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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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Major Buildings described:

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Building Costs Analysed

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No. 3241] [Vol. 125 ARCHITECTURAL PRESS , 11 and 13, Queen Anne's Gate, Westminster, 'Phone: Whitehall 0611

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

Architectural Association, 34/6, Bedford Square, W.C.1. Museum 0974
Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley,"
Castle Hill Avenue, Berkhampstead, Herts.
Architects' Benevolent Society. 66, Portland Place, W.1. Langham 5721 AAI

ABS Architects' Benevolent Society. 66, Portland Place, W.1.

Association of Building Technicians. 1, Ashley Place, S.W.1.

Arts Council of Great Britain. 4, St. James' Square, S.W.1.

Aluminium Development Association. 33, Grosvenor Street, W.1.

Board of Architectural Education. 66, Portland Place, W.1.

Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.

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Reliance 7611, Ext. 1706 Building Centre. 26, Store Street, Tottenham Court Road, W.C.1. Museum 5400
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Coal Utilization Council. 3, Upper Belgrave Street, S.W.1. Sloane 9116
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Langham 4341 **GPDA** Gypsum Plasterboard Development Association, 11, Ironmonger Lane, E.C.2.

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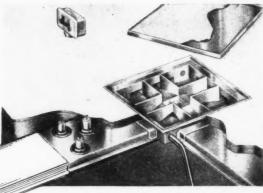
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Institution of Civil Engineers. 1, Great George Street, S.W.1. Whitehall 4577
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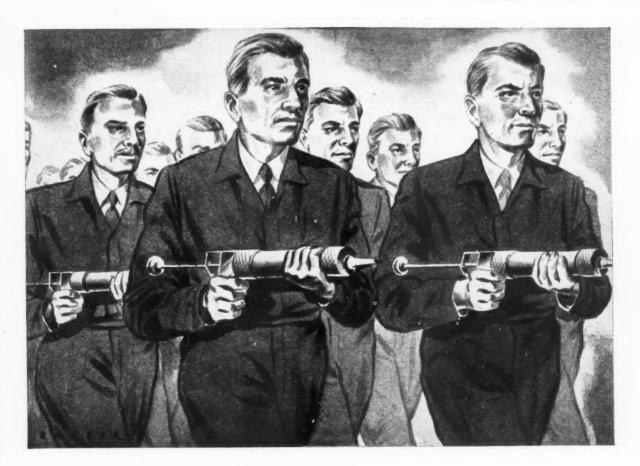


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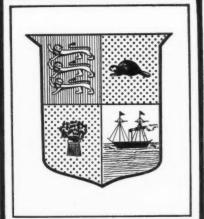


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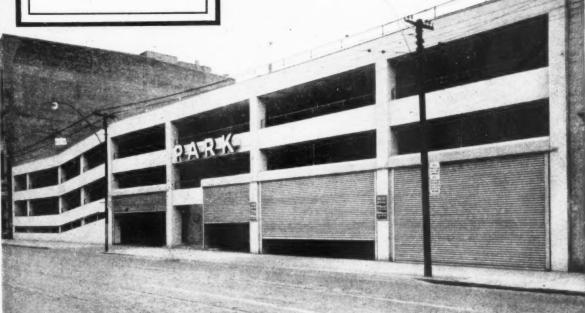
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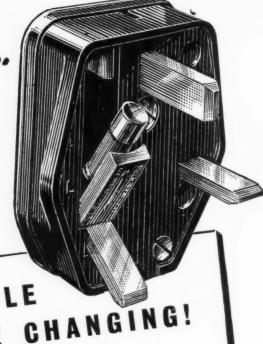
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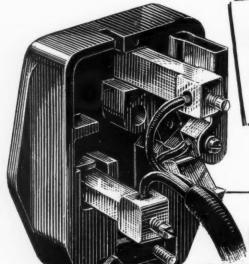


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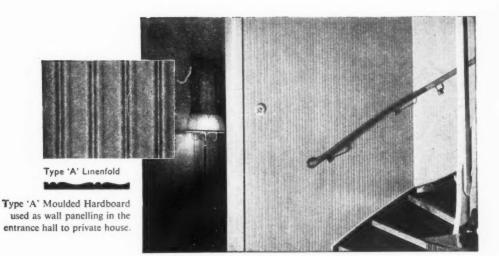
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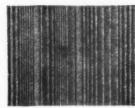
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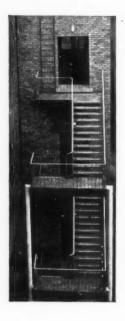
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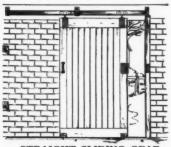


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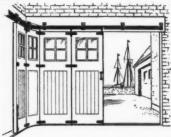
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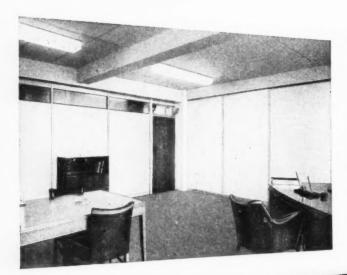






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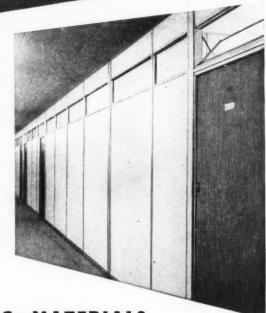
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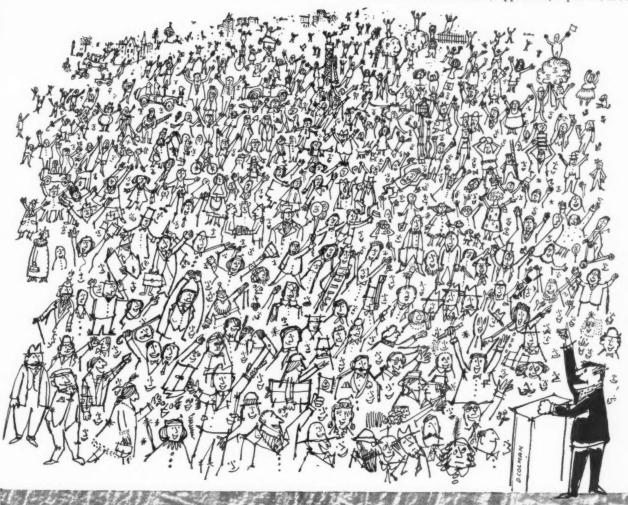
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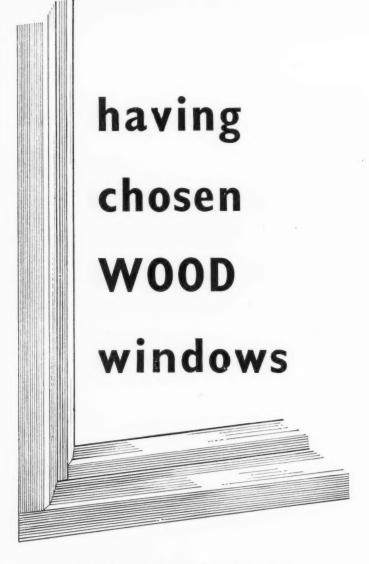
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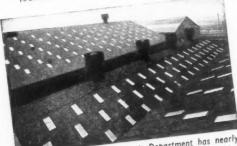
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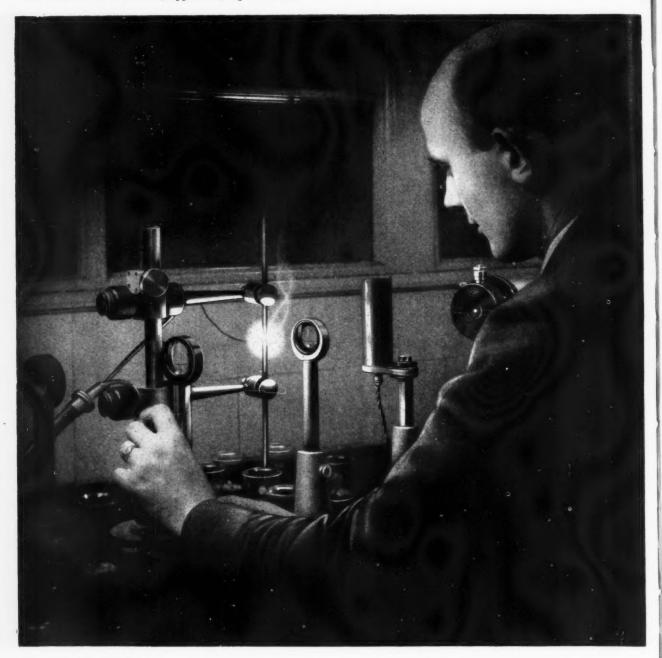
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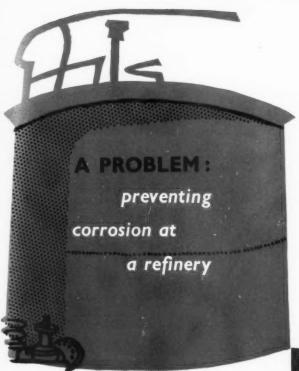


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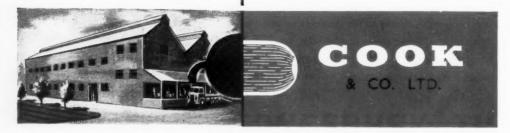


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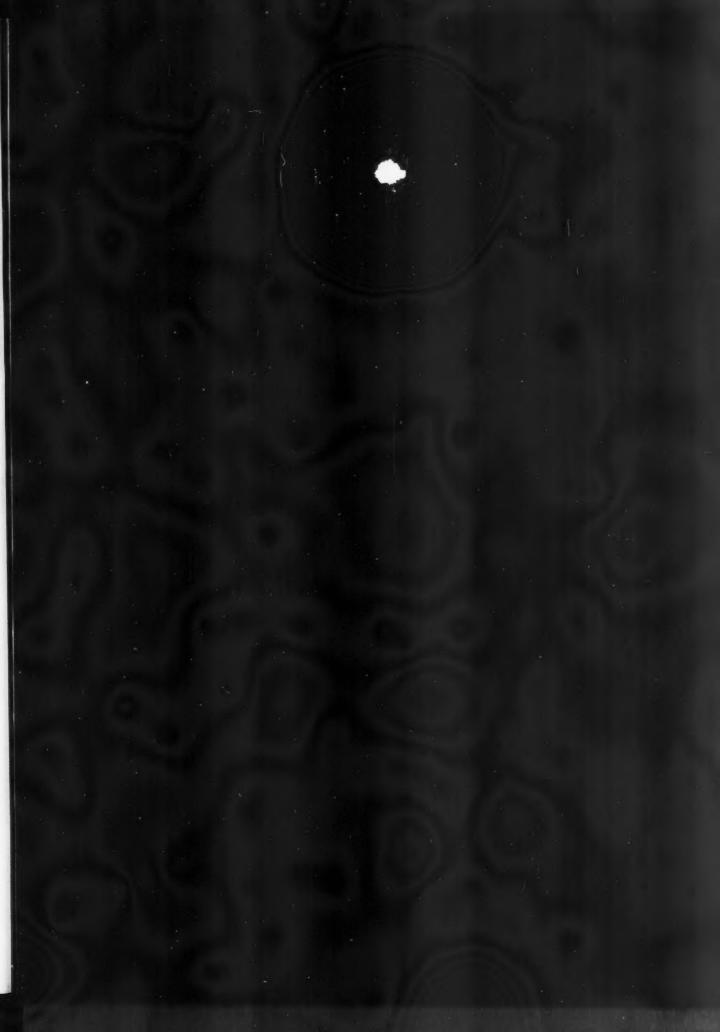
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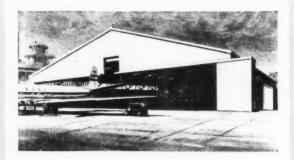


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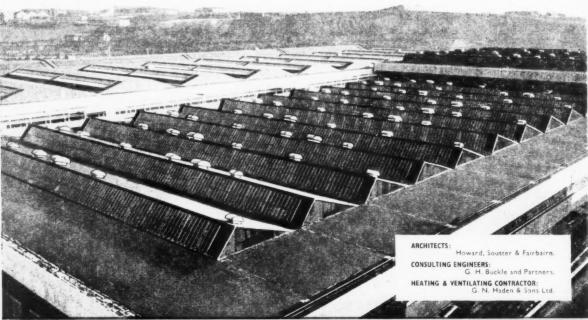
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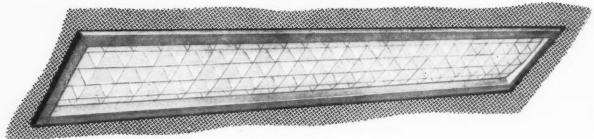




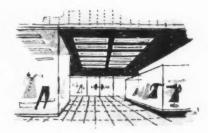
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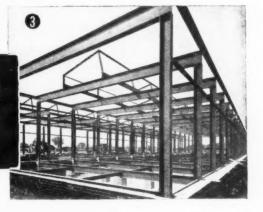
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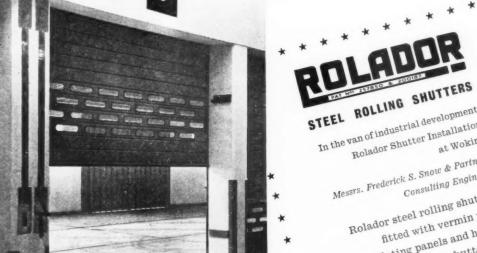
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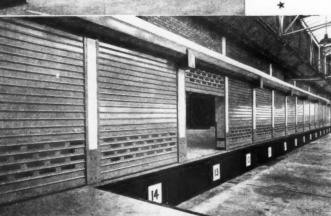




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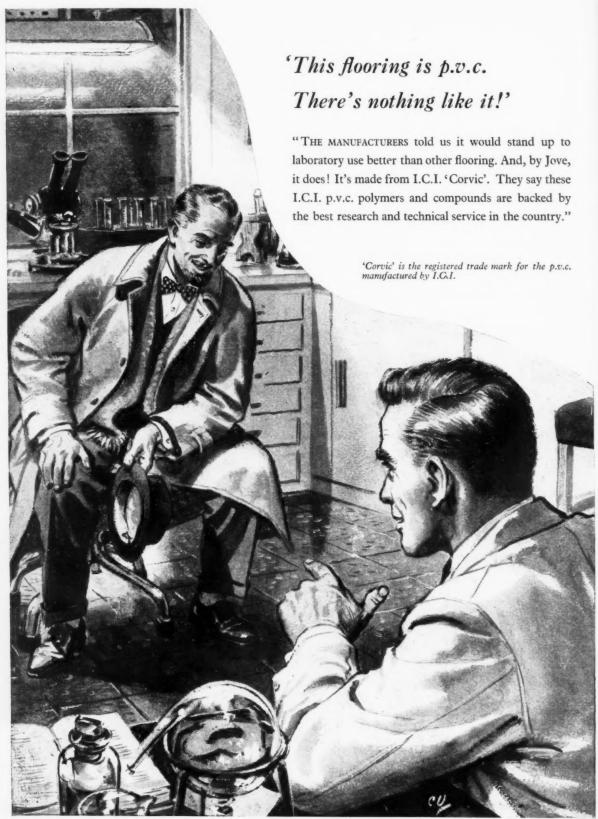
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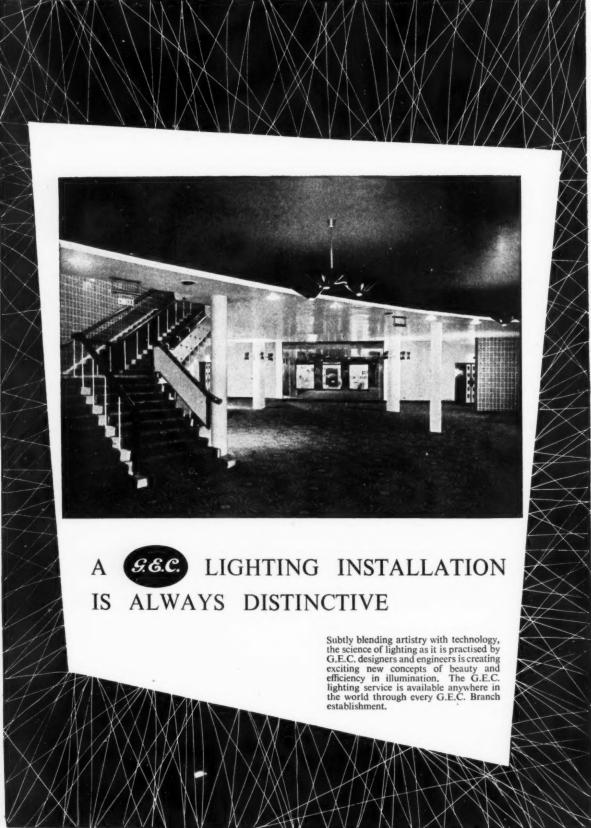
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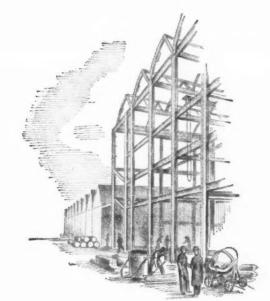


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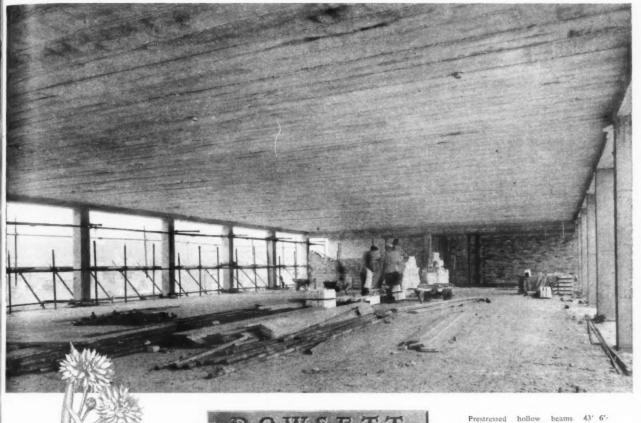
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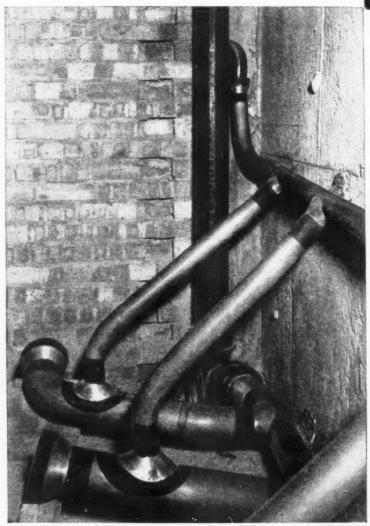


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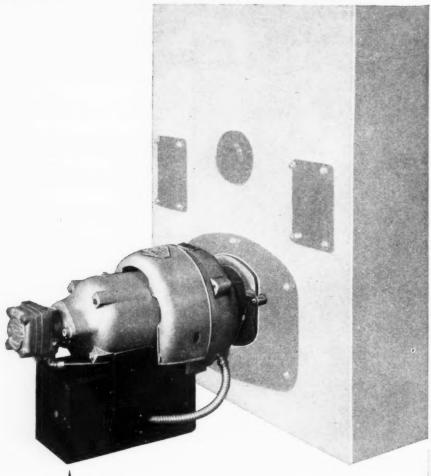
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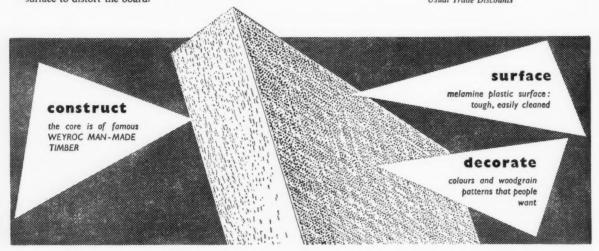
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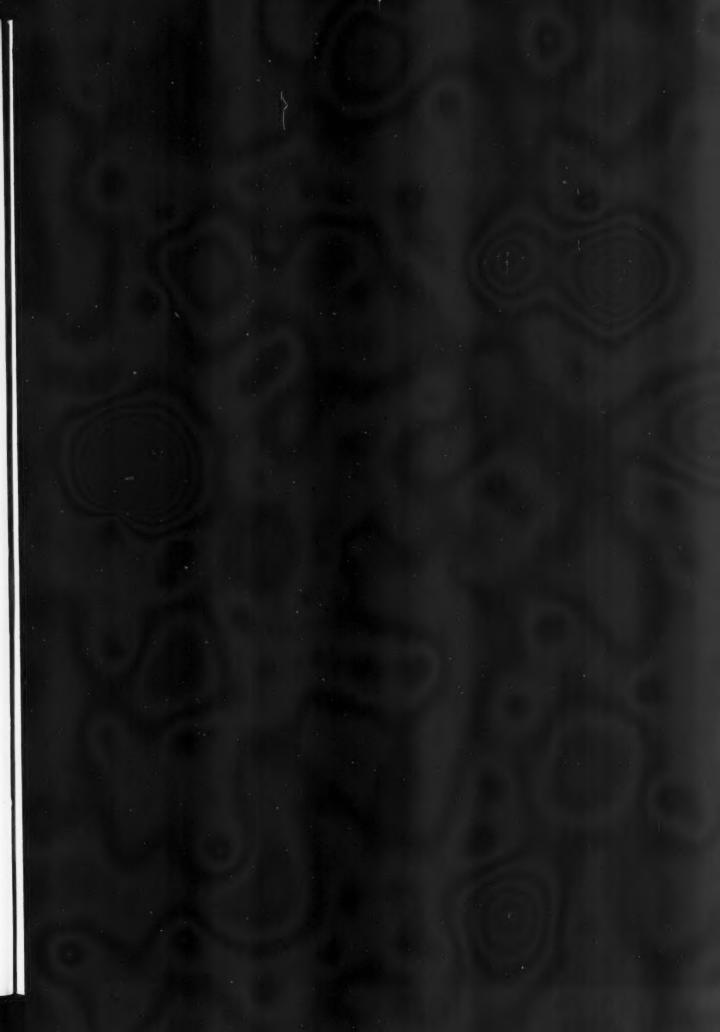
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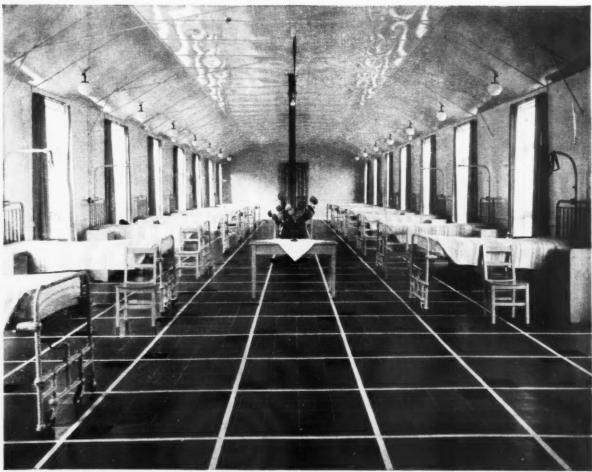
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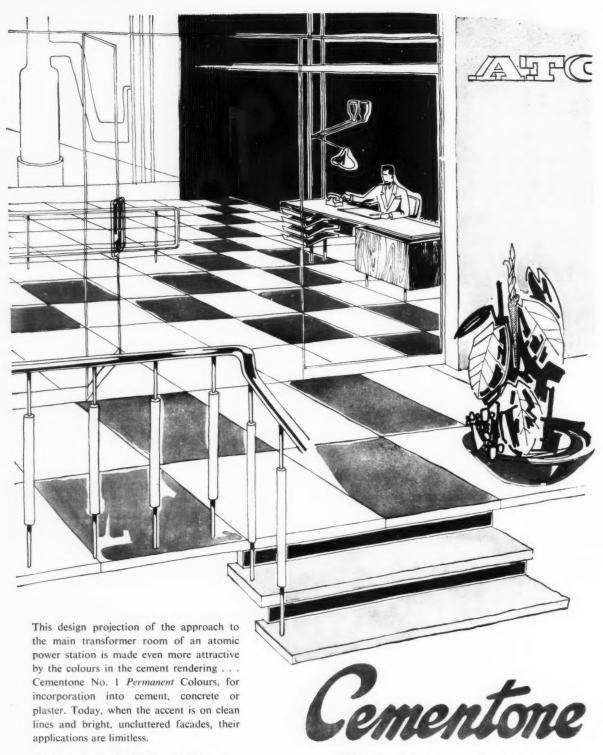
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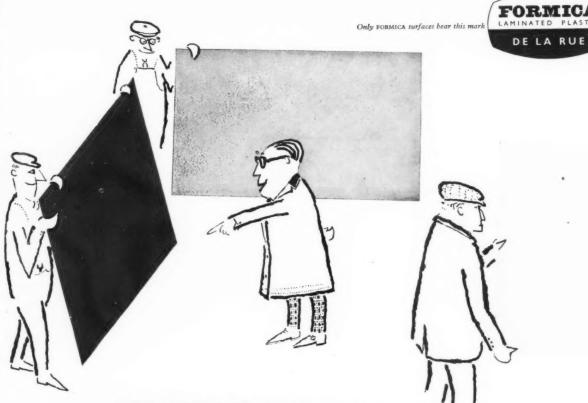
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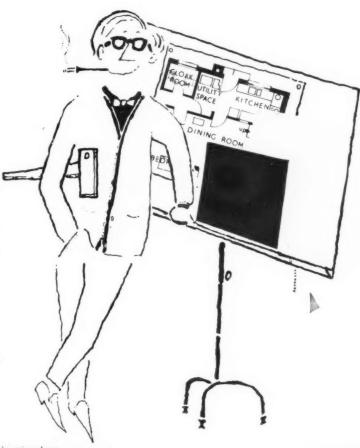
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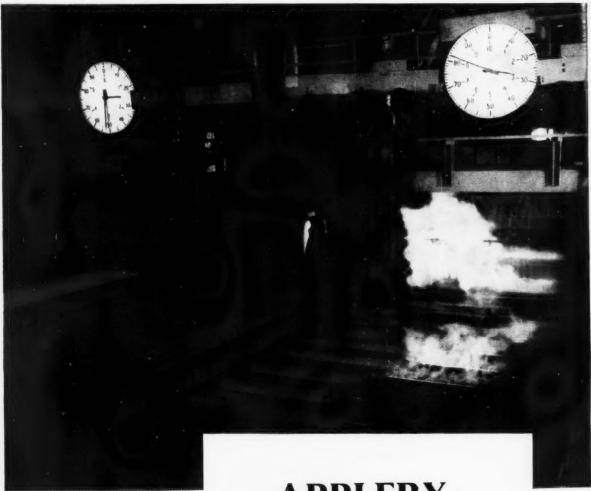
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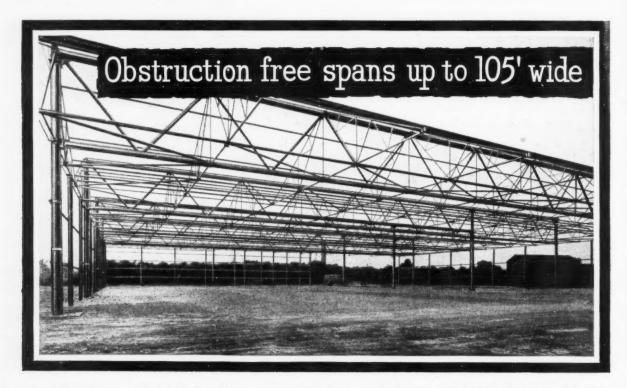
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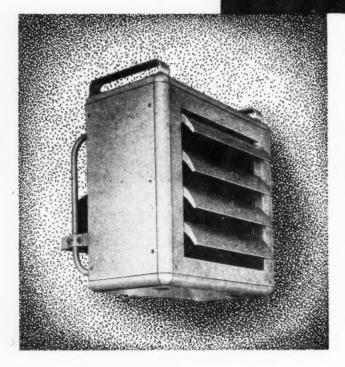
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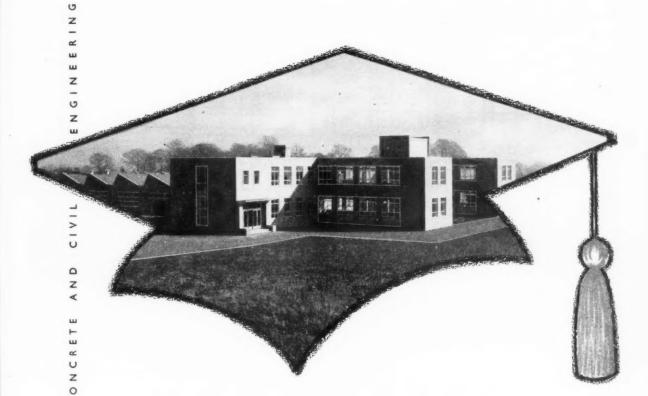
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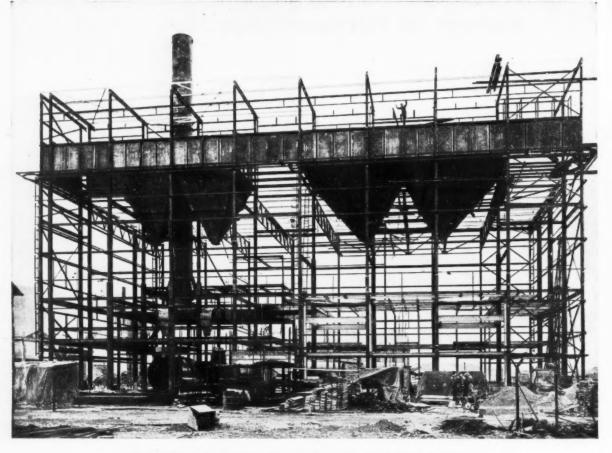
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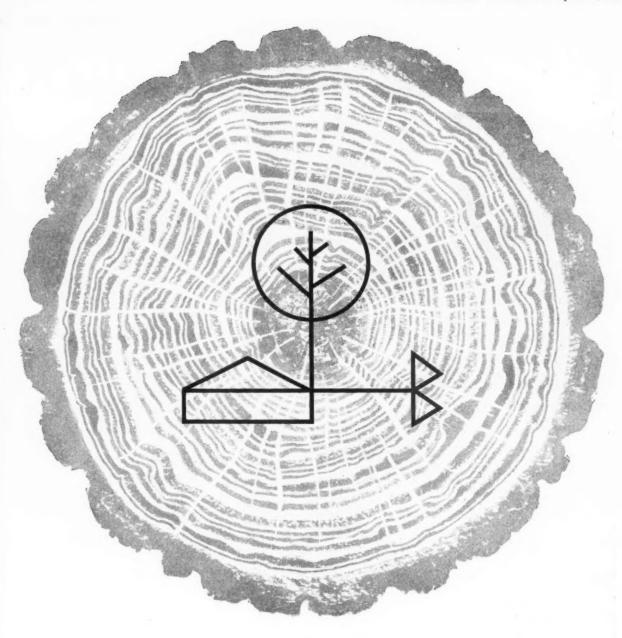
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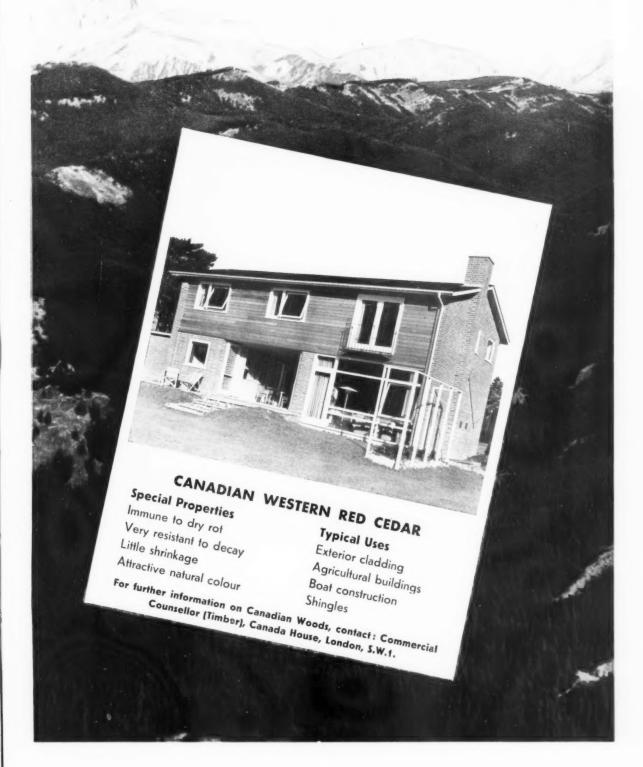
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Reed Millican\* of course?

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Good for you. Smash anything?

Three toes and me wrist watch

Tough stuff this glass!





THE ARCHITECTS' JOURNAL

No. 3241 Vol. 125 April 11, 1957

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NOT QUITE ARCHITECTURE

#### TWO WAYS WITH MODERN MONUMENTS

A report from America

Last winter the falling water rose in its rocky bed, inundated the basement utility room, tossed a refrigerator over on its side, and mounted a foot above the flagstone floor of the wide, rugged living-room. Fortunately it subsided before more damage was done, but you can imagine the mess that was left behind when the water went back to falling. All hands on sun-deck, the staff took several days to put the building back to its customary order.

The customary order for this favourite house of the twentieth century is impeccable preservation of its state when new, about twenty years ago, when the late Mr. and Mrs. Kaufmann packed it with carefully selected ornaments and party guests. No one but the servants live here now, though it is visited occasionally by Mr. Edgar Kaufmann Jr. and an invited architectural pilgrim or two. Nothing on the rustic fence to the country road at Bear Run indicates that there is anything more than another hill-billy shack behind the trees, but at the end of a narrow, lurching drive-way you find the young historic treasure looking as fresh as a photograph.

It is meticulously maintained against the familiar ravages of the element which gave the house its name, theme and fame. The flat roofs are pampered,

# The Presence of the Architect on the Site

Matthew Wallis, A.R.I.B.A., has been awarded the AJ Research Board's second Fellowship. Mr. Wallis is to study "the influence on design of site operations and equipment" at BRS, where he will join a team under the leadership of Dr. Weston which has been working or some years on contractors' plant. His object will be to evaluate if the architectural profession does not rapidly achieve them, how can it give its clients the best value for money? There are also more farthis plant and to discover such important facts as how large a contract must be to justify the use of each contraption (and the savings its use should effect), and how the architect should modify his design so that plant can be employed to everyone's best advantage. These are immediate and practical aims. They are indeed minimum aims, for he will doubtless want to have a hand in developing new plant to meet the new building needs of which he alone is aware. It would be make great progress in this field. We mention it only to show what we mean by our title, "the presence of the architect on site" and why reaching aims. If the architect is to know what is technically possible, unrealistic to suppose that one man doing research for one year could

Matthew Wallis, a naturalized British subject, was born in Warsaw in He began his education in Poland, moving to the celebrated Lycee Pasteur in Paris on the outbreak of war and then to a boarding school in England. Before the end of the war he was serving in the Coventry Corporation. Most of his professional experience has been on school design—during a period when schools were making all the going. Lately he has been working on housing and it was indeed his experience in working with Messrs. Wimpey on Forces, in Normandy and in Belgium, where he was wounded. He respent four years with the Herts CC followed by another two with ceived his architectural education at the School of Architecture, Edinburgh College of Art and, on receiving his Diploma in 1950, large housing contracts in Coventry which drew his attention to the need for this study. Although he is aware of the technical needs of the day, he is an architect in the traditional sense of a man who actually designs good buildings-as may be judged, both by the schools and blocks of flats in which he had a part, and by the house Press book, 50 Modern Bungalows). He gives the impression of being which he built for himself at Hertford (illustrated in the Architectural shy and gentle in disposition, but clear-headed and tenacious by nature. His slight foreign accent reminds one that he is bringing to the English building industry that continental competence which it needs so We wish him and his future colleagues at BRS, whom he joins on May I, a fruitful collaboration. this seems, to us, important.

si h ci b T th a h e p w K te it o b m



the plate glass rooflights are repointed with mastic at each first sign of dripping, the cork tiling is replaced whenever it stains, logs float in the transitional concrete pools between streams and house and are wiggled at intervals so that ice will not form and crack the walls.

Inside the consistently complicated sculpture of stone and slab it is as if a house-proud Miss Haversham were in charge. Shirts, socks and ties lie in the bedroom cupboards ready for use. Towels and toothpaste are laid out in the bathrooms. The living-room is arrested on the point of welcoming a house party; empty glasses encircle an empty jug. The country neighbours proudly say that seven million dollars was left in trust for the house by Mr. Kaufmann and that a permanent staff of ten maintains the property. In any case it is clear that this is one (perhaps the only one) famous modern house already being treated kindly as an historic monument.

Not all of Frank Lloyd Wright's works are so fortunate. Even now the wreckers probably are tugging at the tired wooden cantilevers of the Robie House in Chicago. It is half a century old (51 years to be exact) which is just half as old as a building must be to get a sympathetic press. Often threatened in recent years, it now seems irrevocably doomed. The Chicago Theological seminary announced plans last month to build a dormitory on its site, despite protests by the A.I.A. committee on the preservation of famous buildings.

You reach the house from Sullivan's city through miles of three-storied slums and you find it, serenely sagging, inkstained and thumb-tacked by institutional use, fitted tightly between Georgian, Elizabethan and Gothic parodies. In a worried man-made wilderness the Robie House stands alone as American architecture, as architecture. And fate has planned it so that this one blossom in the wilderness stands in the way of development.

However, the President of the seminary, the Rev. Dr. A. C. McGiffert, Jr., shows he has an eye for architecture. The new dormitory, he explains with bland irrelevance, will be "an out-standing example" of contemporary architecture.

ROBIN BOYD

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

#### The Editors

DO WE GET THE BEST OUT OF OUR SITE EQUIPMENT?

A THEN the AJ Research Board started to think about its second Fellowship, there was no single obvious choice for a subject, and when it advertised the Fellowship it left the subject open. The subject now chosen is "The influence on design of site operations and equipment." At first sight, this subject may not seem so pressing or so universal in appeal as "Information for the Architect," the subject of the first Fellowship, which Dargan Bullivant is working on at the moment. Its immediate application is chiefly to the large contract and to the big builder. But that is only because these are, at present, making technical history. It will be only a matter of time before much of the equipment and the methods now being pioneered on the biggest jobs will find their way to the smaller jobs, and will thereafter become standard practice throughout the industry. This process of dissemination is accompanied by changes in the economics of building and in the forms used. It is the tragedy of today's revolution in building techniques that the architect is not in any true sense "present" at these influential events. The architect designs his buildings, and the contractors and the manufacturers of equipment (aided by BRS) together devise more expeditious means of putting them up. But unfortunately, because the architects' professional status places him at a remove from the business of construction, and because he finds relevant information so hard to get, he is in no position either to design his building to make the best use of existing equipment, or to promote its wider application in all spheres of building. When we reflect that the architect is, by definition, "the chief builder," we see how anomalous this situation is.

There is more to this research subject than the modest objective of finding how to make the best use of existing site equipment. If the architect were to have a real grasp of the potential of site mechanization there is little doubt that his concept of architecture would be profoundly modified and that he would wish to have a hand in the development of new equipment to serve it. The subject chosen by Matthew Wallis and by the Board is not a remote, marginal matter. It is

the nub of modern architecture.

#### PLANNING OR ADJUDICATING?

There is more to be said for post-war planning than was said by Dr. Thomas Sharp in the speech, reported on another page, that he made last week to his fellow members of the Town Planning Institute. But the element of exaggeration in his criticism is far outweighed by the unpalatable truths which he forced upon the notice of the planning profession. Any doubt that Dr. Sharp's prick to complacency was needed was surely removed by the pained, even bitter, reaction of some of the

eminent planners who were present.

The fact is that ten years after the passing of the Town and Country Planning Act planning has sunk from the zenith to the nadir, because the planners are seen no longer as the inspiring creators of a more beautiful and a more efficient environment, but as the manipulators of a host of negative, interfering and restrictive controls. Of course much good work is being done, but it is being done too slowly, and on too small a scale. There is a strong element of truth in Dr. Sharp's assertion that what passes for planning is in reality little more than surveying. All too many planners do see their function as adjudicating between rival claimants to the use of land. Planning, if it means anything, must be positive and three-

dimensional, creative and enterprising.

Architects who may be frustrated to see their own designs become the victim of some of the more stupid manifestations of elevational control can sympathize with the architectplanner who is compelled to occupy himself with titivating other people's elevations, instead of getting on with the constructive job for which he was trained, of planning and of executing plans. Even in its necessary function of control, planning cannot afford to be self-satisfied: the horrors of speculative development and commercial self-advertisement sweep unchecked through the barriers that planning was supposed to have erected against them, and it is astonishing that planning officers whose counties contain some of the worst development, can do nothing better than strike a defensive attitude when confronted with this fact.

Dr. Sharp did say that the opportunities exist under the 1947 Act to produce a better kind of planning. Why then are they not being taken? Partly because the machinery exists neither for national nor for regional planning, but primarily because good positive planning costs in the short run a great deal more money than the kind of planning we have got. Nothing would do more to grip the public's imagination than a plan for modern roads, with motorways, fly-overs, tunnels and every device for segregating and speeding traffic. They do not appear in the development plans because there is no vision at the top, and the Minister of Transport will not pay for them.

In the long run, of course, good planning is an economy: an inefficient and out-of-date city is as wasteful of time and money as an unreliable old car. The first people to understand this, and the last people to succumb to the difficulties and pressures that beset them, should be the planners themselves.



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WHY ARE WE WAITING?

Most of you will know some appalling stories about frustration and expense caused by delays in the hearing of town planning appeals. One reason for the delays, Henry Brooke told the House of Commons last week. is the sharp increase in the number of appeals-from 3,441 in 1952 to 6,699 in 1956. You will be glad to hear that something has been done about this. There has been an increase in the number of inspectors and a reorganization of the handling of the work, and it is said that the delay between the appeal and the hearing of the inquiry, and between the inquiry and the decision has been reduced. But the Ministry still estimates the delay in an average case at six months between the lodging of the appeal and the reaching of a decision. A month is taken up with preliminaries (such as correspondence about a possible settlement); three months is the usual waiting time for a hearing, and there are then two months to wait for the Minister's decision.

Fortunately, Mr. Brooke is not satisfied with the position. Efforts to improve the time table will, he says, continue. Good.

#### UNEDIFYING EVENING

"The Multivalence of Architecture" was the title of a talk at the ICA last week. The phrase might well cover a

multitude of sins, but in Erno Goldfinger's talk it meant, roughly, that there are at least five contributing parties in the design of an office block -financier, builder, occupier, architect and planning authority-and that they all have their rights, which should be respected, and should not try to poach on one another's territories. This last bit should be taken to mean that neither the financier nor the planning authority (nor the RFAC) should try to exercise any æsthetic control over the architect.

All this was put across with feeling, and with reason, and although such an atomized view of the design process does not appeal to ASTRAGAL, he must admit that Mr. Goldfinger put forward a good case which deserved reasonable consideration. Instead, there ensued one of the most disgraceful discussions that has ever taken place at the ICA. It was conducted with studied rudeness. Was this display of snarling, snapping and uncivil questions prompted largely by the visions of untold wealth that dazzle aspirants to the office-design business? It is difficult to imagine that purely architectural considerations could arouse such ugly passions.

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One of the few speakers from the floor who emerged with any credit from all this was Cecil Elsom, who said, twice, that if anything was wrong with office-block design it was the architect's fault and nobody else's. If one architect would not give a building-financier the cornices and sashwindows he craved, there was insufficient honour among thieves to prevent another architect from doing so, and poaching the job in the process. An unedifying thought in an unedifying evening.

#### A SOUND PROGRAMME

As part of the forthcoming streamlining of BBC programmes, sound services will concentrate on things that are done better on sound. This is an admirable proposal, but it seems to be contradicted by the statement that the Light programme will grow at the expense of the Home and Third. After all, there is hardly anything on the Light that does not go over better on television: surely it is the Home and the Third, with their intercontinental hook-ups and Epiphany Philosophers, who really put sound to work. Something on the Home that ought to be on TV, however, is Eric Newton's extended series of lectures (a Reith by any other name) on Style and Vision in the arts.

As with Professor Pevsner's Englishness of English Art, one feels curiously helpless when the disembodied speaker refers to a work one does not know very well, and it is rather irritating to have to thumb hurriedly through the BBC's pamphlet-published to tie up with the series-in search of a detail from a 12th century Yugoslav fresco. Much more could have been made clear in far fewer words, one feels, had the series been made visual from the start. In fact, each lecture could have been cut to about a quarter of an hour, and it could then have been slipped into the TV time table without robbing time from such national monuments as the Grove Family or the Flower-pot Men.

It is difficult for me to pass judgment on the content of the lectures, whose aim is to explain the more obtrusive isms to the public, simply because noone with an architectural training is "the Public" in that sense. So farup to talk 3-ASTRAGAL finds himself agreeing with the drift of the argument as a whole, and disagreeing with practically every instance Mr. Newton has advanced in its support.

#### HAY ON CHURCHES

New books often claim to fill a longvacant gap in architectural history. I have just been studying one that really does so: George Hay's volume on Scottish post-reformation churches\*. It is remarkable, seeing how much the reformed religion means in Scotland, that the buildings designed to house it have not been comprehensively dealt with before.

\* The Architecture of Scottish Post-Reformation Churches 1560-1843. By George Hay, Oxford University Press, Price, 63s.

Tableau at the exhibition in Jamestown, Virginia, which was opened last week to celebrate the 350th anniversary of the landing of British settlers. Left to right: Queen Elizabeth I, Sir Francis Drake, John Reid (designer, with Sylvia Reid, of much of the exhibition), Sir Henry Lee and Sir Martin Frobisher (kneeling). John and Sylvia Reid have designed the interior display of the American (New World) pavilion and the Historical Background Section of the UK (Old World Heritage) pavilion. The other two sections of the UK pavilion were designed by Roger and Robert Nicholson and Charles Munro. The costumes shown here were designed by Sylvia Reid.





The annual report of the Metropolitan Public Gardens Association, which has been in existence for 75 years, contains two good articles on trees in towns. In one of them it warns local councils that they are completely in the hands of the "experts" they employ

for pruning, and that some of these firms carry out their deeds of butchery in ignorance. Here are four examples, in London streets, of the sort of disfigurement that the Association, together with other counter-attacking bodies, is trying to prevent.

Now it has been dealt with once and for all, in a book that is a model of its kind: well written, well illustrated (including well-drawn plans and details) and with the sources of the information properly recorded. Since churches are not protected by Ancient Monuments legislation, it is all the more important that their architectural value should be appreciated. Perhaps this book will help to bring a sad tale of casualties to an end.

If anyone doubts the architectural interest and the marked individual character of the post-mediæval Scottish church, let them look in this book at the pictures of Burntisland, Fife (1749), for originality of form; Polwarth, Berwickshire (1703), for charm of texture; and St. John's Chapel, Edinburgh (1810), for fineness of scale. And can any English church monument compete with the Queensberry monument at Durisdeer, Dumfriesshire (1715), for grace and richness?

#### LUSH AND PLUSH

Those of you with a taste for the lush and the plush will probably have seen the Gio Ponti exhibition at Liberty's. But those of you who don't have such a taste might do worse than make the pilgrimage too, because the chances are that your objections to really swish furniture derives from your not having seen it done as well, or with such style, as Ponti does it. The few chipped cardboard models of building-projects hardly do justice to Ponti as an architect, but the furniture, fabrics, pottery, cutlery and crockery, give a fair view of him as a latter-day Leonardo or Universal Man.

#### THE FABULOUS MANNER

The entrance-showroom suite of

Mullard House, in Tottenham Court Road, which was unveiled to the Press for the first time last week, will take some beating for controlled ostentation. It is a long time (a long Time-Life even) since ASTRAGAL saw so much two-tone marble, red wood, Hille furniture, brass, glass, and empty space for its own sake. It is done well, too (see below), in the "Hotel Fabulous" manner that presumably will become the standard form of commercial bragadoccio in the CinemaScope era. Recommended also for study by those who are called upon to produce big effects with low ceiling heights.

#### TOURS ROUND THE HOUSES

In the pre-war days when spec. building was fairly near London and competition was keener, builders would lay on Daimlers to meet you at Surbiton, Blackheath and elsewhere, and you could spend a happy Saturday afternoon cruising round the estates free of charge, with tea thrown in for good measure. But at the same time even the large builders reckoned it cost about £50 to sell a house. Nowadays the figure would probably be about £150-so it's quite a good idea for the Evening Standard to lay on coach trips round Kent and Sussex, or Bedfordshire and Herts, for the buyers get a chance to see houses by different builders (some perhaps even architect-designed). No doubt the Standard is mainly concerned to encourage builders to advertise, but at least this is better than the competitions about sales points that other papers have been running.

ASTRAGAL



The foyer of Mullard House. Designed by Rapier Design Ltd. (Eric Sharrell and Michael Green).

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#### LETTERS N E W S

Ralph McCarthy Editor of the Star

#### Bring on the Architects

SIR.—The Architects' Journal for April 4 criticizes the *Star* for the way it has publicized damp and unpleasant living conditions on the LCC's Ackroydon Estate. May I give my point of view?

First, I believe that architecture is the most influential of all art forms, because it is around everybody every day. As a journalist I feel that the proportions of buildings are more important, and can be more interesting, than the dimensions of dancing girls.

That belief prompted me to say: "Let's tell the story of those noble flats at Wimbledon. Let's tell the story of the happy Londoners there."

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My reporter who lives in the district said he had heard there was dampness there; other people in the office had also heard this. I asked that the facts should be discovered.

The result of the investigation shocked me, and it still seems to be to be shameful if even one family should live in such appalling conditions in homes which have cost so much public money.

But the ARCHITECTS' JOURNAL finds my indignation in bad taste and dismisses the situation with: "It is unfortunate that central heating was not installed. . . ." Why wasn't it installed? Did somebody blunder? Or do we just brush it off because it is public money?

A final point. You say: "A representative of the *Star* when questioned by the Journat, admitted that this was 'an old story' that had been 'dead for a long time."

The JOURNAL representative telephoned the reporter responsible for the story. That reporter writes: "I would like to protest vigorously at being deliberately misquoted by the JOURNAL. I certainly did not use the phrase 'dead for a long time.'

"The writer of the article came on the phone to me begging help as one journalist to another and asked how I got on to the story.

"My reply was: 'I have known about it for a long time as I live near there.' I told him, too, that the local papers had already had a go at it."

And in spite of it all, I still hope to make Londoners proud of the architecture the LCC has created.

RALPH MCCARTHY.

London.

[We are sorry that Mr. McCarthy's idea of making Londoners proud of the LCC's new architecture got off to such a bad start, but that is hardly the fault of the JOURNAL. Mr. McCarthy should not apologise for the phrase "dead a long time," which was certainly used, and which is unquestionably accurate. The tenant in question complained about damp in November, 1954, and it was remedied in February, 1955—more than two years before the Starthought it a good stunt to resurrect a very dead story. As for the central heating: the JOURNAL criticized the LCC more than two years ago for not installing it. The Star did not. But if the Star wants to criticize authorities which do not instal central heating in tall flats, there is a wide field open to it, as the LCC is one of the few authorities which does instal central heating today.—The Eds.]

#### AJ RESEARCH

#### Second Fellowship

The Architects' Journal Research Board has awarded its second Fellowship to Matthew Wallis, A.R.I.B.A., who has chosen as his subject "The Influence on Design of Site Operations and Equipment." The value of the Fellowship, which is tenable for one year, is £1,000. Editorial comments on this award will be found on pages 524 and 525.

#### RIBA

#### Ball at Blenheim

This year's British Architects' Conference at Oxford (July 10 to 13) will have as its social highlight a ball at Blenheim Palace, on Friday, July 12. The theme of the conference, which will have its headquarters at Balliol College, will be "Finance, Design and Durability of Buildings." Thomas Mitchell will "outline the problem." J. Lewis Womersley will talk about "Structures," A. W. Cleeve Barr will speak on "Services," and "Finishes" will be the subject of a talk by J. C. Eastwick-Field.

J. Lewis Womersley will talk about "Structures," A. W. Cleeve Barr will speak on "Services," and "Finishes" will be the subject of a talk by J. C. Eastwick-Field. The hosts will be the Berks, Bucks and Oxon Architectural Association. Their guests will pay 35s. each (apart from fees for accommodation). Applications for membership, on forms obtainable from the RIBA Secretary, 66, Portland Place, W.I., must be made by June 21.

#### COMPETITION

#### Rebuilding Berlin

All European architects are invited to submit designs for the reconstruction of Berlin's centre. The first prize is 30.000 DM (£2.500). There will be two second prizes of 20.000 DM, three third prizes of 10.000 DM, and four entrants will receive 5.000 DM. The jury will include Alvar Aalto; Professor Otto Bartning, Professor C. van Eesteren; Professor Walter Gropius; Professor Werner Hebebrand: Professor Rudolf Hillebrecht; Johannes Rossig; Max Steinbiss; Hans Stephan; Pierre Vago; Professor Edgar Wedepohl; the Federal Minister for Building and Housing; the Federal Minister for All-German Questions; the Mayor of Berlin; the Senator for Building and Housing, Berlin; Dr. Bernard Skrodzki and Ernest Scharnowski.

and Ernest Schaillowski.

A returnable deposit of 100 DM. (to be paid in postal cheque account No. 58 Berlin West with Landeshauptkasse Berlin in favour of HUA B 6100/57 Hst. 199) should be sent with each enquiry to the Senator für Bau-und Wohnungswesen, Berlin-Wilmersdorf, Wurttembergische Strasse 6-10. The final date for submission of entries is November 30, 1957.

#### ARCUK

#### Registrar Wanted

Barristers over 45, who have had experience of administration, are invited to apply for the £1,750-a-year post of Registrar to the Architects' Registration Council of the United Kingdom. "Knowledge of the architectural profession is desirable" in this post. The salary will rise by annual increments of £100 to £2,250 and there is a contributory

pension scheme. Applications, on forms obtainable from the Acting Registrar, ARCUK, 78, Wimpole Street, W.1, must be made by April 30.

#### POWER

#### Why Not Use Waste Heat From Atomic Power?

Why not site the new atomic power stations in built-up areas, and use the waste heat from the cooling water for district heating of flats or offices? This query is prompted by a statement by Lord Lucas of Chilworth in the House of Lords last week, during the debate on the nuclear power programme. If the new stations were sited in built-up areas, he said, the hot water which was pumped out at the rate of 25 million gallons an hour from each station could be used for the district heating of quite a large city instead of being wasted in heating up the sea by 15 degrees. Lord Lucas' facts were not quite right. The sea will not be raised 15 degrees in temperature by the new stations; that would require something like a nuclear explosion. But the cooling water discharged into the sea will be some 15 degrees above the sea temperature, and the average discharge will be about million gallons at about 15 degrees above the temperature of the sea water.

Can this waste heat be used for district heating? Obviously, only if the stations

Can this waste heat be used for district heating? Obviously, only if the stations are sited in built-up areas, and close to high density housing or office accommodation. Lord Mills, the Minister of Power, said that "if and when" it was possible to consider putting nuclear stations into built-up areas the advantage of district heating schemes would be taken into account. But he did again confirm that the reason for siting the stations in the countryside was largely to allay fears for which the atomic experts think there is little or no basis. He had been informed, he said, that nuclear power stations were inherently safe, and the system of monitoring was such that the escape of radioactive materials was extremely unlikely. But these stations did contain highly toxic materials which would be dangerous if they escaped, and it was thought right to have, for the time being, remote siting, even if it was possible to put the stations on other sites.

The fact seems to be that neither the Ministry nor the Central Electricity Authority are interested in district heating, and accept as quite normal the wastage of substantial quantities of heat both from thermal and from nuclear stations. The official view is that the costs are unecomic with low density housing and the C.E.A. considers that its job is solely to generate electricity. It is probably true that a widespread adoption of district heating is dependent upon satisfactory ways of metering the heat supplied, and the readiness of Britons to forego the doubtful pleasure of living in homes that are permanently half-cold. But are these really good enough reasons for cold-shouldering (that seems to be the right term) every suggestion for the better use of our increasingly costly and scarce supplies of fuel?

#### NEW ZOO

#### Architect, Sir Hugh Casson

The Regent's Park Zoo is to be completely redesigned by Sir Hugh Casson. He is hoping to provide a spectacular new layout on several levels, and to introduce some modern devices, such as light rays for "caging" birds.

#### LIVELY MEETING AT THE TPI

#### Dr. Thomas Sharp touches some sore spots

The highly-controversial paper on "Town Planning Now" by Dr. Thomas Sharp, reported here, aroused a stirited and at times heated discussion at the Town Planning Institute, London, last week. Dr. Sharp, who had described the current development plans as "hardly plans at all," and "deep-freeze for the status quo," was assailed by the proposer and seconder of the customary "hearty vote of thanks," Lord Silkin (an honorary vice-president) and 7. W. R. Adams, the Kent County Planning Officer (a past president). The atmosphere became distinctly tense when B. J. Collins, the Middlesex County Planning Officer (senior vice-president), made what Dr. Sharp called a " sneer" at distinguished planners, including Dr. Sharp, who had made plans for sweeping away gasworks without counting the cost. To this Dr. Sharp retorted, as an "unpractical planner," that it had been not entirely worthless to have the gasworks removed from nearly the centre of Oxford. He added that when Mr. Collins had removed a gas works he would have something to be proud of and ended up completely unrepentant by declaring that if he had attacked some of the sore spots and bad consciences of county planning officers he was jolly glad to have done so. The meeting had, in fact, been warming up nicely when the President, M. J. Hellier, abruptly stopped the discussion and called upon Dr. Sharp to reply before many of those who were eager to speak had been able to do so. Dr. Sharp said:

Disillusionment over our activities, or something very near it, is a feeling which I sense in many different quarters inside the profession and out of it. Perhaps disillusionment is too strong a word. Perhaps it is more disappointment or dissatisfaction. Or hewilderment But at any rate whether it. bewilderment. But at any rate, whatever it is, there are great numbers of people who think that town planning, now, is something fare less interesting, far less hopeful, far less important than it seemed to be only a few

One of the expressions of bewilderment that is most commonly heard in the profession (and I confess I find it touching in its (and I confess I find it touching in its naivety) is that to most people planning has now become just a colossal bore and that to many others it is something actually to dislike with an active hostility. This hostility is, I think, something new. We used to be so respected—even if it was with the rather indulgent respect that idealists and do-gooders are generally given! And now we are not respected. We are more often than not positively disliked. And, to those of us who still think we are doing some good in the world, this withdrawal of respect and the substitution of hostility is naturally wounding. So the cry goes up "Misunderstood! We must explain! We must organize better public relations machinery!"

inery!"

It has a kind of pathetic ring about it. But it is pathetic not only because it is a rather sad and bewildered cry, but because there so often seems in those who make it to be no realization that the hostility and the indifference to what now passes for planning may in some degree at least be deserved.

Why is town planning so disliked today by so many people? I think we should try to face squarely up to that question.

What is most disliked about us, I think, is the control which we exercise over other people's activities with so little obvious and acceptable result.

Now it is clear that the public attitude towards controls is determined by the acceptance or otherwise of the objectives of

control and by its results. We can only, I think, persuade people readily and uncomplainingly to accept the sometimes seeming niggling and sometimes seeming idiosyncratic controls which we so generally operate, if we set before them larger plans of a kind that will give them some continuing inspiration, some objectives his enough ing inspiration, some objectives big enough for the imagination to seize upon, to hold to, and to hope for.

Are our plans of this kind? I must say frankly that in my opinion they are not. It seems to me that our plans today are so small and dreary and are made known so dimly and grudgingly that in the main they deserve the indifference and even, perhaps,

deserve the indifference and even, perhaps, the contempt that they get.

Of course the hundred or so plans that have been produced naturally vary very much in their quality. They also vary so much in their scope that it is difficult to believe that they have been produced under the same statutes and the same standardized

the same statutes and the same standardized regulations.

My first contention is that most of them are hardly plans at all in the sense of what the word "plan" means and always has meant to the professions engaged in design, that is to say to architects, engineers and the rest. They are merely documents—policy documents policy statements.

that is to say to architects, engineers and the rest. They are merely documents—policy documents, policy statements.

Most County Maps are, of course, drawn to far too small a scale to show anything except those odd symbols which practically nobody can read; though to admit that is not to excuse them from showing the things that people need to be told if they are to become interested, and which indeed in my opinion they have a right to know—it is rather to condemn them that they are produced at that scale at all if they are intended to be, as they generally are, the only plans for the county as a whole. When people have complained or shown their impatience at these footling documents, they have been told that the Town Maps, when they are ultimately produced, will show the more definite physical proposals. But do they? Unfortunately they do not.

But the odd thing is that while these maps are held to be at too small a scale to show the kind of details which will interest the public, some of them show a quite extra-ordinary amount of detail which town plan-There is a plan for one county that I know which shows this kind of thing carried to a quite extraordinary degree. It is one of the most populous and highly developed counties in the world, and it embraces so many towns that the whole area is shown on one large Town Map. To the best of my recollection it does not show a single positive proposal of any kind that anyone could take for an indication of something fine and good or useful to come. Perhaps those positive things had been regarded as too detailed to show, when the map was drawn. Yet when it comes to negative things, to indications of control, not of creation, the plan is tions of *control*, not of creation, the plan is detailed to an extraordinary degree. It shows no less than *forty* types of main zones and reservations, divided into a hundred and twenty-one sub-classes. The plan for this county where something like a couple of million people live is, in the end, little more than a mere survey: it is simply deep-freeze for the extrus one.

than a mere survey: it is simply deep-freeze for the status quo.

But, whether it is a survey or a plan, it is, I think, a document which no other generation than this apathetic one would ever have allowed to gain the statutory force of law. It used to be the case that in documents like this the terms used were precisely and carefully defined. Otherwise how can the citizen gauge clearly what his rights are without having to make troublerights are, without having to make trouble-some and expensive appeals to some Min-ister and accept decisions which often seem to him to be quite arbitrarily arrived at?
Yet in none of the planning schemes all over the country that I know of is there any attempt made to define the meaning of terms

attempt made to define the meaning of terms which control people's activities in a very real sense and which, merely by being contained in a planning scheme approved by a Minister, automatically gain the statutory force of law. I confess that that seems to me to be very wrong; and I am surprised that the Law Society and the bodies concerned with the protection of citizens' rights have not protested against it.

Most. if not all, of the present Development Plans contain statements that "applications to develop will in all cases be dealt with by the Planning Authority on their merits in the light of the general proposals which the Development Plan lays down."

On their merits! There are no rights, even if proposals conform to the contents of the plan which the authority itself has prepared.

But the matter is worse than that. I have

plan which the authority itself has prepared.
But the matter is worse than that. I have said that official plans are more or less empty documents. But there are other plans: private plans. And they are much less empty—except of legal validity. All planning officers have in fact far more detailed plans than their official plans indicate the plans in the plan in the plan in the plant in the pla plans which sometimes their own Planning Committees have never seen, let alone the general public.

These are private plans, secret plans, under-the-counter plans which can be used for bargaining and if necessary for bullying. bargaining and if necessary for bullying, but which cannot be challenged because they do not legally exist. I confess that I think this kind of proceeding is very wrong. But, again, I must say how odd, in circumstances like these, I find the plaintive cry that we aren't loved any more.

I began by speaking of plans, and now I have come to the control wielded under the power to make plans. As I have said, I think that the absence of plans with some capacity to inspire or at least interest people

capacity to inspire or at least interest people is bound to create distrust, resentment and is bound to create distrust, resentment and hostility, or at best indifference to the idea and the process of planning. But that might be mitigated to some extent if the controls exercised in the absence of worthwhile plans brought about clearly appreciable good results. Do they do that? Again, I am sorry to say, the answer, far more frequently than is defensible, is they do not.

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ized ordi We ourselves know, of course, that an im-mense amount of valuable work has been done in preventing bad building and bad development. But the public does not know, and cannot easily know, the successes that mere control has had. It is one of the characteristics of mere control, of neutralizing action, that such good results as it achieves are not readily appreciable except to the controllers themselves. What the interested public does know, however, and what it is becoming increasingly angry about, squalor and mess—mess which people believe it should be the planner's prime business to stop. But the mess doesn't stop. It seems to go on and on. In some of the counties that I know best ribbon development seems to go on unchecked. And the spec builder not merely seems to, but only too clearly does go ahead developing his "estates" with the same dreary layouts and

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"estates" with the same dreary layouts and the same architectural nastiness as he used in the '20s and '30s.

So what it comes to in my view is that while planning has failed to produce many obviously and strikingly good results, control has failed to prevent many obviously and strikingly bad ones. Of course there are a whole lot of possible explanations that we, as planners, can give. But the public is not interested; and it is right not to be. The public is concerned only with the results of what it is told is planning. And those of the public who are interested in the physical aspect of the world they live in are getting angry at last because they see far too many things going on exactly as if there were no planning and no planning powers at all. And those who are not interested are given nothing to induce them to be interested, and nothing to induce them to be interested, and are angry and resentful at restrictions which seem to them to have no useful purpose. That is what planning has come to now.

How has all this come about? How has

it come about that the immense powers that we have under the Town and Country Plan-ning Act of 1947 (powers which are the envy of our colleague's throughout the world, who often nevertheless seem to produce far more inspiring positive results out of far humbler

often nevertheless seem to produce far more inspiring positive results out of far humbler machinery)—how is it that these immense powers, contained in a compulsory and not a merely adoptive Act, have produced so little obvious result?

The whole country has been responsible in one large way. Somehow as a nation we seem to have lost the drive, perhaps even the will, to get things, physical things, done boldly and cleanly and effectively. And this failure of planning is, perhaps, only one manifestation of a malaise which is affecting the whole of our national life. And whatever the causes of this particular failure, the blame does not wholly, or even perhaps mainly, lie with the planning profession.

Nevertheless, some blame, and a grievous amount of it, does, I think, lie there. What seems to me to have happened is that we have resigned our role of genuine planners, of creative designers, and have chosen, or at

of creative designers, and have chosen, or at least accepted, a role far less exacting and far less worthy. I have heard County Planning Officers solemnly define their function as that of "an adjudicator between claimants for the use of land." No wonder the plans are as dull and dreary as they are! No wonder they lack all capacity to inspire

interest and hope!

If that attitude becomes the common one in the profession—and it is by no means un-common—then I think that both the cause of town planning and the profession of town planning as we have known them in the past in this country are doomed. If we resign the role of designers in the comprehensive undertaking that town building and country development is, the designers in the specialized fields—the architect, the civil engineer, the traffic expert, the landscape architectwill compete for role of planning co-ordinator; for co-ordinator there must be un-less town and countryside are again to become the free-for-all battlefield that they were before planning began. Mere co-

ordination will produce something far less ordination will produce something far less good than true planning can produce; but "planning" of at least that kind will have to go on. But I am sure that our profession as we have known it in the past, and as it has been associated with the history of this Institute, will not. And if we are to be mere administrators, mere adjudicators between claimants for the use of land, mere operators of a kind of superior system of bye-law of a kind of superior system of control, we do not in my opinion deserve to survive as a distinctive professional body. I have said all this because I believe that true town and country planning, the creation of a seemly and satisfying environment for living, the creation and preservation of beauty so far as that can be achieved or of at least order and decency everywhere in town and countryside—I believe that that is essential for this nation's civilized survival, and I believe it to be one of the most worthy, most satisfying and most valuable activities that anyone can engage in. What have been saying is not an attack on true planning, on real planning. It is only an attack on some of the activities that pass for attack on some of the activities that pass for planning now. And I make it in the hope—the. I admit, rather forlorn hope—that it is not yet too late for some changes to be made, for some of the lost ground to be regained and some new ground to be won. After all this is not only the tenth anniversary of the passing of the Act under which the recent planning has been done. It is also a year in which the required quin-It is also a year in which the required quinquennial reviews of plans are being made. There are still opportunities, even statutory opportunities, if we will take them, of producing a better kind of planning than planning is now. I profoundly hope that we will have the courage and the determination to take them.

#### Planners reply to Dr. Sharp

In the discussion that followed Dr. Sharp's paper, Lord Silkin said it was quite obvious that Dr. Sharp had been bottling up an intense dislike of the Act of 1947; if you bottled something up for 10 years and then released it there was an explosion, and it was fair to say there had been an explosion that piece.

that night.

that night.

It was quite obvious that Dr. Sharp had a nostalgic feeling for the days of the 1932 Act. They were great days, when eminent planners produced really exciting and inspiring plans which all had one thing in common: not one of them had ever been carried into offers of the state of the wars completely. carried into effect, and they were completely unrealistic. Dr. Sharp ridiculed the idea that planners should adjudicate between rival claimants to the use of land. No one would suggest that this was the sole func-tion of the planners, and he could not see why Dr. Sharp despised it. He was shocked by the same deary layouts and ribbon development. In the last 10 years there development. In the last 10 years there had been an immense improvement in the nad been an immense improvement in the understanding and practice of planning. Layouts were infinitely better, and if there was occasional ribbon development it had been stopped to a very great extent. He was exceedingly optimistic about the future of planning. But it must be remembered that the 1947 Act had teeth in it, the financial weather than the properties of the property o cial provisions, which were removed by the 1954 Act.

1954 Act.

J. W. R. Adams said that what ran all through Dr. Sharp's paper was an urgent plea for "pie in the sky." He did not dissociate himself from the plea for big objectives, but if plans were to be of the kind to catch the imagination of the folk in this country, in the sense conveyed by the paper, he contended that "pie in the sky" was a just epithet. Of course, we had not stopped ribbon development or cleared up all the mess and there were examples of superior solutions in other countries. But there was

another side to the penny. The regional system of planning, the industrial planning, The regional e land use planning we had here, which Dr. Sharp found so unexciting, would be welcomed in Vancouver or San Francisco. He agreed with Dr. Sharp's strictures on private and secret plans, but he challenged the accuracy of the statement that all planning officers had them. He had no private plans that were not available to the public as soon as practicable after they were formulated, and he asked Dr. Sharp to with-draw the allegation. "Cheer up, Dr. draw the allegation. "Cheer up, Dr. Sharp," he concluded, "go and have a look

sharp, he concluded, "go and have a look at the other side of the penny, and then come back and tell us what you find there."

B. J. Collins said that Dr. Sharp's paper, which had consisted so largely of the denigration of the work of other members, had provided a very jolly evening. With regard to the plan to which Dr. Sharp had devoted so much attention, he would like to assure him that he was not the only one to criticize nim that he was not the only one to criticize it. 7,000 people criticized it, but there was a remarkable difference between their criticism and his. For they addressed all their criticism to the positive proposals in the plan which Dr. Sharp said it did not contain. Dr. Sharp was so obsessed with the key to the notation, that he forgot to look at the plan. Had he looked at the designs for the comprehensive development. designs for the comprehensive development areas, the hundreds of acres being bought for redevelopment, the plans for civic centres, new roads, new houses, new industrial estates? The owners who were having centres, new roads, new houses, new industrial estates? The owners who were having their property bought were under the illusion that the proposals were positive. So was the Finance Committee, which had to find the money. This plan was admittedly a far cry from the plans Lord Silkin described. Dr. Sharp was on a list he made of the planners of those days who went in for Walrus and Carpenter planning ("if this were swept away it would be grand"); removing gasworks without finding out how much it would cost.

P. Johnson-Marshall said that, not being quite so personally stung by Dr. Sharp's talk, he took the general view that it was a jolly good thing for a distinguished colleague to come along and give them a good kick in the pants. It was good to make them re-estimate what they were doing. Dr. Sharp had said a lot of things with which he agreed and disagreed together. There was a lack of positive planning and dynamism, but it was se terribly difficult that the section of the section The owners who were having

There was a lack of positive planning and dynamism, but it was so terribly difficult to get it under weigh. Dr. Sharp dealt with effects and not with causes. It reminded him of a certain journal which found management of the state of the stat him of a certain journal which found a great deal of outrage all over the country and proceeded to shoot down friend and foe almost indiscriminately. Recently he had been looking at quite a lot of cities with the eye of the architect-planner and feeling the same kind of despondency as Dr. Sharp. To some extent Dr. Sharp was right: we needed a regional approach which would give our cities and towns a better framework, and teams of planners of a new sort working on yery important urban a new sort working on very important urban

Dr. Sharp, replying to the discussion, re-called that 20 years ago he had been shouted down at the Town Planning Institute for attacking the then universal principal of zoning whole areas of a town to the same number of houses—12 or 8 to the acre. The people who seconded him took the same kind of line as had been taken that night. But five years later what he then said about neighbourhood planning had become a commonplace. Most of the speakers had accused him of sentiments which he had not voiced. He had no nostalgia for the 1932 Act. He did not suggest there was anything wrong in planning officers being adjudicators between claimants to land: it was part of their job. The pity was that so many people were taking it as the whole of their job. Of course he

(Continued on page 533)

#### **CRITICISM**

#### What readers think

Last week Burles and Newton replied in the JOURNAL to a criticism by J. M. Richards of the church they had designed for Basildon New Town. We publish here readers' comments both on the building and on the criticism of it. Next week Mr. Richards will continue his series of articles by writing about a warehouse and offices at Nottingham, designed by J. M. Austin Smith and Partners.

SIR,—I am dissatisfied with your criticism feature. In your issue of March 28, J. M. Richards referred to concrete columns and said "How they will weather externally remains to be seen." Will we ever know unless we happen to visit the building by chance? Surely "Criticism" would be much more useful if the buildings criticized were three years old or more. A full report on technical failures and successes could be included, also criticism by the occupiers of the building.

By this approach to criticism, plus J. M. Richards' remarks on the design, etc., architects can really understand how fine creation must also lead to lasting performance.

D. J. SHARP.

SIR.—By asserting that the purpose of a church is so simple and well understood that it needs no analysis, J. M. Richards has completely avoided the main issue in the first sentence of his criticism of the new church at Basildon. In doing so he typifies the general refusal to recognize that a parish church is a complex functional problem, which in our view is the cause of the modern movement's failure to produce convincing churches.

"We all know the purpose of a church, which is fixed and unalterable and therefore does not involve the architect in a search for improvements in the programme he is initially set, as a factory often does, or a hospital." We must disagree with every statement in this sentence. For some years we have been trying to formulate an adequate functional programme for church design, and have come to realize that a programme of researches is involved going far beyond what appear to be the immediate architectural implications. Of one thing we are certain; the purpose of

a church is not simple, and as for being fixed and unalterable, surely historical evidence shows that this is not so. Can it really be possible that identical conditions produced churches as dissimilar as S. Clemente at Rome, St. Nicholas at King's Lynn, S. Sebastiano at Mantua and San Antholin at Medina del Campo? Requirements have changed in the past and are still changing. In fact, in the Roman Catholic Church and in other Churches a movement, loosely described as the liturgical movement, has been carrying out researches into the nature, function, and form appropriate to our time of the corporate action of the Church, known as liturgy, and whose conclusions suggest the need for a complete rethinking of the problems of church planning. Hence there is a situation analogous to that of school-building, where the theories of educationists were not given true architectural expression until architects found it their responsibility to carry the researches into their own field.

In church design this has not so far been generally recognized, and it is not surprising therefore that the chief problem is rather vaguely thought to be the provision of "devotional" or "religious" atmosphere, and consequently that the main qualities required for a good church are "dignity and repose." Criticism can then only be confined to matters of taste; to the scale of baptistery windows, the subtlety of colours, the heaviness of flashings. This is inevitable until architects who profess acceptance of the principles of the modern movement approach the problem of church design honestly in accordance with those principles.

Most of us would admit that it is difficult to succeed in the design of any building of which one does not properly know the function.

ROBERT MAGUIRE AND KEITH FENDALL.

London.

SIR,—I would like to make a few comments on Mr. Richards' very skilled criticism of the church at Basildon New Town.

I fully appreciate the value of such criticism to architects, but I am uneasy about it in the hands of the vicar and congregation, for though to us it is evident that Mr. Richards much appreciates this design, yet the critical parts are liable to cause despondency in the worshippers.

In spite of this I will mention two points concerning the design, since these could, I think, be largely overcome in the future. I have seen this church and admire its strong lines, all so well described by Mr. Richards. My main point is that I feel no church should have such equality of natural lighting; from end to end there is little or no contrast and as Christopher Fry has said: "Equality is a mortuary word." Further I see that the electric light fittings also give equal lighting throughout, with little sense of either emphasis or mystery.

In churches I feel that we should avoid the Engineer's ideal of equal lighting everywhere; a church is a directional building and this should show in its lighting.

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It is contrast in lighting that I find lacking—for this reason I very much welcome the darkish colours introduced by the architects in the ceiling and at the east end. This treatment goes a long way to give what I so much miss, yet it is not in itself enough.

Then there is one other not very happy equality. Why is that Tester fixed half way up the east end? I hope it can be raised to the top cross line of the east end recess. To lift up the Tester would, not only give contrast in height, but would lift up the hearts of the congregation.

I trust that the architects realize that it is only because they have designed a good church that we are all busy talking about it.

EDWARD MAUFE.

London.

#### Mr. Richards writes:

The weathering qualities of new materials is important, but I still think it more useful to criticize new buildings as they come along than to wait several years. Such articles are most useful; so are articles written by

the occupiers of buildings. But that is not the programme of this particular series.

Messrs. Maguire and Fendall have misunderstood me. Of course, liturgical practices, which partly (but only partly) determine the plan of a church, are always changing. What I meant was simply that in the case of a church it is not the rôle of the architect to help his client determine its function, as he might help a manufacturer to rearrange the sequence of operations in a factory or influence nursing routine by suggesting new ways of planning hospital wards. When designing a church he must surely accept the liturgical and other requirements as they are given to him. He can guide the manufacturer because the problems of both are those of functional planning, but I should regard it as presumptious for the architect, as such, to set up as a guide in matters of theology. That has never been his rôle historically.

In answer to Sir Edward Maufe, I think he is probably right about the lighting, and I agree with what he says about church lighting generally, as long as he doesn't equate mystery with gloom, which too many churches do.

#### NEWS continued from page 531

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had not asked for rigidity. What he had asked for was positive planning that would create something better in this country, not mere indications of negative control. He did not say the 1947 Act had made no difference. On the contrary, he said it had made a good deal of difference in many places, but it had not made sufficient difference in his opinion or in the opinion of a great many people. He could not see why a few positive bits in development plans were "pie in the sky." It was rather odd that one was sometimes patronized by one's old friends. He was not going to reply to the 20 rhetorical questions asked by Mr. Collins. He had deliberately intended not to make any personal attacks, and he did not for a moment indicate that the county he referred to was Middlesex. But in reply to Mr. Collins' sneers at those who had included in their plans suggestions for moving gasworks, this unpractical planner did succeed in doing just that, and in a not unimportant place. It had not been an entirely worthless thing to have removed the gasworks from nearly the centre of Oxford to some place outside. If Mr. Collins' plans contained all the splendid hings he said, when he had removed a gasworks he too would be able to have some expression of pride. If he had attacked some of the sore spots and bad consciences of county planning officers, he was jolly glad to have done so.

#### DIARY

Some Nineteenth Century Towers. By Frank I. Jenkins. Library Group Meeting at the RIBA, 66, Portland Place, W.1. 6 p.m. APRIL 15

The Constructional Use of Timber. RIBA Science Committee Symposium. 1, Houses and Flats by A. W. C. Barr (Deputy Housing Architect, LCC). 2, Schools and other Buildings by J. C. Stillman. 3, Building Systems by R. T. Walters (Deputy Architect, Eastern Region, BR). 4, Economics, with special reference to lamination and pre-fabrication by R. M. Hemmings (of Samuel Elliot & Sons). 5, External Finishes by A. C. Oliver (TDA). Chairman: Thomas Mitchell. At the RIBA, 66, Portland Place, W.1. 6 p.m.

#### Cost control in building: six lecture discussions

organized by the School of Architecture, the Regent Street Polytechnic in association with the Architects' Journal

We invite building contractors, as well as architects, quantity surveyors and students to come to this course. It is for those who would like to learn more about the techniques of cost control—or who have ideas and experiences of their own to contribute to the discussion.

- 1. April 30. The Need for Cost Control. J. M. Austin-Smith, A.R.I.B.A. (architect in private practice). Chairman: Sir Thomas Bennett, F.R.I.B.A. A brief review of the present situation—what kind of information is needed and what procedures should be followed for better cost control. Brief account of techniques developed so far.
- 2. May 7. Cost Analysis. James Nisbet A.R.I.C.S. (principal quantity surveyor, MOE). Chairman: Hubert Bennett, F.R.I.B.A. A method of analysing building costs. Significance and uses of such cost analyses.
- 3. May 14 The Elemental Bill of Quantities. Clifford Nott, A.R.I.C.S. (chief quantity surveyor, Herts. C.C.) and Ivan Tomlin, A.I.B.E. (contract manager, Howard Farrow Ltd.). Chairman: P. E. Trench, B.SC. Arrangement of the elemental bill. Its purpose and uses by the architect, the quantity surveyor and the builder.
- 4. May 28. Cost Planning I. G. Grenfell Baines, A.R.I.B.A., A.M.T.P.I. (architect in private practice). Chairman: M. H. Thackray, F.R.I.C.S. Preparation of a cost plan. Its use during the design stage, at tender stage and during the contract.
- 5. June 4. Cost Planning II. John Wilkinson, A.R.I.B.A. (architect in private practice) and Arnold Towler, A.R.I.C.S. (quantity surveyor in private practice). Chairman: Cyril Sweett, F.R.I.C.S. Cost planning in practice on an actual project.
- 6. June 18. Symposium. Chairman: D. E. Woodbine Parish, F.I.O.B. Questions and discussion. All speakers will be present.

Time 6.30 p.m. Apply: The Registrar, School of Architecture, Little Titchfield Street, W.1. Registration fee: 11s. Applications for enrolment to this course have now exceeded the capacity of the hall at the Regent Street premises. The lecture-discussions will therefore be held at the Portland Hall, Polytechnic Extension, Little Tichfield Street, W.1

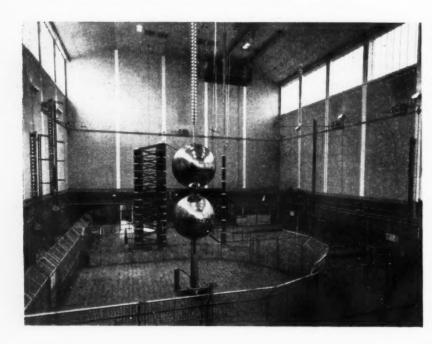
#### BUILDINGS IN NEWS



#### Proposed hospital at Huddersfield

Model of the proposed new General Hospital at Huddersfield, boilerhouse and nurses' accommodation in villas each accomdesigned by W. N. B. George, Pite, Son and Fairweather, and Philip B. Nash, architect to the Leeds Regional Hospital Board. The hospital, on a 16-acre site in a residential area, will have 585 beds. Work on the first phase, providing half of the beds,

four operating theatres, part of the X-ray department, kitchen, modating 10 to 12 persons, should begin early in 1958. Consultant engineers, Scott and Wilson, Kirkpatrick and Partners; consultant mechanical services engineers, Donald Smith, Seymour and Rooley; quantity surveyor, Rex Procter.



#### Laboratories at St. Helens

The new high voltage insulator laboratory for Pilkington Brothers Ltd., at St. Helens, Lancs, was designed by Handisyde and Taylor. The building is of steel frame construction with a trussed roof, and a "ceiling" at the lower members of the trusses to provide a dust free surface and a 100f space for access. Stanchions were welded at works and transported to the site in full lengths, the longest being 70 ft. Consulting engineers, Metropolitan-Vickers Ltd.; structural engineers, Clarke, Nicholls and Marcel; quantity surveyors, Cameron and Middleton; general contractors, Bovis Ltd.

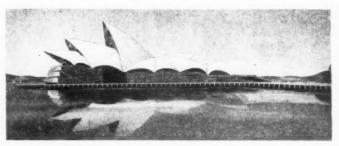
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The Sydney Opera House Competition

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#### PRIZEWINNING AND COMMENDED DESIGNS BY

#### BRITISH COMPETITORS

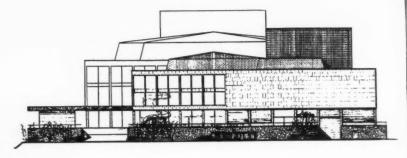
On February 7 we published details of the winning design (top right) by Jorn Utzen, the Danish architect, in the international Sydney Opera House competition. This week we give plans and details of some entries by British competitors. One of these, by Boissevain and Osmond (below and overleaf), won the third prize. The remainder were highly commended.



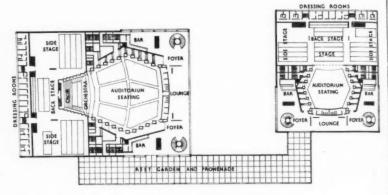
for the SYDNEY OPERA HOUSE

by BOISSEVAIN and OSMOND

The two auditoria, complete with full stage equipment, are housed in separate blocks arranged in relation to each other about a pedestrian square. The planning of each individual building is absolutely simple and direct: the interest lies in the grouping of buildings. Car access is provided along one side, a central car park being placed between the two buildings under the square. From this point access can be obtained to each building. Pedestrian access from the main approach leads up a broad flight of steps to the main square and to the two main entrance foyers. The restaurant is designed as a long, low building forming a third side of the square. Throughout the scheme, a very modest and human scale is preserved.



South elevation



Plans, stalls level, concert hall and theatre

#### DESIGN

for the SYDNEY OPERA HOUSE COMPETITION by H. D. KRALL (H. HELLER, constructional engineer)

This competitor has reshaped the boundary of Bennelong Point and has then covered the area with his building. A car park and garden court occupies the ground level. The audience proceeds up a ramp to the first floor level, which takes the form of a covered circulating area. This circulating area gives access to the entrances to the two auditoria: it also contains the meeting rooms and the restaurant. The resulting conception, therefore, is a single-storey building supported on posts through which project the main blocks of the two theatres and which is penetrated by a garden court.

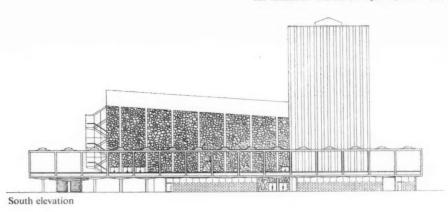
Plan, public circulation level [Scale: ab" = 1' 0"]

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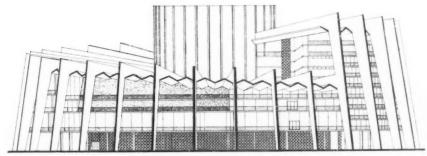
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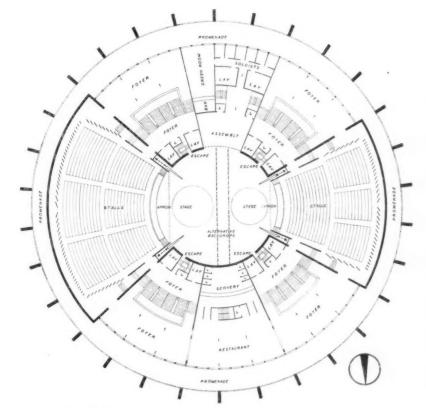
of

for the SYDNEY OPERA HOUSE by LAURENCE PRYNN

In this scheme the whole of Benelong Point is treated as an informal garden in which grass, paving and a carpeting of shrubs pass around and underneath the building itself. A garage is provided underneath this garden, approached from the access road. The circular building form is supported by a series of radiating fins centering on the stage towers. The auditoria are placed on a single axis with their stages at the same level and back to back. Between the walls of the auditoria four staircases and foyers rise through the plan to the various levels. The restaurants and changing rooms are placed in segments of the circular plan.



West elevation

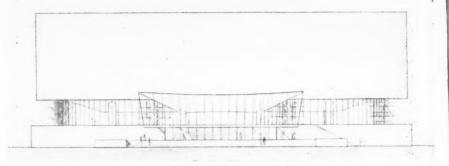


Second floor plan [Scale: 1 " = 1'0"]

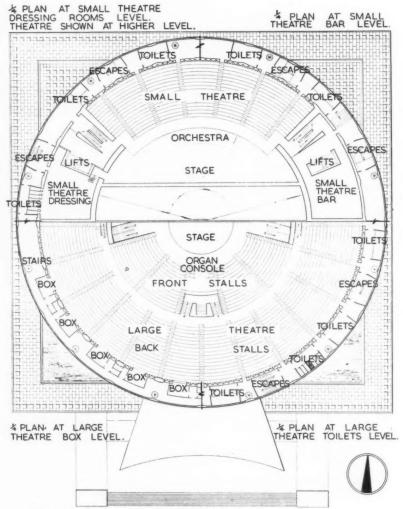
for the SYDNEY OPERA HOUSE COMPETITION

by JOHN METCALFE

This competitor adopted an absolutely formal and symmetrical layout arranged around the main axis of his circular building. The restaurant is separated from the main building itself and occupies a position at the tip of the Point. The main building is conceived as a circular drum supported on massive columns rising from a square base. The base contains cloakrooms, stage mechanism, workshops, etc. This base is treated as a plane which runs through the building. It accommodates the main fovers and bars and also forms the stage level. The enclosing screens are glazed so that an audience can look across the stage to views of the harbour beyond. The main arrangement is indicated by the composite plan. The semicircular auditorium occupies one half of the plan, the stage penetrating through the other half at low level, so that a view right through the building can be obtained. The small theatre is placed above this area.



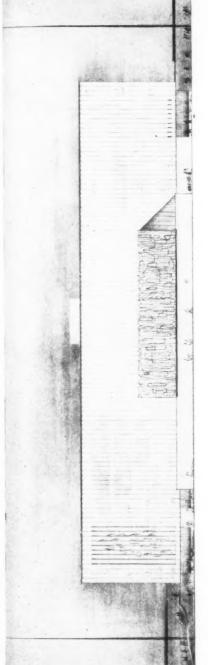
South elevation



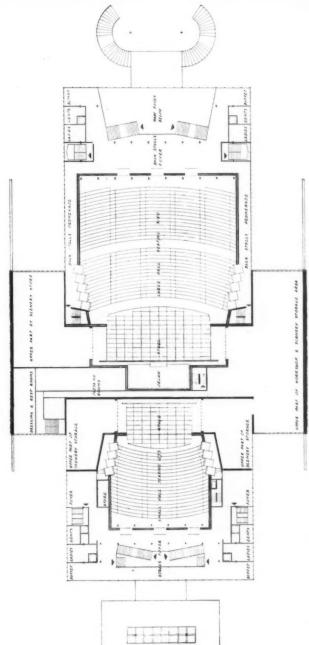
Plan at various levels [Scale: 4" = 1' 0"]

for the SYDNEY OPERA HOUSE COMPETITION by PLENDERLEATH and CLARK Another simple back-to-back arrange-

Another simple back-to-back arrangement in which the traffic flows round the outside of the site to give access to entrances at various points. The side promenades are reduced to the main axis, being from the back of each auditorium. The plan produces a simple blockformwith wings to accommodate workshops, dressing rooms, etc., at either side of the main stage block



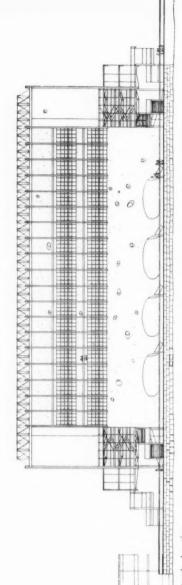
East elevation



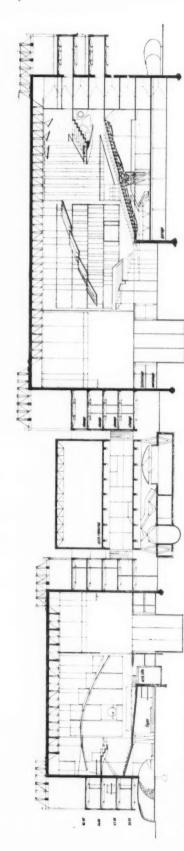
Plan at stalls level [Scale: 3," = 1'0"]

for the SYDNEY OPERA HOUSE COMPETITION
by BLISS and LEPELLEY
(WILLIAM FRISCHMANN, consulting engineer)

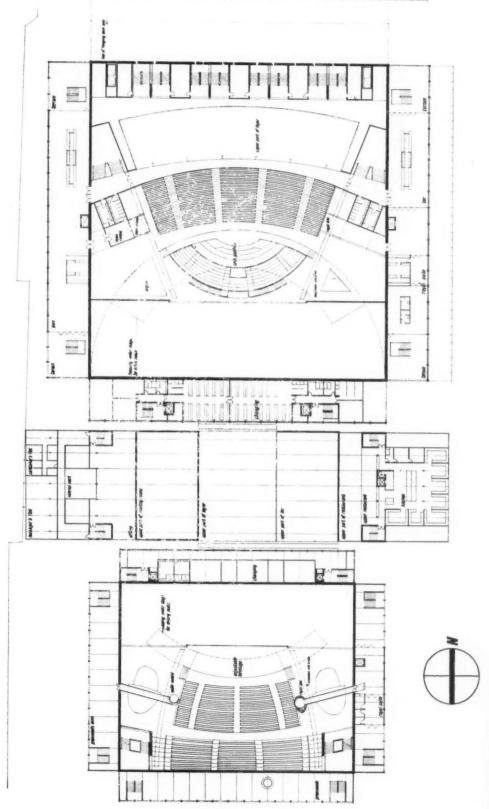
An arrangement in which two separate buildings are linked by a transverse building which accommodates restaurant, foyer, meeting rooms, etc. The dressing rooms are separate for each theatre, but a common rehearsal room can be provided. The constructional system leads to an unusual architectural treatment. The main girders spanning across the auditoria are extended outwards as cantilevers and the side galleries are suspended from these members. Thus, the solid walls of the auditoria are hung around at various levels with a light lattice-work of suspended galleries.



North elevation



Longitudinal section on south-north axis [Scale: 377 = 1707]

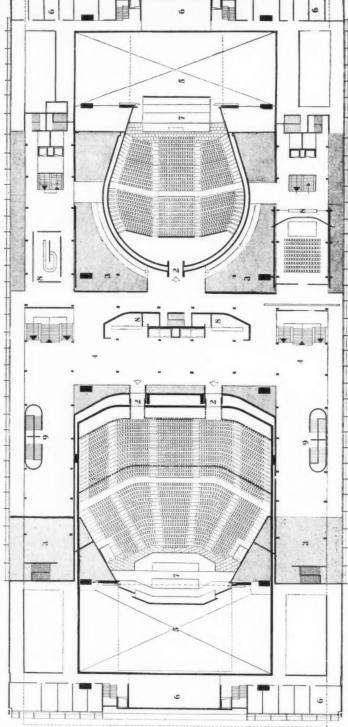


Plan at stalls level [Scale: 3," = 1'0"]

for the SYDNEY OPERA HOUSE by GEORGE SUBIOTIO COMPETITION

a common entrance foyer space between them, the stages the shapes of the auditoria, these being clearly cut away Within this block an attempt has been made to emphasize being at opposite ends of a rectangular enclosing block.

In this scheme the auditoria are approached through from the surrounding galleries in plan as well as in section. The forms of the auditoria are not expressed in the external treatment, which is a simple four-storeyed arrangement of windows and walls standing on supporting pillars.



6. Dressing rooms, etc. 7. Orchestra platforms

9. Escape stairs

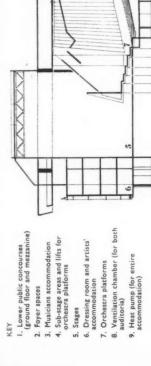
8. Public bars

2. Sound lobbies

3. Voids 5. Stage

4. Foyer space

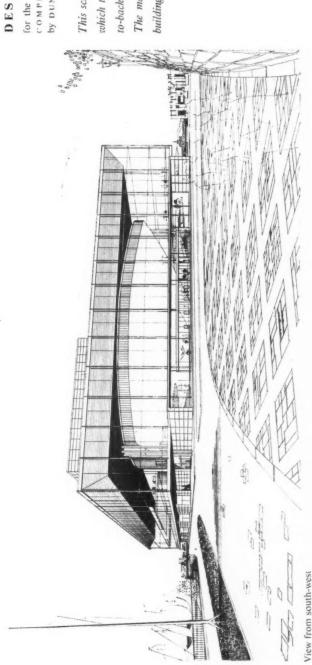
Plan at level D [Scale: A" = 1' 0']



Longitudinal section [Scale: 4," = 1'0"]

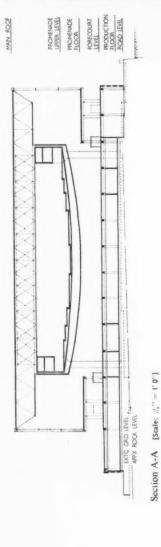
for the SYDNEY OPERA HOUSE by DUNSTER and STAUGHTON COMPETITION

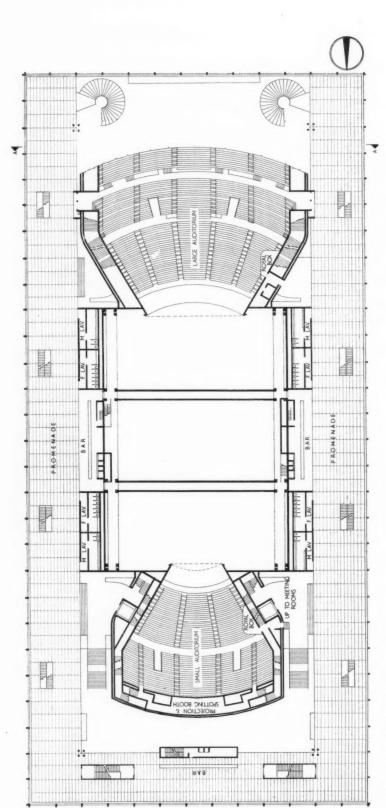
This scheme takes the form of an all-glass box through which the shapes of the auditoria will be seen. A backto-back stage arrangement provides flexibility of use. The main promenades surrounding the auditoria link the building into one complete unit.



DESIGN

for the SYDNEY OPERA HOUSE COMPETITION by DUNSTER and STAUGHTON





Plan at promenade level \$ [Scale: 2," = 1'0']

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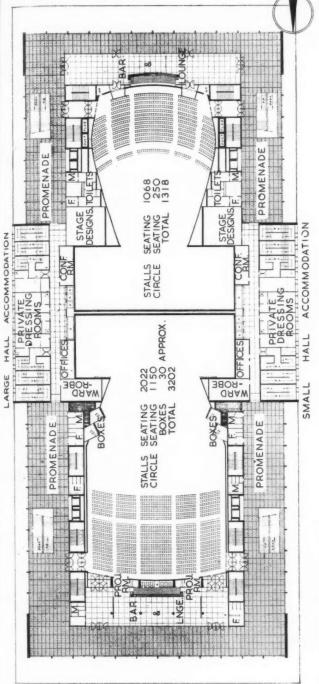
LARGE HALL ACCOMMODATION

**DESIGN**for the SYDNEY OPERA HOUSE
COMPETITION

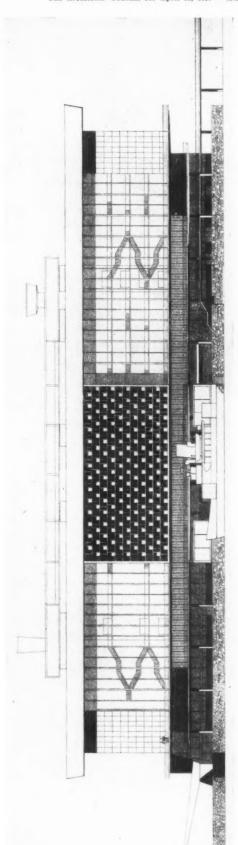
by S. W. MILBURN and

PARTNERS

ment of auditoria in which the stages are placed back to back and then set within a general enclosing rectangular box. The outline of the site has been modified by the treatment of landingstages and quay walls, and the curved moved so that one end of the building and the associated viewing terrace overhang the water. The stage arrangements and escape stairs divide accommodates cloakrooms, meeting This scheme illustrates an arrangeend of the peninsula has been rethe building into two halves at the upper levels. The gound floor level rooms, foyers, etc.



Plan at rear stalls level [Scale: A'' - 1' 0"]



East elevation

# HOPE'S

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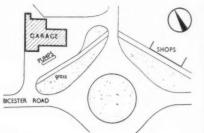
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#### GARAGE AND

#### SHOWROOM

AT AYLESBURY, BUCKS

The new garage and showroom for Michael Christie Motors, Aylesbury, seen right from the south and below from the south east, were designed by Wallis, Gilbert and Partners. The building occupies a corner site at a roundabout which is to be formed at a junction with the main Aylesbury-Bicester road. The clients required facilities for a complete general garage business,

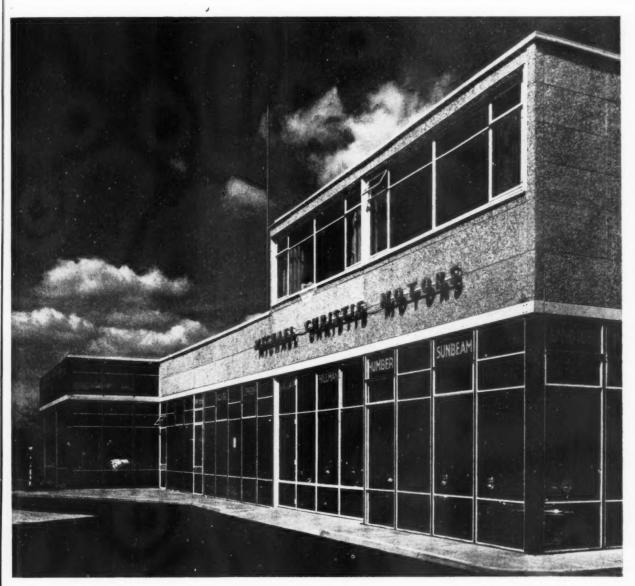




Site plan

including living accommodation for a resident manager (which has been provided on the first floor), showroom, lubrication and washing bays, workshop, store, offices and toilet accommodation for both customers and staff. On page 547 are the lubrication and washing bays and the workshop. A system of construction developed by Hills (West Bromwich) Ltd. has been employed, using a 3-ft. 4-in.

grid. The frame consists of box-section stanchions supporting welded lattice girders which carry pressed-steel top-hat purlins supporting wood wool slabs as the roof membrane. The upper surface of the slabs is screeded and covered with bituminous felting. The walls consist of an outer skin of precast concrete blocks bolted to stanchions with an inner skin of breeze blocks. For the glazed areas





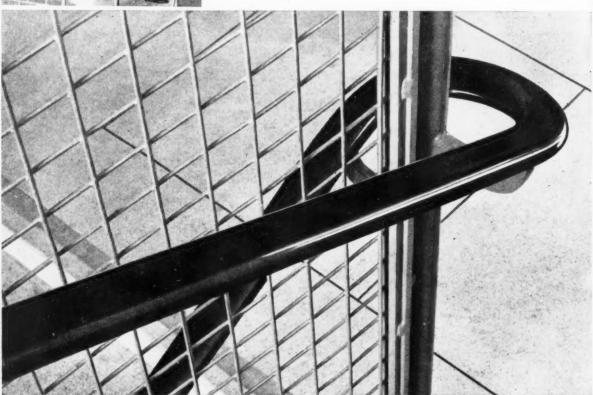
# the new technique in handrails . . . in action

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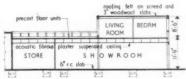
#### GARAGE AND SHOWROOM AT AYLESBURY: continued

normal steel window sections and 2-in. tubular mullions at grid points are used, except in the flat where Hills' special school windows are used. To provide fire insulation between the flat and the showroom, and to give reasonable acoustics in the showroom, there is a false ceiling of perforated

plaster panels at the bottom boom of the lattice girders; ducts for service runs and heating are in the voids. An oil-fired burner supplies warm air under pressure from an impeller fan to all parts of the building through ducts.

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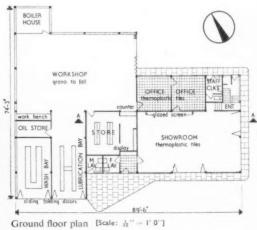


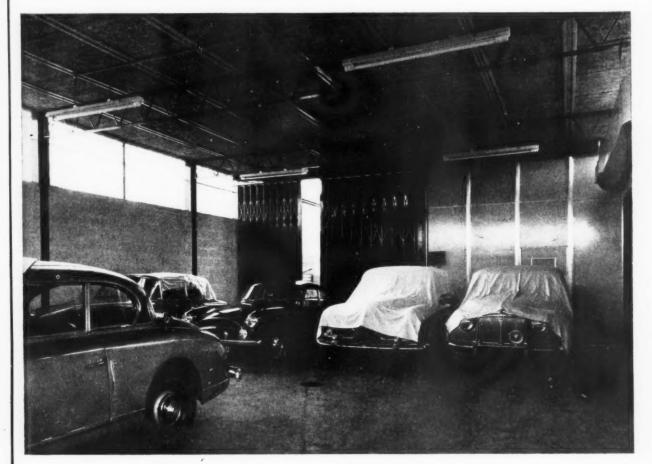
Section A-A [Scale: 12" = 1'0"]



First floor plan







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GARAGE AT AYLESBURY continued



Above, the rear entrance to the workshop with the offices on the left. The architect in charge was John Ware, the assistant architect Michael Wolstenholme, the quantity surveyors Stanley Griffith and Partners, and the general contractors H. C. Janes Ltd.

#### COST ANALYSIS

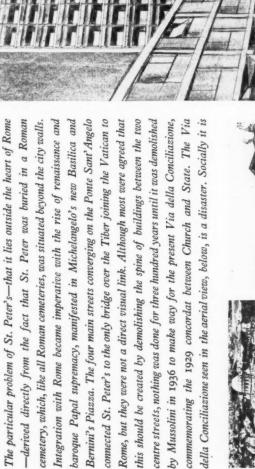
Total ground floor area

Total floor area Tender date	5,460 ft. January, 1955		
	£	s	d
Tender cost of superstructure,			
installations and finishings	18,170		
Tender cost of foundations	1,225		
External work and drains	22,545		
Gross total cost	23,075		
Cost per ft. super of floor	3	13	
Cost per ft. cube		5	0
Element	Cost p	er sq	. ft
		8	d
Preliminaries and insurances		4	11
Contingencies		2	5
Work below ground floor level		4	4
External walls and facings inclu	ding		
glazing		8	10
Internal partitions and doors		6	2
Frame		10	6
Staircase			6
Roof and terrace roof		6	2
Floor finishes		2	
Windows and doors (external)		2	0
Wall finishes and ceilings		1	5
Built-in finishes		1	
Ironmongery			5
Plumbing (external)			4
Plumbing (internal)			9
Sanitary fittings			6
Electric installation, including p	etrol		-
pump electricity		6	0
Heating installation		3	
Drainage			9
Decoration		1	10
Paved areas			8

Total cost per sq. ft. of floor area 73s. 10ld.

Fittings and equipment not included in above costs—petrol and oil installations, garage equipment, hoists, washing machine, etc.

# trated here, for a pedestrian concourse approach to St. Peter's. Mr. Haskell John C. Haskell, the Rome Scholar for 1955, has designed the scheme, illus-









dead.: pleasant informality is replaced by empty monumentality; intimate

KEY: I. Piazza di San Pietro

dead; pleasant informality is replaced by empty monumentality; intimate spaces by barren wastes, shops and bars by showrooms and offices. Aesthetically the contrast between large and small scales is replaced by the conflict of two large scales, above right where the colonnade is dominated by the new building. Viewed from St. Peter's the street is an abysmal anti-climax. Four main traffic routes cut across its length, and vehicular access to the Vatican is through the Piazza. Amongst the problems unsolved are the relationship between pedestrian and vehicle, and revitalisation of the area. In my scheme, street and Piazza become a pedestrian concourse with transverse



voids and car parks underneath, using existing levels with only a minimum of excavation. This scheme also breaks up the length of the street into different but inter-related areas graduating from secular to religious in character, and separates the concourse from the Piazza by a central colonnade, as originally proposed by Bernini. It creates constant life and activity by having buildings of widely differing functions and incorporates existing architecturally-distinguished buildings. A tall block acts as a dominant feature when seen from St. Peter's, as Michelangelo's Cupola does when looking towards it. The views of the new scheme show, top, the concourse looking towards St. Peter's, and below, the car park level under the concourse, looking towards the colonnade.





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## THE INDUSTRY

This week Brian Grant reviews a telescopic pole for changing fluorescent lamps; flushing cisterns; a joint TV aerial and a new gas fire.

## SERVICING LIGHT FITTINGS

For a number of years telescopic pole fittings have been available for changing the lamps in overhead fittings in factories and public buildings, and with bayonet or screw fitting lamps the problem was not particularly difficult. Fluorescent tubes, however, are much more of a problem as they are awkward to handle and have connections at both ends. Cable Strippers Ltd., have now evolved an ingenious telescopic pole with which fluorescent (and other) lamps can be changed at heights up to 25 feet. The head of the changing pole incorporates an ingenious bevel mechanism and rotating gear for the tube, and the lamp can be replaced by one man in about two minutes, Director portable gas fire.



whether it is mounted horizontally, vertically or at 45 degrees. The same firm also produces lamp reflectors which can be changed in the same way or removed for cleaning. (Cable Strippers Ltd., Leighton House, Potters Bar, Middlesex.)

## FLUSHING CISTERNS

Fordham Pressings Ltd. have now added several further colours to their range of flushing cisterns. The price of vitreous finishes in ivory primrose or green is the same as for the standard white finish, but in addition to this it is also possible to match any existing colour scheme at extra cost.

The same manufacturers are now producing a complete ball valve in high density polythene which will not corrode and which should at the same time avoid the old trouble of sticking levers and valves. The water level adjustment is made by a screw and locknut on the end of the arm and the valve rubber is a plain disc about 1-inch diameter and 1/8-inch thick. This can be replaced in a few moments without any need to dismantle the ball arm or use tools of any kind. (Fordham Pressings Ltd., Melbourne Works, Dudley Road. Wolverhampton.)

## IMPROVING THE SKYLINE

The photograph, centre right, shows part of the roof of a block of flats at Westcliff-on-Sea, where the TV wirescape is perhaps a little excessive even by the most enthusiastic standards. Ekco have now installed a single aerial which serves a whole block of flats and although this may prevent individual tenants from displaying their financial status with an individual aerial, one may hope that this sort of thing will become standard practice among the owners of all flat blocks. (E. K. Cole Ltd., Southend-on-Sea, Essex.)

## SAFETY IN PORTABLE GAS FIRES

The photograph on the left shows Bratt Colbran's new Director model portable gas fire which is fitted with a safety device so that if the fire should be accidentally overturned the flame is reduced to a small pilot size and will automatically light up fully again as soon as the fire is returned to its normal position. The fire has a gas consumption of 12 cubic feet an hour and the retail price is £4 12s. 5d. plus £2 5s. 11d. purchase tax. (Bratt Colbran Ltd., 10 Mortimer Street, London, W.1.)



Above, Fordham's polythene ball valve.



Above, an un-improved skyline. Below, Cable Strippers light servicing device.



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A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

## 10.155 design: building types TRAINING COLLEGE HOSTELS

Training College Hostels. MOE Building Bulletin No. 16. Feb. 1957. (HMSO. 1s.) This short Bulletin applies to training college hostels principles of planning which have proved so successful in schools, and of which the main objects are to save money and cut out institutionalism. The client's brief is discussed and two plan types are put forward: a cruciform multi-storey plan where rooms mostly give directly off a common space round the stair and a twostorey "terrace house" plan. The first of these gives a total area of 220 sq. ft. per student and the second of 200 sq. ft. Each of these plan types is further modified to allow for the "doubling up" of students, an arrangement which many authorities consider educationally preferable. Bulletin concludes with a brief note on cost control and another on furniture. It is interesting to note that MOE's current limit for multi-storey hostels is 66s. per sq. ft. and for two-storey terrace houses 60s. per sq. ft., a weighting which reflects the present domestic bias of our building industry; also that MOE regard £100 as a reasonable total cost for furnishing a study/bedroom, of which £25 should be provided as built-in fittings. This is a useful Bulletin, but it lacks the general, pioneering interest of some of its predecessors.

## 19.206 construction: details STEEL ARCHED ROOF

Six Three-Hinged Arches from Market Roof Dome. (Engineering News-Record [U.S.A.], 13.9.56., pp. 42-44.)

Interesting solution to an intersecting barrel roof in steelwork, of interest to architects and engineers). (See photograph and drawing).

The JOURNAL has illustrated previously American construction of intersecting barrels of concrete. This article describes a method of producing a similar shaped roof in California but using steel arches with a roof decking. The roof is a 76 ft. square and has arches rising 12 ft. in the vertical plane of each side of the square and two diagonal three-hinged arches rising 12 ft. in the vertical plane of each diagonal. The face arches are 14-in, deep broad-flanged beams fabricated by splitting in two at the web

centre line, bending each half cold and then welding together again. The diagonal arches are of equivalent section welded up from plates. To allow for rotation in two planes at right angles where the diagonals intersect, an unusual circular steel-plate wheel assembly was developed. The arch web material is replaced near the joint by a 1-in. thick plate. The plate is milled out at the end to form a 7-in. diameter arc. Fitted between the ends of the arch halves is a pair of intersecting grooved wheels with the 7-in. diameter groove matching up with the 7-in. arc of the arch web. The groove is 11 in. wide. To erect the double-hinged joint one half of the wheel was temporarily left off and one half of the other wheel was fixed by welding to its mating arch web plate. Then the loose half-wheel was positioned with its arch section and bolted to the rest of the intersecting wheels. Thus rotation is possible in both arches and as the joint is always in compression there is no possibility of the arches parting at the hinge.

The groined arches carry 8-in. by 3-in. timber joists, spanning horizontally from face arch to diagonal arch, which are covered by ½ in. plywood sheathing. The face arches are glazed and provide excellent natural lighting to the market.

## 25.127 water supply and sanitation ASBESTOS CEMENT DRAINAGE

## GOODS CEMENT DRAINAGE

Asbestos Cement Soil, Waste and Ventilating Pipes and Fittings. BS.582:1957. (BSI. 5s.)

This Standard covers a field in which much has been going on lately. After the war the industry embarked on a new standardization of dimensions and advances have been made both in methods of testing and in the variety of fittings. Hitherto an obvious weakness in any asbestos cement plumbing installation was that though the pipes were subject to test, the fittings were not. The most important thing about this new revision is that tests are specified for the first time for fittings also. The range of sizes of swan-necks, long-arm branches and bends has been further increased with a view, of course, to emulating the range of cast iron.

It is interesting to note that special fittings are available for single-stack plumbing.

## 25,128 water supply and sanitation

## ASBESTOS CEMENT PRESSURE PIPES

Asbestos Cement Pressure Pipes. BS.486: 1956. (BSI. 4s.)

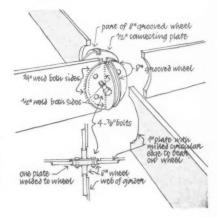
This Standard is mainly of interest to manufacturers and marks the considerable technical advance which has taken place in this field during the last few years and which has enabled the wall thickness of pipes to be reduced. A useful appendix gives precautions to be taken in tapping pipes and in jointing.

## 25.129 water supply and sanitation

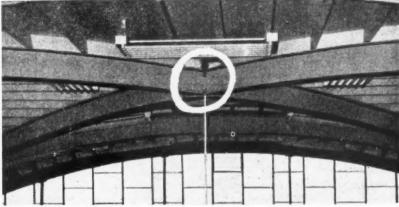
## ASBESTOS CEMENT STORAGE CISTERNS

Asbestos Cement Cisterns. BS.2777:1956. (BSI. 2s.)

If architects do not often use asbestos cement storage cisterns, this is chiefly because they fear difficulty with the water supply authority. This Standard has been prepared to lay these fears at rest. The sizes are the same as those of galvanized iron (i.e. from 6 to 100 gals. with 7 intermediate sizes). Bearing in mind that they are about three-quarters the price of the Grade A galvanized iron cistern and are free from all danger of corrosion, they should be more interesting to architects than hitherto.

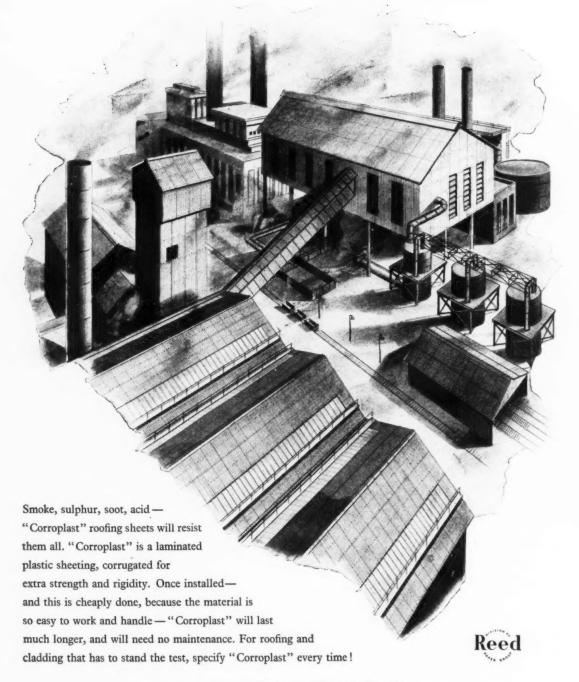


Above right, diagrams of intersection of steel barrel vault. Below, photograph of same (joint ringed in white).



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C.3

# Services and equipment, miscellaneous. The Clean Air Act,

## 26 SERVICES AND EQUIPMENT: MISCELLANEOUS

The Clean Air Act, 2

Last week, Dr. G. E. Foxwell, C.B.E., a Past President of The Institute of Fuel and a member of the Committee on Air Pollution whose report provided the framework of the Clean Air Act, described the general intentions and force of the Act and discussed in detail those sections of it which affect the domestic user. This week he concludes his review of the subject by describing in detail the effect of the Act on the industrial userand his architect.

The industrial provisions in the Clean Air Act concern not only dark smoke and smoke, but grit and dust emission. There is a distinction between these pollutants in that the removal of smoke from the chimney gas, properly conducted, will generally be financially profitable whereas dust and grit removal will cost money, often a considerable sum. It can be taken that the industrial sections of the Act are not yet in force, as was mentioned in the first article, unless otherwise stated here.

## Industrial dark smoke

The "dark smoke" provision of the Act applies with particular force to industry, railways and shipping. It is therefore appropriate to refer readers to what was written on this subject in the previous article. Because efficient operation of industrial plant on bituminous coal involves making a slight haze of smoke, it is inadvisable to demand that industry should make no smoke at all.

Moreover, there are technical reasons why industrial coal-burning plant must occasionally emit more than a light haze of smoke. Consequently, industry will be allowed to make dark smoke in short bursts (Section 1(2)). The extent of this allowance has not yet been stated, but the Beaver committee suggested a total of 6 minutes in each 4-hour period, not more than 3 minutes consecutively.

It is a defence to prove beyond all doubt that if dark smoke in excess of this were produced, it was due to lighting up a furnace from the cold, to some unforeseeable breakdown of plant or to the unavoidable use of unsuitable fuel. These defences will be discussed later.

## Exemptions from the "dark smoke" penalties

The interval between the date of passing the Act and

the enforcement of the industrial provisions (18 months to 2 years) is given in order to provide opportunity for everyone concerned to put their plants in order, to have their employees trained and to instal new plant where necessary.

It is recognized that some firms may not be able to get the necessary preparations completed in time. Consequently, powers are given to the local authority (Section 2) to issue what are in effect temporary certificates of exemption, for a whole building or particular chimneys of the building, for periods of not more than one year at a time. These may be renewable, but in no case can any exemption be given extending even one day more than seven years from the date of the passing of the Act; this section, therefore, came into force on July 5, 1956, and nine months of the possible seven-year period of grace has expired. Exemptions will be granted only if a very strong case is established.

## Detection of dark smoke

The Ringelmann chart was illustrated in the JOURNAL last week, so further reference need not be made to it other than to mention that an official British Standard Ringelmann chart is now being prepared, with simple methods of using it. Any factory owner can determine whether he is transgressing the law by buying a Ringelmann chart, and using it to ascertain how dark is the emission from his chimney. It appears that while this chart will be retained as a handy, general-purpose, means of smoke density assessment, it may be replaced wholly or in part by something better. The Minister has powers to insist that in specific cases prescribed by regulations the owner of any furnace of any boiler or industrial plant shall provide and instal smoke density meters (Section 4); this Section is now in force. The design of such meters is now under consideration by the British Standards Institution. Architects should remember that it is important for the man in charge of boilers and other furnaces to have means of seeing at any time, without leaving the firing floor, what is the colour of the gases leaving the chimney top. In the absence of smoke density meters, the indication of which are clearly visible to him, a system of mirrors may be the answer.

## What is a "chimney"?

The definition of "chimney" is important: "Chimney" includes structures and openings of any kind from or through which smoke or (where the reference is to the chimney serving an oven) grit or dust may be emitted, and reference to the chimney of a building include references to a chimney which serves the whole or a part of a building but is structurally separate therefrom . . . "oven" includes any form of retort or container used to subject solid fuel to any process involving the application of heat (Section 34).

It will be observed that although the Act refers primarily to "buildings" and "the chimney of a build-

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ing," care is taken to include the emission of smoke from plants not housed in a building but standing apart: "for the time being fixed to or installed on any land" is the phrase used (Section 1(4)). The onus to avoid smoke is then on the owner of the plant, not the owner of the land. Similarly, smoke arising from burning waste material in an incinerator is prohibited, but not garden bonfires, which come under the existing "nuisances" law. The impact of this law is discussed later.

## New furnaces

Any furnace not in existence, under construction, or on order on December 31, 1956, must "so far as is practicable, be capable of being operated continuously without emitting smoke when burning the type of fuel for which it was designed" (Section 3(1)). This provision does not cover furnaces designed solely or mainly for domestic use with a heating capacity less than 55,000 B.Th.U an hour nor movable furnaces such as road-making equipment and locomotives.

The person proposing to instal a furnace that comes under this section must give notice of his intention to the local authority (Section 3(3)). The local authority is not required to give or withhold approval, In addition, he may voluntarily submit his plans and specifications to the local authority, and if they are approved the new equipment is deemed to comply with the requirement that the plant is capable of continuous smokeless operation (Section 3(2)).

The requirement here is that all new industrial boilers and furnaces shall be capable of being operated on the fuel for which they were designed without making any smoke-dark or light-and the legal obligations of this requirement can be fulfilled either by the owner backing his own judgment, no doubt as a condition of purchase included in his specification, or by obtaining "prior approval" by the local authority. There is apparently no provision for appeal if the local authority withholds approval. Whether prior approval has been obtained or not, the onus of avoiding dark smoke remains on the "occupier of the building."

The words: "the type of fuel for which the furnace was designed," were introduced (Section 3) to avoid the subterfuge that an unsatisfactory furnace might be installed to burn bituminous coal, but could be claimed to be smokeless because it made no smoke when burning a smokeless fuel such as coke.

## Method of firing-unsuitable fuel

An earlier provision (Section 1(3)(c)) makes it a defence to prove that circumstances had compelled the use of an "unsuitable fuel." This "unsuitable fuel" defence has caused much argument, and it may well be withdrawn at a later date if and when the Act is amended. Without going into details of the argument, the practical application is that when installing any new furnace, every care should be taken that it is adapted to the type of fuel likely to be available in the district. This is a large and technical issue. In

many places the fuel merchant can give the necessary advice, but at times it may be necessary to consult the marketing department of the National Coal Board. New furnaces (the term "furnace" includes boiler furnaces) should usually be fired by mechanical stokers (unless they are fired by smokeless fuel or pulverized fuel). Many hand-fired furnaces will require to be converted to mechanical firing. Some designs of mechanical stoker are unduly selective in that they are prone to make dark smoke with certain types of coal. This is a matter to which careful and expert attention should be given when new furnace plant is under consideration. It would be unwise to advance more precise suggestions here, since designs change and research may improve the operation of some generic types of stoker that are now regarded as unduly selective; moreover a stoker that would be regarded as too selective in one part of the country may be quite satisfactory for the coals available in another district. The counsel of perfection may be to advise always the least selective types of stoker unless the coal required for the more selective stoker can be guaranteed for the whole of its probable life.

## Industrial premises in smoke control areas

Powers are provided under Section 11(3) to exempt industrial furnaces in smoke control areas from the absolute prohibition against making smoke. The use of smokeless fuels covered by the authorized list is growing, not for reasons of smoke abatement but because it pays to use these fuels. Exemption of industrial furnaces is not automatic, therefore, but will clearly be given if any considerable quantity of coal is used in the area or if it can be shown that it is necessary to use coal. This Section is now in force.

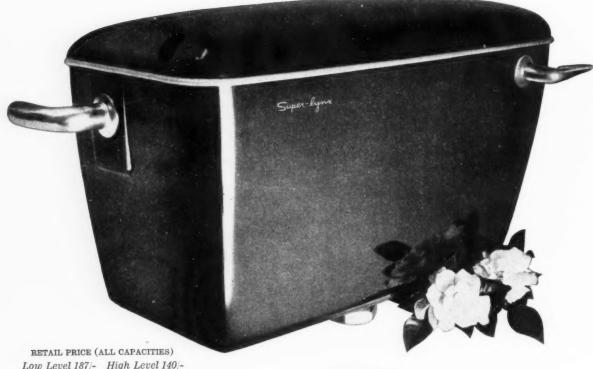
## Grit and dust

The Act requires that after the "appointed day," means shall be taken to avoid the emission of grit and dust from industrial furnaces and ovens (Section 5-9). Grit comprises the larger particles of solid matter, above B.S. mesh 200 (0.076 mm.) in size. Dust is the material below B.S. mesh 200, but in turn can be divided into true dust between 0.076 mm. and 0.020 mm. in size, which should be removed, and the very small particles below 0.020 mm., so small in size that they remain suspended almost indefinitely in natural gas currents and so behave as a gas. Grit is easily removed by comparatively simple plant; dust is more difficult, and a high degree of removal requires elaborate and costly equipment. The Act requires (more specifically): (a) That in all existing furnaces above the "domestic" limit of 55,000 Btu an hour, including ovens used to subject solid fuel to heat, there shall be used "any practicable means there may be" to reduce the emission of grit and dust (Section 5).

(b) That all furnaces, not in existence, under construction or on order on the "appointed day" (which has not yet been announced), must incorporate plant for arresting grit and dust, approved by the local authority or installed in accordance with plans and

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specifications approved by the local authority, if the plant in question (Section 6)

- -burns pulverised fuel in any amount, or
- -burns solid fuel of any sort at a rate of 1 ton an hour
- -subjects solid fuel in an oven to the application of

Powers are taken for applications for approval of plant under this Section to be referred to the Minister and not to the local authorities, at the Minister's discretion (sub-section 3), and for appeal to the Minister if an applicant is dissatisfied with the local authority's decision (sub-section 4). Moreover, "occupiers of plants within this category can be compelled by a notice from the local authority to make and record at their own expense measurements of the amount of dust and grit emitted by their plant and to inform the local authority of the results (Section 7).

The difficulty at the moment is to provide reliable methods of testing the amount of dust emitted from a chimney, especially bearing in mind the definition of "chimney." The British Standards Institution are engaged in drawing up methods of testing and a good deal of research is now being undertaken on the subject. Probably some reasonably simple and sufficiently accurate method will be available before the "appointed day." It is not intended that all plants in category (b) shall be asked to undertake tests, but to hold this power for use when there is serious emission of grit and dust and it is desired to discover the source or to make sure that an offending plant is being properly operated and maintained. Maintenance is important and is specifically mentioned in this connection in Section 6 (1) of the Act.

## Height of chimney

Provisions already exist for controlling the height of new chimneys in the administrative County of London. Elsewhere in the country, the Act empowers local authorities to reject plans for new building submitted in accordance with building byelaws which include the construction of a chimney for carrying smoke, grit, dust or gases from a building "unless they are satisfied that the height of the chimney as shown on the plans will be sufficient to prevent, so far as practicable, the smoke, grit, dust or gases from becoming prejudicial to health or a nuisance," having regard to the purpose of the chimney, the contours of the surrounding land, the position and description of the surrounding buildings and so forth (Section 10). There is the right of appeal to the Minister if the decision of the local authority is unacceptable. This Section is now in force. These powers do not apply to houses, shops

Chimney height has usually been defined by one of two considerations:

(a) The minimum height of chimney necessary to give the natural draught required for operating the furnace; such chimneys are usually between 40 ft. and 250 ft. high according to the size of the plant and the amount of draught needed. The method of calculating chimney heights will be found in The Efficient Use of Fuel \* published by HMSO, though this is essentially a job for the fuel technologist.

(b) When fan draught is available, in theory no chimnev is required, and in practice quite short chimneys may be used, just high enough to prevent nuisance or danger from dust or gases to those working nearby.

The authorities now have powers to insist that, whatever the source of draught, the chimney shall be high enough to prevent any serious pollution in the neighbourhood, whether from down-draught or other causes. The height that is required will depend on the contour of the surroundings including the height of neighbouring buildings. A useful practical rule adopted by the British Electricity Authority before the war was that the chimney should be not less than 2½ times as high as any of the immediately surrounding buildings. Even this rule may fail in the presence of hills or other natural or artificial configurations which would cause a down-draught, or frequent temperature inversions in a valley. The Beaver committee suggested a minimum height of 120 feet.

Much research, often of a mathematical character, has been done by the Meteorological Office and in the U.S.A. on the subject of the dissipation of gases by tall chimneys. There is little doubt that in normal circumstances, gases evolved at lower levels become caught by the down-draught eddies and brought quickly down to street level. Gases evolved at high temperatures and high velocity are likely to be carried upward and if the chimney is tall enough will be diluted and dissipated widely over the countryside. Domestic smoke is the worst offender in this regard, but low factory chimneys often no more than 60 ft. high are not much better. When an atmospheric temperature inversion occurs, always the precursor of a possible dangerous "smog," only very tall chimneys can hope to pierce the blanket.

On the other hand, there is the fear in some minds that this provision will lead in industrial districts to forests of tall unsightly chimneys. The principle should be to use the fewest number of chimneys possible. Some works make a practice of erecting small boiler plants and furnaces over a wide area, each with its attendant chimney. That is bad practice in relation to the dissipation of pollution. The gases from as many furnaces as possible should be collected into one tall central chimney, from which they would be discharged at as high a velocity as possible. This practice may involve fan draught for the furnaces in order to stabilise the draught over the whole system to permit proper control of each furnace.

## Difficult processes

The Act contains powers (Section 17) to bring within the Alkali Act processes to be specified by the Minister. This provision was mentioned in the first article under "Administration." The powers are now in force but the Order specifying the processes has not yet been issued. The Alkali Act has been extended

<sup>\*</sup> Now being reprinted.

566]

### technical section

to include smoke, grit and dust, so that virtually all forms of air pollution from premises controlled under the Alkali Act will be subject to control under that Act by the Alkali Inspectorate.

Any part of the premises not directly concerned in processes registered under the Alkali Act will come under the Clean Air Act and the enforcement of that Act is the responsibility of the local authority.

## Nuisances

Smoke can be emitted in other circumstances than those here discussed. Cases, excluding dark smoke emitted from chimneys, are dealt with under the statutory nuisance provisions of Part III of the Public Health Act, 1936. Mines and industrial processes are no longer to be exempt from the "nuisance" provisions of that Act. The defence that the "best practicable means" for abating the nuisance have been adopted, which was a major handicap in administering the Public Health Act, 1936, is now withdrawn except for smoke emitted from a chimney. Moreover, the local authority need no longer serve an abatement notice to demonstrate non-compliance with the requirement. They can go straight to the magistrates' court and satisfy the court that there is a danger, or expectation, of a recurrence. The court has power then to make an order prohibiting the recurrence of the nuisance and requiring the owner to execute any work necessary to prevent a recurrence (Sections 31 and 32). Nuisance may arise from any source and is not confined to industry.

## Advice

The Clean Air Act is concerned mainly with the combustion of fuel and pollution arising from it. Architects may require at times to obtain assistance on matters of fuel technology. The professional body concerned with fuel utilisation is the Institute of Fuel. There are many non-professional organizations that will assist in various aspects of this work. On the domestic side, there are the Coal Utilisation Council (which includes solid smokeless fuel prominently within its purview), the Solid Smokeless Fuels Federation, the Area Gas Boards and the Area Electricity Boards. On the industrial side advice can be obtained from the National Industrial Fuel Efficiency Service and private consultants. The Area Gas Boards will give advice and direct assistance on the use of gaseous fuel as an alternative to bituminous

coal through their industrial gas engineers. Similarly, the larger petroleum companies have fuel oil departments ready to give advice.

## Government loan scheme

The Act, while providing financial assistance to the "owner or occupier" of a house who incurs cost in meeting the requirements, provides no such assistance to the industrialist.

Government loans are available, however, for most kinds of fuel-saving equipment for industrial and commercial premises so long as the savings are substantial and would not otherwise be achieved. These is no limit to the cost of schemes eligible for consideration and assistance may be given towards the cost of essential ancillary plant, equipment or building work. Applications for these loans should be made only if the funds cannot be made available from any other source. Payment of the loan will be spread over an agreed period related to the financial savings arising from the scheme and to the life of the plant, as assessed for taxation purposes, with a maximum of 20 years. Loans are interest-free for two years after the fuel-saving equipment has been installed; thereafter interest is charged at 7 per cent. Information about the scheme can be obtained from the Ministry of Fuel and Power.

Every case is dealt with on its merits. Anyone wishing to obtain such a loan should apply to the Ministry of Power, Fuel Efficiency Branch, Thames House South, Millbank, London, S.W.. The Ministry will then determine, generally through the National Industrial Fuel Efficiency Service, whether the proposed scheme will save its capital cost in fuel, etc., within a short enough time to justify a loan on the terms stated. New plant in a new factory or works would not come within the scheme; it is essentially for replacements, improvements, etc., on existing plant.

The Government Loan Scheme is not available at present for financing new plant required in connection with the Clean Air Act unless the saving in fuel is sufficient to enable the work to qualify on that account. There have been hints that the scheme might be extended, but nothing has been done as yet. It is probable, however, that expenditure for the avoidance of industrial smoke (but not grit and dust) will be financially attractive and in many cases will rank for assistance under the Loan Scheme.





WINDOW: FLATS IN ALESSANDRIA, ITALY

Ignazio Gardella, architect (material supplied by R. K. Dewhirst)



The walls are clay block with r.c. reinforcement, faced with clinker tiles—not brick. The design is interesting as a successful paraphrasing of traditional form in an industrialised architecture. Note the attic windows under the eaves.

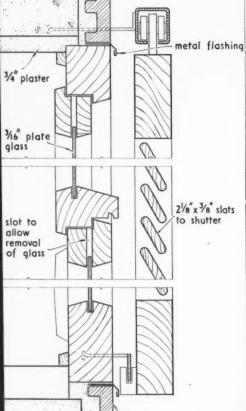
Arch

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Ignazio Gardella, architect (material supplied by R. K. Dewhirst)

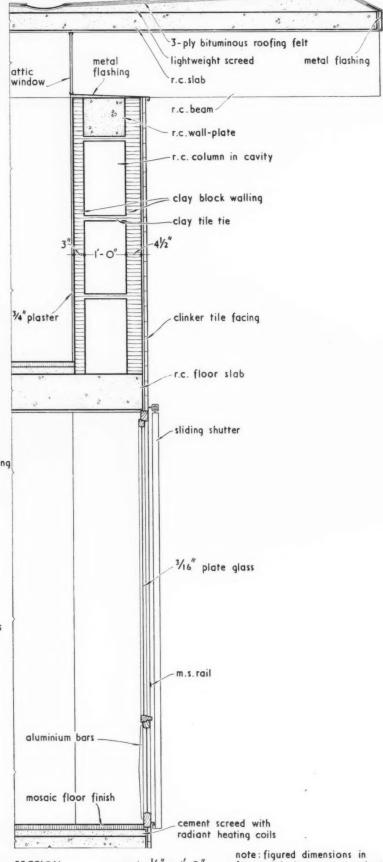




VERTICAL SECTION. scale 1/4 full size

clinker tile facing

SECTION.



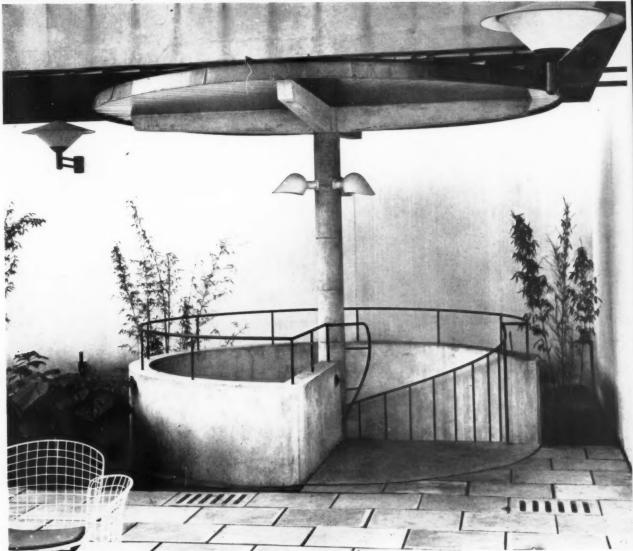
scale 1/2" = 1'-0"

feet and inches are approximate

## working detail

SPIRAL STAIRCASE: OFFICES IN COPENHAGEN

Eske Kristensen and E. Barfoed, architects (material supplied by Michael Sadler)



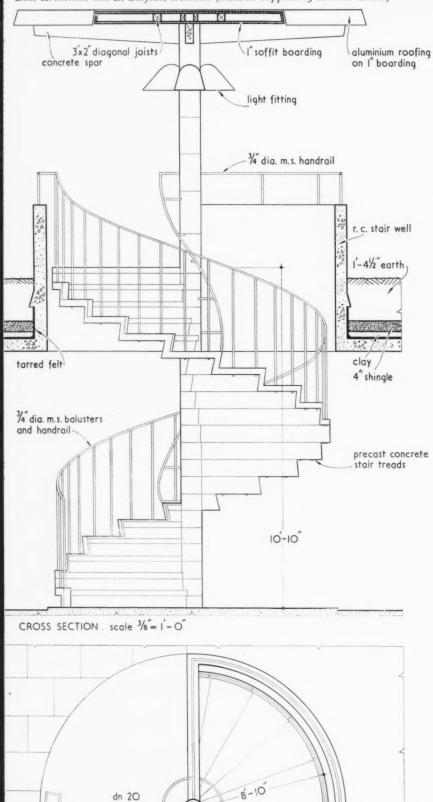
An interesting variation of the precast concrete newel stair incorporating a riser and a slight thickening at the string to receive the balusters. It is a tribute to the fine quality of the precast concrete work that the incorporation of a wrought timber canopy does not look out of place. A detail of subsidiary interest (which can be appreciated from the drawing only) is the tanking for the adjoining flower bed.

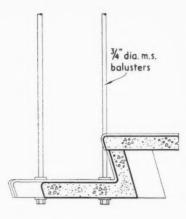
## working detail

PLAN. scale 3/8 = 1-0"

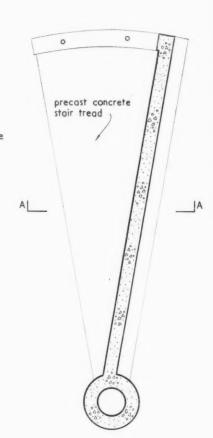
SPIRAL STAIRCASE: OFFICES IN COPENHAGEN

Eske Kristensen and E. Barfoed, architects (material supplied by Michael Sadler)





SECTION A-A. scale l = 1 - 0



DETAIL OF TREAD. scale I'' = I' - O''

note: figured dimensions in feet and inches are approximate





FACING V

The Bro situated tains, and beautiful Green SI and great

THE SL blasted f to size at They are 2' o" in with a rubbed 1" up.

NATUR

split) slai Olive Gr colours. can be s and in t Sea Gree riven fin to, say, I be suppl approxim Sea Gree

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material.

frame sawn.

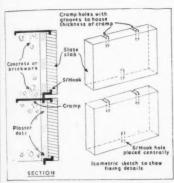
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split) slabs can be supplied both in the

Olive Green and in the Light Sea Green

colours. In the Olive Green colour slabs

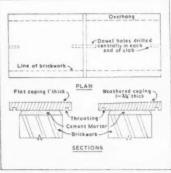
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and in thickness from  $\frac{3}{4}$ " up. Light Sea Green slate slabs with a naturally riven finish can be supplied in sizes up to, say,  $18^{\circ} \times 9^{\circ}$ . Small sized slabs can be supplied with a naturally riven finish

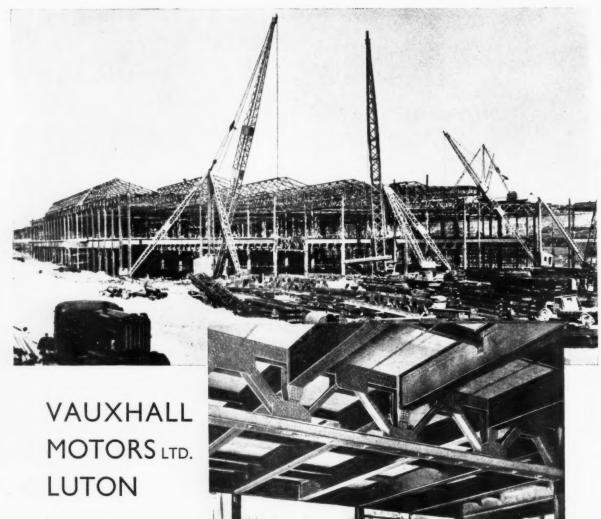
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Consulting Engineers:
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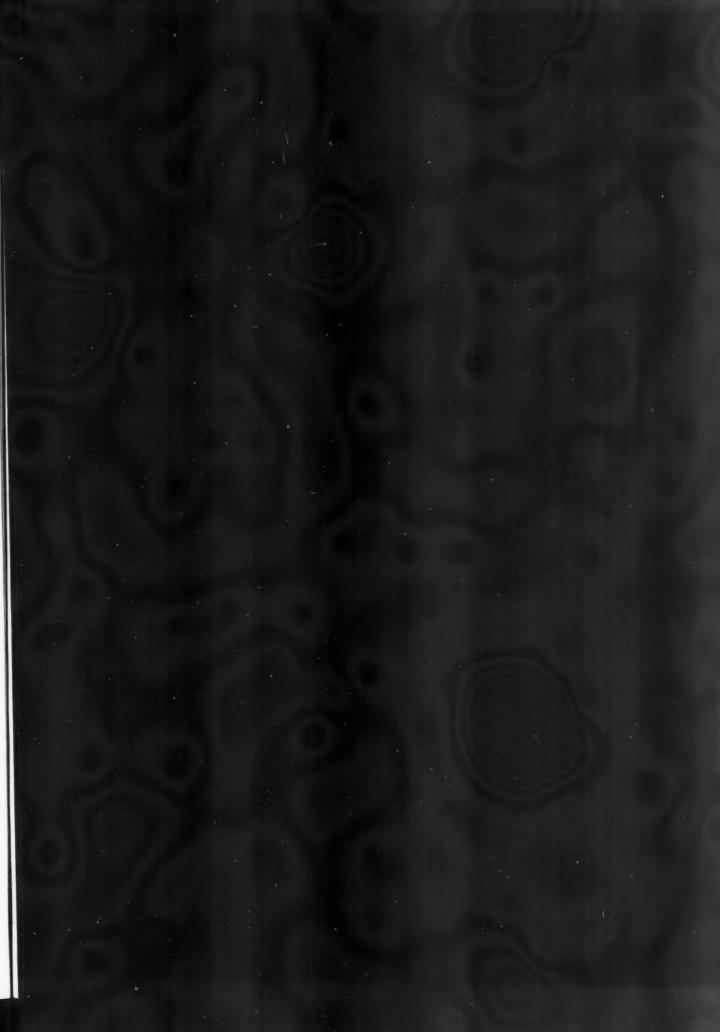
Approximate total weight 20,000 tons, of which over 17,000 tons were erected in twelve months. The lower illustration shows one of the 168 main girders supporting the assembly floor.

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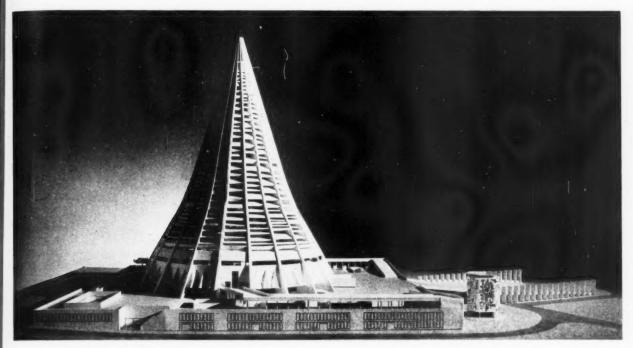


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## WINNING DESIGN FOR SYRACUSE COMPETITION



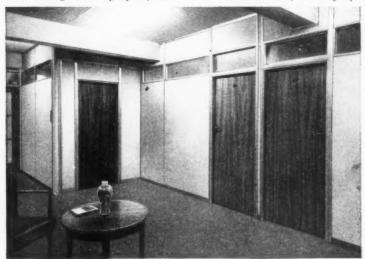
Two architects in Paris, Andraullt Michel and Pierre Parat, have won the international competition for the Sanctuary of the Weeping Madonna, at Syracuse, Italy. The assessors say "the architectural validity of the work rests on its religious feelings, its new expression of tradition, its unity extending from the nave; which is capable of sheltering a crowd of twenty thousand pilgrims to the uttermost. The vertical line . . . expresses prayer in a logical way."

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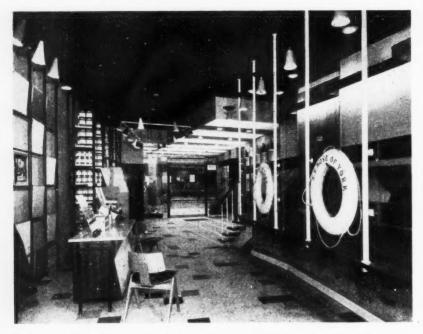
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## Announcements

John B. Diamond, B.ARCH., A.R.I.B.A., and Peter Hodgkinson, B.ARCH., A.R.I.B.A., and announce that they have taken Frank Briggs, DIP.ARCH., A.R.I.B.A., into partnership in their London office, which is moving from 156a, Old Brompton Road, S.W.5, to 50, Baker Street, W.1 (telephone Hunter 0489), on May 13; and Roy Fellows, DIP.ARCH., A.R.I.B.A., in their Wolverhampton office, which is now at 31, Queen Street (telephone Wolverhampton 21404). The practice will in future be known as Diamond, Hodgkinson & Partners.

Walter Rosser, F.R.I.B.A., has moved from 15, Wood Street, Northampton, to 38, Kingsley Road, Northampton (telephone Northampton 4906).

Robert Bostock, M.A., L.R.I.B.A., and Leonard Wilkins, B.A., A.R.I.B.A., have taken into partnership Hugh Workman, A.R.I.B.A., A.A.DIPL. The practice will continue as Bostock & Wilkins of 8, Cromwell Place, S.W.7 (telephone Kensington 3234-5).

## Corrections

We regret that in our first leader last week (entitled "Mistaken Standards") a vital square root sign was omitted. The sentence in question (which began 11 lines from the bottom of p. 489) was made to read "The large leaflet size in this A series is (in English) 11½ in. by  $8\frac{1}{2}$  in., and has the engaging quality that its sides are in the proportion 1:2 (i.e., the golden section)." For 1:2 read  $1:\sqrt{2}$ . Though the properties claimed for this proportion in the leader are substantially correct, it is not the golden section, which is 1:1.618.

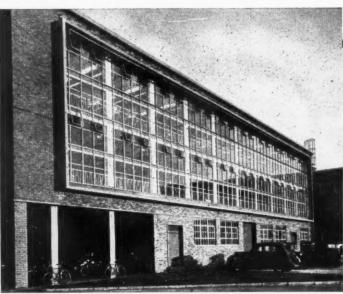
We regret that in the issue of April 4 Dr. F. F. C. Curtis, the architect to the British Transport Commission, was described as the Chief Engineer.

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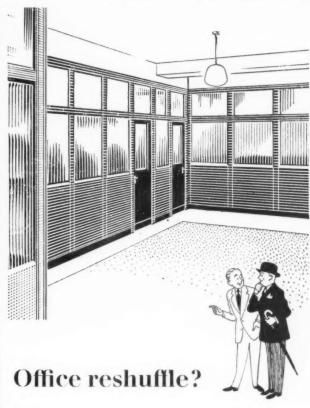
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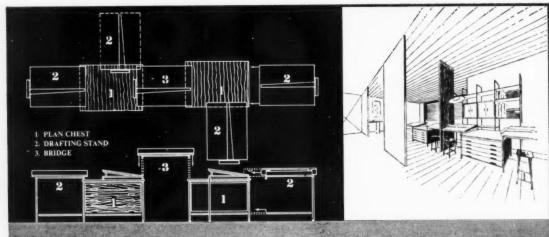
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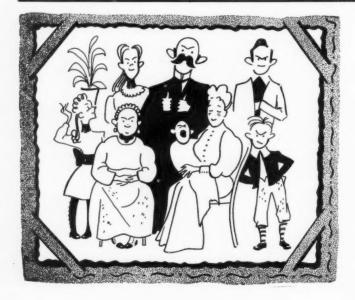
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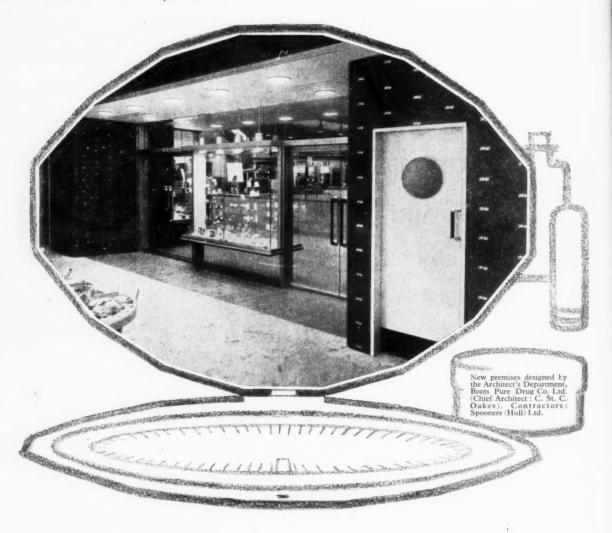
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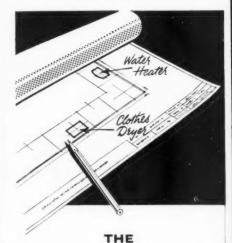
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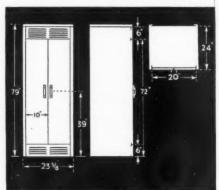
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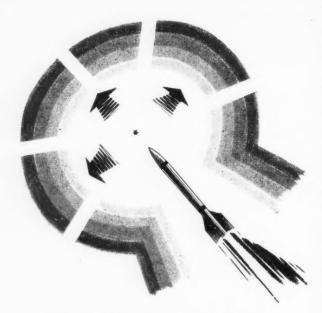
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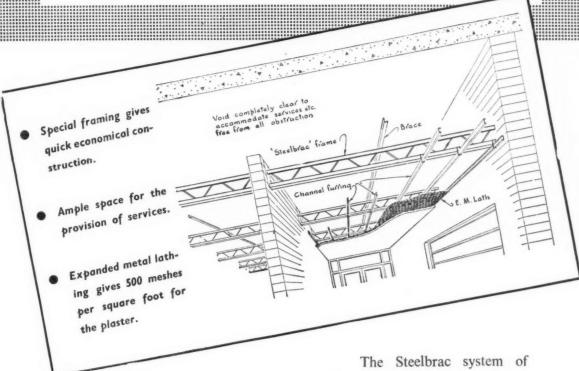
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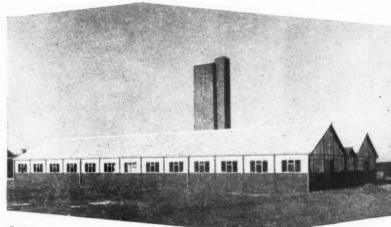
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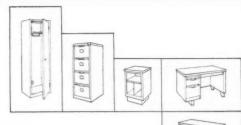
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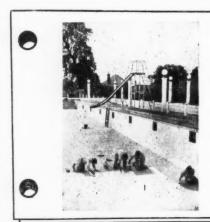


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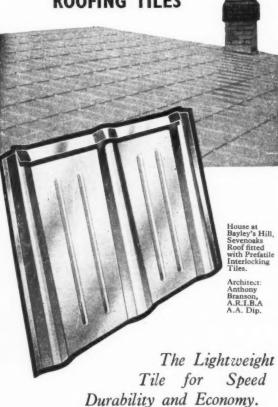


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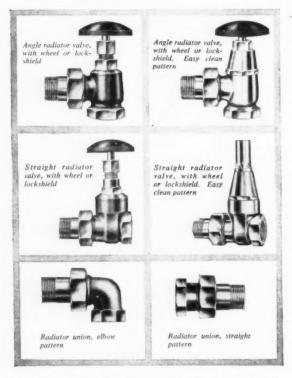
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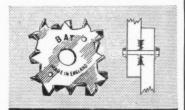
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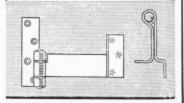
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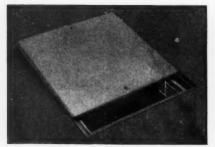
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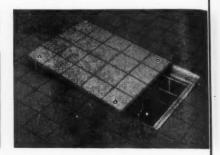
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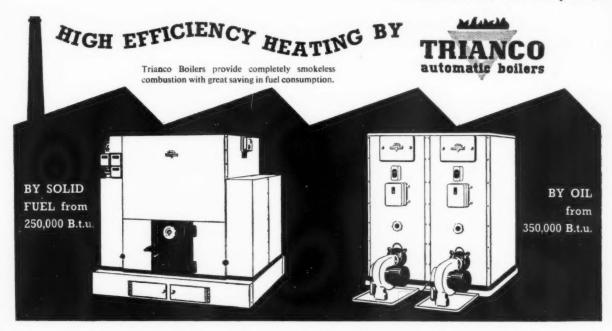
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Edgar Kaufmann, the book's editor, was an apprentice with Mr. Wright and has since organized many important exhibitions of progressive design in the U.S.A.

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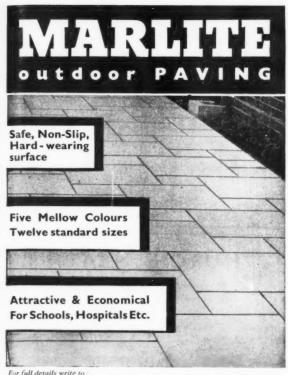
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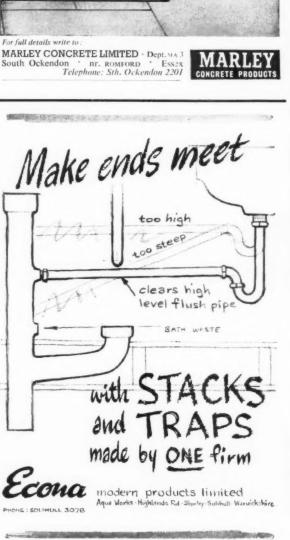
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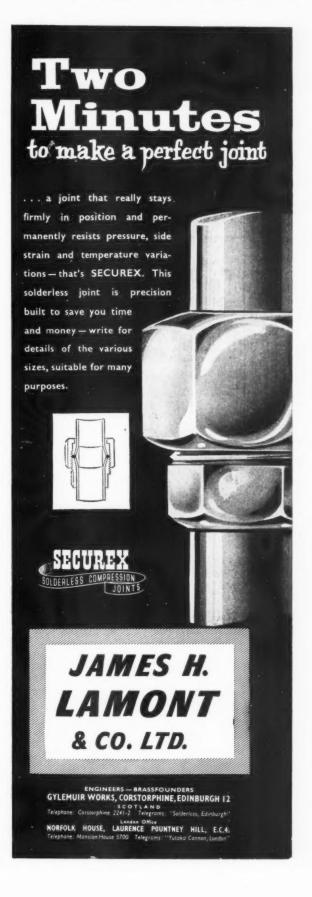


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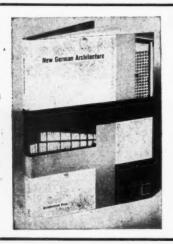
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### FINLAND PLYMOUTH BARBICAN ANTISUBTOPIAN

Finland will be in the news in April and so the REVIEW will publish a study of the rise of Modern Finnish architecture and Aalto's relation to it -the relationship of The One and the Few-by



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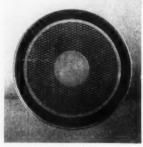
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REVIEW until Whitehall further notice 0611 Reyner Banham, and an extensive survey of recent Finnish buildings. In the same issue, Gordon Cullen considers the plight of the Plymouth Barbican, a live neighbourhood-centre that local planning powers-that-be seem determined to destroy by a subtopian combination of rule-of-thumb demolitions and preservations. At the small-scale end of urban design, Nicolete Gray contributes a first essay on the character and function of Street-Lettering, and Robert Maguire completes his survey of paving materials in Skill. A revolutionary electric fire is described, and buildings illustrated include factories by Ove Arup and



Electric fire, by Kenneth Browne.

Partners, and W. S. Milburn and Partners, while a never-completed dream, Sir John Soane's Triumphal Bridge, is discussed by Dorothy Stroud, Lastly, but by no means least, April will see the inauguration of the ARCHITEC-TURAL REVIEW'S Counter Attack Bureau, whose first case-study will be the replacement by Semi-dets. of terrace housing at Princetown.

### AMERICA

A personnage assembled from scraps of American advertisements and spitting ticker-tape on the cover of the May ARCHITEC-TURAL REVIEW will announce the theme of a special issue on Machine Made America, compiled explained and assessed by the REVIEW's executive editor, Ian McCallum, whose previous foray into the American scene caused raised eyebrows and raised voices when its results appeared in print as a special issue of the REVIEW under the title Man Made America. this new survey, based on a study



The Seagram Building, New York.

of architecture rather than the wider scene of land- and townscape, will scrutinise the aesthetics and the technics of the curtain wall as an example of what happens to one of the cherished dreams of the Modern Movement when it finally becomes commercially practicable, and becomes part of the available syntax of architecture. After this it will survey the diverse, original stimulating and experimental work of individuals and individualists from Coast to Coast, a body of work that is the genetrix of architectonic ideas without which the industrial contribution may prove sterile and short-lived.

Machine Made America will conclude by attempting to fit both industrialist and individualist into



Concrete shell church by J. Johansen.

the matrix of the wider scene of world architectural development in this century and of American culture in the age of massproduction.

### COUNTER ATTACK GROTESQUE OLIVETTI

Ian Nairn, of Outrage fame, will contribute a first essay on the aims and objectives of the newly-formed Counter-Attack Bureau, to the June issue of the ARCHITECTURAL REVIEW, and make proposals for positive anti-Outrage policies for the threatened suburban village-centres of Ewell, Colnbrook and Huyton, Two widely diverse Italian subjects to be discussed in the same issue will be the grotesque statuary and architecture of the Orsini garden at Bomarzo, considered iconographically by Dr. S. Lang, and the impressive and



Subtonian Mess at Colphrook

intelligent record of patronage in architecture, the arts, and design, of Adriano Olivetti, conbiographically sidered Georgina Masson. New buildings in this issue will be as different in type and place as the Golden Lane development by Chamberlin, Powell and Bon, and the Museum at Accra by Drake and Lasdun; the old buildings of the month will be Balmes House, Hackney, a forgotten, but representative piece of artisan mannerism which will be described and discussed by Priscilla Metcalf, and those in Halifax Sydenham, Street. another threatened area that comes within Counter-Attack's purview. Skill features of the month include a broad survey of food-preparation equipment, and in Miscellany Robert Melville contributes, as



Golden Lane, by Chamberlin, Powell

usual, his column of off-beat opinions on the world of artgalleries and exhibitions.

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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

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

### Public and Official Announcements

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

COUNTY BOROUGH OF SOUTH SHIELDS
ARCHITECTS
Applications are invited from suitably qualified
ersons for appointments in the Architect's
ection of the Borough Engineer's Department.
Salaries according to qualifications and exerience up to A.P.T. Grade IV/V (£727 15s.—

1994 5s.).
Housing accommodation may be made available to successful applicants if necessary.
The selected applicants will be required to pass a medical examination and the appointment will be subject to the provisions of the Local Government Superanuation Acts 1937 and 1953, and the National Joint Council Conditions of Service.

Service.

Canvassing will be a disqualification and candidates must disclose any relationship to the members or Senior Officers of the Council.

Application forms, obtainable from the Borough Engineer, Town Hall, South Shields, should be returned to him not later than Monday, 15th April. 1957.

R. S. YOUNG, Town Cler

HAYES AND HARLINGTON URBAN
DISTRICT COUNCIL
Applications are invited for:—(a) ASSISTANT
ARCHITECT within Grade A.P.T. IV. i.e.,
1271 158.—1907 2s. 6d. per annum; (b) ARCHITECTURAL ASSISTANT within Grade A.P.T.
III, i.e., 2656—2744 2s. 6d. per annum, plus
appropriate London weighting in each instance,
21-25 years 220 per annum, 26 years and over 230
per annum. Candidates for (a) must be capable
of preparing sketch designs, full working drawings, specifications, supervision of building contracts, etc., preference will be given to applicants
who have passed the examination for the
Associateship of the R.I.B.A.; (b) must have had
good general Architectural experience and should
have passed the Intermediate examination
R.I.B.A. Housing accommodation will be made
available for (a) if necessary. Five-day week,
Further particulars and conditions of service and
form of application available from the undersigned, which when completed must be returned
by 23rd April, 1957.

GEORGE HOOPER,

GEORGE HOOPER, Clerk and Solicitor.

GEORGE HOOPER,
Czerk and Solicitor.

Town Hall,
Hayes, Middx.

CITY AND COUNTY OF NEWCASTLE UPON
TYNE

CITY ARCHITECT'S DEPARTMENT
PROPOSED NEW TOWN HALL
APPOINTMENT OF PRINCIPAL ASSISTANT
ARCHITECT

Applications are invited from Associate Members of the R.I.B.A., for the undermentioned special appointment in the City Architect's Department. This appointment is additional to the present Establishment of the Department, and the successful candidate will be engaged solely upon duties in connection with the New Town Hall Scheme, the estimated total cost of which is in the region of 22 million.
Principal Assistant Architect, A.P.T. Division, Grade VII (1999 7s. 6d.—£1.230).
Candidates for the above appointment must have received a sound architectural training, preferably at a recognised School of Architecture; should be capable designers with sound experience in the control of building works of high quality. Forms of application together with further particulars and Conditions of the Appointment may be obtained upon application to George Kenyon, A.R.I.B.A., A.M.T.F.I., City Architect, 18, Cloth Market, Newcastle upon Tyne. Closing date, Town Hall

JOHN ATKINSON, Town Clerk.

Town Hall, Newcastle upon Tyne 1, 28th March, 1957.

BOROUGH OF WISBECH
BOROUGH OF WISBECH
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
APPOINTMENT OF ACCHITECTURAL
ASSISTANT
Applications are invited for the above appointment, Grade A.P.T. III (£656-£785). Applicants should have good general experience, and preference will be given to those possessing the Intermediate Examination of the R.I.B.A.
Consideration will be given to the provision of housing accommodation (to rent) if required. Further particulars and form of application (to be returned by 1st May) are obtainable from the undersigned.

J. THOMPSON, A.M.I.C.E., M.I.Mun.E.,
Borough Engineer and Surveyor.
Exchange Square, Wisbech, Cambs.
5895

BURGH OF COATBRIDGE
TOWN PLANNING DEPARTMENT
Applications are invited for ASSISTANTS (three) in the Town Planning Department in Coatbridge at the following salary scales:—
A. & P. II.—2565 to £610 per annum.
A. & P. III.—2655 to £620 per annum.
A. & P. III.—2655 to £620 per annum.
A. & P. III.—2655 to £680 per annum.
Applicants should be experienced in Loca. Authority Town Planning and/or architectural work and should have attended a recognised Study Course.
The posts are superannuable and the successful candidates will require to pass a medical examination before appointment.
Applications stating age, training and experience, together with copies of not more than three recent testimonials, should be lodged with The Town Planning Officer, "Redholme," Laird Street, Coatbridge, not later than fourteen days after the appearance of this advertisement.

ALEXANDER S. THOM.

Municipal Buildings.
Coatbridge.

Municipal Buildings. Coatbridge. 27th March, 1957.

SURREY COUNTY COUNCIL
Applications invited for appointment of
ASSISTANT ARCHITECT Grade VI, £902-£1,107
p.a. plus £30 London Allowance. Must be

p.a. plus £30 London Allowance. Must be A.R.I.B.A. Full details, present salary and three copy testi-monials to County Architect, County Hall, King-ston, as soon as possible. 5808

ston, as soon as possible.

5808

MANCHESTER REGIONAL HOSPITAL BOARD
Regional Architect: H. McMaster, A.R.I.B.A.

Applications are invited for the following posts:
(a) ASSISTANT ARCHITECTS (2).
(b) ASSISTANT QUANTITY SURVEYOR.

Intermediate or Final examination qualifications are required and the salaries payable will be according to qualifications within the scales

\$510-2710 or \$680-2985 per annum. Forms of application are obtainable from the Secretary of the Board, Cheetwood Road, Manchester, 8, to whom they should be returned by the 23rd April, 1957.

5814

the Board, Cheetwood Road, Manchester, 8, 10 whom they should be returned by the 23rd April. 1957.

LONDON ELECTRICITY BOARD CIVIL/STRUCTURAL ENGINEERING ASSISTANT

Applications are invited for the above position in the Construction Branch of the Chief Engineer's Department in Central London.

Applicants should have experience in the design and detaining of reinforced concrete for foundations. framed buildings. etc. or in the design and detailing of structural steelwork for buildings, etc.

The post is graded under Schedule "D "of the National Joint Board agreement and the commencing salary would be dependent on experience within either Grade 4—250 10s. to 2995 10s. p.a. or Grade 5—2735 to 2840 p.a. inclusive.

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2. Please quote ref. PER 12290/A. 5765

ARCHITECTURAL ASSISTANTS

REQUIRED BY MINISTRY OF WORKS

For employment in London and Provinces on design and detailing work on construction and maintenance of all types of public buildings.

Salary range 2500 (age 21) to 2790 p.a. London (slightly less elsewhere). 5-day week. 33 weeks annual leave initially. Starting pay according to age, qualifications and experience. Good prospects of promotion with salaries of 2925 p.a. and above. Opportunities for permanent posts leading to pensions (non-contributory). Interviews at Regional Offices where possible, Applicants should be of Intermediate R.I.B.A. standard.

State age, training and experience to Chief Architect. Ministry of Works (H), Abell House. John Islip Street, S.W.I.

THE UNIVERSITY OF MANCHESTER
Applications are invited for the position of
ASSISTANT BUILDINGS OFFICER in the
Bursar's Department. An architectural or other
appropriate qualification would be an advantage.
Commencing salary up to £1,000 per annum,
according to qualifications and experience. In
addition a children's allowance (£50 per annum
for each child in receipt of full-time education)
is payable. The post carries membership of the
Federated Superannuation System for Uni-

versities.

Applications should be sent, not later than the 6th May. 1957, to the Bursar, The University. Oxford Road, Manchester, 13, from whom further particulars may be obtained.

5897

Particulars may be obtained. 5897

ROYAL TECHNICAL COLLEGE OF EAST AFRICA. NAIROBI INCORPORATING THE GANDHI MEMORIAL ACADEMY Applications are invited for the following posts. Persons appointed would be expected to take up their duties by September, 1957

Two ASSISTANT LECTURERS, for courses given to students expecting to take the Intermediate and later the Final Examinations of the R.I.B.A. Salary scale: Assistant Lecturers.

R.I.B.A. Scale: Assistant Lecturers, £852×£30— £942: £1,020×£36—£1,128, plus 10 per cent, tem-porary cost-of-living allowance pending revision of scale, which is at present under considera-tion. Initial entry point according to experience. Further information obtainable from the Advisory Committee on Colonial Colleges. 1, Woburn Square, London, W.C.1, to whom applica-tions (6 copies), giving age, qualifications, ex-perience, and the names of 3 referees should be sent. Closing date: 30th April, 1957. 5898

NIGERIAN COLLEGE OF ARTS, SCIENCE
AND TECHNOLOGY
(Principal: C. A. HART, T.D., D.Sc., Ph.D.,
M.I.C.E., M.I.Mech.E., F.R.I.C.S., A.M.I.Struct.E.)
Applications are invited from suitably qualified
candidates for the following appointment:—
SENIOR LECTURER IN ARCHITECTURE.
Candidates must be fully qualified Architects
with good practical experience. Teaching experience desirable, but not essential. Present
course: 5 years, leading to Inter, R.I.B.A., to
be extended to 5-year Diploma course in September, 1957.

tember, 1957.
Salary scale, on contract: £1,668-£2,208 p.a.
Scale under revision), plus gratuity at £150 p.a.
Entry point in scale according to qualifications

Salary scale, on contract: £1,668-£2,208 p.a. (scale under revision), plus gratuity at £150 p.a. Entry point in scale according to qualifications and experience.

Permanent and pensionable appointment could be made, if desired, by successful applicant, but at somewhat lower salary.

Partly furnished house provided at moderate rent. 7 days' leave, normally taken annually, for each month of resident service. Free 1st class passages. Children's U.K. maintenance grant up to £150 annually and passages assistance. Applications (6 copies), giving age, qualifications, experience, and the names of 3 referees, should be sent to the Advisory Committee on Colonial Colleges, 1, Woburn Square, London, W.C.1. Closing date: 6th May, 1957.

\$\frac{599}{MONMOUTHSHIRE COUNTY COUNCIL APPOINTMENT OF ARCHITECTURAL ASSISTANTS AND QUANTITY SURVEYORS.

Applications are invited for the following posts in the County Architect's Department under the N.J.C. Conditions:—

TWO SENIOR ARCHITECTURAL ASSISTANTS, Grade A.P.T. IV (commencing salary £850 15s. to £994 5s. per annum).

ONE ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. IV (commencing salary £255 to £907 2s. 6d. per annum).

ONE ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. IV (commencing salary £256 to £784 2s. 6d. per annum).

Forms of application, particulars of post and conditions of service, can be obtained from the undersigned.

Applications, together with copies of three testimonials, must be forwarded to the County Architect Onen's Hill Newport Mon. not later

undersigned.
Applications, together with copies of three testimonials, must be forwarded to the County Architect, Queen's Hill, Newport, Mon., not later than Saturday, 27th April, 1957.
VERNON LAWRENCE,
Clerk of the Council.
County Hall Newport Mon.
5896

County Hall, Newport, Mon.

Clerk of the Council.

S896

LANCASHIRE COUNTY COUNCIL

SECTIONAL PLANNING OFFICER, A.P.T.

Grade VVI (£814 178. 6d.—£1,107 per annum)
required at the Divisional Planning Office,
Liverpool.

required at the Divisional Flanking.
Liverpool.
Candidates should possess a recognised qualification in architecture, civil engineering, surveying and/or planning. A thorough knowledge of Town and Country Planning legislation is essential, and experience in Town Map preparation would be an advantage.

Applications, giving age, qualifications, present appointment, experience, etc., and two referees, to the Country Planning Officer, East Cliff Country Offices, Preston, by 1st May, 1957.

Offices, Preston, by 1st May, 1957.

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for two appointments as ASSISTANT ARCHITECT on the permanent staff of the Board. The commencing salary (fixed by reference to relevant experience and to age) will be on a scale rising to £95 p.a., plus London allowance of £40 p.a. Applicants must be Associate Members of the Royal Institute of British Architects, and capable of preparing working and detailed drawings and specifications and supervising work on individual projects. Experience of hospital planning and construction an advantage. Application forms may be obtained from the undersigned at 11a, Portland Place, W.I., and must be returned by not later than 27th April, 1957.

E. G. BRAITHWAITE, Secretary.

S901

KINGSTON UPON HULL EDUCATION

KINGSTON UPON HULL EDUCATION
AUTHORITY
REGIONAL COLLEGE OF ARTS AND CRAFTS
Principal:
S. I. Hemming, A.R.C.A.(Lond.), F.R.S.A.
SCHOOL OF ARCHITECTURE
Required, HEAD OF THE SCHOOL OF
ARCHITECTURE, to commence duty in September, 1957, or as soon as possible thereafter.
The School conducts a Five Year Diploma
Course and is recognised for exemption from the
Intermediate and Final examinations of the
R.I.B.A.

Intermediate and Final examinations of the R.I.B.A.

Candidates should possess a Degree or Diploma of a recognised School of Architecture. The Head will be expected to organise the instruction throughout the School and to undertake some lectures and studio instruction.

Permission to engage in private practice is normally granted to members of the College staff. Salary: Grade III Burnham Technical Scale, £1,600 × £50-£1,750.

Further particulars and application forms, to be returned within fourteen days of the date of this issue, will be supplied by the Chief Education Officer, Guildhall, Kingston upon Hull.

FEDERATION OF RHODESIA AND
NYASALAND
VACANCIES: FEDERAL PUBLIC WORKS
DEPARTMENT
REVISED SCALES
The vacancies mentioned below are for pernanent, pensionable appointments.
Enior posts, normally filled by
notion, offer career prospects.
(1) ASSISTANT ARCHITECT (Professional
fficer).

Officer).
Applicants,

Applicants, under 30, must hold A.R.I.B.A. or degree in Architecture.
Starting salary: £1,000—£1,300 per annum, depending on qualifications and experience, on scale rising to £1,650.

rising to £1,550.
(2) ARCHITECTURAL DRAUGHTSMEN (S. (2) ARCHITECTURAL DRAUGHTSMEN (S. & T.O. III).

Applicants must hold School Certificate or equivalent, and have had at least 10 years' experience in an architectural drawing office.

Starting salary: £1,220 p.a., on scale £1,220 × £50—£1,620 x.

(3) ARCHITECTURAL DRAUGHTSMEN (S. & T.O. IV).

(3) ARCHITECTURAL DRAUGHTSMEN (S. & T.O. IV).
Applicants must hold School Certificate or G.C.E. with English, Maths, and two other subjects at "O" level, obtained at the same examination or equivalent. They must have had at least 4 years' experience in an architectural drawing office.

Starting salary: £580-£1,000, depending on qualifications and experience, on scale £420×£40-£580 × £60-£640×£100-£840×£60-£900×£50-£1,370.

(4) ELECRICAL ENGINEER'S ASSISTANT (S. & T.O. IV).
Applicants must hold School Certificate or G.C.E. with Maths, English, and two other subjects at "O" level, obtained at the same exam. or O.N.C. in Electrical Engineering, and have had not less than 5 years' experience in the preparation and carrying out of schemes for modern electrical installations in large buildings. An apprenticeship as an electrician would be suitable experience. H.N.C. or Grad. I.E.E. Starting salary: £640-£1,000 on scale men-

Starting salary: £640-£1,000 on scale mentioned in (3).
Application forms (state post) and further details from Secretary (R), Rhodesia House, 429, Strand, London, W.C.2. Closing date: 27th April.

SHIPLEY URBAN DISTRICT COUNCIL
Applications are invited for the appointment of
ARCHITECTURAL ASSISTANT in the Surveyor's Department. Salary within combined
Special Grade and A.P.T. Grade IV (£707 5s.—
£907 2s. 6d.), commencing according to experience and qualifications. Position superannuable
and subject to the provisions of the National
Scheme of Conditions of Service.
Applications, giving age, details of training,
qualifications and experience, together with
names and addresses of two referees, to the
Engineer and Surveyor, Town Hall, Shipley,
Yorkshire, by 10 a.m. on Saturday, 27th April,
1957.

HOUSING ACCOUNTS
Wided if required.

ERNEST PEARS,

Clerk and Solicitor. HOUSING ACCOMMODATION will be pro-

Town Hall, Shipley. 1st April, 1957.

LONDON COUNTY COUNCIL

ABCHITECT'S DEPARTMENT

CIVIL ENGINEERING and DRAWING
OFFICE ASSISTANTS required in Housing
Engineer's Division with experience in the

OFFICE ASSISTANTS required in Housing Engineer's Division with experience in the following:
Setting out for roads and sewers; design of roads and sewers and preparation of working drawings and contract documents; supervision of work on site; general drawing office duties. Applicant must be prepared to work on sites outside the Greater London area if required. Rate of pay up to £817 a year according to experience. Subsistence allowances paid where applicable.

Application forms from The Architect (AR/

experience. Subsistence allowances paid where applicable. Application forms from The Architect (AR/EK/CE/4). County Hall, S.E.1 (632). 5903

BOROUGH OF HARROW
Applications are invited for the mentioned appointments in the Department of the Borough Engineer and Surveyor:—
(a) ARCHITECTURAL ASSISTANT, A.P.T. Grade III. Salary £656—£784 28. 6d. per annum, plus London "weighting."
Candidates should have passed the R.I.B.A. Intermediate Examination.
(b) TECHNICAL ASSISTANT (MAINTEN-ANCE). A.P.T. Grade III. Salary £656—£784 28. 6d. per annum, plus London "weighting."
Applicants must have sound technical experience in building trade subjects, be experienced in the preparation of estimates and reports, in dealing with accounts and in the supervision of repairs, alterations and decorations of schools and other municipal buildings.
Both appointments will be subject to the provisions of the Local Government Superannuation Acts.
The Council is unable to assist in obtaining

visions of the Local Government of Acts.

The Council is unable to assist in obtaining housing accommodation.

Forms of application may be obtained from me, to whom they should be returned, not later than Saturday, 27th April, 1957.

D. H. PRITCHARD,

Town Clerk.

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

THE UNIVERSITY OF LEEDS. Applications are invited for the post of DEPUTY SURVEYOR OF THE FABRIC. Candidates should be good draughtsmen, possess a wide general knowledge of building construction, and have had practical experience of supervision. Preference will be given to Registered Architects or Surveyors. Commencing salary £900-£950, according to qualifications and experience. Applications, with the names of three referees, should reach the Bursar, The University, Leeds, 2, from whom further particulars may be obtained, not later than 1st May, 1957. Envelopes must be endorsed "Deputy Surveyor."

than 1st May, 1957. Envelopes must be endorsed "Deputy Surveyor." 5867

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

The Board are engaged on a number of new building projects, including a new hospital at Welwyn, and the following staff are required to fill new posts on the establishment created to deal with the increased work:—

(a) ASSISTANT ARCHITECT. Good experience of design and construction necessary, preferably in hospital work. Salary scale: £680× ×225 (3) ×253 (3) ×253 (1) ×255 (3)—£985, plus £20—£40 London weighting.

(b) ARCHITECTURAL ASSISTANTS. To give technical assistance to professional officers. Salary scale £510 (at age 21 and over) ×£20 (5) × £30 (1) ×£20 (1) ×£20 (2)—£710, plus £20—£30 London weighting.

Applicants for (a) above must be Associate Members of the R.I.B.A., and for (b) must have Inter. R.I.B.A. Commencing salary above minimum may be paid to successful candidates according to relevant experience appropriate to the posts. Posts are subject to Whitley Council conditions, and are superannuable.

Apply, stating which post and giving age, qualifications (with dates) and experience, with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.I., by 23rd April.

Place, W.I. by 25rd April.

AIR MINISTRY require WORKERS-UP in Quantities Division, London. Must be fully experienced and competent to work-up entire bills of quantities. Preference holders C. & G. (Quantities). O.N.C. or equivalent technical qualification. Salary range £660 at age 26 to £980. starting pay dependent on age, qualifications and experience. Pensionable and promotion prospects. 5-day week. Over 3 weeks' leave a year. Applicants normally should be natural born British subjects. Write, stating age, qualifications and previous appointments, including type of work done, to A.A.242, London Appointments Officer, Ministry of Labour and National Service, 1-6. Tavistock Square, London, W.C.1. No original testimonials should be sent. Only candidates selected for interview will be advised. 5853

FEDERATION OF THE WEST INDIES
FEDERAL ARCHITECT
To promote and supervise the development in inidad of the new capital of the Federation the West Indies.

To promote and supervise the development in Trinidad of the new capital of the Federation of the West Indies.

Contract appointment for five years, Salary \$2,500 p.a. Free passages, not exceeding five persons in all, for officer, wife and children under 18, on first appointment and termination of contract; also free passages on leave, not exceeding cost of three adult passages, after a tour of service of not less than 23 years, 45 days' leave per annum. Quarters, if available, at 10% of basic salary, otherwise allowance granted towards rental of private quarters.

The development of the new capital site will include the preparation by nominated specialists of a Master Plan for the site; the promotion of architectural competitions for the principal government buildings; the supervision of building contracts; and the setting up of Town Planning Control of development in the Federal District.

Minimum age, 35. Candidates must be AR.I.B.A. with not less than ten years' experience since qualification and experience with either New Towns, the LCC, or other Public or Government Authorities having large development programmes or in an office with an established and progressive practice.

ment programmes or in an office with an estab-lished and progressive practice.

Write Director of Recruitment, Colonial Office, London, S.W.I., giving briefly age, qualifications and experience, quoting BCD.112/500/02. Closing date for receipt of initial enquiries 30th April.

CORBY DEVELOPMENT CORPORATION
Applications are invited for the following appointments on the staff of the Chief Archi-

appointments on the same teet:—
SENIOR ASSISTANT ARCHITECT. Salary Grade A.P.T. VII (£999 to £1.230 per annum).
TWO ASSISTANT ARCHITECTS. Salary Grade A.P.T. IV (£728 to £907 per annum).
Commencing salaries will be at points within these grades, according to experience and qualifications.

cations.

Appointments will be subject to superannuation
nder the Local Government Superannuation
cheme, for which medical examination will be

Scheme, for which required is available.

Housing is available.
Applications, stating age, education, training, qualifications, experience, present and past appointments and salaries, together with the names of two referees, must reach the undersigned by Wednesday, 17th April 1957.

R. F. BROOKS GRUNDY, ESQ.,

General Manager.

Systemats. 5860

BRACKNELL DEVELOPMENT CORPORATION
Applications are invited for the post of
JUNIOR ARCHITECTURAL DRAUGHTSMAN
in the Department of the Chief Architect.
Salary £185 to £513, Higher General Division.
Commencing salary in accordance with age and
experience. Superannuation scheme, medical
examination. Housing available in due course.
Apply by 17th April, giving age, education and
qualifications; experience and appointments held
(with dates and salaries), and two referees, to
General Manager (J.A.D.), Bracknell Development Corporation, Farley Hall, Bracknell, Berks.

UNIVERSITY OF KHARTOUM
Applications are invited for a LECTURESHIP
IN ARCHITECTURE.

Applications are invited for a LECTURESHIP IN ARCHITECTURE.

Salary scale: £81,152×75—£51,677 p.a., entry point according to qualifications and experience. Cost of living allowance approximately £895 p.a. Outfit allowance £850. Family allowances: wife. £860 p.a.; 1st child, £890 p.a.; 2nd and 3rd child, £830 p.a. each. Passages for appointee and family on appointment, termination and annual leave. Appointment on contract for 2-5 years, with possibility of renewal. Superannuation scheme. Detailed applications (8 copies), naming three referees, by 50th April, 1957, to Secretary, Inter-University Council for Higher Education Overseas, 29, Woburn Square, London, W.C., from whom further particulars may be obtained. 5840

COUNTY BOROUGH OF CROYDON SENIOR ASSISTANT ARCHITECT Applications are invited from Members of the R.I.B.A. for this appointment as a Senior Team Leader. Salary scale £1,055-£1,096-£1,137 per annum, commencing according to qualifications and experience.

and experience.

Applicants must have had considerable experience.

Applicants must have had considerable experience of local authority housing work, including multi-storey flats.

If necessary, the Corporation will endeavour to assist with living accommodation at a full economic rent.

Further particulars and application form from Borough Engineer, Town Hall, Croydon, Surrey. Closing date: 30th April, 1957.

COUNTY BOROUGH OF SOUTHEND-ON-SEA BOROUGH ARCHITECT'S DEPARTMENT Applications are invited for the undermentioned posts of:

ASSISTANT ARCHITECT, Special Classes Grade, 2707 5s., by annual increments of £30 15s. to £861 per annum.

ASSISTANT ARUHITEUT, Special Grade, 2707 5s., by annual increments of £30 15s. to £861 per annum.
ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. IV. £727 15s., by annual increments of £35 17s. 6d. to £907 2s. 6d. per annum.
QUANTITY SURVEYING ASSISTANT, salary scale rising to a maximum of £476 12s. 6d. or £589 7s. 6d., according to qualifications.
Candidates must be suitably qualified and experienced.
The appointments will be subject to the provisions of the Local Government Superannuation Acts and the National Joint Council's Scheme of Conditions of Service so far as adopted by the Council. Medical examination.
Applications, stating age, qualifications and experience, with the names of two referees, should be submitted to the Borough Architect, 30. Alexandra Street, Southend-on-Sea, forthwith.
Canvassing will disqualify. Any candidate who is related to a member or officer of the Council is required to disclose the fact.

ARCHIBALD GLEN, Town Clerk.

GLAMORGAN COUNTY COUNCIL
PLANNING ASSISTANTS, to assist in the preparation of Town Maps for the County Development Plan, together with some interesting comprehensive development area schemes. This work presents an opportunity for newly qualified Planners to gain valuable experience in a highly industrialised County.

Salary scale Grade Special/A.P.T. IV (£707 5s. to £907 2s. 6d. per annum).

Candidates must have appropriate professional qualifications. Starting point according to qualifications and experience. Applications immediately, stating age, training, qualifications, experience, present salary, and names of two referees, to the County Surveyor and Planning Officer, County Hall, Cardiff.

RICHARD JOHN.

Clerk of the County Council.

5877

CITY OF BIRMINGHAM PUBLIC WORKS

DEPARTMENT
PLANNING ASSISTANT

Salary Grade A.P.T. V (Ealt 17s. 6d.—£994 5s.
per annum), according to qualifications and exnerience.

per annum, according to quainteations and experience.

Applicants should be Associate Members of the Town Planning Institute and/or Institution of Municipal Engineers. They must be able to prepare proofs and give evidence at Local enquiries in connection with appeals. An intimate knowledge of the Town and Country Planning Act, 1947, is essential.

The appointment is permanent, superannuable, subject to a medical examination.

Applications, stating qualifications, age, and experience, and naming two referees, should reach the undersigned by 20th April, 1957.

Canvassing disqualifies.

HERBERT J. MANZONI.

City Engineer and Surveyor.

Civic Centre, Birmingham, 1. 5854

LANCAS LANCAS
Vacancies ex
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cants must he
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successful cand
large contracts
final accounts.
Application
Architect. P.C.
to be returned
Ref. A/AJ.

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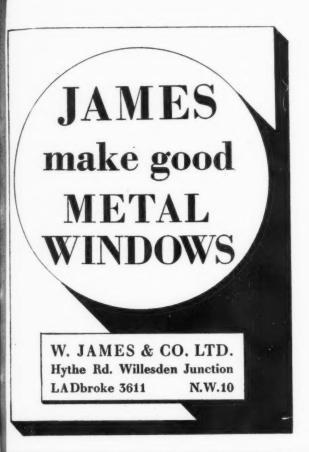
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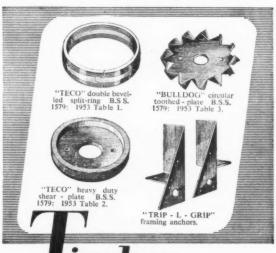


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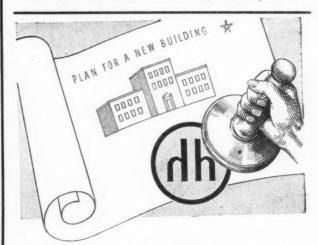
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