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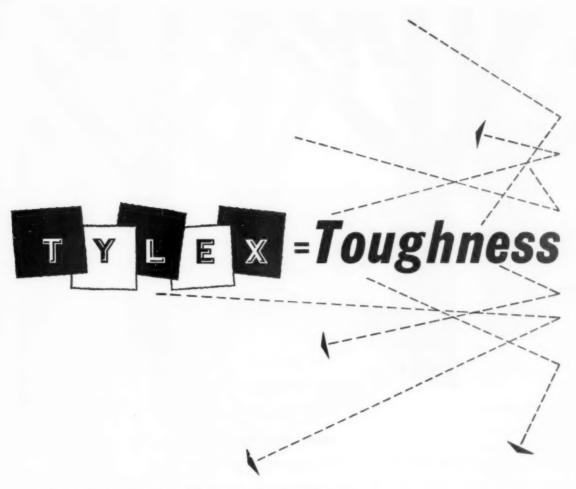
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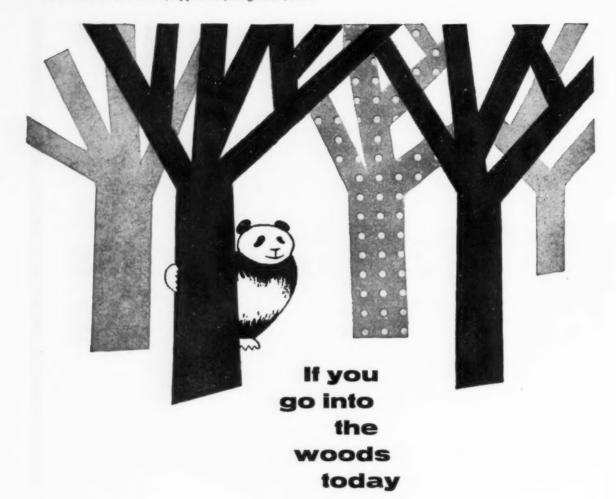
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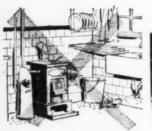
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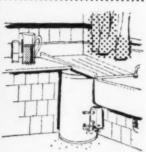


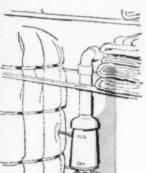
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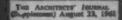
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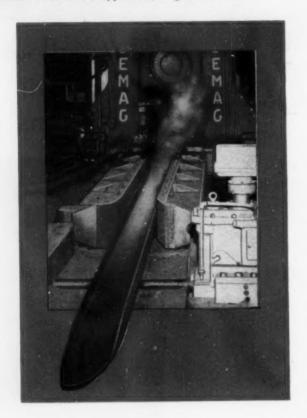


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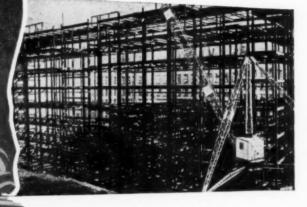


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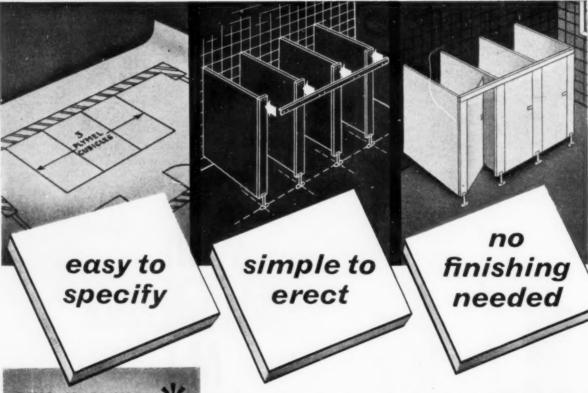
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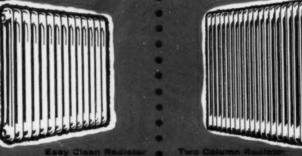
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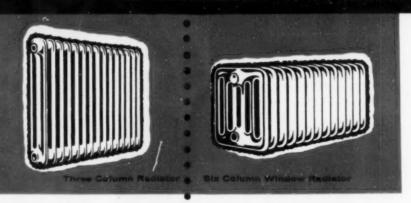
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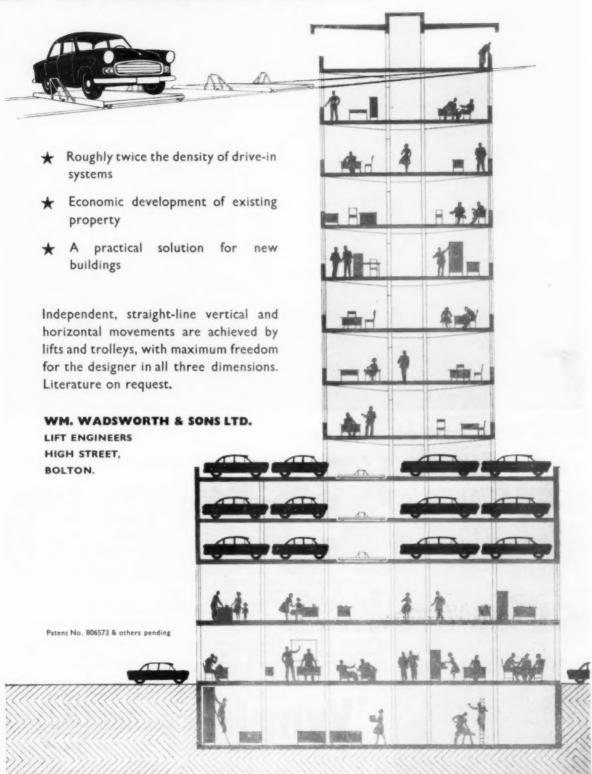
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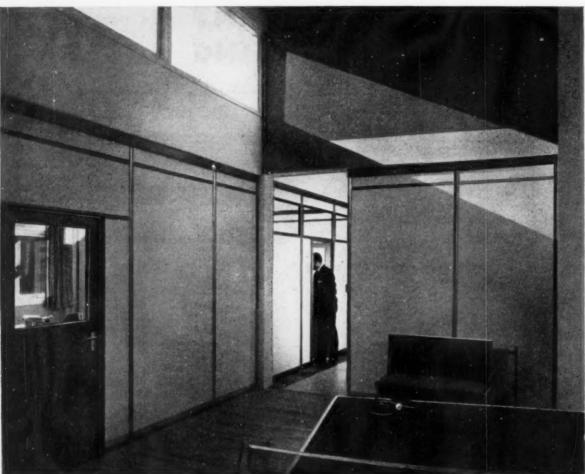


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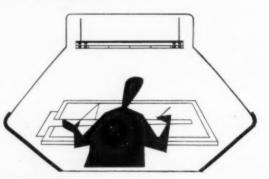
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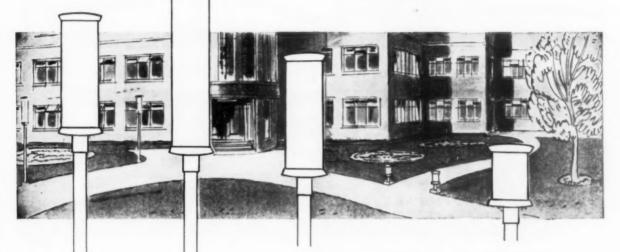


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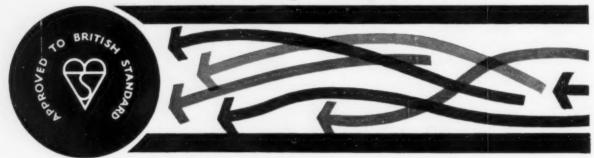
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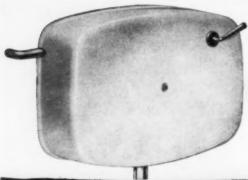
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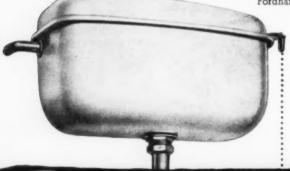
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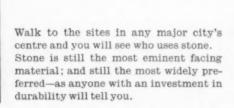
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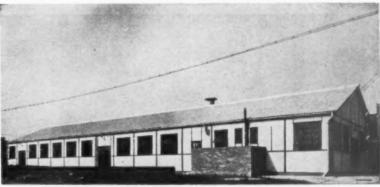
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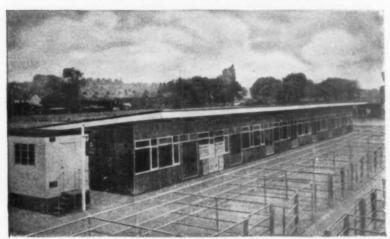
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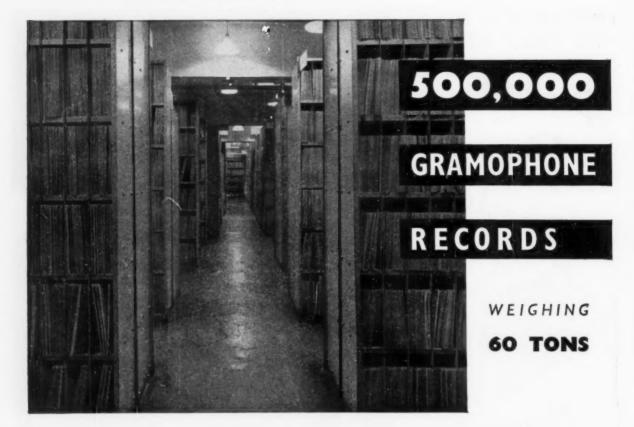
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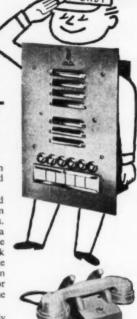


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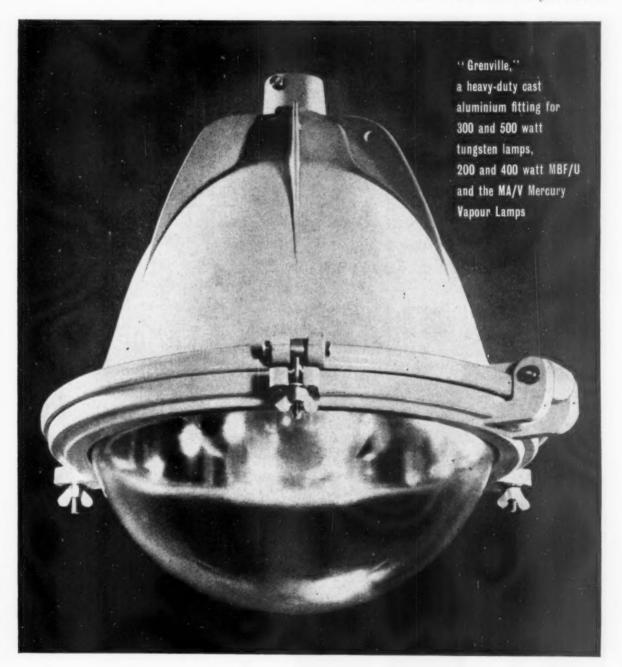
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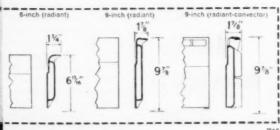


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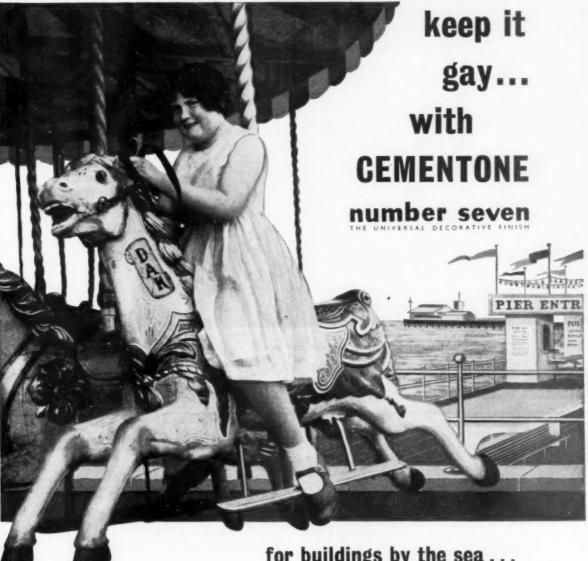
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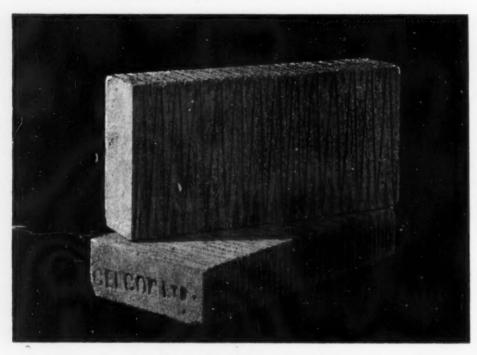
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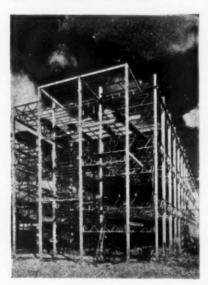


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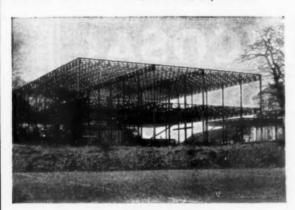
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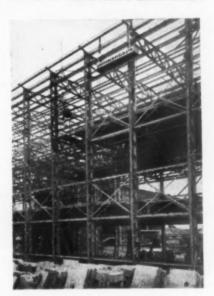
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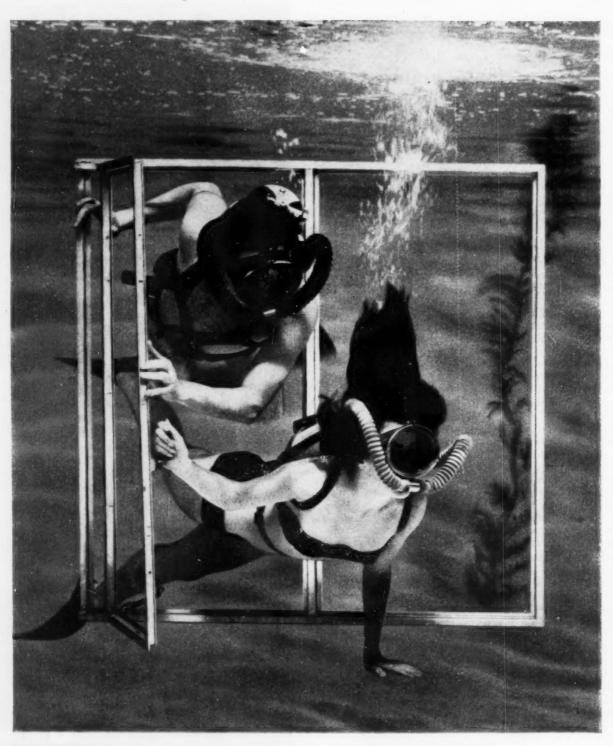
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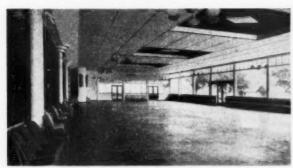
WILLIAMS & WILLIAMS

at **Pontins** Holiday Camp

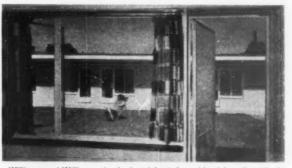


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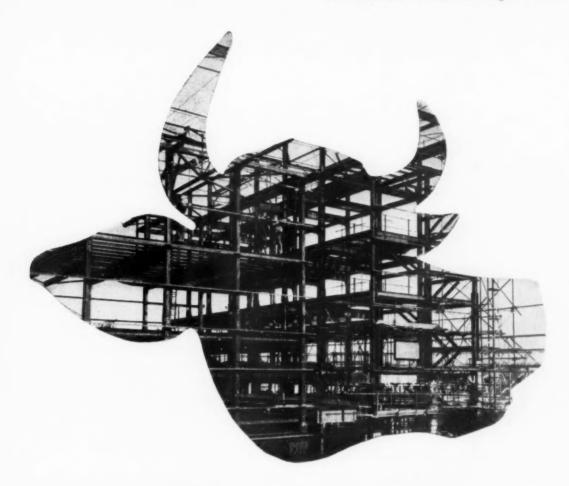


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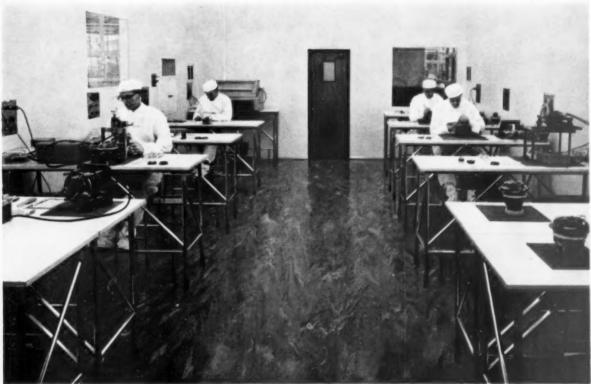
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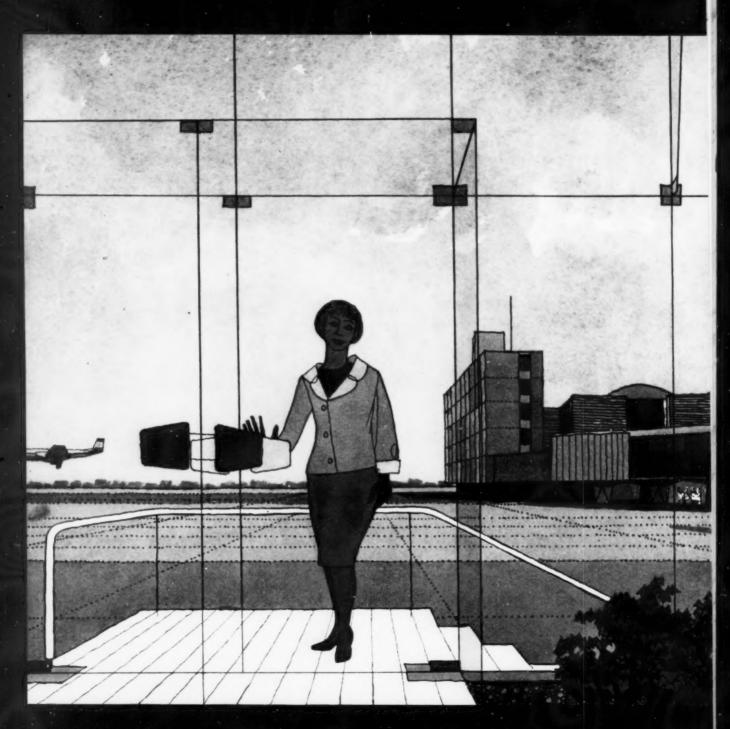
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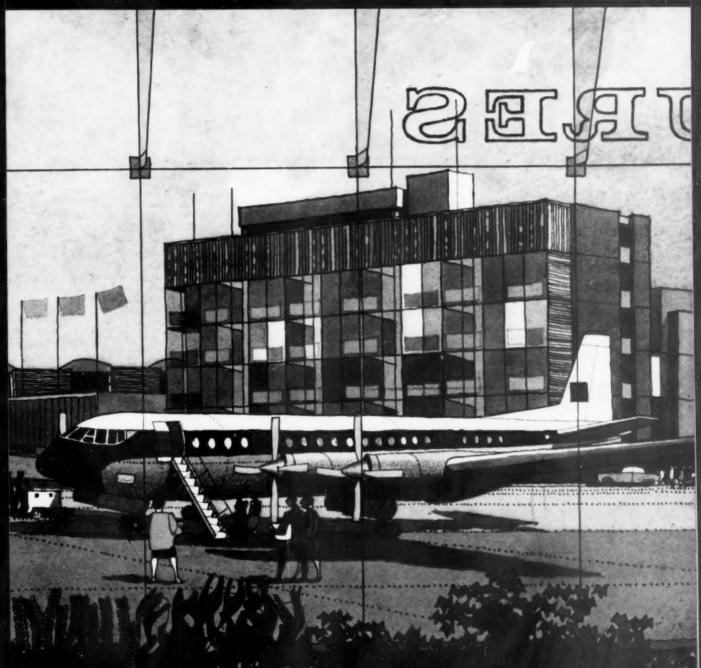
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The Architects' Journal

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NOT QUITE ARCHITECTURE

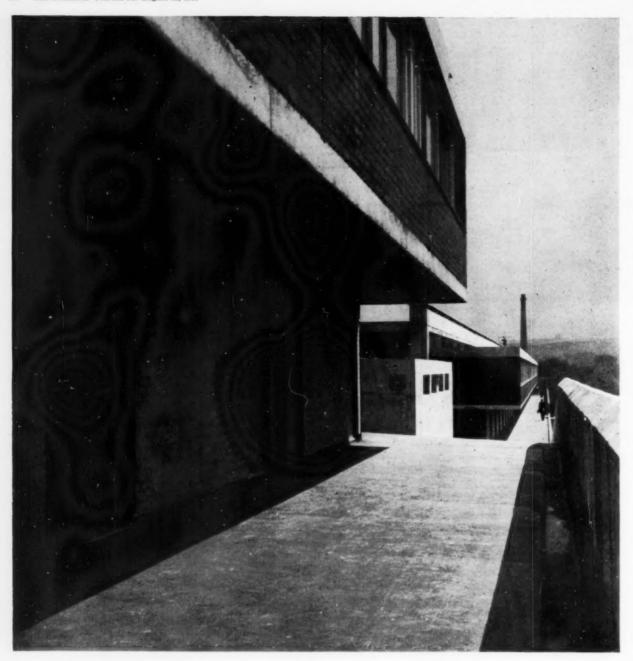
The urbanistic pitch

Kestrels ok a place; six in view at once put it in the Hit Parade; one perched for three minutes on your tent pole (Honest! five witnesses at less than 10 yards) and it's the Top. The place itself is in character—a shallow valley nowhere 300 yards wide, featureless save for some humps and sumps in the bottom, upholstered in coarse prehensile grasses; looks like nothing so much as some of the terrain the Yanks fought over at Kasserine, and the desert image is reinforced by overnight greenery, viridianlush, on the burnt patches after rain.

But the desert image turned Exodus as the valley filled with tents, and bearded patriarchs (who the previous day had simply been unshaven dads) sat before their tents at evening, surrounded by the seed of their loins. But comparing tribe with tribe, and the variety of ways that one family and its chattels can be put into two tents, the image regressed towards anthropology—"Very primitive tribe, the Boneses—all age-groups sleep in the same long-house."

By then, the place had been populated. a human settlement had been created, town-planning had been done without anybody really noticing. The only town-planning problem that is officially recognised in the valley has to do with the Elsan (an award-winning one whose seat is already cracked to hell) but the last time the locals set the sanitary inspectors onto the campers, it turned out that the smell was coming from the snobs' holiday camp farther north.

But there are real urbanistic problems—two of them. The first is a real dog: where to pitch the tent. The valley dictates a linear or serial composition, but nothing else. Therefore all sites are wrong given English weather. Along the side you get flooded after rain, down the middle you get blown to shreds in the gales. Spin a coin



Raising the standard

These split-level maisonettes, just completed, are clear evidence that the team of housing architects at Sheffield (city architect J. L. Womersley) are still forging ahead, despite the successes of the Park Hill scheme (pages 271-286). One of the main factors is the policy of the City Council to raise the standards of their housing, by providing a variety of dwelling types and sizes in each neighbourhood, with an increased proportion above the minimal areas. This is based on the experience that many of their tenants are prepared to pay rather more for better accommodation; they are therefore determined that wherever possible this freedom of choice should be offered. These terraces, which form the first part of the Hyde Park scheme to be completed, are amongst the first dwellings to show this upward trend in space and quality. This type of low-density development up to a maximum of three storeys was chosen for this part of the scheme because of the low bearing capacity of the ground, due to old mine-workings. The use, however, of the deck method of access has been retained, partly covered, and commanding magnificent views of the city centre across the valley.

and do the other thing. But pitching the second tent is worse. You have to relate, the site tells you nothing, the only functional considerations are communicative, depending on the contents of the second tente.g. minimum sprinting distances under cloudburst conditions, but if it is full of pop-crazed teens, maximum distance for sound insulation. The rest is all aesthetics, and I wouldn't wish it on anybody, except fifth-year Knowalls from the AA, who should be sent in pairs to sort out the valley, and the tents, and kept there arguing till one had gone berserk and killed the other.

The survivors might have something useful to say on the second, and more chronic aspect of the urbanistic problem, which has no apparent solution beyond a complete development moratorium on the whole coast. As will have been deduced from what has been said already, this is real camping. whole-family camping, and only to be considered on sites within easy reach of water, milk, Calor gas, Coco-Pops, Monopoly money, disposable nappies, Instant Whip, ice Iollies, Eagle, sand-shoes, Top Dog, sunburn lotion, Elsanol and something to keep ladybirds out of the milk.

For this the valley is ideal, shops are only just out of sight of the site, about threequarters of a mile away north and south. and only about a hundred yards inland is a developer's road with water mains. Developer's road . . . the present situation is as unstable as a dog on a beach-ball. From north and south the long lines of Seaview bungalows along the road are only temporarily halted in their march toward one another; the gap behind the camp is down to about a third of a mile, and has started filling up again with two new bungalows at the southern end. Behind the road is a subtopian limbo of agro-industry-two 40,000-capon broiler plants and a pleasantly amateurish factory where they make concrete frame units for Min. of Ag. standard buildings.

I give the valley two years-the first harbingers of its destruction appeared when two amiable characters with north country accents descended the landward slope to enquire if there were any way to get a Dormobile down. Soon the pressures will become irresistible, the bungalows will join up into a continuous non-place, the valley will become a two-mile extension of the continuous caravan site that already extends six miles north from Yarmouth, and the wandering tribes of art-masters, architects, guitarists and what have you will have to pitch somewhere else.

For this kind of camping is only physically possible just beyond the frontier of subtopia, and it is in the nature of subtopia to spread-one of the possible alternatives has already been destroyed by that kingsized subtopiator, an atomic power station. The price of giving the kids a good wild holiday is to keep one jump ahead of the spec-builders. What's that? Oh sure, they could go to the Outer Hebrides every year ... with four kids and the dog on teacher's

The Editors

LET'S HAVE A POSITIVE PLAN

There no longer seems to be much argument about the need to plan our economy: not one serious anti-planning squeak has been heard since the Chancellor's "little budget."

Unhappily the first steps announced by the Government towards producing a long-term overall plan which would keep expenditure in line with economic growth, are a wagefreeze and an instruction to local authorities to cut their building programmes. The circular from MOHLG is a deeply depressing document: housing is to be sharply cut back (except for slum clearance and housing the aged), and other projects, from sewerage schemes to playing fields, are to be put back, reconsidered, and resubmitted for Government sanction when not scrubbed altogether. A probable delay in many large schemes of three or four years or more is promised.

Particularly deplorable is the decision that the amenities for youth pressed for so convincingly by the Wolfenden Committee on Sport and the Community, are to be indefinitely postponed. This means that another generation of teenagers will be hanging about street corners before anything is done, and perhaps an enlarged programme of prisons and approved schools may be the result. Anyone doubting the seriousness of this decision should read the report on New Communities in Britain published this week by the National Council for Social Service (and reviewed on p. 259).

The effect of such cuts is once more to stop the most socially necessary types of building: while private enterprise and local authorities both suffer from a rise in bank rate, the speculative office block can still go up, but not the long-awaited swimming bath. Moreover, the system of stop-and-start control creates all sorts of uncertainties in the building industry and the manufacturing industries supplying it.

This is merely negative control and we hope that when the Five Year Plan proposed in the Plowden Report and apparently accepted by Mr. Selwyn Lloyd is presented it will depart completely from this negative attitude. What is wanted is not a plan that cuts essential building to fit our overloaded building industry but one that gets the industry to expand to cope with our requirements.

For years there has been a shortage of bricks, for example: let the planners discuss plans to expand the brick industry with the men in the industry, and come up with proposals to meet our estimated requirements. Other industries cry out just as loudly for Government investigation and a plan for their expansion and greater efficiency—shipbuilding, for instance, and the vast concerns whose new rolling stock is making British Railways electrification a very tedious joke.

A report by PEP on "Economic Planning in France" (5s.) is a timely publication giving an account of how French industry and government have worked together to prepare REYNER BANHAM three four-year plans which have unquestionably played a

part in achieving a rate of expansion of industrial production in France twice as great as ours. One may feel a shade sceptical of the claim, made by the *Commissaire General du Plan*, M. Pierre Massé, that the plan "carries itself through," but there is obvious value in the method of bringing together into small discussion groups representatives of the varous branches of industry with economists and representatives of government, to discuss the nation's situation and needs, and what contribution each industry can make to expanding the economy of the country. Discussions on these lines here would be a much more positive method of steering the economy than that of finding out what the local authorities are doing and telling them to stop it.



A TREAT IN STORE STREET

Don't miss the exhibition of Mexican architecture now showing (until September 9) at the Building Centre in London. You will be staggered by this record of continuous building on a monumental scale over the last 4,000 years, though you may be as perplexed as I am by claims made at the exhibition's opening that the architecture has maintained a continuity of traditional feeling for all that time. I certainly couldn't see much Atzec influence in any buildings of the last century: in fact most of the vagaries of European architecture seem to have been followed (with time-lapses of ten to twenty years) up to about 1950. Since then things have gone pretty fast. The range, quantity and quality of recent buildings could not, I am sure, be matched by any other country.

Some of the buildings have traditional forms grafted on to them in the form of murals (e.g. the vast external ones on the University Libarary by O'Gorman and Velasco), but then in art work generally there is still a strong traditional feeling. Incidentally, you'll be impressed by the resemblance of the end wall of the Library to a really rich Trade Union banner. There's obviously a good essay subject in the influence of Mayan civilisation on late nineteenth-century trade unionism in Britain.

A LITTLE BIT OFF THE TOP

You may remember that the transmitter tower proposed for Tottenham Court Road, and published here last February, had an unpleasantly topheavy look. The taller, revised version, shown here, is a much more imaginative effort by the mow's architects' department and the GPO. The horn reflectors are no longer housed behind the die-electric plastic cylinder, which caused the top-heaviness, but are revealed (to improve transmission, we are told) in a way that is both functional and sculptural. Which is fine for everyone but the GPO engineers, who will probably shiver while servicing outside equipment on this 600-ft. tower. No discomfort will be caused to diners by the height of the restaurant (450 ft.) because the National Physics Laboratory estimates an oscillation of only ten inches, though digestions may be impaired by the revolving floor.

FEAT OF CLAY COMPANY

A clay company is to be allowed to pile up mounds of debris in a National







4,000 years of Mexican architecture: top, Maya pyramid of Kukulcan; centre, 18th century church at Acatepec; 20th century church at Monterrey, designed by Enrique de la Mora Y Palomar. (See "Treat in Store Street")

Park. That sounds grim enough, but this operation — on Dartmoor — will cover up the prehistoric stone row and circle at Cholwichtown. What really appals me is the contemptuous casuistry of the Minister of Works, Lord John Hope, who told a parliamentary questioner that it "would not be destroyed; it would simply be buried." A newspaper correspondent points out that the Minister might equally claim that the Egyptian monuments will not be destroyed, but simply concealed by a hundred feet or so of water.

Did you imagine, as I did, that an area which became a National Park automatically gained protection against industrial or military encroachment?

MORE WATER WITH IT

The "Men of the Trees" are said to have a hard time convincing the public

they are not cranks-men-monkeys and that sort of thing. To prove their seriousness they are showing an exhibition of tree photographs at the Royal Society of Portrait Painters. The pictures include pines in Swaziland, tamarisks in Israel and silver birches in the Soviet Union. In many of their captions the combating of soil erosion is mentioned. Back in balmy old Britain, however, the Men have let their aesthetic and sentimental feelings get the upper hand. They have been captivated by some lovely pictures of English elms and beeches, which are superb examples of photographic artistry. There is also an aerial view of part of Sussex showing a lacework of hedgerows thick with oaks, "the traditional pattern of English Agriculture." The "Men of the Trees" say that "this ancient system of tree-surrounded fields produces three times as much as America." Maybe-but what about a BIT of credit for our soil and warm climate, not to mention our rainfall?

GET OFF MY FOOT!

It was the harmless goat which turned the woods and groves of Ancient Greece into the barren rock hill sides we know today. I bring up this not-quite-architectural point because there seems growing evidence that we are doing some odd things nowadays by monkeying about with nature. You may have read in The Guardian of the enormous number of birds being killed by insecticides and weed killers. And I gather it is now impossible to keep bees in Essexexcept in suburban gardens. Recently, too, we were told that in the deep country fruit crops are no longer being fertilised because of the shortage of wild flowers and, consequently, nectar. And now it seems there are threats of soil erosion because of the uprooting of hedges and windbreaks to make land more productive. And what about the latest American space proposals to launch needles from satellites which may-according to Sir Bernard Lovell -even darken the sky?

I mention this in case any reader spots just one opportunity for halting the progress we are making in throwing babies out with the bath water.

TOWN SENSE

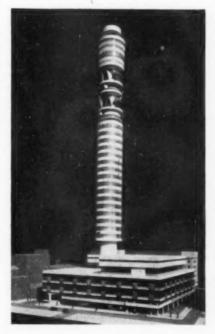
The Farnham Society has just pub-

lished the talk on Town Sense which Sir Hugh Casson gave last December in the Great Hall of Farnham Castle. Something like 500 people turned up, which seems to me a pretty good figure for a winter evening, and Sir Hugh repaid this tribute by talking pretty sound sense, interspersed with an adequate ration of laughs, and in fact provided an almost ideal programme for the things a local amenity society should and should not do if they are to steer a reasonable course between a free-for-all and a town in a glass case. A lay audience isn't necessarily stupid, but it does not want masses of figures about traffic densities and people per acre, the technicalities of zoning or the stupidity of some bye-laws. Most of what Sir Hugh said applies equally well to most other smallish communities and I hope the Farnham Society sells a lot of copies.

CUSTOM OF THE PORT?

If an architect hasn't nominated any particular subcontractor, there is presumably no reason why he shouldn't agree to some firm suggested by the general contractors on the grounds

The Tottenham Court Road tower, of reinforced concrete clad in bronze mullions and glass, will rest on a 90-ft.-square prestressed base, 25 ft. below ground. Designers (also for adjoining extension to telephone exchange): G. R. Yeats, under Eric Bedford, Mow's Chief Architect, and G. C. Greetham, Mow's Chief Structural Engineer. See "Little Bit on the Top'



that "we're used to working with them." As long as the job is properly done it presumably doesn't matter very much, but with so many general contractors doing less actual building work and subcontractors doing so much, the more suspicious of us may sometimes wonder if the favourite nephews have to pay their kind uncles a moderate cut for getting their jobs. Certainly a number of highly respectable firms complain they can never get iobs from certain contractors unless they are nominated. At least one firm of electrical contractors has tried to get round this impasse, and has sent what looks like a circular letter to an architect friend of mine offering him a straight 10 per cent on all jobs. I shall certainly keep a closer eye on subcontractors' boards for the next few months, and perhaps wonder if that architect has found "our proposition can be of mutual benefit."

BRICK DROPPED

In case rose-tinted stories about one or two spec-builders have tempted you to lower your guard against the breed generally, heed this true horror-story from East Anglia.

A site, more or less approved by the local authority for development, was now ready for building operations. It had been bulldozed flat and every stick of timber had been flogged at a handsome profit. The men, the bricks, the cement-mixer, the tea-hut and everything else had arrived, but the men were sitting about idly. Enter, towards lunchtime, the developer-contractor himself, in a Bentley Continental. He observes the scene, lowers his push-button window and makes a speech that would be strong stuff in a kitchen-sink play.

The foreman approaches this almostapoplectic entrepreneur and explains that they have a little difficulty-no one has drawn up a site plan, so they don't know where to start building. "Fetch me a something brick!" requests the splendid example of all that is best in private enterprise. The foreman tenders one a little nervously, expecting a dented head. And then, with a strength lent by justifiable wrath, the brick is hurled from the Bentley and buries itself in the mud. "Now blanking well start building there!"

LETTERS

Wyndham Thomas
Director, Town and Country Planning Association

David Percival, BA, ARIBA, MTPI City Architect, Norwich

P. Fleetwood-Hesketh
Secretary, The Victorian Society

TCPA and regional planning

SIR: Leslie Ginsberg—that Nimrod of the gimmick—did AJ readers a serious disservice with his garbled comments (AJ 2.8.61) on the conference held in Birmingham by the Midlands New Towns Society and the Town and Country Planning Association. Those who are interested in an accurate account of the proceedings and of the joint policy statement being sent to the Government should read the October issue of Town and Country Planning. They will then conclude, as I at first did, that Mr. Ginsberg had attended a quite different conference.

Let me correct just a few of his several inaccuracies. First, regional planning is no new feature of our policy. Every policy statement we have ever sent to the Government in more than 60 years' activity confirms the truth of this. Secondly, we were (with the MNTS) concerned to propose a regional solution to the related problems of worsening congestion, decay and increasing pressures for growth in the West Midlands and the stagnation and decline of places up to 60 or 70 miles away. To this end we suggested, among other things, the immediate building of two new towns, the expansion of several others under the Town Development Act, and the establishment of a regional development corporation to restore economic and social vitality to subregions in mid-Wales and border areas. Mr. Ginsberg, for reasons best known to himself, deliberately omits reference to this last proposal.

Thirdly, David Eversley's paper graphically and at length brought out one thing above all others: that Birmingham's slum and renewal problem is of enormous size and that the only means of faster progress in dealing with it is to draw off the employment and population pressures to places a good distance away. If these alternative sites are not provided, clearance and renewal will virtually cease. Fourthly, the development we talked about-homes, workplaces, schools, shops, etc., etc.-for over 300,000 people seems (short of catastrophe) inevitable. Something like 20,000 acres of land will be needed, only half of it for housing. Our proposals suggested where the development should take place. Mr. Ginsberg evidently thinks that by turning his back on

reality he can prevent it happening.

Fifthly, his assertion that most speakers thought new towns cheaper than expanded towns is the exact opposite of the truth. The speakers who did in fact comment on this, as the record shows, claimed expansion schemes as preferable for this among other reasons. They are cheaper, but there is very little in it. Both, of course, are vastly cheaper than the multi-storey, high density and inhuman monumentalism that Mr. Ginsberg usually advocates.

Next, even if our proposals for drawing off some 300,000 people and their related employment in 20 years are implemented, there will still live and work in the West Midlands conurbation some 2½ million people. We shall have plenty of other towns in Britain with populations above 250,000. Anybody who wants to go on living in one can. What we, as distinct from your contributor, want to ensure is that those who don't want to don't have to.

Finally the afternoon session of the conference was devoted almost entirely to contributions from the floor. Fifteen people spoke for periods from one to seven minutes. Not one of them read his speech. We were widely complimented on the opportunity given for comment. We got a vivid idea of the reactions of local authorities and others to our findings and proposals. If that isn't discussion at a conference attended by over 300 people, what is? The one accurate remark made by Mr. Ginsberg is that not once was the validity of our draft proposals questioned. All the evidence we have in fact shows massive support for them.

We are now revising our policy statement. Your readers may disagree with much that it will contain. But in order that they may judge for themselves it is to be hoped that you can find the space to reproduce it in full, or at the very least the Press summary I shall send with it.

WYNDHAM THOMAS
Director

The Planning Centre, London, wc2

Patronising London

sir: We provincial architects are used to being patronised from London, but when I see you commenting on Reiach & Cowan's Agricultural College at Edinburgh University as a highly workable and economical design "if one can overlook the slightly eclectic character of this building," I feel bound to enter a strong protest.

I have not seen the building, but from your illustrations it would appear to be a first-class contribution to Scottish architecture. The climate and feeling of light that one encounters in Scotland have a strong resemblance to those encountered in Sweden and it would be the most natural thing for the architectures of these two countries to have some similarity. The pity of it is that more Scottish architecture does not have such character.

The tendencies internationalising and de-

regionalising architectural design should surely be allowed to work without encouragement from architectural critics. Building Brasilia or Chandigarh in Scotland would be ludicrous and, indeed, if the word be used in its proper sense, eclectic.

If you want to jibe, please explain what you really mean.

DAVID PERCIVAL

Norwich

A Nuffield for Euston?

SIR: The Victorian Society is taking joint action over Euston with the Society for the Protection of Ancient Buildings and other organisations concerned with the protection of our finest architecture.

We are much concerned by the secrecy that has surrounded the planning of the new station. Is it right that planning on such a scale, using public funds, should be done in secret? The public, who have to bear the cost, are given no chance to criticise or to suggest any alternative ideas until they are told it is too late, and are then accused of being obstructionists.

Is it right that matters concerning the arts should be under the complete control of the Ministry of Transport, whose duty is to give us an efficient transport system? Where great works of art are involved, should not some appropriate authority such as the Ministry of Works or the Royal Fine Art Commission intervene?

Does it make sense when a Government cheerfully spends £200,000 of its taxpayers' money on buying two pictures by Renoir which, though very fine to possess, relatively few people will ever enjoy, and which were never even for a moment threatened with destruction, yet begrudges £190.000 which they say would be needed to save from total extinction a great national, and indeed international, monument; the first great railway terminus in the World, treasured in the eyes and minds of millions? Be that as it may, and whatever the fate of the magnificent portico and lodges, which we are told stand on the "only possible" site for an escalator, has sufficient thought been given to the great hall and the shareholders' meeting room, architecturally of even greater interest? It is known that a plan existed for retaining these. What has happened to this plan and why has it been discarded? We are told that the portico and lodges, if left where they are, will prevent the lengthening of the platforms. But the great hall and shareholders' meeting room, masterpieces of classic interiors, cause no such obstruction since the platforms

already pass on either side of them. And it

would be difficult to believe that leaving

them where they are will cost anything at

all, save possibly a little ingenuity on the

P. FLEETWOOD-HESKETH,
Secretary

The Victorian Society, London, wc1

part of the planners.

NEWS

MOHLG

Cuts now, but a plan tomorrow

Cuts in local authority housing programmes, postponements of water and sewerage schemes, and the reconsideration of all the various local government services lumped together as "amenities" and stretching from crematoria to theatres and swimming baths to public conveniences, are called for in Circular No. 37/61 from the Ministry of Housing and Local Government to local authorities last week.

Starting with a diagnosis of this country's present economic ills, the circular accepts the proposition of the Plowden committee on the control of public expenditure, "the growth of public expenditure should be considered and allowed only in so far as the growth of resources enables the increase to be carried," and asks local authorities to look to their plans, and ensure that they are not taking on more than their resources can

"Some initial expenditure may be easily afforded in the first year of undertaking a long-term project," says the circular, which is signed by Dame Evelyn Sharp, "but what matters is the commitment as it builds up in later years. If authorities find that they are being asked to do more in total-or to do it faster-than their own judgment supports, they should say so. They should satisfy themselves that the total build-up of their expenditures, looking several years ahead, will be within their resources as they can foresee them, assuming grants would remain on the present basis.

The circular goes on to warn against "a natural desire to make full use of the annual permitted quota" which may sometimes lead to "ill-considered expenditure." and goes on. "The check on the rate of growth of capital expenditure to be applied by Departments . . . pays regard to the national load on the building and civil engineering industries. But an undue concentration of public projects in a particular local area can still lead to a gross overload locally and in consequence to a sharp increase in prices. Any authority which finds that prices that seem to them too high are being offered in tenders for contracts, should decline acceptance of such tenders and defer the project until lower quotations can

The document goes on to refer to the proposal to control public expenditure over the next five-year period, so as to prevent its outstripping "the likely rate of growth of national resources," and "to settle priorities in the national interest."

The immediate aim is to hold capital expenditure for 1962-63 to the level of the current year, but "in view of the large number of authorisations which have already been issued . . . this means that the amount of other new work for which authorisations . . . can in the future months be issued will have to be materially reduced, and since some programmes must continue to increase, this means that others must, without delay, be abated below recent

The Ministry then goes on to particularise: Housing, is said to be "tending to pile up" in the "pipe-line," and new starts must therefore be reduced below recent levels. Priority is again to be given to slum clearance, and to the accommodation of the elderly and the rehousing of families living in badly overcrowded and squalid conditions. A few authorities will also need to give priority to overspill building.

Water and sewerage schemes are to be deferred "which in fact are not immediately necessary."

Other local services: these, the circular points out, "are services such as refuse collection and disposal, street cleansing, cemeteries and crematoria, town halls and offices, libraries and museums, swimming baths, public parks and recreation grounds. public conveniences, markets, etc. After the war investment in these fields had to be restricted in favour of more urgent projects such as housing, but in recent years it has increased steadily and at present it is running at a higher rate than in any year since the war.

"Even so, the number of schemes submitted for loan sanction has been considerably more than could be fitted within the money available, and it has been necessary to arrange the larger schemes in order of priority for the issue of loan sanction. For example, in the case of the larger schemes recently submitted it has not been possible to promise loan sanction for at least three or four years."

There will be "many local decisions for indefinite postponements of projects that are not really essential," the circular goes on. "The Chancellor has indicated that the recommendations of the Wolfenden Committee on Sport and the Community must wait for some time to come. This means that the Minister must for the time being defer the issue of loan sanction for schemes for new swimming baths and projects of that kind."

The document goes on: "The forward programming of schemes in this heterogeneous field . . . is exceptionally difficult. It is made more complex by the probability that many schemes well advanced and known to the Department may now for the time being be postponed.

"At the same time, the Government are now faced with the need to programme all capital investment up to 1965-66. For these purposes the Minister proposes to deal specifically with all those projects estimated to cost more than £20,000 and in these circumstances he must ask local authorities to review such projects in this field and to submit or re-submit such of their proposals as they wish to continue, indicating the year in which they wish the project to start. This will make possible the compilation of a phased programme up to 1965-66 which will still enable unexpected but immediately urgent expenditure to proceed as they arise.'

Limited competition for St. Paul's choir school

The president of the RIBA has been asked by the Minister of Housing to advise on the arrangements for a limited competition for the design of the new choir school for St. Paul's, on the important site beside the east apse of the cathedral.

The project of holding a competition has arisen as a result of a request by the Dean and Chapter of St. Paul's that the Minister should help solve the differences of opinion that have arisen between the LCC, the City Corporation and the RFAC on the design of the new choir school, and advise the Dean and Chapter on the best design for this building. After a meeting with all the bodies concerned, the Minister concluded that a limited competition was the best answer.

Trosley Towers inquiry

A public inquiry is to be held into the proposal of Croudace Ltd. to build a "woodland village" for about 2,500 people on a 155-acre site on the North Downs at Trosley Towers, near Wrotham, Kent. It will open at Maidstone County Hall on November 21, and will be conducted by Mr. J. G. Birkett.

Outline planning permission for the development of the site was granted by Kent CC in 1952, but the volume of public objection was so great that the Minister of Housing this May announced that he had decided to hold a public inquiry, on the evidence submitted to which he would consider using his powers under the Town and Country Planning Act to modify or revoke the KCC's planning permission.

Study course on housing

Housing officers from 14 Commonwealth countries, including Tanganyika, Nigeria, Uganda, Kenya, the West Indies and other islands, have been attending the first study course of the Department of Technical Cooperation, on the subject of housing, how it is administered and financed in Britain, the planning of land use, slum clearance and housing management.

Coventry City Treasurer, Dr. A. H. Marshall, described local authority housing finance, and the party visited housing schemes in London, Crawley New Town and the neighbourhood of Guildford. One architect was among the officers attending the course, N. C. Flanders, from Seychelles.

NEW COMMUNITIES

National Council of Social Service survey

A survey of the achievements and problems of new communities in Britain, from the post-war I housing estates, like Watling and Becontree, to the post-war II new towns and expanded towns, written by Dr. J. H. Nicholson* for the National Council of Social Service is published this week.

It usefully brings together all that has ever been said, written, investigated and discovered about the growing pains of new communities, from the "new town blues" of young wives missing their mums and teenagers with nothing to do in the evenings, to the difficulties of providing enough schools, new hospitals, varied jobs and the services and amenities for the all-round needs of the uprooted multitudes to weld them into a genuine community.

"The dependence of social development on physical planning and on the selection of the original population . . has become increasingly clear as the study progressed," writes Dr. Nicholson. "It is too late to plan social development when the physical plan is already settled; social planning should

govern physical planning."

"The long delay in providing buildings for social purposes has been one of the most frustrating experiences, nor, apart from administrative and financial problems, is there as yet a clear view as to what types of building are best suited to a variety of uses," he points out. Yet his acceptance of these frustrations and his final recommendations seem curiously meak, mild and inadequate.

The fact is that social planning for the post-war new communities has taken place from the beginning, but has been repeatedly frustrated by economic crises and the refusal of Governments to sanction expenditure on any of the provisions for living which turn a place from a dormitory into a community. Since consideration of Government economic policies is outside Dr. Nicholson's brief, perhaps he can scarcely be blamed for not mentioning it. All the same his final recommendations seem needlessly accommodating towards these unmentionable obstacles.

New Communities in Britain: Achievements and Problems, published by the NCSS, 26, Bedford Square, London, wc1, 10s. 6d.

LCC v. RIBA

Scale of fees discussion?

London and outer London authorities may make an attempt to reopen negotiations with the Royal Institute of British Architects with a view to establishing a special scale of architects' fees for State-aided dwellings in London.

DIABY

4,000 Years of Mexican Architecture: The Building Centre, Store Street, wcl.

Until SEPTEMBER 19

Theatre Design: Exhibition at Arts Council Gallery.

Until AUGUST 26

25 Young Sculptors: Exhibition at ICA.

This follows a report by Lambeth Borough Council that whilst they are not likely to be affected by the withdrawal of the RIBA scale of charges for State-aided houses, the effect of the withdrawal of the scale for multistorey flats could be considerable in the case of a major scheme.

The borough council were perturbed about the possibility of the heavy increase in fees which they might have to bear.

Commenting on this the Metropolitan Boroughs' Standing Joint Committee say:

"The previous negotiations between the Local Authority Associations and the Royal Institute of British Architects were discontinued owing to failure to reach a satisfactory conclusion over a particular aspect.

"We feel that London is perhaps in a special position as regards housing schemes and that it might be possible for further negotiations to take place between the Royal Institute and representatives of the appropriate Local Authorities Associations and of the London County Council."

The committee are accordingly obtaining the views of the Outer London Standing Joint Committee and the London County Council upon this suggestion.

AA

Working party's proposals

Shortage of funds, the need for post-graduate studies and the need to form contact with other academic institutions were, apparently, the main conclusions of the report of the working party appointed to study the future of the Architectural Association. The decision to appoint a working party was made by the AA council in November 1959 and the party consisted of the following: Peter Chamberlin, chairman (who is not a member of the AA, or trained at the AA, and whose opinion was sought partly on that account), Neville Conder, Gabriel Epstein (past and present members of the AA council); Robert Maxwell, a member of the teaching staff; John Morgan and Julian Mustoe, students; and Michael Pattrick, former principal of the school. Robert Jordan was a member at the start, but pressure of work forced him to retire.

The working party were asked to consider "the future of the AA with particular reference to the type of training it should provide," and also to study the role of architects in society, the education of architects generally for that function, and the AA School in relation to other systems. The report was received in May this year and discussed at the first meeting of the new AA Council on July 11. The full report is considered confidential, but a synopsis of it has been sent to members. A summary of the recommendations, with brief notes indicating the council's first views is given below. In coming months the council will give detailed attention to the recommendations in consultation with the recently appointed director of the AA, E. J. Carter, the new head, William Allen, and the Advisory Council. The Council were pleased to note that both Carter and Allen, in their analysis of the aims and future of the AA, have ex-

pressed opinions "remarkably in conformity with those of the working party."

"I. It is essential, in the long run, that a different basis of financial support should be found than one which depends almost entirely on the income to be derived from the charging of fees."

In Council there was general agreement that dependence of the AA on student fees for its main source of income was highly unsatisfactory. But it was pointed out that if the Government carried out its tentative proposal to pay higher education grants without the restriction of a means test, the situation would change fundamentally. At present the overall cost of educating a student at the AA was considerably less than at almost any other school. The majority of AA students received State grants, but since many paid privately it was inadvisable to raise fees to an optimum level. This would become possible if all fees were covered by grants. In general the Council thought the recommendations to be too specific. They agreed that it was most desirable to find some other source of income to relieve the School from its present dependence on students' fees.

"2. That the Principal should in no way be concerned with the raising of funds, as has sometimes been suggested."

The Council agreed that "in no way" was too restrictive and that it would be better to say "should not be responsible for...."

"3. That the AA should provide opportunities for post-graduate courses and research; the first new post-graduate School to be established should, in our view, be concerned with Urban Design. We further advise that many other suggested fields of post-graduate study which have been tabled from time to time should be reviewed and that particular consideration might be given to courses in landscape architecture, advanced design, and building-engineering services."

"4. That the establishment of any new post-graduate courses should be approached with the intention—where possible—of obtaining eventual recognition by some recognised institution."

"5. That the existing School Committee is quite able to control the establishment of new post-graduate schools without the need to set up any new committees."

"6. That the possibility of establishing research fellowships supported by outside funds should be investigated."

"7. That the possibilities and advantages of affiliation with other bodies should be vigorously pursued, particularly affiliation with institutions which would offer both academic and financial advantages to the AA."

"8. That contact with other disciplines in other teaching institutions could be of positive value to AA students."

"9. That the Principal should enjoy the w'dest d'scretion possible in the introduction of any changes in the curriculum."

"10. That the present system of staff selection is satisfactory whereby the main responsibility rests with the Principal, and





Hongkong's projected city centre development: above, the model from the harbour; right, a keyed plan of the project, showing tall buildings, pedestrian circulation areas, open space and area zoned for commercial and office buildings

senior appointments to the teaching staff are advertised."

The above were all agreed.

"11. That, in the interests of making students aware of at least some aspects of the practice of architecture while they are studying, an office adoption schemeeither as existing or in some improved form-should be pursued."

The Council debated the value of the existing office adoption scheme and other possible schemes for providing experience of practice. Mr. Allen was asked to study the question and to report back.

"12. That it is desirable for the AA School to remain in central London, although residential accommodation should be provided wherever the opportunity may arise (for example, it has been suggested that the Royal College of Art and the AA might well combine to build joint residential accommodation)."

There was general agreement that the AA School must remain in central London and that, if hostel accommodation could be provided, it should if possible be shared with some other academic hody or bodies. "13. That the AA should promote publication of reference material and, particularly, the translation of worthwhile architectural books otherwise only available in foreign languages."

This was agreed in principle, but the Council believed that publication of the kind envisaged almost inevitably required subsidies. Liaison with the RIBA was necessary.

HONGKONG

Comprehensive development scheme

An impressively comprehensive scheme for the redevelopment of the centre of Hongkong has been published by the Hongkong



Town Planning Board, which drew it up after consultation with the local Society of Architects, and industrial and commercial organisations. It proposes to build a new city centre on 76 acres of land along the waterfront, about half of which has been released by the Admiralty and War Department, and half has been reclaimed from the sea, and to adopt two-level circulation with pedestrian segregation from the start, with tall buildings rising from a wide pedestrian podium, 19 ft. above street level, and traffic, car parking and servicing areas at two levels below. Some 14 acres of open space will be provided for a 41-acre piazza, to be called "The Square of Statues" where a well-known statue of Queen Victoria will be, say the Board, "restored to her rightful place in the heart of her city," a 3-acre site for the local cricket club, and two open play areas at the east and west ends of the site for the use of residents in the surrounding city. The cost of acquisition and reclamation of the site is reckoned at 60 dollars a square foot, and "no one can foresee what revenue will accrue," says the report. "However, there is no doubt whatsoever that the use to which this land is put and the manner in which it is developed is of major importance to the whole community generally and the business community in particular."

HOPE'S Reversible Windows





SUMMIT COURT, Shoot-up Hill, Willesden J. C. Morris, B.Sc., M.I.C.E., M.I.Struct.E., M.I.Mun.E., F.R.S.H., Boro' Engineer & Surveyor T. N. I'Anson/R. W. Hallam, A/A.R.I.B.A., Chief and Deputy Architect

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technical section

THE INDUSTRY

This week Brian Grant describes an aluminium facing panel, plastic rainwater goods, partitioning, a combined sink unit/ washing machine, electrical equipment, spray taps, a booklet on handling baths, and a device for calculating mastics quantities

Facing materials

The section on the right shows the new Stenmar aluminium facing panel, which is made in a width of 4 in. and in lengths up to 16 ft. The panels are secret screwed to battens, and the longitudinal ribs, as well as giving added strength, allow free air circulation. The panels were originally designed for ship-fitting work, but can also be useful for wall and ceiling coverings, or for lining canopies. Price of the panels in small quantities is 1s. 6d. per foot run. (Marsland & Co. Ltd., Stenmar Works, Conington Road, London, SE13.)

Plastic rainwater goods

Marley, who have been producing p.v.c. rainwater goods for some considerable time, have now introduced a lightweight range which incorporates a built-in neoprene gasket so that installation is simplified, as there is no need for any sealing compound. At the moment the range is being made in grey only, but other colours will be available later. The price is about the same as for asbestos cement, so that the total cost of a rainwater system is low, and at the same time it should never need painting. A full range of accessories is

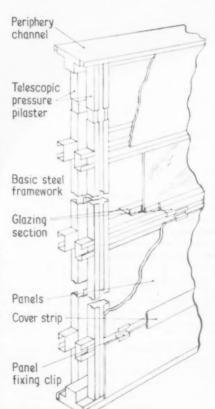
One hopes that this particular range is not

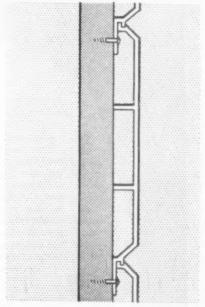
too light. A number of manufacturers have started producing p.v.c. rainwater goods during the last few months, and one hears rumours of more to come from firms like Turner & Newall, Allied Ironfounders and UAM. There have already been rumours of gutters sagging in one of the types already on the market (not Marley), although the thickness used is the same as that recommended by German manufacturers as being quite adequate for a life of 10 to 15 years. On the other hand p.v.c. can be produced in many forms with different types and proportions of plasticiser, so that the actual composition, and presumably performance, depends on the individual manufacturer. From the architect's point of view it would be no bad thing if the more responsible manufacturers, among whom I would include Marley, were to put their heads together and agree a minimum specification

both for material composition and thickness. It would be a pity if plastics for the building industry ever dropped to the level of some of the domestic rubbish which people can so easily buy if they are not careful. (The Marley Group, Sevenoaks,

Internal partitioning

The Mellwall system of internal partitioning is described in a new booklet from Mellowes. The framework consists of a post and rail arrangement of galvanised steel channel to which panels, glazing and door frames are secured by patent screwed clamps, all joints being masked with a snap-on cover strip. The panelling, which can be made of a variety of materials, faced with plastic or timber veneers, is



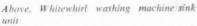


Above, Mellwall partitioning

Left, Stenmar aluminium facing panel







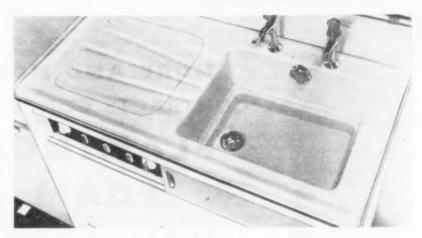
Right, with draining board and normal sink bottom in position. Left, with draining board raised and sink bottom removed

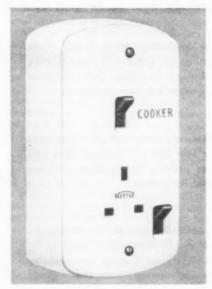
Right, Nettle cooker switch

readily detachable from the framework so that ventilators, grilles, or electrical circuits can be added at any time. A telescopic adjustment in the posts allows for variations in ceiling heights. (Mellowes & Co. Ltd., Bridge Street, Sheffield 3.)

Sink unit and washing machine

Manufacturers of domestic equipment are constantly complaining the kitchens are too small nowadays, and it is probably true that if you buy about two-thirds of the items which are claimed by the makers to be essential there is really not enough space left for anything so mundane as cooking. A possible answer to one of the problems is the machine produced by the Newcastle firm Whitewhirl. They have taken the basic sink unit with the BS floor dimensions of 42 by 21 in., and fitted a washing machine and a spin drier into the space under the sink and draining board. As can be seen from the illustration, part of the draining board removes to give access to the spin drier, and the bottom of the normal depth sink also removes to become a deeper clothes washer, the bottom of the sink having a water seal so that it can be used in the ordinary way. Both washer and spin drier are electrically driven, and the washer also has a 3 kW. electric heating unit. The spin drier is fed through a hose from the sink taps so it will rinse as well as dry. The washing admittedly has to be transferred by hand to the drier, but this applies to almost all machines except the fairly elaborate Launderette-type models. Installation should offer no difficulties, as the unit needs no more than the usual drain and water connections which would be needed for a sink, plus current for the motors and heater. The sink drain takes the waste from washing machine and





spinner so the cost of pumps for emptying is saved, and there is no need for buckets or the infuriating plastic hoses which whip out of the sink the moment one's back is turned. A well-thought-out device which should sell in considerable quantities as long as it proves reliable. (Whitewhirl Manufacturing Ltd., 48 St. Andrew's Street, Newcastle upon Tyne 1.)

Electrical equipment

The illustration above shows a surface mounting version of a cooker control unit introduced by Nettle. The main switch is double pole suitable for currents up to 45 amps, and there is the usual switch controlled 13 amp socket for kettles or other equipment. Price is £1, or £1 9s., with a pair of neon indicator lamps, the flush mounted versions costing 2s. less. Standard colour is ivory. (Nettle Accessories Ltd., Wareen Street, Stockport, Cheshire.)

Spray taps

It has been known for some time that hand washing under a spray tap saves a considerable quantity of hot water. A new leaflet from Barwell illustrates two spray nose taps which are recommended for use

in hospitals or schools where a pre-mixed water supply is available instead of the usual method of using separate hot and cold supplies. It is a usual practice to use a single thermostatic mixing valve to supply a range of showers, and there is no reason why the same method should not be applied to lavatory basins. The Barwell taps are simple and clean designs and are made in two sizes, the smaller with n inclined head and compact enough for use with small basins. (James Barwell Ltd., Great Hampton Street, Birmingham 18.)

How to handle baths

The British Bath Manufacturers' Association has just issued a quite informative booklet on the handling and installation of porcelain enamelled and cast-iron baths, which are all too often damaged by the hobnailed boots of plasterers or tile fixers even if they have been correctly stored by the merchant. The booklet is being distributed to architects, builders, plumbers and housing authorities, and one may hope that the operatives concerned will take its precepts to heart. The real trouble is that everyone knows what ought to be done, but very seldom does it, so the architect simply has to have the bath replaced, a wasteful method which does nobody any good in the long run, not even the bath manufacturer. But the booklet is certainly worth while, and could do some good if it gets to the right people. Copies are free from 145 St. Vincent Street, Glasgow, c2.

Simplified calculations

Evode and Evomastics have produced a double sided calculating wheel, one side of which indicates the quantities of various types of mastic required to fill joints of all dimensions likely to be met with in practice. Quantities for any length of joint are simply obtained, whether they are applied by gun or in strip form.

The other side of the calculator gives the quantities of cement, sand and aggregate for different mixes and quantities of concrete as well as information on the current range of chemical additives for water-proofing, entrained air, retarders, etc. Quite a useful weapon, available free from either firm at Stafford.

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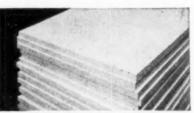
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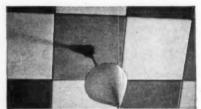


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10.217 design: building types PRISONS

Prison Architecture, a special number of the British Journal of Criminology, Vol. 1, No. 4. Obtainable from Stevens and Sons Ltd., 11 New Fetter Lane, London, Ec4. Price 12s. 6d.

In the 1930s a small band of private architects began to introduce new thinking into the design of certain types of building, such as schools and private houses. Other buildings-hospitals, cathedrals, university buildings, barracks, prisons -languished. It then seemed unbelievable that public buildings of these types should ever be brought into the new stream of architectural development, but since the war we have seen them submitting one by one to reappraisal. With some obvious exceptions, it is the public buildings that are being best served by systematic research and development.

Reappraisal is normally stimulated by a building programme. The serious increase in the prison population, which has occurred not only in Great Britain but also in many other parts of the world, is at last producing a spate of prison building. Country after country is working on a fresh programme, and prison authorities everywhere are learning how little is known about the sort of buildings that would best serve modern penal practices.

The special number on prison architecture of the British Journal of Criminology reflects both the volume of new building and the prevailing lack of agreement on what the new prisons should be like. Dr. Norman Johnston of the University of Pennsylvania has collected much information about new prisons in Latin America and the United States, not to mention Spain, Portugal and Turkey. His examples reinforce the impression that many new prisons are still appallingly reactionary in their philosophy and their design. For instance, most new Spanish prisons use the traditional radial plan, while the latest Turkish prisons are built solid, using inside cells. Most new security prisons in Latin

America seem to have got around to the telegraph pole layout (first used at Fresnes, France, in 1898), but inside cells are still common. The United States prisons are still often enormous in size, with internal corridors up to 1,100 ft. in length along which prison personnel ride on bicycles. There are, however, some novel solutions, such as the "clover-leaf" cell block, an H shaped unit composed of four singlestorey dormitories linked by a central sanitary area.

British readers will be most interested in the discussion on our new prison building programme. A. W. Peterson, Chairman of the Prison Commission, contributes an authoritative paper. Although this does not contain many hitherto unannounced facts it does describe in a concise form the conclusions so far reached by the Development Group (which consists of representatives of the Prison Commission and the Ministry of Works) and mentions the new cell (8 ft. 3 in. × 7 ft. 11 in.) and the new standard (T shaped, four storey) type of cell block which are to be used in the prisons so far planned, notably Blundeston. In a postscript, Mr. Peterson gives some fresh information about the programme of the Development Group, making it clear that the Blundeston design is a prototype which will not be slavishly followed in plans for later establishments required for other purposes such as borstals or remand centres.

Leslie Fairweather is not satisfied that the new prison architecture as exemplified at Blundeston has kept up with the changes in policy foreshadowed in recent official publications. He thinks that we could learn more from Sweden; he also suggests that research should be intensified, leading to a fundamental reappraisal of the needs of a modern prison system as well as a study of new materials and techniques and the design of suitable materials and equipment. He is doubtful whether the existing Development Group has sufficiently broad terms of reference and whether the present organisation is adequate to handle the considerable building programme that lies

In a short contribution, John Madge examines and attempts to reconcile the points made in the other papers. He shows that different countries reveal profound cleavages of policy on many design points, which are related to differences in the systems of administration and in the relationships between custodian and inmate. He stresses that many answers to design problems are still inconclusive. It is partly for these reasons that this special number, though valuable in calling attention to the importance of prison architecture, provides few definitive leads for the future.

17.120 construction: general

LIFTING EQUIPMENT

Lifting Equipment for Cranes. Building Research Station Digest (Second Series) 10. Published by Her Majesty's Stationery Office. Price 4d.

This digest is intended to supplement the Building Research Station Digest 129 concerned with cranes available for building operations and their effect on design. The expense of a crane makes it important to use it efficiently if it is to be brought onto the site. Therefore, it is important to be familiar with the range of ancillary equipment and their role in the building operation. Building Research Station Digest 10 (Second Series) is concerned with this ancillary equipment.

The equipment is considered according to the various materials and components that have to be handled. Grabs for quantities 7 to 110 cu. ft. and weights 11 to 80 cwt., skips for 3 cu. ft. to 40 cu. ft. and shallow skips designed for easier discharge are considered relative to granular materials. Packed bricks can be unloaded from lorry by crane, while a cage and pallet system can be used for loose bricks or blocks. A brick skip can also be used for loose bricks and for stacks of about 180 bricks. A method of handling hollow clay flooring blocks is also described. Moving concrete is considered in detail, giving attention to methods of controlling the discharge.

The report considers various slings for handling prefabricated units and the effect of such transportation on the design of the units. An interesting suction mat system developed in the USA for lifting concrete slabs is put forward. The method can take loads up to 300 lb./sq. ft. of mat area and can give uniform support over a wide area making it possible to carry thin slabs that would break if point loaded.

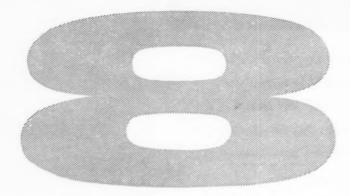
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24.207 lighting FLOODLIGHTING TENNIS

Floodlighting Lawn Tennis Courts. Supplement to Lawn Tennis and Badminton. (Official Journal of the Lawn Tennis Association). Published by Rolls House Publishing Co. Ltd. Price 3s.

Our Specialist Editor on Lighting (15) writes: This supplement by M. W. Peirce, after drawing attention to the increased popularity of floodlighting of tennis courts for night play, deals with the general layouts and technical methods which may be adopted. Outdoor lighting is mainly considered, but some attention is also given to the lighting of covered courts. The text includes some useful information on the experiences of various clubs with regard to costs, even going so far as to suggest suitable hiring charges that clubs might make for floodlit courts, bearing in mind the capital and running costs of installations.

THE LOGICAL USE OF COLOUR IN BUILDING



Colour memory

The memory of hue retention of common objects has already been commented upon in No. 7 of this series, but the almost complete absence of memory of value and chroma, to use Munsell nomenclature, is remarkable. Nevertheless the mental standards of colour of a user of colour are important. The essential part of the judgment is the character and amount of difference between the actual colour perceived and the mental standard to which it must conform. The use of lightness, saturation and hue terms to describe colours is very common. Most people, and certainly those who are interested in decoration, have arranged their ideas of colours along these lines, even though they have not given formal names to the three variables. The Munsell nomenclature has called these "hue", "value" and "chroma".

Another experiment has been carried out to determine the factors in colour memory. A willing subject was offered in all, over a period of time, fifty colours and the corresponding Munsell references. The colours chosen were spread evenly over the hue, value and chroma scale. With daily practice with a few, extending the number weekly until the whole fifty colours were included, all the colours could be unhesitatingly identified after five months' continuous practice. The practice was then stopped for a fortnight. After this period only twenty colours could be identified and after three weeks the colour recognition had almost entirely disappeared.

Briefly this means that colour memory is a hue memory only. Successive contrasts of other surrounding colours are the determining factors in memory of value and chroma. In decorative practice this is of importance since hue is often determined by other conditions. Value, that is the light reflecting power, is determined by the tasks undertaken in the room or building being decorated, whilst chroma will be decided by successive contrasts, that is, other colours seen unnecessarily by the roving eye.

This is one of a series by Goodlass Wall and Co. Ltd. paint specialists since 1840 and manufacturers of the famous Combinol and Valspar paints — who will be pleased to give free advice on colour schemes and painting specifications. Goodlass Wall and Co. Limited, Corn Exchange, Liverpool 2, and 179/185 Gt. Portland Street, London W.1.

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7 PRACTICE

design techniques, 1 for co-ordinating services and structure

The steady increase in services in modern building has made new problems in the design and co-ordination of services and structure; and it is fast becoming evident that the current methods of representing services on drawings are both ineffective and time wasting. Considering this problem in relation to hospital design, a team at BRS have adapted some techniques at present used for the design of chemical plant and have evolved some further techniques of their own. This week we publish the first of two articles on this matter by two members of the team, A. J. Butler, GIMeche, and J. F. Eden, BSC, MIMechE. Their articles are published by permission of the Director of Building Research.

Modern requirements for engineering services particularly in hospitals have increased the ratio of engineering costs to building costs, and have created complex design and installation problems. They have also increased the number of specialised design and construction teams closely associated with a building project, whose work must be coordinated into the overall programme throughout the project if design and building times are to be kept to a minimum. Good design cannot be achieved unless there are efficient means of communication between all parties involved.

When faced with the task of designing a hospital or a building of equal complexity, the architect first has to collect ideas from a group of people which is, in effect, the client. Every member of this group is a specialist in his own field, whose demands may conflict with those of his colleagues. Once their basic requirements have been agreed, one or more schemes are prepared, giving consideration not only to the stated requirements but also to such aspects as site layout, local bye-laws, planning permission, integration with existing buildings, and the capital available. One difficulty here is that architectural ideas usually can be produced more quickly than their implications can be worked out. It is therefore important that these ideas are presented in such a way that their influence on other design considerations can be clearly seen. At this early stage the architect's usual means of communication is by drawings and sketches.

Once the decision is made to proceed with a given scheme, the preparation of working drawings starts, the number of design teams involved begins to increase, and the complicated task of co-ordination commences. When faced with the problem of approving the work of perhaps 20 design teams, how does the architect ensure that nothing is omitted and that no interference between installations will occur? This problem remains essentially the same whether the responsibility rests with the architect, or whether it has been delegated to a number of consultants. Present practice may vary in different offices, but the usual procedure is for each designer (or design team) to submit drawings to the architect showing that part of the installation for which he is responsible and what he requires in the way of building work and other services. Cross-checks are then made of each set of drawings to ensure that there are no interferences and that the space allocated to each service is sufficient for distribution and maintenance requirements. When approval has been given to these drawings they become instructions to the builder or contractor.

This procedure may work very well in the more simple cases, but is open to criticism where a number of complicated designs are involved. It allows no easy means of communication between the design teams, which are thus forced to work independently with little knowledge of the developing pattern of each other's schemes, the chances of an error or omission increasing with the number of design teams involved. The planning of work on site will prove difficult, for instance, if 36 drawings are provided each showing one item, instead of one drawing on which all 36 items are clearly shown.

In addition to the technical considerations arising in the design of a hospital or similar building, the architect is therefore confronted by the following problems:

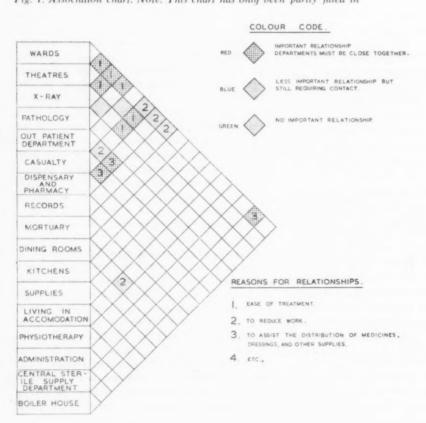
- (1) The presentation of architectural ideas in such a manner that their implications can be fully appreciated by clients unused to technical drawings.
- (2) The provision of a means of communication which will facilitate the free exchange of ideas between client, architect, and specialist designers, particularly during the early stages of design when alternative schemes are under consideration.
- (3) The co-ordination of the work of numerous design and construction teams to obviate errors and omissions and facilitate the programming of site work.

Failure to solve these problems will lead to increased design time through duplicated effort, and to increased construction time through disturbing alterations on site.

Perhaps the biggest difficulty in the solution of these problems is the dispersal of the design team the architect working in one office, consultants and specialist contractors in others. Varming* has pointed out the advantages that would result if all those concerned could get together and work in one office. In the hospital field, the expansion of the offices of many of the Regional Hospital Boards should assist in achieving this important conjunction of the design team, particularly on projects large enough to warrant the full-time attention of the specialist designers concerned.

Similar problems of co-ordination and communication exist in the design and construction of new plant in the chemical engineering industry, and it is significant that its design methods have changed radically in the past 10 years. Chemical plants costing many millions of pounds can now be designed and built within two years, though previously they took two or three times as long. Other factors will have contributed to this considerable increase in speed, but there can be no doubt that changes in design methods have played a very important part. These changes have been brought about as a result of the critical examination of existing design methods. Drawings can be adequate for passing on specific instructions but are not usually an effective medium for exchanging ideas.

Fig. 1. Association chart. Note: This chart has only been partly filled in



^{*} J. Varming, "Mechanical Services and Architecture," The First Yerbury Foundation lecture, The Builder, May 29, 1959.

Even to people accustomed to reading them, the full implications of complicated drawings can only be appreciated slowly, while to those unaccustomed to reading them, they are often meaningless. Moreover, the production and alteration of complicated drawings is a slow and costly process in which errors may easily occur.

The Building Research Station has recently carried out an investigation of new design techniques in the chemical and other industries and now proposes certain methods for use in the design of complex buildings.

Recording the brief

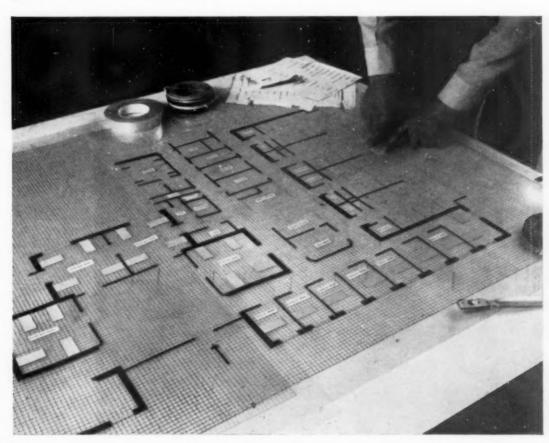
At the beginning of any project the architect is usually faced with a large number of conditions or associations which must be fulfilled in his design. These conditions cannot always be quantified but they can be recorded on an "Association Chart,"*

* The use of this chart was first described to the authors by R. Muther at a seminar on factory planning in London on April 4, 1959.

such as that shown in Fig. I, which sets out the degrees of association required between various hospital departments. The departments are listed vertically at the left of the chart, and from each item extend diagonal columns. The association between any two departments is shown in the square formed by the intersection of their respective columns. The degree of association required is indicated by colouring the square according to a given colour code, and a number in the square would indicate the reason for that degree of association. For example, in Fig. 1, the square showing the relationship between wards and theatres is coloured red, indicating that these two departments must be close together; the number one shows that this is for ease of treatment.

One advantage of this type of chart is that it can be used to record unquantifiable data in a way that shows if there are any gaps in the information available. It also facilitates the checking of designs to ensure that all the basic requirements are met.

Fig. 2. Layout chart using adhesive tapes on a polvester sheet



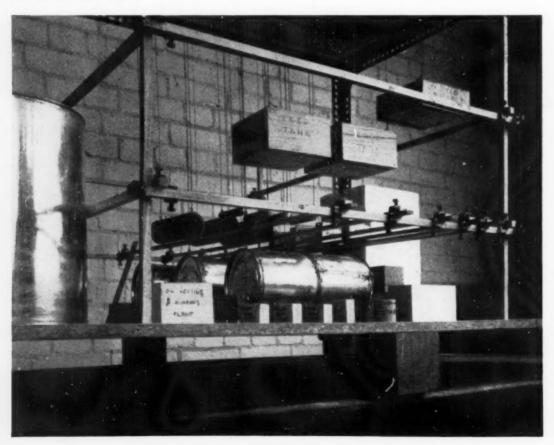
Preliminary planning

The device of cutting out cardboard shapes and moving them about on a plan is a well-tried method of determining layouts. This technique has been extended and improved by using clear polyester film as a base on which to draw layouts with adhesive tapes and sheets, double-sided adhesive tape being used to attach cut-outs and titles. A range of adhesive tapes showing walls of various thicknesses, stanchions, arrows, handling plant of various types, etc., is now available. These techniques enable components to be moved easily from place to place and layouts to be changed quickly by those who are not skilled draughtsmen, while prints can be taken as records at any time. It is useful for two-dimensional planning at the early stages of design when nothing is fixed, and permits changes in layout to be made during discussions with the client. Fig. 2 shows the preparation of a layout by this method.

Two-dimensional techniques have serious limitations when dealing with three-dimensional problems. Chemical engineers have developed several new methods of design involving the use of threedimensional models; these are techniques for direct use and not merely means of proving designs prepared by existing procedures. They are not used where drawings are more suitable, but they are used very extensively.

Fig. 3 shows a "notional model" which has been used to determine the relative positions of heat exchangers, boilers and other equipment in a boiler house. Some structural elements have been included. An expanded metal sheet is supported over a baseboard by a slotted angle frame; from this, rough shapes representing the various items of plant are suspended on threads or fine wires. The components can be moved horizontally and vertically and the merits of alternative layouts assessed much more quickly than would be possible with drawings. Photographs can be taken to record the most promising schemes. Although the illustration shows the application of this technique to an engineering problem, it is possible that it could be used by the architect to plan and demonstrate alternative arrangements of departments during the early

Fig. 3. Notional model of a proposed boiler house. Items of equipment are suspended on wires hung from an expanded metal sheet

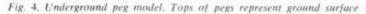


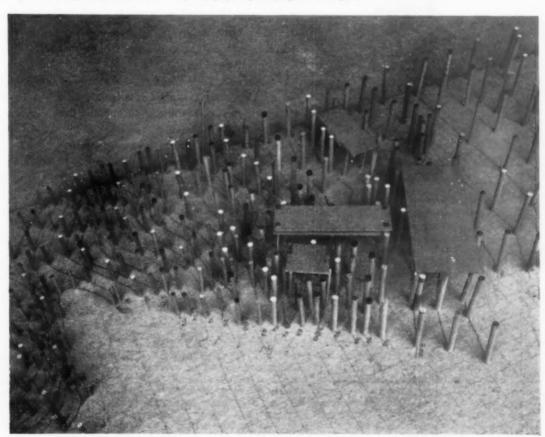
stages of design.

A type of model which has a direct application to the architectural and engineering problems associated with the layout of buildings on a sloping site is the "underground peg model"* developed by the Building Research Station, and shown in Fig. 4. An 1-in. or 1-in. contour map of the site is drawn on a sheet of wall-board. The surface of the board is used as a datum level, say 20 ft. below the lowest contour, and spiked pegs of lengths corresponding to the difference in height between the datum and contour levels are set up along the contour lines. The tops of the pegs thus represent the actual ground level, and the configuration of the site can be seen by looking across them. A clearer picture is obtained by painting the tops of the pegs, and grooving them so that elastic thread can be strung between them to represent the contours in position and height.

When the model of the site has been made it is then possible to "excavate" or "fill" any area by moving the contour pegs and replacing them by

pegs of the appropriate length. Floor and foundation plans are cut from hardboard and mounted on adjustable screwed rods or placed on top of pegs of the correct length. A better visual effect can be obtained by cutting building shapes from expanded polystyrene and placing them on top of the foundation shapes. The results of test bores can be indicated by banding pegs to show the underlying strata, and underground ductwork and drains made from light wooden sections or small-bore pipes can be attached to the "foundations" with Plasticine or adhesive tape. This type of model could prove useful in the planning of buildings on sloping sites, particularly where problems of excavation, relative building levels, and complicated drainage arise. It enables the engineering implications of different architectural schemes to be shown more quickly and clearly than can be done by the use of drawings. The models can be constructed very quickly; the example illustrated took approximately four man-hours. The scales of 1/2-in. or 1/2-in. might be rather large for some sites, but if a smaller one is chosen it may be advantageous to exaggerate the vertical scale.



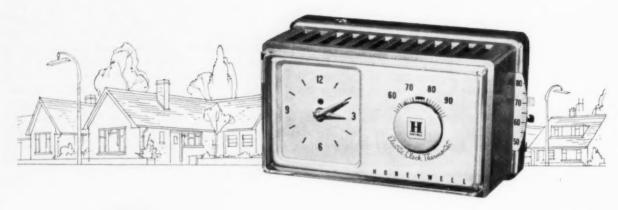


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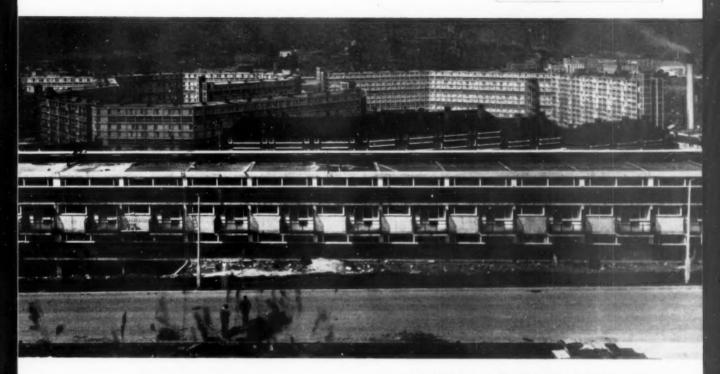
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Scheme from the east, with the Hyde Park scheme under construction in the foreground and the city centre beyond

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CITY ARCHITECT'S DEPARTMENT

city architect J. L. WOMERSLEY

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This redevelopment scheme emerges as a very powerful statement in favour of the use of high densities for rehousing in the central areas of our big industrial cities. Part of the stimulus to this quite fresh approach to the problem has been the steep slope of the site and the magnificent views from it towards the city centre on the other side of the valley, only a few hundred yards away. But the biggest success has undoubtedly been the development of horizontal "decks" as the main method of access, which are much more generous than the normal maisonette balcony. As a result not only have the economic limitations of lifts been mastered and a quite new pattern of movement through a large scale housing scheme been created, but the virtues of social contact, which existed in the old streets of back-to-back houses, have been retained.

APPRAISAL

Undoubtedly the most striking thing about Sheffield to the visitor who arrives there for the first time (provided, of course, that the visibility is good enough) is the fact that despite all the decayed building in the central area, the powerful shapes created by the steep valleys of the Sheaf and Don rivers still completely dominate the town. These slopes, provided that you are well above the railway-infested river beds, and can see beyond the scrofulous mass of nineteenth century building, offer splendid views not only of the town, but above and beyond to open country. This in itself immediately makes the case for building high. Once you can rise above the existing roof and tree levels, this wonderful asset can be turned to good account. Beyond this potentiality which is there, ready to be exploited, it is clear that the City Architect has chosen some of the highest and most dramatically positioned sites so that the tall blocks upon them can rise above the skyline, as seen from many parts of the town, and serve to accentuate the dramatic quality of the landscape. This technique might, perhaps, be vandalism in a place like the Surrey Downs, but in this industrial environment it is fully justified as a means of bringing some order to a previously chaotic skyline. Not only this, but it is a sign of confidence that such an industrial centre is worthy of redevelopment, that mass housing does not all have to be dumped in suburban farmland in order to reach a satisfactory standard of amenity.

In its massing, of course, the Park Hill scheme is incomplete, since, from the centre of the town across the valley, the first stage presents a level silhouette, above which will eventually rise the towers of the second part, situated on the higher site called Hyde Park. In the meantime, the first stage effectively blots out some indifferent inter-war development between the two sites, although all that can be seen of it is the curving cliff of the nearer blocks which appears, quite falsely, to be linear, although in fact laid out in depth. This of course, is a purely superficial matter. The real importance of this scheme is that it represents one of those advances in design which either deliberately or by accident set off a chain reaction of ideas, in this case demanding a complete reassessment of a whole series of previously held assumptions about high-density housing.

The basic idea is deceptively simple. The layout, and the various dwelling types, are based on the idea of having access galleries which are considerably bigger than is normal practice (hence the adoption of the word "deck"). By having such wide decks it is readily possible to design maisonette types with internal layout which avoid having any rooms overlooking the deck, thereby achieving complete privacy as well as good daylight for the living and bedrooms. Having established such ten-foot wide access decks, it is obviously desirable to exploit them to serve three floors instead of two: thus flats are inserted on the floor below with stairs down from the deck level just beyond the front door. Equally there is good reason to make the decks as continuous as possible, so as to reduce the number of lifts to a minimum. All the blocks are therefore interconnected in this way.

At the same time, the horizontal roof line has been maintained across the one-in-ten slope of the site, so that the height of individual blocks varies from four storeys at the top end to fourteen at the bottom. Thus each deck, except

the top one, sooner or later runs out at ground level. By these means horizontal circulation is encouraged right through the whole site.

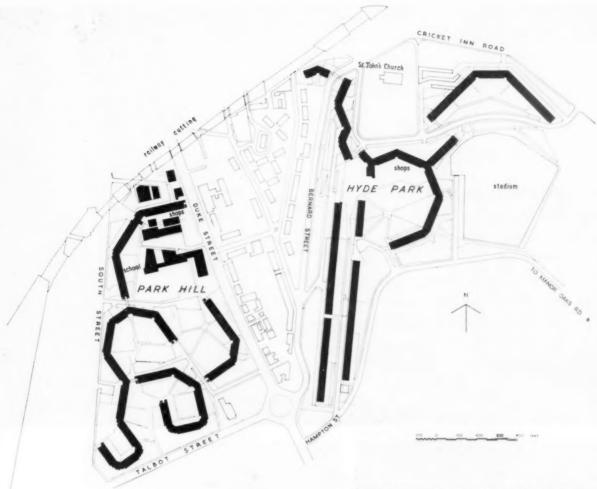
Having established this pattern, it is then possible to reassess the question of lifts, and for instance to include two large service ones which can be used for furniture removals or for the milkman to take his hand float to the upper levels. At the same time, since this horizontal pattern of circulation is readily available and so well established, the number of access points required at ground level is very limited, and hence the amount of hard paving can be reduced to a minimum. As a result, more of the site between the blocks can be left free for play areas and other landscaping.

Equally important are the sociological effects of this system. It is perhaps dangerous to generalise, or become emotional on the subject, but it seems clear that the creation of a "street in the air" (different from Unité, of course, because there is daylight and often fine views of the city), allows the patterns of behaviour of people who mainly come from condemned nineteenth-century dwellings to survive. The rows of front doors with ample space in front encourages small children to play "outside," old people to sit in chairs on the deck to see everyone pass by, and for that type of general social contact which the ordinary block of flats or maisonettes simply does not permit.

Recognising this tendency, the decks are treated as "streets" in such matters as names and separate postal addresses. At the same time an attempt has been made to differentiate between the deck levels, by having a separate colour of facing brick for each group of floors served by the particular deck. This looks disappointingly weak in practice, the differences between the colours being rather too indistinct, particularly as they are gradually being overlaid with dirt.

This in no way detracts from the experience of crossing the site along the decks, from one end to the other if you wish, with constant changes of direction so that all straight lengths are kept down to a very human scale. You encounter a progression of different views of the various courts between the blocks, and where the orientation changes, a cross-over to the opposite side with magnificent views of the city. As the blocks become taller, of course, they have been more widely spaced. All these enclosed spaces are at the moment, perhaps, slightly barren, but this will soon be corrected when the newly planted trees have matured a little.

This scheme, therefore, by the rational development of a new type of access, is a really major breakthrough, demanding an entirely fresh assessment of the planning of high-density housing. It is possible to criticise some of the minor features of the scheme: for instance, the surface quality externally of the concrete frame is poor, as are the finishes to ceiling and floor of the decks, plus an occasional defect in the detailing. But such minor matters in no way detract from the central achievement of the scheme. In any case, the first sections of the second phase, now complete, clearly indicate that the architects have re-assessed all these points of detailing and materials, and have now achieved a standard which gives a real sense of quality.



Overall development plan for the area, which includes an 11-acre park to the west, and the Hyde Park scheme to the east, which is now under construction

CLIENT'S REQUIREMENTS

The redevelopment of a site previously covered with back-to-back houses, to provide accommodation for just under 3,500 people at a net density of 192 people to the acre. A central boiler house was required, which could also eventually serve the Park Hill second stage scheme (now under construction), a small group of shops, and four public houses.

SITE

A total area of 33·2 acres, of which three and a half acres was to be reserved for shops, schools and other non-housing uses, and just under twelve acres as an open space, leaving a net area of 17·9 acres. Across the site is an even gradient of about 1 in 10, being a hillside overlooking the centre of Sheffield, only a few minutes' walk away, with views of the

Derbyshire moors beyond. Between the site and the Midland railway station in the bottom of the valley is a more steeply sloping area which is being planted and landscaped, through which there will be a wooded walkway to existing parkland to the South. To the east of the site there is a triangular area of prewar housing, and beyond it at a higher level is the site for the second stage of the Park Hill Development, now under construction on the brow of a hill known as Hyde Park.

PLANNING AIMS

The design of the development was seen as a challenge (a) to define and to attempt to solve the inherent social problems of high density housing, (b) to consider this as a major element in the renewal of the City and (c) to tackle

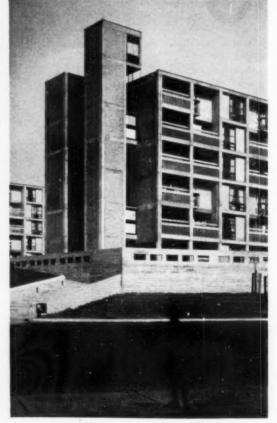


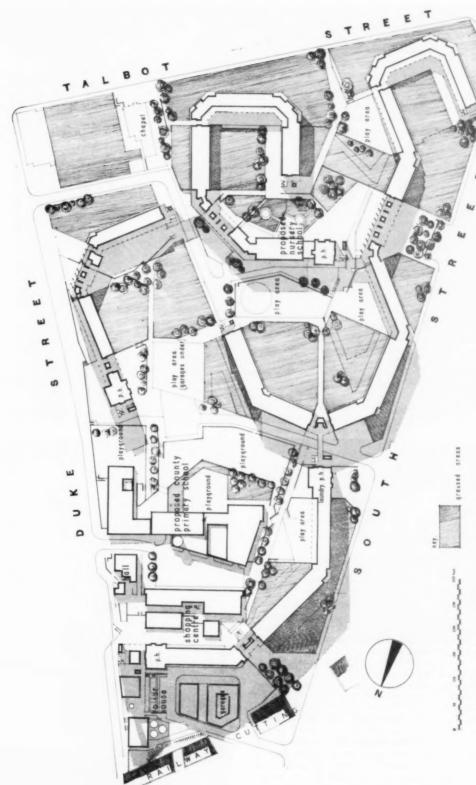


Top, slab blocks turn either 135 or 112½ degrees, being set out both along and across the contours

Above, play area at the south end of the site

Right, one of the blocks near Talbot Street at the south end of the site. Only the top deck starts above ground level at this end





Site layour, indicating associated shopping centre, public houses and proposed new primary school

these two objectives in as comprehensive a way as possible. SCHEDULE OF ACCOMMODATION The form of development has been generated from the system of "deck" access to the dwellings. This provides on every third floor a ten-foot-wide "street" running through the scheme from end to end, giving access to flats below deck, and maisonettes on deck level and above. Within the dwellings there is privacy, but the deck is spacious enough for neighbours to stand and chat, and for children to play. It is used for trolleys delivering milk, for furniture removals and for the collection of large items of refuse.

The blocks have been designed with a constant horizontal roof line, so that with the slope of the site they are four storeys high at the southern and top end of the site, growing to fourteen storeys at the opposite extremity. According to the height of the blocks, courts of different sizes are enclosed, and these are further characterised by differences in shape, some being framed by parallel buildings, others by blocks set obliquely to each other. These variations, whilst maintaining continuity for the decks, have been achieved by the design of standard corner dwelling units as slight variants of the normal accommodation, offering changes in direction of 135° or 90°, or a three-way junction.

The continuity of the decks, with bridges between the blocks, make them routes through the site, either towards the City centre to the north, or southwards to the adjacent park. According to the aspect of the block the decks change from one side to the other, and with changes in direction at the bridges, they are broken down into short sections. At the same time, because of the slope, three of the four decks come to ground level towards the southern end of the site. This provides a form of contact with the ground which is not normally achieved in high-density development.

Equally important is the fact that as a result of this pattern it is possible to walk right through the site at various levels without using lifts or stairs, free from the tensions of traffic and experiencing the enjoyment of constantly changing views outwards over the city, or inwards to the different character of the enclosed courts.

To help identify the various deck levels, each three-storey height of the blocks is built in a different colour of flint brick, with the intention of helping the families to feel that they are part of a smaller community within the development. For this same reason, each deck level is given a different name, which is used for the postal address of each flat.

A further result of the deck system is that it has achieved a considerable economy in the number of lifts. These stop only at every third floor, and are spaced far apart, being positioned only where there is need to come down to the ground for the shops and children's play area, etc. This equally reduces the amount of hard paving required for pedestrian movement at ground level.

The shopping centre rehouses a number of shops which were previously on the site. It has been developed as a pedestrian precinct at right angles to the main road, with rear access for delivery vehicles. In addition, there are other amenities fitted into the structure at gound floor level, such as public houses, "corner shops" laundries and a nursery school.

By balancing cut and fill, landscaping is mainly in the form of terracing, the various levels being either paved or turfed. Grass is kept on a different level from footpaths and play areas to prevent it being trodden down by too much traffic. Children's playgrounds and ball play areas have been provided so that they fit naturally into the overall pattern. Young trees have been planted, and are an essential element of the design, which in due course will soften the character of the courts, and do something to reduce the noise level in these areas. Garage space has been provided for 70 cars, and an area of the site has been reserved for a multi-storey car park when the need arises.

Flats	one bedroom, one person	107	
	one bedroom, two persons	189	
	two bedrooms, three persons	140	
	two bedrooms, four persons	59	
	Total number of flats	495	
Maisonettes	two bedrooms, four persons	239	
	three bedrooms, five persons	215	
	three bedrooms, six persons	42	
	four bedrooms, six persons	4	
	Total number of maisonettes	500	
Total number	er of dwellings	995	
Shops		31	
Public house	es .	4	
Laundry		I	
Lock-up gar	ages	74	
Parking space		100	

SUMMARY

Gross ground floor area: 126,945 sq. ft.

Total net floor area of dwellings: 700,752 sq. ft.

Total gross floor area: 1,015,272 sq. ft.

Type of contract: City of Sheffield. Tender date: September 1956.

Work began: March 1957.

Tender price of foundation, superstructure, installation and

finishes including drainage to collecting manhole:

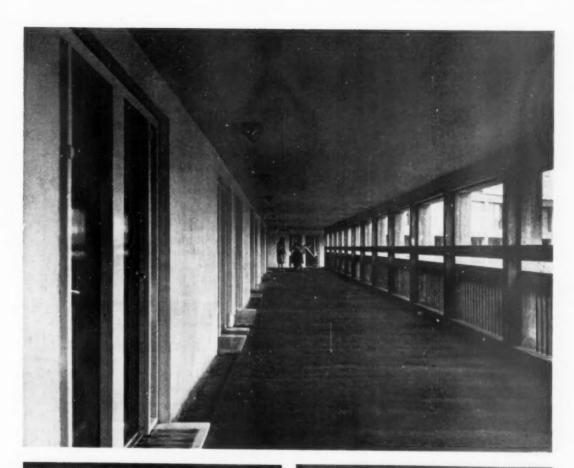
£,1,877,667 os. od.

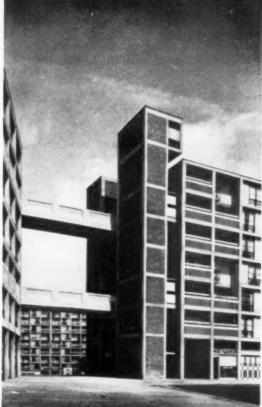
Tender price of external works and ancillary buildings

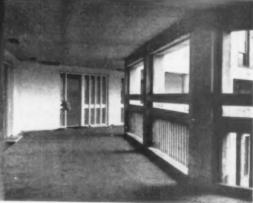
including drainage beyond collecting manhoie:

£280,924 os. od.

Total: £2,158,591 os. od.







Top, typical deck

Above, although decks are continuous right through the site, straight runs are of limited length until either a bend in the block or a bridge connection is reached

Left, typical bridge connection between blocks

deep purple, golden flint bricks as outer skin. Hollow clinker concrete partition blocks, as inner skin, in panels between frame exposed externally;

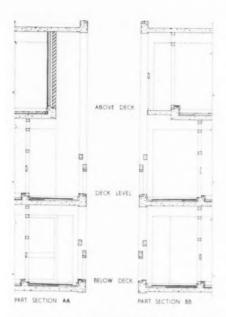
Balcony railings, balustrade and panels in openings, fire escape, cat ladders and wind screens.

18,955 sq. yds., 67s. 4d. per sq. yd.

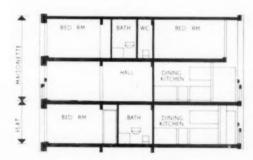
COST ANALYSIS Windows and external doors Based on tender. (AJ revised elemental breakdown Opening lights in windows are reduced to a in use from November 10, 1960.) minimum so that the greatest care could be given Cost per to draught proofing. Standard sizes of aluminium opening lights have been fitted into a more varied sq. ft. number of timber frames. All windows can be Preliminaries and insurances 91 cleaned from within the building. Metal windows and glazing, including metal 1.50 per cent of remainder of contract. grilles; 18,018 sq. ft., 15s. 2d. per sq. ft. Timber window units and glazing incorporating Contingencies external casement and flush doors, and including Work below lowest floor finish Extruded aluminium alloy sections; 219,609 sq. ft., Isolated column bases on rock reinforced concrete 7s. 81d. per sq. ft. beds, ground beams, etc. Internal structural walls 1 5 STRUCTURAL ELEMENTS Reinforced concrete H-shaped lateral stiffening walls, and lift shaft walls; 21,830 sq. yds., 45s. 9d. per sq. yd. The primary economy of the structural design is in the use of a repetitive loadbearing and servicing system into which the variety of dwelling types **Partitions** 2 2 have been fitted. The basic structural element is a Solid concrete partition blocks: 102,067 sq. yds., recurrent H-shaped reinforced concrete " column " 15s. od. per sq. yd. designed to resist wind pressure. This houses the private stairs to the dwellings, forming also the Internal doors party wall at this point of the plan. The "flanges" Softwood flush. of the H-frame rest on the concrete side walls of the 6,213 single. horizontal duct below the building. The H-frame 782 double is combined with a simple column and beam system. 134,406 sq. ft., 6s. Id. per sq. ft. Internal beams, private staircases and balustrade panels have been precast. Ironmongery 71 Reinforced concrete columns and beams including flue, ducts and footbridges. Includes litter bins and name plates. Upper floors Total of structural elements: 27s 9 d Reinforced concrete slabs (including balcony construction and insulation). FINISHES AND FITTINGS Building paper on mineral wool insulation to receive pavings. 98,703 sq. yds., 44s. 3d. per sq. yd. 2 51 Plastering; 174,435 sq. yds., 19s. 6\d. per sq. yd. White glazed earthenware wall tiling; 1,316 sq. yds., (Roof slab included in upper floors, roof beams 45s. 8d. per sq. yd. included in frame.) Asphalt roofing (on and including reinforced screed); 2 77 Floor finishes 13,313 sq. yds., 17s. 6d. per sq. yd. Granolithic; 1,188 sq. yds., 17s. 1d. per sq. yd. Cast iron rainwater pipes and fittings, copper Cement and sand; 1,429 sq. yds., 11s. od. per gutter linings and flashings, extruded aluminium alloy sections. Red quarry tiles; 754 sq. yds., 28s. 6d. per sq. yd. Thermoplastic; 51,888 sq. yds., 15s. 10d. per Rooflights sq. yd. Glass lens and reinforced concrete; 125 sq. yds., Linoleum; 11,235 sq. yds., 23s. 9d. per sq. yd. 188s. 10d. per sq. yd. Asphalt to decks and balconies; 13,358 sq. yds., 21s. 2d. per sq. yd. Solid clinker concrete partition blocks as filling (a) with treads 3 ft. 4 in. wide over all, total rise below kitchen storage unit; 754 sq. yds., 76s. 6d. 540 ft. o in. (b) with treads 4 ft. 9 in. wide over all, total rise Precast concrete flags; 104 sq. yds., 15s. od. per sq. vd. Granolithic paving to treads and risers, softwood Tarmacadam; 1,637 sq. yds., 9s. 7d. per sq. yd. stair finishings on sarking felt, metal panels in Includes reinforced screeds. openings. Ceiling finishes 4 7 External walls Self-finished concrete. Hollow wall construction. Flint, terra-cotta, dark brown, purple flint,

Decorations

2 2

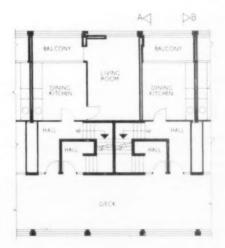


Sections through external walls and balconies of flats [Scale: $\frac{1}{8}$ " = 1' 0']



Typical section through flats and maisonettes with deck on centre floor







Typical plans, above deck level (top), deck level (centre), and below deck level (bottom). Variation of types is achieved by changing the positions of internal partitions within the standard structure [Scale: $\frac{1}{16}$ " = 1' 0"]

Fittings

Stoolings for hot water cylinder: No. 995 36s. 4d. each.

Shelving: 5,410 sq. ft., 4s. 6d. per sq. ft.

Total of finishes and fittings: 8s 4 d

SERVICES

Sanitary fittings	
	No. of
Type of fitting	each type
1-in. chromium plated pillar taps	1,988
22 in. × 16 in. white glazed vitreous	
china lavatory basins	995
White glazed vitreous china high level	
w.c. suites	995
White porcelain enamelled cast iron	
baths 5-ft. 6-in. long	994
Stainless steel garchey sink units and	
drainers 4 ft. 2 in. x 1 ft. o in. over all	004

Waste, soil and overflow pipes

Copper tubing and fittings, cast iron soil, waste and vent, stacks and anti-syphonage pipes. Includes builder's work 2d.

Cold water services

Cast iron concrete lined flanged water mains, copper rising mains and fittings. Includes builder's work.

Heating and hot water

Low pressure hot water system from central boiler house which will also serve Park Hill II. 3-pipe system, separate flows for heating and hot water, but common return, adjustable convector units for heating in the flats and independent calorifiers.

No metering, tenants pay all-in charge. Present heat load, 29,500,000 B.t.u.s per hour. Includes builder's work, 21d.

Ventilation services

Trunking to bathrooms: £606. Extract ventilation fans in w.c.s: £3,239. Aluminium and cast iron air gratings: £1,275. Includes builder's work.

Gas services

Copper tubing and fittings. Fixing only domestic gas cookers supplied without charge to building contract. Includes builder's work.

Electrical services

Electric lighting and power installations: £40,982. Communal electric lighting installations: £25,366. Separate systems for distribution to flats and for communal lighting to decks, stairs, lifts, etc. Distribution usually up staircase wells to each flat, screwed conduit throughout. Includes builder's work, 21d.

Special services

Television aerials: £6,561. Lightning conductors: £4,350. Telephones (1 kiosk and 3 compartments in Hwall structure). Garchey refuse disposal installation: £81,577. 13 passenger 8-person lifts 393 ft. 6 in. rise over all.

3 two-ton goods lifts 112 ft. 6 in. rise over all. Both types are 100 ft. per minute. Includes builder's work.

1 2

1 2

21

Carried below the horizontal duct with manholes in the floor of the duct. The duct floor has gullies, the traps of which are kept sealed by the rainwater from the decks draining into them. Including £6,183 for Garchey collection chamber.

Total of services: 13s 9id

External works

Roads, paths, pavings, retaining walls, balustrades, steps, bollards, playground equipment, public conveniences, garages and external electric lighting.

Ancillary buildings 2 81

Boiler house. Garchev station. Shopping precinct. Community hall.

Net cost per sq. ft. of floor area:

£1,877,667 (net cost, excluding external works) 53 71 81 700,452 sq. ft. (net dwelling area)

Gross cost per sq. ft. of floor area:

£1,877,667 (net cost excluding external works) 2 11½ 1,015,272 sq. ft. (measured inside external walls)

COST COMMENTS

This analysis can perhaps best be compared with two other housing schemes published in the series in the last nine months, Bowater House (AJ 29 December, 1960) and Southgate (23 March, 1961). An analysis of the main groups of elements is as follows.

Group of elements

	Bowater House	Southgate	Park Hill
Preliminaries, work below ground floor level Structure Finishes and fittings	10s. 9{d. 27s. 0{d.	98. IOd. 278. II¦d. 128. 6¦d.	3s. 7ld. 27s. 9ld. 8s. 4ld.
Services	11s. 5d. 12s. 14d.	25s. 2d.	13s. 9 ³ d.
Total cost per sq. ft. of net dwelling area	61s. 4d.	75s. 5½d.	53s. 7 ld.
Tender date	August, 1953 and	Nov. 1958	Sept. 1958.

2 11 Sept. 1954

At first sight it is surprising that the Park Hill scheme has been carried out at a figure less than Bowater House, which is of loadbearing cross-wall construction. One of the important features of the contract was, of course, that it was carried out using the City's direct labour scheme, placed after competitive tendering. The services element is quite naturally larger at Southgate because it is a point block scheme, and therefore the cost of lifts is inevitably a major item. But Park Hill seems to owe its remarkably low cost mainly to good site conditions and simple foundations, and to the very economical finishes, such as exposed concrete for the ceilings. At the same time, the analysis, being based upon net dwelling area, can be seen as a complete vindication economically of the deck access





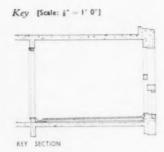
Above, block at the north end of the site, with boiler house in the foreground

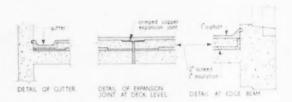
Left, the shopping centre nestles under this tallest block

Below, main pedestrian route southwards up the hill from the shopping centre



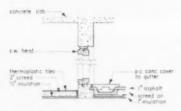
Typical details of deck [Scale: | " = 1' 0"]





CONTRACTORS

Main: Public Works Department, Sheffield City Corporation. Sub-contractors and suppliers-Heating installation: G. N. Haden & Sons Ltd. Garchey refuse disposal installation: Matthew Hall & Co. Ltd. Electrical installation, external lighting and TV aerial installation: The Tinsley Electric Co. Ltd. Electrical services and deck lighting: Yorkshire Electricity Board. Gas services: The East Midlands Gas Board. Lightning conductors: W. J. Furse & Co. Ltd. Chimney for boiler house and garchey station: Chimneys Ltd. Lifts: The Express Lift Co. Ltd. Thermoplastic floor tiles: Rowan & Boden Ltd. Soil unit castings: F. Parramore & Sons (1924) Ltd. Doors: F. Hills & Sons Ltd. and The South Yorkshire Woodworking Co. Ltd. Windows: Alumin Building Components Ltd., Rothervale Manufacturing Co. Ltd. and Williams & Williams Ltd. Stainless steel sinks: W. & G. Sissons Ltd. Kitchen fittings: Rothervale Manufacturing Co. Ltd. Cupboard fittings: The South Yorkshire Woodworking Co. Ltd. Ironmongery: Smith Bros. & Widdowson Ltd., C. Constantine Ltd. and Neville Watts & Co. Ltd. Metal handrails and balustrades: The Sheepbridge Co. Ltd. and Wilks Bros. & Co. Ltd. Metal staircases: Wilks Bros. & Co. Ltd. Ash skip hoists: Tasker's Engineering Co. Ltd. Play equipment: Smith Bros. & Widdowson Ltd. Baths: G. N. Lumb & Co. (Yorkshire) Ltd. Lavatory basins: A. Carter & Co. Ltd. W.c.s: Emery & Co. Ltd. Shop fronts: J. C. Plant Ltd. and Public Works Department. Facing bricks: Cape Building Products Ltd. Rock asphalt work: Limmer & Trinidad Lake Asphalt Co. Ltd. Armourplate glass and glass signs: Henry Bingham & Co. Ltd. Miscellaneous special castings: F. Parramore & Sons (1924) Ltd., The Thames Bank Iron Co. Ltd., The Lion Foundry Co. Ltd. and Broads Manufacturing Co. Ltd. Insulation, mosaic, tiling and tile mural: Hodkin & Jones Ltd. Precast concrete beams: James Turner & Son Ltd. Precast concrete staircase units: Hodkin & Jones Ltd. Wall lights: F. Parramore & Sons (1924) Ltd. Hardwood strip flooring:



SECTION THROUGH ENTRANCE DOOR



Hollis Bros. Ltd. Steel reinforcement: McCall & Co. Sheffield) Ltd. Ketton cement: T. W. Ward Ltd. Concrete aggregates: E. Butler & Sons (Maltby) Ltd. Ready mixed concrete: Alan S. Denniff Ltd. Paint and decorative materials: Docker Bros. Ltd. Decorative finish to ceilings: Marb-L-Cote Manufacturing (Great Britain) Ltd. Textured finish to deck walls: Leyland Paint & Varnish Co. Ltd.











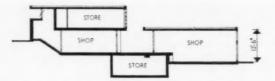
Top, looking across one of the intermediate courts. These areas will be considerably enhanced when the trees have started to mature

Upper left, shopping centre at the north end. The existing Victorian school on the right is to be rebuilt

Lower left, screen walls and terracing combine to define through pedestrian routes across the site

Above, towards the lower end, where the fourth deck level leaves the ground



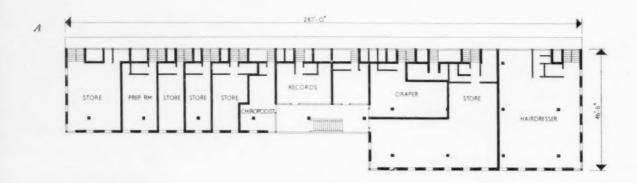


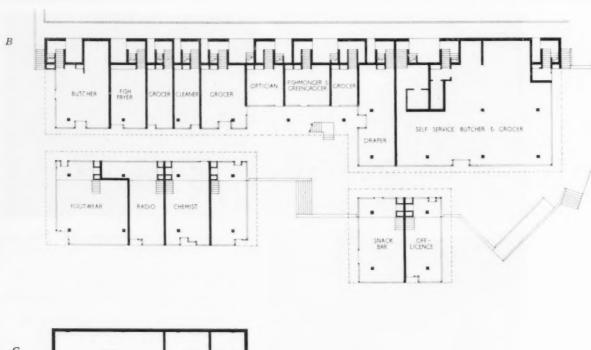
Left, site plan of shopping centre [Scale: 1:2000]

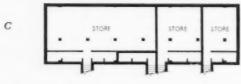
Above, section through shopping centre

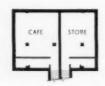
Below, first floor (A), ground floor (B), and basement (C)

plans of shopping centre [Scale: 12" = 1' 0"]

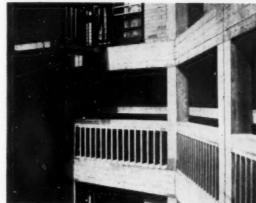




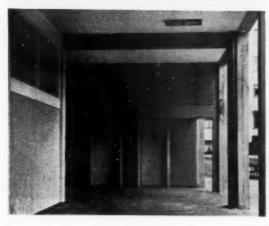














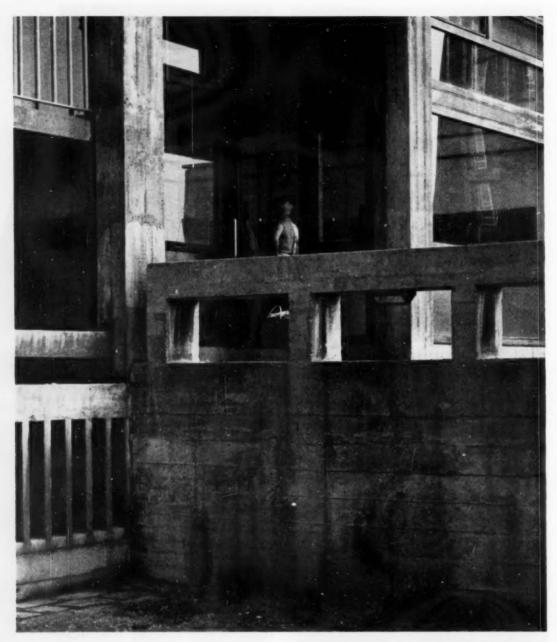
Above, escape stair at the north end of the site Left, from top

Typical front doors to flats and maisonettes

Detail at internal corner of block, with escape balconies from bedrooms

Typical detail of balconies

Lift entrances at the north end of the site



Above, junction of retaining wall of site terracing with one of the blocks, showing the quality of the concrete work and its detailing

Right, tile mural used as a direction sign to the various named deck levels and the shopping centre





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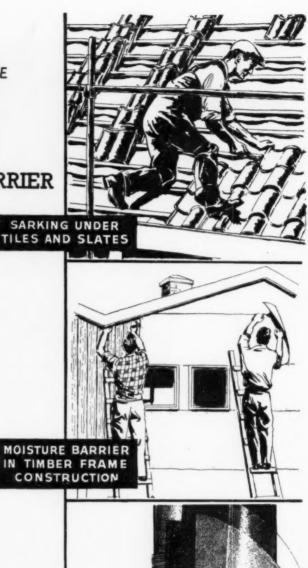
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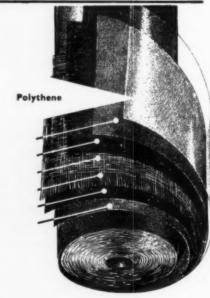
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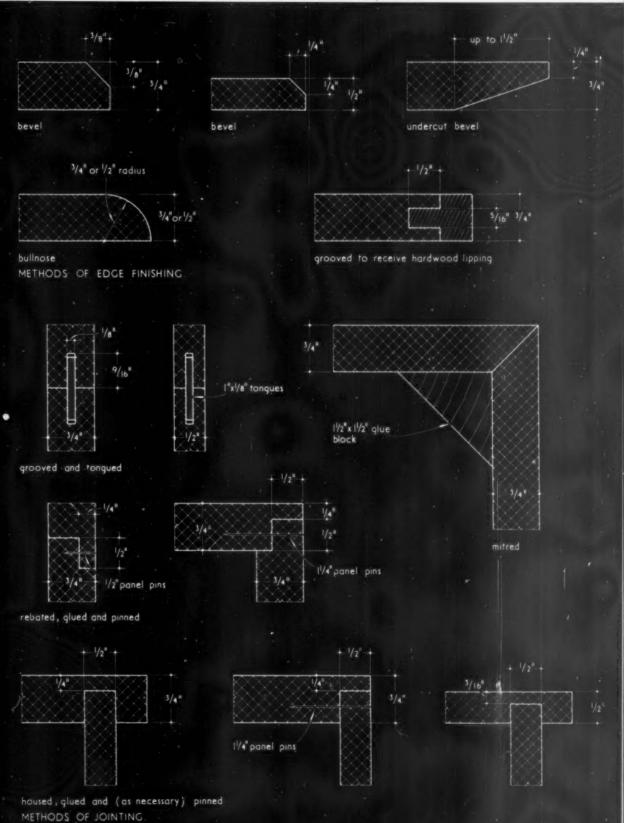


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BUILDING BOARD APPLICATIONS

The Architects' Journal Library of Information Sheets 839. Editor: Cotterell Butler, A.R.I.B.A.



15.C13 ·PLIMBER· WOOD CHIPBOARD: WORKING AND FINISHING

This Sheet is one of a series on Plimber resin-bonded wood chipboard and deals with working and finishing the material. Other Sheets in the series deal with its properties, its application for lining and partitioning, flooring and roofing and general joinery.

The maximum size as manufactured is 16 ft. 0 in. by 4 ft. 0 in. but the standard size normally in stock with timber or builders' merchants is 8 ft. 0 in. by 4 ft. 0 in. It is available in ½ in. and ¼ in. thicknesses.

Weight and Density

The boards weigh 30 oz. and 45 oz. per sq. ft., respectively, for 1 in. and 2 in. thicknesses. Their density is 45 lb./cu. ft.

General Joinery

Plimber is worked and finished in exactly the same way as wood. The drawings on the face of the Sheet show recommended methods of edge machining and

Cupboard doors: Hinged or sliding doors can be made from 3-in. Plimber and hung in exactly the same manner as timber doors. Both sides and all edges should be cleaned up by sanding before decorating. The edges can, if desired, be lipped all round with hardwood, but this is not generally necessary. For sliding doors, the edges of the Plimber can either be grooved or be housed to take sliding gear fittings. Shelving, work surfaces, bench tops: 4-in. Plimber can be used for a variety of purposes, with the same general framing as for 4-in. timber: large areas can be covered without jointing or cutting.

Machining and Cutting

Spindle-moulder: The cutters should have teeth tipped with tungsten carbide. The spindle speed should be 6,000 r.p.m. and the rate of feed 90 ft. per min., for 1 in. by 1 in. rebate, to 15 ft. per min., for 11 in. by 3 in. undercut bevel.

Circular saw: The saw blades should be 14 in. in diameter with teeth tipped with tungsten carbide and bevelled left and right alternately. The saw should also fulfil the following conditions:

plate thickness: 12 gauge (0.109 in.)

tip thickness: 0-155 in. number of teeth: 60

peripheral speed: 12,000 ft./min. rate of feed*: 50 ft./min.

h.p. of motor: 5

interval between sharpenings: 8,000 ft. run.

Bandsaw: The width of the bandsaw should not be less than 3 in. and at this width there should be 9 teeth to the inch. The saw speed and rate of feed should be those recommended by the saw manufacturer for medium hardwood.

Hand saw: For hand sawing, a panel saw or medium to fine rip saw should be used.

Plimber forms a satisfactory base for wood veneers or decorative plastic sheets. Methods of veneering are as for plywood or blockboard. As a general

• It is particularly important that this be maintained, preferably by mechanical feeding.

rule a balancing veneer should be applied to the reverse side of the Plimber board, but table tops up to 10 sq. ft. in area can be veneered one side only provided they are fixed to a firm framework. Edges of veneered boards can, if desired, be lipped with hardwood or plastic strip.

Decoration

Almost any finish or decoration that is suitable for wood can equally well be used on Plimber. On the site, the Plimber boards should be stored flat in a dry place. During building operations precautions should be taken to keep the boards clean and dry: should they require cleaning, however, they should be sanded with a fairly fine sandpaper (not coarser than 14 medium).

Painting: Before applying oil paint, emulsion paint or distemper, Plimber should be treated with wood primer, sufficiently free-flowing to be brushed uniformly into the surface without leaving the smallest gap. Size, or emulsion paint thinned with water, should not be used for priming. Plaster Primer No. 353 made by I.C.I. (Paints Division) or any reputable pink or aluminium wood primer is recommended for use on Plimber. For most purposes three-coat work (including priming) is sufficient but for a very smooth finish the surface should be filled after priming. A suitable filler can be made up by mixing whiting with thinned undercoating and it should be applied with a rag moistened with thinners. Care must be taken not to leave a surplus on the surface which would require subsequent removal by sanding.

Sealing, staining: Most of the sealing compounds and stains normally used on wood are suitable for Plimber, but water solutions should not be used. After sealing or staining, the surface may be waxed or varnished. Polyurethane lacquers, clear or pigmented, are particularly suitable for Plimber where protection against severe wear is required. Two coats of Bourne Isate, preceded by one coat of Seelex, are recommended: detailed instructions are obtainable from the manufacturer, Floor Treatments Limited, High Wycombe, Bucks.

Protective treatments: For waterproofing and surface protection generally, where appearance is not of major importance, one or two coats of bitumastic paint or proprietary sealing compound can be applied. Protection against acids or chemical fumes can be provided to a considerable degree by the use of chlorinated rubber paints or other preparations evolved for these purposes. Similarly, fire-retardant paints can be used if required. Manufacturers' directions for treating wood should be followed in general.

Further Information

The manufacturer maintains a technical advisory department available to answer questions dealing with details of construction and decoration of Plimber boards.

Compiled from information supplied by:

British Plimber Limited

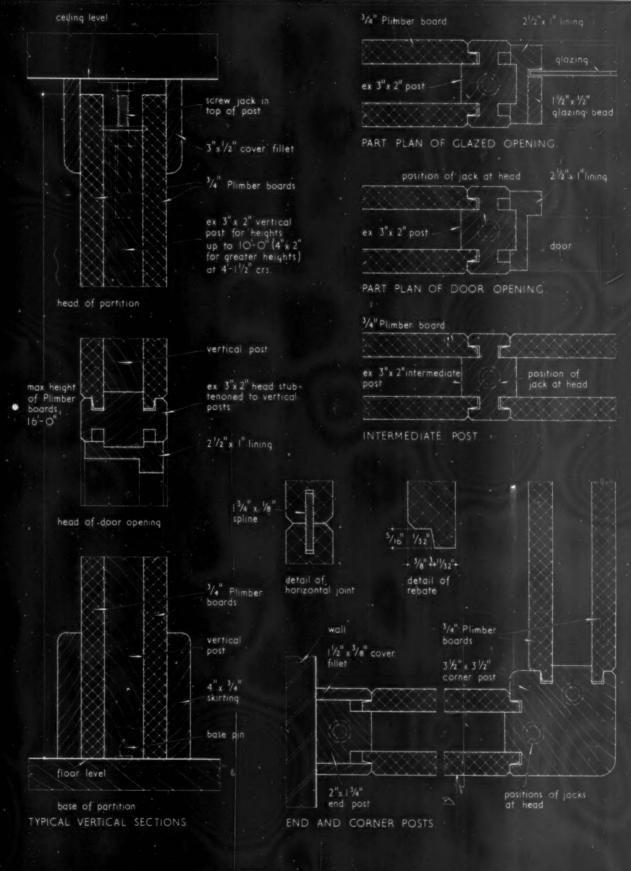
Address: Dovers Corner, New Road, Rainham, Essex

Telephone: Rainham 5262.

BUILDING BOARD APPLICATIONS

The Architects' Journal Library of Information Sheets 840. Editor: Cotterell Butler, A.R.I.B.A.

15.C14 E



15.C14 · PLIMBER REBOND · DEMOUNTABLE PARTITIONING

This Sheet describes the Plimber Rebond system of demountable partitioning, which consists of timber posts, grooved to receive Plimber boards, and fixed by a patent jacking arrangement.

Sizes

The maximum size of Plimber boards as manufactured is 16 ft. 0 in. by 4 ft. 0 in., but the standard size normally in stock with timber or builders' merchants is 8 ft. 0 in. by 4 ft. 0 in. The thickness used for Plimber Rebond partitioning is $\frac{3}{4}$ in.

Construction

The timber frames and linings can be machined by the contractor or obtained from any timber merchant. British Plimber Limited supply the screw jacks and Plimber boards only and cannot undertake fixing.

Posts: The timber posts are grooved as shown in the drawings on the face of the Sheet to take the rebated edges of the Plimber boards. They should be provided at 4 ft. $1\frac{1}{2}$ in. nominal centres and the finished size for partitions up to 10 ft. 0 in. high should be $2\frac{3}{4}$ in. by $1\frac{3}{4}$ in. and for any height over this, $3\frac{3}{4}$ in. by $1\frac{3}{4}$ in. All sharp arrises are removed from the posts and the Plimber panels, to give small vee joints in all cases. The top of each post is drilled out to take the jack. End posts are made in three pieces, as shown in the drawing on the lower right face of the Sheet, so that end panels can be easily inserted: corner posts also are as shown.

Jack and base pin (British patent no. 691209): The circular nut of the jack fits tightly into the hole drilled in the top of the post, but the hole for the screw is $\frac{1}{16}$ in. over size (i.e., $\frac{9}{16}$ in.) so that it can move freely. The pin of the jack is designed for use with plaster or with timber, concrete or steel joists. The base pin is driven centrally into the bottom of the post.

Door openings, glazing: Where door openings or glazed panels are required, posts and rails of identical section to the standard intermediate post are used, stub-tenoned to one another: the mortice should be central between the grooves in the post and to the same depth. Frames for door openings and glazed panels are identical and are $2\frac{1}{2}$ in. by $\frac{7}{8}$ in. finished size. They are grooved as shown in the drawings on the face of the Sheet and are mitred and fixed to the posts with countersunk screws. Glazing beads are out of $1\frac{1}{2}$ in. timber and $\frac{7}{16}$ in. deep, as shown.

Skirting, cappings, etc.: 4 in. by $\frac{3}{4}$ in. timber skirting and 3 in. by $\frac{1}{2}$ in. timber capping are fixed after erection and are screwed to the Plimber boards with

1½ in. no. 6 raised-head screws. At wall abutments, the angle is covered with a $\frac{3}{8}$ in. timber fillet fixed with no. 4 raised-head screws. Raised-head screws are recommended as they remain visible and can easily be removed when demounting the partition.

Plimber boards: The vertical edges of the Plimber boards are rebated as shown in the detail on the face of the Sheet in order to form tongues for the grooves in the posts.

Fixing

When setting out a partition, $\frac{3}{16}$ in. tolerance should be allowed on each 4-ft. panel to compensate for materials being often over size, the fact that joints are not always absolutely tight, unevenness of walls, etc. This gives adequate working tolerances and where a partition abuts a wall obviates the cutting of panels on site.

The centre line of the partition to be erected should be marked with a chalk line on the floor and ceiling. The wall should then be checked for plumb and the end post placed against it, with the jack pin and base pin on the chalk lines. The jack is then screwed up. The Plimber panels should then be inserted into the grooves in the end post. The intermediate post should then be erected, fitted on to the tongues of the panels and plumbed before the jack is screwed up. process is repeated to the last post and the end panels inserted and cover fillets scribed. If necessary, the post may be packed off the wall in two or three places. All jack screws are then tightened, care being taken not to over-tighten them so as to strain the posts. Finally, capping, skirting and end cover fillets should be fixed.

Further Information

The manufacturer maintains a technical advisory department available to answer questions dealing with details of construction and decoration of Plimber boards.

Compiled from information supplied by:

British Plimber Limited

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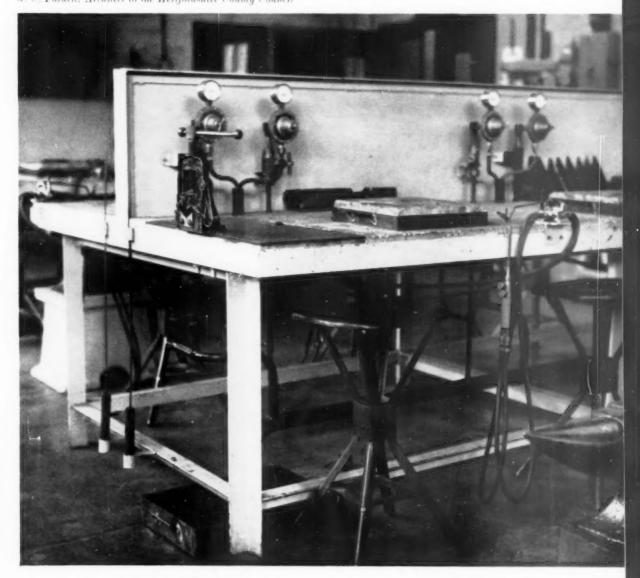
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working detail

FURNITURE AND FITTINGS: 117

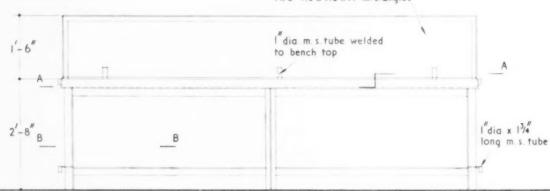
WELDING BENCH: COLLEGE AT ST. ALBANS, HERTFORDSHIRE G. C. Fardell, Architect to the Hertfordshire County Council



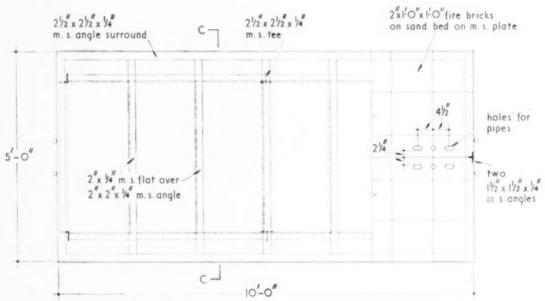
This welding bench is entirely constructed from welded steel angles and flats with a barrier of \(\frac{1}{8}\)-in. m.s. plate between the two sides of the bench. The working top is of firebricks bedded on sand and there are two sockets at each end for rod storage. WELDING BENCH: COLLEGE AT ST. ALBANS, HERTFORDSHIRE

G. C. Fardell, Architect to the Hertfordshire County Council

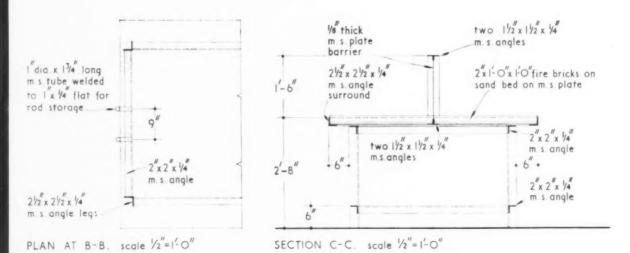
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Two research buildings



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charcoal grey sawn blocks, the main walls have silver grey split blocks. Inner leaves are of lightweight concrete blocks. The workshops, laboratories and stores building. right, by H. Stanley Smith, are constructed of insulating lightweight concrete slabs, sprayed with a waterproofing agent.



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This extension to a Quaker boarding school at Saffron Walden, Essex, designed by Kenneth Bayes of Design Research Unit consists of three classrooms, geography, art and craft rooms, staff common room, lavatories and other minor rooms. Construction: largely orthodox brick, concrete, and trussed timber roof. Internal finishes: classrooms, plaster, with acoustic tile ceilings, except

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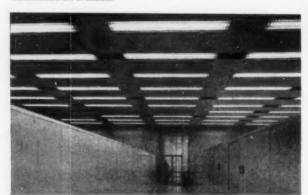


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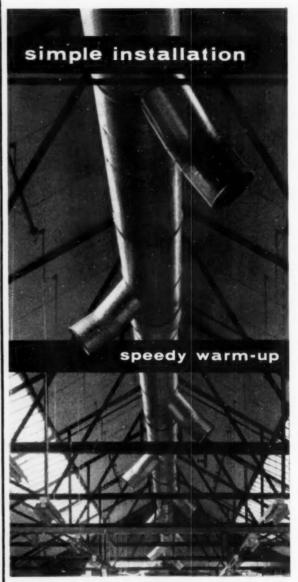
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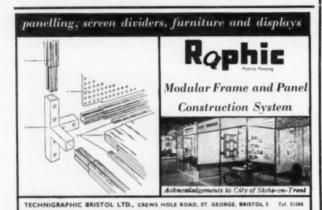
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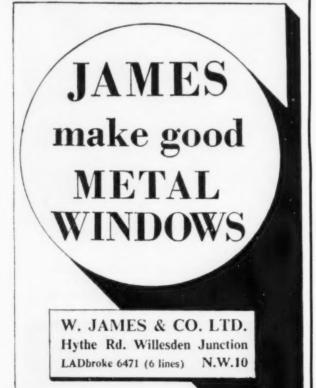


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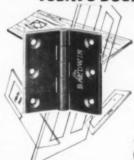
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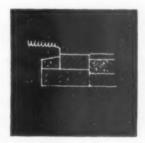
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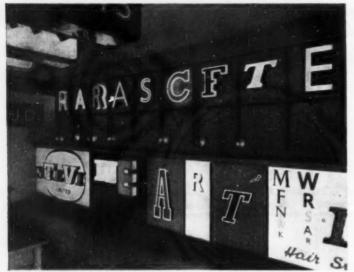
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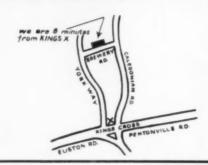
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Years of knockabout service are built-in to these popular Alborough Coal Bunkers—constructed in prefabricated concrete and re-inforced with steel bars for extra durability.

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Address		******			********			
********	*******	*******					***********	*********

AJ SfB

A statement to advertisers We are appealing to advertisers to join with us in giving architects more concise, classified technical information.

A successful journal is a joint venture of editorial and advertising interests. The editors do their utmost to give architects the news, comment and technical information necessary for them to keep abreast with new developments and to practise efficiently.

Our advertisers form a complementary service by supplying information on new materials, products and services, and by keeping this information up to date.

We believe that a neglected field of advertising lies in the preparation of informative advertisements. This is the field where the most response to an advertisement can be expected from a responsible, professional reader. In our policy of providing information for the architect we want to give every encouragement to advertisers to produce concise, logically ordered material, in tabular, drawn or diagrammatic form, fully dimensioned and annotated where necessary.

This is a method which has been successfully demonstrated by the AJ's Information Sheets. Advertisements that present information in an acceptable, authoritative way will be preserved by readers. Informative advertising is not intended to take the place of full catalogue information or the visit of technical representatives, but rather to assist the architect to make basic decisions and selections during the initial stages of his design when speed is vital. In particular, The Architects' Journal seeks the co-operation of all the advertisers in its forthcoming series of supplements, which, commencing on October 4, will provide within a year the nucleus of a personal library (based on the SfB filing system) for every architect. Easily detachable, the supplements will dea! with a different building element each week, and contain a check list, design information, references and information sheets. We hope manufacturers will see the value of making their own contribution to this library by providing as much informative advertising as possible for each subject dealt with. Such advertising being an integral part of the supplement can be easily filed by readers as information complementary to the editorial. If any advertiser or his advertising agent seeks advice or further information on this we will be pleased to give it.

CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advertisement Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.l, and must reach there by first post Friday morning for inclusion in the following S.W.l., and must reach there by first post Friday morning for inclusion in the following Wednesday's paper.
Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

given above.

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

Public and Official Announcements

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

COUNTY BOROUGH OF SOUTHAMPTON Applications are invited for the following

COUNTY BOROUGH OF SOUTHAMPTON Applications are invited for the following appointments:—

(a) ASSISTANT ARCHITECT, Grade A.P.T. V (£1,319/£1,480), for duties in connection with an extensive and varied programme of housing development including multi-storey flats. Applicants must hold the qualification A.R.I.B.A. with wide experience in the design and administration of major building works.

(b) ASSISTANT ARCHITECT, Grade A.P.T. III/IV (£960/£1,310), for duties in connection with housing estate development. Applicants must have passed Parts I and II of the R.I.B.A. Final Examination. Commencing salary according to experience and qualifications.

The appointment is subject to N.J.C. conditions of service.

Housing accommodation available in approved cases and approval removal expenses reimbursable up to a maximum of £50.

Application forms from the Borough Engineer and Surveyor, Civic Centre. Southampton, returnable by Monday, 4th September, 1961, 8873

METROPOLITAN BOROUGH OF
BERMONDSEY
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
Applications are invited from persons under 51
years of age on 28th August, 1961, for the permanent appointment of Assistant Architect,
Grade A. PT. III-11 (1960-1-1.310) plus 455 London weighting, commencing salary according to experience. Applicants must have passed Final
R.I.B.A. examination and should have experience in multi-storey dwellings.
Applications, on forms to be obtained from the undersigned, to be submitted by 28th August, 1961.

J. S. LAMBERT, Town Clerk.

Municipal Offices, Spa Road, S.E.16

Spa Road, S.E.16

METROPOLITAN POLICE
ARCHITECT AND SURVEYOR'S
DEPARTMENT
Applications are invited for the following
positions in connection with the design and
erection of Police Stations, Single Men's Hostels.
Police Housing and Magistrates' Courts and
schemes for major alterations to various Police
buildings within the Metropolitan Police District.
ASSISTANT ARCHITECTS
Salary: £991 per annum at age 25, rising by
annual increments to £1,499 per annum. (Maximum
salary on entry £1,518 per annum at age 34 or
over.)

Over.)

Qualifications. Must be registered Architects.
LEADING ARCHITECTURAL ASSISTANTS.
Salary: £1,048 per annum rising by annual increments to £1,220 per annum.
Qualifications: Intermediate R.I.B.A., H.N.C. or equivalent.
ARCHITECTURAL ASSISTANTS.
Salary: £658 per annum at age 21 rising by annual increments to £1,048 per annum. (Maximum salary on entry £950 per annum at age 28 or over.)
Qualifications: O.N.C., Intermediate B.I.B.A. or equivalent.

Qualifications: O.N.C., Intermediate R.I.B.A. or equivalent.

J. INNES ELLIOTT, B.Arch., F.R.I.B.A.,

Chief Architect & Surveyor.

Applications, giving details of training and experience, to: Chief Clerk, Architect and Surveyor's Department, Office of the Receiver for the Metropolitan Police District, Tintagel House, Albert Embankment, S.E.1.

S8846

Albert Embankment, S.E.I.

COUNTY BOROUGH OF WEST HAM
GROUP ARCHITECT
J.N.C. Grade "B" £1,485-£1,670 and Car
This vacant nost calls for a man of experience,
drive, and initiative, to assist in an expanded
programme now being undertaken by the Borough
Architect and Planning Officer.
Applications, with details of qualifications and
experience (together with names of two referees)
to be addressed to Thomas E. North, O.B.E.,
F.R.I.B.A. Dist, T.P., M.T.P.I., 70 West Ham
Lane. Stratford, E.15.

CITY OF SHEFFIELD
APPOINTMENT OF
(a) ASSISTANT CITY ABCHITECT (Central

Area).
(b) ASSISTANT CITY ARCHITECT (Education

(d) ASSISTANT CITY ARCHITECT (Education and General).

Salary: J.N.C. Scale "E" £1,860—£2,120.

An exceptional opportunity occurs for two able and enthusiastic architects to take up these positions and carry the redevelopment of Sheffield a stage further.

In the Central Area Section the major tasks are (a) the design of the new Civic Centre, comprising Town Hall extensions, Law Courts, Police Buildings and Arts Centre and (b) the redevelopment of the Sheaf Valley.

Applicants for this post should either possess a town planning qualification or have a basic town planning approach to building design.

In the Education and General Section there is a continuing programme of major educational buildings, including Training Colleges, Residential Hostels, District Colleges, Secondary Schools, and interesting work for all other Committees except Housing. The person appointed for this post should have a special interest in modern building techniques, materials and programming and should be keen to accept the challenge for greater building productivity. Full details of the appointments together with forms of application may be obtained from the City Architect, Mr. J. L. Womersley, and completed applications must be sent to the undersigned not later than 11th September, 1961.

Town Hall.

Shemeld, I.

METROPOLITAN BOROUGH OF ISLINGTON BOROUGH ENGINEER AND SURVEYOR'S

DEPARTMENT

Applications are invited from persons not more than 50 years of age for the following appointments.

more than by years of age to appointments:—
ARCHITECTURAL STAFF (Permanent)
(a) Two SENIOR ARCHITECTURAL ASSISTANTS,
A.P.T. V (£1,310-£1,480 p.a.).
(b) Three ARCHITECTURAL ASSISTANTS,
A.P.T. III (£960-£1,140 p.a.).
All plus London weighting.
Applicants for:
(a) should be Associate Members of the R.I.B.A.
with wide experience including multi-storey housing:

ing:
(b) should have passed the Intermediate examin ation of the R.I.B.A. and be suitably experi

ation of the energy of the Borough Engineer and Surveyor, Town Hall, Upper Street, N.I.

H. DIXON CLARK,

H. DIXON CLARK, Town Clerk

BOROUGH OF RAWTENSTALL

(AMENDED ADVERTISEMENT)

APPOINTMENT OF CHIEF ARCHITECT

Applications are invited for the above permanent appointment at a salary within A.P.T. V. (£1,310-£1,480 per annum). Applicants should be members of the R.I.B.A.

The appointment will be subject to the provisions of the Local Government Superannuation Acts. the National Scheme of Conditions of Service and the termination by one month's notice by either side. Housing accommodation will be available.

Applications incuding names and addresses of two referees should reach the undersigned not later than Monday, the 28th August, 1961. Canvassing will disqualify. Any relationship to members of senior officers of the Council must be disclosed.

COLIN CAMPBELL.

Town Hall.
Rawtenstall.
Rossendale.
Lancs.

CUMBERNAULD NEW TOWN
There are still a few vacancies in the following grades for enthusiastic Architects and Planners on the staff of the Chief Architect and Planners on the staff of the Chief Architect and Planning Officer for work on the multi-storey town centre project and housing of all types:

SENIOR ASSISTANT ARCHITECTS, Grade B (£1,305-£1,670).
ASSISTANT ARCHITECTS AND ARCHITECTIRAL ASSISTANTS (£645-£1,310).
ASSISTANT PLANNING OFFICERS (£1,140-£1,480).

£1,480).
Five-day week. Housing accommodation provided.

vided.
Send for application form to General Manager.
Cumbernauld Development Corporation, Cumbercauld House, Cumbernauld, Glasgow, to be returned not later than Friday, 8th September, 1961.

THE UNIVERSITY OF MANCHESTER
Applications are invited for two posts of LECTURER IN TOWN AND COUNTRY PLANNING. Applicants must be graduates in Planning or in an allied subject and be corporate
members of the Town Planning Institute. Salary
on a scale £1,650 to £1,850 per annum with membership of the F.S.U. and Children's Allowance
Scheme: initial salary according to qualifications
and practical experience. Applications should
be sent not later than September 30th, 1961, to
the Register, the University, Manchester 13, from
whom further particulars and forms of application may be obtained.

S9042

GOVERNMENT OF NORTHERN IRELAND
ASSISTANT PLANNING OFFICER
Applications are invited for a pensionable post in the Planning Branch of the Ministry of Health and Local Government. Candidates must be Associate Members or Members of the Town Planning Institute and preferably have had an Architectural training. Work will include Provincial Survey, Location of Industry, Planning Appeals and examination of Local Authority proposals. Salary will be according to experience, within the scale £1,456-£1,550. Transfer of existing Pension rights may, in certain circumstances, be approved. Preference for ex-Servicemen. Application forms obtainable from the Secretary, Civil Service Commission, Stormont, Belfast, 4, should be returned by 4th September, 1961.

POPLAR BOROUGH COUNCIL
PRINCIPAL ASSISTANT ARCHITECT required. Grade A.P.T. V (£1,310/£1,480 per annum, plus £45 London weighting). Projects include multi-storey flats and maisonettes, houses, and public buildings. Application forms from Borough Engineer and Surveyor, Poplar Town Hall, Bow Road, E.S. Closing date 11th September, 1961. 9021

Road, E.3. Closing date 11th September, 1961. 9021

ARCHITECTS AND MAINTENANCE SURVEYORS. Pensionable posts for men and women
at least 25 and under 35 on 1.1.61 (extension for
regular Forces service, Overseas Civil Service,
established civil service and temporary Government service as Architect or Maintenance Surveyor). Candidates must be registered Architects
or, alternatively, for Maintenance Surveyor posts,
have achieved Corporate Membership of R.I.C.S.
(Building Section), or have passed examinations
necessary for attaining Corporate Membership.
National salary £936-£1,258 according to age,
rising to £1,430. Promotion prospects. Write
Civil Service Commission, 17 North Audley Street,
London, W.I., for application form quoting \$766-61.

BOROLIGH: OF RICHMOND (SURREY)

BOROUGH OF RICHMOND (SURREY)

APPOINTMENT OF
SENIOR ASSISTANT ARCHITECT

Applications are invited from qualified. Architects for the appointment of Senior Assistant Architect at a salary in accordance with Grade A.P.T. IV (£1,140-£1,310) plus London weighting. Applications should be delivered to the Borough Engineer and Surveyor, King's Road, Richmond, Surrey, not later than 18th September, 1961, giving the names of three referees and stating relationship if any to Members of the Council or Senior Officers.

Officers.
Canvassing prohibited, No assistance can be given with housing.
CLIFFORD HEYWORTH,

Richmond, Surrey

Richmond. Surrey.

BOROUGH OF BANBURY

DEPUTY BOROUGH ARCHITECT

Applications are invited for the post of Deputy
Borough Architect. Salary within Grade A.P.T. V

(£1,310—£1,480 p.a.) according to qualifications
and experience.

Applicants must be Associate Members of the
R.I.B.A. with suitable experience. The successful
candidate will be responsible to the Borough
Engineer and Surveyor for all the architectural
work of his Department.

Banbury is an expanding town and extensive
works will be undertaken in connection with a
town development scheme, and the post offers a
varied experience. A car allowance will be rayable and removal expenses will be reimbursed in
accordance with the Council's scheme. Temporary
housing accommodation for a married applicant
will be considered.

Applications, stating age, qualifications and experience and the names and addresses of two
referees must be received by the undersigned not
later than the 18th September, 1961.

FREDERICK G. BOYS,

Town Clerk.

Municipal Ruildings

Banbury. 9027
CUMBERLAND COUNTY COUNCIL
There are vacancies on the staff of the County
Architect's Department for ASSISTANT ARCHITECTS on A.P.T. Grades 3, 4 and 5. Applicants
must be suitably qualified.
Further particulars and forms of application
may be obtained from the County Architect, 15
Portland Square, Carlisle.
G. N. C. SWIFT.

Clerk of the County Council.

Applications are invited for the appointment

SENIOR PLANNING OFFICER
(REDEVELOPMENT)
redevelopment schemes including high
Urban Renewal, requiring enthusiastic

density Urban Renewal, requiring architect.
Planning qualification / housing experience additional advantages.
Salary grade: A.P.T. V. £1.310-£1.480, or Scale
"A." £1.350-£1.565, according to qualification/

"A." 21,350—21,565, according to qualification/ experience.

Post permanent and pensionable subject to satisfactory medical certificate. Housing accom-modation in approved circumstances or up to 96 per cent. advance for house nurchase. Removal expenses loan. Five-day working week.

Application forms from Department of Archi-tecture and Planning, Council House, returnable by the 11th September, 1961.

Eight new books on ARCHITECTURE

MY WORK by Le CORBUSIER

Written, designed and supervised by Le Corbusier, this book surveys the great architect's development from his early days to the completion of his latest building. Drawings, used to amplify Le Corbusier's ideas when working, are here used to reinforce his explanatory text. He explains and illustrates the principles governing his work, and his contention that architecture must be integrated with other art forms is reinforced by a wide selection of photographs of great buildings, paintings and sculptures.

Size II½×8½ins. 328 pages. Illustrated throughout. 84s. net, postage 2s. 3d.

New Japanese Architecture UDO KULTERMANN

Western opinion seems to have built up an image of modern Japanese architecture as something spare, elegant and informal. Dr Kultermann's book shows how different the work of leading Japanese architects has turned out to be. It is an architecture that is not afraid of mass and solidity; not afraid to exploit the gross material qualities of wood, stone and concrete; not afraid of bold plastic forms; not afraid to mate advanced technology with hallowed traditionalism. All these qualities are brought out in dramatic photographs, backed by analytical texts and biographies of some two dozen leading architects.

Size 11½ ×8¾ ins. 212 pages. 180 half-tone illustrations. 63s. net.

Theory and Design in the First Machine Age

In the first thirty years of this century, architects made a tremendous effort to adapt their art, and to create a new climate of ideas. Dr Banham's subject covers theoretical writings, buildings, projects, industrial designs, paintings and sculptures. He shows how one unifying theme finally emerges: the architecture of the International Style. Into its growth went many designs, which the author illustrates and analyses; many publications, from the scholarly to the scandalous, from which he quotes extensively, showing the relationship between theories, theorists and products.

Size 9×53 ins. 340 pages, over 150 half-tone and line illustrations. 45s. net, postage 1s. 9d.

Design and Detail of the Space between Buildings ELISABETH BEAZLEY

Few good examples of paving, walling and fencing are being built to-day. One reason for their rarity may be that the available information on materials and details is now widely scattered, and much time is wasted in long searches. This handbook sets out to collect all information from all sources, to assess the character, availability and wearing qualities of materials, the relative merits of constructional methods, and to help the planner avoid incongruities of detail.

Size 10 $\times 7\frac{1}{2}$ ins. 230 pages 130 half-tone and 85 line illustrations, 42s. net.

Antoni Gaudi JOSEP LLUIS SERT & JAMES J. SWEENEY

For too long the great Spanish architect Antoni Gaudi has been regarded merely as an eccentric, and the significance of his contribution to architecture has been misunderstood. The authors trace Gaudi's life and work from his days as a student to his death in 1926. The picture emerges of a wholly sincere architect-builder who lived only for his work; we are reminded of Gaudi's constant reference to nature, his preoccupation with structural principles, his habit of making models which showed him what stresses his buildings would have to bear. Photographs, some in colour, and detail drawings, show how richly Gaudi's work deserves attention. Size 11½×8½ ins. 184 pages. 184 half-tone illustrations, 13 in full colour. 73s. 6d. net.

The Landscape of Roads SYLVIA CROWE

In the next three years £230 million will be spent on British roads. This book clearly and forcefully demonstrates the disastrous effect on the landsacpe when roads are treated purely as an engineering problem. Text, drawings and photographs together show how the skills of a combined team of experts can produce roads which fit the landscape, are far more pleasant to use and do not necessarily cost any more to build. Size $9 \times 5\frac{1}{8}$ ins. 70 half-tone illustrations, 18 drawings. 18s. 6d. net, postage 1s.

Lettering on Buildings

This is the first book to deal with lettering as applied to all kinds of buildings. The author is an internationally acknowledged authority. She first examines and illustrates the history and development of letter forms and then outlines a new way of looking at problems and possibilities. Her approach is illustrated by many examples of lettering in situ; and she thus demonstrates how present-day architects and designers can tackle the task of integrating lettering with all kinds of buildings.

Size 9×53 ins. 192 pages with 270 half-tone and line illustrations, 25s. net, postage 1s. 2d.

Architects' Working Details Volume VII EDIFORS: D.A.C.A. BOYNE & LANCE WRIGHT, A.R.I.B.A.

This seventh volume returns to English examples. The series aims firstly to provide architects and students with easily accessible solutions to everyday design problems, and secondly to record the latest stages reached in the study of these problems, thus providing a starting point from which architects can develop their own improvements. Each detail is illustrated by a large photograph facing the relevant working drawing.

Size $12 \times 8\frac{\pi}{4}$ ins. 160 pages. 148 half-tone and line illustrations. 25s. net, postage 1s. 9d.

The Architectural Press, 9-13 Queen Anne's Gate, London, S.W.1

BOROUGH OF POOLE Applications are invited for the appointment of ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£815-£960)

ARCHITECTURAL ASSISTANT,
II (£815-£960).
The successful applicant will be engaged on a variety of projects which include a new Civic Centre and a programme of redevelopment including multi-storey flats.
Application forms from the Borough Architect. Municipal Buildings, Poole, Dorset, to be returned by Tuesday, 19th September, 1961.

J. G. HILLIER,
Town Clerk.
9031

15th August, 1961.

ADMINISTRATIVE COUNTY OF LEICESTER (a) PRINCIPAL ASSISTANT ARCHITECT,

(6) CHIEF ASSISTANT ARCHITECTS, £1,310-(c) SENIOR ASSISTANT ARCHITECTS, £1,140

(c) SENIOR ASSISTANT ARCHITECTS, £1,340—61,310.

Candidates for (a) must be members of the R.I.B.A., have had sound experience and be capable of acting as Group Leaders on an extensive programme of education buildings. Candidates for (b) must be members of the R.I.B.A., have had considerable office experience and be capable of taking charge of contracts from inception to completion. For (c), should be members of the R.I.B.A., have had office experience and he capable of taking charge of small contracts. Lodging allowance and removal expenses may be paid to a married man. Apply on form obtainable from County Architect, 123 London Road, Leicester.

BOROUGH OF SOLIHULL,

APPOINTMENT OF CLERK OF WORKS
Applications are invited for the above appointment in the Architect's Section of the Borough
Engineer and Surveyor's Department at a salary
in accordance with Miscellaneous Grade VII (2810
× £20 (2) × £25 (1)—£875 per annum).
Applicants should have been apprenticed in the
building trade and have had considerable experience as craftsman and general foreman. In
appropriate cases, housing accommodation will be
provided as soon as possible, and the whole of an
officer's removal expenses will be paid subject to
11 months' service with the Authority. The usual
Local Government Conditions of Service will apply,
and appointment will be subject to medical
examinations.

and appointment will be subject.

Applications, giving full particulars as to past and present appointments, together with the names and addresses of two persons to whom reference can be made, should be submitted to the Borough Surveyor, 90, Station Road, Solihull, not later than Saturday, 9th September, 1961.

W. MAURICE MELL,

W. MAURICE MELL,

16th August, 1961.

S9045

BUCKS COUNTY COUNCIL

Applications are invited for the position of DEPUTY AREA PLANNING OFFICER in the office of the North Bucks Area Planning Officer at Bletchley. Salary, Grade A.P.T. IV, £1,140—£1,310.

Candidates must be Corporate Members of the Town Planning Institute and preference will be given to those possessing an additional recognised onadification in Architecture, Engineering or Surveying. They must also have had considerable exterence in all aspects of statutory planning, development control and planning procedure. The appointment is superannable and subject to a medical examination.

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

Application forms to be obtained from the undersigned and returned by Friday, 3th September, 1961.

F. B. POOLEY, County Planning Officer.

County Offices, Aylesbury, Bucks,

COUNTY BOROUGH OF DEWSBURY BOROUGH ARCHITECT AND BUILDINGS SURVEYOR'S DEPARTMENT Applications are invited for the following populatments within the scope of the grades

(a) TOWN PLANNING ASSISTANT (should be A.M.T.P.I.), A.P.T. Grade IV (£1,140-£1,310), (b) ASSISTANT ARCHITECT (should be A.R.I.R.A.), A.P.T. Grade IV (£1,140-£1,310), (c) ARCHITECTICRAL ASSISTANT, A.P.T. Grade I (£645-£815), (d) JUNIOR ARCHITECTURAL ASSISTANT/DIAL/GHTSMAN, General Division (£250-£630).

provision of housing accommodation will sidered if required for appointments (a), (b)

and (c).

Applications for forms and narticulars of appointments to A. G. Beckett, A.B.I.B.A., A.M.T.P.I. Borough Architect and Buildings Surveyor, Town Hall, Dewsbury, Closing date 9th September, 1961.

A. NORMAN JAMES

Town Hall, Dewsbury, 14th August, 1961

BOROUGH OF KEIGHLEY
BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the appointment
of a qualified SENIOR ASSISTANT ARCHITECT,
Grade A.P.T. IV (salary range £1,140-£1,310),
who will be responsible for a small section of the
office. Applicants must have had experience on
education work and the supervision of contracts.
Applications to be made upon the prescribed
form to be obtained from the Borough Architect,
College Street, Keighley, to be returned not later
than first post, Monday, 4th September, 1961.
J. A. CAESAR,
J. A. CAESAR,
Town Clerk.

WORTLEY RURAL DISTRICT COUNCIL
APPOINTMENT OF
TEMPORARY CLERK OF WORKS
(Amended Advertisement)
Applications are invited for this appointment at a salary of £850 per annum Forms of application application should be delivered not later than 4th September, 1961. A Council house will be provided if required and it is anticipated the minimum period for the appointment will be two years. A motor car allowance will be paid on the essential user scale for a car not exceeding 1199 c.c.

ADRIAN M. KELLY.

Council Offices, Grenoside, Nr. Sheffield.

COUNTY BOROUGH OF DEWSBURY
BOROUGH ARCHITECT AND BUILDINGS
SURVEYOR'S DEPARTMENT
Applications are invited for the following
appointment within the scope of the grade stated:
PRINCIPAL ASSISTANT QUANTITY SURVEYOR. A.P.T. Grade V (£1,310-£1,480). (This
post ranks as Chief Assistant).
The provision of housing accommodation will be
considered if required forms and particulars of
appointment to A. G. Beckett, A.R.I.B.A.,
A.M.T.P.I.. Borough Architect and Buildings
Surveyor, Town Hall, Dewsbury. Closing date 9th
September, 1961.

A. NORMAN JAMES.

A. NORMAN JAMES, Town Clerk.

Dewsbury. 14th August, 1961.

The Northern Ireland Housing Trust has vacancies for Architects, Class I "A", on scale £1,456—£1,950.

Candidates must be Associates of the Royal Institute of British Architects.

The persons appointed will be required to contribute to a superannuation scheme which allows for the transfer of benefits in local government schemes in suitable cases.

Housing accommodation may be arranged for married candidates.

Please apply not later than 6th September, 1961, giving details of age, education, qualifications and experience, including present post and salary to the General Manager. Northern Ireland Housing Trust, 12 Hope Street, Belfast 12.

Please mark envelope 33/93.

8714

CITY OF MANCHESTER
CITY SURVEYOR AND ENGINEER'S
DEPARTMENT
ASSISTANT CITY PLANNING OFFICER
Candidates must be appropriately qualified by
examination and must have had considerable experience in the Planning and Development work
of a Local Authority.
Candidates are required to state salary required.
The person appointed will be responsible to
the City Surveyor for the control of the Planning
and Development Section of the Department and
the duties will include Comprehensive Redevelopment and New Development work (including
overspill), General Development and the location
and planning of major highways.
Housing accommodation and removal expenses.
Application forms from the Town Clerk. Town
Hall, Manchester, 2, to he returned in an envelope
endorsed "Assistant City Planning Officer," not
later than 11th September, 1961.

NORTHUMBERLAND, COUNTY COUNCIL

later than 11th September, 1961. 88715

NORTHIMBERLAND COUNTY COUNCIL COUNTY PLANNING DEPARTMENT Applications are invited for the post of SENIOR PLANNING ASSISTANT in the County Planning Department (Grade A.P.T. IV, £1,140—£1,310). This appointment is in the Development Plan Section and the successful applicant will be engaged on the preparation of Town Maps including schemes for the comprehensive redevelopment of central areas. Applicants should have experience in Town Map work, an ability to put forward constructive suggestions for future planning policies, and be capable of viewing problems objectively and producing clear, concise reports. Applicants should be Corporate Members of the Town Planning Institute or hold a suitable alternative qualification. The salary will be fixed in accordance with previous experience and ability.

Application forms and further details obtainable from the County Planning Officer. County Hall, Newcastle upon Tyne 1. Applications to be returned not later than 15th Sepember, 1961. 8717

LANDSCAPE ARCHITECTS AND ASSISTANTS for preparation of working drawings and specifications and supervision of contracts on new parks, playing fields, grounds of housing estates.

parks, playing neigs, grounds of the cetc.

Salary up to £1,250 (£960 for assistants), according to qualifications and experience.

Aprily to Chief Officer, (AIJ/2291/8), L.C.C., Parks Department, County Hall, S.E.1. (WATerloo 5000 ext. 8076).

CWMBRAN DEVELOPMENT CORPORATION
APPOINTMENT OF
ASSISTANT QUANTITY SURVEYOR
A QUALIFIED QUANTITY SURVEYOR is
required for varied and interesting work in connection with the development of CWMBRAN
NEW TOWN, the target population of which has
recently been raised from 35,000 to 45,000. The
appointment is in the salary range of £1,140£1,310, the point of entry being in accordance
with qualifications and experience.
Candidates should be experience in taking-off,
billing and abstracting, site measurements, valuation of work and the preparation of final accounts.
The post is superannuable, and housing accommodation will be made available to rent or buy.
Applications stating age, experience, details of
present and former employment (together with
applicable salaries) and the names and addresses
of two referees must reach the undersigned by
first post on Monday, 11th September, 1961.

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

Cwmbran, Mon.

Mon. S8996

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BUILDING PROGRAMME APPOINTMENTS OF SURVEYING STAFF 1. ASSISTANT QUANTITY SURVEYOR (Ref. 965). To be experienced in taking off, abstracting and biling of quantities, measurement of work in progress and settlement of final accounts.

2. QUANTITY SURVEYING ASSISTANT (Ref. 966). For working up bils of quantities and final accounts, measuring on site and taking off for small works.

3. BUILDING SURVEYING ASSISTANT (Ref. 967). For assisting in surveys of hospital sites and preparation of working drawings and specifications under supervision for works of a minor character. Sailary scales: Assistant Quantity Surveyor, 2945—£1,360; Surveying Assistants, £645—£940. Commencing salary above minimum, subject to certain conditions.

Posts are permanent and superannuable. Fiveday week. There is a scheme of financial assistance to students preparing for professional examinations.

Apply, stating age, qualifications (with dates) and experience, with names of two referees to the

examinations.

Apply, stating age, qualifications (with dates)

Secretary, North West Metropolitan Regional Hospital Board, 40, Eastbourne Terrace, W.2, quoting appropriate reference number by 6th September, 1961.

HEREFORDSHIRE COUNTY COUNCIL APPOINTMENT OF COUNTY ARCHITECT Applications are invited for the above appointment (whole-time) on the salary scale £2,700 × 275 (5)—£3.075 (plus travelling and subsistence allowances) from Fellows or Associates of the R.I.B.A. Further particulars and forms of application (returnable by 8th September, 1961) may be obtained from the Clerk of the County Council. Shirehall, Hereford.

CHIEF AND ASSISTANT ARCHITECTS
Applications are invited by Tyrone County
Education Committee for the post of Chief Architect in the Education Offices, Omagh, on the
salary scale, £1,394 to £1,716 p.a., and for two
posts of Assistant Architect on the salary scale, £935 to £1,430 p.a. The points of entry to the
salary scales will depend on age, qualifications
and experience, and assistance with the payment
of removal expenses may be given.
Further particulars and application forms may
be obtained from the Chief Education Officer.
Education Offices Omagh, and applications should
be lodged with him by Monday, 4th September,
1961.

LANCASHIRE COUNTY COUNCIL
SECTIONAL PLANNING OFFICER required in the Development Section at Headquarters; salary J.N.C. Grade "A" (£1,400-£1,55).
Experience is required in the review of County Maps and Town Maps and in the reception of oversnill population. Applicants must have a sound knowledge of general planning and development legislatin and experience of Development Plan preparation.
Candidates should have an appropriate University degree and/or one or more of the following multifeations; A.M.T.P.I., A.R.I.C.S., A.M.I.C.E., A.M.I.Mun.E.
Disturbance allowances and removal expenses to a maximum of £125 may be granted in approved cases.
Applications stating age, qualifications, present varienters are approved a present approved cases.

cases.

Applications stating age, qualifications, present appointment, experience and two referees to the County Planning Officer (8). East Cliff County Offices, Preston, by the 19th August, 1961. 8702

CORPORATION OF LONDON

Applications are invited from Associate Members of the R.I.B.A. for the appointment of ASSISTANT TO THE SITE ARCHITECT on a large building project for 12 months duration, at a salary of £1,420 p.a.

Candidates should have had good general experience in the preparation of working details and of contract works and must be expeditious draughtsmen.

Applications stating age, appointments held and experience, together with names of two referees, to be sent to The City Engineer, Guildhall, London, E.C.2, by 21st August.

SITUATIONS VACANT

The Aglite Division of the Butterley Company Limited, Butterley Hall, Ripley, Derby, require two young technical sales representatives.

These are challenging jobs in a new industry calling for the ability to acquire technical knowledge quickly and retain it. Aglite is used for reinforced and prestressed concrete, as well as the more traditional uses for lightweight aggregate.

The successful applicants will be required to live locally. They will be in their mid-twenties and will have had some years' training for, and experience in, one of the professions or industry connected with building or civil engineering.

They will be expected to sell to Architects, Consulting Engineers, and industrial users, and advise in drawing up specifications. They will also be required to make site and works visits to advise on mixing and placing techniques.

Salaries will be in the £850 to £950 range, depending upon age and experience; a contributory pension scheme is in operation; a company car will be provided.

Write, giving brief details of age, education, experience and present salary to The Commercial Manager—marking the envelope "Confidential".

HAMPSHIRE COUNTY COUNCIL

APPOINTMENT OF ARCHITECTS

The County Architect (H. Benson Ansell) is seeking the following additional pensionable staff for the current major building programme:—

Principal Assistant Architect, Scale C (£1,560—£1,825)

Senior Assistant Architects (3), Scale A/B (£1,480—£1,670)

Assistant Architects (3), A.P.T. IV/V (£1,140—£1,480)

Some of these posts will include development work in connection with a newly-formed Consortium (S.C.O.L.A.) for school building which offers scope for men with drive, initiative and design ability, who are interested in research and development work and the application of original thought to design and construction. Candidates for these posts should mark their application forms "SCOLA".

Candidates must be fully qualified and possess experience commensurate with the grade of post for which they are applying. Separation allowance and assistance with removal expenses in approved cases. Five-day week. Canteen facilities.

Application forms, returnable by 5th September, from the Clerk of the County Council, The Castle, Winchester.

MANCHESTER CORPORATION

ENGINEERS & PLANNERS

Grades !JNC 'B' (£1420/£1670) and APT V (£1310/£1480)

Engineering appointments offer experience in an extensive programme of design and construction work including highway improvements, new major roads and bridges, main drainage, airport extensions and new roads and sewers on housing sites.

The Planning appointments offer practical experience in comprehensive redevelopment schemes in central areas and in large scale new residential development projects.

Applicants must be appropriately qualified.

Housing Accommodation and Removal Expenses

Applications giving details of age, qualifications, and experience, together with the names of three referees, to the

City Surveyor, Town Hall, Manchester, 2

his most important book since Towards a New Architecture

Corbriner

The record of a life's work—architecture, painting and sculpture—written, illustrated, and designed, by the world's most eminent and controversial architect. 84s.

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1.

LANCASHIRE COUNTY COUNCIL
PLANNING DEPARTMENT HEADQUARTERS
AT PRESTON
CENTRAL AREA REDEVELOPMENT—
ARCHITECTS and PLANNERS capable of original and imaginative work and a VALUATION
SURVEYOR are invited to join a team to prepare
Schemes for Central Area Redevelopment in

nal and imaginative work and a VALUATION SURVEYOR are invited to join a team to prepare Schemes for Central Area Redevelopment in Lancashire towns.

Car allowances will be provided and disturbance allowances up to £125 covering removal expenses, lodging allowance, changes in furnishing, travelling expenses and legal expenses on house acquisition are available.

Initially the team will comprise:

1. One J.N.C. Grade "C" ARCHITECT/PLANNER (£1,560-£1,825).

2. One J.N.C. Grade "A" ARCHITECT/PLANNER (£1,400-£1,565).

4. Two A.P.T. Grade "A "VALUATION SURVEYORE (£1,400-£1,565).

5. Two A.P.T. Grade "V ARCHITECTS OR PLANNERS (£1,510-£1,480).

5. Two A.P.T. Grade "V ARCHITECTS OR PLANNERS (£1,140-£1,510).

Applications stating appointment applied for and giving details of age, experience, qualifications, present appointment and the names and addresses of two referees should be addressed to the County Planning Officer (S), East Cliff County Offices, Preston, by the 29th August, 1961.

BOROUGH OF LYTHAM ST. ANNES
APPOINTMENT OF
CHIEF ASSISTANT ARCHITECT
Applications are invited for the position of Chief
Assistant Architect in the office of the Borough
Engineer and Surveyor, at a salary in accordance
with A.P.T. IV (21,140-21,301). Candidates must
have passed the Final R.I.B.A. examination. Housing accommodation will be provided, if required.
The appointment is subject to the provisions of
the Local Government Superannation Acts and
to the passing of a medical examination.
The commencing salary (within A.P.T. IV) will
be agreed with the successful candidate.
Applications, giving details of age, education,
qualifications and experience, accompanied by
copies of two recent testimonials, should be forwarded to the undersigned not later than Friday,
15th September, 1961.

R. A. CORK,

R. A. CORK. Town Clerk.

Town Hall, Lytham St. Annes

ARCHITECTURAL ASSISTANTS AND DRAW-ING OFFICE ASSISTANTS REQUIRED BY AIR MINISTRY H.Q. IN LONDON. Salary (inner London scale) Grade H. £1,048 to £1,220; Grade H. £1,048 to £1,0

LAMBETH BOROUGH COUNCIL
HOUSING DEPARTMENT
Vacancies exist for ARCHITECTURAL ASSISTANTS within the salary range £840-£1,525 per annum. Interesting new work includes multistorey flats, maisonettes, houses, shops, public library, depots, etc.
Applications in the first instance by letter to the Town Clerk, Town Hall, Brixton, S.W.2.
Closing date 1st September, 1961.

BOROUGH OF YEOVIL
ARCHITECTURAL ASSISTANT
Applications are invited for the appointment of an Architectural Assistant in the Borough Surveyor's Department at a salary within Grade A.P.T. II (1815—1856) p.a.)
The Scheme of Conditions of Service laid down by the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services will apply.
Applications giving full personal details, present and previous appointments, qualifications and experience and the names of two persons to whom reference can be made, should be sent to the undersigned not later than Monday, 11th September, 1961. Preference will be given to applicates who have passed Intermediate R.I.B.A.
Housing accommodation will be available if required.

A. HEAL, M.I.Mun.E., Borough Surveyor.

Municipal Offices, Yeovil.

METROPOLITAN BOROUGH OF
CAMBERWELL
ARCHITECTS
Vacancies for Architects in the Borough
Architect's Department within a salary range of
£855 and £1,525 (Grades A.P. II to V of the
National Scales). Grade and commencing salary
according to qualifications and experience. The
work of the department includes design and construction of public buildings, housing estates,
including multi-storey construction. Application
form from Town Clerk, Town Hall, S.E.5. TC7928

CITY OF LEICESTER
CITY ARCHITECT'S DEPARTMENT
Applications are invited for the appointment of
CHIEF ASSISTANT ARCHITECT (Education

CHIEF ASSISTANT ARCHITECTURE ASSISTANT ARCHIT

Halford House, Charles Street, Leicester,

LINDSEY (LINCOLNSHIRE) COUNTY
COUNCIL
ARCHITECT'S DEPARTMENT
North Lincolnshire is developing rapidly and
the work in the Department is growing correspondingly and is of a most interesting nature.
Lincoln and District offer pleasant living conditions, reasonable priced houses, good schools,
proximity to the coast, and open country with
few traffic problems.
Vacancies exist on the following grades.
A.A.P.T. Salary £960-£1,140 ARCHITECTURAL ASSISTANT. Experienced man required as middle member of a team.
B.A.T. 1 £640-£815 JUNIOR studying for
R.I.B.A qualification.
C. General Grade at 21 years of age £420-£520
DRAIGHTSMAN with knowledge of building construction.

DRAIGHTSMAN with knowledge of building construction.

D. AP.T. 2 2815-2960 ASSISTANT QUANTITY STRVEYOR able to abstract and take off for small works.

E. A.P.T. 2 2815-2950 ASSISTANT QUANTITY STRVEYOR able to abstract and take off for small works.

E. A.P.T. 2 2815-2950 BUILDING INSPECTOR. good practical knowledge and draughtsman. ship for minor schemes of alterations and maintenance. Commencing salary within the grade dependent unon qualifications and experience. Five-day week. Post Entry Training Assistance for study. N.J.C. Conditions of Service. Canvassing will dismalfy and candidates must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Council.

Applications stating post applied for, giving age, qualifications, experience, present post and salary and names of two referees to be sent to A Ronald Clark, A.R.I.B.A. A.M.T.P.I.. County Architect, County Offices, Lincoln, not later than 2nd September, 1961.

GLENROTHES DEVELOPMENT

ARCHITECT (A.R.I.B.A.) required for a variety of work including Housing, Industrial, Shopping and Commercial Buildings.

The vacancy offers an excellent opportunity to an Architect with imagination and enthusiasm. Salary up to £1,480 per annum according to experience.

House to rent available.

Applications to Secretary and Legal Adviser, Glenrothes, Fife.

8700

BOROUGH OF RUGBY
APPOINTMENT OF ASSISTANT ARCHITECT
Applications are invited for the above appointment in the Borough Engineer and Surveyor's
Department, which has an interesting and varied
programme of work.

The commencing salary will depend on qualifications and experience and will be within A.P.T.
Grade IV (£1,140-£1,310). Housing accommodation
will be provided if required and a car allowance
on the essential user scale will be paid.

Further particulars and form of application
may be obtained from the Borough Engineer and
Surveyor, Town Hall, Rugby, to whom completed
applications must be sent not later than 6th
September, 1961.

T. L. DUFFY. Town Clerk

COUNTY BOROUGH OF SOUTHEND-ON-SEA BOROUGH ARCHITECT'S DEPARTMENT ASSISTANT ARCHITECTS
Applications are invited for Assistant Architects to be appointed according to experience within grades A.P.T. IV to V (£1,140-£1,480).
A house will be available and removal expenses paid to successful applicants.
Applications with usual particulars and the names of referees should be sent to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by Monday, 18th September, 1961.

ARCHIBALD GLEN,
Town Clerk,
August, 1961.

August, 1961.

CITY OF CARDIFF
CITY ARCHITECT'S DEPARTMENT
CHIEF ASSISTANT ARCHITECT
(CIVIC DESIGN)
J.N.C. SCALE "A", £1,485-£1,565
Applications for this appointment are invited from qualified and experienced Architects to work under the Assistant City Architect (Civic Design), principally on the redevelopment of outworn shopping, business and housing areas. Experience in similar work and membership of the Town Planning Institute would be considered an advantage.

Planning Institute would be considered.

General Conditions of Appointment may be obtained from the undersigned.

Applications stating age, qualifications, past and present appointments, details of experience and the names of two persons to whom reference can be made, should be delivered to me in appropriately endorsed envelopes and must be received not later than the 11th September, 1961.

S. TAPPER-JONES,
Town Clerk.

City Hall, Cardiff, August, 1961

BOROUGH OF BASINGSTOKE

BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the post of
ARCHITECTURAL ASSISTANT in the Architect's Department, where there is a variety of
interesting work. Candidates should have reasonable training and experience (including housing).
Salary A.P.T. I within the range 2645-2815
per annum, according to experience. N.J.C.
conditions. Post pensionable. Assistance with
housing and removal expenses. Five-day week.
Details, giving qualifications, experience, etc.,
and names and addresses of two referees, to be
sent to the Borough Architect, Eric Almond,
Dipl.Arch. A.R.I.B.A.: Municipal Buildings,
Basingstoke, Hants., by 31st August, 1961.
R. PURVIS,
R. PURVIS,
Royal Clerk.
S8881

surrounds ireplaces stairtread skirtings cladding copings flooring S paving heive

8 ROAD NORTH 80W ABERLLEFENI SLATE & HALL 80W UARRIES

ERIC de MARE Photography & Architecture

THIS BOOK IS by an architect who has become a professional writer and photographer. It reveals simply the technical tricks of the trade and shows how people, using their cameras, may learn to understand, love and enjoy architecture in a direct way without having to carry a burden of passionless academicism.

The book is for the amateur who wants to know more about a fascinating branch of photography; for the architect who wants to learn to make records for use or fine pictures for pleasure; for anyone who likes to possess a book of beautiful photographs from all over the world.

The pictures have been selected and arranged not merely as first-class records of buildings, made by the world's masters of photography, but as photographs striking in themselves, which reveal the visual kinship between photography and architecture, by expressing the sensually pleasing elements of texture contrast, rhythm, space relationship, scale, and monumentality—especially through the selected close shot. Here are townscape, wallscape, floorscape, reflections, the contributions of rain and snow, the drama of perspective and depth of field, light in all its strange and evocative moods, the viewpoint of bird or worm, and the accidental beauties of squalor, decay or of the merely commonplace.

Size: 11 × 8½in. 208 pages: 109 of photographs. 50s. net, postage 1s. 9d.

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1.

LITTLEWOODS MAIL ORDER STORES LTD.

The Dept. of Architecture and Planning

have vacancies for

- Qualified Architects. Starting salaries £1,250– £1,650.
- Architectural Assistants. Starting salaries up to £1,100 for those of Inter R.I.B.A. standard who are expecting to qualify.

Special additional consideration will be given to applicants with considerable experience but who do not intend to proceed to A.R.I.B.A.

3. Architectural Draughtsmen. Starting salaries £600-£900 p.a., according to experience.

We have an extensive and exciting building programme employing advanced methods of building structure, embracing the development of city centres.

Duties include making periodic visits to other parts of the country to direct and supervise building construction.

The Company's conditions of employment include a five-day week, a generous sickness scheme and a contributory Pension and Life Assurance Scheme.

> Write for application form to: Management Appointments Officer (Ref. A/223/AJ) Littlewoods Mail Order Stores Ltd. Spinney House, Church St. Liverpool X.



FOR SWIMMING POOLS OF ALL SIZES YOU STILL NEED THE FINEST FILTRATION

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For efficient swimming pool filtration, specify Rutherford Diatomite Filters, the finest obtainable—in sizes suitable for pools of every capacity down to the smallest. An exceptional degree of water clarity is obtained, making it unnecessary to empty the pool during the summer. The most up-to-date Vacuum Sweepers and Skimmer Weirs, for keeping the pool floor and water surface free from dust, etc., are available for most sizes. Each filter is a complete, easily installed unit, with electric motor and pump, and all necessary valves. For larger installations, an engineer is sent to give on-the-spot advice.



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The leading Filtration Specialists
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MOBIL OIL COMPANY LIMITED

invites applications for the post of

BUILDING SURVEYOR

in their Glasgow Branch Office

The work is in connection with the development of petrol filling stations etc. Applicants should have knowledge of building construction and by-law requirements and be capable of carrying out site surveys and site inspections. Must be car driver. Full employment benefits and superannuation.

Write, giving full details of experience, age and salary required, quoting BS/9832, to:—

The Employee Relations Adviser, MOBIL OIL COMPANY LIMITED, Caxton House, Tothill Street, London, S.W.1. WEST SUFFOLK COUNTY COUNCIL
Applications are invited for the post of SENIOR
ASSISTANT ARCHITECT within Grade "A"
(£1,320-£1,565), Appointment subject to National
Conditions of Service; two months' notice on
either side; travelling allowance at casual user
rate; schemes for payment of removal expenses
and housing separation allowances in operation.
Application forms obtainable from the County
Architect, 13, Westgate Street, Bury St. Edmunds,
to be returned as soon as possible.

BOROUGH OF ILFORD
BOROUGH ENGINEER'S DEPARTMENT
APPOINTMENT OF
SENIOR ASSISTANT ARCHITECT
Grade A.P.T.
Candidates must be Associate Members of the
R.I.B.A. and have suitable experience in the
development of Council housing and multi-storey

The commencing salary will be fixed within the scale (£1,310—£1,480) according to qualifications and experience, addition. Five-day week,

The appointment will be subject to one month's notice on either side, to the provisions of the Local Government Superannation Acts, to National Conditions of Service and to satisfactory

National Conditions of Service and to satisfactory medical examination.

The Council is prepared to consider, if necessary, the provision of housing accommodation.

Application forms, obtainable from the Borough Engineer, P.O. Box 7, Town Hall, Ilford, should be returned not later than Monday, 11th September.

LEEDS REGIONAL HOSPITAL BOARD Applications are invited for the post of ASSISTANT LAND SURVEYOR—salary scale ±96 × ±35 (1) × ±45 (6) × ±50 (2)—±1,510. The commencing salary will be dependent on practical experience and may be at an incremental point above the minimum of the scale provided that the additional increments do not exceed the number of years by which the candidate's age exceeds 23. Applicants must be Associate Members of the R.I.C.S.
Applications stating age, qualifications and experience, together with the names and addresses of two referees to The Secretary, Park Parade, Harrogate, by 9th September, 1961.

CITY OF LEICESTER
CITY SURVEYOR'S DEPARTMENT
Applications are invited for the post of Building
Surveyor in the Maintenance Section of my
Department on Grade A.P.T. V (£1,310-£1,480

Department on Grade A.F.I. v (22,000 - 22,700 p.a.).
Candidates must be suitably qualified as an Architect or Surveyor, and have a good knowledge of and be experienced in the maintenance of public buildings, alterations and additions to properties, preparation of plans, specifications, estimates and schedules, and the control of staff. A knowledge of Works Study will be an advantage. The appointment is subject to the Local Government Superannuation Acts and the passing of a medical examination.

tent Superannuation Acts and the particle sedical examination.

Housing accommodation will be made available to the successful applicant, if married.

Applications, stating age, qualifications and xperience, and the names of two referees should be forwarded to me by 4th September, 1961.

JOHN L. BECKETT, M.I.C.E...

City Surveyor.

Town Hall, Leicester.

N.A.A.F.I.
H.M. Forces Official Trading Organisation has vacancies for an ARCHITECT

ASSISTANT ARCHITECT

Possessing R.I.B.A. Intermediate or equivalent experience. Salary £700 to £1,100 commencing. Apply giving age and particulars of experience in confidence to Controller of Works and Buildings.

N.A.A.F.I., Imperial Court, Kennington, London, S.E.11.

CHEADLE AND GATLEY URBAN DISTRICT COUNCIL

ARCHITECTURAL ASSISTANT, A.P.T. IV Applications are invited for this appointment in the Department of the Engineer and Surveyor. Applicants should be qualified Architects. and have experience in Housing design and construction.

tion.

The appointment is subject to the usual conditions of service and one month's notice on either

The provision of housing accommodation will

The provision of housing accommons to be considered.

Applications, including the names and addresses of two referees, must reach the undersigned by 16th Sentember, 1961.

The Urban District is a very pleasant and rapidly growing residential area eight miles south-east of Manchester, the population being 45,000 and the area 5,300 acres.

RICHARD ROBERTS,

Clerk of the Council.

Town Hall, Cheadle, Cheshire. 14th August, 1961. Sonts

THE URBAN DISTRICT COUNCIL OF FELLING
SURVEYOR'S DEPARTMENT
APPOINTMENT OF ASSISTANT ARCHITECT
Applications are invited for the appointment as Assistant Architect in the Surveyor's Department. The salary payable will be within Grade A.P.T. IV of the National Salary Scales (£1,140-£1,310 per annum).

Applicants must have passed the Final examination of the Royal Institute of British Architects, Forms of application together with particulars and conditions of employment can be obtained from the undersigned to whom they must be returned not later than 4th September, 1961.
Housing accommodation will be provided by the Council if required or alternatively the Council will grant a 100 per cent. mortgage for the purchase of an approved private dwellinghouse Canvassing will disqualify any applicant.

JOHN DONKIN, Clerk of the Council.

Council Buildings Felling. Gateshead 10.

BUILDING SURVEYORS

PUBLIC WORKS DEPARTMENT, GOVERNMENT OF HONG KONG

Duties: To examine and approve plans submitted by private architects to ensure compliance with the Buildings Ordinance or to supervise work on the maintenance of Government buildings.

Qualifications: Candidates preferably under 45 years of age must be either A.R.I.C.S. (Building) preferably with at least one year's post qualification experi-ence or A.R.I.B.A. with suitable experience.

Terms of appointment: Pensionable or contract/gratuity. Salary range £1,650—£2,865 a year, with maximum entry point of £2,365 per annum. Free passages. Accommodation provided. Genevos leave free medical attendance of Recruitment Peparkment of Pechacial Cooperation. Carlton House Terms London, S.W.L. quoting BCD.112/51/02/E2 and giving full names, age, qualifications and experience. 901

Tenders Invited

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

BOROUGH OF LLANELLY

BOROUGH OF LLANELLY

To Building Contractors.

Tenders are to be invited on a FIXED PRICE basis for the erection and completion of 66 three-bedroom houses in pairs, 8 one-bedroom bungalows and 2 shops on the Llwynwhilwg Site Llanelly. The specification and drawings etc. will be sent to contractors on or about the 15th September. 1961 and will those desiring to tender make application to R. J. Birchall, A.R.I.B.A., Borough Architect, 5. Goring Road, Llanelly, before that date, accompanied by a deposit of 22 2s. returnable upon receipt of a bona fide tender which is not withdrawn.

Tenders are to be submitted approximately three weeks after receipt of documents on a date to be notified.

The successful tenderer will be invited to negoti-

The successful tenderer will be invited to negotiate a tender for the subsequent development of the site comprising approximately a further 200 dwellings, documents for which will be ready in December 1961 with an anticipated commencing date of April 1962.

The Council does not bind itself to accept the lowest or any tender.

Town Hall.

Llanelly. 11th August, 1961.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE

Tenders are invited for the construction of a Relief Model to a scale of 6 inches to one mile in connection with the development of the Lancashire-Yorkshire Motorway which is approximately 34 miles in length.

Further particulars may be obtained from the County Engineer and Surveyor, County Hall, Wakefield.

Wakefield.

The County Council do not bind themselves to accept the lowest or any tender.

Sealed tenders must be addressed to me, the undersigned and received at Room 87, County Hall, Wakefield, not later than 12 noon on 2nd September, 1961.

BERNARD KENYON, Clerk of the County Council.

Architectural Appointments Vacant per line; minimum 12s. Box Number, including forwarding replies, 2s. extra

A RCHITECTURAL ASSISTANT. Man or required for interesting country practice. L. H. Bond and R. W. Read, 44, Castlegate, Granthan.

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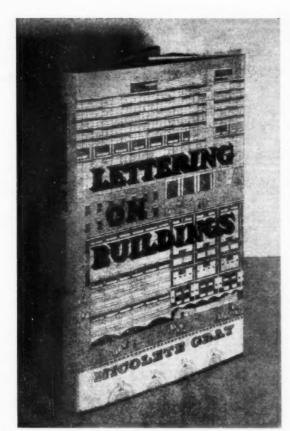
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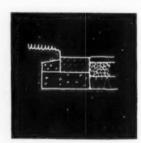
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