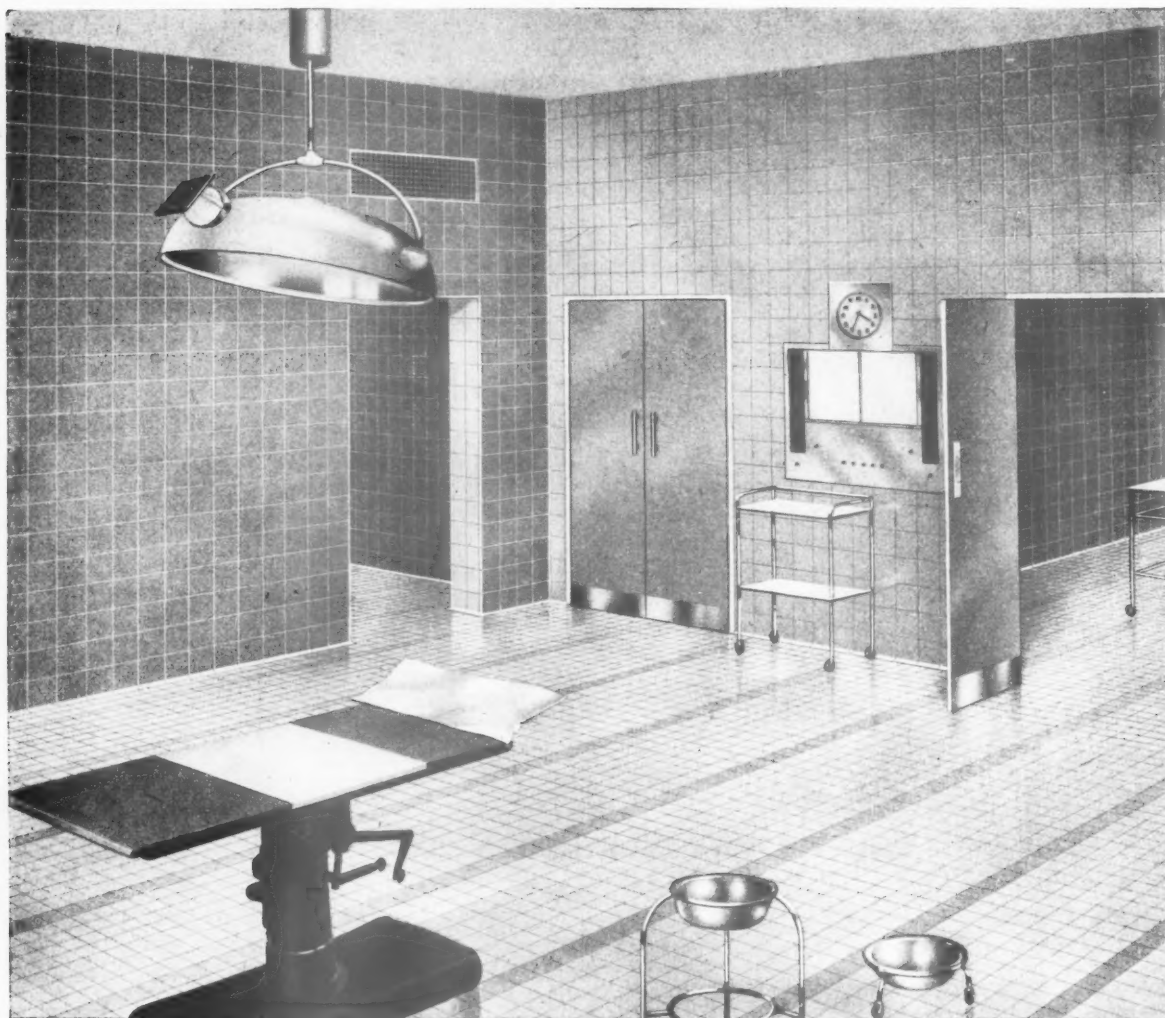
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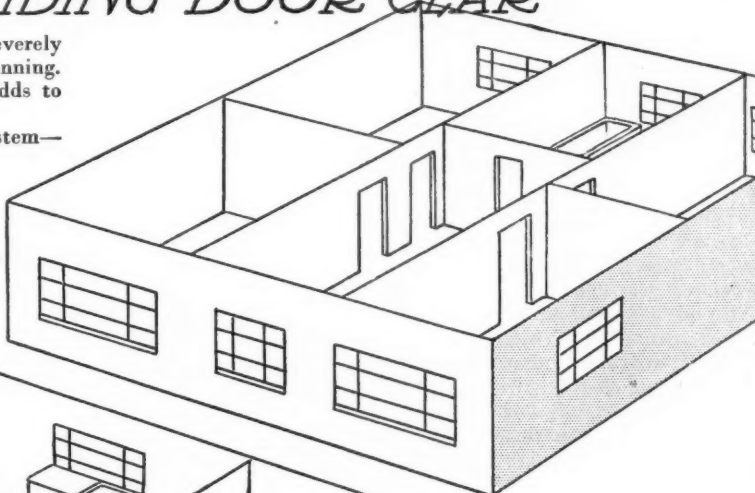


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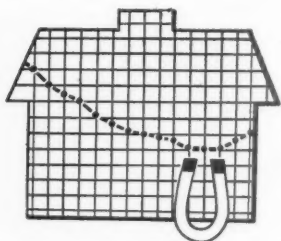
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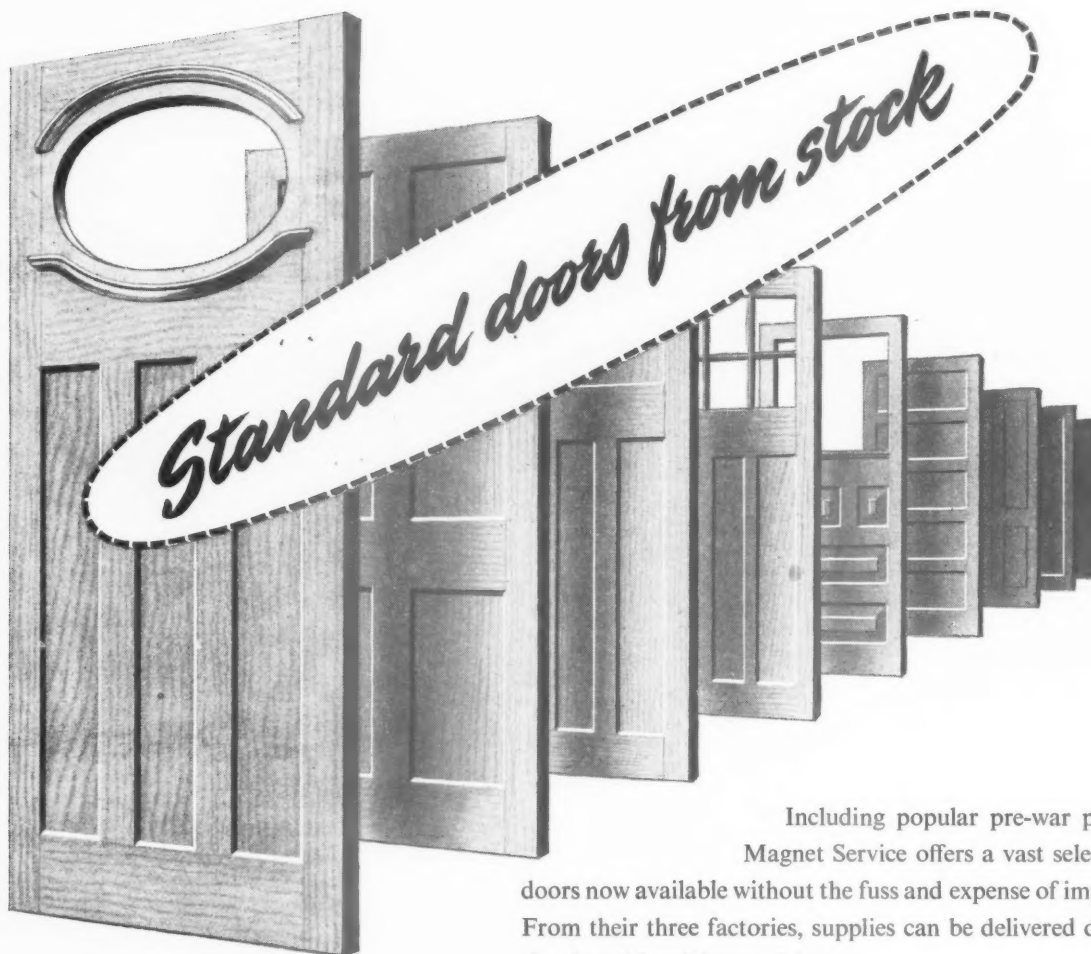
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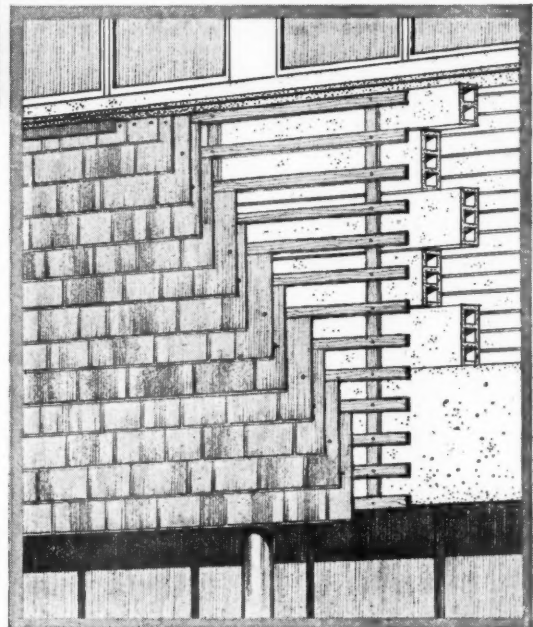
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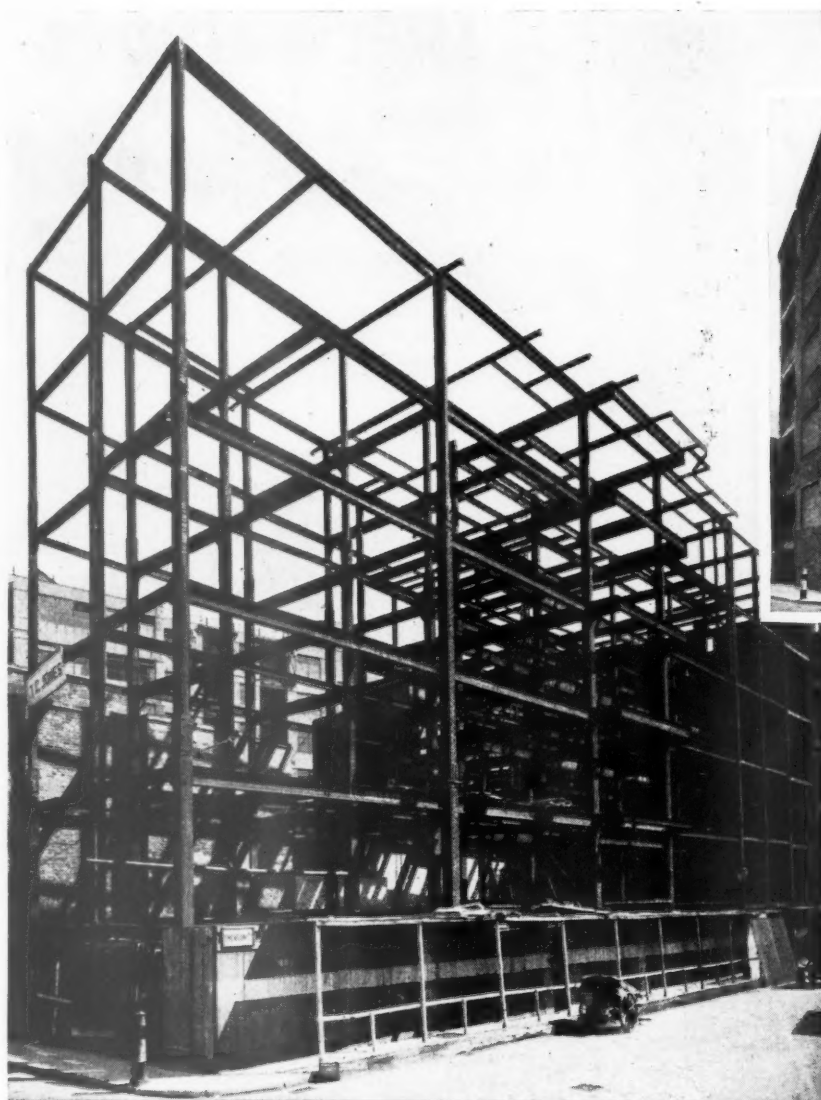
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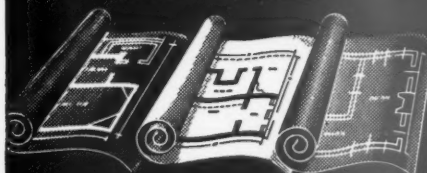
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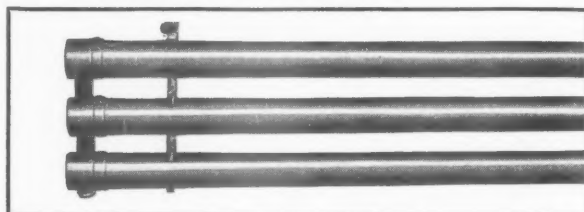


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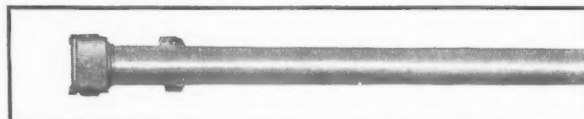
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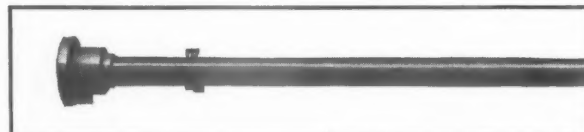
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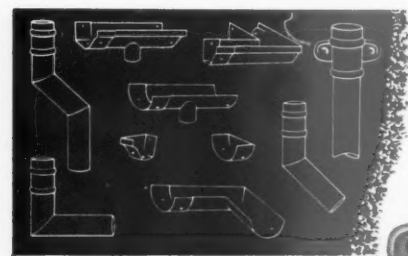
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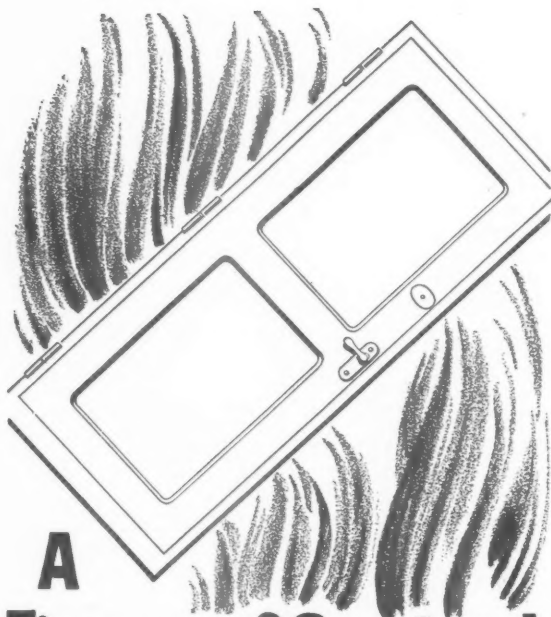
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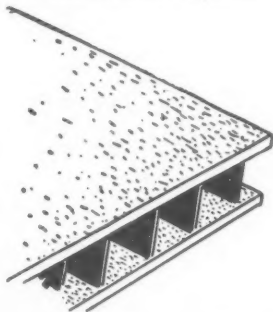
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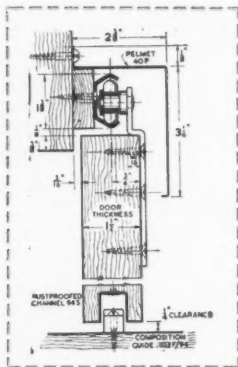
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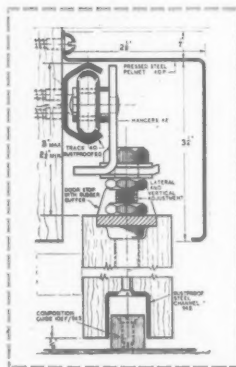


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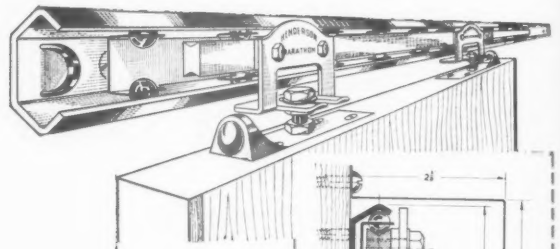
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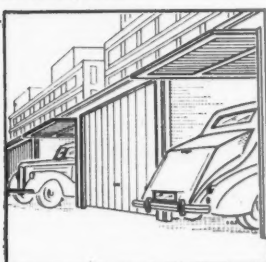
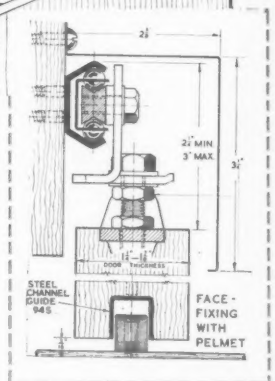
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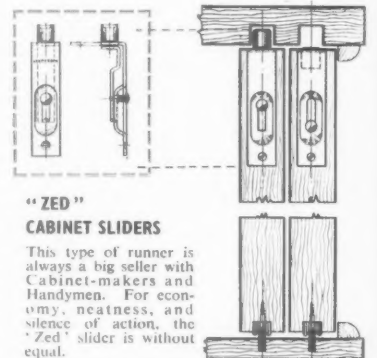


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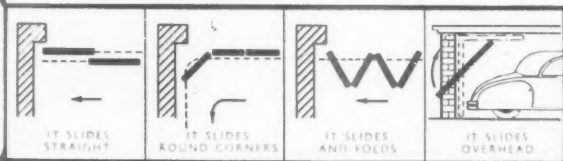
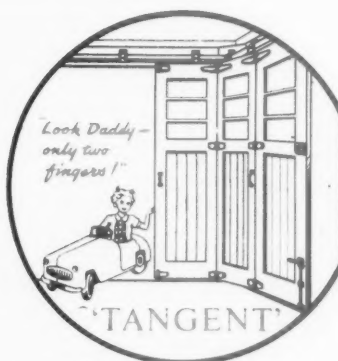


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\* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous.

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## ALUMINIUM, ATOMS AND PLASTIC

"Technology, you wonderful thing," moaned ASTRAGAL a few days ago, as he tottered away from the South Bank, where he had not only been pursued by helicopters and given substitute coffee with a dirty plastic coffee spoon (broken at that) in a certain restaurant not twenty feet below Waterloo Bridge, but had also seen the "Atoms for Peace" and "Aluminium Centenary" exhibitions.

The former, which occupies the corner of the South Bank nearest to that large and exciting hole in the ground which the LCC will eventually fill with the County Hall extension, is the first specimen Britain has seen of

the American-designed mobile exhibitions that have been touring Europe for several years—American, that is, in that they are sponsored by the U.S. Government and produced by a group of designers in Paris headed by an American official, Peter Harnden. But the designers themselves (architects, layout men, letters, script-writers, etc.) are a remarkably cosmopolitan team—French, Swiss, British and Italian, who have together worked out a delightfully gay and fresh-looking style of display.

They have shown great ingenuity in packing exhibits into trains and caravans of trailers, and even into canal

Many subscribers may not have received last week's JOURNAL. It weighs more than 8 ounces, which is the largest weight the GPO will accept during the railway strike. Copies are being kept for readers and will be sent as soon as possible.

We are sorry that this week's JOURNAL is smaller than usual. The number of pages has been reduced so that the issue does not exceed 8 ounces.

## THE EDITORS

barges for a Holland tour. The South Bank exhibition is one of their trailer designs, and very skilfully it has been done. The exhibits travel in a number of trailers, which when they come to rest become exhibition pavilions to be visited in sequence—linked by outdoor screens and other displays which also travel inside the trailers. Whether they are interested in atomic energy or not, architects con-

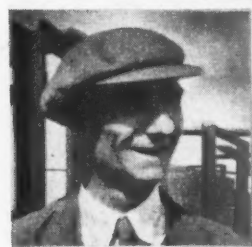
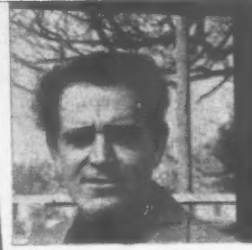
cerned with exhibition design shouldn't miss this masterpiece of demountability.

As to selling the public an important subject to think about, ASTRAGAL is not so sure, and the show loses something by comparison with the "Aluminium Centenary" exhibition. "Atoms for Peace" has to be small, obviously, but the aluminium show spreads all round the Festival Hall from the landward side, up on to the terrace in front, and even out into the river. There is a lot of it, and its strength is that it shows the object itself whenever possible—actual lumps of bauxite spilled on the pavement, two whole railway carriages, boats of all sizes, a Rolls-Royce *Silver Ghost* (machine aestheticians please note), a Land-Rover (new brutalists keep away), the enormous jib of a giant dragline, great pieces of extruded section, trucks, buses and goodness knows what else. The point of some of these products could perhaps have been more forcefully underlined—just what else you save beside weight, for instance—but the impact of the whole is forceful enough and it is clear that the aluminium industry really does have something to swagger about.

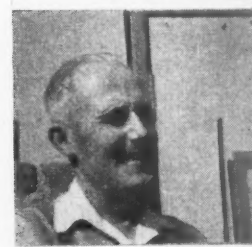
## GETTING SHOT OF THE TOWER

One more thing about the South Bank: ASTRAGAL observes, buried in the LCC's progress report on South Bank re-development, the announcement that the Shot Tower is to be demolished. It was just mentioned casually while the report writer was talking about something else. If we must lose the South Bank's only ancient monument, let us at least mourn its passing as loudly as possible.





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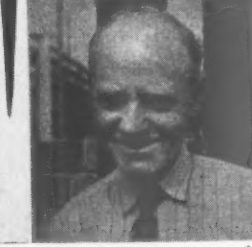


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## ROADHOUSE REVIVAL

The picture below will deal another blow to readers who think that high-pressure technology and contemporary design automatically go together. It was sent to the JOURNAL by the BOAC, who proudly announce that it is the new pub on their staff association housing estate. When ASTRAGAL had recovered from his first sight of



this piece of Road-House Revival—named, with appropriate coyness, “The Happy Landing”—he was surprised to find no vintage Bentley in the foreground of the architect’s rendered perspective. Yes, you *did* read those last three words correctly—but the less said about that the better. One consolation is that the licensees are to be Barclay Perkins, so that even if the labours and discoveries of the *Architectural Review’s* pub competition (in 1949) have been lost on the designer of the exterior, there is still a chance that we might get an interior as good as that Barclay Perkins masterpiece, “The Champion,” in Wells Street.

## DIRTY WASHING IN THE TIMES

When S. H. Statham proposed a London society for private architects (see

the JOURNAL of April 14) he wrote in moderate terms and had several sensible issues to discuss: the advertising of architectural services by firms of contractors, the diminution of the supply of work to private architects, and so on. When he wrote to *The Times* last week the devil’s horns began to peep through the well-groomed phrases: “public architecture . . . must soon rear its head” and “the stamp of public architecture” . . . or “the LCC architect’s department personnel costs more than that of the London Fire Brigade.” Confidentially, it also costs more than the LCC Rodent Control Brigade and the LCC Special Security Branch put together. And at least one man in the LCC gets about double the pay of a certain well-known architectural columnist—but so (if I may coin a phrase) what?

Mr. Statham, rather surprisingly, got the most conspicuous position in *The Times’* correspondence column. One wonders how many knees knocked, knuckles blanched and nibs crossed at Portland Place. But the RIBA kept control of itself, ignored the bait—so wisely—and let modest P. M. Andrews rise and shout down Mr. Statham with the minimum of words and the maximum of effect. And now, boys, what about getting off the pavement and fighting it out within the decent security and seclusion of Portland Place. That kind of squabble is not for the public eye.

## ARCHITECTURE GUYED

Why, I wonder, do so many people seem to get tangled up in their ideas of what builders and architects do? And, even more so, why do they write about them without finding out? I ask because I’ve just (dutifully) ploughed through *A Man in his Prime*,\* by Gilbert Phelps. The hero first appears as an architect (Byronic), but then turns into a partner in what appears to be a firm of builders which, in the early days, “consisted of little more than a straggle of workshops, a few heaps of sand and a hand cart.” Yet they “have a dickens of a job with the plans” for a Juvenile Library, and apparently have a go at warehouses and village halls and all sorts of things.

The hero gets some advice too “. . . you might even find a way of fixing it so that you can take your finals and go on to the Register—become one of Pettigrew’s consultant architects—a real architect. . . .” Pettigrew, by the way, is the local spec. builder smart boy. Summary of plot: hero, William Corrie, starts losing wife; finds substitute; loses substitute; regains wife; happy with her and kiddies.

Established authors sometimes warn aspiring novelists that only a third of the books written ever get published. This seems hard to believe.

ASTRAGAL

\* Arthur Barker. 12s. 6d.

## NEWS

## In Brief

**RIBA Records Mexican Architecture.** The RIBA has had a microfilm made of the hundred or so photographs which were shown recently in an exhibition at its headquarters. The film can be studied in the Institute’s library.

**LMBA Joins Modular Society.** At the invitation of the president and council of the Modular Society, the LMBA has joined the society as a “special group.”

**Town Planning in Iraq.** Raglan Squire and Partners have been commissioned to prepare a town planning scheme for the cities of Mosul and Nineveh, Iraq.

**Third Programme Talks.** Because of the general election the BBC cancelled three Third Programme talks by Sir William Holford on “Is Town Planning Possible?” However, the series has now begun (June 6), and the second and third talks will be given on June 13 and 19.

**The Aluminium Centenary Exhibition.** This exhibition, which opened at the Royal Festival Hall, London, on June 1, has been organised to celebrate the centenary of the first commercial exploitation of aluminium in this country. It is sponsored by the Aluminium Development Association, and is a follow-up of the last ADA exhibition, “Aluminium from War to Peace,” held in 1945. That exhibition showed what could be done; this one shows what has been done. And as might have been expected, more has been done in transport than in building. In the building section the visiting architect will see little that he is not familiar with already, for this has not been made an occasion for launching new products. He will, however, be able to compare the various aluminium roof coverings, claddings and windows. The exhibition is open until tomorrow: 10 a.m. until 6 p.m.

**British Plastics Exhibition.** This exhibition, which opened at Olympia on June 1, reflects the rapid growth of an industry that has increased its annual output from 100,000 tons in 1949 to an estimated 250,000 tons this year. As at the Aluminium Centenary Exhibition, it is in transport and not building where the material is more interestingly

applied. Since elaborate structural mouldings are only economic for car and aeroplane bodies, the main architectural interest is confined to sheet materials—of which there is a very good selection—and pieces of specialized equipment for use in the plumbing and engineering trades. The exhibition is open until June 11 from 10 a.m. to 6 p.m.

**Diary of Events.** “The Representation of Salaried Architects” will be discussed at an open meeting of the Association of Building Technicians at the Building Centre, Store Street, W.C.1, on June 16: 6 p.m.

“Sociology and Architecture” is the title of a talk to be given by Charles Madge at the RIBA, 66, Portland Place, W.1, on June 14, at 6 p.m.

“Prestressed Concrete Structures in Germany with Concentrated Tendons” is the title of a lecture to be given on June 14, by Dr. Ing. F. Leonhardt, at the ICE, Great George Street, S.W.1: 6 p.m. Admission will be by ticket only, obtainable from the Secretary, Prestressed Concrete Development Group, CCA, 52, Grosvenor Gardens, S.W.1. Sergei Kadleigh will talk about the New Barbican Scheme at the AA, 36, Bedford Square, W.C.1, at 6.15 p.m. on June 16.



# 16 QUESTIONS TO ASK AT THE RIBA CONFERENCE



*Few architects could treat the subject of the architect's responsibilities and the organization of the building industry more succinctly and more pertinently than does Sir Thomas Bennett, shown left, top, in the paper which he presents today and tomorrow at the British Architects' Conference at Harrogate. He sketches the background of the subject the JOURNAL's Guest Editors (Costs) are discussing in detail in their current series of articles. Also speaking at the conference is D. E. Woodbine Parish, left, below, a past president of the LMBA and director of a well-known firm of builders. His main theme is the science of management, but, with Sir Thomas, he deals also with that most urgent issue facing modern architecture: the need for preplanning and co-ordination in the design and construction of buildings. This issue has remained too long in the sphere of good intentions. Everyone agrees with the aim to be pursued but few know how to set about it. We now need some positive action—sponsored by the builders' organizations and the professional institutions—to achieve these aims. Mr. Woodbine Parish calls for the establishment of a Study Group. This proposal we warmly support. These two papers are so noteworthy that we publish them in full below. We also interpose our own questions and comment—questions which we suggest might well be asked at the conference (for we still maintain that the purpose of this event is conferring, and not just junketing), and we comment on issues that Mr. Woodbine Parish's Study Group (should it be formed) might well consider.*

## SIR THOMAS BENNETT

Over a very considerable period the value of the architect to the community has been judged by his ability to produce fine buildings, and as a profession we have perhaps been led to think of ourselves as artists in three-dimensional planning and designing for posterity. Posterity has little regard to the cost of the building at the time of erection, the period it needed for building, or the regulations which governed it at the time it was built. As long as the work of architects was primarily confined to the outstanding buildings of their time, this principle of judging the architect as an artist was probably true, but as buildings have been needed more and more for the everyday uses of the normal member of the population, so have economics intruded to a greater and greater extent upon the work of the architect. The public has also tended to judge the architect's work as much by his success in keeping to strict schedules of time and estimates of cost as by his power to give them a fine building when the task was finished. On the other hand, it is not unlikely that public taste as a whole has tended to rise, notwithstanding the criticism of modern work by older minds, and the architect is therefore faced with criticism from the point of view of the efficiency of his plan, the beauty of his elevations, the extent of his grasp of the scientific developments which have impinged on buildings, his power to spend large sums of money with regard to the value received in exchange, and above all, a power to handle men and a capacity for administration. This forms a formidable list of qualifications which few men can hope to acquire reasonably competently, and the answer can frequently be found only in partnership. On the other hand, public work looks for the answer in departmentalization. This multiple and diverse pattern of qualities and achievement undoubtedly represents the public view of the architect. It is in an attempt to study the extent to which the individual architect, the architectural partnership, and the architectural department can fulfil the public ideal that this discussion is instituted, and the views

of architects at this Conference may well cover an extremely wide field.

There are extensive indications that the public is appreciating the value of the architect in controlling its building proposals, since the percentage of work controlled is greater than at any previous period of building history. The profession as a whole is taking a wider view of its responsibilities, and the architectural press is reflecting this approach of the profession by attempting to disseminate the knowledge required in all fields of construction, equipment and detail. The leading architectural papers no longer confine themselves to the reproduction of drawings and photographs of fine buildings or fine photographs of the internal treatment of buildings. They almost invariably contain extensive articles which analyse particular sections of equipment, whether it is ironmongery, doors, balconies or heating schemes. The articles which cover such widespread items indicate the different types available, the sources from which they come, their relative efficiency, and at least give an indication of their relative cost. The profession, therefore, may consider that it is rapidly travelling along the path which the public would have it travel, and is doing its utmost to ensure that its qualified members reach the standard public opinion demands.

Is this true? Neither the McMorran Report on Architectural Education nor the schools really face the fact that architects can no longer be adequately trained in isolation from the builders or engineers, or from industrial processes. The important factors of time and cost in building, which Sir Thomas mentions below, still have no place in the curricula. Nor, as far as "standards" are concerned, do we hear of the RIBA or ARCUK doing much to ensure that its members maintain high standards of professional competence (as apart from professional conduct) although they should have the powers to do so.

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Building has undergone a fundamental change in the half century between 1900 and 1955.

In 1900, building was almost entirely a craft industry. The construction was of load-bearing brickwork or masonry, the floors were largely of timber or of very simple iron construction, and the finishings and equipment were of a similar straightforward character. The preparation of the drawings for buildings of this kind could be made entirely in the office of a competent architect, and the drawings so made were issued to a contractor, who in turn employed directly almost the whole of the men who were engaged in the erection, and in the great majority of cases he executed in his own yard the masonry, joinery and other finishing work which was ultimately part of the completed building.

The engineering aspect of building was in its infancy, and many buildings had only slight engineering equipment. This was true of structural steel, reinforced concrete, heating, electricity, lifts and other services.

The great majority of buildings were erected for wealthy "patrons" who were individuals, local authorities and government departments. The buildings concerned were largely town and country houses, town halls, museums, churches and similar structures. The distribution of wealth at the time was such that buildings of this character, when commissioned, had as their major objective the creation of a fine building more or less irrespective of the ultimate cost or time taken in erection.

In the space of fifty years the approach to building has changed, so that we are now faced with an attempt to design buildings which are of widespread value to the individual members of the population, and attempts are being made to house people in new houses on an unprecedented scale, to create so large a number of schools, shops, factories and other utility buildings that the nation is equipped as quickly as possible with structures which conform to the efficiency needed by the nation. This approach to building has meant that time and cost have become paramount factors in the solution of the problem.

A growing aesthetic taste has brought within the normal work of the architectural profession many buildings which in 1900 were erected as purely utilitarian structures. To a large extent this applies to factories and houses, and in a more limited extent it applies to certain other classes of buildings, such as schools, railway stations, electricity generating stations, and other buildings which 1900 was satisfied to produce to a common pattern once a design had been created. This resulted in the erection of buildings which, to a large extent, were built irrespective of local conditions, environment and other circumstances.

#### The Development of Engineering Services

As steel, reinforced concrete and electricity developed, individual men or firms studied the requirements of these services and developed companies which prepared designs and gave quotations for the work, so that design and construction were intimately married and associated with the limited number of people who possessed the necessary technical knowledge and equipment. Thus the sub-contracting specialist firms came into existence.

#### The Building Crafts

Many factors contributed to change the system of operating with individual craftsmen employed by the main building contractor, and to create sub-contracting specialist craft firms. The serious booms and slumps of the 20th century caused the

builders to seek contracts far removed from their headquarters, where the transport of their own equipment and men was financially impossible. The increasing intensity of competition created specialists who, by retaining groups of men constantly employed and mobile, and developing intensive methods of production, succeeded in offering their services for individual craft work at a lower cost than the builder could carry it out with his own workmen. In the case of many good firms, so high a standard was normally worked to in their own shops that when they tendered for lower standards of work their workmen were not prepared to reduce their standards, and the work was of a higher quality than the price justified. For all these reasons specialist firms appeared in joinery, plumbing, plastering, painting and other trades.

In 1955, therefore, the architect has to design a building, possess knowledge covering a wide field of technology, and be familiar with methods of contracting on a scale quite unknown to his counterpart in 1900. The builder similarly has largely lost contact with the workmen, he employs them for short periods, they owe him less loyalty, and he tends to sub-contract on a scale which was formerly unthought of.

#### Building Owners

Building owners have probably become more numerous and much more in need of widespread advice on the problems connected with their buildings. In these conditions the architect, fully to justify his position, must not only be able to design the building, but must be able to offer knowledgeable and expert advice on a large number of aspects of the building problems with which he is presented. If the profession is to secure the confidence of this widespread building public, it must show that it is capable of providing advice on a sound and reliable basis, which enables the building owner to proceed with confidence. Advice of this kind falls under a number of headings:

(1) *Financial advice.* In all periods of building the control of costs has been difficult, but in a period where money is rapidly diminishing in value and building takes place in widely different parts of the country, both estimating and cost control have become increasingly difficult. Nevertheless, it is one of the big essentials of the building public today to know that they can set out to spend a given sum of money, and finish with a building which has cost precisely this sum. This involves accurate estimating and constant records of the cost of various types of construction and decoration. It involves on the part of the architect a power to assess the relative value of different types of construction, to know at what point he must curtail his specification, and in the early stages present costs, together with sketch plans and outline specifications, which indicate with a considerable degree of certainty the amount of money the client will have to pay for a given building. Once the estimate is given, it must be capable of being confirmed by tender or negotiated price, and it must be able to be carried to its conclusion with a similar financial position. There must be constant advice to the client as to the financial position of his completed works, and finally the work must be handed to him, if possible, at the figure at which he started.

The problem is admirably stated but does Sir Thomas call for a solution or does he think it already solved? A method is available—Cost Analysis (see article in the AJ, February 24), and Cost Planning (article to be published soon)



—which allows the cost of a building to be planned with the same degree of control with which the space and the constructional means are planned. Is this what Sir Thomas has in mind?

(2) *Legal advice.* In 1900 such laws as related to buildings were of a precise and specific character. Once the law could be interpreted, it was possible to know precisely what could be done and what could not. The measure of rigidity which this created caused the members of the industry and their legislators to indulge in a large spate of permissive legislation, where controls were not precisely stated but were in the form of power given to committees to sanction works over a wide field. This change in the aspect of legislation has meant a vastly increased amount of work for the architect who controls the early stages of the scheme, an extensive knowledge of what may or may not be permitted, and the power to thread his way through this type of uncertain and difficult control. He must be able to advise his client what he can build in the first instance, and ultimately secure approval for a building which is the same as that which he put before him at the commencement of the discussion.

(3) *Technical advice.* With the growth of high tensile steel, welded structures, aluminium, patent floors of various kinds, concrete three-pin arches and complicated foundations, the field of technical knowledge has widely extended, and it is impossible today to lay down a sketch plan without an intimate knowledge of the method by which the building is to be constructed. It is also necessary for the architect to be able to give advice to his client which results in the use of the most economical and rapid construction for his particular building. This carries with it the power not only to assess the best method of construction, but to be able to give advice on the relative costs of the different methods which are possible.

### Engineering Equipment

The developments in heating, ventilation, lighting and acoustics have all brought with them the necessity that the architect, in producing his sketch plans, must have a clear knowledge of the type of equipment that he is going to recommend, and at an early stage of the proposals discuss the relative advantages of different methods and their relative costs. At a very early stage in the discussion of buildings of substance, this equipment must be determined or the plan will fail to produce a structure into which it can be introduced with economy and efficiency.

### Finishing Materials

With the growth in the cost of building has come the growth in the availability of alternative methods and synthetic substitutes. Over the last 20 years there have been widespread attempts to find suitable and more economical alternatives for such fundamental things as the walls of houses, surface treatment of floors, alternative types of windows and mass-manufactured doors. This involves a knowledge again of relative costs, wearing capacity and suitability.

Can the architect give the client the benefit of such advice? Has he access to impartial records showing the relative efficiency of equipment or the wearing capacity of materials? Is he not in practice dependent on hearsay and personal experience?

### Contracting

The manufacturing industries produce an article and put it on the market in competition with other similar articles, and the public judges the relative efficiency and value of these articles in their finally completed form. Motor-cars, radio, aeroplanes, manufactured clothing are all in this category. The only portion of the building industry which can produce a similar article is the housing section, where the speculative builder puts a house on the market on similarly competitive conditions. The rest of the industry must find a means of satisfying the public that it is paying the lowest possible price for its building, and must satisfy the industry that a young and enterprising firm has a reasonable possibility of obtaining contracts in competition with its older and established competitors. So far the industry has devised no better means than that of the competitive tender. It is clear that as the quality and standard of building work for different buildings varies, open competitive tendering is unfair and unsound. It fails to compare like with like either in the tender period or in the finished building. Limited tendering is, therefore, essential to the well-being of the industry. Where firms have created a good reputation by the standard of their work and conduct, negotiated tenders will often produce a satisfactory answer which in many cases may be sounder and better than that of the competitive tender. But if negotiation were carried to its ultimate conclusion and tendering were eliminated there would be no basis for negotiation. The architect must know when to recommend the negotiated tender, and the assessment of the builder, and when to recommend tendering and names the firms invited to tender. Much has been said about the advisability of bringing in the builder for discussion at an early stage. In general the essentially practical character of the builder's work and organisation does not produce fruitful discussion when drawings are in a fluid state. Much more constructive results are obtained when the design is reasonably firm and working drawings are approaching completion, assuming the architect's practical knowledge to be sound.

That there "is no better means . . . than the competitive tender" cannot be proved until other means (the negotiated contract with architect/builder collaboration) have been more extensively tested and their results studied comparatively. In any case the competitive element in contracts has, for many years, been getting steadily smaller and may be less than 40% of the total. Does the present level of building prices (which allows the least efficient builder to make a living) represent the best and the most that money can buy? Yet this is the basis that Sir Thomas suggests for negotiated contracts. Surely we can devise some rational method of valuing the materials and labour content, and the degrees of economy of building operations, to form a basis for negotiated contracts?

### Sub-contracting

It is useless to consider that the industry can come back to the type of organisation which existed in 1900. The economic conditions of working today preclude any such possibility



The industry is, therefore, faced with the execution of work on the basis of a main organising and controlling contractor working with a team of specialist sub-contractors. The builder will work best if he works with sub-contractors he knows, if they are all efficient, and if they are clearly and unmistakably under his control. Fundamental sub-contractors should be appointed before the bills of quantity are complete and their names should be mentioned in the bills of quantity and the specification. So far the experience of specifying the work and leaving the builder to find the sub-contractors has too often produced firms of a low grade who are paid insufficient money to produce work which satisfies the architect and the client. In the great majority of well-thought-out buildings it is impossible to complete the drawings until the principal sub-contractors have been appointed, so that selection by the architect with or without competitive tender is essential to the completion of efficient working drawings. If reliable builders are used, it should be possible to reduce the number of sub-contracts and to make sure that at least the craft trades are included in the main contractor's work.

A great many contractors consider that the nominated sub-contractor, having been brought into the contract by the architect, will expect to act independently. They therefore fail to co-ordinate his work and they leave him as a loose member of the contract team. Many contractors fail to find out precisely where the sub-contracts start and finish, or to make sure that they have welded the sub-contractors into the time schedules, neither do they keep closely in touch with sub-contractors' material deliveries and other matters which are essential to the progress of the contract as a whole. From the architect's angle it frequently seems that the precise services which the main contractor must give to the sub-contractor are loosely defined and are unsatisfactory, frequently leading to friction. The sub-contractors have not always undertaken the full responsibilities imposed on the main contractor when the sub-contracting tenders are called for, or when the main contractor attempts to make them part of his team by calling upon them to sign an internal sub-contract. The sub-contractors frequently attach closely printed conditions to their tenders which no one reads and which they produce when any difficulty arises. There is no doubt that this looseness, lack of co-ordination and supervision are some of the main causes why some contracts do not run smoothly and do not keep to their time schedules.

**We have reached the point now where sub-contractors' and suppliers' work often accounts for 60% or more of the contract sum, the majority of it being nominated and much of it not competitive. The general contractor, indeed, is rapidly becoming a job organizer, with his organizing ability being the competitive element in the contract. This state of affairs did not exist when the RIBA contract and the contractual procedure that goes with it was first evolved. Should we not reconsider the whole question of relations between client-architect-consultants-contractor-subcontractors. Perhaps a formal contract could be evolved to which everyone is party; perhaps reverse the percentage given above, nominate the general contractor, pay him a fee and make**

**the subcontractors and suppliers competitive? The solution, whatever it is, must be as big as the problem.**

### Contractors' Sub-contractors

There is frequently outspoken criticism on the part of contractors that far too much of the contract is let to nominated sub-contractors, yet it is common experience, when these nominations are omitted and the work is specified, to find the main contractor obtaining tenders from a widespread and often inferior list of sub-contractors, and to find the sub-contract placed on the basis of severe competitive tendering with sometimes a Dutch auction at the end. The architect is thus presented with sub-contractors who fail to carry out the standard of work specified, but when criticised are found to be working for sums so substantially below that of the main contractor's price that hope of securing a proper standard of workmanship is almost at an end.

### The Design of Specialist Work

The history of the specialist contractor shows that early knowledge was almost entirely confined to the contracting firms. In the case of the soundest organisations this has continued to develop, so that in many cases the best combinations of technical design, practical construction and economy are found in these contracting firms. In a period of relative shortage of material, placing the design of structure with these firms has often ensured the supply of necessary materials, where working with a consultant and a subsequent contractor has created delay in building, or actual disorganisation. The complication of a modern large building is such that it can no longer be designed in its entirety within the 6 per cent. fee which the public have accepted as the remuneration of the efficient architect, and in such cases it is necessary to educate the public to the fact that portions of the buildings must carry additional fees to enable them to be designed at all, e.g., the drawing of load-bearing walls on the architect's drawing takes neither more nor less time than an accurate drawing of the beams, stanchions and floors which result from the calculations of the engineer. The engineering calculations are, therefore, an additional burden on the production of the drawings. This design can be supplied by the consulting engineer or the design engineer on the staff of a contracting firm. It should be easy to devise a means by which either source of design is accepted. If the design of the contractor is accepted, the architect should ascertain the cost of the design service and treat it as a consultant's fee. The cost of steel or concrete design should be recognised and paid for by the client either in the form of a consulting engineer's fee or the design fee in the contract. This choice of the designer applies equally to schemes of heating and ventilation, and in these cases also the industry is faced with the fact that a great deal of the design ability of the country is in the hands of the personnel of leading firms of heating and ventilating engineers. The employment of specialist firms by architects clearly lends itself to abuse, as do all other forms of contracting. It is possible for an architect to have a firm of heating, ventilating or constructional engineers with whom he places his contracts, who give him a high standard of service technically, but equally charge the client a disproportionate contract sum for the contracts which are placed with the firm. The profession should, therefore, devise a means by which such abuse of advice is impossible.



**Agreed! But how are we to determine what is a "disproportionate . . . sum"? Does competition ensure the greatest value for the smallest outlay? Specialist work is a blind area in the cost picture; we know too little about the detailed cost distribution. The MOE Bulletin No. 12 (Site Labour Studies) reveals that on 38 primary schools the labour expenditure in heating installations varied by 900% from best to worst. Ought we not to analyse specialist work to discover something about its economy? Should the specialist firms be persuaded to tell us at least as much about their cost breakdowns as builders do (in the priced bill) about theirs?**

#### Execution of the Contract

It has become the custom in this country for contracts to be based on the production of working drawings, a bill of quantity, a tender or negotiated price from a builder, supervision of the building by a clerk of works, with the over-riding control of the architect. This machine is perfectly capable of producing a well-organised contract. In practice it has been subjected to considerable criticism. Criticism arises on one hand because of a number of inefficiencies on the part of the client, architects, quantity surveyors, builders and clerks of works concerned, and on the other to the conditions of working, which in some measure are inescapable. It is desirable to start with the basis of an efficient organisation. This embraces receipt from the client of firm, unaltered instructions. What might be called professional clients should be, and frequently are, quite capable of giving these definite instructions. There are councils who are constantly building a similar sort of building, e.g., schools; development companies who are experienced in large-scale building, and certain types of factory organisations which build continuously, who may be called efficient clients. In all these cases it is still necessary for the architect to drive home to committees, boards of directors and others the serious disorganisation and cost which they incur when they change their minds and issue confusing or conflicting instructions. With the widening of scope and amount of building, and the increasing entry into the industry of those who build single buildings, the fundamental necessity of firm, unalterable decisions has not been realised, and architects have not been strong enough or sufficiently convinced of the necessity to insist upon their clients making up their minds, approving or signing sketch plans at a given period, and leaving those drawings unaltered for the rest of the contract. This is partly a defect of building organisations of the country and partly the failure of the architects as a profession to instil this necessity in the minds of the public.

**We are all agreed that firm and complete instructions and careful pre-planning are necessary. But we cannot stop there; we must go on to work out the procedures and contractual relationships necessary to achieve these ideals.**

#### Technical Knowledge

It is probably a deficiency of the approach of the architectural profession to the design of buildings and a weakness

in professional education that far too many architects think the widespread knowledge of technical principles which they must possess is either outside their scope as artistic designers or beneath their dignity as producers of fine buildings. This is an anomaly in an age where the building of structures with false classic detail has not only ceased to be accepted as design but has become anathema to the architectural approach to buildings, and it is possible that we are seeing widespread lack of the necessary knowledge only as a passing phase.

#### The Quantity Surveyors

Quantity surveyors have entered the building industry in recent years with increasing force. They have built up a system of "taking off" which is not always suitable for the work in hand, and in the case of housing is still far too elaborate and too costly. The building industry and the quantity surveyor should agree on a much simpler type of quantity surveying and a uniform system of costing which will enable builders confidently to price the same item in the same form. It is a serious burden on the industry that alterations frequently cost more in quantity surveying fees than the saving in cost to the client. The remedy quoted by some of those familiar with America is that there should be no quantity surveyors. There can be no doubt that in this instance American practice is behind British practice and in principle one set of quantities is more efficient and more satisfactory than the multiple sets of figures produced by American contractors who are tendering for the work. There has been a tendency for the architects to allow the quantity surveyors to take over too large a proportion of their work, and cases exist where the quantity surveyors write the specification, deal with the party wall awards and do other extraneous services for which the architects are paid. The profession should not allow these encroachments to take place and should insist upon carrying out the work which proper control of buildings demands.

**Quantity Surveyors, it is said, know the price of everything but the cost of nothing. They only know prices from what they read in priced bills. Is it not time we enquired how accurately the rates and prices given in priced bills express the actual costs of the work itself?**

#### Completed Drawings

The builder cannot possibly organise his building unless he has complete drawings and a specification. The difficulty of producing such drawings under adverse conditions has become more and more acute. The first fundamental difficulty is that of local authority approvals. Delays in securing these approvals, and securing them in a definite form, frequently run into months and sometimes into a year, and frequently for this or other reasons the building owner forces the architect and builder to commence the work within a week or two of the time at which local authority requirements are defined. The present method of giving approvals in London requires drastic overhaul, so that they are much clearer and given in a much shorter period. Without this clarification the architect is unable to give the builder clear

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and accurate instructions at the proper time. In default of complete drawings, such information as is available should be issued in a concise form and in the right order. With a complete grasp of the essentials of building (this is possible; it should be accompanied by weekly meetings of the architect, the contractor and the relevant sub-contractors, and the issue of instructions which are as extensive and definite as the circumstances permit.

### Building Organisation

There can be little doubt that the building industry as a whole has failed to adjust itself to the far more complicated organisation and administration which the sub-contract system of building has imposed upon it. Frequently its supervisors are insufficiently educated, have insufficient technical knowledge and do not take charge of the work of the sub-contractors as an essential part of their contractual obligations. Very much the same thing applies to the clerk of works. Somehow the building industry must produce many more men of a high standard of technical knowledge, of broader outlook and a greater capacity for organisation. In this field there are a number of outstanding exceptions.

### Claims

One of the biggest causes of complaint of the building public is the system of claims on contracts after the work is completed. It has been the custom of builders not to disclose these claims until final accounts are rendered. This system ought to come to an end. It should be possible each month when financial statements are issued for the builder to be compelled to give notice to the architect of any work which he considers has involved additional cost, with some estimate of the amount, and this should be returned regularly to the clients so that they know how their costs are running. If the builder has not declared his additional cost in this way, he should be precluded by the contract from claiming it at a later date.

### The Building Industry

Up to this point in the paper, consideration has been given to a large number of factors in the work of the architect, the consultants, the quantity surveyors and the builders as they appear from the point of view of the architect's office, but it is not outside the scope or experience of the architect to have views upon the organisation and execution of the work in the industry itself, although this aspect of the industry is more immediately within the control of the builders and contractors. If this portion of the discussion serves no purpose other than to cause the builders to criticise or endeavour to answer the criticisms raised, it will at least have served the purpose of publicising the views of an informed outsider.

### Sub-divisions of the Industry

The building industry employed pre-war approximately 1,000,000 to 1,200,000 people. It is considered today that the building and civil engineering industries combined are employing approximately 1½ million people. The industry is, therefore, the largest single industry in the country. Within this large field of employment there is clearly room for very widespread differences in skill, ability and experience, but the industry has three or possibly four main sub-divisions:

- (1) Civil engineering works, i.e. roads, bridges, railways, docks and harbours.
- (2) Major contracting.
- (3) House building on an investment basis.
- (4) Small works, jobbing and maintenance.

Although sections of the industry are interchangeable, there is a much larger measure of permanent sub-division than the public normally imagines, and in particular the maintenance section of the industry, which employs possibly one-third of the total number of building employees, is spread throughout the country. It is the section of the industry which enters people's homes and comes most closely into contact with individuals. It is, therefore, constantly subject to criticism. It would not be unfair to say that in this field there is a great lack of administration of the standard required. Maintenance and jobbing present great difficulties in the control of men when they are scattered over a wide field in groups of two and three. Nevertheless, this section of the industry spends a large amount of the public's money year by year, and it is quite essential that the small builders, foremen of works and the men who work for them should raise the standard of their efficiency and organisation considerably above the present level. Probably two main features cause the greatest amount of loss, disorganisation and criticism. The first is the ordering of materials. These materials occur in small quantities, often their precise size cannot be ascertained until existing work is opened up, but whatever the reason, it is common to find workmen arriving at houses or buildings with no material available, sometimes making a number of visits before the material arrives. The building owner experiences immense discomfort because his building is taken to pieces, and then waits appreciable periods before it can be reinstated. There is room for a very substantial increase in the standard of administration which is concerned with materials ordering.

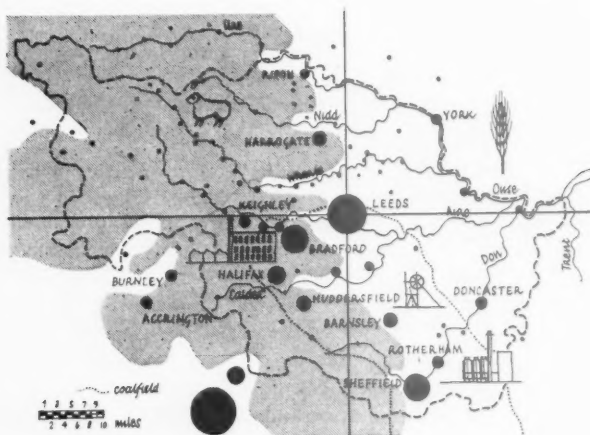
The second is that the industry has ruled that men must receive periods in the morning and afternoon called "tea breaks," and they have also ruled that they should arrive and depart at specified times. There is no doubt that the small builder employing 15 or 20 men in groups of one or two has an extremely difficult task in time-keeping and in the limitation of the morning and afternoon tea breaks to the expected 10 or 15 minutes. Nevertheless, it is widespread experience of building owners that time-keeping and tea breaks represent a very low standard of morality on the part of many men, and a great deal of slackness on the part of the employers.

### House Building

The house building section of the building industry is the one section which creates a building and offers it to the public when it is finished. The competition amongst individual house builders or developers is keen, the standard of article offered is generally high, and the value is often extremely good. As a whole this section of the industry appears to be very highly organized, very highly efficient, and probably produces a better house at a lower cost than its counterpart in any other country in the world. Attempts to compare the cost of house and flat building in this and other countries disclose that none can compare with those of English houses. The house builder is frequently criticized for lack of design capacity, and the houses are sometimes regarded as badly placed on site, while most architects criticize the repetition of the semi-detached dwelling which architecturally produces poor com-

(Continued on page 797)





Under the title "Outrage," the forthcoming *Architectural Review* for June concerns itself with exposing the mess of under-designed, ill-planned squalor, fast linking-up towns through, literally, the length of England: from Southampton to Carlisle. It is the greatest indictment yet published of the twentieth century's inability to handle the visual implications of the complex technology it has created. The article here is only a very minor accompaniment to the Review, and is concerned only with the conference area. It depicts the vital and hugely confident gestures of technical enterprise which either in the past, or now, have affected the way of life of the local inhabitants. It depicts also the many failures to exploit fully and creatively, in terms of civilized living, our technical achievements. It is about a part of England that no architect visits except on business. Many will have seen its smoke-raddled sunsets through a carriage window, and idly wondered what lay beneath the murk, without intending ever to go and see. Others, trying to motor from Liverpool to Hull, will have grappled with the greasy fogs that lie along its roads in winter. A few who read this may have spent their youth in the West Riding and decided, like too many talented Yorkshiremen, to rid themselves of its squalid parochialism and emigrate to the south. To all these, and to those members of the RIBA Conference who are staying in Yorkshire for the first time, the next few pages may serve as a reminder of the great weight of the responsibilities of the architect in England. We are indebted to Andrew Derbyshire for most of the material.

AN ARCHITECT LOOKS AT

## THE WEST RIDING

Of course there is more to the West Riding than mills and coal mines. If the county is divided into quarters centering on Leeds, (see map left), the two northerly ones are found to be predominantly rural. The north-west quarter is a land of limestone uplands merging towards the east with the moors and wooded valleys of the Dales. The villages are small, but tightly packed, and carefully sited on the valley flanks between the flooding river and the windswept moor. The buildings are unsophisticated structures—below—made of the



rock that lies everywhere near the surface. They are well dug-in to the slope of the ground, and with their low-pitched stone or slate roofs, reflecting the predominant fall of the land, and the shelter-belt of stunted trees to windward of every group, they achieve the status of natural forms. Lead mining was a major industry of the region until the nineteenth century and produced a rich crop of ingenious buildings and engineering works in extremely remote situations.

The north-east quarter of the Riding has its focus in York and is mainly arable—in contrast to the sheep and cattle grazing of the west, as can be seen in the photo on the opposite page, of the river Ouse, near York, with the railway to the north cutting sublimely through the field pattern. The magnesian limestone subsoil provided the chief building material in the past, and the combination of yellow-grey wall and red-pantile roof is characteristic of the district. Roman York was a colonial outpost and centre of government, and maintained for many centuries afterwards its position as a religious and commercial nucleus. Monastic foundations and the occupants of the outlying granges were active in discovering techniques for exploiting the natural wealth of the region, and exporting—by way of the Ouse (its drainage basin broadly defines the region)—the surplus textiles and foods of the hinterland. Since the Middle Ages, however, York has lost to London its position as a cultural centre. The discovery of the New World turned the flow of exports westwards to the Mersey, and the city has declined to the status of a vast museum.





Both the northern quarters of the Riding have suffered a drain of initiative and skill to the manufacturing centres of the south. Bracken encroaches on the enclosures of the upland farmsteads, communities shrink and die, and ruined farms and hamlets mark the decay of an old economy closely linked to the welfare of the soil. In the south this neglect of biological economy finds its counterpart in the active destruction of fertility—the pollution of air, earth, and water in pursuit of material gain without adequate thought for the future. In the north of the Riding the forces of decay are passive, yielding to the destructive energy of the south. It is for this reason that it may be more useful to concentrate attention on the traditions of the energetic south to see what may be turned to good account there in order to reverse these destructive trends.



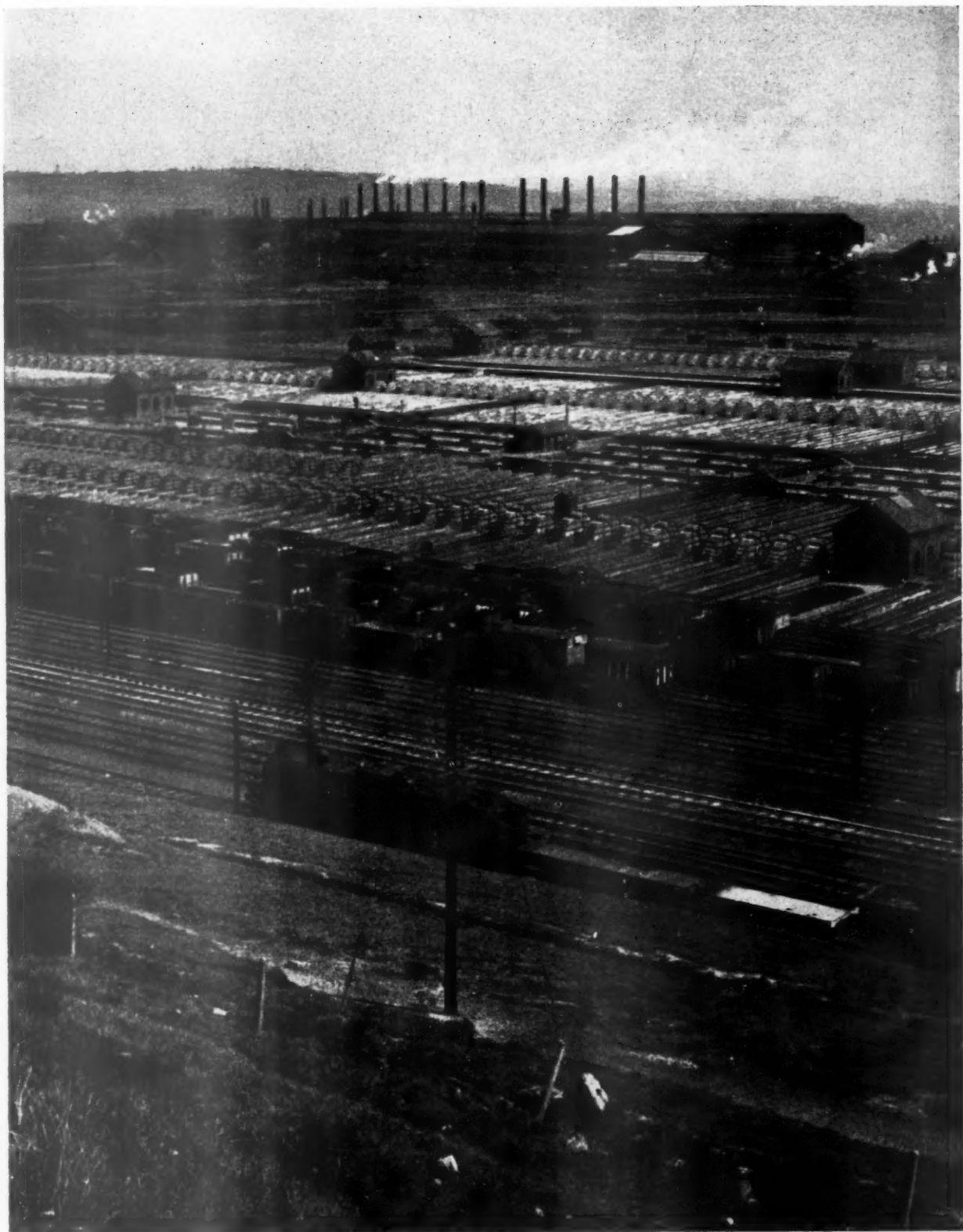


#### THE WEST RIDING

The economy of the south-east quarter of the Riding is based on coal. The old agricultural settlements of the Middle Ages now lie isolated between the mines, the drab fields of the remaining farms competing for land with the steadily encroaching spoil heaps of the pits. This rape of the earth—a steady diminution of its riches without replenishment—carries with it a denial of human variety and individuality. The miners' houses built in the nineteenth century have a nightmare quality of utter repetitive poverty—identical ranges of boxes for so many units of production, satisfying minimum needs of shelter and comfort. The new houses growing up now on the fringes of existing communities recognize this lack, but achieve only the pathetic compromise of the semi-detached. And the well-meant but misdirected zeal of the sanitary reformers ensures that nobody will live within sight, sound or walking distance of his place of work. It is accepted as natural that the mine and factory are bound to be noxious when elementary science could easily deal with the nuisance if anyone bothered about it. So the new houses, right, stand raw and isolated on good farmland, and the miners drift about disconsolately in the midst of monotonous hygiene. The old streets, as at Rotherham, above, with the sight of strange machines like ocean-going ships at the end of every perspective, had, for all their squalor, a vitality which our improved estates hopelessly lack.







Towards Rotherham and Sheffield local iron ore deposits at first promoted the manufacture of iron and steel, and along the Don valley the whole landscape is now given over to the demands of this industry, although the ore has long since been exhausted. A close mesh of railway lines maintains the flow of material; enormous sewage works spread over the marshy flatlands by the river, and on higher ground, in the distance, a long rhythm of chimneys, spouting brightly-coloured smoke (lethal to vegetation), marks a range of open-hearth furnaces.

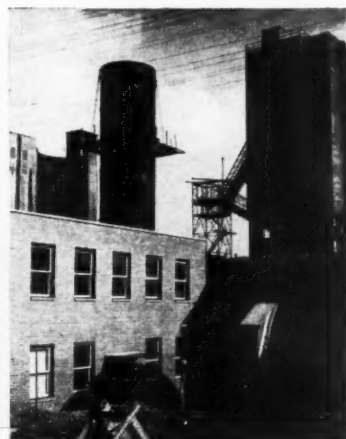
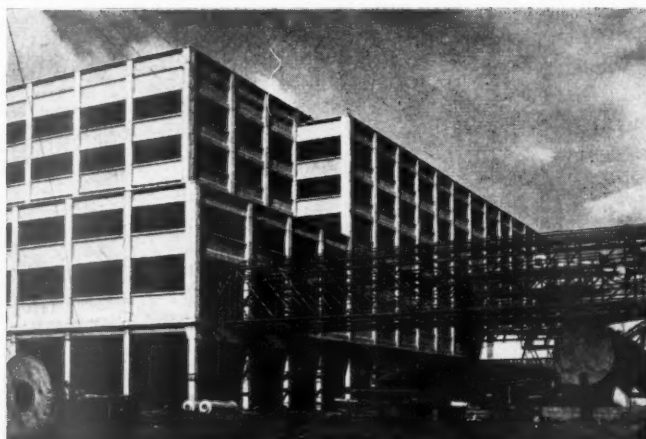




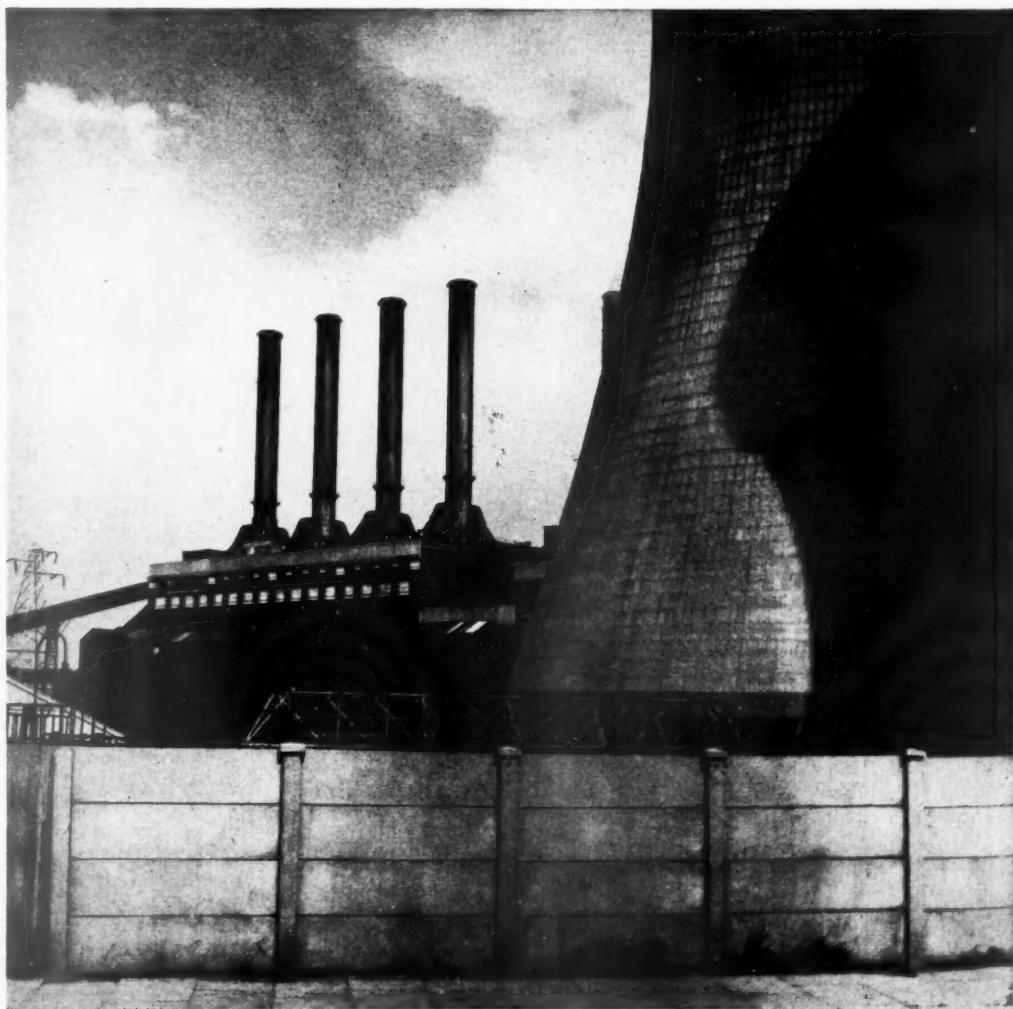
#### THE WEST RIDING

Nearer to Sheffield the density of building increases and the great workshops of the steel industry loom up along the city streets like battleships—the gun-ports of their ventilators at the ready. Here is the direct unconscious architecture of the engineer—impressive because of its size and brutal simplicity.



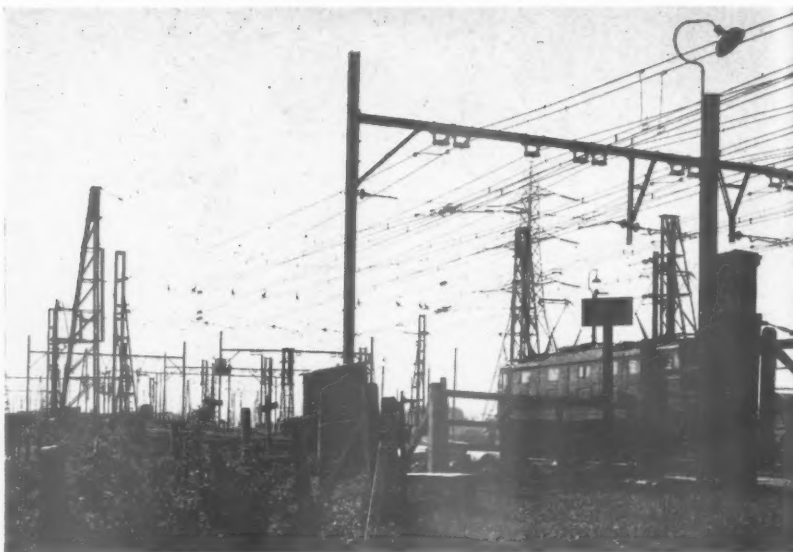


Since nationalization the mining industry has embarked on large-scale plans for the centralization of coal treatment after mining: washing, grading, coking, and the recovery of by-products. In the Dearne valley, between Wath and Wombwell, vast construction projects are under way. Again the engineer is largely in control—and how many architects might try harder and do worse? This particular building, left, is made of steel sections, liberally coated with concrete—the tenuous network of the welded tube conveyor structure makes a wry contrast. Among the hugely-confident forms of the engineer may be found timid little brick structures right, devoted to administration or welfare, peppered with roof-lights chosen out of the catalogue. One wonders who is responsible. In this country electricity means coal—we have not yet the means nor, perhaps, the imagination to conserve this mineral as a precious raw material instead of using it at disgracefully low efficiencies as a fuel. The South Yorkshire coalfield has its share of old and new power stations. Some, like the one below, in the centre of Rotherham, give life—with their sprightly forms—to the amorphous buildings of a dreary town; others, as at new installations at Leeds and Wakefield, guiltily hide their essential structure behind enormous parapets and curtain walls of brick—feet thick.





The Manchester-Sheffield electric railway is a new element in the West Riding scene. It has opened for passenger traffic last year, and has produced gratifying accelerations in the transport of coal over the Pennines. But the design of the locomotives, overhead gear, and ancillary buildings is a disgrace to British industry. Was there nobody connected with this effort—the first major capital work undertaken by the railways in this country for half a century—who cared what it looked like? The nineteenth-century railway constructors would not have been so easily satisfied.

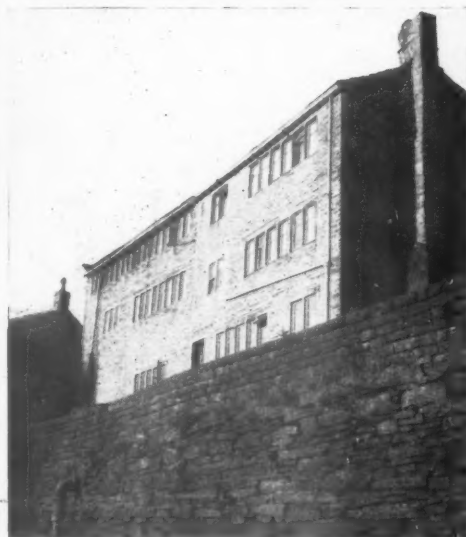


### THE WEST RIDING

This picture, below, of a desert is, perhaps, a fitting end to a survey of the South Yorkshire coalfield. It is, in fact, the site of open-cast mining operations between Greaseborough and Wentworth—not far from Flitcroft's Wentworth Woodhouse. The rape of the earth continues unabated, the lessons of the nineteenth century are forgotten. And the opportunity is so rarely taken, if one accepts the necessity for this exploitation, of creating anything worthwhile out of the scarred land that remains. The mechanical power which uncovers the coal or iron ore could so easily be used positively—in the process of extraction—to form a new and exciting 20th century landscape to be admired by future generations.

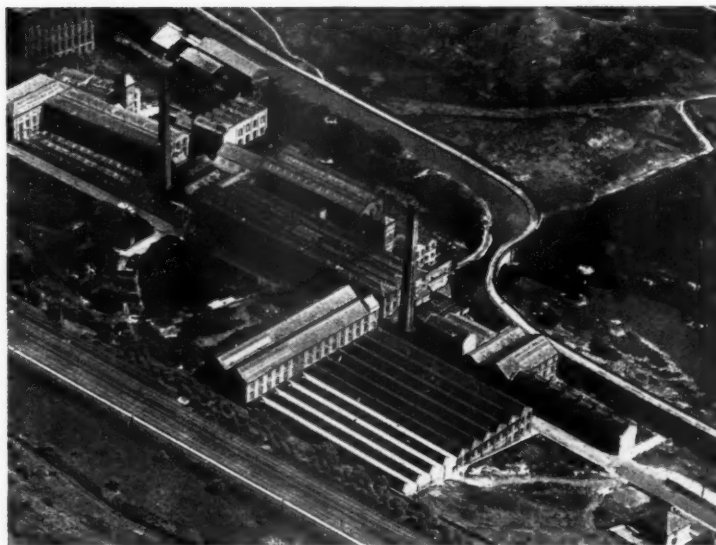






At the western edge of the coal-field the scene changes abruptly. The fourth-quarter of the Riding—the south-west—is a region of steep valleys and high moors, where rainfall maintains the water supply of the industrial conurbations to east and west. The geology here is extremely mixed. From the fifteenth century onwards the presence of coal, iron and plenty of water encouraged the settlement here of the wool textile industry, which needed these things for its tools and processes. Starting as a domestic industry, based on subsistence agriculture, it gradually gained ascendancy over the older centres of the industry in East Anglia and the West of England. The early weaving homesteads lay scattered over the high ground, away from the woods and marshes of the valleys, and connected by pack-horse roads to the manorial corn and cloth fulling (finishing) mills sited at river crossings. A typical weaver's house is shown in this example, above left, between Hebden Bridge and Haworth. It consisted originally of a barn for wool storage, with a high arched doorway to allow passage for a loaded packhorse. Next door, under the same roof, was a two-storey structure with living space on the ground floor and a workshop (containing the looms) upstairs. This workshop floor was lit by a long range of stone-mullioned windows which have become a traditional form of vernacular architecture in the region.

As the textile industry developed, the fulling mills extended mechanization to more and more of the preparatory and finishing processes, and the hitherto scattered community of self-sufficient farm-workshops coalesced into weaving hamlets in which certain buildings came to be devoted to particular functions. The constant need for good natural light in an adverse climate again showed itself in the extension of window area to the limits of structural stability as left, near Huddersfield. At the same time communications in the valleys were opening up, and the centres of population tended to move down from the hilltops to be nearer to the mills and market-centres of the valleys, and so reduce the time spent unproductively in travelling.



Eventually, as the wealth of the region grew and became concentrated in the hands of certain of the more successful merchant-weavers, the advantages (in terms of productivity) of concentrating all the textile processes under one roof became evident: by this means complete control of the product could be achieved at all stages of manufacture, and many small profits could be combined in one. The old mills were enlarged to provide the necessary facilities, and the weavers finally abandoned the land and came to live in the valleys. Certainty of employment and relief from the problems of transport and marketing were gained at the expense of individual freedom. The power loom presently completed the mechanization of the process—weaving was the last of the hand skills to succumb—and the mills, strung out in the valley-bottoms along the essential services of river, canal, road, and railway, achieved their characteristic form—as above, at Milnsbridge.





As soon as the mill was established as a form of production the problem of housing the new concentration of workers became urgent. In these steep valleys building-land was scarce, and houses had to be built on the hill-sides whatever the gradient. In this example, left, at Hebden Bridge, pairs of two-storey houses are superimposed and set in a row of eight pairs. The upper and lower houses are served by streets on opposite sides of the block, and the fall of the land is such that the street at the upper level is precisely two storey-heights above the lower one. A group of lavatories at one end of the block serves the whole row. The building material—as in most of the wool textile area—is gritstone, a hard and intractable rock which cannot be wrought into elaborate detail. Copley Mill, below, near Halifax, was built in 1847 and shows one disposition (among the many possible) of the three essential elements of the textile mill—the power unit with its chimney, the multi-storey block which houses all the processes preparatory to weaving, and the single-storey weaving sheds with north-light roofs which lie between the entrance block in the centre and the high block. Close by are the inevitable accompaniments of river and railway, and in the foreground, left, is part of a school and some houses: the beginning of the provision by the mill owner of community services near the factory.





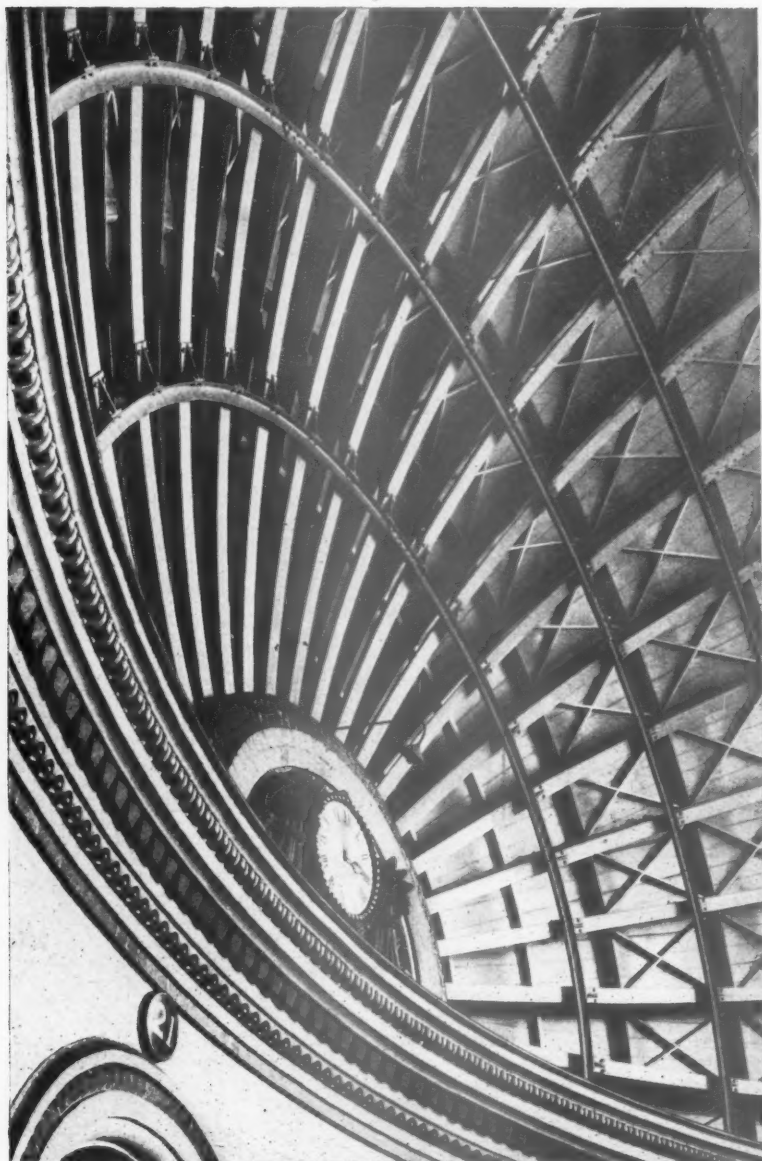


Titus Salt's mill in Shipley Glen outside Bradford is the apotheosis of the Yorkshire textile factory. Workshops (top), houses (extreme left), churches (left), chapels, shops, schools, and working men's clubs were transplanted from the smoke of Bradford to a site that, in 1853, when building was complete, was as rural as any could be without losing track of the lifelines of railway and canal. Benevolent capitalism could go no further. The project was designed by an engineer who specialised in fireproof construction and mill design, and the architect of Bradford Town Hall was asked to put the architecture on afterwards. Unfortunately he agreed to do so. Below, a nineteenth century canal construction in the centre of Leeds, with a warehouse attributed to Telford.

#### THE WEST RIDING

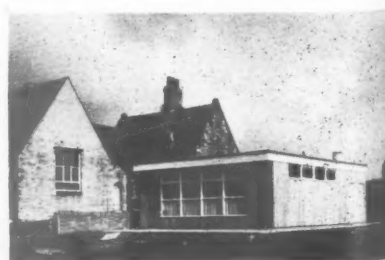






Left, the roof of the Leeds Corn Exchange, designed by Cuthbert Brodrick in 1861. Right, top to bottom: exterior of the Corn Exchange; a Leeds shopping arcade—the nineteenth century version of the pedestrian shopping precinct; the late Georgian terraces of St. John's in Wakefield; Quarry Hill flats in the centre of Leeds—a bold experiment made in 1935 in the field of high density redevelopment in central urban areas, but never followed up. The city is, alas, still mopping up farmland at a great rate.

It is tragic that a survey of the visual scene in the industrial south of Yorkshire fails to reveal any large-scale developments in modern architecture. It is clear that the region has great need for courageous and imaginative reconstruction in the industrial villages, towns and cities. The modern architect, if he wishes to use them, has inherited some of the techniques and ways of thinking by means of which such reconstruction can be initiated. It is difficult to believe that this inheritance is being put to work to any significant degree. There is no lack of precedent for the whole-hearted adoption of new ideas in the region when new situations had to be met—and there are plenty of examples of a sporadic search for a coherent community structure (Saltaire). Examples, as above, from the past of Leeds and Wakefield—the distributive and administrative centres of the Riding—show that the kind of vision so badly needed now has not always been wanting. Developments in the coal-field show that the necessary techniques of construction and earth movement are readily available. The history of the wool textile buildings shows that there has been little reluctance in the past to find new solutions for new needs. Why, then, is the standard of new housing perhaps the lowest of any county in England? Why are the towns so untidy and uncared for? Why is the new industrial development so chaotic? Are Yorkshiremen unimaginative clients—perhaps untouched by the squalor that surrounds them because they know it too well or because they don't know of anything better? Or have the architects failed in their responsibility by being reluctant to take the initiative in explaining how bad things are in the region—and how good they might be? Perhaps one can see in the temporary classrooms by Hubert Bonnett's office, right, the first signs of the re-emergence of receptivity to new ideas to meet changing conditions. And perhaps some of the answers to questions such as those above may appear during the Conference. But it is only fair to warn critics from the south that hard-pressed Yorkshire architects are liable to say: "If you think we're doing so badly why don't you come up here and try it for yourself." And perhaps that wouldn't be such a bad idea.







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SIR THOMAS BENNETT continued from page 785

position and bad street pictures. It does not alter the fact that the average householder requires a semi-detached house and prefers it to a terraced house, and would like a detached house if he could afford it. It is a poor answer to say that whether the householder likes it or not, he ought to be forced to live in a terraced house because architecturally it is more effective.

But worse than this—we also say that he ought to live in a flat! Surely people are beginning to recognize the immense penalties that pursuit of the “individual house” dream has brought on them collectively, the dilution of urban life, interminable commuting, poor heating and the disappearance of the very thing pursued, the countryside. Are there not already faint indications that in 20 years time there could be a retreat to the towns—though to towns very different from what we have today? And houses last much longer than 20 years.

#### Building Contracting

Building contracting is the section of the industry most closely in touch with the architect, and it is the section of the industry where the architect's work is most commonly carried into execution. It is a remarkable feature of the industry that different building firms can establish a standard of work which is characteristic of the firm, and that an almost identical specification can be interpreted into quite different standards of building. It is also remarkable that the same firm can tender on a not dissimilar specification and produce one standard of building for a bank or insurance company and another standard of building for a shopkeeper. It is incumbent on the architect in inspecting and supervising the building to accept or reject building work of a standard which is appropriate to the type of client by whom he is employed, but these differences of standard exist and are recognized. It is clear, therefore, that in compiling lists of tenders the architect must exercise very sound judgment if he is to include in his tender lists of builders of similar standards of quality.

#### Quality and Cheapness

Accepting the fact that differences of quality of building can cover a wide range of finishes and, therefore, of costs, one of the essentials of the architect in designing the building, writing the specification and choosing the builders is to know the standard of building which suits a particular client, to know how to raise the standard and how to cheapen the building when one or other is required. This resolves itself largely into a matter of experience and judgment.

#### Wages

Close contact with the industry shows that there is very severe negotiation when wage increases are demanded by the trade unions, but that many contractors, sometimes the largest, pay rates substantially above the agreed rates the moment settlement is reached. The industry, therefore, as a whole is faced with recruitment on the basis of low wage

scales and payment of disproportionately high wages to a small section of its members. The payment of bonus on output gives rise to substantial costs in the form of measurements on the part of the contractor, and various types of compromise, satisfactory and unsatisfactory, are made to avoid the cost of measurement. This often results in labour disputes or a poor standard of work. America appears to have adopted an alternative policy of paying a high standard rate of wage and thus attracting a highly intelligent, competent and energetic man. In general this man sets out to earn the wages which he is paid. It is true that America still runs its country with a measure of unemployment, the men are faced with high earnings or something near starvation. Many of the problems of the industry would be solved if the men recruited were more intelligent, better educated, had better craft knowledge, and were paid the rate their union had agreed with the recognition of output secured or for exceptional skill.

#### Materials Ordering

Materials ordering reaches an extremely high standard of efficiency in a great many organizations, but in many others shortages disclose the most scrappy and casual method of obtaining scarce materials, lack of ordering with sufficient time for delivery, and other serious omissions which result in disorganization of the work. Accurate material ordering is closely wrapped up with the provision of complete information from the architect, which is frequently lacking. It may be that if schedules of material ready for ordering were incorporated in bills of quantities, early ordering would be facilitated. I think this point should be considered by The National Federation of Building Trades Employers and the Royal Institution of Chartered Surveyors.

#### Protection and Lighting

When I was Director of Works at the Ministry of Works I investigated the possibility of providing better cover for men at the early stages of the contract, the possibility of more extensive lighting both of the external works and of the interior of buildings, and the provision of protective clothing. My investigations at that time convinced me that all of these provisions produced material results. It may be that an accurate and careful analysis of cost and resulting output would not show results which I appeared to secure in the war period, but I consider that in many ways conditions of work in building could be made to resemble more closely the conditions in industrial factories. This would be a larger factor in helping the building industry to recruit a better type of man.

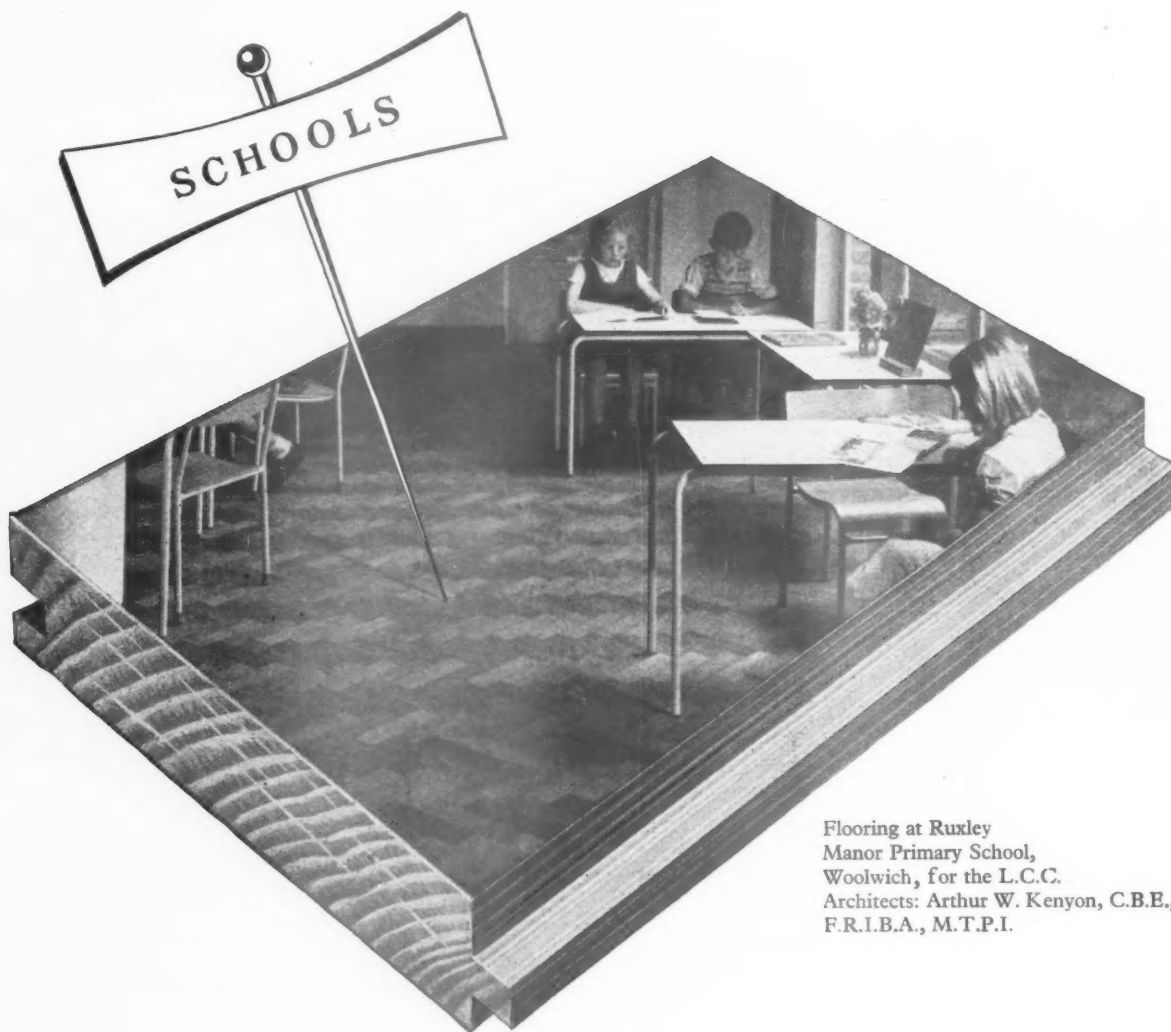
#### Scaffolding and Plant

There at last appears to be a serious study of scaffolding and plant, but these portions of the equipment of buildings seem to lag behind the needs. Scaffolding ought to be able to rise in lifts of not more than a foot, so that a man is always working level with his work. The hoisting and placing of materials is showing great improvement, but still needs further study.

#### Site Staff

Probably the greatest single difficulty in the industry is the shortage of highly trained site supervisory staff both in





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numbers and in standard. Amongst a small number of the leading contractors, and in certain cases with smaller contractors and individual firms, the standard of men and the number of men employed on site supervision is beyond criticism, but in many other cases both the amount of supervision and the standard of education of the supervisors fall far below essentials and far below the standard of parallel men employed in stable factory production.

### Research

All industries today regard research as vital, and most of them subsidize it substantially. The building industry is casual about its research and has not subsidized it at all. As long as this state of affairs remains, it must be a fundamental weakness. It is still difficult for the industry to know in detail the problems upon which work is in progress and properly to absorb the results established.

### Education

There can be no doubt that the basis of efficiency for the architect and the builder alike is education. Subdivided into its respective categories, it is possible to give a few leading principles which must be worked out as educational systems.

### The Architect

The architect requires now, as he always did, to be an outstanding planner and designer, to have a sense of proportion, a knowledge of detail, and a high standard of taste. The medium through which these thoughts and ideas will be conveyed to other people is that of the drawing board, so that a substantial standard of draughtsmanship is still essential. No amount of technical knowledge or application must be allowed to submerge these outstanding qualities of the profession. Added to the architect's power of design must be a working knowledge of the principles of scientific construction which has now become part of building and a substantial acquaintance with all the equipment which goes into modern structures. There must be a measure of first-hand knowledge of building practice, and this can be best acquired by a period spent in a clerk of works' office or in some capacity on the building itself. Outside this technical equipment, power to grasp the cost, the implication of finance, the effect of building law, and above all, high qualities of administration are essential.

### The Builder

From being a simple craft industry, building has become a complicated matter of organization. This organization can only be effective if it has as a background a high standard of technical knowledge so that the day-to-day administration is carried out with efficiency and intelligence. Actual training in organization and administration can undoubtedly be of great value, and while more extensive school and university education is unquestionably necessary, nothing can take the place of practical experience which only contact with the work can produce.

### The Education of the Craftsmen

It is true that the industry still looks to apprenticeship as the principal method of recruiting its craftsmen, but it is a serious blot on industry that some of its largest contractors

expect other members of the industry to train their craftsmen for them. This ought to be impossible. A large amount of the craft work of building in the future will be carried out by men who need never possess more than a very moderate craft equipment. Much brickwork is laid between beams and stanchions with no corners, no reveals; much of the work of carpenters is in nailing down, centering or fixing prefabricated doors. It may be that the industry must train men who do not pretend to be fully-fledged craftsmen, and it may well be that these men are better trained in training establishments than by an attempt to train them by apprenticeship. The industry is supposed to need about 7,000 or 8,000 more men per annum than it trains. It will never be efficient so long as this remains true.

**The shortage of craftsmen and managerial staff can only, in the long run, be answered by better pay, better conditions of work, and by higher mechanization. Sir Thomas is only too correct in advocating shorter training periods for "semi"-craftsmen, and for instruction for the architect on "principles of scientific construction." But can the architectural schools provide practical training for architects on costs and on the interpretation of a design in terms of building techniques?**

### The Craftsmen

It is useless to continue to complain of poor craftsmen unless the industry ensures that each year it has trained at least sufficient men to make up the wastage which normally occurs. It is questionable whether training today is best carried out entirely through apprenticeship. Either the industry or the State or both must produce training schools for craftsmen which are sufficient to cope with the supply of craftsmen which the industry must have.

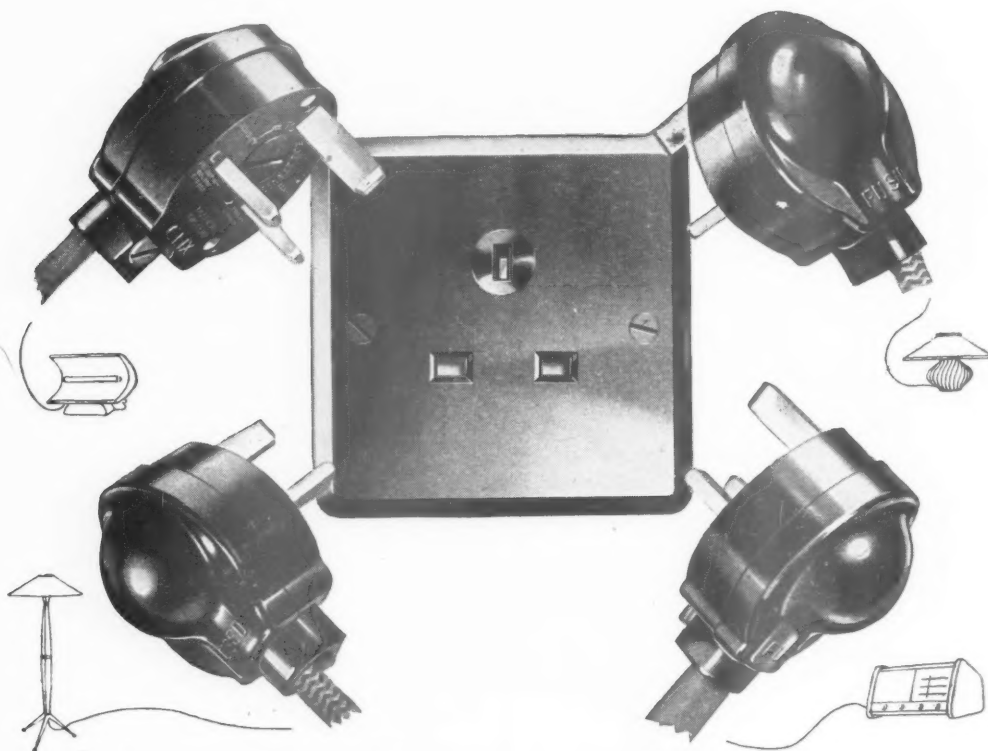
**Would Sir Thomas agree that all those concerned in building—architects, engineers, quantity surveyors, and builders' supervisory staffs—should at some point share common primary training? Would he agree that there should be a free interchange of technical staffs between architect and builders, and that this could establish a mutual understanding of each others' aims and tasks, not only at the technical but on the human level?**

### Summary

To reach the standard of efficiency which the public demands from the profession, essential qualifications may be summarized.

- (1) In every architect's office it is necessary to have
  - (i) a high standard of planning and design;
  - (ii) a knowledge of decoration and colour;
  - (iii) an extensive knowledge of construction, especially of the basic principles which involve choice of method, optimum spans and relative costs;
  - (iv) a knowledge of the principles which govern the engineering equipment of buildings in connection with heating, lighting, ventilation, acoustics and other essentials;





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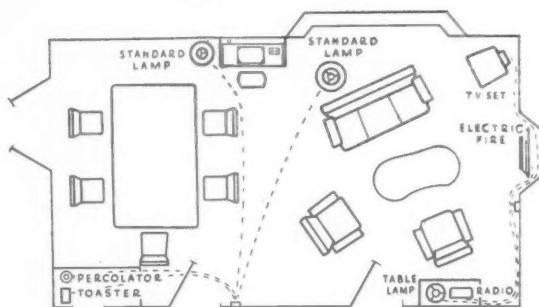
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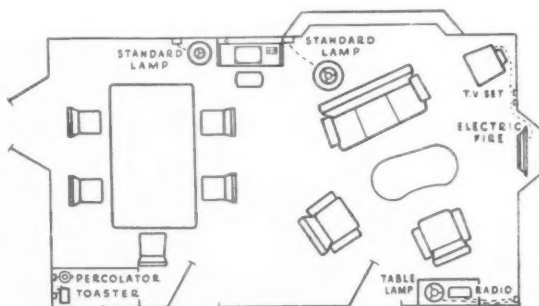
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- (v) a wide knowledge of materials, including synthetic substitutes and suitability of application;
- (vi) a knowledge of the legislation which governs planning and building;
- (vii) a command of the means of dealing with sub-contracts and the administration of the main contract;
- (viii) an appreciation of cost;
- (ix) ability to supervise and control work in progress.

- (2) The profession must ensure that it constructs and retains
  - (i) a comprehensive system of day and evening education with a wide choice of method. All educational courses to have a proper balance between artistic and practical subjects.
  - (ii) the provision of adequate teachers and professors all having practical experience;
  - (iii) a live organisation which constantly reviews the progress

#### D. WOODBINE PARISH

Sir Thomas Bennett has outlined in his paper certain features of the evolution and development of the building industry since the turn of the century, and has shown in some detail the change in pattern and resulting problems which now require urgent joint examination and solution by the industry's various leaders. This paper sets out to focus attention upon the administrative organization and chain of command by which building needs are translated into productive action and the complicated mechanism of management that exists within the industry at the present time to achieve this end. The general layout and body of personnel constituting the building industry are highly complex, but sufficiently well known and understood to make an elaborate recital redundant. A full knowledge and realization of the general structure and detailed anatomy of the building and allied industries and the division of their various related and inter-related management functions are essential, however, to enable both architect and builder to ensure the competent conduct and smooth progress of building work. There is nothing novel about the function of management, it has been practised throughout the world since the earliest days of mankind, but its full importance as a major factor contributing to industrial stability and a high level of productivity has not always been comprehended.

#### The Pattern of the Building Industry

Within the building industry there are three main groups: the professional group embracing the architects, who with their specialist consultants are concerned with the planning, design and general direction of building work, assisted by quantity surveyors in the technical auditing and accounting functions; the industrial group, covering building trades employers and sub-contractors, their craftsmen, technicians and other grades collectively concerned with organizing and conducting the main construction and assembly processes; and the commercial group embodying the producers, suppliers and distributors of building materials and components. In addition to these three main groups there are various ancillary groups directly and indirectly in part and in whole concerned with *inter alia* the administration of central and local government regulations and controls affecting the in-

of construction and design and the best methods of administering contracts;

- (iv) establishes conferences which ensure the principle of co-ordination between the architect, consulting engineer, quantity surveyor, contractor and sub-contractor;

- (v) regular exhibitions which present world architecture and construction to the profession.

**The Client.** The training and education of the public to appreciate the work which is done by the architect and ensure that clients as individuals, boards or committees are fully conscious of the part they must play in successful building.

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dustry; the provision of educational facilities; the conduct of research into the uses of building materials and the development of methods and techniques; the manufacture and renting of builders' plant and equipment; the provision of the several public utility services; to mention but a few.

#### Co-ordination of the Building Team

On each building project the personnel of the main groups require to be carefully co-ordinated and their work assigned, integrated and programmed so as to achieve an efficient and contented building team. The whole process of building needs to be continuously and competently evaluated and directed from top level by a single individual who can initiate, inspire and control all aspects of a building scheme from start to finish, delegating and devolving responsibility as and when necessary to the various members and levels of the building team but always maintaining a close direction and general surveillance of the total progress of the work.

Architecture, when the word is interpreted as meaning the work of the architect, is not an end in itself, it is but a fundamental part of the whole process of building. Good building may be defined as the detailed planning, design and assembly of a wide range of materials and components of various kinds into forms which are at once appropriate to particular conditions and needs as well as being aesthetically agreeable.

#### The Role of the Architect

Every association of individuals in any enterprise or field of activity needs a principal or leader at its head to ensure a successful organization. The titular head of the polygamous building team, by tradition and calling, is indisputably the architect, whose responsibilities are certainly manifold but not always manifest. The role of an architect may be defined as twofold. Primarily by training and inclination he is a creative artist. Sequentially and too often in temperamental contradistinction, he is necessarily a top-level business executive, inescapably responsible for initiating and directing the construction of his own designs. In this latter responsibility the architect should be able to rely completely and confidently upon the integrity and organizing ability of each builder with whom he associates: while the builder, for his part, should be assured that the architect will provide complete information and concise instructions in relation to his clients' needs, in such a form and sufficiently in advance of actual construction that he has reasonable opportunity, economically and



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efficiently, to organize and co-ordinate the work of his own staff and that of sub-contractors. The builder also should be able to anticipate that the forms of contract, so far as payment, and other relevant matters are concerned, are administered by the architect in a just and business-like manner.

The Industrial Revolution substantially altered the character of many industries, but curiously brought no major innovation to the long-established methods and practices of the building industry in this or any other European country. It is only within the past half-century that there has been any substantial change in the technical and industrial mosaic of building. Some of these changes have been referred to in Sir Thomas Bennett's paper and their impact upon the policy and practice of building management must now be carefully analysed and noted.

### **The Need for Unified Command**

Contrary to public opinion, which is so often misled, the building industry contains many well-trained and widely experienced architects. There are untold numbers of builders and specialists, small, medium and large, well organized and equipped to undertake the ubiquitous building and maintenance requirements of the community. In the ranks of the building workers can be found some of the finest and most highly skilled foremen and craftsmen of any industry in the country. The merchants and distributors of materials have established and maintain an efficient service to the industry. It must be obvious that to be fully effective these several forces with their separate functions and immense potential capacity need to be brought closely together under a unified command.

Unlike most manufacturing industries, in building the primary management function is divided between the architect who is responsible for design and the general direction of building work, and the builder who is the architect's managing agent, responsible for the general organization and administration and construction, to which is added the burden of the financial and commercial risks involved in undertaking building work. These two essentially complementary functions are regrettably, under current circumstances, kept entirely separate until a very late stage in the planning and development of most building projects, and as a result are extremely difficult to correlate completely. It is therefore of cardinal importance that while the industry's present casual and often fortuitous system of tendering and awarding contracts exists, the basic principles of general management should be far better understood and practised by architects and all engaged under their direction, so that the level of managerial skill may be raised to that of the very high standards now existing in certain sections of industry in this country.

Most would agree that the principles of management "should be . . . better understood and practised." But how is this to be achieved? Surely it has not been achieved before now, precisely because the architect and the builder do not come together until a "very late stage in the planning and development of most building projects." What we need is a contractual procedure which is more amenable to the growth of better management practice, and makes the need for it more apparent. Could we not draft

**an experimental form of contract which allows builder and architect to join forces at an early stage and which formally obliges them to pre-plan?**

### **The Nature of Management**

Much of the prevalent thought upon the subject of building management seems to be misconceived and misdirected because of the confusion between the tasks of management and the techniques of management.

Defined in the simplest terms, the task or strategy of management is to bring about conditions under which the work of a team can come quickly and economically to good effect in the achievement of some co-operative objective. It will be realized that this definition applies to all levels and aspects of management including top-line, middle and supervisory grades, whether they be in the professional, industrial or commercial groups, jointly or severally concerned. The definition is in no way affected by the magnitude or exiguity of an undertaking or project.

The paramount task of management is to determine policy and formulate procedure, so as to establish a wholesome atmosphere in which a high standard of morale can be consistently sustained at all levels in the conduct of building operations. This feature of management in industry profoundly affects the whole range of human feeling and experience, but so often it fails to excite the interest of architects and builders and therefore enjoys little priority in their direction and conduct of building work.

The techniques or tactics of management, on the other hand, are the many detailed practices and methods of operation which each individual must master and be able to use effectively if he is to be successful in the general or specialized functions of management, be they primary, secondary or residual responsibilities.

### **The Importance of Human Relations**

It must be obvious that everyone who is responsible for directing the productive work of others must be fully competent and knowledgeable, or alternatively well advised in the particular field or process which he is directing, but the best of his skill will inevitably be dissipated if he is unable to manage other people, command their respect and bring the best out of each member of the team that he leads. Results are only achieved through people, and this basic human fact, too often ignored, must be uppermost in the mind of every architect and builder when he has a management responsibility to perform. Working through people in this sense entails considerably more than the vague generalization that is normally in the minds of people who loosely refer to "management," because in order to manage or direct a team upon any building project and to enable it to operate at its maximum effectiveness, the individual responsible for managing it must be able to work happily and confidently with everyone.

Enlightened top-level management involves very much more than the simple ability to be agreeable, although courtesy and self-discipline are of the greatest moment. It is fundamental that there is a dynamic and intelligent appreciation of the separate role of each individual or group concerned in a joint venture and a capacity for establishing mutual respect and enthusiastic co-operation as well as an ability completely to control any unforeseen situation that may arise. It is significant that well trained foremen and craftsmen

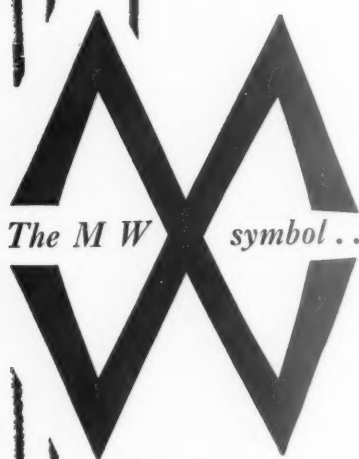


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quickly detect a lack of managerial ability in an architect, and it is difficult, and often impossible, to ensure that respect and co-operation will not languish when indifferent or cavalier direction is experienced.

### **The Significance of Planned Management**

The wide range of clients and building requirements, the diverse circumstances and conditions under which work is executed, the different character and size of organization, the varying degree of interdependence and inter-responsibility of the several partners in the building team, all tend to confuse the basic managerial issues. Until the full significance and importance of planned management in building is more fully appreciated and better understood, particularly at the top level of industry, it is doubtful whether many of the burning problems such as future architectural and building educational policy; the recruitment and training of adequate and suitable entrants to the crafts and supervisory grades; the improvement of tendering and contract procedure; the introduction of better budgetary control; the reduction of building costs; improved productivity; the development of work and method study; the greater use of mechanical plant; the better application of the results of research, can be more than tampered with. The architectural profession, trained to analyse and resolve the requirements of building owners, should not find it difficult, with the practical experience of builders, carefully to analyse and plan in detail the optimum pattern of management by which building can be more economically and successfully conducted.

**Are the RIBA and the architectural profession prepared to accept Mr. Woodbine Parish's challenge to them that it is up to architects to set the pace and form the pattern of management in the building industry?**

The British Institute of Management, with its wealth of factual experience in management practices covering a wide field of industry and commerce, could undoubtedly make a valuable contribution to any joint discussions that are initiated.

It is a grave reflection on the whole industry that although the management aspect of building work has received considerable notice and comment during the last decade, there is little cause for extravagant hopes of any major change of outlook developing in the immediate future unless some specific research is initiated without delay. The recommendations contained in the Simon Committee Report on the placing and management of building contracts, the report of the Working Party on the Building Industry, the report of the Anglo-American Productivity Team on building and the more recent report of the Joint Committee on tendering procedure set up under the chairmanship of your distinguished immediate Past President, are all signposts to action. Unhappily many of the recommendations go unheeded, for although there is universal agreement upon the need for improved management in the building industry, there has been no significant united move to date to examine in detail or to analyse the complex field of management activities in the industry, with a view to establishing an acceptable "Code of Management Practice for Building Work."

**A "united move . . . to examine . . . the complex field of management . . ." is sorely needed—but should it aim only at the establishment of**

**a Code of Practice? Should it not aim also at drafting an experimental form of contract in which the appropriate recommendations of the various Committees mentioned are laid as obligations upon client, architect, builder, consultants and sub-contractor—who would all be parties to the contract. Such a contract could be tried out in selected cases where all parties were willing—indeed anxious—to show what can be done, and its findings (in terms of time gained, money saved and tempers kept) could be published.**

### **The Apparatus of Management**

Management can be broadly translated as meaning the whole range of functions that are brought to bear upon solving the problems involved in transforming needs into constructive and productive action. So far as building is concerned, the architect is inescapably involved in the management function. The production of client requirement questionnaires, plans, designs, specifications, bills of quantities, schedules, work programmes, forms of contract and sub-contract, are not final objectives, they are purely incidental instruments to achieve productive action. They are part of the whole apparatus by which general and detailed instructions are conveyed through a whole series of individuals to achieve actual building.

The chain of command starts with those who instigate at the top and goes right down to those who ultimately respond by mental and physical productive action. In building there are various chains of command. All who form part of these various chains collectively comprise a complex group with varying degrees of contact and association with differing levels of authority and responsibility in their specialized fields. All need specific and enlightened direction from top level and co-ordinated integration with a carefully determined and detailed management plan.

### **The Division of Functions**

It may be arguable whether one has the right to waste one's own time. There can be no possible justification for wasting the time and energy of other members of a team. Such waste is unavoidable when insufficient thought is directed towards the mechanics of management. To enable any association of individuals to operate continuously at maximum effectiveness, it is necessary for a clearly defined policy to be determined at top level, with principles and procedure concisely laid down to give formal effect to such policy, so that everyone concerned has a lucid realization of his particular role.

The administrative and operational procedures may with advantage be set out upon an organizational chart indicating the general structure and division of management functions on each building project, showing the various individuals concerned, their functions, their levels of responsibility and authority and their varied inter-related contacts.

The practice of regular minuted meetings with frequent review of progress by both the architect and builder are the sole means of ensuring the necessary degree of flexibility and smooth flow of work by assessing and forecasting short, middle and long term work programmes and checking actual results. The establishment of sound lines of communication and response between top level management and everyone concerned on a building is a vital factor in the direction and



control of the process of assembly, and needs to be considerably developed in the future. Too often there is evidence of failure to keep everyone advised of the general picture, and this invariably leads to discord and counter-action which militate against the streamlining of work programmes. It is not an exaggeration to say that the success or failure of a building project is, with few exceptions, a direct reflection upon the ability of the architect to exercise his responsibility in choosing with infinite care the various members who are to form each building team.

**Can the freedom of the architect to choose his building team be achieved by any other means, in fact, than the abandonment of competitive tendering?**

This selection unhappily is far too often quite fortuitous and haphazard and not infrequently results in low individual performance, and consequent disappointment and frustration for other members of the team. The importance of complete mutual trust and respect between client, architect and builder, and also between builder and craft worker, cannot be over-emphasized, for they are the very foundations upon which the whole organization of good building depends. The elusiveness of these fundamental human qualities is the pre-eminent current dilemma facing the building industry and there can be no doubt that a marked improvement in the standards of management practice could achieve substantial reduction in building costs and a greater satisfaction for those engaged in a great and noble industry.

The Conference may wish to discuss the advisability of setting up a Study Group to examine the whole question of management practices with a view to establishing a Code of Management Practice applicable to the broad needs of the industry. It might be appropriate for the question of closer collaboration between architect and builder in the field of training and education to be discussed so that a common approach to management problems might be developed in the several syllabuses at schools of both architecture and building. The future of building depends more upon the ability of the industry to recognize fully the fundamental importance of improved management than upon any other single factor. It would be a grave misfortune indeed if this, possibly unique, occasion were to be allowed to pass without setting under way at least a pilot study of the mechanics of building organization and management with a view to introducing suitable training and practices.

**Mr. Woodbine Parrish's proposal for a Study Group "to examine the whole question of management practices" must surely be welcomed and acted upon. Let a full-time team be appointed, representing the best knowledge of management and its related techniques. Give this team all the resources and facilities and access to information it needs, and let it be financed by the building industry. If improved management is to reduce building costs, the study can be regarded as an investment.**

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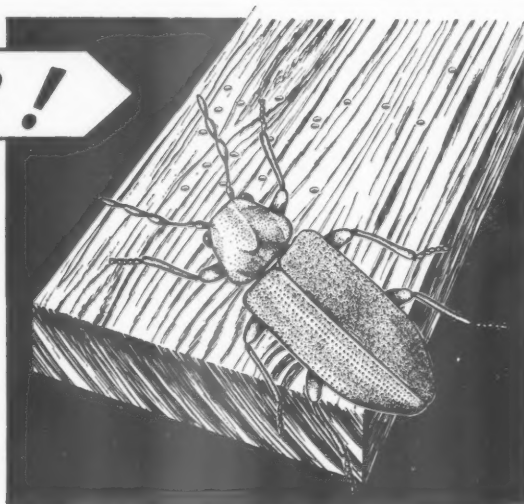
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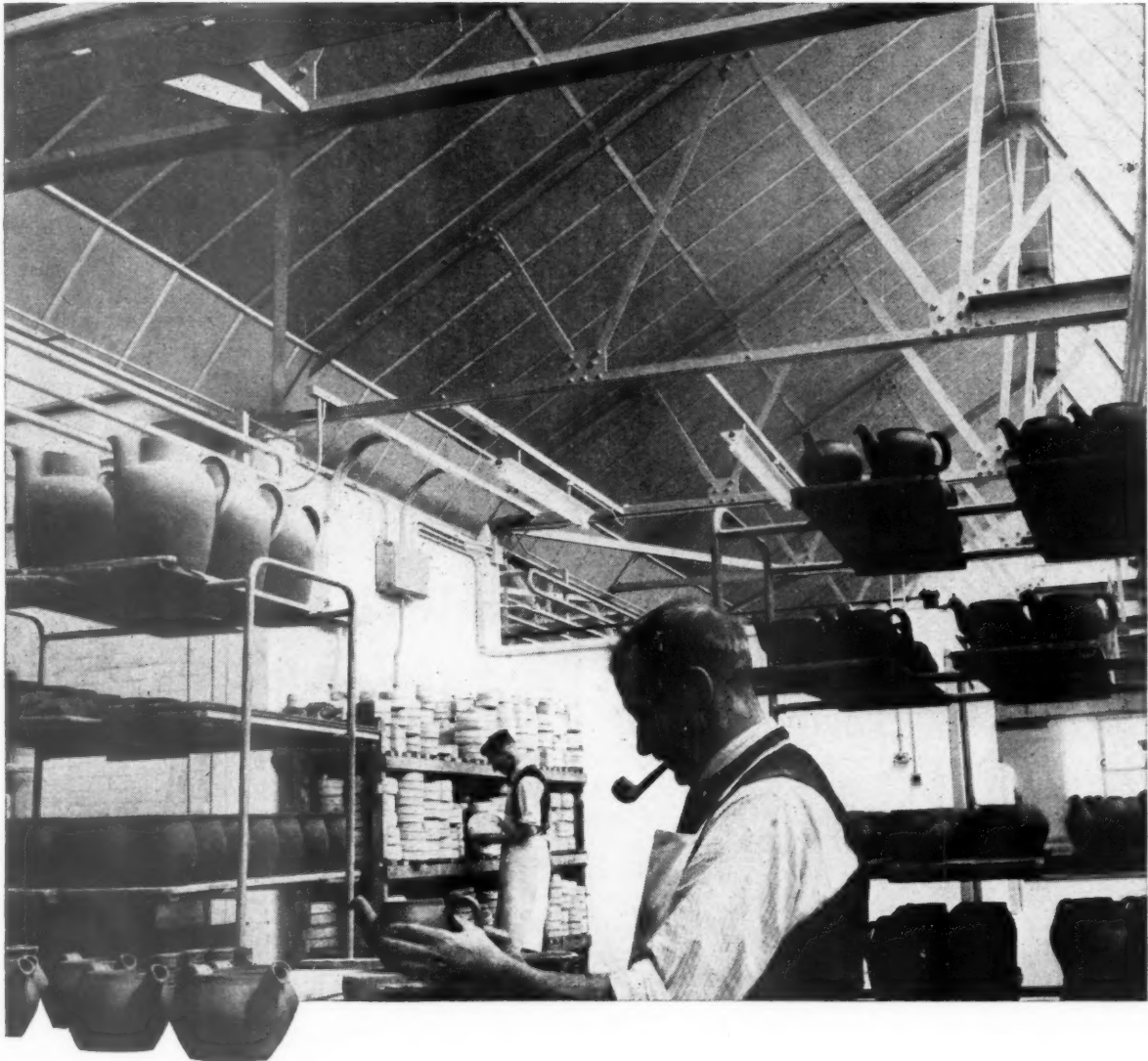


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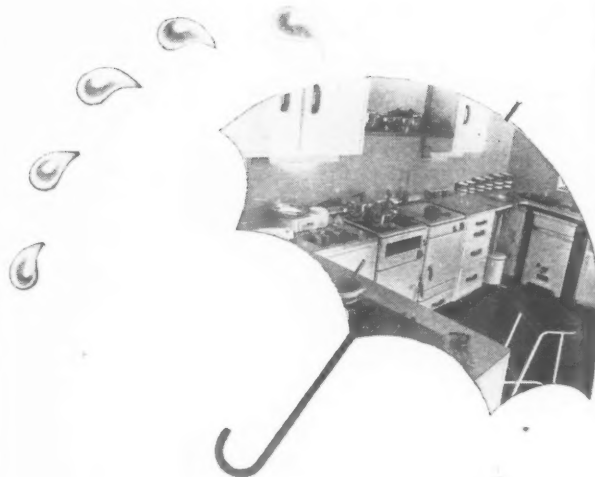
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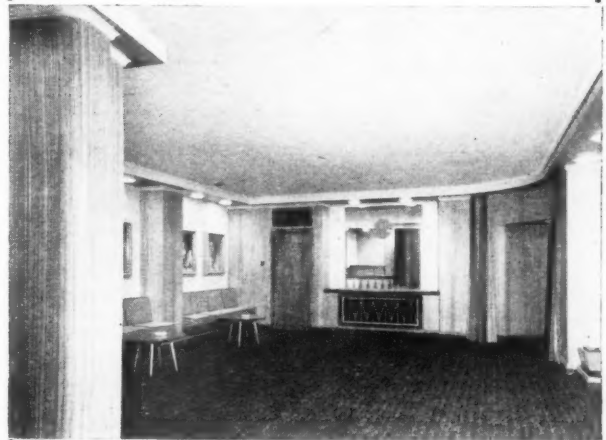
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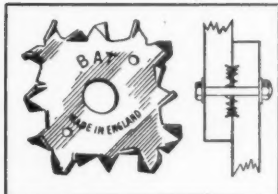
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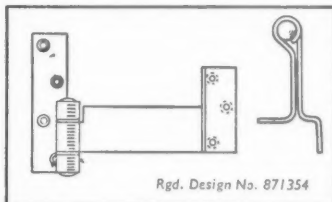
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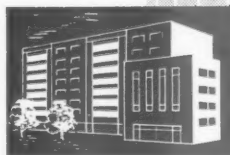
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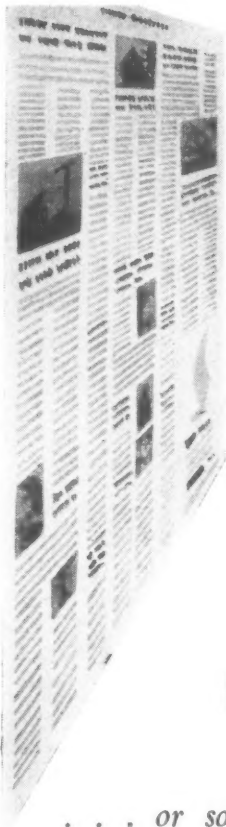
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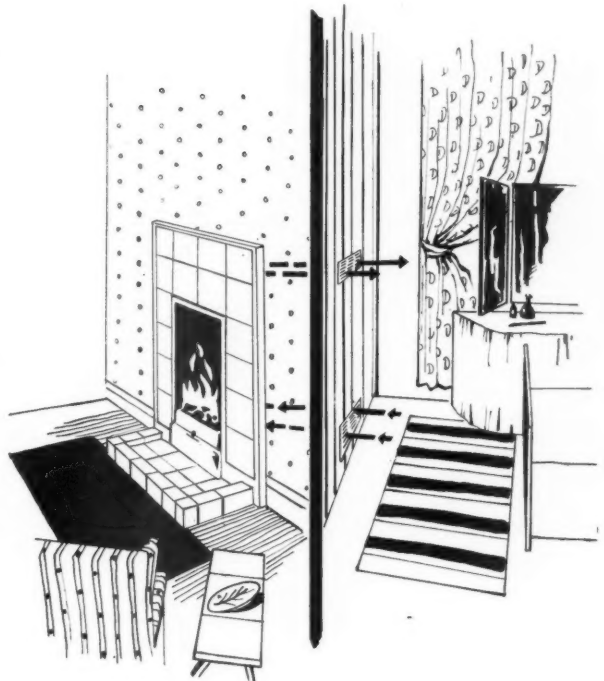
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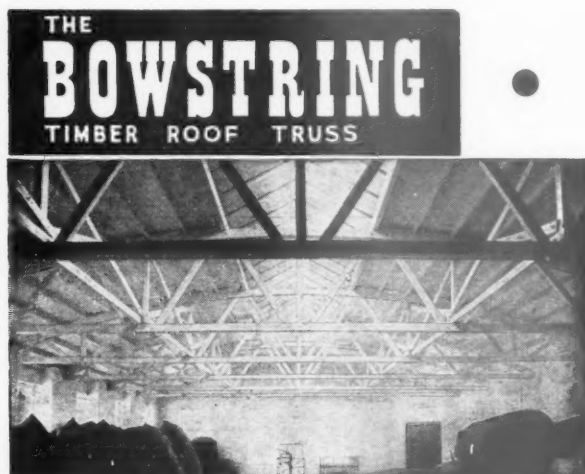
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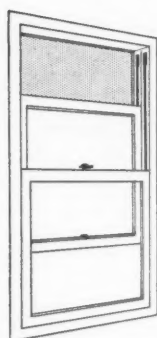
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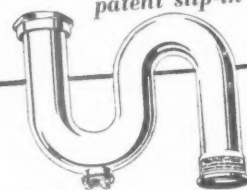
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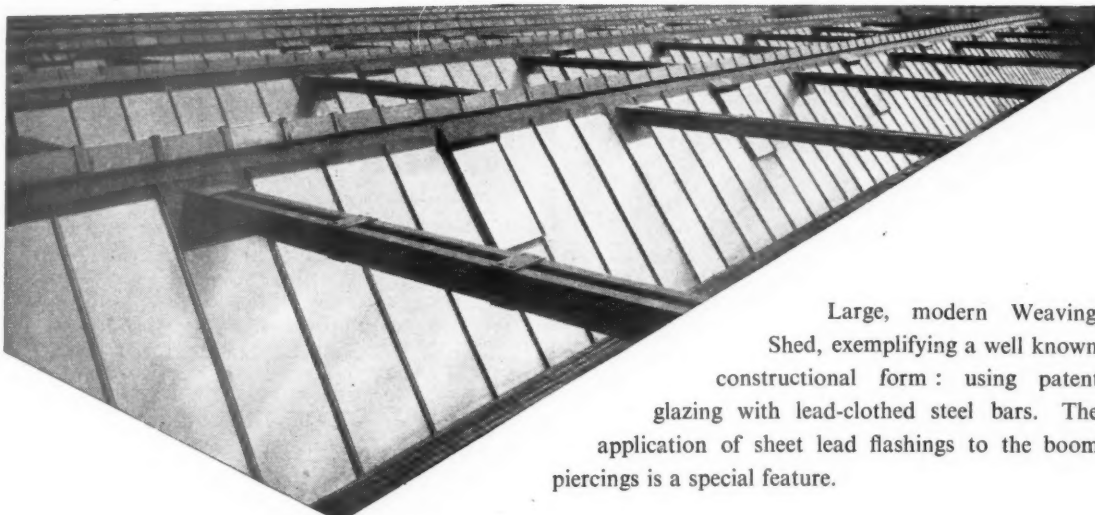
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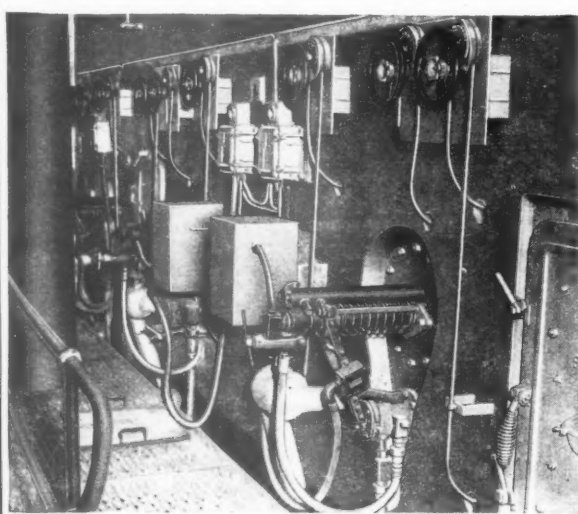




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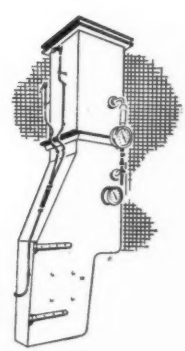


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 POWER STATION

We are indebted to the British Electricity Authority and Messrs. Babcock & Wilcox for permission to reproduce the above photograph.

The photograph shows the controlling ends of the Teleflex installation of  $\frac{5}{16}$  in. Industrial Controls on boilers supplied by Babcock & Wilcox at Battersea Power Station.

This is only one of the many applications of Teleflex Remote Controls. The positive push-pull action of this neatly enclosed control is equally applicable to the operation of valves, shutters, switchgear, clutches, air ducts and other equipment which is either difficult to reach or involves the operator frequently moving from his position.  
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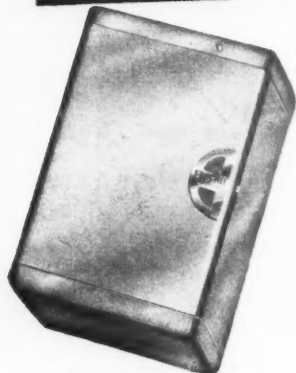


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- Full width door swing

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**Parmiter Hope & Sugden Ltd.**

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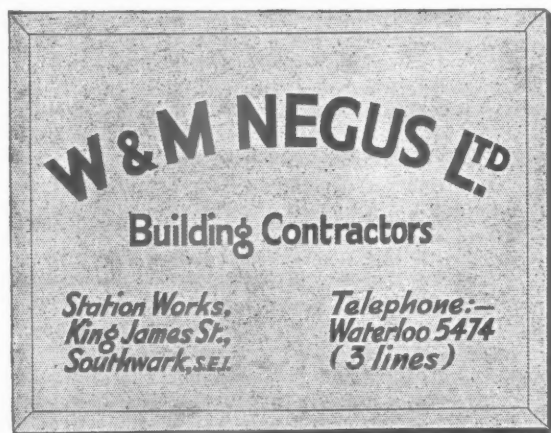
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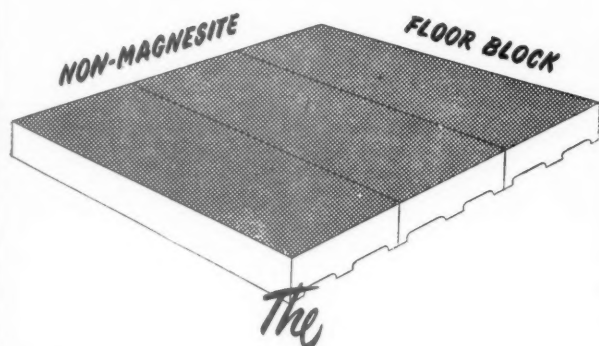
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Produced to meet the demand for a durable, colourful floor at a low cost, manufactured in blocks 6" by 2" by  $\frac{3}{8}$ " and available in delicate and pleasing shades.

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Nortonia blocks are maintained by washing with soft soap and water, therefore avoiding costly upkeep.

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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.

## Public and Official Announcements

25s. per inch; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

MINISTRY OF WORKS require ARCHITECTURAL ASSISTANTS for drawing offices in London, Edinburgh and various provincial offices, with at least 3 years' training, some experience in an architect's office, and of Inter. R.I.B.A. standard. London salary £442 to £695 per annum; rates elsewhere slightly less. Starting pay according to age and experience; prospects of promotion and permanency. State age and full details of training and experience to E. Bedford, Esq., C.V.O., A.R.I.B.A., Chief Architect, Ministry of Works, 20 (F), Abell House, John Islip Street, London, S.W.1. 1020

## OFFICE OF THE RECEIVER FOR THE METROPOLITAN POLICE DISTRICT.

Applications are invited for unestablished appointments as ARCHITECTURAL ASSISTANTS (New Works and Maintenance Branches) and also as SANITARY ENGINEERING ASSISTANTS in the Chief Architect and Surveyor's Department.

Rates of pay, £442 10s. (age 21) by annual increases to £695 (men) and £442 10s. by annual increases to £615 (women). Overtime of approximately £24 per annum is also payable while a 45-hour week is worked.

Conditional hours, 44 per week. Annual leave, 24 days.

Application forms from the Chief Clerk, Architect and Surveyor's Department, New Scotland Yard, S.W.1, stating for which drawing office application is made. 9795

LONDON COUNTY COUNCIL. ARCHITECT'S DEPARTMENT.

Vacancies for ARCHITECTS, Grade III (up to £892 10s.) and ARCHITECTURAL ASSISTANTS (up to £739 10s.), for widespread construction programme, which includes houses, blocks of flats, schools of all types, and various public and industrial buildings. Application forms and particulars from Architect (AR/EK/A/2), The County Hall, S.E.1. (678) 9967

## BARNET URBAN DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the Engineer and Surveyor's Department (Grade A.P.T., II, £560 to £640 p.a., plus London weighting).

Applicants should have passed R.I.B.A. Intermediate Examination, have had 3 years' practical experience, and be able to prepare working drawings for Housing Schemes.

Appointment subject to N.J.C. conditions, superannuation and medical examination.

Housing accommodation will be provided, if necessary, when available.

Applications, with full details, should be submitted to the Engineer and Surveyor, Ravenscroft House, Wood Street, Barnet, Herts., by the 22nd June, 1955.

ALFRED S. MAYES,

Clerk of the Council.

Municipal Offices, Wood Street, Barnet, Herts. 1220

## DERBY CORPORATION.

## BOROUGH ARCHITECT'S DEPARTMENT.

## SENIOR QUANTITY SURVEYOR, Grade IV.

Salary £675-£925 per annum.

Qualifications: A.R.I.C.S. (Quantities) or similar.

Permanent staff appointment, subject to one month's notice and pensionable subject to medical examination.

National Conditions of Service.

Form of application obtainable from and to be returned to the Borough Architect, The Council House, Derby, not later than 20th June, 1955.

Canvassing disqualifies.

G. H. EMLYN JONES,

Town Clerk.

26th May, 1955. 1236

## ISLE OF WIGHT COUNTY COUNCIL.

## COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for appointment of CHIEF ASSISTANT ARCHITECT, salary Grade VI A.P.T. (£895 x £35-£1,000). Candidates should have had considerable experience in designing schools and other local authority work; should be capable of taking complete charge of a drawing office and possess the minimum qualification of A.R.I.B.A.

Application forms from the Clerk of the County Council, County Hall, Newport, I.W., should be returned by 20th June, 1955. 1255

BOROUGH OF CHELTENHAM.  
APPOINTMENT OF THREE ARCHITECTURAL ASSISTANTS.

Applications are invited for the following appointments on the Capital Works Establishment of the Borough Engineer's Department:—

(a) TWO ARCHITECTURAL ASSISTANTS (salaries within Grade A.P.T. IV-£675 to £825 p.a.). Applicants must be Associate Members of the R.I.B.A. or equivalent, and experienced in the design of Public Buildings, Housing and Ancillary Buildings in connection with Estate Development.

(b) ONE ARCHITECTURAL ASSISTANT (salary within Special Grade, £550 to £775 p.a.). Applicants must have passed Parts I and II of the R.I.B.A. Final Examination or its equivalent, and must have had at least 5 years' experience, including the period spent in theoretical training.

The Council will assist in providing housing accommodation for the successful applicants in appointments (a) above, if required.

The appointments are subject to the National Conditions of Service; to the Superannuation Acts; and to a medical examination; and will be terminable by one month's notice on either side.

Applications, endorsed "Architectural Assistant," stating age, training, qualifications and experience; present and previous appointments; and giving the names of two referees, are to reach Mr. G. Gould Marsland, M.B.E., B.Sc., M.Inst.C.E., Borough Engineer, P.O. Box No. 12, Municipal Offices, Cheltenham, not later than Saturday, 18th June, 1955.

F. D. LITTLEWOOD,

Town Clerk.

## LONDON COUNTY COUNCIL.

Grade III ENGINEERS (salary up to £892 10s.) and SURVEYING ASSISTANTS (up to £739 10s.) required in District Surveyor's Service. Qualifications: A.R.I.B.A., A.M.I.Sr.E., or A.R.I.C.S.; structural knowledge essential. Particulars and application forms from Architect (AR/EK/DS/2), County Hall, S.E.1. (1025). 3611

## LONDON COUNTY COUNCIL.

Architects and surveyors required for safety regulations of theatres and special buildings, and for general building regulation work. Salaries up to £892 10s., according to experience. A.R.I.B.A. or A.R.I.C.S. essential. Particulars and application forms from Architect (AR/EK/TBB/3), The County Hall, S.E.1. (848) 3487

## LONDON COUNTY COUNCIL.

## ARCHITECT'S DEPARTMENT.

(a) PLANNING OFFICERS, Grade III (up to £892 10s.).

(b) PLANNING ASSISTANTS (up to £739 10s.). Professional qualifications: A.R.I.B.A., A.R.I.C.S. and/or A.M.T.P.I. required. Application forms and particulars from Architect (AR/EK/P/4), County Hall, S.E.1. 3420

## ROYAL BURGH OF ARBROATH.

## HOUSING ARCHITECT'S DEPARTMENT.

## APPOINTMENT OF QUANTITY SURVEYOR.

Applications are invited for the appointment of Quantity Surveyor in the above department at a salary of £750-£815 (A.P.T. Grade VI).

Applicants should be fully conversant with the preparation of Schedules of Quantities, Specifications, Estimates and Settlement of Final Accounts in connection with general building work under the Scottish Mode for the Measurement of Buildings.

The successful applicant will be required to pass a medical examination and will be subject to the provision of the Local Government Superannuation (Scotland) Act.

Should the successful applicant be married, housing accommodation will be made available by the Council.

Applications together with two copies of recent testimonials should be lodged with W. R. Samson, A.R.I.B.A., Housing Architect, 32, Hill Street, Arbroath, not later than Saturday, 18th June, 1955.

WILLIAM D. SMITH,

Town Clerk.

Town House, 1306

Arbroath, Angus, May, 1955.

## COUNTY BOROUGH OF SOUTHAMPTON.

## BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(a) SENIOR ASSISTANT ARCHITECTS, Grade IV (£675-£825).

(b) ASSISTANT ARCHITECT, Grade II (£560-£640).

(c) ARCHITECTURAL ASSISTANTS, Grade I (£500-£580).

(d) JUNIOR ARCHITECTURAL ASSISTANTS, Higher General Division (£170-£475).

(e) TECHNICAL ASSISTANT (plan filing), Higher General Division (£170-£475).

(f) PLANNING ASSISTANT, Grade II (£560-£640).

(g) PLANNING ASSISTANT, Grade I (£500-£580).

(h) JUNIOR PLANNING ASSISTANT, Higher General Division (£170-£475).

Applicants for positions in the A.P.T. Division should possess the appropriate qualifications for Special Classes of Officers under N.J.C. Conditions of Service.

Applicants should state their housing needs.

Application forms from the Borough Architect, Civic Centre, Southampton, to be returned by 15th June, 1955. 1289

BOROUGH OF MANSFIELD.  
APPOINTMENT OF THIRD ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the Borough Engineer and Surveyor's Department. The salary will be in accordance with the special grade for qualified assistants (£650-£775) of the National Joint Council's Scale and the following conditions:—

1. N.J.C. Conditions of Service.
2. Local Government Superannuation Act, for which purpose the selected candidate will be required to pass a medical examination.
3. Residence within the Borough.

Applicants should have passed the Final Examination of the R.I.B.A. or equivalent examination.

A house on service tenancy agreement is available.

Applications stating age, qualifications, present appointment and salary, previous appointments and experience, together with the names and addresses of not more than three referees should be sent to the Borough Engineer and Surveyor, Carr Bank, Mansfield, and should be endorsed "Third Architectural Assistant." Closing date 27th June, 1955.

A. C. SHEPHERD,

Town Clerk.

Carr Bank, Mansfield. 1307

## NATIONAL COAL BOARD.

## SOUTH-WESTERN DIVISION.

Applications are invited for the following appointments in the Divisional Chief Architect's Department, Cardiff, for work on industrial and welfare buildings, housing and office accommodation. The appointments are subject to the Board's Superannuation Scheme.

Points of entry into the scales will be dependent upon qualifications, and experience.

(a) ARCHITECT Grade II.

Salary £600 x £25-£650 x £30-£900. Applicants should hold the qualification of A.R.I.B.A. and be experienced in the preparation of sketch plans and working drawings with a minimum of supervision.

(b) QUANTITY SURVEYORS Grade II.

Salary £600 x £25-£650 x £30-£900.

Applicants should be A.R.I.C.S. (Quantities Section) with not less than one year's subsequent practical experience and should be thoroughly experienced in the preparation of estimates, bills of quantities, measurement and settlement of final accounts.

(c) ARCHITECTURAL ASSISTANTS (Grade I).

Salary £525 x £25-£650.

Applicants should have passed the Intermediate Examination of the R.I.B.A. and have had not less than three years' subsequent practical experience; or those who have passed the Final Examination but have had less than one year's subsequent practical experience. Applications will also be considered from those who have not passed the Intermediate Examination but have had considerable practical experience.

(d) QUANTITY SURVEYING ASSISTANTS (Grade I).

Salary £525 x £25-£650.

Applicants should have passed the Intermediate Examination of the R.I.C.S. and have had not less than three years' subsequent practical experience; or those who have passed the Final Examination but have had less than one year's subsequent practical experience. Applications will also be considered from those who have not passed the Intermediate Examination but have had considerable practical experience.

(e) MEASURING SURVEYOR.

Salary range £500-£600. Applicants should have considerable experience in site measuring and preparation of variation accounts.

Applications, in writing, stating age, education, qualifications, experience, previous and present appointments, present salary, the names and addresses of two referees, and the desired appointment, to Secretariat (E), National Coal Board, Mount Stuart Square, Cardiff, not later than 29th June, 1955. 1294

## WORCESTERSHIRE COUNTY COUNCIL.

## ARCHITECT'S DEPARTMENT.

## Amended Advertisement.

Applications are invited for the post of ARCHITECTURAL ASSISTANT Grade A.P.T. I (£500-£580 per annum) or Grade A.P.T. II (£560-£640 per annum) if possessing Intermediate R.I.B.A. examination. Application forms and further particulars should be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than 18th June, 1955. (Y184) 1258

## ENGINEERING DRAUGHTSMEN

## required by

## LONDON ELECTRICITY BOARD.

Applicants should have had a good general and technical education (electrical engineering and/or building construction). Knowledge of electrical plant layout an advantage. Vacancies in West Ham, Woolwich, Hampstead, City and West End districts. Superannuable appointments. Commencing salary according to qualifications and experience within N.J.B. Grade 6-scale £535/£661 per annum inclusive. Further details and application forms from Personnel Officer, 45.7, New Broad Street, London, E.C.2. Please enclose addressed envelope and quote ref.: PER/V/1973/A. 1259



## ESHER URBAN DISTRICT COUNCIL.

APPOINTMENT OF SENIOR  
ARCHITECTURAL ASSISTANT.

Re-Advertisement.

Applications are invited for the above appointment. Salary Grade A.P.T. IV—£675 × £425—£825 per annum, exclusive of London Weighting. Qualifications: Final Examination R.I.B.A. or Registered Architect. Council prepared to assist with provision of housing accommodation.

Send addressed foolscap envelope to Engineer and Surveyor, for form of application and further particulars, to whom applications must be returned by 29th June, 1955.

FREDERICK EDWARDS,  
Clerk of the Council.

Council Offices,  
Esher, Surrey.  
1st June, 1955. 1284

## WILTSHIRE COUNTY COUNCIL.

## COUNTY ARCHITECT'S DEPARTMENT.

Applications invited for two ASSISTANTS for superannuable appointments. Salary £690—£725. Preference given to holders of the Inter. R.I.B.A. Local Government experience desirable but not essential. Applications stating age and experience with names of three referees to the Clerk of the County Council, County Hall, Trowbridge.

1260

## BOROUGH OF DARTFORD.

## ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT in the Borough Surveyor's Department, the salary to be in accordance with the National Joint Council's Scheme of Conditions of Service, Grade A.P.T. II (£560—£640).

Candidates should have passed the intermediate examination of the R.I.B.A.: experience in Local Authority Housing Work would be an advantage.

The Council will provide housing accommodation to married applicants, if required.

The appointment is subject to the Local Government Superannuation Acts 1937 and 1953, and the successful candidate will be required to pass a medical examination.

Applications, stating age, training, qualifications, and experience of present and previous appointments, with copies of three recent testimonials, must be received by me not later than 17th June, 1955.

THOMAS ARMSTRONG,  
Town Clerk.

Council Offices,  
Dartford, Kent. 1287

## GOVERNMENT OF WESTERN NIGERIA.

## ARCHITECTS: PUBLIC WORKS

## DEPARTMENT.

Duties include the preparation of sketch plans, working drawings and detailed specifications for various types of buildings and the carrying out of the general work of a very busy Architectural Office.

Appointments are either permanent and pensionable in the salary scale £910—£1,560 per annum; or on contract/gratuity terms in the scale £1,116—£1,898 per annum plus a gratuity of £25—£37. 10s. for each completed period of three months' service payable on satisfactory completion of contract.

Free first class passages are granted for the officer and his wife and assistance up to £75 each for a maximum of two children is granted in respect of their passages or maintenance in the United Kingdom. Government quarters, if available, are provided at a rental of 10 per cent. of basic salary. Leave is granted of 7 days for each month of resident service in a tour of 18—24 months.

Candidates should be A.R.I.B.A. with not less than two years' post qualifying experience.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience and quoting reference number BCD 112/410/08.

1273

## GOVERNMENT OF HONG KONG.

## BUILDING SURVEYORS—PUBLIC WORKS

## DEPARTMENT.

Duties include the examination and approval of plans submitted by private architects to ensure compliance with the Building Ordinance and the general administration of that Ordinance.

Appointment is pensionable on probation in the salary range £1,256 to £2,178 per annum, including expatriation pay. Point of entry determined by war service and approved experience. Substantial non pensionable cost of living allowance also payable.

Free first class passages provided for the officer, his wife and children up to 3 in number. Leave is granted at the rate of one day for every seven days' resident service. Government quarters if available are provided at low rents.

Candidates between the ages of 25 and 45 should possess one of the following qualifications: A.R.I.B.A., plus 1 year's post qualification experience; A.M.I.C.E.; A.R.I.C.S. (Building), plus 2 years' post qualification experience; A.M.I. (Mun.E.), plus 2 years' post qualification experience; or A.M.I.Stuct.E., plus 2 years' post qualification experience. Experience in a Local Government Engineer's or similar office dealing with approval of plans for construction of buildings, including reinforced concrete framed structures to comply with Building regulations.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience and quoting reference No. BCD 112/51/02.

1272

## WARWICKSHIRE COUNTY COUNCIL.

## ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(a) SENIOR ASSISTANT ARCHITECTS, grade A.P.T. IV (£675—£825).

(b) ASSISTANT ARCHITECTS (scale £650—£775).

(c) ARCHITECTURAL ASSISTANTS—grade A.P.T. II (£560—£640).

(d) QUANTITY SURVEYING ASSISTANT, grade A.P.T. I—II (£500—£640).

(e) CLERKS OF WORKS (resident) salary £14 per week. To supervise the erection of new school buildings.

The commencing salary for (a) (b) (c) and (d) can be within the grades according to ability and experience of the applicants. All appointments are subject to the provisions of the Local Government Superannuation Acts 1937-53. Applicants for (a) and (b) should have passed the final examination of the Royal Institute of British Architects or possess some other similar qualification.

Applications to be on forms which can be obtained from G. R. BARNESLEY, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,  
Clerk of the Council.

Shire Hall,  
Warwick.  
26th May, 1955. 1257

## COUNTY BOROUGH OF BURTON-UPON-TRENT.

## BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

1. CHIEF ASSISTANT ARCHITECT (Grade A.P.T. VI—£825—£1,000).

2. CHIEF QUANTITY SURVEYOR (Grade A.P.T. VI—£825—£1,000).

3. ASSISTANT QUANTITY SURVEYOR (Grade A.P.T. IV—£675—£825).

Applicants for posts numbered 1 and 2 must be Associated Members of the Royal Institute of British Architects and the Royal Institute of Chartered Surveyors respectively.

The commencing salary of each post will be in accordance with qualifications and experience, and each appointment will be subject to satisfactory medical examination and to determination by one month's written notice on either side.

Housing Accommodation will be provided for the successful candidate if required.

Applications giving age, qualifications and full details of experience, together with the names of two referees, should be submitted to the Borough Architect, Town Hall, Burton-upon-Trent, not later than Friday the 17th June, 1955.

H. BAILEY CHAPMAN,  
Town Clerk.

Town Hall,  
Burton-upon-Trent.  
26th May, 1955. 1256

## STAFFORDSHIRE COUNTY COUNCIL.

## EDUCATION ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

ARCHITECTS.—Final R.I.B.A. Standard, Grade A.P.T. IV (£675 rising to £825 per annum).

ARCHITECTS.—Inter. R.I.B.A. Standard, with office experience, Grade A.P.T. II (£560, rising to £640 per annum).

SENIOR QUANTITY SURVEYOR—R.I.C.S. (Quan.) or equivalent—Grade A.P.T. VII (£900 rising to £1,100 per annum).

ASSISTANT QUANTITY SURVEYORS—R.I.C.S. (Quan.) or equivalent—Grade A.P.T. IV (£675 rising to £825 per annum).

QUANTITY SURVEYING ASSISTANTS.—Inter. R.I.C.S. (Quan.) Grade A.P.T. III (£600, rising to £725 per annum).

QUANTITY SURVEYING ASSISTANTS.—Approaching Inter. R.I.C.S. Standard (Quan.) Grade A.P.T. II (£550 rising to £640 per annum).

ELECTRICAL ENGINEERING ASSISTANT.—A.M.I.E.E. or equivalent—Grade A.P.T. IV (£675 rising to £825 per annum).

Forms of application to be obtained from:—The County Education Architect, Green Hall, Lichfield Road, Stafford, and returned within 10 days of this advertisement.

T. H. EVANS,  
Clerk of the County Council.

1291

## LONDON COUNTY COUNCIL, PARKS

## DEPARTMENT requires:—

(1) ARCHITECTURAL ASSISTANT for preparation of working drawings and specifications together with supervision of work on site for a variety of ancillary buildings, such as sports pavilions, service buildings, cafes, etc., in parks and open spaces. Salary up to £739 10s.

(2) LANDSCAPE ASSISTANTS, good knowledge of preparation of working drawings schedules and specifications for park and garden reinstatement or new lay-outs to be executed under contract. Salaries up to £739 10s.

An extensive programme of construction of new parks and open spaces, the laying-out of grounds to new schools, playing fields and housing estates together with other types of groundwork, is in hand and these positions provide exceptional opportunities for applicants desiring to extend their experience in this field and in architectural work in association with landscaping. Application forms from the Chief Officer of the Parks Department, County Hall, Spring Gardens, S.W.1 (Whitehall 3121 Ext. 319), (787) 1274

## BASILDON DEVELOPMENT CORPORATION.

## DEPARTMENT OF ARCHITECTURE AND

## PLANNING.

Applications are invited from holders of professional qualifications in architecture for the following superannuable appointments:—

(a) ARCHITECT, Grade III. Salary £975—£1,275 per annum. This architect will take charge of a group in the Housing Section and must have considerable experience in contemporary house design, together with the preparation of working drawings and all stages of contract management to completion of final accounts.

(b) ASSISTANT ARCHITECTS—Grade IVa. Salary £715—£845 per annum. Applicants must have experience in the contemporary design of houses or medium and small factories. One vacancy exists in the Town Centre Group for an Assistant with ability in contemporary shop and office design.

A house may be available.

Applications must be made on the special form (obtainable from the Chief Architect) to the General Manager, Gifford House, Basildon, Essex, by Thursday, 23rd June. 1299

## COUNTY BOROUGH OF ST. HELEN'S.

## BOROUGH ENGINEER'S DEPARTMENT.

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

(a) ARCHITECTURAL ASSISTANT, Special Scale (£650—£775).

(b) JUNIOR ARCHITECTURAL ASSISTANT, A.P.T. Grade I (£500—£580).

The appointments will be subject to the Local Government Superannuation Acts, medical examination, N.J.C. service conditions and will be terminable by one month's notice.

Candidates must, when making application, disclose in writing, whether to their knowledge they are related to any member of the Council or to a holder of any senior office under the Council.

Applications, stating age, qualifications, past and present appointments and details of experience accompanied by copies of three recent testimonials must be forwarded to M. Ward, M.I.Mun.E., A.M.T.P.I., Borough Engineer, Town Hall, St. Helens, not later than Friday, 17th June, 1955.

Canvassing in any form will be deemed a disqualification. 1292

## SOUTH WEST METROPOLITAN REGIONAL

## HOSPITAL BOARD.

Applications are invited for the following appointments on the permanent staff of the Regional Architect:

SENIOR ASSISTANT QUANTITY SURVEYOR.—Salary scale £900 × £30—£1,050 p.a. plus London Weighting allowance of £40 p.a., rising to £50 at £1,001. Commencing salary at the minimum. Applicants must be Associate Members of the Royal Institute of Chartered Surveyors (Quantity Surveying Branch) and have sound practical experience in the estimating and analysis of prices, working up and taking off of quantities for contracts and also of checking contractors' accounts. Experience in supervision of staff.

ASSISTANT ARCHITECT. The commencing salary will be within the scale £625 × £25 (7) × £30 (2)—£890 p.a., plus London Weighting allowance of £39 p.a. (age 26 and over) rising to £40 p.a. at salary of £901 p.a. Applicants must be Associate Members of the Royal Institute of British Architects, capable of preparing work and detail drawings and specifications and supervising work on individual projects. Experience of Hospital planning and construction an advantage.

Applications, stating age, experience, qualifications, present appointment and salary together with names and addresses of three referees, should be sent to Secretary (S.2), 11a, Portland Place, W.1, stating the grade for which applying on the application and envelope by not later than 24th June. 1277

## GOVERNMENT OF SARAWAK.

## ASSISTANT ARCHITECTS PUBLIC WORKS

## DEPARTMENT.

Two ASSISTANT ARCHITECTS are required to assist with the Development building programme.

Appointments are on contract for 36 months resident service at a salary of £1,400 per annum. Gratuity of £37 10s. for each three months of resident service is payable on satisfactory completion of contract. Variable cost of living allowance payable to married officers.

Furnished quarters provided at a low rental. Free return passages for officer, his wife and up to three children. Leave is granted at the rate of 4 or 5 days for each month of resident service.

Candidates should be A.R.I.B.A. and have had at least five years' practical experience after qualifying. They should have a knowledge of the design of housing, hospitals, police and other public buildings. An aptitude for reinforced concrete design would be an advantage.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience and quoting reference No. BCD 112/24/012. 1275

## COUNTY BOROUGH OF STOCKPORT.

## TWO ARCHITECTURAL ASSISTANTS

## required for work on new educational buildings.

Salary £675—£825. Application forms and Conditions of Appointment from Director of Education, Town Hall, Stockport. 1288



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

There are vacancies on the permanent staff for:—

- (a) ASSISTANT ARCHITECTS (£675-£825 and £650-£775)  
(b) ARCHITECTURAL ASSISTANTS (£500-£640).

Plus London Allowance.

For posts (a) applicants should be A.R.I.B.A., or Registered Architect; (b) Inter. standard with office experience.

Application forms and details from Borough Architect and Planning Officer, Thomas E. North, O.B.E., F.R.I.B.A., Dist. T.P. 70 West Ham Lane, Stratford, E.15 (returnable by 28th June, 1955).

**UNIVERSITY OF CAPE TOWN,  
SOUTH AFRICA.**

Applications are invited for a post of **STUDIO MASTER IN THE SCHOOL OF ARCHITECTURE**.

The successful applicant must be a Member of the South African Institute of Architects (or eligible for membership), must be thoroughly experienced in architectural practice in all its branches, must be capable of taking charge of the studio work of any group of students from the first to the final years, and must be able to lecture in some subject or part of some subject to be agreed upon. He will be required to devote an average of 25 hours per week to University work. Private practice is allowed, provided that it does not interfere with University duties.

The substantive salary scale offered to a Studio Master with some years of professional experience is £850 × £50-£1,150 per annum. There is also a temporary cost-of-living allowance for a married man (at present £234 per annum). The salary scale recognised for the purpose of the Provident Fund is £800 × £50-£1,050 per annum.

The successful applicant will be under the direct supervision of the Director of the School of Architecture.

Applications (with copies of testimonials) should state age, qualifications, teaching experience and practical or research work. Applicants should give the names of two referees whom the University may consult. Two copies of the application and testimonials should reach the Secretary, Association of Universities of the British Commonwealth, 36, Gordon Square, London, W.C.1 (from whom a memorandum giving the general conditions of appointment should be obtained), not later than 30th July, 1955. An additional copy should be sent direct by air mail to the Registrar, University of Cape Town, Private Bag, Rondebosch, Cape Town, South Africa, by the same date. 1319

**BOROUGH OF BASINGSTOKE.  
BOROUGH ARCHITECT'S DEPARTMENT.**

Applications are invited for the appointment of an **ARCHITECTURAL ASSISTANT, A.P.T., Grade II** (£560-£640).

Applicants should have reached the standard of the Intermediate Examination of the R.I.B.A. The appointment will be subject to the provisions of the Local Government Superannuation Acts, 1937 to 1953, and to the National Conditions of Service, and the successful candidate will be required to pass a medical examination.

Applications, stating age, qualifications, and giving details of education and experience, together with copies of two recent testimonials, are to be submitted to the Borough Architect (Eric Almond, Dipl. Arch., A.R.I.B.A.), Municipal Buildings, Basingstoke, not later than Thursday, the 23rd June, 1955.

Candidates should state whether housing accommodation is required.

MEIRION O. JONES, Town Clerk.

Municipal Buildings, Basingstoke. 1314

**BOROUGH OF EDMONTON.**

**QUANTITY SURVEYING ASSISTANTS** (2-1 established, 1 temporary) required for Borough Architect's Department. **A.P.T. III**, £600 × £25-£725, plus London weighting £10-£30 according to age. Candidates should be suitably qualified. Duties will include estimating and site measurement and will be primarily on capital housing, including multi-storey flats. Applications on forms from Town Clerk, Town Hall, Edmonton, must be delivered by 22nd June. 1310

**BOROUGH OF ILFORD**

**BOROUGH ENGINEER'S DEPARTMENT.**

(a) **TWO ASSISTANT ARCHITECTS**, Grade A.P.T. II/III. Salary £560-£725 p.a. plus London Weighting. The point of entry in the scale will be fixed having regard to qualifications and experience but not exceeding £620 p.a. plus London Weighting. Candidates must be members of the R.I.B.A. and have a thorough knowledge of architectural work.

(b) **ONE ARCHITECTURAL DRAUGHTSMAN**, Grade A.P.T. I. Salary £500-£580 p.a. plus London Weighting. Applicants must be capable Draughtsmen and have had sound drawing office experience in general architectural work, particularly in regard to working drawings.

The Council is prepared to consider, if necessary, the provision of housing accommodation in connection with these appointments.

Appointments permanent, superannuable and subject to medical examination. Application forms obtainable from the Town Clerk, Town Hall, Ilford, Essex, on receipt of stamped addressed envelope, should be returned not later than 25th June, 1955. 1312

**LANCASHIRE COUNTY COUNCIL.**

**ASSISTANT COUNTY PLANNING OFFICER** required at Headquarters, Preston. Salary £1,567 10s. 0d., rising by increments of £52 10s. 0d. to £1,830. The appointment is superannuable and subject to a medical examination.

The successful candidate, who would take charge of the Development Section of the Department, must have had wide experience in the preparation of Development Plans (including County Map and Town Maps) and of the practical issues involved in urban and rural planning. Candidates must be members, or associate members, of the Town Planning Institute, and have one or more of the following qualifications; a University Degree in Civil Engineering, Architecture or Estate Management, A.M.I.C.E., A.M.I.Man.E., A.R.I.B.A., A.R.I.C.S. Applications giving age, qualifications, experience, present appointment, etc., and names of three referees should be forwarded to County Planning Officer, East Cliff County Offices, Preston, by 27th June, 1955, in envelopes endorsed "A.C.P.O. Appointment." 1317

**COUNTY BOROUGH OF GREAT YARMOUTH.  
APPOINTMENT OF SENIOR ASSISTANT  
ARCHITECT.**

Applications are invited for the above appointment in the Borough Engineer's Department at a salary in accordance with Grade A.P.T., IV (£675-£825) of the National Scale.

Applicants should be A.R.I.B.A. with office experience, which is essential to this position, and preference will be given to candidates with wide administrative experience in the handling of large contracts. Housing accommodation will be offered by the Council if required.

The appointment will be terminable by one month's notice on either side, subject to the provisions of the Local Government Superannuation Acts, and passing a medical examination. Applications, stating age, qualifications, education and training and appointments held, giving the names of two referees, should be enclosed in an envelope endorsed "Senior Assistant Architect," and must reach me by the 24th June, 1955.

Candidates must disclose in writing whether they are related to any officer or member of the Council. Canvassing disqualifies.

FARRA CONWAY, Town Clerk.

Town Hall, Great Yarmouth. 1315  
3rd June, 1955.

**SKEGNESS URBAN DISTRICT COUNCIL.**

**ARCHITECTURAL ASSISTANT,  
GRADE A.P.T. III.  
AMENDED ADVERTISEMENT.**

Applications are invited from suitable qualified persons for the appointment of Architectural Assistant in the Engineer and Surveyor's Department within the above-mentioned Grade, the commencing salary to be £675, subject to the Council being satisfied as to the qualifications and experience of the person appointed.

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

Applicants should have had experience in the preparation of plans, designs, details and specifications for the architectural work normally undertaken by an Urban Authority, including the preparation of quantities.

A two-bedroomed ground floor flat on a service tenancy is available for the successful candidate, if required.

Applications, suitably endorsed, together with copies of two recent testimonials, to be delivered to the undersigned not later than 23rd June, 1955. Candidates should disclose whether to their knowledge they are related to any member or senior officer of the Council.

IVOR M. CULE, Clerk to the Council.

Town Hall, Skegness. 1316  
3rd June, 1955.

**CHURCH COMMISSIONERS.**

Applications are invited for the appointment of an **ASSISTANT ARCHITECT**, at a salary according to age and experience, within the scale of £750 × £35-£1,100, together with non-contributory superannuation benefits.

Appointment will be subject to a probationary period of at least six months, and a satisfactory medical examination.

Applicants must be Fellows or Associates of the Royal Institute of British Architects.

Applications in writing, stating age, education, qualifications and previous experience, should be sent to Establishment Officer, Church Commissioners, 1, Millbank, Westminster, S.W.1. 1321

**MERIONETH COUNTY COUNCIL**

**COUNTY ARCHITECT'S DEPARTMENT**  
APPLICATIONS are invited for the following established appointments:—

(a) **ASSISTANT ARCHITECT A.P.T. GRADE IV** (£675 × 30-£825). Applicants must be Associates of the R.I.B.A.

(b) **ARCHITECTURAL ASSISTANT A.P.T. GRADE II** (£560 × £20-£640). Applicants must have pursued the Intermediate examination of the R.I.B.A. or its equivalent.

Full particulars of the appointments may be had on application to the undersigned. Applications with copies of two recent testimonials should reach the undersigned not later than Saturday the 25th day of June, 1955.

D. W. JONES-WILLIAMS, Clerk of the County Council.  
County Offices, Penarlag, Dolgellau. 1311

**CENTRAL ELECTRICITY AUTHORITY.  
EAST MIDLANDS DIVISION.**

Applications are invited for the following positions within the Division:—

**TWO SENIOR DRAUGHTSMEN (ELECTRICAL)**, Generation (Construction) Department (Vacancy No. 97/55 A.I.).

Candidates should have experience in the preparation of layouts and diagrams for the installation of E.H.T. and L.T. switchgear, transformers, E.H.T. and L.T. cables; knowledge of protective gear systems would be an advantage.

The salary will be in accordance with Grade I (£640 × £20-£740 per annum) of Schedule D of the National Joint Board Agreement.

Closing date for receipt of applications: 27th June, 1955.

**TWO SENIOR DRAUGHTSMEN (MECHANICAL)**, Generation (Construction) Department (Vacancy No. 96/55 A.I.).

Candidates should have experience on one or more of the following:—

- (i) Design and layout of Power Station equipment, including turbo-alternators, boiler plant, coal and ash plant, and general station auxiliaries.
- (ii) H.P. and L.P. steam and feed pipework. Condensing plant and feed heating systems.
- (iii) Conveyor plant, coal handling systems, and material handling of station auxiliary equipment.

Salary will be in accordance with Grade I (£640 × £20-£740 per annum), or Grade 4 (£750 × £20-£850 per annum) of Schedule D of the National Joint Board Agreement.

Closing date for receipt of applications: 27th June, 1955.

These appointments will be pensionable within the terms and provisions of the Central Electricity Authority and Area Boards Superannuation Scheme.

Applications should be submitted on the official form A.E.6/ACT, which may be obtained from the Divisional Establishments Officer, Central Electricity Authority, P.O. Box 25, Barker Gate, Nottingham, and should be returned to the undersigned by the date stated. Please quote Vacancy Number.

L. F. JEFFREY, Divisional Controller. 1313

2nd June, 1955.

**Architectural Appointments Vacant**  
4 lines or under, 7s. 6d.: each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

**WESTWOOD, SONS & HARRISON, F.R.I.B.A.**, require **SENIOR** and **JUNIOR ARCHITECTURAL ASSISTANTS**, with office experience. Apply in writing to 46, Baker Street, W.1. 9626

**ARCHITECT OR EXPERIENCED ASSISTANT**, REQUIRED BY "THE ARCHITECTS' JOURNAL." Ability to write fluently and well, and a sound knowledge of construction and contemporary building techniques essential. Will be expected to write reports on buildings, supervise the production of technical architectural drawings, commission and sub-edit technical articles and assist production. Please reply to The Editor, "The Architects' Journal," 9, Queen Anne's Gate, S.W.1. 922

**ARCHITECTURAL ASSISTANT**: Intermediate approaching final. Commercial and industrial work; large-scale contracts. Watson, Johnson Stokes, Victoria Square, Birmingham. 4896

**OPENING FOR QUALIFIED ARCHITECTS** as Assistant Designers with an expanding firm of new traditional builders. Must have good general practical knowledge and a keen interest in new building methods. A prospect exists for working overseas. Starting salaries range between £650 and £750 according to experience, with an increase after six months' satisfactory service. Messrs. Reema Construction, Ltd., Milford Manor, Salisbury, Wilts. 9238

**ARCHITECTURAL STAFF**, all grades, wanted, interesting and varied work of commercial character; light and airy offices. Apply J. Seymour Harris & Partners, 4, Greenfield Crescent, Edgbaston, Birmingham, 15. 8786

**ARCHITECTS' ASSISTANTS** required (1 Senior and 2 Juniors) for West End office. Write, stating full particulars and salary required, to Box 8725.

**ARCHITECTURAL ASSISTANT** required in small private office. Intermediate to Final standard. Write, stating experience and salary required, to: A. F. Bennett, 35, Queen's Gate Mews, London, S.W.7. 9266

**RONALD WARD & PARTNERS** require several capable **ARCHITECTURAL ASSISTANTS** with contemporary outlook and willing to use own initiative. Salary range £400 to £300. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Cheesem Place, S.W.1. Telephone Belgraveia 3361. 7093

**SENIOR ASSISTANT** required in busy practice in West End. Age about 30 years, qualified with several years' experience and capable of running contracts. Box 9968.



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# GEORGE WIMPY & CO., LIMITED.

THE Architect's Department seek ARCHITECTURAL STAFF enthusiastic to apply their knowledge to new construction techniques covering Houses, Multi-Storey Flats, Offices, Schools and Industrial Buildings for contracts in the U.K. and Overseas.

Appointments range from ARCHITECTS to DRAUGHTSMEN with special interest to those of ability, recognising the value of the designer and technician as an integral part of the production team.

Appointments are on a permanent basis, 5 days a week at Head Office, Hammersmith.

For applicants interested in work in the Midlands, appointments are available in Birmingham Regional Office, carrying similar conditions with the exception that the working week is 5½ days.

Salaries will be according to qualifications and experience, and, subject to satisfactory service, there is a Pension Scheme for those wishing to make a career with the firm.

Applicants should write giving brief particulars to E. V. Collins, A.R.I.B.A., Chief Architect, GEORGE WIMPY & CO., LIMITED, 27, Hammersmith Grove, London, W.6. 5376

**ARCHITECTURAL ASSISTANT** required by Major Oil Company undergoing expansion, for its Sheffield office. Applicants should be of intermediate standard, and must be capable of carrying out work on the design and re-modelling of service stations. Social Club, Pension and Life Assurance scheme, generous sickness benefits. Write, giving full details of experience, age and salary required, to Box 9262, quoting Ref. A.A. 588.

**JUNIOR AND INTERMEDIATE ARCHITECTURAL ASSISTANTS** required urgently in London Office with widely varied practice. Good salaries, 5-day week. Lewis Solomon, Son & Joseph, HOL 5108 or 7082. 8481

**RAMSEY, MURRAY & WHITE** have vacancies for:—

(a) **QUALIFIED ARCHITECT**, with several years' office experience, especially on industrial buildings.

(b) **ARCHITECTURAL ASSISTANT**, advanced student R.I.B.A., with at least 12 months' office experience.

(c) **ARCHITECTURAL ASSISTANT**, about Intermediate standard, preferably with office experience.

Salary according to qualifications. Apply: 32, Wismore Street, London, W.1, or telephone WBL 664. 9823

**REQUIRED** for progressive London office. **ARCHITECTURAL ASSISTANT**. Intermediate stage or above, some office experience. Please write for interview. Box 1019.

**REQUIRED**—Qualified ASSISTANT, general practice. Knowledge school and church work an advantage. Fry, Paterson & Jones, 28, Waterloo Street, Weston-super-Mare. 1191

**CAPABLE ASSISTANT**, about Intermediate, for responsible position requiring initiative in small practice near West End. Excellent working conditions. Telephone John A. Gosschalk, Chartered Architect, WELbeck 0993. 9923

**CO-OPERATIVE WHOLESALE SOCIETY, LTD.** ARCHITECT'S DEPARTMENT, BIRMINGHAM.

APPLICATIONS are invited for the following appointments in a newly formed Branch Office to be opened in July. Interesting and varied commercial and industrial projects:—

(a) **SENIOR ASSISTANT ARCHITECT**, with experience in Store and Shop design.

(b) **ASSISTANT ARCHITECTS**, capable of preparing working drawings and details from preliminary sketches.

Salaries offered up to £915 (a) and £745 (b), according to experience, with prospects of up-grading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 9851

**ARCHITECTURAL ASSISTANT** of Intermediate standard required for office in Cotswold area. Five-day week. House available if required. Applications, stating age, experience and salary required, to Eric Cole & Partners, F.F.R.I.B.A., Dyer Street House, Cirencester, Glos. 1183

**ARCHITECTURAL ASSISTANT** with initiative and ability to take charge of drawing office of Manchester Architects & Surveyors. Good knowledge of design, construction and specification writing essential. Excellent prospects. Also **ARCHITECTURAL ASSISTANT** about Intermediate R.I.B.A. standard. State age, salary and experience. Box 1164.

**REQUIRED** at Company's Head Office, Guildford. experienced **ARCHITECTURAL ASSISTANT**, varied work, mainly factory. Five-day week. Salary by arrangement. Box 1180.

**REQUIRED** by West End London Architects. **YOUNG ASSISTANT** with good practical experience of detailing. Keen interest more important than qualifications. Box 1233.

**ARCHITECTS**—Jackson and Edmonds, Birmingham—have vacancies for **SENIOR ASSISTANTS** in the salary grades £550 to £900. Pension Scheme operates. Write stating training, experience and salary required to 116, Colmore Row, Birmingham. 3. 1152

**TWO** Qualified **ASSISTANTS** urgently required to work on new television studios. Salary according to experience. Box 1198.

## CO-OPERATIVE WHOLESALE SOCIETY, LIMITED, ARCHITECTS' DEPARTMENT, MANCHESTER.

APPLICATIONS are invited for the appointment of an **ASSISTANT LAND AND BUILDING SURVEYOR** with sound practical experience in land surveying by chain and theodolite and levelling. Additionally a knowledge of building construction is necessary for the survey of existing buildings.

Salary offered up to £745 per annum according to experience.

Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester. 1175

**ARCHITECTURAL ASSISTANTS** required urgently for London office. Intermediate stage or above, and with practical experience, particularly in traditional domestic and other work. Please write stating age, experience, and salary required to Box 9596.

**MANCHESTER**—Qualified **ASSISTANT** required for varied work in Private office. Salary £500 p.a. and upwards, according to ability and experience. Francis Jones & Son, 178, Oxford Road, Manchester, 13. 1168

**SENIOR INTERMEDIATE AND JUNIOR ASSISTANTS** required in West End Architect's Office.

Senior Assistants must be capable of taking full charge of schemes from sketch plan to final accounts. Intermediate Assistants able to prepare working drawings, etc., under supervision and Juniors should preferably have some office experience. Work in hand comprises multi-storey housing, office blocks, churches, etc.

Applicants should write stating age, experience and salary required to Box 1242.

**SENIOR AND JUNIOR ARCHITECTURAL ASSISTANTS** required for busy practice in London, West End. Opportunities for advancement and use of initiative. Good salaries paid. Five day week. Apply: Eric H. Davis, A.R.I.B.A., A.M.T.P.I., Staff Architect, Hillier Parker May & Rowden, 77, Grosvenor Street, London, W.1. 1241

**NORMAN & DAWBARN** require **ARCHITECTURAL ASSISTANTS** in the following categories:—(1) At or about R.I.B.A. Intermediate standard, with from 3 to 6 years' continuous office experience; (2) At R.I.B.A. Final standard or qualified, with not less than 5 years' continuous office experience. Salaries according to age, also length and type of experience. Summer holiday will be arranged. Applications, stating age and details of career, should be made in writing to 5, Gower Street, London, W.C.1. 1085

**TAYLOR WOODROW HOMES LTD.**, require an **ARCHITECTURAL ASSISTANT** (Intermediate Standard) for large scale housing development. Must be capable of producing full working drawings. Pensionable post. Write, giving full details of experience, etc., to Personnel Department, Ruislip Road, Southall, Middlesex. 1237

**ARCHITECTURAL ASSISTANTS** required for West End office. Salary £350—£700 p.a., according to experience and ability. Scherrer & Hicks, 19, Cavendish Square, W.1. 1043

**CO-OPERATIVE WHOLESALE SOCIETY, LTD.** ARCHITECT'S DEPARTMENT, MANCHESTER.

APPLICATIONS are invited for the following appointments:—

(a) **SENIOR ASSISTANT ARCHITECTS**, with experience of work on commercial and industrial projects.

(b) **ASSISTANT ARCHITECTS**, capable of preparing working drawings from preliminary sketches.

Salaries offered up to £915 (a) and £745 (b), according to experience, with prospects of up-grading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 9852

**RILEY & GLANFIELD** require Male **ASSISTANT**. Maximum salary £700 p.a. Voluntary overtime paid time and a half. Work: church, industrial, housing and public house. Telephone CHA. 7328. 1073

APPLICATIONS are invited from suitably qualified and experienced persons for the post of **ARCHITECTURAL ASSISTANT** in the Architect's Department of The Barnsley British Co-op. Soc. Ltd. Good living accommodation on rental is available. Application in writing, stating age, experience and qualifications, to be addressed to Mr. G. Yarwood, F.R.I.B.A., Architect, Architect's Dept., Dearne Works, Twibell Street, Barnsley, to arrive not later than 13th June, 1955. 1226

**YOUNG** newly qualified school-trained architects required for North West Wales contemporary practice. Reply giving details of qualifications, training and experience, to Box 1218.

**EXCELLENT** prospects and scope for **ARCHITECTURAL ASSISTANTS**. Enthusiasm, imagination and initiative encouraged. Interesting contemporary and traditional work. Busy practice chiefly concerned with office, shop and industrial architecture. Wood salary, depending upon experience and ability. Percy Y. Burnett Partners, 12, Bloomsbury Square, London, W.C.1. HOLborn 6177. 1144

## CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECTS' DEPARTMENT, LONDON.

APPLICATIONS are invited from the following:—

(a) **ASSISTANT ARCHITECTS** of Inter. R.I.B.A. standard;

(b) **WORKER-UP** with experience of commercial/industrial buildings.

The salary range offered for the above appointments is up to £745, per annum according to age and experience, with prospects of up-grading.

Applications stating age, experience, qualifications and salary required to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leman Street, London, E.1. 1210

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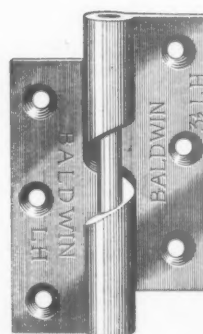
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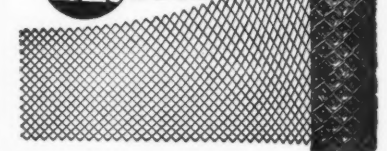
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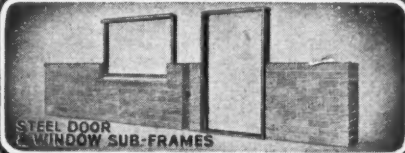
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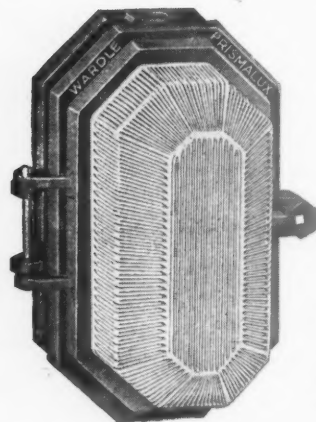


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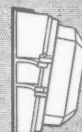
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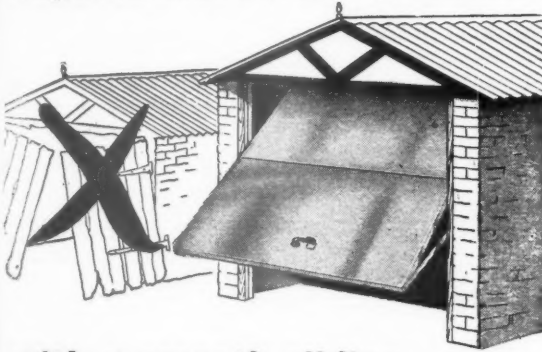
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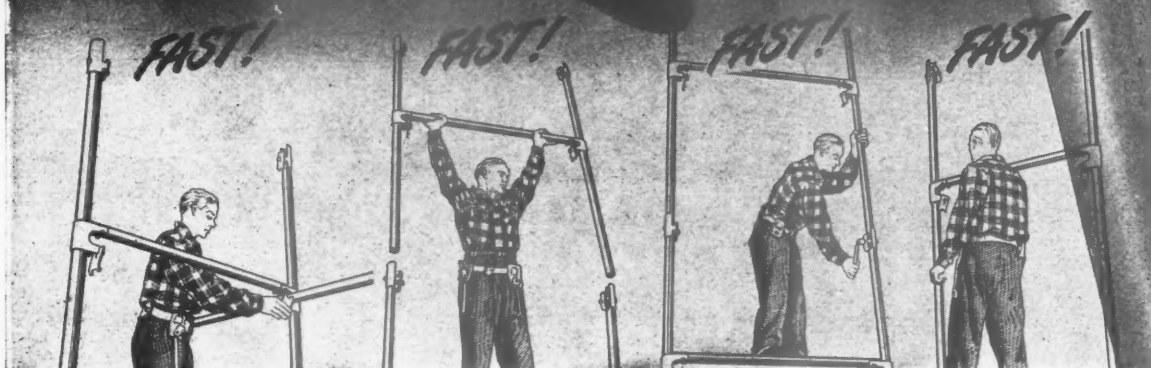
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